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MEMORANDUM

DATE: June 14, 2023

TO: Jeff Hopkins, Design Manager, Wood Investments Companies, Inc.

FROM: Ronald Brugger, Senior Air Quality Specialist

SUBJECT: Air Quality, Greenhouse Gas Emissions, and Energy Impact Analysis Memorandum for the proposed Apple Bear Commercial Project in Apple Valley, California

INTRODUCTION

This air quality, greenhouse gas (GHG) emissions, and energy impact analysis for the proposed Apple Bear Commercial Project in Apple Valley, San Bernardino County, California (project) has been prepared using methods and assumptions recommended in the Mojave Desert Air Quality Management District's (MDAQMD) *California Environmental Quality Act (CEQA) And Federal Conformity Guidelines* (MDAQMD 2020a). This analysis includes a description of existing regulatory framework and an assessment of project air pollutant emissions, GHG emissions, and energy use. Measures to reduce or eliminate significant impacts are identified, where appropriate.

PROJECT LOCATION

The project site is located at Bear Valley Road near Apple Valley Road in the southwest portion of the Town of Apple Valley, in southwestern San Bernardino County, California. The center of the project site is at latitude 34°28'12.67" N and longitude -117°14'16.85" W at an elevation of approximately 2,878 feet above mean sea level and consists of three parcels (Assessor Parcel Numbers [APNs] 0434-021-10, -35, and -37). Figure 1: Project Location and Vicinity depicts the location of the project site on a regional scale (all figures are provided in Attachment A).

PROJECT DESCRIPTION

The proposed project would develop commercial uses on approximately 8.35 acres, with an additional 0.53 acre of off-site improvements along adjacent roadways in the Town of Apple Valley, as shown in Figure 2. The project would result in the demolition of the existing, vacant residential structure in the northwestern portion of the site, and development of an approximately 23,256-square-foot grocery store, an approximately 5,381-square-foot car wash with a 110-foot car wash tunnel, an approximately 3,546-square-foot fast food restaurant with drive through, an approximately 2,500-square-foot fast food restaurant with drive through, and an approximately 5,060-square-foot multiple tenant commercial/retail building with four attached suites, including at least one speculative restaurant with drive through. Construction of the project is anticipated to

commence in fall 2023 and be completed in fall 2024, resulting in a total construction duration of approximately 12 months.

Sensitive Receptors and Land Uses in the Project Vicinity

Sensitive receptors include residences such as private homes, condominiums, apartments, and living quarters, schools, preschools, daycare centers, in-home daycares, health facilities such as hospitals, long-term care facilities, retirement and nursing homes, community centers, places of worship, parks (excluding trails), prisons, and dormitories.

Existing land uses surrounding the project site include the Apple Valley Towne Center shopping center to the north, undeveloped land immediately to the east with single family homes beyond, a Big Lots Distribution Center to the south, and a Walmart Distribution Center to the west, none of which are considered sensitive receptors. The nearest sensitive receptors to the project site are single-family residential uses 640 feet east of the site and the Apple Valley Post Acute Center (congregate/convalescent care center) 730 feet southwest of the site along Apple Valley Road.

REGIONAL CLIMATE AND AIR QUALITY

The project site is in Apple Valley in San Bernardino County, which is part of the Mojave Desert Air Basin (Basin) and is under the jurisdiction of MDAQMD. This Basin is an assemblage of mountain ranges interspersed with long, broad valleys that often contain dry lakes. Many of the lower mountains that dot the vast terrain rise from 1,000 to 4,000 feet above the valley floor.

Both the State of California (State) and the federal government have established health-based ambient air quality standards (AAQS) for seven air pollutants. As detailed in Table A, these pollutants include ozone (O_3), carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), particulate matter less than 10 microns in size (PM_{10}), particulate matter less than 2.5 microns in size ($PM_{2.5}$), and lead. In addition, the State has set standards for sulfates, hydrogen sulfide (H_2S), vinyl chloride, and visibility-reducing particles. These standards are designed to protect the health and welfare of the populace with a reasonable margin of safety.

Table A: Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards[1]		National Standards[2]		
		Concentration[3]	Method[4]	Primary[3,5]	Secondary[3,6]	Method[7]
O_3[8]	1-Hour	0.09 ppm (180 µg/m³)	Ultraviolet Photometry	—	Same as Primary Standard	Ultraviolet Photometry
	8-Hour	0.070 ppm (137 µg/m³)		0.070 ppm (137 µg/m³)		
Respirable Particulate Matter (PM_{10})[9]	24-Hour	50 µg/m³	Gravimetric or Beta Attenuation	150 µg/m³	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m³		—		
Fine Particulate Matter ($PM_{2.5}$)[9]	24-Hour	—	—	35 µg/m³	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 µg/m³	Gravimetric or Beta Attenuation	12.0 µg/m³	15 µg/m³	
CO	1-Hour	20 ppm (23 mg/m³)	Non-Dispersive Infrared Photometry (NDIR)	35 ppm (40 mg/m³)	—	Non-Dispersive Infrared Photometry (NDIR)
	8-Hour	9.0 ppm (10 mg/m³)		9 ppm (10 mg/m³)	—	
	8-Hour (Lake Tahoe)	6 ppm (7 mg/m³)		—	—	
NO_2[10]	1-Hour	0.18 ppm (339 µg/m³)	Gas Phase Chemiluminescence	100 ppb (188 µg/m³)	—	Gas Phase Chemiluminescence
	Annual Arithmetic Mean	0.030 ppm (57 µg/m³)		0.053 ppm (100 µg/m³)	Same as Primary Standard	
SO_2[11]	1-Hour	0.25 ppm (655 µg/m³)	Ultraviolet Fluorescence	75 ppb (196 µg/m³)	—	Ultraviolet Fluorescence; Spectrophotometry (Pararosaniline Method)
	3-Hour	—		—	0.5 ppm (1,300 µg/m³)	
	24-Hour	0.04 ppm (105 µg/m³)		0.14 ppm (for certain areas)[11]	—	
	Annual Arithmetic Mean	—		0.030 ppm (for certain areas)[11]	—	
Lead[12,13]	30-Day Average	1.5 µg/m³	Atomic Absorption	—	—	High-Volume Sampler and Atomic Absorption
	Calendar Quarter	—		1.5 µg/m³ (for certain areas)[13]	Same as Primary Standard	
	Rolling 3-Month Average	—		0.15 µg/m³		
Visibility-Reducing Particles[14]	8-Hour	See footnote 14	Beta Attenuation and Transmittance through Filter Tape	No National Standards		
Sulfates	24-Hour	25 µg/m³	Ion Chromatography			
Hydrogen Sulfide	1-Hour	0.03 ppm (42 µg/m³)	Ultraviolet Fluorescence			
Vinyl Chloride[12]	24-Hour	0.01 ppm (26 µg/m³)	Gas Chromatography			

Source: CARB *Ambient Air Quality Standards*. May 4, 2016. Website: www.arb.ca.gov/sites/default/files/2020-07/aaqs2.pdf (accessed April 2023).

Footnotes are provided on the following page.

[1] California standards for O_3, CO (except 8-hour Lake Tahoe), SO_2 (1- and 24-hour), NO_2, and PM (PM_{10}, $PM_{2.5}$, and visibility-reducing particles) are values that are not to be exceeded. All others are not to be equaled or exceeded. California AAQS are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

[2] National standards (other than for O_3 and PM and those based on the annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth-highest 8-hour concentration measured at each site in a year, averaged over 3 years, is equal to or less than the standard. For PM_{10}, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m³ is equal to or less than 1. For $PM_{2.5}$, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over 3 years, are equal to or less than the standard. Contact the EPA for further clarification and current national policies.

[3] Concentration expressed first in the units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.

[4] Any equivalent measurement method that can be shown to the satisfaction of the CARB to give equivalent results at or near the level of the air quality standard may be used.

[5] National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.

[6] National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

[7] The reference method as described by the EPA. An "equivalent method" of measurement may be used but must have a "consistent relationship to the reference method" and must be approved by the EPA.

[8] On October 1, 2015, the national 8-hour O_3 primary and secondary standards were lowered from 0.075 to 0.070 ppm.

[9] On December 14, 2012, the national annual $PM_{2.5}$ primary standard was lowered from 15 µg/m³ to 12.0 µg/m³. The existing national 24-hour $PM_{2.5}$ standards (primary and secondary) were retained at 35 µg/m³, as was the annual secondary standard of 15 µg/m³. The existing 24-hour PM_{10} standards (primary and secondary) of 150 µg/m³ also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.

[10] To attain the 1-hour standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 ppb. Note that the national 1-hour standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the national 1-hour standard to the California standards, the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.

[11] On June 2, 2010, a new 1-hour SO_2 standard was established, and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO_2 national standards (24-hour and annual) remain in effect until 1 year after an area is designated for the 2010 standard, except that in areas designated as Nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.

Note that the 1-hour national standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the 1-hour national standard to the California standard, the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.

[12] CARB has identified lead and vinyl chloride as "toxic air contaminants" with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

[13] The national standard for lead was revised on October 15, 2008, to a rolling 3-month average. The 1978 lead standard (1.5 µg/m³ as a quarterly average) remains in effect until 1 year after an area is designated for the 2008 standard, except that in areas designated as Nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standards are approved.

[14] In 1989, CARB converted both the general statewide 10 mi visibility standard and the Lake Tahoe 30 mi visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.

°C = degrees Celsius
µg/m³ = micrograms per cubic meter
AAQS = ambient air quality standards
CARB = California Air Resources Board
CO = carbon monoxide
EPA = United States Environmental Protection Agency
mg/m³ = milligrams per cubic meter
mi = mile/miles
NO_2 = nitrogen dioxide
O_3 = ozone
PM = particulate matter
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
PM_{10} = particulate matter less than 10 microns in size
ppb = parts per billion
ppm = parts per million
SO_2 = sulfur dioxide

Table B summarizes the most common health and environmental effects for each of the air pollutants for which there is a national and/or California AAQS, as well as for toxic air contaminants. Because the concentration standards were set at a level that protects public health with an adequate margin of safety (by the United States Environmental Protection Agency [EPA]), these health effects would not occur unless the standards are exceeded by a large margin or for a prolonged period of time. State AAQS are typically more stringent than federal AAQS. Among the pollutants, O_3 and particulate matter ($PM_{2.5}$ and PM_{10}) are considered pollutants with regional effects, while the others have more localized effects (CARB 2022a).

Table B: Summary of Health and Environmental Effects of the Criteria Air Pollutants

Pollutant	Effects on Health and the Environment
Ozone (O_3)	• Respiratory symptoms • Worsening of lung disease leading to premature death • Damage to lung tissue • Crop, forest and ecosystem damage • Damage to a variety of materials, including rubber, plastics, fabrics, paint and metals
$PM_{2.5}$ (particulate matter less than 2.5 microns in aerodynamic diameter)	• Premature death • Hospitalization for worsening of cardiovascular disease • Hospitalization for respiratory disease • Asthma-related emergency room visits • Increased symptoms, increased inhaler usage
PM_{10} (particulate matter less than 10 microns in aerodynamic diameter)	• Premature death & hospitalization, primarily for worsening of respiratory disease • Reduced visibility and material soiling
Nitrogen Oxides (NO_X)	• Lung irritation • Enhanced allergic responses
Carbon Monoxide (CO)	• Chest pain in patients with heart disease • Headache • Light-headedness • Reduced mental alertness
Sulfur Oxides (SO_X)	• Worsening of asthma: increased symptoms, increased medication usage, and emergency room visits
Lead	• Impaired mental functioning in children • Learning disabilities in children • Brain and kidney damage
Hydrogen Sulfide (H_2S)	• Nuisance odor (rotten egg smell) • At high concentrations: headache & breathing difficulties
Sulfate	• Same as $PM_{2.5}$, particularly worsening of asthma and other lung diseases • Reduces visibility
Vinyl Chloride	• Central nervous system effects, such as dizziness, drowsiness & headaches • Long-term exposure: liver damage & liver cancer
Visibility Reducing Particles	• Reduced airport safety, scenic enjoyment, road safety, and discourages tourism
Toxic Air Contaminants About 200 chemicals have been listed as toxic air contaminants	• Cancer • Reproductive and developmental effects • Neurological effects

Source: Common Air Pollutants (CARB 2022a).
CARB = California Air Resources Board

The California Clean Air Act (CCAA) provides MDAQMD and other air districts with the authority to manage transportation activities at indirect sources. Indirect sources of pollution include any facility, building, structure, or installation, or combination thereof, that attracts or generates mobile-source emissions of any pollutant. In addition, area-source emissions that are generated when minor sources collectively emit a substantial amount of pollution are also managed by the local air districts. Examples of this would be the motor vehicles at an intersection, at a mall, and on highways. MDAQMD also regulates stationary sources of pollution throughout its jurisdictional area. The California Air Resources Board (CARB) regulates direct emissions from motor vehicles.

Climate/Meteorology

Air quality in the planning area is affected not only by various emission sources (e.g., mobile and industry) but also by atmospheric conditions (e.g., wind speed, wind direction, temperature, and rainfall). As described above, the project site is in the Mojave Desert Air Basin, which is an assemblage of mountain ranges interspersed with long, broad valleys that often contain dry lakes. Prevailing winds in the Basin are out of the west and southwest. These prevailing winds are due to the proximity of the Basin to coastal and central regions and the blocking nature of the Sierra Nevada Mountains to the north; air masses pushed onshore in Southern California by differential heating are channeled through the Basin. The Basin is separated from the Southern California coastal and central California valley regions by mountains (highest elevation is approximately 10,000 feet), whose passes form the main channels for these air masses. The Mojave Desert is bordered on the southwest by the San Bernardino Mountains, separated from the San Gabriel Mountains by the Cajon Pass (4,200 feet). A lesser pass lies between the San Bernardino Mountains and the Little San Bernardino Mountains in the Morongo Valley.

During the summer, the Basin is generally influenced by a Pacific subtropical high cell that sits off the coast, inhibiting cloud formation and encouraging daytime solar heating. The Basin is rarely influenced by cold air masses moving south from Canada and Alaska, as these frontal systems are weak and diffuse by the time they reach the desert. Most desert moisture arrives from infrequent warm, moist, and unstable air masses from the south. The Basin averages between 3 and 7 inches of precipitation per year (from 16 to 30 days with at least 0.01 inch of precipitation). The Basin is classified as a dry hot desert climate, with portions classified as dry very hot desert, to indicate that at least 3 months have maximum average temperatures over 100.4^{o}F.

Snow is common above 5,000 feet in elevation, resulting in moderate snowpack and limited spring runoff. Below 5,000 feet, any precipitation normally occurs as rainfall. Pacific storm fronts normally move into the area from the west, driven by prevailing winds from the west and southwest. During late summer, moist high-pressure systems from the Pacific Ocean collide with rising heated air from desert areas, resulting in brief, high intensity thunderstorms that can cause high winds and localized flash flooding. During the fall and winter months, strong, dry Santa Ana winds from the northeast can cause rapid temperature variations of significant magnitude.

Air Pollution Constituents and Attainment Status

CARB coordinates and oversees both State and federal air pollution control programs in the State. CARB oversees activities of local air quality management agencies and maintains air quality monitoring stations throughout the State in conjunction with the EPA and local air districts. CARB

has divided the State into 15 air basins based on meteorological and topographical factors of air pollution. Data collected at these stations are used by CARB and the EPA to classify air basins as Attainment, Nonattainment, Nonattainment-Transitional, or Unclassified, based on air quality data for the most recent 3 calendar years compared with the AAQS.

Attainment areas may be the following:

- **Attainment/Unclassified** ("Unclassifiable" in some lists). These basins have never violated the air quality standard of interest or do not have enough monitoring data to establish Attainment or Nonattainment status.

- **Attainment-Maintenance** (national ambient air quality standards [NAAQS] only). These basins violated a NAAQS that is currently in use (were Nonattainment) in or after 1990, but now attain the standard and are officially redesignated as Attainment by the EPA with a Maintenance State Implementation Plan (SIP).

- **Attainment** (usually only for California ambient air quality standards [CAAQS], but sometimes for NAAQS). These basins have adequate monitoring data to show attainment, have never been Nonattainment, or, for NAAQS, have completed the official Maintenance period.

Nonattainment areas are imposed with additional restrictions as required by the EPA. The air quality data are also used to monitor progress in attaining air quality standards. Table C lists the attainment status for the criteria pollutants in the Basin.

Table C: Attainment Status of Criteria Pollutants in the Mojave Desert Air Basin

Pollutant	State	Federal
O_3	Nonattainment	Nonattainment[1]
PM_{10}	Nonattainment	Nonattainment[2]
$PM_{2.5}$	Nonattainment[1]	Attainment/Unclassified
CO	Attainment	Attainment/Unclassified
NO_2	Attainment	Attainment/Unclassified
SO_2	Attainment	Attainment/Unclassified
Lead[1]	Attainment	Attainment/Unclassified
All Others	Attainment/Unclassified	N/A

Source: Mojave Desert Air Quality Management District (n.d.-b).

[1] Only the southwest corner of the desert portion of San Bernardino County is Nonattainment

[2] Only the San Bernardino County portion is Nonattainment

CO = carbon monoxide
N/A = not applicable
NO_2 = nitrogen dioxide
O_3 = ozone
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
PM_{10} = particulate matter less than 10 microns in size
SO_2 = sulfur dioxide

Local Air Quality

MDAQMD, together with CARB, maintains ambient air quality monitoring stations. The air quality monitoring station that monitors air pollutant data closest to the site is the Victorville Monitoring

Station at 14306 Park Avenue, Victorville, approximately 9.6 miles southwest of the project site. The air quality trends from this station are used to represent the ambient air quality in the project area. The ambient air quality data in Table D show that NO_2 and CO levels are below the applicable State and federal standards. However, PM_{10} and O_3 levels frequently exceed their respective standards and $PM_{2.5}$ levels occasionally exceed the federal 24-hour standard.

Table D: Air Quality Concentrations in the Project Vicinity

Pollutant	Standard	2019	2020	2021
CO				
Maximum 1-hour concentration (ppm)		1.5	1.6	1.5
No. of days exceeded	State: 20 ppm	0	0	0
	Federal: 35 ppm	0	0	0
Maximum 8-hour concentration (ppm)		1.1	1.4	1.0
No. of days exceeded	State: 9 ppm	0	0	0
	Federal: 9 ppm	0	0	0
O_3				
Maximum 1-hour concentration (ppm)		0.104	0.112	0.112
No. of days exceeded	State: 0.09 ppm	3	4	8
Maximum 8-hour concentration (ppm)		0.081	0.094	0.098
No. of days exceeded	State: 0.07 ppm	29	35	34
	Federal: 0.07 ppm	29	35	34
PM_{10}				
Maximum 24-hour concentration (µg/m³)		170	261	591
No. of days exceeded	State: 50 µg/m³	ND	ND	ND
	Federal: 150 µg/m³	2	2	1
Annual avg. concentration (µg/m³)		27.0	34.1	33.8
Exceeds Standard?	State: 20 µg/m³	Yes	Yes	Yes
$PM_{2.5}$				
Maximum 24-hour concentration (µg/m³)		20	48.7	87.1
No. of days exceeded	Federal: 35 µg/m³	0	4	1
Annual avg. concentration (µg/m³)		7.0	10.4	10.3
Exceeds Standard?	State: 12 µg/m³	No	No	No
	Federal: 12 µg/m³	No	No	No
NO_2				
Maximum 1-hour concentration (ppb):		56.0	59.4	56.6
No. of days exceeded	State: 180 ppb	0	0	0
	Federal: 100 ppb	0	0	0
Annual avg. concentration (ppb):		11	12	12
Exceeds standard?	State: 30 ppb	No	No	No
	Federal: 53 ppb	No	No	No

Source: iADAM (CARB 2022c).

µg/m³ = micrograms per cubic meter
CARB = California Air Resources Board
CO = carbon monoxide
ND = No data available
NO_2 = nitrogen dioxide
O_3 = ozone
$PM_{2.5}$ = particulate matter smaller than 2.5 microns in size
PM_{10} = particulate matter smaller than 10 microns in size
ppb = parts per billion
ppm = parts per million

DESCRIPTION OF GREENHOUSE GASES AND SOURCES

Higher temperatures from excessive concentrations of GHGs in the atmosphere can result in increased mean temperatures and are conducive to air pollution formation and could worsen air quality in California. While climate change may increase the concentration of ground-level ozone, the magnitude of the effect and, therefore, its indirect effects, are uncertain. If higher temperatures are accompanied by drier conditions, the potential for large wildfires could increase, which, in turn, would exacerbate air quality. Additionally, severe heat accompanied by drier conditions and poor air quality could increase the number of heat-related deaths, illnesses, and asthma attacks throughout the State (California Department of Public Health 2014). However, if higher temperatures are accompanied by wetter, rather than drier, conditions, the rains would temporarily clear the air of particulate pollution and reduce the incidence of large wildfires, thus reducing the pollution associated with wildfires. GHGs are present in the atmosphere naturally, are released by natural sources, or are formed from secondary reactions taking place in the atmosphere. The gases that are widely seen as the principal contributors to human-induced climate change are:[1]

- Carbon dioxide (CO_2)
- Methane (CH_4)
- Nitrous oxide (N_2O)
- Hydrofluorocarbons (HFCs)
- Perfluorocarbons (PFCs)
- Sulfur hexafluoride (SF_6)

Over the last 200 years, human activities have caused substantial quantities of GHGs to be released into the atmosphere. These extra emissions are increasing GHG concentrations in the atmosphere and enhancing the natural greenhouse effect, which can cause global warming. Although GHGs produced by human activities include naturally occurring GHGs (e.g., CO_2, CH_4, and N_2O), some gases (e.g., HFCs, PFCs, and SF_6) are completely new to the atmosphere. Water vapor is a GHG, but it is generally excluded from the list of GHGs because it is short-lived in the atmosphere and its atmospheric concentrations are largely determined by natural processes (e.g., oceanic evaporation). For the purposes of this air quality study, the term "GHGs" will refer collectively to the six gases identified in the bulleted list provided above.

These GHGs vary considerably in terms of global warming potential (GWP), which is a concept developed to compare the ability of each GHG to trap heat in the atmosphere relative to another gas. GWP is based on several factors, including the relative effectiveness of a gas in absorbing infrared radiation and the length of time that the gas remains in the atmosphere ("atmospheric lifetime"). The GWP of each gas is measured relative to CO_2, the most abundant GHG. The definition of GWP for a particular GHG is the ratio of heat trapped by one unit mass of the GHG to the ratio of heat trapped by one unit mass of CO_2 over a specified time period. For example, N_2O is from 265 to 310 times more potent at contributing to global warming than CO_2. GHG emissions are typically measured in terms of metric tons of CO_2 equivalents (MT CO_2e). Table E identifies the GWP for the

[1] The greenhouse gases listed are consistent with the definition in Assembly Bill 32 (Government Code 38505), as discussed later in this section.

three GHGs analyzed in this report. The EPA and the CARB use GWP values from the 2007 Intergovernmental Panel on Climate Change (IPCC) Fourth Assessment Report (AR4). The IPCC has published the 2021 IPCC Sixth Assessment Report (AR6) with updated GWP values.

Table E: Global Warming Potential for Selected Greenhouse Gases

Pollutant	AR4 Values	AR6 Values
Carbon Dioxide (CO_2)	1 (by definition)	1 (by definition)
Methane (CH_4)	25	29.8 ± 11
Nitrous Oxide (N_2O)	298	273 ± 30

Sources: *California's 2017 Climate Change Scoping Plan* (CARB 2017), IPCC Sixth Assessment Report (2021).
[1] The EPA and CARB use global warming potential values from the IPCC Fourth Assessment Report (2007).
AR4 = 2007 IPCC Fourth Assessment Report
AR6 = 2021 IPCC Sixth Assessment Report
CARB = California Air Resources Board
EPA = United States Environmental Protection Agency
IPCC = Intergovernmental Panel on Climate Change

ENERGY BACKGROUND

Energy usage is typically associated with electricity and natural gas consumption and fuel usage, as described below.

Electricity

Electricity is a manmade resource. The production of electricity requires the consumption or conversion of energy resources (including water, wind, oil, gas, coal, solar, geothermal, and nuclear resources) into energy. Electricity is used for a variety of purposes (e.g., lighting, heating, cooling, and refrigeration, and for operating appliances, computers, electronics, machinery, and public transportation systems). The project site is within the service territory of Southern California Edison (SCE). SCE provides electricity to more than 15 million people in a 50,000-square-mile area of Central, coastal, and Southern California (SCE n.d.). According to the California Energy Commission (CEC), total electricity consumption in the SCE service area in 2020 was 83,532.6 gigawatt-hours (GWh) (32,475 GWh for the residential sector and 51,057 GWh for the non-residential sector). Total electricity consumption in San Bernardino County in 2020 was 15,968.5 GWh (15,968,515,536 kilowatt-hours [kWh]) (CEC n.d.-a).

Natural Gas

Natural gas is a non-renewable fossil fuel. Fossil fuels form when layers of decomposing plant and animal matter are exposed to intense heat and pressure under the surface of the Earth over millions of years. Natural gas is a combustible mixture of hydrocarbon compounds (primarily methane) used as a fuel source. Natural gas is found in naturally occurring reservoirs in deep underground rock formations. Natural gas is used for a variety of uses (e.g., heating buildings, generating electricity, and powering appliances such as stoves, washing machines and dryers, gas fireplaces, and gas grills).

The Southern California Gas Company (SoCalGas) is the natural gas service provider for the project sites. SoCalGas provides natural gas to approximately 21.8 million people in a 24,000-square-mile

service area throughout Central and Southern California, from Visalia to the Mexican border (SoCalGas n.d.). According to the CEC, total natural gas consumption in the SoCalGas service area in 2020 was 5,231 million therms, including 2,426 million therms for the residential sector and 2,294 million therms for the non-residential sector. Total natural gas consumption in San Bernardino County in 2020 was more than 527 million therms (527,236,428 therms) (CEC n.d.-b).

Fuel

Petroleum is also a non-renewable fossil fuel. Petroleum is a thick, flammable, yellow-to-black mixture of gaseous, liquid, and solid hydrocarbons that occurs naturally beneath the earth's surface. Petroleum is primarily recovered by oil drilling. It is refined into a large number of consumer products, primarily fuel oil, gasoline, and diesel. The average fuel economy for light-duty vehicles (automobiles, pickups, vans, and SUVs) in the United States has steadily increased from about 14.9 miles per gallon (mpg) in 1980 to 22.9 mpg in 2020.

Gasoline is the most used transportation fuel in California, with 97 percent of all gasoline consumed by light-duty cars, pickup trucks, and sport utility vehicles. According to the most recent data available, total gasoline consumption in California was 289,918 thousand barrels, or 1,464.7 trillion British thermal units (BTU) in 2020. Of the total gasoline consumption, 273,289 thousand barrels or 1,380.7 trillion BTU were consumed for transportation (CEC n.d.-c). Based on fuel consumption obtained from CARB's California Emissions Factor Model, Version 2021 (EMFAC2021), approximately 321.6 million gallons of diesel and approximately 915.5 million gallons of gasoline will be consumed from vehicle trips in San Bernardino County in 2022.

REGULATORY FRAMEWORK

Federal Regulations

Pursuant to the federal Clean Air Act (CAA) of 1970, the EPA established the NAAQS. The NAAQS were established for six major pollutants, termed "criteria" pollutants. Criteria pollutants are defined as those pollutants for which the federal and State governments have established AAQS, or criteria, for outdoor concentrations to protect public health.

The EPA has designated the Southern California Association of Governments (SCAG) as the Metropolitan Planning Organization responsible for ensuring compliance with the requirements of the CAA for the Basin.

The United States has historically had a voluntary approach to reducing GHG emissions; however, on April 2, 2007, the United States Supreme Court ruled that the EPA has the authority to regulate CO_2 emissions under the CAA. The Supreme Court ruled that GHGs fit within the CAA's definition of a pollutant and that the EPA did not have a valid rationale for not regulating GHGs. In December 2009, the EPA issued an endangerment finding for GHGs under the CAA.

On December 7, 2009, the EPA Administrator signed a final action under the CAA, finding that six GHGs (i.e., CO_2, CH_4, N_2O, HFCs, PFCs, and SF_6) constitute a threat to public health and welfare and that the combined emissions from motor vehicles cause and contribute to GCC.

On September 15, 2011, the EPA and the United States Department of Transportation (USDOT) issued final rule for the first national standards to improve fuel efficiency of medium- and heavy-duty trucks and buses, model years 2014 to 2018. For combination tractors, the agencies proposed engine and vehicle standards that would achieve up to a 20 percent reduction from the model year 2014 in fuel consumption by the 2018 model year. For heavy-duty pickup trucks and vans, the agencies proposed separate gasoline and diesel truck standards, which would achieve up to a 10 percent reduction from the model year 2014 for gasoline vehicles and a 15 percent reduction for diesel vehicles (12 and 17 percent, respectively, if accounting for air conditioning leakage). Lastly, for vocational vehicles, the engine and vehicle standards would achieve up to a 10 percent reduction from model year 2014 in fuel consumption. On October 25, 2016, the EPA and USDOT issued Phase 2 of the national standards to improve fuel efficiency standards for medium- and heavy-duty trucks and buses for model years 2021 to 2027 to achieve vehicle fuel savings as high as 25 percent, depending on the vehicle category.

On August 2, 2018, the previous Administration released a notice of proposed rulemaking, The Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule for Model Years 2021–2026 Passenger Cars and Light Trucks (SAFE Vehicles Rule) to amend the Corporate Average Fuel Economy (CAFE) and GHG emission standards established in 2012 for model years 2021 through 2026. The SAFE Vehicle Rule would decrease fuel economy and would withdraw the California Waiver for the California Advanced Clean Car program, Zero Emissions Vehicle mandate, and GHG emission standards for model years 2021 through 2026.

The current administration withdrew portions of the SAFE Rule, concluding that the SAFE Rule overstepped the agency's legal authority and finalized updated CAFE Standards for model years 2024 through 2026. The final rule establishes standards that would require an industry-wide fleet average of approximately 49 mpg for passenger cars and light trucks in model year 2026, by increasing fuel efficiency by 8 percent annually for model years 2024 and 2025, and 10 percent annually for model years 2026. The agency projects the final standards will save consumers nearly $1,400 in total fuel expenses over the lifetimes of vehicles produced in these model years and avoid the consumption of about 234 billion gallons of gas between model years 2030 to 2050. The National Highway Transportation Safety Administration also projects that the standards will cut GHGs from the atmosphere, reduce air pollution, and reduce the country's dependence on oil.

State Agencies and Regulations

California Air Resources Board

In 1967, the State Legislature passed the Mulford-Carrell Act, which combined two Department of Health bureaus (i.e., the Bureau of Air Sanitation and the Motor Vehicle Pollution Control Board) to establish the CARB. Since its formation, CARB has worked with the public, the business sector, and local governments to find solutions to the State's air pollution problems. California adopted the California Clean Air Act in 1988. CARB administers the California ambient air quality standards for the 10 air pollutants designated in the California Clean Air Act. These 10 State air pollutants are the 6 criteria pollutants designated by the federal CAA as well as 4 others: visibility-reducing particulates, H_2S, sulfates, and vinyl chloride.

The California Global Warming Solutions Act of 2006, widely known as Assembly Bill (AB) 32, requires CARB to develop and enforce regulations for the reporting and verification of statewide GHG emissions. CARB was directed to set a statewide GHG emissions limit and set a timeline for adopting a scoping plan for achieving GHG reductions in a technologically and economically feasible manner.

In 2016, the Legislature passed, and Governor Jerry Brown signed, Senate Bill (SB) 32 and AB 197. SB 32 affirms the importance of addressing climate change by codifying into statute the GHG emissions reductions target of at least 40 percent below 1990 levels by 2030 contained in Governor Brown's April 2015 Executive Order B-30-15. SB 32 builds on AB 32 and keeps California on the path toward achieving the State's 2050 objective of reducing emissions to 80 percent below 1990 levels, consistent with an Intergovernmental Panel on Climate Change analysis of the emissions trajectory that would stabilize atmospheric GHG concentrations at 450 parts per million (ppm) CO_2e and reduce the likelihood of catastrophic impacts from climate change. The companion bill to SB 32, AB 197, provides additional direction to CARB related to the adoption of strategies to reduce GHG emissions.

In November 2022, CARB adopted the "2022 Scoping Plan for Achieving Carbon Neutrality" (Scoping Plan) (CARB 2022d) that lays out a path to achieve targets for carbon neutrality and reduce anthropogenic GHG emissions by 85 percent below 1990 levels no later than 2045, as directed by AB 1279. The actions and outcomes in the plan will achieve significant reductions in fossil fuel combustion by deploying clean technologies and fuels, further reductions in short-lived climate pollutants, support for sustainable development, increased action on natural and working lands to reduce emissions and sequester carbon, and the capture and storage of carbon.

Senate Bill 97 and State CEQA Guidelines

In August 2007, the Legislature adopted SB 97, requiring the Office of Planning and Research (OPR) to prepare and transmit new California Environmental Quality Act (CEQA) guidelines for the mitigation of GHG emissions or the effects of GHG emissions to the California Natural Resources Agency. OPR submitted its proposed guidelines to the Secretary for Natural Resources on April 13, 2009, and the *State CEQA Guidelines* amendments were adopted on December 30, 2009 and became effective on March 18, 2010.

The *State CEQA Guidelines* amendments do not specify a threshold of significance for GHG emissions or prescribe assessment methodologies or specific mitigation measures. Instead, the amendments encourage lead agencies to consider many factors in performing a CEQA analysis but rely on the lead agencies in making their own significance determinations based upon substantial evidence. The *State CEQA Guidelines* amendments also encourage public agencies to make use of programmatic mitigation plans and programs from which to tier when they perform individual project analyses.

The *State CEQA Guidelines* amendments require a lead agency to make a good-faith effort based on the extent possible on scientific and factual data to describe, calculate, or estimate the amount of GHG emissions resulting from a project. The *State CEQA Guidelines* amendments give discretion to the lead agency whether to (1) use a model or methodology to quantify GHG emissions resulting from a project and which model or methodology to use and/or (2) rely on a qualitative analysis or

performance-based standards. The California Natural Resources Agency is required to periodically update the guidelines to incorporate new information or criteria established by CARB pursuant to AB 32.

California Green Building Standards

The California Green Building Standards Code, which is Part 11 of the California Code of Regulations, is commonly referred to as the CALGreen Code. The State updates this code every 3 years. The first edition of the CALGreen Code was released in 2008 and contained only voluntary standards. The 2022 CALGreen Code was updated in 2020, became effective on January 1, 2023, and applies to non-residential and residential developments. The CALGreen Code contains requirements for construction site selection, stormwater control during construction, construction waste reduction, indoor water use reduction, material selection, natural resource conservation, site irrigation conservation, and more. The CALGreen Code provides for design options allowing the designer to determine how best to achieve compliance for a given site or building condition. The CALGreen Code also requires building commissioning, which is a process for the verification that all building systems, such as heating and cooling equipment and lighting systems, function at their maximum efficiency.

The CEC is the State's primary energy policy and planning agency, and it plays a critical role in creating a clean and modern energy system. SB 1389 (Chapter 568, Statutes of 2002) requires the CEC to prepare an Integrated Energy Policy Report biennially at a minimum. The report should include a description of the international energy market prospects and an evaluation of its export promotion activities.

AB 2076 (passed in 2000, Shelley, Chapter 936, Statutes of 2000) directs the CARB and the CEC to develop and adopt recommendations for the Governor and the Legislature on a strategy to reduce California's dependence on petroleum.

In 2002, the Legislature passed SB 1389, which required the CEC to develop an integrated energy plan every 2 years for electricity, natural gas, and transportation fuels for the California Energy Policy Report. The plan calls for the State to assist in the transformation of the transportation system to improve air quality, reduce congestion, and increase the efficient use of fuel supplies with the least environmental and energy costs. To further this policy, the plan identifies a number of strategies, including assistance to public agencies and fleet operators in implementing incentive programs for zero emission vehicles and their infrastructure needs, and encouragement of urban designs that reduce vehicle miles traveled and accommodate pedestrian and bicycle access.

The CEC adopted the 2021 Integrated Energy Policy Report on March 23, 2021. The 2021 Integrated Energy Policy Report provides the results of the CEC's assessment of a variety of issues, including ensuring that the State has sufficient, reliable, and safe energy infrastructure to meet current and future energy demands; monitoring publicly owned utilities' progress toward achieving 10-year energy efficiency targets; defining and including zero-net-energy goals in State building standards; overcoming challenges to increased use of geothermal heat pump/ground loop technologies and procurement of biomethane; using demand response to meet California's energy needs and integrate renewable technologies; removing barriers to bioenergy development; planning for

California's electricity infrastructure needs given the potential retirement of power plants; estimating new generation costs for utility-scale renewable and fossil-fueled generation; planning for new or upgraded transmission infrastructure; monitoring utilities' progress in implementing past recommendations related to nuclear power plants; tracking natural gas market trends; implementing the Alternative and Renewable Fuel and Vehicle Technology Program; addressing the vulnerability of California's energy supply and demand infrastructure to the effects of climate change; and planning for potential electricity system needs in 2030 (CEC 2021).

Regional Air Quality Planning Framework

SCAG is a council of governments for Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura counties. SCAG is a regional planning agency and a forum for regional issues relating to transportation, the economy and community development, and the environment. Although SCAG is not an air quality management agency, it is responsible for developing transportation, land use, and energy conservation measures that affect air quality.

On September 3, 2020, the Regional Council of SCAG adopted Connect SoCal, also known as the *2020–2045 Regional Transportation Plan/Sustainable Communities Strategy: A Plan for Mobility, Accessibility, Sustainability, and High Quality of Life* (a.k.a., 2020–2045 RTP/SCS). The 2020–2045 RTP/SCS is a long-range visioning plan that balances future mobility and housing needs with economic, environmental, and public health goals. Connect SoCal embodies a collective vision for the region's future and is developed with input from local governments, county transportation commissions, tribal governments, non-profit organizations, businesses, and local stakeholders within the counties of Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura.

Mojave Desert Air Quality Management District

MDAQMD is the agency principally responsible for comprehensive air pollution control in the Basin. To that end, MDAQMD, a regional agency, works directly with SCAG, county transportation commissions, and local governments, and cooperates actively with State and federal government agencies. MDAQMD develops air quality-related rules and regulations, establishes permitting requirements, inspects emissions sources, and provides regulatory enforcement through such measures as educational programs or fines, when necessary.

San Bernardino County, including Apple Valley, is in non-attainment for O_3 and particulate matter. To meet the requirements for basins that are in nonattainment, the MDAQMD has established attainment plans for O_3, PM_{10}, and $PM_{2.5}$.

Regional Air Quality Management Plan

The MDAQMD is responsible for monitoring air quality, as well as planning, implementing, and enforcing programs designed to attain and maintain CAAQS and NAAQS in the Mojave Desert Air Basin. All areas designated as non-attainment under the CCAA are required to prepare plans showing how they will meet the air quality standards. The MDAQMD prepared Air Quality Attainment Plans (AQAP) to address CAA and CCAA requirements by identifying policies and control measures. The SCAG assists by preparing the transportation portion of an AQAP. The applicable

AQAP is the 2017 MDAQMD Federal 75 ppb (parts per billion) Ozone Attainment Plan (Western Mojave Desert Nonattainment Area) (MDAQMD 2017).

The MDAQMD Rules & Regulations website (MDAQMD n.d.-a) lists the current attainment plans for the region. Consistency with the applicable AQAP would be achieved if the project complies with all applicable MDAQMD rules and regulations and is consistent with the growth forecasts in the applicable plan. Consistency with growth forecasts can be established by demonstrating that the project is consistent with the land use plan that was used to generate the growth forecast.

The MDAQMD provides the *California Environmental Quality Act (CEQA) And Federal Conformity Guidelines* (MDAQMD 2020a) to facilitate projects compliance with CEQA. MDAQMD also recommends using approved models to calculate emissions from land use projects, such as the California Emissions Estimator Model (CalEEMod). These recommendations were followed in the preparation of this analysis.

The following MDAQMD rules and regulations would apply to the proposed project:

- MDAQMD Rule 403 (MDAQMD 2020b) requires projects to incorporate fugitive dust control measures.

- MDAQMD Rule 1113 (MDAQMD 2020c) limits the volatile organic compound (VOC) content of architectural coatings.

Local Regulations

Town of Apple Valley 2009 General Plan

The Town of Apple Valley (Town) addresses air quality and GHG emissions in Section 3, Environmental Resources (Town of Apple Valley 2009). This section includes goals and policies that work to pursue sustainability and resilience by making resource-efficient choices to conserve water, energy, and materials, improve air quality, and adjust to changing conditions. The following air quality related policies are applicable to the proposed project:

- The Town shall coordinate land use planning efforts to assure that sensitive receptors are reasonably separated from polluting point sources including mineral extraction operations.

- All projects that have the potential to generate significant levels of air pollution shall be required to provide detailed impact analyses and design mitigation measures that incorporate the most advanced technological methods available. Prior to the issuance of grading or demolition permits, the Town shall review and determine the effectiveness of proposed mitigation measures and set forth additional measures as needed.

- The use of clean and/or renewable alternative energy sources for transportation, heating and cooling, and construction shall be encouraged by the Town.

- Future residential, commercial, and industrial development and remodeling projects shall strive to exceed Title 24 standards by 15% and/or achieve LEED certification or similar performance standards for buildings.

- The Town shall participate in the San Bernardino Associated Governments' Climate Action Plan, including assisting in providing data and background information, and implementing greenhouse gas reduction strategies established in the Plan, when complete.

Town of Apple Valley Climate Action Plan Update

The 2019 Climate Action Plan (CAP) Update (Town of Apple Valley 2021) is Apple Valley's comprehensive strategy to reduce GHG emissions in response to the challenges of climate change. The CAP, which was originally adopted in 2010, was designed to be revised every 3 years to respond to advances in technology, emerging policy reforms, and to build upon the successes of Apple Valley's efforts to reduce greenhouse gas emissions. The 2019 CAP Update represents the third update to the original document, and the information herein supersedes previous updates. To achieve consistency with federal and State GHG reduction goals, the 2019 CAP Update sets GHG emissions reduction targets of 15 percent below 2005 levels by 2020 and 40 percent below 2005 levels by 2030.

The following policies are applicable to the proposed project:

- Building and site plan designs shall ensure that the project energy efficiencies meet applicable California Title 24 Energy Efficiency Standards. Verification of increased energy efficiencies shall be documented in Title 24 Compliance Reports provided by the applicant and reviewed and approved by the Town prior to the issuance of the first building permit. Any combination of the following design features may be used to fulfill this measure provided that the total increase in efficiency meets or exceeds Title 24 standards:

    - Buildings shall meet or exceed California Title 24 Energy Efficiency performance standards for water heating and space heating and cooling.

    - Increase in insulation such that heat transfer and thermal bridging is minimized.

    - Limit air leakage through the structure or within the heating and cooling distribution system to minimize energy consumption.

    - Incorporate dual-paned or other energy efficient windows.

    - Incorporate energy efficient space heating and cooling equipment.

    - Incorporate the use of tankless water heaters in all residential units and community buildings.

    - Promote building design that will incorporate solar control in an effort to minimize direct sunlight upon windows. A combination of design features including roof eaves, recessed windows, "eyebrow" shades and shade trees shall be considered.

- Interior and exterior energy efficient lighting which exceeds the California Title 24 Energy Efficiency performance standards shall be installed, as deemed acceptable by Town. Automatic devices to turn off lights when they are not needed shall be implemented.
- To the extent that they are compatible with landscaping guidelines established by the Town, shade producing trees, particularly those that shade paved surfaces such as streets and parking lots and buildings shall be planted at the Project site.
- Paint and surface color palette for the project shall emphasize light and off-white colors which will reflect heat away from the buildings.
- All buildings shall be designed to accommodate renewable energy sources, such as photovoltaic solar electricity systems, and wind energy systems on properties greater than 2 acres, appropriate to their architectural design.
- Consideration shall be given to using LED lighting for all outdoor uses (i.e. buildings, pathways, landscaping, carports).

- To reduce the project's energy use from the grid:
  - Install solar panels/photovoltaic systems sufficient to provide electric power and heat water within the project, and/or
  - Install other clean energy system sufficient to provide electric power and heat water within the project, and/or
  - Install solar or photovoltaic systems on new roofs whether on residential, commercial, or industrial buildings.
- Recycle and/or salvage non-hazardous construction and demolition waste and develop and implement a construction waste management plan quantifying the reduction in the waste stream.

THRESHOLDS OF SIGNIFICANCE

Certain air districts (e.g., MDAQMD) have created guidelines and requirements to conduct air quality analyses. MDAQMD's current guidelines, the *California Environmental Quality Act (CEQA) And Federal Conformity Guidelines* (MDAQMD 2020a), were followed in this assessment of air quality and climate impacts for the proposed project.

Based on the *State CEQA Guidelines*, Appendix G (Public Resources Code Sections 15000–15387), a project would normally be considered to have a significant effect on air quality if the project would violate any CAAQS, contribute substantially to an existing air quality violation, expose sensitive receptors to substantial pollutants concentrations, or conflict with adopted environmental plans and goals of the community in which it is located.

Air Quality

MDAQMD has established daily emissions thresholds for construction and operation of a proposed project in the Basin. The emissions thresholds were established based on the attainment status of the Basin with regard to air quality standards for specific criteria pollutants.

Regional Emissions Thresholds

Table F lists the CEQA significance thresholds for construction and operational emissions established for the Basin.

Table F: Regional Thresholds for Construction and Operational Emissions

Emissions Source	Pollutant Emissions Thresholds (lbs/day)					
	VOCs	NO_X	CO	PM_{10}	$PM_{2.5}$	SO_X
Construction	137	137	548	82	65	137
Operations	137	137	548	82	65	137

Source: MDAQMD Air Quality Significance Thresholds (MDAQMD 2020a)

CO = carbon monoxide
lbs/day = pounds per day
NO_X = nitrogen oxides
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
PM_{10} = particulate matter less than 10 microns in size
MDAQMD = Mojave Desert Air Quality Management District
SO_X = sulfur oxides
VOCs = volatile organic compounds

Projects in the Basin with construction- or operation-related emissions that exceed any of their respective emissions thresholds would be considered significant under MDAQMD guidelines. These thresholds, which MDAQMD developed and which apply throughout the Basin, apply as both project and cumulative thresholds. If a project exceeds these standards, it is considered to have a project-specific and cumulative impact.

Local Microscale Concentration Standards

The significance of localized project impacts under CEQA depends on whether ambient CO levels in the vicinity of the project site are above or below State and federal CO standards. Because ambient CO levels are below the standards throughout the Basin, a project would be considered to have a significant CO impact if project emissions result in an exceedance of one or more of the 1-hour or 8-hour standards. The following are applicable local emission concentration standards for CO:

- California State 1-hour CO standard of 20 ppm
- California State 8-hour CO standard of 9 ppm

Greenhouse Gases

State CEQA Guidelines Section 15064(b) provides that the "determination of whether a project may have a significant effect on the environment calls for careful judgment on the part of the public agency involved, based to the extent possible on scientific and factual data," and further states that an "ironclad definition of significant effect is not always possible because the significance of an activity may vary with the setting."

Appendix G of the *State CEQA Guidelines* includes significance thresholds for GHG emissions. A project would normally have a significant effect on the environment if it would do either of the following:

- Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment

- Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs

Currently, there is no Statewide GHG emissions threshold that has been used to determine the potential GHG emissions impacts of a project. Threshold methodology and thresholds are still being developed and revised by air districts in California.

This analysis will consider whether the project is compliant with the Apple Valley 2019 CAP Update, which is a qualified GHG emissions reduction plan in accordance with *State CEQA Guidelines* Section 15183.5. The Apple Valley 2019 CAP Update supports the achievement of individual GHG reduction measures as well as the Town's overall GHG reduction goals. In addition, it furthers the Town's sustainability goals and policies that encourage sustainable development and aim to conserve and reduce the consumption of resources, such as energy and water, among others. If the project is determined to be compliant with the Apple Valley 2019 CAP Update, then impacts related to the GHG emissions resulting from that project will be considered less than significant.

Energy

While no quantitative thresholds related to energy are included in the *State CEQA Guidelines*, the *State CEQA Guidelines* indicate that a project would normally have a significant adverse energy impact if the project would do either of the following:

- Result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation; or

- Conflict with or obstruct a State or local plan for renewable energy or energy efficiency.

For the purposes of this analysis, impacts to energy resources will be considered significant if the project would result in the wasteful, inefficient, or unnecessary consumption of fuel or energy; and/or conversely, if the project would not incorporate renewable energy or energy efficiency measures into building design, equipment use, transportation, or other project features.

IMPACTS AND MITIGATION MEASURES

This section evaluates the impacts related to air quality, GHG emissions, and energy use associated with the proposed project. Mitigation measures are identified where necessary to reduce impacts to a less than significant level.

Air Quality

Emissions would include criteria air pollutants and GHG emissions. The sections below describe the proposed project's consistency with applicable air quality plans, estimated project emissions, and the significance of impacts with respect to MDAQMD thresholds.

Consistency with Applicable Air Quality Plans

An air quality plan describes the pollution control strategies to be undertaken by a city or county in a region classified as nonattainment to meet the requirements of the federal CAA. The main purpose of the plan is to bring an area into compliance with the requirements of federal and State ambient air quality standards. The applicable air quality plan is the MDAQMD AQAP - *2017 MDAQMD Federal 75 ppb (parts per billion) Ozone Attainment Plan (Western Mojave Desert Nonattainment Area)* (MDAQMD 2017). For development projects, such as the proposed project, consistency can be determined if growth forecasts in the plan are consistent with land uses associated with the proposed development.

The AQAP emissions projections were predicated on the aggregation of individual emissions predictions from jurisdictions throughout the MDAQMD. The Town of Apple Valley provided emissions predictions based on the General Plan, which breaks down the Town into regions and Specific Plan areas. The project is zoned General Commercial, allowing for a broad range of clean manufacturing and warehousing uses, including manufacturing facilities with showrooms and offices, regional warehouse facilities, and support services for manufacturing and warehouses. Uses can range from manufacturing and warehousing to offices and retail facilities that support the employee population within the NAVISP. Uses that generate excessive noise or other environmental impacts are not permitted in the NAVISP. All uses are to be conducted within enclosed structures. Outdoor storage may be permitted, if completely screened from view. Furthermore, the I-SP land use designation of the project is consistent with the land use assumptions of the Town's General Plan, upon which the AQAP emissions projections were predicated. Therefore, the project would not affect the regional emissions inventory or conflict with strategies in the AQAP.

Criteria Pollutant Analysis

The Mojave Desert Air Basin is designated as nonattainment for O_3 and PM_{10} for federal standards and nonattainment for O_3, PM_{10}, and $PM_{2.5}$ for State standards. The MDAQMD's nonattainment status is attributed to the region's development history. Past, present, and future development projects contribute to the region's adverse air quality impacts on a cumulative basis. By its very nature, air pollution is largely a cumulative impact. No single project is sufficient in size to, by itself, result in nonattainment of ambient air quality standards. Instead, a project's individual emissions contribute to existing cumulatively significant adverse air quality impacts. If a project's contribution to the cumulative impact is considerable, then the project's impact on air quality would be considered significant.

In developing thresholds of significance for air pollutants, MDAQMD considered the emission levels for which a project's individual emissions would be cumulatively considerable. If a project exceeds the identified significance thresholds, its emissions would be cumulatively considerable, resulting in significant adverse air quality impacts to the region's existing air quality conditions.

Construction Emissions. Construction activities produce combustion emissions from various sources (utility engines, tenant improvements, and motor vehicles transporting the construction crew). Exhaust emissions from construction activities envisioned on site would vary daily as construction activity levels change.

Demolition activities include demolition of one residential building and ancillary shed. Construction activities would also include the removal of existing on-site vegetation; excavation; grading; paving; development of the proposed buildings and parking areas; and the installation of lighting, landscaping, and utility connections. During grading, on-site soils would be excavated and recompacted in accordance with the 2022 California Building Code (CBC) to accommodate the development of the proposed buildings and parking areas. The proposed earthwork for the project assumes the site would be balanced (no import or export needed).

Construction parking and staging would occur on the project site. However, it is possible there would be temporary lane closures and/or detours necessary along existing roadway, including Bear Valley Road to the north and Flying Feather Road to the east during project construction. Construction hours would conform to the Apple Valley Development Code standards specified in Section 9.73.060(F)(1) and be limited to 7:00 a.m. to 7:00 p.m. Monday through Friday. According to the project conceptual grading plans, the soil is expected to balance on-site.

Construction of the project is anticipated to commence in fall 2023 and be completed in fall 2024, resulting in a total construction duration of approximately 12 months.

The construction analysis includes estimating the construction equipment that would be used during each construction activity, the hours of use for that construction equipment, the quantities of earth and debris to be moved, and the on-road vehicle trips (e.g., worker, debris-hauling, and vendor trips). CalEEMod defaults are assumed for the construction activities, off-road equipment, and on-road construction fleet mix and trip lengths. Table G lists the tentative project construction schedule.

Table G: Tentative Project Construction Schedule

Phase Name	Phase Start Date	Phase End Date	Number of Days
Demolition	9/7/2023	9/21/2023	10
Site Preparation	9/22/2023	9/28/2023	5
Grading	9/24/2023	10/8/2023	10
Building Construction	10/9/2023	8/16/2024	225
Architectural Coating	8/17/2024	9/20/2024	131
Paving	2/23/2024	8/25/2024	25

Source: Estimated by LSA Associates, Inc. from the project information provided (March 2023).

CalEEMod (Version 2022.1) was used to develop the construction equipment inventory and calculate the construction emissions. Table H lists the estimated construction equipment that would be used during project construction as estimated by CalEEMod default values. The CalEEMod output is included as Attachment B.

The emissions rates shown in Table I are from the CalEEMod output tables listed as "Mitigated Construction," even though the only measures that have been applied to the analysis are the required construction emissions control measures, or standard conditions. They are also the combination of the on- and off-site emissions and the greater of summer and winter emissions. No exceedances of any criteria pollutants are expected. Standard measures are documented in the CalEEMod output in Attachment B.

Table H: Diesel Construction Equipment Used by Construction Phase

Construction Phase	Off-Road Equipment Type	Off-Road Equipment Unit Amount	Hours Used per Day	Horsepower	Load Factor
Demolition	Excavators	3	8	36	0.38
	Rubber Tired Dozers	2	8	367	0.4
	Concrete/Industrial Saws	1	8	33	0.73
Site Preparation	Rubber Tired Dozers	3	8	367	0.4
	Tractors/Loaders/Backhoes	4	8	84	0.37
Grading	Graders	1	8	148	0.41
	Rubber Tired Dozers	1	8	367	0.4
	Tractors/Loaders/Backhoes	3	8	84	0.37
	Excavators	1	8	36	0.38
Building Construction	Cranes	1	7	367	0.29
	Forklifts	3	8	82	0.2
	Tractors/Loaders/Backhoes	3	7	84	0.37
	Generator Sets	1	8	14	0.74
	Welders	1	8	46	0.45
Architectural Coating	Air Compressors	1	6	37	0.48
Paving	Pavers	2	8	81	0.42
	Rollers	2	6	36	0.38
	Paving Equipment	2	6	89	0.36

Source: Compiled by LSA using CalEEMod defaults (April 2023).
CalEEMod = California Emissions Estimator Model

Table I: Short-Term Regional Construction Emissions

Construction Phase	Total Regional Pollutant Emissions (lbs/day)							
	VOCs	NO_X	CO	SO_X	Fugitive PM_{10}	Exhaust PM_{10}	Fugitive $PM_{2.5}$	Exhaust $PM_{2.5}$
Demolition	3	28	25	<1	<1	1	<1	1
Site Preparation	4	40	37	<1	8	2	4	2
Grading	2	20	21	<1	3	<1	1	<1
Building Construction	1	12	14	<1	<1	<1	<1	<1
Architectural Coating	2	<1	1	<1	<1	<1	<1	<1
Paving	2	8	11	<1	<1	<1	<1	<1
Peak Daily	**4**	**40**	**37**	**<1**	**10**		**6**	
MDAQMD Threshold	**137**	**137**	**548**	**137**	**82**		**65**	
Exceeds Threshold?	**No**	**No**	**No**	**No**	**No**		**No**	

Source: Compiled by LSA (April 2023).
It was assumed that the architectural coatings would be applied during the building construction phase. PM_{10} and $PM_{2.5}$ fugitive emissions are from the Mitigated results; the only "mitigation" measures applied in this modeling are required dust control measures per MDAQMD Rule 403.
CO = carbon monoxide
lbs/day = pounds per day
NO_X = nitrogen oxides
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
PM_{10} = particulate matter less than 10 microns in size
MDAQMD = Mojave Desert Air Quality Management District
SO_X = sulfur oxides
VOCs = volatile organic compounds

Fugitive Dust. Fugitive dust emissions are generally associated with land clearing and exposure of soils to the air and wind, as well as cut-and-fill grading operations. Dust generated during construction varies substantially on a project-by-project basis, depending on the level of activity, the specific operations, and weather conditions at the time of construction.

The construction calculations prepared for this project assumed that dust control measures (watering a minimum of two times daily consistent with MDAQMD Rule 403) would be employed to reduce emissions of fugitive dust during site grading. Furthermore, all construction would need to comply with MDAQMD Rule 403 regarding the emission of fugitive dust. Table J lists total construction emissions (i.e., fugitive dust emissions and construction equipment exhausts) that have incorporated the following Rule 403 measures that would be implemented to significantly reduce PM10 emissions from construction:

- Water active sites at least twice daily (locations where grading is to occur shall be thoroughly watered prior to earthmoving).
- Cover all trucks hauling dirt, sand, soil, or other loose materials, or maintain at least 2 feet (0.6 meter) of freeboard (vertical space between the top of the load and the top of the trailer) in accordance with the requirements of California Vehicle Code Section 23114.
- Reduce traffic speeds on all unpaved roads to 15 miles per hour (mph) or less.

These Rule 403 measures were incorporated in the CalEEMod analysis.

Architectural Coatings. Architectural coatings contain VOCs that are part of the O_3 precursors. Based on the proposed project, it is estimated that application of the architectural coatings for the proposed peak construction day would result in a peak of 4 pounds per day (lbs/day) of

VOCs (2 lbs/day from architectural coating application and 2 lbs/day from concurrent paving). Therefore, VOC emissions from architectural-coating applications would not exceed the MDAQMD VOC threshold of 137 lbs/day.

Odors from Construction Activities. Heavy-duty equipment in the project area during construction would emit odors, primarily from the equipment exhaust. However, the construction-produced odors would cease to occur after individual construction is completed. No other sources of objectionable odors have been identified for the proposed project, and no mitigation measures are required.

MDAQMD Rule 402 regarding nuisances states,

> "A person shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property."

The proposed uses are not anticipated to emit any objectionable odors. Therefore, objectionable odors posing a health risk to potential on-site and existing off-site uses would not occur as a result of the proposed project.

Construction Emissions Conclusions. Table I shows that daily regional construction emissions would not exceed the daily thresholds of any criteria pollutant emissions thresholds established by MDAQMD; thus, during construction, there would be no air quality impacts.

Operational Emissions. Long-term air pollutant emission impacts are those associated with mobile sources (e.g., vehicle trips), energy sources (e.g., electricity and natural gas), and area sources (e.g., architectural coatings and the use of landscape maintenance equipment) related to the proposed project.

The proposed project would generate emissions from daily operations. The project *Traffic Impact Study* (LSA 2023) determined that the project would generate 5,120 vehicle trips daily. Emissions from vehicle operations include exhaust and PM_{10}. PM_{10} emissions result from running exhaust, tire and brake wear, and the entrainment of dust into the atmosphere from vehicles traveling on paved roadways. Entrainment of PM_{10} occurs when vehicle tires pulverize small rocks and pavement and the vehicle wakes generate airborne dust. The contribution of tire and brake wear is small compared to the other PM emission processes.

Energy source emissions result from activities in buildings for which electricity and natural gas are used. The quantity of emissions is the product of usage intensity (i.e., the amount of electricity or natural gas) and the emission factor of the fuel source. Major sources of energy demand include building mechanical systems, such as heating and air conditioning, lighting, and plug-in electronics, such as computers. Greater building or appliance efficiency reduces the amount of energy for a given activity and thus lowers the resultant emissions. The emission factor is determined by the fuel

source, with cleaner energy sources, such as renewable energy, producing fewer emissions than conventional sources.

Typically, area source emissions consist of direct sources of air emissions at the project site, including architectural coatings, the use of consumer products, and the use of landscape maintenance equipment.

Emission estimates for operation of the project were calculated using CalEEMod[1] and are shown in Table J, below. The results shown in Table J indicate the project would not exceed the significance criteria for daily VOC, NO_X, CO, SO_X, PM_{10}, and $PM_{2.5}$ emissions; therefore, operation of the proposed project would not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in nonattainment under an applicable federal or State AAQS.

Emission calculations sheets are attached (Attachment B).

Table J: Project Operation Emissions (lbs/day)

Source Category	VOC	NO_x	CO	SO_x	PM_{10}	$PM_{2.5}$
Area Source Emissions	1	<1	2	<1	<1	<1
Energy Source Emissions	<1	<1	<1	<1	<1	<1
Mobile Source Emissions	28	28	238	<1	16	3
Total Project Emissions	**30**	**29**	**240**	**1**	**16**	**3**
MDAQMD Significance Threshold	**137**	**137**	**548**	**137**	**82**	**65**
Exceeds Threshold?	**No**	**No**	**No**	**No**	**No**	**No**

Source: Compiled by LSA (April 2023).
CO = carbon monoxide
lbs/day = pounds per day
NO_X = nitrogen oxides
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
PM_{10} = particulate matter less than 10 microns in size
MDAQMD = Mojave Desert Air Quality Management District
SO_X = sulfur oxides
VOC = volatile organic compounds

Objectionable Odors. MDAQMD addresses odor criteria within the CEQA Handbook. The MDAQMD has not established a rule or standard regarding odor emissions, rather, the MDAQMD has a nuisance rule: "Any project with the potential to frequently expose members of the public to objectionable odors should be deemed to have a significant impact."

The proposed project is not known to include any activities or operations that would generate objectionable odors, nor are there any sensitive receptors near the project site. Therefore, the proposed project would not result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

[1] Note that the CalEEMod analysis is based on a total square footage that is slightly larger than that which is currently proposed.

Greenhouse Gas Impacts

This section discusses the project's impacts related to the release of GHG emissions for the construction and operational phases of the project.

Generation of Greenhouse Gas Emissions

Construction and operation of the proposed project would generate GHG emissions, with the majority of energy consumption (and associated generation of GHG emissions) occurring during the project's operation.

Overall, the following activities associated with the proposed project could directly or indirectly contribute to the generation of GHG emissions.

Construction Activities. Construction activities would produce combustion emissions from various sources. During construction, GHGs would be emitted through the operation of construction equipment and from worker and builder supply vendor vehicles, each of which typically use fossil-based fuels to operate. The combustion of fossil-based fuels creates GHGs such as CO_2, CH_4, and N_2O. Furthermore, CH_4 is emitted during the fueling of heavy equipment. Exhaust emissions from on-site construction activities would vary daily as construction activity levels change.

Neither the Apple Valley 2019 CAP Update nor the MDAQMD provides a separate GHG significance threshold for construction emissions. However, lead agencies are required to quantify and disclose GHG emissions that would occur during construction. In addition, other air districts recommend amortizing GHG emissions over the life of the project based on the total GHG emissions for construction activities divided by the project life (i.e., 30 years) then adding that number to the annual operational phase GHG emissions. As shown in Table K, the project construction emissions would total 343 MT CO_2e and the amortized rate would be 11 MT CO_2e. (See the CalEEMod output in Attachment B for details.)

Table K: Construction Greenhouse Gas Emissions

Construction Phase	Total Emissions per Phase (MT)			Total Emissions per Phase (MT CO_2e)
	CO_2	CH_4	N_2O	
Demolition	17	<1	<1	18
Site Preparation	13	<1	<1	13
Grading	14	<1	<1	14
Building Construction	284	<1	<1	286
Architectural Coating	10	<1	<1	10
Paving	19	<1	<1	20
Total Emissions for the Entire Construction Process				**343**
Construction Emissions Amortized over 30 years				**11**

Source: Compiled by LSA (April 2023).

CH_4 = methane
CO_2 = carbon dioxide
CO_2e = carbon dioxide equivalent
MT CO_2e = metric tons of carbon dioxide equivalent
MT = metric tons
N_2O = nitrous oxide

Operational GHG Emissions. Long-term GHG emissions are typically generated from mobile sources (e.g., cars, trucks, and buses), area sources (e.g., maintenance activities and landscaping), indirect emissions from sources associated with energy consumption, waste sources (land filling and waste disposal), and water sources (water supply and conveyance, treatment, and distribution). Mobile-source GHG emissions would include project-generated vehicle trips to and from the project site. Area-source emissions would be associated with activities such as landscaping and maintenance on the project site. Waste source emissions generated by the proposed project include energy generated by land filling and other methods of disposal related to transporting and managing project-generated waste.

As shown in Table L, the project would generate 9,429 MT CO_2e per year.

Table L: Long-Term Operational Greenhouse Gas Emissions

Source	Pollutant Emissions (MT per year)					
	Bio-CO_2	**nBio-CO_2**	**Total CO_2**	**CH_4**	**N_2O**	**CO_2e**
Area	0	<1	<1	<1	<1	<1
Energy	0	452	452	<1	<1	454
Mobile	0	7,869	7,869	<1	<1	8,007
Water	6	29.4	36	<1	<1	57
Waste	28	<1	28	2.8	<1	98
Refrigerant						801
Total Operational Emissions	**35**	**8,351**	**8,385**	**4**	**<1**	**9,418**
Amortized Construction Emissions						**11**
Total Annual Emissions						**9,429**

Source: Compiled by LSA (April 2023).
Bio-CO_2 = biologically generated CO_2
CH_4 = methane
CO_2 = carbon dioxide
CO_2e = carbon dioxide equivalent
MT = metric tons
N_2O = nitrous oxide
nBio-CO_2 = non-biologically generated CO_2

Project GHG Impact Assessment

As demonstrated in Tables K and L, based on projections made using CalEEMod Version 2022.1, the project is expected to generate 9,418 MT of CO_2e per year. As described in the Town's General Plan Housing Element, 16.6% of the Town's population works in Apple Valley. The remaining 83% work elsewhere, which could suggest a jobs-housing imbalance within the Town limits. As such, it is expected that the jobs created by the project would be sourced from the local workforce and would not require people to relocate from surrounding communities. Given the existing demand for jobs in the Town, it is likely that all of the jobs created by the project would be filled by existing residents of Apple Valley. It is therefore assumed that the Town's 2030 population would be 84,535 as analyzed in the 2019 CAP Update.

Based on a population of 84,535, Table M shows that in order for the Town to meet the 2030 emissions reduction target, the GHG emissions would have to be no more than 5.32 MTCO_2e per capita. The table also shows that with implementation of the 2019 CAP Update reduction measures, the Town expects to go beyond the established emissions target, reducing forecasted emissions to 410,922 MT CO_2e per year or 4.86 tons per capita. The 2030 emissions forecast with 2019 CAP

Update measures accounts for community emissions, including industrial projects. It is therefore likely that the project's estimated annual emissions of 9,429 MT CO_2e would already be covered by the 2030 emissions forecast. However, assuming a commercial development like the proposed project was not accounted for in the 2019 CAP Update 2030 forecast, and to ensure a conservative analysis, the project's emissions were added to the existing forecast. As shown in Table M, the total annual emissions from the project and existing 2030 forecast would be 420,340.00 $MTCO_2e$, or 4.97 tons per capita. Both the total and per capita emissions meet the 2019 CAP Update target for 2030 of 40% below the 2005 baseline. The Town-wide emissions in 2030, including the project, would therefore meet the 2019 CAP Update GHG emissions reduction target.

Table M: Project Emissions and 2019 CAP Update Reduction Target

Target/Scenario	Forecast ($MTCO_2e$)	Population	$MTCO_2e$ Per Capita
CAP 2030 forecast w/CAP measures	410,922	84,535	4.86
Project emissions (per year)	9,429	84,535	--
Total	**420,351**	**84,535**	**4.97**
CAP 2030 target (40% below baseline)	449,347	84,535	5.32
Would GHG Emissions Exceed the CAP 2030 Target?			No

Source: Town of Apple Valley's General Plan Housing Element and Climate Action Plan

To ensure that the project's GHG emissions are reduced consistent with the goals of the 2019 CAP Update, the project would be subject to applicable reduction measures from the 2019 CAP Update. The project's consistency with applicable reduction measures is Table N.

Table N: Project Consistency with Town of Apple Valley Climate Action Plan

Measures	Consistency Determination
ND-9. During project construction, encourage on-site and off-road construction equipment to utilize biodiesel fuel (a minimum of B20), except for equipment where use of biodiesel fuel would void the equipment warranty. As a conservative measure, no reduction in GHG emissions was taken for the implementation of this measure as it is unknown if biodiesel can be readily applied to the various pieces of construction equipment that will be necessary for the project.	Consistent. The Alternative Diesel Fuels (ADF) regulation has made more readily available low carbon, and often times lower polluting, diesel fuel substitutes to enter the commercial market in California. The MDAQMD, though the construction permit process, requires information be provided on the use of such fuel.
ND-11. Install pedestrian, bicycle and/or equestrian trails connecting project to school(s), commercial project(s) or transit.	**Consistent**. Sidewalks connecting to Bear Valley Road sidewalks will be constructed.
ND-12. Building and site plan designs shall ensure that the project energy efficiencies meet applicable California Title 24 Energy Efficiency Standards. Verification of increased energy efficiencies shall be documented in Title 24 Compliance Reports provided by the applicant and reviewed and approved by the Town prior to the issuance of the first building permit. Any combination of the following design features may be used to fulfill this measure provided that- the total increase in efficiency meets or exceeds Title 24 standards: ● Buildings shall meet or exceed California Title 24 Energy Efficiency performance standards for water heating and space heating and cooling. ● Increase in insulation such that heat transfer and thermal bridging is minimized.	**Consistent**. Buildings will be designed and constructed to meet California Title 24 energy requirements. Requirements will be met using a combination of the building envelopes, HVAC systems and electrical systems.

Table N: Project Consistency with Town of Apple Valley Climate Action Plan

Measures	Consistency Determination
● Limit air leakage through the structure or within the heating and cooling distribution system to minimize energy consumption. ● Incorporate dual-paned or other energy efficient windows. ● Incorporate energy efficient space heating and cooling equipment. ● Incorporate the use of tankless water heaters in all residential units and community buildings. ● Promote building design that will incorporate solar control in an effort to minimize direct sunlight upon windows. A combination of design features including roof eaves, recessed windows, "eyebrow" shades and shade trees shall be considered. ● Interior and exterior energy efficient lighting which exceeds the California Title 24 Energy Efficiency performance standards shall be installed, as deemed acceptable by Town. Automatic devices to turn off lights when they are not needed shall be implemented. ● To the extent that they are compatible with landscaping guidelines established by the Town, shade producing trees, particularly those that shade paved surfaces such as streets and parking lots and buildings shall be planted at the Project site. ● Paint and surface color palette for the Project shall emphasize light and off-white colors which will reflect heat away from the buildings. ● All buildings shall be designed to accommodate renewable energy sources, such as photovoltaic solar electricity systems, and wind energy systems on properties greater than 2 acres, appropriate to their architectural design. ● Consideration shall be given to using LED lighting for all outdoor uses (i.e., buildings, pathways, landscaping, carports).	
ND-16. Install Energy Star appliances and energy efficient fixtures.	**Consistent**. Energy star appliances will be installed as applicable.
ND-17. Install all CFL or LED light bulbs.	**Consistent**. LED light bulbs will be installed throughout the project.
ND-18. Install common area electric vehicle charging station(s) and secure bicycle racks.	**Consistent**. Electrical vehicle charging and secure bicycle racks will be installed as required per city ordinances/California title 24 energy code.
ND-24. Recycle and/or salvage non-hazardous construction and demolition waste and develop and implement a construction waste management plan quantifying the reduction in the waste stream.	**Consistent**. The project shall comply with Section 5.408 of the 2019 California Green Building Code Standards, which requires new development projects to submit and implement a construction waste management plan in order to reduce the amount of construction waste transported to landfills
ND-25. Reuse construction waste in project features (e.g., shattered concrete or asphalt can be ground and used in walkways and parking lots).	**Consistent**. CALGreen requires covered projects to recycle and/or salvage for reuse a minimum 65% of the nonhazardous construction and demolition waste or meet a local construction and demolition waste management ordinance, whichever is more stringent.

Table N: Project Consistency with Town of Apple Valley Climate Action Plan

Measures	Consistency Determination
ND-26. Facilitate the reduction of waste generated by building occupants that is hauled to and disposed of in landfills by providing easily accessible areas that serve each building and are dedicated to the collection and storage of paper, cardboard, glass, plastics, and metals.	**Consistent**. Trash enclosures will be provided easily accessible from the buildings and recycling collection containers will be provided.

Source: Town of Apple Valley Climate Action Plan
MDAQMD = Mojave Desert Air Quality Management District

Conflict with an Applicable Plan, Policy, or Regulation

Town of Apple Valley Climate Action Plan 2019 Update

The reduction measures in Apple Valley's 2019 CAP Update are divided into three broad categories: Town Municipal Operational Measures, Community Operational Measures, and New Development Measures. Because the project is a "New Development", it is measured against the measures applicable to the project as shown Table N.

Conclusion

Table N shows that project would be compliant with the Town's 2019 CAP Update and with the addition of the project's emissions, the project Town-wide CO_2e emissions would continue to meet the 2030 reduction target. Thus, the project's impacts related to GHG emissions would be less than significant and no mitigation would be necessary.

Energy

The proposed project would increase the demand for electricity, natural gas, and gasoline when compared to the existing condition of the site. The discussion and analysis provided below is based on the data included in the CalEEMod output, which is included as Attachment B.

Construction-Period Energy Use

The anticipated construction schedule assumes that the proposed project would be built over approximately 12 months. The proposed project would require demolition, site preparation, grading, building construction, paving, and architectural coating during construction.

Construction of the proposed project would require energy for the manufacture and transportation of building materials and for preparation of the site for grading activities and building construction. Petroleum fuels (e.g., diesel and gasoline) would be the primary sources of energy for these activities.

Construction activities are not anticipated to result in an inefficient use of energy because gasoline and diesel fuel would be supplied by construction contractors who would conserve the use of their supplies to minimize their costs on the proposed project. Energy usage on the project site during construction would be temporary in nature and would be relatively small in comparison to the State's available energy sources. Therefore, construction energy impacts would be less than significant, and no mitigation would be required.

Operational Energy Use

Energy use includes both direct and indirect sources of emissions. Direct sources of emissions include on-site natural gas usage for heating, while indirect sources include electricity generated by off-site power plants. Natural gas use in CalEEMod is measured in units of a thousand British thermal units (kBTU) per year; however, this analysis converts the results to natural gas in units of therms. Electricity use in CalEEMod is measured in kWh per year.

CalEEMod divides building electricity and natural gas use into uses that are subject to Title 24 standards and those that are not. For electricity, Title 24 uses include the major building envelope systems covered by Part 6 (California Energy Code) of Title 24 (e.g., space heating, space cooling, water heating, and ventilation). Non-Title 24 uses include all other end uses (e.g., appliances, electronics, and other miscellaneous plug-in uses). Because some lighting is not considered as part of the building envelope energy budget, CalEEMod considers lighting as a separate electricity use category.

For natural gas, uses are likewise categorized as Title 24 or non-Title 24. Title 24 uses include building heating and hot water end uses. Non-Title 24 natural gas uses include appliances.

Table O shows the estimated potential increased electricity, natural gas, gasoline, and diesel demand associated with the proposed project. The electricity and natural gas rates are from the CalEEMod analysis, while the gasoline and diesel rates are based on the traffic analysis (see Attachment C) in conjunction with DOT fuel efficiency data.

Table O: Estimated Annual Energy Use of the Proposed Project

Land Use	Electricity Use (kWh/yr)	Natural Gas Use (kBTU/yr)	Gasoline (gal/yr)	Diesel (gal/yr)
Commercial	1,507,865	1,662,111	732,861	513,941

Source: Compiled by LSA (April 2023).
gal/yr = gallons per year
kBTU/yr = thousand British thermal units per year
kWh/yr = kilowatt-hours

As shown in Table O, the estimated potential increased electricity demand associated with the proposed project is 1,507,865 kWh per year. According to the California Energy Commission (CEC), total electricity consumption in the SCE service area in 2021 was 103,045 GWh. Of this total, San Bernardino County consumed 16,180.8 GWh or 16,180,811,158 kilowatt-hours (California Energy Commission n.d.-a). Therefore, electricity demand associated with the proposed project would be approximately 0.01 percent of San Bernardino County's total electricity demand.

Also shown in Table O, the estimated potential increased natural gas demand associated with the proposed project is 1,662,111 kBTU per year or 16,621 therms. According to the CEC, total natural gas consumption in the SoCalGas service area in 2021 was 6,755 million therms, while San Bernardino County consumed 561,360,617 therms (CEC n.d.-b). Therefore, natural gas demand associated with the proposed project would be approximately 0.003 percent of San Bernardino County's total natural gas demand.

Furthermore, the proposed project would result in energy usage associated with gasoline and diesel to fuel project-related trips. The average fuel economy for light-duty vehicles (automobiles, pickups, vans, and sport utility vehicles) in the United States has steadily increased, from about 14.9 mpg in 1980 to 22.2 mpg in 2019 (DOT 2021). The average fuel economy for heavy-duty trucks in the United States has also steadily increased, from 5.7 mpg in 2013 to a projected 8.0 mpg in 2021 (CEC 2015).

Using the EPA gasoline fuel economy estimates for 2019, the California diesel fuel economy estimates for 2022, and the traffic data from the project traffic analyses, the proposed project would result in the annual consumption of 732,861 gallons of gasoline and 513,941 gallons of diesel fuel. In 2019, vehicles in California consumed approximately 15.6 billion gallons of gasoline and 3.8 billion gallons of diesel fuel (CEC n.d.-c). Therefore, gasoline and diesel demand generated by vehicle trips associated with the proposed project would be a minimal fraction of gasoline and diesel fuel consumption in California and, by extension, in San Bernardino County.

In addition, vehicles associated with trips to and from the project site would be subject to fuel economy and efficiency standards, which are applicable throughout the State. As such, the fuel efficiency of vehicles associated with project operations would increase throughout the life of the proposed project. Therefore, implementation of the proposed project would not result in a substantial increase in transportation-related energy uses.

Energy Use Summary

As described above, the proposed project would not result in the wasteful, inefficient, or unnecessary consumption of fuel or energy and would incorporate renewable energy or energy efficiency measures into building design, equipment uses, and transportation. Impacts would be less than significant, and no mitigation measures would be necessary.

Conflict with or Obstruction of a State or Local Plan for Renewable Energy or Energy Efficiency

As indicated above, energy usage on the project site during construction would be temporary in nature. In addition, energy usage associated with operation of the proposed project would be relatively small in comparison to the State's available energy sources, and energy impacts would be negligible at the regional level. Because California's energy conservation planning actions are conducted at a regional level and because the project's total impacts to regional energy supplies would be minor, the proposed project would not conflict with California's energy conservation plans as described in the CEC's *2021 Integrated Energy Policy Report*. In addition, the proposed project would comply with Title 24 and CALGreen standards. Thus, as shown above, the proposed project would avoid or reduce the inefficient, wasteful, and unnecessary consumption of energy and would not result in any irreversible or irretrievable commitments of energy. Therefore, the proposed project would not result in the wasteful, inefficient, or unnecessary consumption of energy resources during project construction or operation. Impacts would be less than significant, and no mitigation measures would be necessary.

CONCLUSION

Based on the analysis presented above, operational emissions associated with the proposed project would not exceed MDAQMD established significance thresholds. The proposed project is not

expected to produce significant emissions that would affect nearby sensitive receptors. The proposed project would also not result in objectionable odors affecting a substantial number of people. GHG emissions released during construction and operation of the project would be compliant with the Town's 2019 CAP Update and would not be cumulatively considerable. Additionally, the project would not conflict with the goals and objectives of a State or regional plan, policy, or regulation of an agency adopted for the purpose of reducing GHG emissions, nor result in the wasteful, inefficient, or unnecessary consumption of energy resources.

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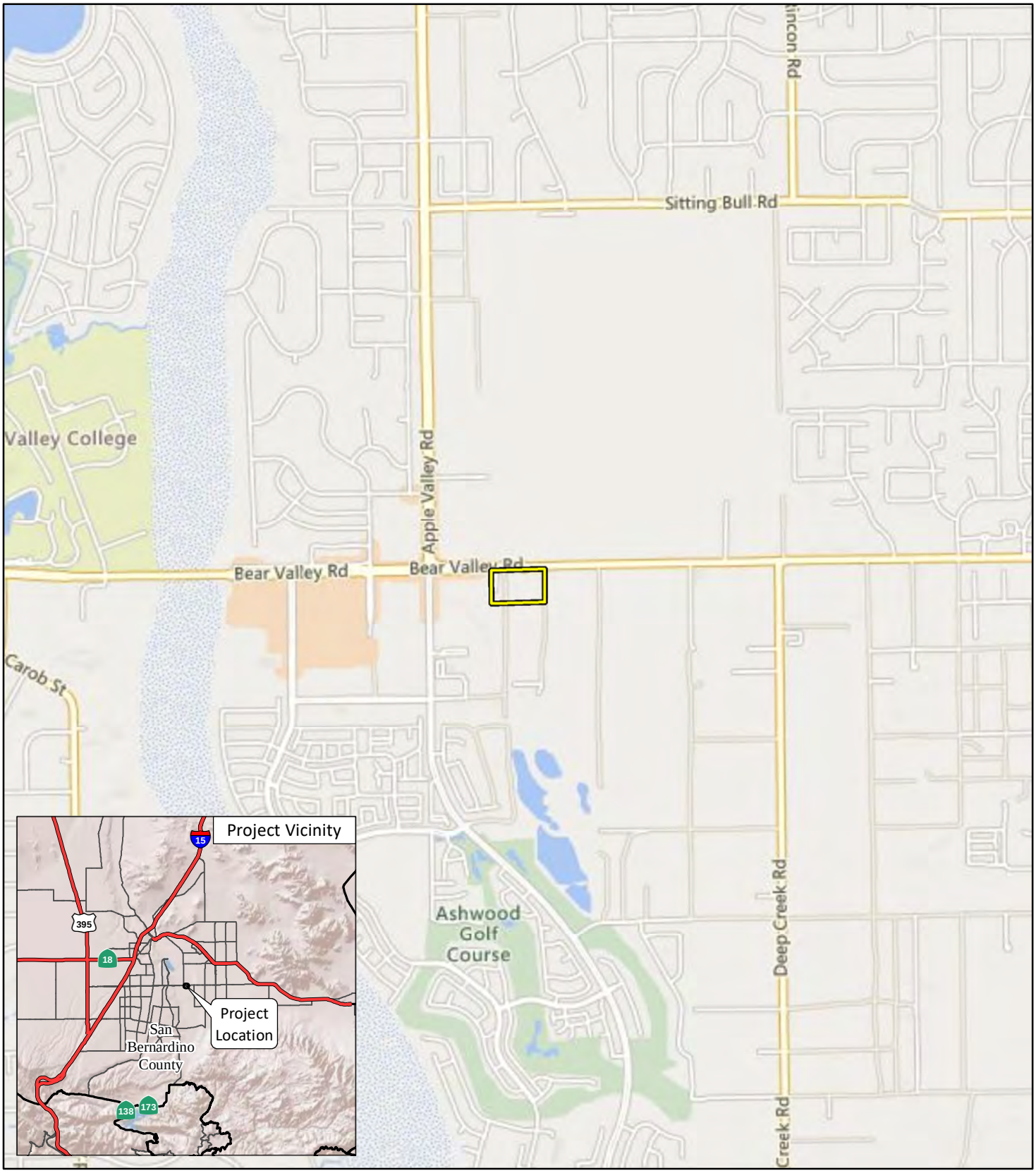
Attachments: A – Figures
B – CalEEMod Output
C – Fuel Usage Worksheet

ATTACHMENT A

FIGURES

Figure 1: Regional and Project Location
Figure 2: Conceptual Site Plan



LSA

LEGEND

Project Location

FIGURE 1

N

0 1000 2000

FEET

SOURCE: Bing (2021)

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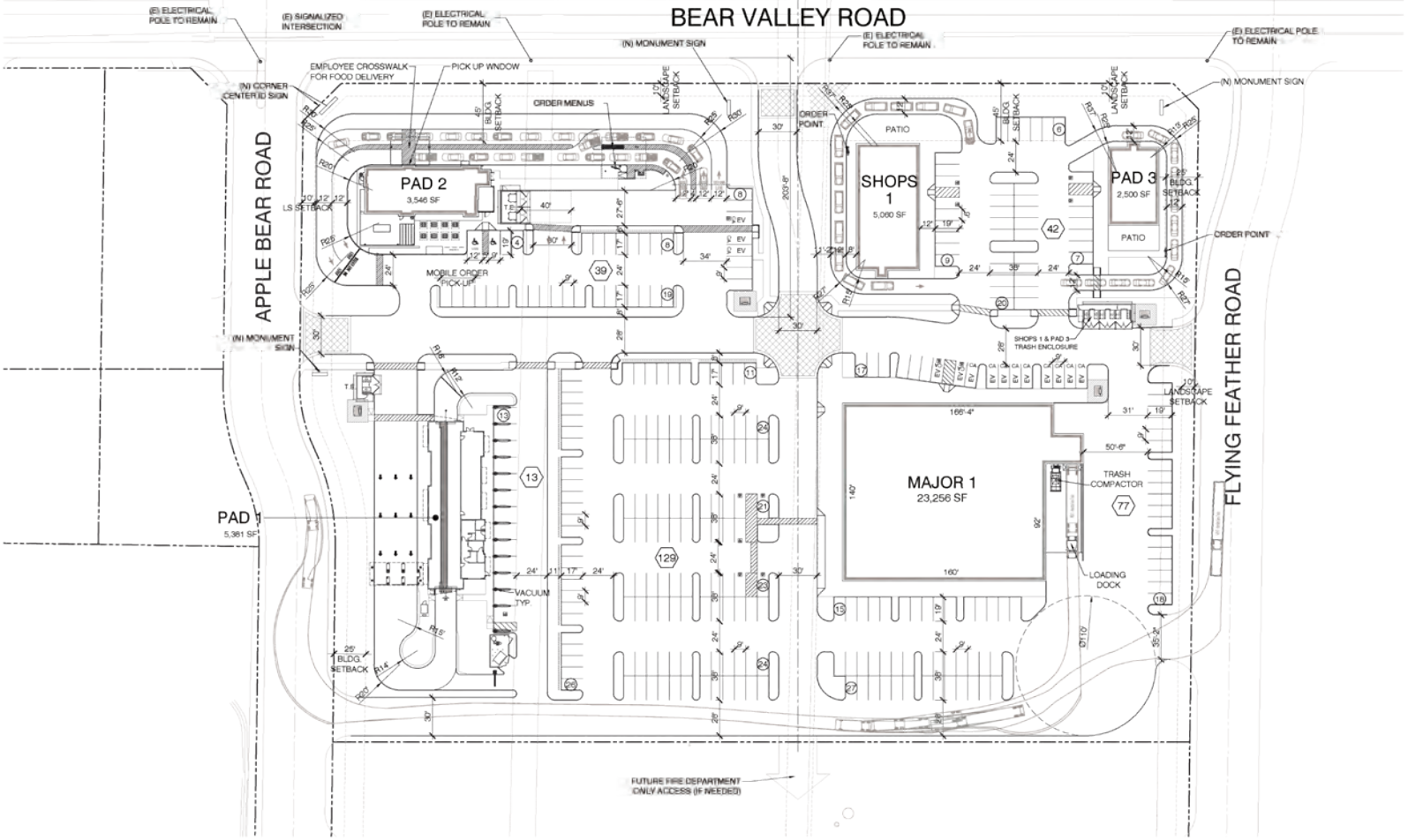
Apple Bear Commercial Project

Project Location and Vicinity



LSA

FIGURE 2

N

0 50 100

FEET

Apple Bear Commercial Project

Conceptual Site Plan

SOURCE: MCG Architecture, December 2022.

P:\WDN2201_Apple Bear Commercial Project\Technical Studies\Traffic and VMT\Traffic\Site Plan (2/20/2022)

ATTACHMENT B

CALEEMOD OUTPUT

Apple Bear Commercial (WDN2201) Custom Report

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1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Apple Bear Commercial (WDN2201)
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.80
Precipitation (days)	12.8
Location	34.470699400833816, -117.2373456513449
County	San Bernardino-Mojave Desert
City	Apple Valley
Air District	Mojave Desert AQMD
Air Basin	Mojave Desert
TAZ	5113
EDFZ	10
Electric Utility	Southern California Edison
Gas Utility	Southwest Gas Corp.

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Supermarket	23.0	1000sqft	0.00	23,256	32,115	0.00	—	—
Fast Food Restaurant with Drive Thru	7.00	1000sqft	0.00	7,360	10,158	0.00	—	—

Fast Food Restaurant w/o Drive Thru	4.00	1000sqft	0.00	3,750	5,179	0.00	—	—
User Defined Retail	5.00	User Defined Unit	0.00	5,381	7,431	0.00	—	Car Wash
Parking Lot	269	1000sqft	6.18	0.00	0.00	0.00	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	6.19	59.9	58.4	0.08	2.75	10.9	13.6	2.53	5.38	7.90	—	8,748	8,748	0.36	0.08	2.09	8,783
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	3.41	20.1	20.7	0.03	0.94	2.96	3.90	0.87	1.38	2.25	—	3,160	3,160	0.13	0.06	0.04	3,172
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.45	6.04	7.58	0.01	0.26	0.24	0.41	0.24	0.10	0.27	—	1,432	1,432	0.06	0.03	0.32	1,442
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.26	1.10	1.38	< 0.005	0.05	0.04	0.08	0.04	0.02	0.05	—	237	237	0.01	< 0.005	0.05	239
Exceeds (Daily Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Threshold	137	137	548	137	—	—	82.0	—	—	64.0	—	—	—	—	—	—	—
Unmit.	No	No	No	No	—	—	No	—	—	No	—	—	—	—	—	—	—
Exceeds (Average Daily)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	137	137	548	137	—	—	82.0	—	—	64.0	—	—	—	—	—	—	—
Unmit.	No	No	No	No	—	—	No	—	—	No	—	—	—	—	—	—	—

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	6.19	59.9	58.4	0.08	2.75	10.9	13.6	2.53	5.38	7.90	—	8,748	8,748	0.36	0.08	2.09	8,783
2024	3.71	12.4	15.9	0.03	0.53	0.27	0.81	0.49	0.07	0.56	—	2,990	2,990	0.11	0.06	1.54	3,011
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	2.12	20.1	20.7	0.03	0.94	2.96	3.90	0.87	1.38	2.25	—	3,160	3,160	0.13	0.06	0.04	3,172
2024	3.41	12.5	15.4	0.03	0.53	0.27	0.81	0.49	0.07	0.56	—	2,962	2,962	0.11	0.06	0.04	2,981
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	0.41	3.85	4.10	0.01	0.17	0.24	0.41	0.16	0.10	0.27	—	728	728	0.03	0.01	0.14	733
2024	1.45	6.04	7.58	0.01	0.26	0.13	0.39	0.24	0.03	0.27	—	1,432	1,432	0.06	0.03	0.32	1,442
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	0.08	0.70	0.75	< 0.005	0.03	0.04	0.08	0.03	0.02	0.05	—	121	121	< 0.005	< 0.005	0.02	121
2024	0.26	1.10	1.38	< 0.005	0.05	0.02	0.07	0.04	0.01	0.05	—	237	237	0.01	< 0.005	0.05	239

2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	29.7	26.7	240	0.50	0.45	15.8	16.2	0.42	2.77	3.20	208	53,919	54,128	23.0	2.34	5,041	60,441
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	25.6	28.8	184	0.46	0.45	15.8	16.2	0.42	2.77	3.19	208	49,407	49,616	23.1	2.42	4,844	55,759
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	26.0	29.5	201	0.47	0.45	15.8	16.2	0.42	2.77	3.19	208	50,438	50,647	23.1	2.46	4,926	56,885
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.75	5.39	36.7	0.09	0.08	2.88	2.96	0.08	0.51	0.58	34.5	8,351	8,385	3.83	0.41	816	9,418
Exceeds (Daily Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	137	137	548	137	—	—	82.0	—	—	65.0	—	—	—	—	—	—	—
Unmit.	No	No	No	No	—	—	No	—	—	No	—	—	—	—	—	—	—
Exceeds (Average Daily)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	137	137	548	137	—	—	82.0	—	—	65.0	—	—	—	—	—	—	—
Unmit.	No	No	No	No	—	—	No	—	—	No	—	—	—	—	—	—	—

2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	28.4	26.2	238	0.50	0.41	15.8	16.2	0.39	2.77	3.16	—	51,004	51,004	1.90	2.22	202	51,916
Area	1.23	0.01	1.73	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.11	7.11	< 0.005	< 0.005	—	7.32
Energy	0.02	0.45	0.38	< 0.005	0.03	—	0.03	0.03	—	0.03	—	2,730	2,730	0.18	0.02	—	2,740
Water	—	—	—	—	—	—	—	—	—	—	39.1	178	217	4.02	0.10	—	346
Waste	—	—	—	—	—	—	—	—	—	—	169	0.00	169	16.9	0.00	—	592
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4,839	4,839
Total	29.7	26.7	240	0.50	0.45	15.8	16.2	0.42	2.77	3.20	208	53,919	54,128	23.0	2.34	5,041	60,441
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	24.7	28.3	184	0.46	0.41	15.8	16.2	0.39	2.77	3.16	—	46,499	46,499	1.99	2.31	5.24	47,242
Area	0.94	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.02	0.45	0.38	< 0.005	0.03	—	0.03	0.03	—	0.03	—	2,730	2,730	0.18	0.02	—	2,740
Water	—	—	—	—	—	—	—	—	—	—	39.1	178	217	4.02	0.10	—	346
Waste	—	—	—	—	—	—	—	—	—	—	169	0.00	169	16.9	0.00	—	592
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4,839	4,839
Total	25.6	28.8	184	0.46	0.45	15.8	16.2	0.42	2.77	3.19	208	49,407	49,616	23.1	2.42	4,844	55,759
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	24.9	29.1	200	0.47	0.41	15.8	16.2	0.39	2.77	3.16	—	47,527	47,527	2.02	2.35	87.3	48,364
Area	1.08	0.01	0.85	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.51	3.51	< 0.005	< 0.005	—	3.61
Energy	0.02	0.45	0.38	< 0.005	0.03	—	0.03	0.03	—	0.03	—	2,730	2,730	0.18	0.02	—	2,740
Water	—	—	—	—	—	—	—	—	—	—	39.1	178	217	4.02	0.10	—	346
Waste	—	—	—	—	—	—	—	—	—	—	169	0.00	169	16.9	0.00	—	592
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4,839	4,839

Total	26.0	29.5	201	0.47	0.45	15.8	16.2	0.42	2.77	3.19	208	50,438	50,647	23.1	2.46	4,926	56,885
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	4.55	5.31	36.5	0.09	0.08	2.88	2.95	0.07	0.51	0.58	—	7,869	7,869	0.33	0.39	14.5	8,007
Area	0.20	< 0.005	0.16	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.58	0.58	< 0.005	< 0.005	—	0.60
Energy	< 0.005	0.08	0.07	< 0.005	0.01	—	0.01	0.01	—	0.01	—	452	452	0.03	< 0.005	—	454
Water	—	—	—	—	—	—	—	—	—	—	6.47	29.4	35.9	0.67	0.02	—	57.3
Waste	—	—	—	—	—	—	—	—	—	—	28.0	0.00	28.0	2.80	0.00	—	98.0
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	801	801
Total	4.75	5.39	36.7	0.09	0.08	2.88	2.96	0.08	0.51	0.58	34.5	8,351	8,385	3.83	0.41	816	9,418

3. Construction Emissions Details

3.1. Demolition (2023) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.84	27.3	23.5	0.03	1.20	—	1.20	1.10	—	1.10	—	3,425	3,425	0.14	0.03	—	3,437
Demolition	—	—	—	—	—	0.15	0.15	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.08	0.75	0.64	< 0.005	0.03	—	0.03	0.03	—	0.03	—	93.8	93.8	< 0.005	< 0.005	—	94.2
Demolition	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.14	0.12	< 0.005	0.01	—	0.01	0.01	—	0.01	—	15.5	15.5	< 0.005	< 0.005	—	15.6
Demolition	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.09	1.47	0.00	0.00	0.20	0.20	0.00	0.05	0.05	—	228	228	0.01	0.01	0.96	232
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.23	0.05	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.02	—	198	198	< 0.005	0.03	0.42	208
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	5.69	5.69	< 0.005	< 0.005	0.01	5.77
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	5.44	5.44	< 0.005	< 0.005	< 0.005	5.69
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.94	0.94	< 0.005	< 0.005	< 0.005	0.96
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.90	0.90	< 0.005	< 0.005	< 0.005	0.94

3.3. Site Preparation (2023) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.95	39.7	35.5	0.05	1.81	—	1.81	1.66	—	1.66	—	5,295	5,295	0.21	0.04	—	5,314
Dust From Material Movement	—	—	—	—	—	7.67	7.67	—	3.94	3.94	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.54	0.49	< 0.005	0.02	—	0.02	0.02	—	0.02	—	72.5	72.5	< 0.005	< 0.005	—	72.8
Dust From Material Movement	—	—	—	—	—	0.11	0.11	—	0.05	0.05	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.10	0.09	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	12.0	12.0	< 0.005	< 0.005	—	12.1

Dust From Material Movement	—	—	—	—	—	0.02	0.02	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.11	0.11	1.72	0.00	0.00	0.23	0.23	0.00	0.05	0.05	—	266	266	0.01	0.01	1.12	270
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.32	3.32	< 0.005	< 0.005	0.01	3.37
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.55	0.55	< 0.005	< 0.005	< 0.005	0.56
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.5. Grading (2023) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.04	20.0	19.7	0.03	0.94	—	0.94	0.87	—	0.87	—	2,958	2,958	0.12	0.02	—	2,968
Dust From Material Movement	—	—	—	—	—	2.76	2.76	—	1.34	1.34	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.04	20.0	19.7	0.03	0.94	—	0.94	0.87	—	0.87	—	2,958	2,958	0.12	0.02	—	2,968
Dust From Material Movement	—	—	—	—	—	2.76	2.76	—	1.34	1.34	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.06	0.55	0.54	< 0.005	0.03	—	0.03	0.02	—	0.02	—	81.0	81.0	< 0.005	< 0.005	—	81.3
Dust From Material Movement	—	—	—	—	—	0.08	0.08	—	0.04	0.04	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.10	0.10	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	13.4	13.4	< 0.005	< 0.005	—	13.5

Dust From Material Movement	—	—	—	—	—	0.01	0.01	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.09	1.47	0.00	0.00	0.20	0.20	0.00	0.05	0.05	—	228	228	0.01	0.01	0.96	232
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.10	0.99	0.00	0.00	0.20	0.20	0.00	0.05	0.05	—	202	202	0.01	0.01	0.02	204
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	5.69	5.69	< 0.005	< 0.005	0.01	5.77
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.94	0.94	< 0.005	< 0.005	< 0.005	0.96
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.7. Building Construction (2023) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.26	11.8	13.2	0.02	0.55	—	0.55	0.51	—	0.51	—	2,397	2,397	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.21	1.94	2.17	< 0.005	0.09	—	0.09	0.08	—	0.08	—	394	394	0.02	< 0.005	—	395
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.35	0.40	< 0.005	0.02	—	0.02	0.02	—	0.02	—	65.2	65.2	< 0.005	< 0.005	—	65.5
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.09	0.91	0.00	0.00	0.18	0.18	0.00	0.04	0.04	—	186	186	0.01	0.01	0.02	188
Vendor	0.01	0.24	0.11	< 0.005	< 0.005	0.06	0.06	< 0.005	0.02	0.02	—	215	215	< 0.005	0.03	0.01	224

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.02	0.17	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	31.5	31.5	< 0.005	< 0.005	0.06	31.9
Vendor	< 0.005	0.04	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	35.3	35.3	< 0.005	< 0.005	0.04	36.8
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	5.21	5.21	< 0.005	< 0.005	0.01	5.29
Vendor	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	5.85	5.85	< 0.005	< 0.005	0.01	6.09
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.9. Building Construction (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.20	11.2	13.1	0.02	0.50	—	0.50	0.46	—	0.46	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.20	11.2	13.1	0.02	0.50	—	0.50	0.46	—	0.46	—	2,398	2,398	0.10	0.02	—	2,406
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.54	5.03	5.88	0.01	0.22	—	0.22	0.21	—	0.21	—	1,074	1,074	0.04	0.01	—	1,078
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.10	0.92	1.07	< 0.005	0.04	—	0.04	0.04	—	0.04	—	178	178	0.01	< 0.005	—	179
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	1.25	0.00	0.00	0.18	0.18	0.00	0.04	0.04	—	206	206	0.01	0.01	0.81	209
Vendor	0.01	0.22	0.10	< 0.005	< 0.005	0.06	0.06	< 0.005	0.02	0.02	—	211	211	< 0.005	0.03	0.57	220
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.09	0.84	0.00	0.00	0.18	0.18	0.00	0.04	0.04	—	182	182	0.01	0.01	0.02	185
Vendor	0.01	0.23	0.10	< 0.005	< 0.005	0.06	0.06	< 0.005	0.02	0.02	—	212	212	< 0.005	0.03	0.01	220
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.04	0.42	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	84.1	84.1	< 0.005	< 0.005	0.16	85.3
Vendor	< 0.005	0.10	0.04	< 0.005	< 0.005	0.02	0.03	< 0.005	0.01	0.01	—	94.8	94.8	< 0.005	0.01	0.11	98.6
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.08	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	13.9	13.9	< 0.005	< 0.005	0.03	14.1
Vendor	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	15.7	15.7	< 0.005	< 0.005	0.02	16.3
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.11. Paving (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.85	7.81	10.0	0.01	0.39	—	0.39	0.36	—	0.36	—	1,512	1,512	0.06	0.01	—	1,517
Paving	0.65	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.06	0.54	0.69	< 0.005	0.03	—	0.03	0.02	—	0.02	—	104	104	< 0.005	< 0.005	—	104
Paving	0.04	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.10	0.13	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	17.1	17.1	< 0.005	< 0.005	—	17.2
Paving	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.09	0.08	1.35	0.00	0.00	0.20	0.20	0.00	0.05	0.05	—	224	224	0.01	0.01	0.87	227
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.07	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	13.9	13.9	< 0.005	< 0.005	0.03	14.1
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.31	2.31	< 0.005	< 0.005	< 0.005	2.34
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.13. Architectural Coating (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.14	0.91	1.15	< 0.005	0.03	—	0.03	0.03	—	0.03	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	1.98	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.14	0.91	1.15	< 0.005	0.03	—	0.03	0.03	—	0.03	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	1.98	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.33	0.41	< 0.005	0.01	—	0.01	0.01	—	0.01	—	47.9	47.9	< 0.005	< 0.005	—	48.1
Architectural Coatings	0.71	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.06	0.08	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.93	7.93	< 0.005	< 0.005	—	7.96
Architectural Coatings	0.13	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.01	0.25	0.00	0.00	0.04	0.04	0.00	0.01	0.01	—	41.2	41.2	< 0.005	< 0.005	0.16	41.8
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.02	0.17	0.00	0.00	0.04	0.04	0.00	0.01	0.01	—	36.5	36.5	< 0.005	< 0.005	< 0.005	36.9
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.07	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	13.5	13.5	< 0.005	< 0.005	0.03	13.7
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.23	2.23	< 0.005	< 0.005	< 0.005	2.26
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Supermarket	9.20	8.49	77.1	0.16	0.13	5.10	5.24	0.13	0.90	1.02	—	16,517	16,517	0.61	0.72	65.5	16,812

Fast Food Restaurant with Drive Thru	9.07	8.37	76.0	0.16	0.13	5.03	5.16	0.12	0.88	1.01	—	16,277	16,277	0.61	0.71	64.5	16,568
Fast Food Restaurant w/o Drive Thru	4.45	4.11	37.3	0.08	0.06	2.47	2.53	0.06	0.43	0.49	—	7,989	7,989	0.30	0.35	31.7	8,132
User Defined Retail	5.69	5.25	47.7	0.10	0.08	3.16	3.24	0.08	0.56	0.63	—	10,221	10,221	0.38	0.45	40.5	10,403
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	28.4	26.2	238	0.50	0.41	15.8	16.2	0.39	2.77	3.16	—	51,004	51,004	1.90	2.22	202	51,916
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Supermarket	7.99	9.17	59.6	0.15	0.13	5.10	5.24	0.13	0.90	1.02	—	15,058	15,058	0.64	0.75	1.70	15,299
Fast Food Restaurant with Drive Thru	7.87	9.04	58.7	0.15	0.13	5.03	5.16	0.12	0.88	1.01	—	14,840	14,840	0.63	0.74	1.67	15,077
Fast Food Restaurant w/o Drive Thru	3.86	4.44	28.8	0.07	0.06	2.47	2.53	0.06	0.43	0.49	—	7,284	7,284	0.31	0.36	0.82	7,400
User Defined Retail	4.94	5.67	36.9	0.09	0.08	3.16	3.24	0.08	0.56	0.63	—	9,318	9,318	0.40	0.46	1.05	9,467
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	24.7	28.3	184	0.46	0.41	15.8	16.2	0.39	2.77	3.16	—	46,499	46,499	1.99	2.31	5.24	47,242
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Supermarket	1.47	1.72	11.8	0.03	0.02	0.93	0.96	0.02	0.16	0.19	—	2,548	2,548	0.11	0.13	4.68	2,593

Fast Food Restaurant with Drive Thru	1.45	1.69	11.6	0.03	0.02	0.92	0.94	0.02	0.16	0.18	—	2,511	2,511	0.11	0.12	4.61	2,555
Fast Food Restaurant w/o Drive Thru	0.71	0.83	5.71	0.01	0.01	0.45	0.46	0.01	0.08	0.09	—	1,233	1,233	0.05	0.06	2.26	1,254
User Defined Retail	0.91	1.06	7.31	0.02	0.02	0.58	0.59	0.01	0.10	0.12	—	1,577	1,577	0.07	0.08	2.90	1,605
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	4.55	5.31	36.5	0.09	0.08	2.88	2.95	0.07	0.51	0.58	—	7,869	7,869	0.33	0.39	14.5	8,007

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Supermarket	—	—	—	—	—	—	—	—	—	—	—	1,094	1,094	0.07	0.01	—	1,098
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	376	376	0.02	< 0.005	—	378
Fast Food Restaurant w/o Drive Thru	—	—	—	—	—	—	—	—	—	—	—	192	192	0.01	< 0.005	—	192

User Defined Retail	—	—	—	—	—	—	—	—	—	—	—	192	192	0.01	< 0.005	—	193
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	343	343	0.02	< 0.005	—	345
Total	—	—	—	—	—	—	—	—	—	—	—	2,198	2,198	0.14	0.02	—	2,206
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Supermarket	—	—	—	—	—	—	—	—	—	—	—	1,094	1,094	0.07	0.01	—	1,098
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	376	376	0.02	< 0.005	—	378
Fast Food Restaurant w/o Drive Thru	—	—	—	—	—	—	—	—	—	—	—	192	192	0.01	< 0.005	—	192
User Defined Retail	—	—	—	—	—	—	—	—	—	—	—	192	192	0.01	< 0.005	—	193
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	343	343	0.02	< 0.005	—	345
Total	—	—	—	—	—	—	—	—	—	—	—	2,198	2,198	0.14	0.02	—	2,206
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Supermarket	—	—	—	—	—	—	—	—	—	—	—	181	181	0.01	< 0.005	—	182
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	62.3	62.3	< 0.005	< 0.005	—	62.5
Fast Food Restaurant w/o Drive Thru	—	—	—	—	—	—	—	—	—	—	—	31.7	31.7	< 0.005	< 0.005	—	31.9

User Defined Retail	—	—	—	—	—	—	—	—	—	—	—	31.9	31.9	< 0.005	< 0.005	—	32.0
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	56.9	56.9	< 0.005	< 0.005	—	57.1
Total	—	—	—	—	—	—	—	—	—	—	—	364	364	0.02	< 0.005	—	365

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Supermarket	0.01	0.11	0.09	< 0.005	0.01	—	0.01	0.01	—	0.01	—	126	126	0.01	< 0.005	—	126
Fast Food Restaurant with Drive Thru	0.01	0.23	0.19	< 0.005	0.02	—	0.02	0.02	—	0.02	—	270	270	0.02	< 0.005	—	270
Fast Food Restaurant w/o Drive Thru	0.01	0.12	0.10	< 0.005	0.01	—	0.01	0.01	—	0.01	—	137	137	0.01	< 0.005	—	138
User Defined Retail	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.02	0.45	0.38	< 0.005	0.03	—	0.03	0.03	—	0.03	—	533	533	0.05	< 0.005	—	534
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Supermarket	0.01	0.11	0.09	< 0.005	0.01	—	0.01	0.01	—	0.01	—	126	126	0.01	< 0.005	—	126

Fast Food Restaurant with Drive Thru	0.01	0.23	0.19	< 0.005	0.02	—	0.02	0.02	—	0.02	—	270	270	0.02	< 0.005	—	270
Fast Food Restaurant w/o Drive Thru	0.01	0.12	0.10	< 0.005	0.01	—	0.01	0.01	—	0.01	—	137	137	0.01	< 0.005	—	138
User Defined Retail	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.02	0.45	0.38	< 0.005	0.03	—	0.03	0.03	—	0.03	—	533	533	0.05	< 0.005	—	534
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Supermarket	< 0.005	0.02	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	20.8	20.8	< 0.005	< 0.005	—	20.9
Fast Food Restaurant with Drive Thru	< 0.005	0.04	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	44.6	44.6	< 0.005	< 0.005	—	44.7
Fast Food Restaurant w/o Drive Thru	< 0.005	0.02	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	22.7	22.7	< 0.005	< 0.005	—	22.8
User Defined Retail	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	< 0.005	0.08	0.07	< 0.005	0.01	—	0.01	0.01	—	0.01	—	88.2	88.2	0.01	< 0.005	—	88.4

4.3. Area Emissions by Source

4.3.2. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	0.87	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.07	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.28	0.01	1.73	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.11	7.11	< 0.005	< 0.005	—	7.32
Total	1.23	0.01	1.73	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.11	7.11	< 0.005	< 0.005	—	7.32
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	0.87	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.07	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	0.94	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	0.16	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Landscap Equipment	0.03	< 0.005	0.16	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.58	0.58	< 0.005	< 0.005	—	0.60
Total	0.20	< 0.005	0.16	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.58	0.58	< 0.005	< 0.005	—	0.60

4.4. Water Emissions by Land Use

4.4.2. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Supermarket	—	—	—	—	—	—	—	—	—	—	5.43	28.2	33.6	0.56	0.01	—	51.6
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	4.07	19.2	23.3	0.42	0.01	—	36.8
Fast Food Restaurant w/o Drive Thru	—	—	—	—	—	—	—	—	—	—	2.33	10.9	13.2	0.24	0.01	—	20.9
User Defined Retail	—	—	—	—	—	—	—	—	—	—	27.3	119	147	2.80	0.07	—	237
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	39.1	178	217	4.02	0.10	—	346
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Supermarket	—	—	—	—	—	—	—	—	—	—	5.43	28.2	33.6	0.56	0.01	—	51.6

Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	4.07	19.2	23.3	0.42	0.01	—	36.8
Fast Food Restaurant w/o Drive Thru	—	—	—	—	—	—	—	—	—	—	2.33	10.9	13.2	0.24	0.01	—	20.9
User Defined Retail	—	—	—	—	—	—	—	—	—	—	27.3	119	147	2.80	0.07	—	237
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	39.1	178	217	4.02	0.10	—	346
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Supermarket	—	—	—	—	—	—	—	—	—	—	0.90	4.67	5.57	0.09	< 0.005	—	8.54
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	0.67	3.18	3.86	0.07	< 0.005	—	6.09
Fast Food Restaurant w/o Drive Thru	—	—	—	—	—	—	—	—	—	—	0.39	1.80	2.19	0.04	< 0.005	—	3.46
User Defined Retail	—	—	—	—	—	—	—	—	—	—	4.51	19.8	24.3	0.46	0.01	—	39.2
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	6.47	29.4	35.9	0.67	0.02	—	57.3

4.5. Waste Emissions by Land Use

4.5.2. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Supermarket	—	—	—	—	—	—	—	—	—	—	69.9	0.00	69.9	6.99	0.00	—	245
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	43.5	0.00	43.5	4.34	0.00	—	152
Fast Food Restaurant w/o Drive Thru	—	—	—	—	—	—	—	—	—	—	24.8	0.00	24.8	2.48	0.00	—	86.9
User Defined Retail	—	—	—	—	—	—	—	—	—	—	31.0	0.00	31.0	3.10	0.00	—	109
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	169	0.00	169	16.9	0.00	—	592
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Supermarket	—	—	—	—	—	—	—	—	—	—	69.9	0.00	69.9	6.99	0.00	—	245
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	43.5	0.00	43.5	4.34	0.00	—	152
Fast Food Restaurant w/o Drive Thru	—	—	—	—	—	—	—	—	—	—	24.8	0.00	24.8	2.48	0.00	—	86.9

User Defined Retail	—	—	—	—	—	—	—	—	—	—	31.0	0.00	31.0	3.10	0.00	—	109
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	169	0.00	169	16.9	0.00	—	592
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Supermarket	—	—	—	—	—	—	—	—	—	—	11.6	0.00	11.6	1.16	0.00	—	40.5
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	7.19	0.00	7.19	0.72	0.00	—	25.2
Fast Food Restaurant w/o Drive Thru	—	—	—	—	—	—	—	—	—	—	4.11	0.00	4.11	0.41	0.00	—	14.4
User Defined Retail	—	—	—	—	—	—	—	—	—	—	5.14	0.00	5.14	0.51	0.00	—	18.0
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	28.0	0.00	28.0	2.80	0.00	—	98.0

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Supermarket	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4,821	4,821
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11.5	11.5
Fast Food Restaurant w/o Drive Thru	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5.86	5.86
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4,839	4,839
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Supermarket	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4,821	4,821
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11.5	11.5
Fast Food Restaurant w/o Drive Thru	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5.86	5.86
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4,839	4,839
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Supermarket	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	798	798
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.90	1.90
Fast Food Restaurant w/o Drive Thru	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.97	0.97

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	801	801

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Demolition	Demolition	9/7/2023	9/21/2023	5.00	10.0	—
Site Preparation	Site Preparation	9/22/2023	9/28/2023	5.00	5.00	—
Grading	Grading	9/24/2023	10/8/2023	5.00	10.0	—
Building Construction	Building Construction	10/9/2023	8/16/2024	5.00	225	—
Paving	Paving	8/17/2024	9/20/2024	5.00	25.0	—
Architectural Coating	Architectural Coating	2/23/2024	8/25/2024	5.00	131	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition	Concrete/Industrial Saws	Diesel	Average	1.00	8.00	33.0	0.73
Demolition	Rubber Tired Dozers	Diesel	Average	2.00	8.00	367	0.40
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	4.00	8.00	84.0	0.37
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Grading	Tractors/Loaders/Backhoes	Diesel	Average	3.00	8.00	84.0	0.37
Building Construction	Cranes	Diesel	Average	1.00	7.00	367	0.29
Building Construction	Forklifts	Diesel	Average	3.00	8.00	82.0	0.20
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	3.00	7.00	84.0	0.37

Paving	Pavers	Diesel	Average	2.00	8.00	81.0	0.42
Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48
Demolition	Excavators	Diesel	Average	3.00	8.00	36.0	0.38
Site Preparation	Rubber Tired Dozers	Diesel	Average	3.00	8.00	367	0.40
Grading	Excavators	Diesel	Average	1.00	8.00	36.0	0.38
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Paving	Paving Equipment	Diesel	Average	2.00	8.00	89.0	0.36

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	—	—	—	—
Demolition	Worker	15.0	18.5	LDA,LDT1,LDT2
Demolition	Vendor	—	10.2	HHDT,MHDT
Demolition	Hauling	2.80	20.0	HHDT
Demolition	Onsite truck	—	—	HHDT
Site Preparation	—	—	—	—
Site Preparation	Worker	17.5	18.5	LDA,LDT1,LDT2
Site Preparation	Vendor	—	10.2	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	15.0	18.5	LDA,LDT1,LDT2
Grading	Vendor	—	10.2	HHDT,MHDT

Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	13.8	18.5	LDA,LDT1,LDT2
Building Construction	Vendor	6.51	10.2	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	18.5	LDA,LDT1,LDT2
Paving	Vendor	—	10.2	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	2.77	18.5	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	10.2	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	0.00	0.00	59,621	19,874	16,140

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (Cubic Yards)	Material Exported (Cubic Yards)	Acres Graded (acres)	Material Demolished (Building Square Footage)	Acres Paved (acres)
Demolition	0.00	0.00	0.00	2,400	—
Site Preparation	0.00	0.00	2.50	0.00	—
Grading	0.00	0.00	7.50	0.00	—
Paving	0.00	0.00	0.00	0.00	6.18

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	2	61%	61%
Water Demolished Area	2	36%	36%

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Supermarket	0.00	0%
Fast Food Restaurant with Drive Thru	0.00	0%
Fast Food Restaurant w/o Drive Thru	0.00	0%
User Defined Retail	0.00	0%
Parking Lot	6.18	100%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O

2023	0.00	532	0.03	< 0.005
2024	0.00	532	0.03	< 0.005

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Supermarket	1,658	1,658	1,658	605,196	18,538	18,538	18,538	6,766,256
Fast Food Restaurant with Drive Thru	1,634	1,634	1,634	596,414	18,269	18,269	18,269	6,668,072
Fast Food Restaurant w/o Drive Thru	802	802	802	292,730	8,967	8,967	8,967	3,272,803
User Defined Retail	1,026	1,026	1,026	374,490	11,471	11,471	11,471	4,186,903
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
0	0.00	59,621	19,874	16,140

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	180

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Supermarket	750,630	532	0.0330	0.0040	392,561
Fast Food Restaurant with Drive Thru	258,091	532	0.0330	0.0040	841,034
Fast Food Restaurant w/o Drive Thru	131,500	532	0.0330	0.0040	428,516
User Defined Retail	132,000	532	0.0330	0.0040	0.00
Parking Lot	235,644	532	0.0330	0.0040	0.00

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Supermarket	2,835,169	710,979
Fast Food Restaurant with Drive Thru	2,124,736	224,883
Fast Food Restaurant w/o Drive Thru	1,214,135	114,655
User Defined Retail	14,230,620	0.00
Parking Lot	0.00	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Supermarket	130	0.00
Fast Food Restaurant with Drive Thru	80.6	0.00
Fast Food Restaurant w/o Drive Thru	46.1	0.00
User Defined Retail	57.6	0.00
Parking Lot	0.00	0.00

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Supermarket	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Supermarket	Supermarket refrigeration and condensing units	R-404A	3,922	26.5	16.5	16.5	18.0
Fast Food Restaurant with Drive Thru	Household refrigerators and/or freezers	R-134a	1,430	0.00	0.60	0.00	1.00
Fast Food Restaurant with Drive Thru	Other commercial A/C and heat pumps	R-410A	2,088	1.80	4.00	4.00	18.0
Fast Food Restaurant with Drive Thru	Walk-in refrigerators and freezers	R-404A	3,922	< 0.005	7.50	7.50	20.0
Fast Food Restaurant w/o Drive Thru	Other commercial A/C and heat pumps	R-410A	2,088	1.80	4.00	4.00	18.0
Fast Food Restaurant w/o Drive Thru	Walk-in refrigerators and freezers	R-404A	3,922	< 0.005	7.50	7.50	20.0
Fast Food Restaurant w/o Drive Thru	Household refrigerators and/or freezers	R-134a	1,430	0.00	0.60	0.00	1.00

8. User Changes to Default Data

Screen	Justification
Land Use	Configured to match project plans, User Defined Retail represents the Car Wash. Site area = 8.35 acres
Construction: Construction Phases	Project planned to take 12 months to construct. Assumed that architectural coatings would be applied during building construction and paving.
Construction: Dust From Material Movement	Site is expected to be balanced, needing no soil import or export.
Operations: Vehicle Data	Trip rates from traffic study, they include pass-by.
Operations: Energy Use	Assume the car wash electrical use will be similar to the fast food restaurant w/o drive thru
Operations: Water and Waste Water	Assume car wash uses 38 gallons per vehicle, approx. 374,000 cars per year, so 14,230,620 gals/year.
Operations: Solid Waste	Assume car wash waste generation rate is similar to the fast food restaurant w/o drive thru.

ATTACHMENT C

FUEL USAGE WORKSHEET

Fuel Consumption Worksheet

Annual VMT from CalEEMod modeling	Gasoline-Fueled Percentage	Diesel-Fueled Percentage	Average Gasoline mpg	Gasoline Consumption (gallons/yr)	Average Diesel mpg	Diesel Consumption (gallons/yr)
20,894,034	80.3%	19.7%	22.9	732,861	8	513,941

		Fleet Mix from CalEEMod modeling													
Land Use	ADT	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH	
Commercial	5,120	48.664	4.5873	20.497	15.85	3.5385	0.946978	0.5317	1.9054	0.05047	0.0237	2.659	0.1059	0.6395	100
		Vehicle Percentages by fuel type													
Gasoline-powered:		98%	95%	75%	50%	50%	10%	5%	5%	0%	0%	100%	10%	50%	
Diesel-powered:		2%	5%	25%	50%	50%	90%	95%	95%	100%	100%	0%	90%	50%	

truck % = 47.86%

Focused Burrowing Owl, Mohave Ground Squirrel and Desert Tortoise Surveys

For

Apple Bear Retail Site

(APN #0434-021-10, -35, -37)
Apple Valley South 7.5 Minute Quadrangle,
Section 6, Township 4N, Range 3W
Apple Valley, San Bernardino County, California

Prepared for

Wood Investment
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January 4, 2023

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SECTION I – BACKGROUND INFORMATION

1 INTRODUCTION AND PURPOSE

At the request of Wood Investments (Wood), Phoenix Biological Consulting (Phoenix) initiated several biological focused surveys on the approximately 21.4 acre property (APN: #0434-021-10, -35, -37). Wood is developing the upper portion, approximately 7 acres, of the site into a commercial development project known as Apple Bear Retail Site (Exhibit 4).

Based on the location of the project site, several focused biological surveys were conducted to determine the presence or absence of sensitive biological species. The site was surveyed for burrowing owl, desert tortoise and Mohave ground squirrels. The results were negative for any sign/presence of burrowing owl, desert tortoise and Mohave ground squirrel. The survey activities include: (1) Burrowing owl surveys – Section II, (2) Desert tortoise surveys – Section III. (3) Mohave ground squirrel surveys – Section IV.

2 PROPERTY AND PROJECT DESCRIPTION

2.1 Project Location

The site is located south of Bear Valley Road in the Apple Valley South 7.5-minute quadrangle topographic map (Exhibit 2). The legal description of the parcel is a portion of Section 31, Township 5 N, Range 3 W, City of Apple Valley, and San Bernardino County.

2.2 Project Description & Existing Conditions

The site is currently considered disturbed desert scrub habitat with rubber rabbit brush vegetation present in sparse patches. Wood Investments is proposing to develop the site into a commercial development known as Apple Bear Retail Site on approximately 7.78 acres, assessor property (APN: #0434-021-10, -35, -37) located in Apple Valley, San Bernardino County.

The parcel is situated at approximately 2,840 feet elevation. It is east of Mojave River and situated in the southeastern portion of Apple Valley. Commercial areas exist to the northwest of the study area and disturbed desert scrub to the west. Semi-open desert scrub habitat exists to the south and east.

The study area consists of semi-disturbed undeveloped lands. There is no evidence of recent disking within or adjacent to the site, per the site visit or aerial photo review. There are no true trees in or bordering the site. There is one mature, adult Joshua tree in the southern portion of

the study area, outside the disturbance limits of the existing site plan. Existing vegetation consists of sparse patches of rubber rabbit brush.

SECTION II – BURROWING OWL FOCUSED SURVEY RESULTS

3 JUSTIFICATION

Based on the location and habitat present on site focused surveys were conducted for the burrowing owl (BUOW; *Athene cunicularia*) during the spring/summer of 2022.

4 METHODLOGY

BUOW surveys were conducted during the spring/summer of 2022. The burrowing owl surveys were conducted by Ryan Young. Mr. Young has conducted dozens of protocol level burrowing owl surveys throughout the species range. Survey methodology for the BUOW included the Staff Report on Burrowing Owl Mitigation (CDFW, 2012).

The burrowing owl surveys were conducted by walking straight-line transects spaced 7 m to 20 m apart, adjusting for vegetation height and density. At the start of each transect and, at least, every 100 m, scan the entire visible project area for burrowing owls using binoculars. Four site visits were included for the BUOW surveys. During the pedestrian surveys, the biologists recorded all potential burrows used by burrowing owls as determined by the presence of one or more burrowing owls, pellets, prey remains, whitewash, or decoration. The field biologists also paused at regular intervals to listen for owl vocalizations. Survey teams used hand-held mirrors to view into any potential burrows. Buffer zone surveys were conducted out to 150 meters from the project edge. The owl surveys started between morning civil twilight and 10:00 am and/or two hours before sunlight until evening civil twilight. During the survey, the surveyor(s) search images included: burrows, burrowing owls, owl feathers, pellets, owl whitewash (scat) and owl vocalizations. Surveys were conducted in all portions of the project site and buffer areas that were identified in the habitat assessment.

5 WEATHER

Weather conditions during the spring survey effort consisted of relatively dry conditions. Winter rainfall of 2021-22 is below average. The Apple Valley Automated Weather Station (RAWS) which is located 8.7 miles northeast of the site received 2.19 inches from November 2021 through March 2022 (RAWS, 2022). Annual plant abundance was lacking. The morning and afternoon temperatures were taken to ensure surveys were within acceptable parameters for the BUOW surveys.

Table 1: Weather Summary for Surveys

Date	Begin Temp (°F)	End Temp (°F)	Begin Cloud %	End Cloud %	Begin Wind (MPH)	End Wind (MPH)
04/07/22	58	81	5	5	8	10
05/05/22	59	85	5	5	4	12
05/26/22	65	90	5	5	3	15
06/24/22	68	95	5	5	3	10

6 BURROWING OWL RESULTS

6.1 Field Results

The field results were negative for the presence of burrowing owls and/or their sign. There are several California ground squirrel burrows present and numerous California ground squirrels observed but no sign of burrowing owls was present.

SECTION III – DESERT TORTOISE SURVEY RESULTS

7 JUSTIFICATION

Based on the location and suitable surrounding habitat present on site focused surveys were conducted for the desert tortoise (DETO; *Gopherus agassizii*) during the spring/summer of 2022.

8 METHODLOGY

Desert Tortoise (*Gopherus agassizzii*) presence/absence survey methodology conformed to the *Desert Tortoise Pre-project Survey Protocol* (USFWS, 2017). The survey was conducted by Ryan Young who has conducted numerous desert tortoise surveys in Southern California and successfully completed the Desert Tortoise Workshop in 2009.

The desert tortoise survey was conducted by walking straight-line transects spaced 10 m apart. At the start of each transect and, at least, every 100 m, scan the entire visible project area for desert tortoise using binoculars. The desert tortoise survey focused on finding desert tortoise along with both scat and carcasses. The desert tortoise survey was conducted in May when air temperatures are below 40°C (104 °F). During the pedestrian survey, Mr. Young recorded all potential burrows used by desert tortoise as determined by the presence of one or more desert tortoises, scat, and carcasses. Hand-held mirror to view into any potential burrows. Buffer zone survey was conducted out to 150 meters from the project edge. During the survey, Mr. Young's search images included: burrows, desert tortoise, scat, tracks, and carcasses. Surveys were conducted in all portions of the project site and buffer areas.

Weather conditions during the spring survey effort consisted of warm weather in the Apple Valley Region. Winter rainfall of 2020-21 continued to be below average and drought conditions persist throughout the state of California. The morning and afternoon temperatures were taken to ensure that the survey was within acceptable parameters for desert tortoise.

Table 2: Weather Summary for the Desert Tortoise Survey

Date	Begin Temp (°F)	End Temp (°F)	Begin Cloud %	End Cloud %	Begin Wind (MPH)	End Wind (MPH)
05/6/22	61	88	0	5	4	15

8.1 Desert Tortoise Survey Results

The field results were negative for desert tortoise. Numerous small burrows were observed during the field effort. The burrows were absent of desert tortoise sign. The burrows all appeared to be active California ground squirrel burrows and are not sensitive nor have any protection. Desert tortoises were not observed during the survey effort and no desert tortoise sign such as scat, tracks, carcasses were observed.

SECTION IV – MOHAVE GROUND SQUIRREL SURVEY

9 JUSTIFICATION

Based on a preliminary desktop review of the CNDDB Search results it was determined that focused surveys were recommended for the Mohave ground squirrel during the spring/summer of 2022 trapping period. Field surveys were conducted by Ryan Young.

10 METHODLOGY

The visual survey was conducted on March 31st. All potential MGS habitat within the grid location was surveyed during this visit. Phoenix's role was to locate the grid location and implement the live-trapping for one grid within the project site. Within the one grid, one hundred (100) traps were deployed at thirty-five meter spacing over the suitable habitat (Table 2). The grid consisted of ten by ten grid arrays. Typically, a grid is required for every eighty acres of habitat. Grid placement was determined by suitable vegetation cover, proximity to surrounding habitat and availability of access roads.

Standard, small-mammal, aluminum, foldable, ventilated 12" Sherman Traps were used. Cardboard boxes were used as shade covers for each trap. Traps and shade covers were placed on the north side of the nearest bush on a north-south axis to provide the greatest shade cover possible. The shade covers were covered with dirt on both sides and on the roof to provide better temperature insulation and to prevent the boxes from blowing away in the wind. Temperature readings were taken and recorded every hour at one foot and at ground level in the shade of a bush. Traps were checked every two to four hours depending on temperature and other influential factors such as potential pregnant or lactating females in traps, dogs on grids, ravens, cold weather, expected juveniles etc. Traps were open within one hour after sunrise and closed within one hour before sunset. Traps were closed when air temperature reached 90 °F, when temperature fell below 50 °F or during periods of rainy weather. The bait used consisted of crushed four-way grains with molasses and mixed with peanut butter and water.

11 WEATHER

Weather conditions during the spring survey effort consisted of relatively dry conditions. Winter rainfall of 2022 is below average. The Apple Valley Automated Weather Station (RAWS) which is located 8.7 miles northeast of the site received 2.19 inches from November 2021 through March 2022 (RAWS, 2022).

12 MOHAVE GROUND SQUIRREL RESULTS

12.1 MGS Survey Field Results

MGS were not seen nor heard during the visual survey. Furthermore, MGS were not trapped on the grid. A total of two species were trapped on the grid: Antelope ground squirrels (AGS; *Ammospermophilus leucurus*) and California ground squirrels (CGS; *Spermophilus beecheyi*). The results of the five camera stations were also negative for MGS. Species recorded via camera bait stations included Antelope ground squirrels and California ground squirrels. All the above-named species are commonly occurring, non-listed species.

Total trap hours were 155 for the total project site. Total captures were 105. 15 captures were AGS and 90 captures were CGS. The results of the MGS survey are good for up to one year from the final trap date.

SECTION V – RECOMMENDATIONS FOR GENERAL MITIGATION MEASURES

Below are proposed, general mitigation measures (MM) resulting from the focused survey results:

- **MM-01: Nesting Bird Survey:** To comply with the Migratory Bird Treaty Act (MBTA), if any ground disturbance is anticipated during the nesting bird season (February-August) the project proponent will initiate a breeding/nesting bird survey, within 14 days before construction starts, to ensure no nesting birds are impacted. If a nesting bird is detected, the area will be avoided and a 50-meter buffer will be installed until the nesting birds have fledged and have been observed to be foraging independently. In the event a hawk nest is observed, the active buffer may be extended to 150 feet and shall be installed around the hawk nest until the birds are observed to be foraging independently.

- **MM-02: 14 Day Take Avoidance Burrowing Owl Preconstruction Survey**: A preconstruction burrowing owl take avoidance survey, within 14 days of start of construction, is recommended to ensure no burrowing owls have moved onto the project site. The project proponent should retain a qualified biologist to conduct a burrowing owl preconstruction survey within the project site and the 150-meter buffer zone to ensure no owls have emigrated onto the site.

13 Literature Cited

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14 Certification

I hereby certify that the statements furnished above and in the attached exhibits present the data and information presented are true and correct to the best of my knowledge and belief. Field work conducted for this report was performed by me or under my direct supervision. I certify that I have not signed a non-disclosure or consultant confidentiality agreement with the project applicant or applicant's representative and that I have no financial interest in the project. Any federally and/or state threatened/endangered species cannot be taken under State and Federal law. The report and recommended mitigation measures included in this report do not constitute authorization for incidental take of any sensitive species.

Biological Technical Report and Field Surveys

Prepared BY:

Date: 1/4/2023 Signature: _____

Ryan Young, Senior Biologist & Principal

Project Exhibits

Exhibit 1: Regional View

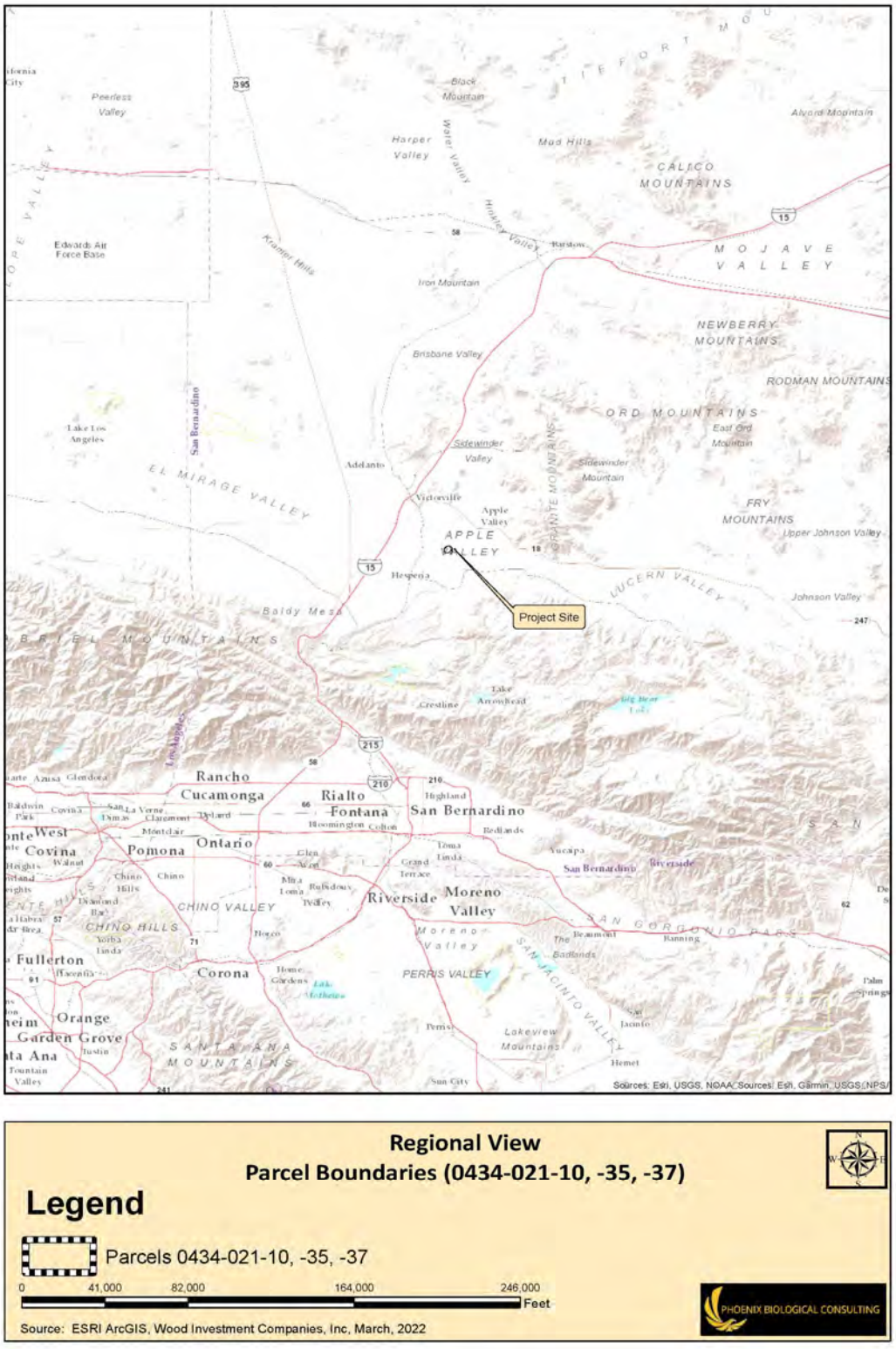


Exhibit 2: Topographic View

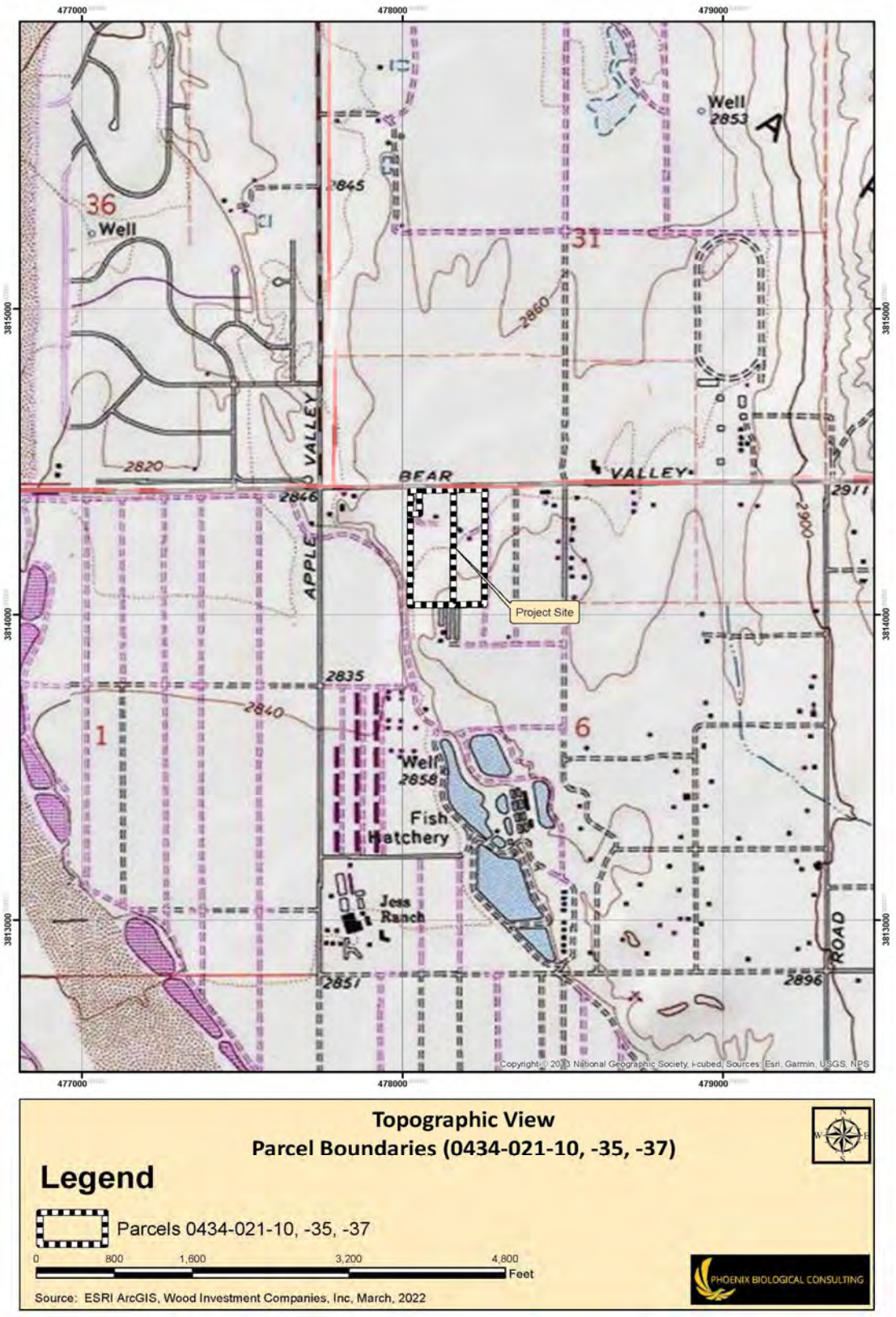
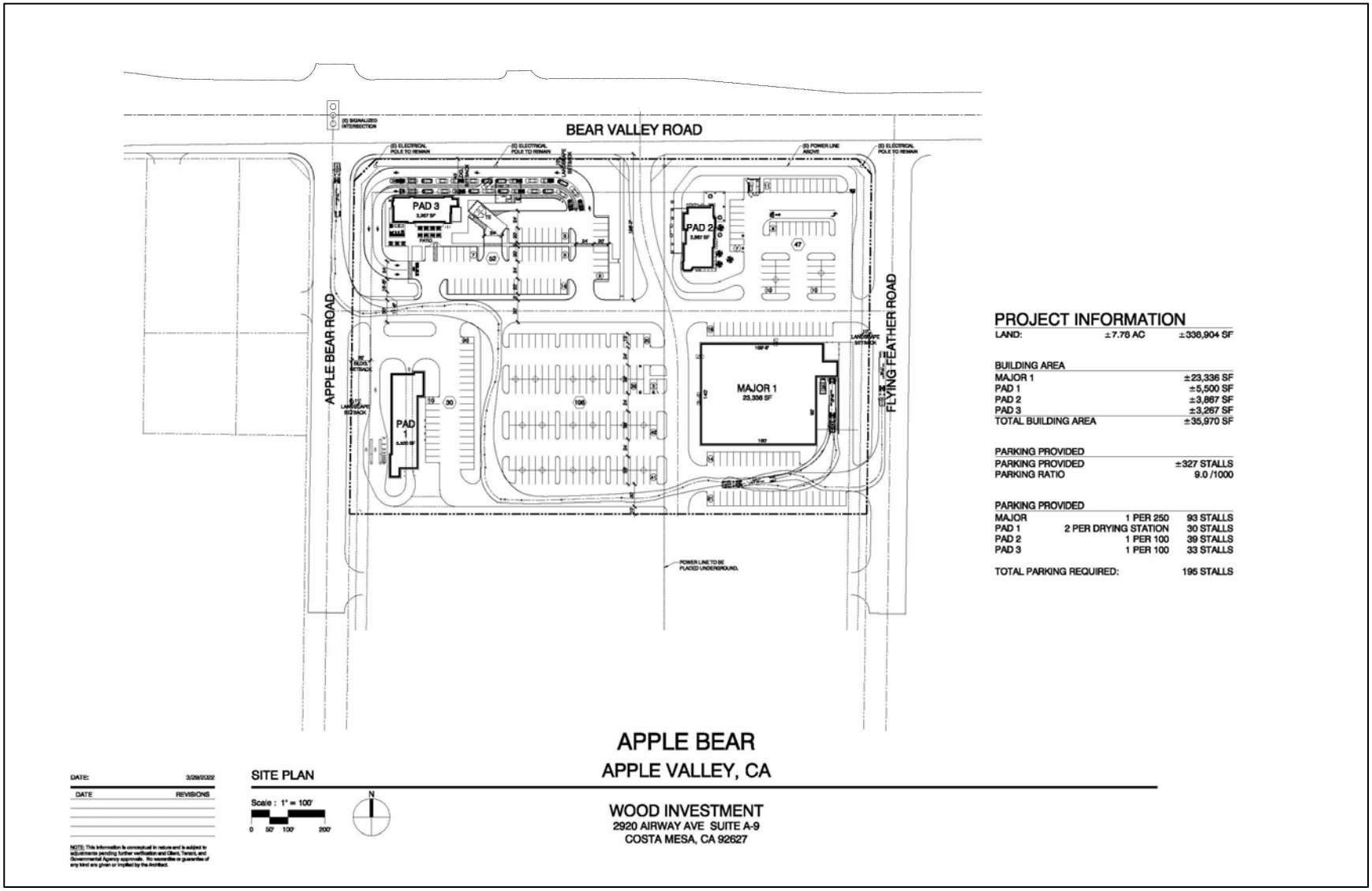


Exhibit 3: Aerial View

Exhibit 4: Site Plan for Apple Bear Retail Site



Appendix A: Mohave ground squirrel survey form

Mohave Ground Squirrel (MGS) Survey and Trapping Form

PART I - PROJECT INFORMATION (use a separate form for each sampling grid, photocopy form as needed)

Project name:	Apple Bear Retail Site
Project owner:	Wood Investment
USGS quadrangle/series (7.5/15 min):	Apple Valley South
Latitude (decimal degree):	34.46924
Longitude (decimal degree):	117.23814
Datum:	WGS84
Location (township, range, section, 1/4 section):	5N, 3W, Section 31
UTM coordinates:	478097 E, 3814605 N
Acreage of project site:	21.4 acres
Acreage of potential MGS habitat on site:	21.4
Total acreage visually surveyed on project site	21.4 acres
Visual survey date(s):	March 30, 2021
Visual surveys conducted by:	Ryan Young
Total acres trapped:	21.4 acres
Number of sampling grids:	One
Trapping conducted by:	Ryan Young
Dates of sampling term(s): First, Second, Third	April 7-11, 2022, May 16-20, 2022, June 27-July 1, 2022

PART II - GENERAL HABITAT DESCRIPTION (use back of form, if needed)

Dominant perennials:	Rubber rabbitbrush
Other dominant perennials:	
Annuals:	Eriodium cicutarium
Other annuals:	
Landforms:	flat
Soil description:	loamy-sand
Elevation (meters):	887
% Slope:	1%

PART III - WEATHER

Temperature (celsius):	See Attached Weather Forms
% Cloud cover:	See Attached Weather Forms
Wind speed (km/hr):	See Attached Weather Forms

ADDITIONAL INFORMATION

UTM coordinates: GPS coordinates of trapping-grid corners

Visual surveys conducted by: Names of all persons by date

Trapping conducted by: Names of all persons by sampling term and sampling grid

Dates of sampling term(s): First, Second, Third: Second and Third if required

Landforms: Mesa, bajada, wash

Temperature: AIR (Minimum and maximum) SOIL (Minimum and maximum)
Report measurements in the following categories for each day of visual survey and each day of trapping; using 24-hour clock, indicate time of day that each measurement was made.

Cloud cover: Percent in AM and Percent in PM. Report measurements in the following categories for each day of visual survey and each day of trapping; using 24-hour clock, indicate time of day that each measurement was made.

Wind speed: AM and PM. Report measurements in the following categories for each day of visual survey and each day of trapping; using 24-hour clock, indicate time of day that each measurement was made.

ADDITIONAL SPACE (use the space below for continuation of responses)

Appendix B: Weather Data Example, Grid 1, Session 1

PART III – WEATHER

Project Name: Apple Bear Retail Site
Property Owner: Wood Investments

Year: 2022 (Trapping Period _1_)

Grid Number: 1

WEATHER (temperature = °F; cloud cover = %; wind speed = kph)

DATE: 04/7/22 **ACTIVITY:** trapping Day 1

WEATHER CONDITION	VALUE	TIME
AIR TEMPERATURE, MIN.	58	0600
AIR TEMPERATURE, MAX.	83	1500
SOIL TEMPERATURE, MIN.	55	0600
SOIL TEMPERATURE, MAX.	85	1500
CLOUD COVER, AM	5	0800
CLOUD COVER, PM	10	1500
WIND SPEED, AM	8	0600
WIND SPEED, PM	15	1500

DATE: 04/8/22 **ACTIVITY:** trapping Day 2

WEATHER CONDITION	VALUE	TIME
AIR TEMPERATURE, MIN.	56	0600
AIR TEMPERATURE, MAX.	88	1500
SOIL TEMPERATURE, MIN.	56	0600
SOIL TEMPERATURE, MAX.	90	1500
CLOUD COVER, AM	5	0800
CLOUD COVER, PM	10	1500
WIND SPEED, AM	4	0600
WIND SPEED, PM	4	1500

DATE: 04/9/22 **ACTIVITY:** trapping Day 3

WEATHER CONDITION	VALUE	TIME
AIR TEMPERATURE, MIN.	63	0600
AIR TEMPERATURE, MAX.	84	1500
SOIL TEMPERATURE, MIN.	65	0600
SOIL TEMPERATURE, MAX.	84	1500
CLOUD COVER, AM	10	0600
CLOUD COVER, PM	15	1500
WIND SPEED, AM	2	0600
WIND SPEED, PM	10	1500

DATE: 04/10/22 **ACTIVITY:** trapping Day 4

WEATHER CONDITION	VALUE	TIME
AIR TEMPERATURE, MIN.	54	0600
AIR TEMPERATURE, MAX.	75	1500
SOIL TEMPERATURE, MIN.	55	0600
SOIL TEMPERATURE, MAX.	77	1500
CLOUD COVER, AM	10	0600
CLOUD COVER, PM	10	1500
WIND SPEED, AM	5	0600
WIND SPEED, PM	10	1500

DATE: 04/11/22 **ACTIVITY:** trapping Day 5

WEATHER CONDITION	VALUE	TIME
AIR TEMPERATURE, MIN.	49	0600
AIR TEMPERATURE, MAX.	48	1500
SOIL TEMPERATURE, MIN.	45	0600
SOIL TEMPERATURE, MAX.	67	1500
CLOUD COVER, AM	10	0600
CLOUD COVER, PM	15	1500
WIND SPEED, AM	10	0600
WIND SPEED, PM	19	1500

Appendix B: Weather Data Example, Grid 1, Session 2

PART III – WEATHER

Project Name: Apple Bear Retail Site
Property Owner: Wood Investments

Year: 2022 (Trapping Period _2_)

Grid Number: 1

WEATHER (temperature = °F; cloud cover = %; wind speed = kph)

DATE: 05/16/22 **ACTIVITY:** trapping Day 1

WEATHER CONDITION	VALUE	TIME
AIR TEMPERATURE, MIN.	64	0600
AIR TEMPERATURE, MAX.	88	1500
SOIL TEMPERATURE, MIN.	65	0600
SOIL TEMPERATURE, MAX.	89	1500
CLOUD COVER, AM	10	0800
CLOUD COVER, PM	10	1500
WIND SPEED, AM	8	0600
WIND SPEED, PM	15	1500

DATE: 05/17/22 **ACTIVITY:** trapping Day 2

WEATHER CONDITION	VALUE	TIME
AIR TEMPERATURE, MIN.	58	0600
AIR TEMPERATURE, MAX.	88	1500
SOIL TEMPERATURE, MIN.	56	0600
SOIL TEMPERATURE, MAX.	90	1500
CLOUD COVER, AM	10	0800
CLOUD COVER, PM	15	1500
WIND SPEED, AM	4	0600
WIND SPEED, PM	9	1500

DATE: 05/18/22 **ACTIVITY:** trapping Day 3

WEATHER CONDITION	VALUE	TIME
AIR TEMPERATURE, MIN.	60	0600
AIR TEMPERATURE, MAX.	93	1500
SOIL TEMPERATURE, MIN.	61	0600
SOIL TEMPERATURE, MAX.	95	1500
CLOUD COVER, AM	15	0600
CLOUD COVER, PM	15	1500
WIND SPEED, AM	2	0600
WIND SPEED, PM	10	1500

DATE: 05/19/22 **ACTIVITY:** trapping Day 4

WEATHER CONDITION	VALUE	TIME
AIR TEMPERATURE, MIN.	61	0600
AIR TEMPERATURE, MAX.	94	1500
SOIL TEMPERATURE, MIN.	60	0600
SOIL TEMPERATURE, MAX.	96	1500
CLOUD COVER, AM	5	0600
CLOUD COVER, PM	10	1500
WIND SPEED, AM	2	0600
WIND SPEED, PM	14	1500

DATE: 05/20/22 **ACTIVITY:** trapping Day 5

WEATHER CONDITION	VALUE	TIME
AIR TEMPERATURE, MIN.	59	0600
AIR TEMPERATURE, MAX.	82	1500
SOIL TEMPERATURE, MIN.	60	0600
SOIL TEMPERATURE, MAX.	80	1500
CLOUD COVER, AM	10	0600
CLOUD COVER, PM	10	1500
WIND SPEED, AM	10	0600
WIND SPEED, PM	10	1500

Appendix B: Weather Data Example, Grid 1, Session 3

PART III – WEATHER

Project Name: Apple Bear Retail Site
Property Owner: Wood Investments

Year: 2022 (Trapping Period _3_)

Grid Number: 1

WEATHER (temperature = °F; cloud cover = %; wind speed = kph)

DATE: 06/27/22 **ACTIVITY:** trapping Day 1

WEATHER CONDITION	VALUE	TIME
AIR TEMPERATURE, MIN.	74	0600
AIR TEMPERATURE, MAX.	101	1500
SOIL TEMPERATURE, MIN.	74	0600
SOIL TEMPERATURE, MAX.	103	1500
CLOUD COVER, AM	10	0800
CLOUD COVER, PM	10	1500
WIND SPEED, AM	3	0600
WIND SPEED, PM	5	1500

DATE: 06/28/22 **ACTIVITY:** trapping Day 2

WEATHER CONDITION	VALUE	TIME
AIR TEMPERATURE, MIN.	73	0600
AIR TEMPERATURE, MAX.	102	1500
SOIL TEMPERATURE, MIN.	72	0600
SOIL TEMPERATURE, MAX.	105	1500
CLOUD COVER, AM	10	0800
CLOUD COVER, PM	15	1500
WIND SPEED, AM	5	0600
WIND SPEED, PM	18	1500

DATE: 06/29/22 **ACTIVITY:** trapping Day 3

WEATHER CONDITION	VALUE	TIME
AIR TEMPERATURE, MIN.	72	0600
AIR TEMPERATURE, MAX.	97	1500
SOIL TEMPERATURE, MIN.	71	0600
SOIL TEMPERATURE, MAX.	100	1500
CLOUD COVER, AM	15	0600
CLOUD COVER, PM	15	1500
WIND SPEED, AM	4	0600
WIND SPEED, PM	15	1500

DATE: 06/30/22 **ACTIVITY:** trapping Day 4

WEATHER CONDITION	VALUE	TIME
AIR TEMPERATURE, MIN.	77	0600
AIR TEMPERATURE, MAX.	94	1500
SOIL TEMPERATURE, MIN.	74	0600
SOIL TEMPERATURE, MAX.	96	1500
CLOUD COVER, AM	5	0600
CLOUD COVER, PM	10	1500
WIND SPEED, AM	4	0600
WIND SPEED, PM	14	1500

DATE: 07/1/22 **ACTIVITY:** trapping Day 5

WEATHER CONDITION	VALUE	TIME
AIR TEMPERATURE, MIN.	69	0600
AIR TEMPERATURE, MAX.	95	1500
SOIL TEMPERATURE, MIN.	69	0600
SOIL TEMPERATURE, MAX.	97	1500
CLOUD COVER, AM	5	0600
CLOUD COVER, PM	10	1500
WIND SPEED, AM	5	0600
WIND SPEED, PM	18	1500

Appendix C: MGS Camera Study Results

Camera Station	**Session 1** **(04/7/22 to 04/11/22)**	**Session 2** **(05/16/22 to 05/20/22)**	**Session 3** **(6/27/22 to 7/1/22)**
1	*Ammospermophilus leucurus. Spermophilus beecheyi*	*Ammospermophilus leucurus. Spermophilus beecheyi*	*Ammospermophilus leucurus. Spermophilus beecheyi*
2	*Ammospermophilus leucurus. Spermophilus beecheyi*	*Ammospermophilus leucurus. Spermophilus beecheyi*	*Ammospermophilus leucurus. Spermophilus beecheyi*
3	*Ammospermophilus leucurus. Spermophilus beecheyi*	*Ammospermophilus leucurus. Spermophilus beecheyi*	*Ammospermophilus leucurus. Spermophilus beecheyi*
4	*Ammospermophilus leucurus. Spermophilus beecheyi*	*Ammospermophilus leucurus. Spermophilus beecheyi*	*Ammospermophilus leucurus. Spermophilus beecheyi*
5	*Ammospermophilus leucurus. Spermophilus beecheyi*	*Ammospermophilus leucurus. Spermophilus beecheyi*	*Ammospermophilus leucurus. Spermophilus beecheyi*

Site Photographs

	NE Corner. Facing SW.
	NW Corner. Facing SE.

	SE Corner. Facing NW.
	SW Corner. Facing NE.

CARLSBAD
CLOVIS
IRVINE
LOS ANGELES
PALM SPRINGS
POINT RICHMOND
RIVERSIDE
ROSEVILLE
SAN LUIS OBISPO

January 13, 2023

Andrew Neff
Wood Investments Companies, Inc.
2950 Airway Avenue, Unit A-9
Costa Mesa, CA 92626

Subject: Archaeological Resources Assessment for the Apple Bear Commercial Project on Bear Valley Road, Apple Valley, San Bernardino County, California (LSA Project No. WDN2201)

Dear Mr. Neff:

LSA is under contract to Wood Investments Companies, Inc. to conduct cultural resource studies for the Apple Bear Commercial Project (project) at Bear Valley Road near Apple Valley Road in Apple Valley, San Bernardino County (Figure 1). The project area includes Assessor's Parcel Number (APN) 043402135000 and the northern portions of APNs 0434021100000 and 043402137000; the Archaeological Study Area (ASA) included the portions of 0434021350000 and 043402137000 within the project area along with a 50-foot buffer on the east and west sides of the parcels and a 100-foot buffer on the south side of the project area (Figure 2).

Historic period resources (building slabs and water management features) were identified within the ASA within APNs 0434021100000 and 0434021370000 (see below). Since the slabs and features are more than 50 years of age, they require documentation and evaluation for historical significance for compliance with the California Environmental Quality Act (CEQA). To complete the documentation, LSA conducted the following tasks.

RECORD SEARCH

Data from the record search conducted at the South Central Coastal Information Center indicate there have been 25 previous studies within 1 mile of the project site, none of which included any portion of the project area. Although there are no resources within the project area, 12 have been recorded within 1 mile, including 5 prehistoric resources (isolated artifacts) and 7 historic period resources (foundations, water conveyance features, refuse deposits, and trail; see attached record search results). The nearest formally documented resource (on a Department of Parks and Recreation [DPR] resource record) was a 1960s–1980s historic period equine training facility (Viking Ranch, 36-029051) 0.46 mile (2,430 feet) east-northeast of the project area. However, the northwest corner of the former area of the historic period Jess Ranch (as defined in the 1980 assessment by Archaeological Planning Collaborative, report # SB-01043) is adjacent to the west side of the project area (see below).

Additional Research

From November 2022 to January 2023, LSA Archaeologist Riordan Goodwin reviewed online historic period aerial photographs and maps. Mr. Goodwin searched real estate web sites and obtained a 1920 build date for one of the demolished buildings on APN 0434021370000 and visited the Town of Apple Valley's (Town) historical webpage, which included a link to the brochure *Historical Points of*

Interest in Apple Valley (2002) that provided local history, including for the adjacent Jess Ranch (a 1930s poultry ranch/trout farm).

Mr. Goodwin also contacted the Town regarding the project parcels and the history of the building slabs/foundations and water management remnants. A former address associated with APN 0434021100000 was provided (19501 Bear Valley Road), but no historical information was available from the Town.

ARCHAEOLOGICAL FIELD SURVEY

On October 16, 2022, LSA Archaeological Technician Carlton Bennett completed an intensive pedestrian survey of the project parcel. The property was surveyed in systematic parallel transects spaced by approximately 10 meters (approximately 35 feet). Special attention was paid to areas of exposed soil for surface artifacts and features and rodent aprons for evidence of archaeosols. The purpose of this survey was to identify and document, prior to the beginning of ground-disturbing activities, any cultural resources and thus to identify any area(s) that might be sensitive for buried cultural resources.

Visibility was good at approximately 95 percent, with the surface partially obscured by vegetation. The project area has been subjected to surface disturbance from off-road vehicle activities. Modern refuse was noted on the surface throughout the project parcels. The observed soils are silty alluvium in nature. Ten historic period features (six slabs and several water management/conveyance features) were identified and collectively documented as LSA-WDN2201-S-1 (please see attached site record).

DEPARTMENT OF PARKS AND RECREATION FORMS

DPR forms were completed to document the site (attached). The forms include a description, a photograph, and related maps (see attached site record).

DISCUSSION

The remnant features (slabs, water conveyance/management structures) of what appear to have been a rural agricultural complex may date from the era of early historic period settlement of the area (1920s) into the 1960s. Despite the lack of surface indication of subsurface deposits and artifacts, due to the location (at the northeastern corner of the 1930s–1970s Jess Ranch) the early construction date associated with the property (1920) and association with agriculture, the resource does have some potential for historical association and significant data from subsurface deposits.

CONCLUSION

The site is the remnants of an agricultural complex with a construction date concurrent with early agricultural activities associated with establishment of the community. Due to the absence of surface artifacts and related historical information, additional data is requited to evaluate this resource. Property-specific research and Phase II archaeological testing (culminating in a State Historic Preservation Officer Archaeological Resource Management Report of results) are recommended to determine its specific historical association and mitigate any project impacts to

potentially significant subsurface features, deposits or artifacts. These mitigation measures will determine whether it is a "historical resource" for purposes of CEQA.

If you have any questions regarding this information, please contact LSA Project Manager Dio Glentis at dio.glentis@LSA.net.

Sincerely,

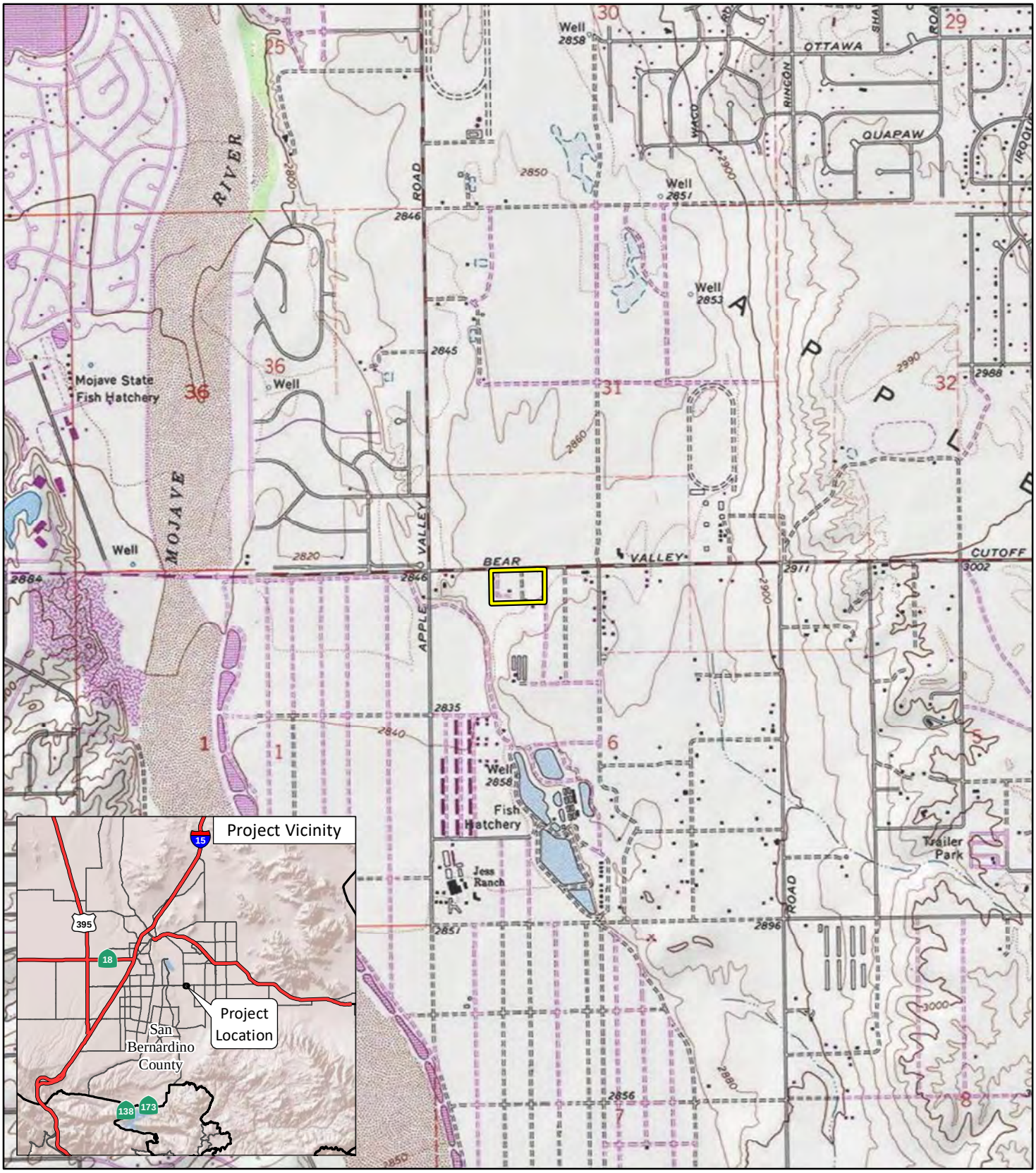
LSA Associates, Inc.

Riordan Goodwin, RA
Associate/Archaeologist Historian

Attachment A: Figures
Figure 1—Project Location and Vicinity
Figure 2—Project Area/Archeological Study Area
Attachment B: Department of Parks and Recreation Forms

ATTACHMENT A

FIGURES



LSA

LEGEND

Project Location

FIGURE 1

N

0 1000 2000

FEET

Apple Bear Commercial Project

Project Location and Vicinity

SOURCE: USGS 7.5' Quad - *Apple Valley South* (1980), *Hesperia* (1980), CA

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LSA

LEGEND

- Project Area
- Archaeological Study Area
- Parcel Boundary

0 40 80
FEET

SOURCE:Nearmap (2021); Google (2021)

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FIGURE 2

Apple Bear Commercial Project

Project Area/Archaeological Study Area

ATTACHMENT B

DEPARTMENT OF PARKS AND RECREATION FORMS

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

PRIMARY RECORD

Primary #
HRI #
Trinomial
NRHP Status Code

Other Listings
Review Code | Reviewer | Date

***Resource Name or # :** (Assigned by recorder) LSA-WDN2201-S-1

P1. Other Identifier:

***P2. Location:** ☐ **Not for Publication** ■ **Unrestricted** ***a. County:** San Bernardino, California

and (P2b and P2c or P2d. Attach a Location Map as necessary.)

***b. USGS 7.5' Quad:** *Apple Valley South* **Date:** 1989 **T** 4**S**; **R** 3**W**; NE ¼ **of** NW ¼ **of Sec** 10; M.D. SB**B.M.**

c. Address: Formerly 19501 Bear Valley Road City: Apple Valley Zip: 92308

d. UTM: Zone: 11 ; 478120 mE/ 3814276 mN (G.P.S. NAD 83)

e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, etc., as appropriate) Elevation: ~2850; APNs 434-021-010 and -037. From Interstate 15, take Bear Valley Road east for 6 miles to Westmont Drive south.

***P3a. Description:** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)
This resource consists of multiple building slabs, building debris and water conveyance features (see Archaeological Site Record for details).

***P3b. Resource Attributes:** (List attributes and codes) AH2 (slabs/ruins), AH6 (water conveyance features)

***P4. Resources Present:** ☐Building ☐Structure ☐Object ■Site ☐District ☐Element of District ☐Other (Isolates, etc.)

P5a. Photo or Drawing (Photo required for buildings, structures, and objects.)

P5b. Description of Photo: (View, date, accession #) View south-southwest of F-1; frame #3130.

***P6. Date Constructed/Age and Sources:** ■ Historic
☐ Prehistoric ☐Both
Prior to 1967

***P7. Owner and Address:**
Andrew Neff
2950 Airway Avenue, Unit A-9
Costa Mesa, California 92626

***P8. Recorded by:** (Name, affiliation, and address)
Carlton Bennett
LSA
1500 Iowa Ave 200
Riverside, California 92507

***P9. Date Recorded:**
October 15, 2022.

***P10. Survey Type:** (Describe)
Intensive pedestrian.

***P11. Report Citation:** (Cite survey report and other sources, or enter "none.")
Goodwin, Riordan 2022; Archaeological Resources Assessment, Apple Bear Commercial Project, City of Apple Valley, San Bernardino County, California.

***Attachments:** ☐NONE ■Location Map ■Sketch Map ■Continuation Sheet ☐Building, Structure, and Object Record ■Archaeological Record ☐District Record ☐Linear Feature Record ☐Milling Station Record ☐Rock Art Record ☐Artifact Record ☐Photograph Record ☐ Other (List):

ARCHAEOLOGICAL SITE RECORD

 ***Resource Name or #:** _____

***A1. Dimensions: a. Length:** 750′ × **Width:** 600′ (Provisional)
Method of Measurement: ☐ Paced ☐ Taped ☐ Visual estimate ■ Other: Electronically mapped (GPS)
Method of Determination (Check any that apply.): ☐ Artifacts ■ Features ☐ Soil ☐ Vegetation ☐ Topography ☐ Cut bank ☐ Animal burrow ☐ Excavation ☐ Property boundary ☐ Other (Explain):
Reliability of Determination: ■ High ☐ Medium ☐ Low Explain:
Limitations (Check any that apply): ☐ Restricted access ☐ Paved/built over ☐ Site limits incompletely defined ☐ Disturbances ☐ Vegetation ☐ Other (Explain):
A2. Depth: ☐ None ■ Unknown Method of Determination:
***A3. Human Remains:** ☐ Present ☐ Absent ☐ Possible ■ Unknown (Explain): Very unlikely at this type of site.

***A4. Features** (Number, briefly describe, indicate size, list associated cultural constituents, and show location of each feature on sketch map.): This site comprises 6 concrete building slabs and several water management/conveyance features: F-1 is a 50′ x 40′ slab with structural debris (possible a residence); F-2 is an 120′ x 90' unlined (earthen) reservoir; F-3 is a 42′ x 40′ slab (possible residence); F-4 is a 37′ x 30′ slab/footing wall (possibly an equipment shed); F-5 is an elongate 40′ x12′ slab (possibly a shed); F-6 is a 20′ x 15′ concrete water tank and brick, concrete and cinderblock water conveyance structure and abandoned well; F-7 is a a 38′ x 40′ slab with structural debris; F-8 is a 38′ x 30′ slab with structural debris (possible a residence); F-9 appears to be a 20′ x 12′ water pool feature; F-10 is a 7′ x 5′ water conveyance feature (possibly a weir).

***A5. Cultural Constituents (**Describe and quantify artifacts, ecofacts, cultural residues, etc., not associated with features.):
Building debris, modern and temporally ambiguous refuse were noted around the entire site.

***A6. Were Specimens Collected?** ■ No ☐ Yes (If yes, attach Artifact Record or catalog and identify where specimens are curated.)
***A7. Site Condition:** ☐ Good ■ Fair ☐ Poor (Describe disturbances.):
***A8. Nearest Water** (Type, distance, and direction.)**:** Bracketed by ephemeral drainages.
***A9. Elevation:** Approximately 2,850 feet.

A10. Environmental Setting (Describe culturally relevant variables such as vegetation, fauna, soils, geology, landform, slope, aspect, exposure, etc.)**:** Open land– slope is less than 1% to the west.

A11. Historical Information: Ancillary buildings and water management features were constructed after the 1920s and all buildings had been demolished by the mid-2000s. The property was under cultivation into the 1950s, but this was discontinued by the end of the next decade.

***A12. Age:** ☐ Prehistoric ☐ Protohistoric ☐ 1542-1769 ☐ 1769-1848 ☐ 1848-1880 ☐ 1880-1914 ■ 1914-1945 ☐ Post 1945 ☐ Undetermined **Describe position in regional prehistoric chronology or factual historic dates if known:**
The earliest building associated with these parcels (presumably a residence) dated to 1920.

A13. Interpretations (Discuss data potential, function[s], ethnic affiliation, and other interpretations):
These remants of what appear to have been a rural agricultural complex may date from the era of early historic period settlement of the area (1920s) into the 1960s. Despite the lack of surface indication of subsurface deposits and artifacts, due to the early construction date associated with the property and association with early agriculture, it does have some potential for significant data.

A14. Remarks: The site is adjacent to the northeast corner of the former site of the Jess Ranch (Depression Era to 1970s) which raised turkeys and trout. Unfortunately it could not be determined if remnants of the 1920 structure remain. The Town of Apple Valley was contacted regarding the site but (with the exception of the former address) had no information.

A15. References (Documents, informants, maps, and other references):
Town of Apple Valley 2002: Historical Points of Interest in Apple Valley
Historic Aerials.com 2022: Aerial photos from 1930s to 1960s
Parcelquest 2022: Details of house formerly in APN 434-021-037.
A16. Photographs (List subjects, direction of view, and accession numbers or attach a Photograph Record.):
Frames 1-19.
Original Media/Negatives Kept at: LSA Associates, Inc., 1500 Iowa Avenue, Suite 200, Riverside, CA 92507

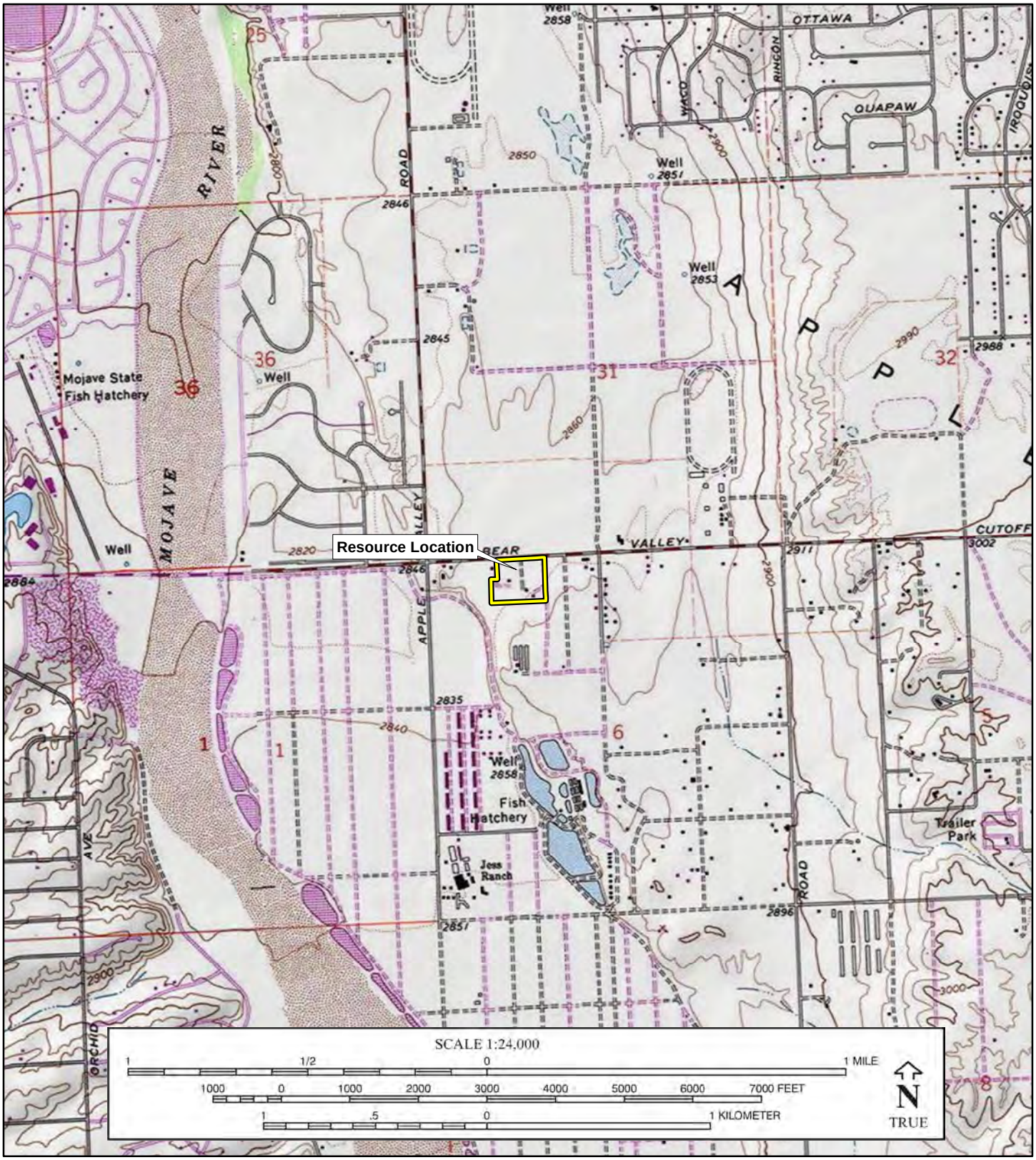
***A17. Form Prepared by:** Riordan Goodwin, RA **Date:** 1/4/2023
Affiliation and Address: LSA Associates, Inc., 1500 Iowa Avenue, Suite 200, Riverside, CA 92507

State of California - Resource Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary # _____
HRI # _____
Trinomial _____

*Resource Name or LSA-WDN2202-S-1

*Map Name: USGS 7.5' Quad, *Apple Valley South, Hesperia* *Scale: 1:24000 *Date of Map: 1980



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***Required Information**

State of California - The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
SKETCH MAP

Primary # _____
HRI # _____
Trinomial _____

Page 4 of 4 *Resource Name or (Number Assigned by Recorder) LSA-WDN2201-S-1

Drawn By: Rory Goodwin Date: October 18, 2022

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DPR 523K (1/95) ***Required Information**

PHASE II ARCHAEOLOGICAL TESTING

APPLE BEAR COMMERCIAL PROJECT

TOWN OF APPLE VALLEY

SAN BERNARDINO COUNTY, CALIFORNIA

LSA

April 2023

PHASE II ARCHAEOLOGICAL TESTING

APPLE BEAR COMMERCIAL PROJECT

TOWN OF APPLE VALLEY

SAN BERNARDINO COUNTY, CALIFORNIA

Prepared for:

Andrew Neff
Wood Investments Companies, Inc.
2950 Airway Avenue, Unit A-9
Costa Mesa, California 92626

Prepared by:

Riordan Goodwin, RA
LSA Associates, Inc.
1500 Iowa Avenue, Suite 200
Riverside, California 92507
(951) 781-9310

LSA Project No. WDN2201

National Archaeological Database Information:

Type of Study: Phase II Testing, minimal positive results
Sites Recorded: LSA- WDN2201-S-1 (update)
USGS Quadrangle: *Apple Valley South, California*
Acreage: 8.88 acres (gross)

LSA

April 2023

MANAGEMENT SUMMARY

Wood Investments Companies, Inc. retained LSA to conduct a Phase II archaeological testing program of site LSA-WDN2201-S-1 on the proposed Apple Bear Commercial Project (project) in the Town of Apple Valley (Town), San Bernardino County, California. The Town of Apple Valley (Town) required this study as part of the environmental review process to comply with the California Environmental Quality Act (CEQA).

In 2022, LSA conducted a cultural resources assessment for the project area that identified remnant features of what appeared to be a historic-period agricultural complex (LSA-WDN2201-S-1). Property-specific research was subsequently conducted along with Phase II testing. The research revealed that the site does not appear to be related to the Jess Ranch and the minimal results of the testing (nothing contributing to understanding the resource) indicate it is neither a "unique archaeological resource" nor "historical resource," under CEQA. However, there is still some potential for subsurface deposits or artifacts that may be of local interest, so Worker's Environmental Awareness Program (WEAP) training for construction grading/excavation crews is recommended.

If buried cultural resources are encountered during earthmoving operations associated with the project, all work in that area should be halted or diverted until a qualified archaeologist can evaluate the nature and significance of the finds.

In the event human remains are encountered, State Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the County Coroner has made a determination of origin and disposition pursuant to Public Resources Code Section 5097.98. The County Coroner must be notified of the find immediately. If the remains are determined to be Native American, the County Coroner will notify the Native American Heritage Commission (NAHC), which will determine and notify a Most Likely Descendant (MLD). With the permission of the landowner or his/her authorized representative, the MLD may inspect the site of the discovery. The MLD shall complete the inspection within 48 hours of notification by the NAHC. The MLD will have the opportunity to offer recommendations for the disposition of the remains.

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A: PROPERTY-SPECIFIC RESEARCH
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FIGURES AND TABLES

FIGURES

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Table A: Phase II Testing Results 8

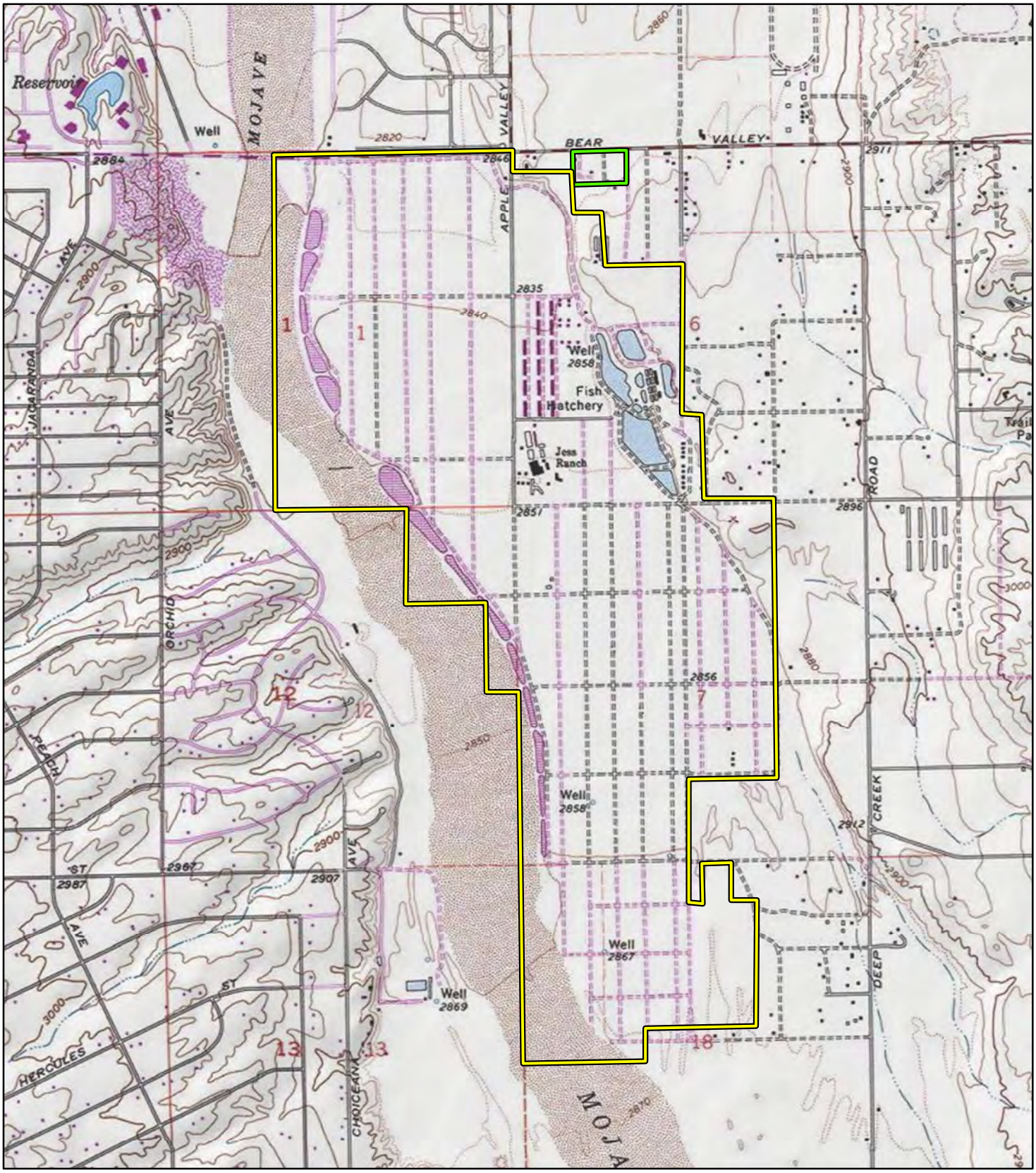
LIST OF ABBREVIATIONS AND ACRONYMS

APN	Assessor's Parcel Number
CCR	California Code of Regulations
CEQA	California Environmental Quality Act
CRHR	California Register of Historical Resources
MLD	Most Likely Descendant
NAHC	Native American Heritage Commission
PRC	Public Resources Code
project	Apple Bear Commercial Project
Town	Town of Apple Valley

INTRODUCTION

Wood Investments Companies, Inc. retained LSA to conduct Phase II testing for the proposed Apple Bear Commercial Project (project) in the Town of Apple Valley, (Town) San Bernardino County, California. This testing program was completed pursuant to the California Environmental Quality Act (CEQA), Public Resources Code Chapter 2.6, Section 21083.2, and California Code of Regulations (CCR) Title 14, Chapter 3, Article 5, Section 15064.5. The research and field surveys were conducted to determine whether the proposed project could adversely affect any resources considered historical resources by CEQA.

The project area is at the southwest corner of Bear Valley Road and Flying Feather Road in the Town of Apple Valley. It is bounded by Bear Valley Road and commercial development to the north with open land to the south, east and west. The project site is depicted on the United States Geological Survey (USGS) *Apple Valley South* topographic quadrangle map in Section 6 of Township 4 South, Range 3 West, San Bernardino Baseline and Meridian (USGS 1980) (Figure 1). The project area is 8.88 acres (gross), Assessor's Parcel Number (APN) 043402135000 and the northern portions of APNs 0434021100000 and 043402137000. The proposed project is commercial development.



LSA

LEGEND

Project Area

Former Jess Ranch Lands

FIGURE 1

N

0 1000 2000

FEET

Site LSA-WDN-2202-S-1 Phase II Testing
Apple Bear Commercial Project

SOURCE: USGS 7.5' Quad - *Apple Valley South* (1980), *Hesperia* (1980), CA; Archaeological Records Check and Reconnaissance Survey, Jess Ranch Property, San Bernardino County, California (1980)

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SETTING

NATURAL SETTING

Climate and Watershed

The project region is characterized by an arid climate, with dry, hot summers and moderate winters. Rainfall ranges from 5 to 8 inches annually (Beck and Haase 1974). Precipitation usually occurs in the form of winter rain, with warm, monsoonal showers in summer. The nearest natural reliable source of water is the Mojave River, which drains south 0.6 mile west of the project.

Biology

At an average elevation of approximately 2,850 feet, the project is within the Lower Sonoran Life Zone of California (Schoenherr 1992), which ranges from below sea level to 3,500 feet in elevation. The Creosote Desert Scrub plants observed included creosote, Joshua tree, and sparse xeric grass. Extensive fauna are known locally, including many endemic species of reptiles, birds, and insects.

Geology

The project is in the Mojave Desert Geomorphic Province, which forms an elevated alluvial plain with large expanses of desert punctuated by isolated mountain ranges (California Geological Survey, 2002; Norris and Webb, 1976). This province is on a wedge-shaped fault block bounded by the San Andreas Fault Zone and Transverse Ranges to the southwest and the Garlock Fault Zone and Tehachapi Mountains to the north (California Geological Survey, 2002; Norris and Webb, 1976). Because the province extends into Nevada, the state line forms the eastern boundary for California (California Geological Survey, 2002; Norris and Webb, 1976). Precambrian through Mesozoic igneous, metamorphic, and sedimentary rocks comprise the basement and many of the mountain ranges throughout the province, while Cenozoic sedimentary and igneous rocks fill the basins, line the flanks of the mountain ranges, and form subordinate features (Norris and Webb, 1976; Sharp, 1976). The province has an enclosed drainage with many playas, or dry lakes, that currently only fill with water for a short period of time during storm events (California Geological Survey, 2002; Sharp, 1976). During the Pleistocene, however, these dry lakes may have been filled with water year-round (Norris and Webb, 1976).

Geologic mapping indicates the entire project is underlain by Young Axial Channel Deposits, which are Holocene to late Pleistocene in age (less than 129,000 years ago) (Cohen et al., 2022; Morton and Miller, 2006). They formed as silt, sand, and gravel were carried down from higher elevations in the San Bernardino Mountains (Morton and Miller, 2006).

CULTURAL SETTING

Prehistory

Chronologies of prehistoric cultural change in Southern California have been attempted numerous times, and several are reviewed in Moratto (1984). No single description is universally accepted as the various chronologies are based primarily on material developments identified by researchers familiar with sites in a particular region and variation exists essentially due to the differences in

those items found at the sites. Small differences occur over time and space, which combine to form patterns that are variously interpreted.

Currently, two primary regional culture chronology syntheses are commonly referenced in the archaeological literature. The first, Wallace (1955), describes four cultural horizons or time periods: Horizon I – Early Man (9000–6000 BC), Horizon II – Milling Stone Assemblages (6000–3000 BC), Horizon III – Intermediate Cultures (3000 BC–AD 500), and Horizon IV – Late Prehistoric Cultures (AD 500–historic contact). This chronology was refined (Wallace 1978) using absolute chronological dates obtained after 1955.

The second cultural chronology (Warren 1968) is based broadly on Southern California prehistoric cultures and was also revised (Warren 1984; Warren and Crabtree 1986). Warren's (1984) chronology includes five periods in prehistory: Lake Mojave (7000–5000 BC), Pinto (5000–2000 BC), Gypsum (2000 BC–AD 500), Saratoga Springs (AD 500–1200), and Protohistoric (AD 1200–historic contact). Changes in settlement pattern and subsistence focus are viewed as cultural adaptations to a changing environment, which begins with gradual environmental warming in the late Pleistocene, continues with the desiccation of the desert lakes, followed by a brief return to pluvial conditions, and concludes with a general warming and drying trend, with periodic reversals that continue to the present (Warren and Crabtree 1986).

Ethnography

The project area is within the traditional cultural territory of the Serrano (Kroeber 1925; Heizer 1968). Tribal territories were somewhat fluid and changed over time. The first written accounts of the Serrano are attributed to the mission fathers, and later documentation was by Benedict (1924), Bright (1975), Strong (1929), and many others.

Serrano

The Serrano lived in the area generally north of Cahuilla territory (western Riverside County), occupying much of present-day San Bernardino County and northeastern Los Angeles County, but there is some overlap in the perceived ancestral areas. The term Serrano is Spanish for "mountaineer" or "highlander" and was given to people who inhabited the areas of the San Bernardino Mountains who had no associated mission.

The Serrano were hunter-gatherers who relied on the women to do much of the collecting while the men hunted and captured various animals. Although they exploited whatever flora were available in the area they happened to be, generally they collected acorns, pinion nuts, honey, mesquite, yucca, and cactus fruit in addition to various seeds, bulbs, and roots. Plants were consumed both raw and cooked. Food processing involved the use of manos, metates, mortars, and pestles. Antelope, deer, mountain sheep, rabbits, and rodents were killed and captured, and the most common hunting implements were the bow and arrow, throwing stick, traps, snares, and deadfalls. Meat was prepared in earth ovens, by boiling in watertight baskets, or by parching (Bean and Smith 1978).

Most of the Serrano lived in small villages near reliable sources of water (springs, perennial seeps, streams, and small lakes) (Benedict 1924). They lived in tule-covered, dome-shaped structures and

had ceremonial houses and sweat houses for their religious activities. The basic settlement unit was a village with a number of small satellite resource-gathering camps.

History

In California, the historic era is generally divided into three periods: the Spanish Period (1769 to 1821), the Mexican Period (1821 to 1848), and the American Period (1848 to present). Since there were no resources identified, the historic overview will focus on the local community during the American Period/20th century.

Apple Valley (from Town of Apple Valley 2023 except where otherwise noted)

Although the origin of the community's name is somewhat obscure, local apple orchards were well established by Max Ihmsen and others, occupying hundreds of acres within the valley by the mid-1910s. Large federal grants just prior to this time had encouraged homesteaders to occupy and improve thousands of additional acres, but the agricultural boom was short-lived and the local economic base reverted to mining (specifically limestone) and cattle ranching as a result of the United States' entry into World War I in 1917.

Oil tycoons Newt Bass and B.J. Westlund initiated residential development in Apple Valley soon after World War II, and a post office opened in 1949 (Town of Apple Valley 2023, Salley 1977). The former agricultural community was ultimately transformed into a bedroom community (incorporated in 1988), which it remains to this day (Bright 1998).

Jess Ranch. The project area is on the northwest corner of was formerly part of a locally renowned turkey ranch established by Stoddard Jess in 1932 (ABC 1980; USGS 1980 [Figure 1]).

The operation ultimately expanded to one of the largest in the western United States and diversified into trout farming and alfalfa cultivation, encompassing approximately 1,500 acres. However, it became unprofitable in the 1970s and ceased operations by the mid-1990s. The ranch land was gradually sold off for residential development beginning in the early 1980s.

METHODS

RECORD SEARCH

On October 14, 2023, a record search was conducted by staff at the South Central Coastal Information Center (SCCIC). The objectives of this record search were to (1) establish the status and extent of previously recorded sties, surveys and excavations within the project area and vicinity and to (2) note what types of resources might be expected to occur within the proposed project based on the existing data from known cultural resources sites within a 1-mile radius.

ADDITIONAL RESEARCH

From January to March 2023, South Environmental conducted additional property-specific research, including County of San Bernardino records and review of historic period aerials and maps.

NATIVE AMERICAN CONSULTATION

In accordance with Assembly Bill 52, The Town consulted local tribes regarding the project in February and March, 2023.

PHASE II TESTING

This Phase II excavation plan was designed to detect the presence or absence and type(s) of potential subsurface historic period cultural material (refuse or features) around the site features. The testing was also intended to determine any potential relationship between the site features (remnants of an agricultural complex) and the adjacent 1930s–1970s Jess Ranch and other historic sites in the vicinity of the project area.

Testing was conducted using mechanical excavation supervised by LSA Senior Archaeologist Riordan Goodwin, RA assisted by LSA Archaeological Technician Carlton Bennett on March 30, 2023. The edges of Features 1 and 3 through 8 were excavated with 2-foot-wide trenches down to the soil change (consolidation) at 3–4 feet in depth (Figure 2). Features 2, 9 and 10 are minor water management infrastructure and were not tested due to low potential for subsurface deposits. A single trench was excavated between Features 4 and 5 (4S/5N) due to their proximity (approximately 4 feet from each other).

LSA

Provisional Resource Boundary

Features

Trenches

FIGURE 2

N

0 60 120

FEET

SOURCE: Google Imagery (2022)

J:\WDN2201\GIS\Pro\Apple Bear Project.aprx (4/14/2023)

Apple Bear Project

Phase II Testing Plan Map

RESULTS

RECORD SEARCH

Data from the record search conducted at the SCCIC indicate there have been 25 previous studies within 1 mile of the project site, none of which included any portion of the project area. Although there are no resources within the project area, 12 have been recorded within 1 mile, including 5 prehistoric resources (isolated artifacts) and 7 historic period resources (foundations, water conveyance features, refuse deposits, and a trail; see attached record search results). The nearest formally documented resource (on a Department of Parks and Recreation [DPR] resource record) was a 1960s–1980s historic period equine training facility (Viking Ranch, 36-029051) 0.46 mile (2,430 feet) east-northeast of the project area. However, the northeast corner of the former area of the historic period Jess Ranch (as defined in the 1980 assessment by Archaeological Planning Collaborative, report # SB-01043) is adjacent to the northwest corner of the project area (Figure 1).

ADDITIONAL RESEARCH

Property-specific research revealed the parcels were not owned by any of the individuals associated with the Jess Ranch (Dr. Harris Garcelon, Stoddard Jess, or Gay Lewis). In addition, the parcels were never owned by the same people, so possible relationships between the features on the respective parcels could not be determined (Carais 2023, Attachment A).

NATIVE AMERICAN CONSULTATION

No response was received from any of the tribal representatives contacted.

PHASE II TESTING

The testing yielded predominantly negative results, with some temporally ambiguous and trace historic-period refuse (see Table A and below).

Table A: Phase II Testing Results

Feature	Trench No.	Depth	Recovery	Soils
1	1N	3-4 feet	Concrete septic tank	Sandy silt
1	1S	3-4 feet	-	Sandy silt
1	1E	3-4 feet	-	Sandy silt
1	1W	3-4 feet	-	Sandy silt
3	3N	3-4 feet	-	Sandy silt
3	3S	3-4 feet	A few 1950s and temporally ambiguous bottles in footing	Sandy silt
3	3E	3-4 feet	-	Sandy silt
3	3W	3-4 feet	-	Sandy silt
4	4N	3-4 feet	-	Sandy silt
4	4S/5N	3-4 feet	Trace modern refuse (No recovery between F-4 and F-5)	Sandy silt
4	4E	3-4 feet	-	Sandy silt
4	4W	3-4 feet	-	Sandy silt

Table A: Phase II Testing Results

Feature	Trench No.	Depth	Recovery	Soils
5	4S/5N	3-4 feet	No recovery between F-4 and F-5	Sandy silt
5	5S	3-4 feet	-	Sandy silt
5	5E	3-4 feet	Temporally ambiguous refuse (sanitary food can)	Sandy silt
5	5W	3-4 feet	-	Sandy silt
6	6N	3-4 feet	-	Sandy silt
6	6S	3-4 feet	-	Sandy silt
6	6E	3-4 feet	-	Sandy silt
6	6W	3-4 feet	-	Sandy silt
7	1N	3-4 feet	-	Sandy silt
7	1S	3-4 feet	-	Sandy silt
7	1E	3-4 feet	-	Sandy silt
7	1W	3-4 feet	Metal septic tank	Sandy silt
8	8N	3-4 feet	-	Sandy silt
8	8S	3-4 feet	-	Sandy silt
8	8E	3-4 feet	Temporally ambiguous refuse (sanitary food can)	Sandy silt
8	8W	3-4 feet	-	Sandy silt

Source: Compiled by LSA (2023).

The following are additional observations/information on each feature.

Feature 1

This was a residence of wood frame and cement plaster construction with a septic tank on its northwest corner—charred structural debris indicate it burned down.

Feature 3

This may have been a residence due to its size and apparent toilet plumbing in its southwest corner. A portion of the original slab was resurfaced with 1 inch-thick cement, suggesting the building may have been repurposed. A short (approximately 4-foot-long) segment of concrete footing on the southeast edge utilized bottles in its construction (embedded in the concrete). These comprise several beverage and condiment bottle bases with Ernest and Julio Gallo (1958 or later), Glass Container Corp. (1945–1970s), Hazel-Atlas (1920–1964) and Owens-Illinois (possibly 1949 and 1955, respectively) maker's marks.

Feature 4

This appears to be footing wall/slab for large equipment shed.

Feature 5

This elongate slab may have been a poultry or equipment shed.

Feature 6

This is a cluster of water conveyance structures (water tank, well, and water conveyance building) of composite construction including steel, concrete, brick and cinder block that may have been augmented/expanded over time.

Feature 7

This was two buildings, both apparently of similar construction to Feature 1 that also burned down: the northern slab was 12 feet x 9 feet with what appeared to be a metal septic tank on its west side; the southern slab was 10.5 x 6 feet with toilet debris in its southwest corner indicating it was at least a restroom.

Feature 8

This was also residence of wood frame and cement plaster construction—charred structural debris indicate it also burned down.

REGULATORY CONTEXT

California Environmental Quality Act

CEQA requires that historical resources and unique archaeological resources be taken into consideration during the CEQA planning process (14 CCR Section 15064.5; PRC Section 21083.2). If feasible, adverse effects to the significance of historical resources must be avoided or the effects must be mitigated (14 CCR Section 15064.5(b)(4)). CEQA requires that all feasible mitigation be undertaken even if it does not mitigate impacts to a less than significant level (14 CCR Section 15126.4 (a)(1)).

Historical Resources

The term CEQA uses for significant cultural resources is "historical resource," which is defined as any resource that meets one or more of the following criteria:

- Listed in, or eligible for listing in, the California Register of Historical Resources;
- Listed in a local register of historical resources (as defined at Public Resources Code [PRC] Section 5020.1(k));
- Identified as significant in a historical resource survey meeting the requirements of PRC Section 5024.1(g); or
- Determined to be a historical resource by a project's lead agency (14 CCR Section 15064.5(a)).

A historical resource consists of "Any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California."

Unique Archaeological Resources

As defined in PRC Section 21083.2(g), a unique archaeological resource is defined as "an archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

- Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information.
- Has a special and particular quality such as being the oldest of its type or the best available example of its type.
- Is directly associated with a scientifically recognized important precontact or historic event or person."

California Register of Historical Resources

The California Register of Historical Resources (CRHR), which is based upon and parallel to the National Register of Historic Places, is a listing of sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association; and:

1. Are associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage; or
2. Are associated with the lives of persons important in our past; or
3. Embody the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or
4. Have yielded, or may be likely to yield, information important in prehistory or history.

Integrity is the authenticity of a property's physical identity, evidenced by the survival of characteristics that existed during the property's period of significance. Properties eligible for listing in the CRHR must retain enough of their historic character or appearance to be recognizable as historical resources and to convey the reasons for their significance. Integrity must also be assessed with reference to the particular criteria under which properties are proposed for eligibility. Alterations over time to a property, or historic changes pertaining to use, may themselves have historical, cultural, or architectural significance.

Properties that have lost their historic character or appearance may still have sufficient integrity for the CRHR if they maintain the potential to yield significant scientific or historical information, or specific data.

EVALUATION

LSA-WDN2201-S-1

This resource is an unremarkable example of a common resource type: foundation/feature remnants of at least one, but possibly two rural agricultural complexes that likely date from before World War II to at least the end of the historic period (early 1970s). Collectively, the features are not associated with significant events (Criterion 1) or people (Criterion 2), do not represent unique engineering or construction of a particular time period (Criterion 3), and Phase II testing results suggest they are unlikely to yield information important to prehistory of local area, region or state (Criteria 4). Therefore, they do not appear to meet any of the criteria of a "unique archaeological resource" or "historical resource" under CEQA and are not eligible for listing in the CRHR.

RECOMMENDATIONS

Property-specific research was conducted for the project along with Phase II testing. The research revealed the site does not appear to be related to the Jess Ranch and the minimal results of the testing (nothing contributing to understanding the resource) indicate it is neither a "unique archaeological resource" nor "historical resource" under CEQA. However, there is still some potential for subsurface deposits or artifacts that may be of local interest, so Worker's Environmental Awareness Program (WEAP) training for construction grading/excavation crews is recommended.

In the event that archaeological materials are encountered during construction, all construction work should be halted and a qualified archaeologist consulted to determine the appropriate treatment of the discovery (CCR Title 14, Chapter 3, Section 15064.5(f)).

In the event human remains are encountered, State Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the County Coroner has made a determination of origin and disposition pursuant to Public Resources Code Section 5097.98. The County Coroner must be notified of the find immediately. If the remains are determined to be Native American, the County Coroner will notify the Native American Heritage Commission (NAHC), which will determine and notify a Most Likely Descendant (MLD). With the permission of the landowner or his/her authorized representative, the MLD may inspect the site of the discovery. The MLD shall complete the inspection within 48 hours of notification by the NAHC. The MLD will have the opportunity to offer recommendations for the disposition of the remains.

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APPENDIX A

PROPERTY SPECIFIC RESEARCH

March 8, 2023

Rory Goodwin, RA
LSA
1500 Iowa Avenue, Suite 200
Riverside, California 92507

RE: Research for Assessor's Parcel Numbers 0434-021-37 and 0434-021-10 in Apple Valley, San Bernardino County, California

Dear Rory:

At the request of LSA, South Environmental provided property research support for two Assessor's Parcel Numbers (APNs) 0434-021-10 (Parcel 1) and 0434-021-37 (Parcel 2) located in the town of Apple Valley in San Bernardino County, California.

The subject parcels are located approximately six miles east of Interstate 15 and approximately 2.5 miles east of the Atchison Topeka and Santa Fe Railroad. Both parcels are located southeast of the intersection of Apple Valley Road and Bear Valley Road and are bordered to the north by Bear Valley Road. Parcel 2 is bisected by Westmont Drive and is located directly west of Parcel 1. The eastern boundary of Parcel 1 is Flying Feather Road (Figure 1). Both parcels are undeveloped but for small areas exhibiting remnants of building foundations.

Property research completed as part of this study included a chain of title search, research with the local library, review of United States Census records, review of building permit records, and analysis of available historic aerial photographs to understand any improvements made to the properties over time.

Chain of Title Search

South Environmental engaged the services of First American Title Guarantee on January 25, 2023, to obtain a chain of title for the subject parcels going as far back as January 1, 1900. The results were received on February 3, 2023 (Attachment 1). Tables 1 and 2 provide a list of all previous owners identified as a result of the chain of title search.

Source: BING Aerial Imagery 2023

Apple Valley Project

Figure 1. Project Site Detail

Parcel 1: 0434-021-10

Parcel 2: 0434-021-37

0 225 450 Feet

Scale: 1:4,500

N

Table 1. Chain of Title Search Results for Parcel 1

Date of Sale	Sold From	Sold To
February 11, 1946	Dora G. Wallin	Raymond A. Wallin
May 12, 1953	Raymond A. Wallin and Alberta L. Wallin	Raymond A. Wallin and Alberta L. Wallin
January 8, 1957	Alberta L. Wallin	Alberta L. Lower and Ernest H. Lower
November 7, 1961	John Reisenhofer and Paula Reisenhofer, husband and wife	John Reisenhofer and Paula Reisenhofer undivided ½ interest and Anthony Kuchar and Gisela Kuchar undivided ½ interest
August 17, 1970	Ernest H. Lower and Alberta L. Lower	Anthony Kuchar and Gisela Kuchar and John Reisenhofer and Paula Reisenhofer all as joint tenants
June 8, 1977	Anthony Kuchar and Gisela Kuchar and John Reisenhofer and Paula Reisenhofer	John Reisenhofer and Paula Reisenhofer and Frank S. Novak and Margaret Novak, all as joint tenants
December 15, 1989	Raymond A. Wallin and Alberta L. Wallin	Frederick William Von Arx and Mary Reisenhofer Von Arx and Frank S. Novak and Margaret Novak
October 4, 1994	Frank S. Novak and Margaret Novak	Frank S. Novak and Margaret Novak, as trustees of the Novak Family Trust
May 31, 1995	Frederick William Vonarx and Mary C. Von Arx, and Frank Novak and Margaret Novak, all as joint tenants	Walter J. Hoyle and Ann E. Hoyle and Frank S. Novak and Margaret Novak, all as joint tenants
December 10, 1998	Margaret Novak, trustee of Novak Family Trust dated September 9, 1994	Margaret Novak, Trusteee of Novak Family Trust B UTA 9-9-94
August 27, 1999	Walter J. Hoyle, Ann E. Hoyle and Margaret Novak, individually, surviving spouse of Frank S. Novak, and trustee of the Novak Family Trust B UTA 9/9/94	Walter J. Hoyle and Ann E. Hoyle, as joint tenants, as to an undivided one-half interest; and Margaret Novak, trustee of the Novak Family Trust B UTA 9/9/94, as to an undivided one-half interest.
March 10, 2005	Walter J. Hoyle and Ann E. Hoyle, as joint tenants, and Margaret Novak, trustee of the Novak Family Trust B UTA September 9, 1994	Jimmy Summers and Dotti B. Summers, trustees of the Summers Family Trust dated July 11, 1985
January 2, 2013	Jimmy Summers and Dotti B. Summers, trustees of the Summers Family Trust dated July 11, 1985	Jimmy Summers and Dotti B. Summers, as joint tenants
January 2, 2013	Jimmy Summers and Dotti B. Summers, as joint tenants	Mark Abraham Summers, a married man as his sole and separate property
January 2, 2013	Ann Elizabeth Summers, spouse of grantee	Mark Abraham Summers, a married man as his sole and separate property
September 23, 2014	Mark Abraham Summers, a married man as his sole and separate property	Victorville RL Holdings, LLC
September 30, 2022	Victorville RL Holdings	Apple Bear Valley, LLC, a Delaware Limited Liability Company as to an undivided 94.04% tenants in common interest, Apple Bear Wood, LLC, a Delaware Limited Liability Company as to an undivided 2.98% tenants in common interest and Apple Valley Young, LLC, a Delaware

Date of Sale	Sold From	Sold To
		Limited Liability Company, as to an undivided 2.98% tenants in common

Table 2. Chain of Title Search Results for Parcel 2

Date of Sale	Sold From	Sold To
July 19, 1915	The United States of America	Abbott. W. Phillips
July 25, 1930	A.W. Phillips and Fannie E. Phillips, his wife	Nancy Ruth Persons [sic], a widow
July 25, 1930	Nancy Ruth Parsons, a widow	A.W. Phillips and Fannie E. Phillips, his wife, as joint tenants with the right of survivorship
August 17, 1950	Fannie E. Phillips, a widow	Fannie E. Phillips, Claire K. Beckmann, and Bill W. Phillips, a married man, mother, daughter and son, as joint tenants
June 5, 1951	Fannie E. Phillips, a widow, Claire K. Beckman, a married woman, and Bill W. Phillips, and Ilda Phillips, husband and wife	Warren J. Smithson and Irene L. Smithson, husband and wife as joint tenants
April 24, 1964	Claire P. [sic] Beckmann, a married woman, and Bill W. Phillips, and Ilda Phillips, husband and wife	Warren J. Smithson and Irene L. Smithson, husband and wife as joint tenants
October 19, 1965	Warren J. Smithson and Irene L. Smithson, husband and wife	Chris V. Barnett and Marcella L. Barnett, husband and wife as joint tenants, an undivided 1/3 interest; Harlan R. Downs and Wilma M. Downs, husband and wife, as joint tenants, an undivided 1/3 interest and Pat Barnett and Jean R. Barnett, husband and wife as joint tenants, an undivided 1/3 interest
February 13, 1970	Wilma M. Downs	Chris V. Barnett and Marcella L. Barnett, husband and wife as joint tenants
January 6, 1987	Chris V. Barnett, Marcella L. Barnett and Jean R. Barnett	Flying Feather, a general partnership
February 28, 1997	Ress Financial Corporation, a California Corporation, who acquired title as Ress	Doherty Enterprises Retirement Trust, William J. Doherty, trustee
October 14, 2004	Doherty Enterprises Retirement Trust, William J. Doherty, trustee	William J. Doherty, Trustee of the William J. Doherty Revocable Living Trust, dated January 30, 1997
November 23, 2004	William J. Doherty, Trustee of the William J. Doherty Revocable Living Trust, dated January 30, 1997	Patrick Thomas Doherty and Kimberly Dawn Nibler
December 27, 2013	Patrick Thomas Doherty and Kimberly Dawn Nibler, successor co-trustees of the William J. Doherty Revocable Trust dated January 30, 1997, and Patrick Thomas Doherty and Kimberly Dawn Nibler	Inland Ventures I LLC, a California Limited Liability Company
December 27, 2013	Inland Ventures I LLC, a California Limited Liability Company	Victorville RL Holdings LLC, a Delaware Limited Liability Company

Date of Sale	Sold From	Sold To
September 30, 2022	Victorville RL Holdings LLC, a Delaware Limited Liability Company	Apple Bear Valley, LLC, a Delaware Limited Liability Company as to an undivided 94.04% tenants in common interest, Apple Bear Wood, LLC, a Delaware Limited Liability Company as to an undivided 2.98% tenants in common interest and Apple Valley Young, LLC, a Delaware Limited Liability Company, as to an undivided 2.98% tenants in common

Archival Research

San Bernardino County Assessor's Office

South Environmental utilized the San Bernardino County Assessor's website to search for land improvement information. The first available date on the County's website for both parcels is 2014. Land value for Parcel 1 was recorded in 2014 as $608,344 and more than doubled the following year to $1,406,000. The land has steadily increased in value with the 2022 value at $1,592, 333.[1] Land value for Parcel 2 was first recorded at $850,000 in 2014 and has steadily increased to $981,885 in 2022.[2]

Town of Apple Valley

A request for Public Records was submitted on February 6, 2023 for any available building permits or possible crops that may be been grown on the land. A representative from the Town of Apple Valley responded on February 6, 2023 stating they had no available records for either parcel.

Apple Valley Historical Advisory Committee

South Environmental contacted the Apple Valley Historical Advisory Committee on February 6, 2023. The committee functions as a commission and therefore they do not manage any research material that would be of assistance in pulling historic data for the two subject parcels.

Victor Valley College Library - Local History Collection Room

South Environmental contacted the Local History Collection Room located at the Victor Valley College Library to request any information on the subject parcels. The reference librarian, Leslie Huiner, said that most of the information stored at the library pertains to large ranches, famous sites, and is not indexed by address or parcel number. Ms. Huiner indicated that the library has an index of names

[1] Parcel Report. San Bernardino County Assessor-Recorder-County Clerk. 2023
[2] Ibid.

that could be searched. South Environmental provided a list of previous owners, but no matches were found in the index according to the reference librarian.

San Bernardino County Library – Apple Valley Newton T. Bass Branch Library

On January 13, 2023, South Environmental contacted the San Bernardino County Library, Apple Valley Newton T. Bass Branch to inquire about a local history room and was informed that one was not available.

Historic Aerial Photographs

South Environmental was asked to look at historic aerial photographs that are not already available through Nationwide Environmental Title Research, LLC (NETR). Historic aerial photographs were available from the Aerial Photograph Collection at the University of California Santa Barbara Map and Imagery Laboratory for the years 1953, 1959, 1968, and 2002. The subject parcels are visible in all available aerial photographs. As seen in the 1953 aerial, the land surrounding the subject parcels was largely undeveloped and appears to have been used for agricultural purposes. There were few buildings and structures present in the area in 1953. The 1953 aerial also shows the two subject parcels adjacent to one another with a residence located on Parcel 2. There was a line of trees between the two parcels that ran on a north/south axis that appears to line an access road to the parcels from Bear Valley Road. The parcels appear unchanged in the next available aerial photography dated 1959. By 2002, the surrounding area has been developed with the land directly north of the subject parcels remaining undeveloped. The trees that once divided the two parcels have been removed.

More recent imagery was available for the years 1985, 1994, 2003, 2005, 2006, 2009, 2013, 2015, 2016, 2017, 2018, 2020, and 2022 using the "Historical Imagery" tool in Google Earth. The 1985 aerial is blurry and illegible. By 1994, the trees that once lined the possible driveway are gone. Visible in this and the following aerials up until 2022 are what appear to be foundations of structures that were either not present in the previous aerials or obstructed by trees. There appear to be three clusters of possible foundations on Parcel 1 and five on Parcel 2.

United States Census

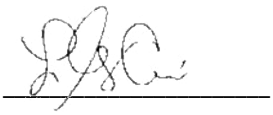
Using historic aerials and chain of title research as a guide, South Environmental searched the United States Census for names of previous owners to determine if they could be connected with orchards/farms visible near the subject parcels. The closest match was Raymond A. Wallin, who was listed as a farmer in the "general farm" industry residing in Victor, San Bernardino County, California in 1920. No full address or types of crops were listed and therefore it cannot be confirmed he was living at the subject parcel.

Findings

After thorough review of chain of titles, historic aerial photographs, and information gathered through various repositories for Parcel 1 and Parcel 2, South Environmental found no evidence that the parcels were ever owned by the same families. Research into the possible identification of crops on the parcels did not result in any additional information.

If you have any questions about this letter report or its findings, please contact me via phone at (310) 809-4696 or via email at lcarias@southenvironmental.com if you have any questions.

Respectfully Submitted,



Laura Carias, MA
Senior Architectural Historian

Attachment 1. First American Chain of Title Guarantee

Attachment 1.
First American Chain of Title Guarantee

First American Title

Guarantee

Chain of Title Guarantee

ISSUED BY

First American Title Insurance Company

GUARANTEE NUMBER

5013500-0623-6947051

SUBJECT TO THE EXCLUSIONS FROM COVERAGE, THE LIMITS OF LIABILITY AND THE CONDITIONS AND STIPULATIONS OF THIS GUARANTEE,

FIRST AMERICAN TITLE INSURANCE COMPANY
a Nebraska corporation, herein called the Company

GUARANTEES

the Assured named in Schedule A against actual monetary loss or damage not exceeding the liability stated in Schedule A, which the Assured shall sustain by reason of any incorrectness in the assurances set forth in Schedule A.

First American Title Insurance Company

Kenneth D. DeGiorgio, President

Lisa W. Cornehl, Secretary

SCHEDULE OF EXCLUSIONS FROM COVERAGE OF THIS GUARANTEE

1. Except to the extent that specific assurances are provided in Schedule A of this Guarantee, the Company assumes no liability for loss or damage by reason of the following:
   (a) Defects, liens, encumbrances, adverse claims or other matters against the title, whether or not shown by the public records.
   (b) (1) Taxes or assessments of any taxing authority that levies taxes or assessments on real property; or, (2) Proceedings by a public agency which may result in taxes or assessments, or notices of such proceedings, whether or not the matters excluded under (1) or (2) are shown by the records of the taxing authority or by the public records.
   (c) (1) Unpatented mining claims; (2) reservations or exceptions in patents or in Acts authorizing the issuance thereof; (3) water rights, claims or title to water, whether or not the matters excluded under (1), (2) or (3) are shown by the public records.
2. Notwithstanding any specific assurances which are provided in Schedule A of this Guarantee, the Company assumes no liability for loss or damage by reason of the following:
   (a) Defects, liens, encumbrances, adverse claims or other matters affecting the title to any property beyond the lines of the land expressly described in the description set forth in Schedule (A), (C) or in Part 2 of this Guarantee, or title to streets, roads, avenues, lanes, ways or waterways to which such land abuts, or the right to maintain therein vaults, tunnels, ramps or any structure or improvements; or any rights or easements therein, unless such property, rights or easements are expressly and specifically set forth in said description.
   (b) Defects, liens, encumbrances, adverse claims or other matters, whether or not shown by the public records; (1) which are created, suffered, assumed or agreed to by one or more of the Assureds; (2) which result in no loss to the Assured; or (3) which do not result in the invalidity or potential invalidity of any judicial or non-judicial proceeding which is within the scope and purpose of the assurances provided.
   (c) The identity of any party shown or referred to in Schedule A.
   (d) The validity, legal effect or priority of any matter shown or referred to in this Guarantee.

GUARANTEE CONDITIONS AND STIPULATIONS

1. Definition of Terms.
The following terms when used in the Guarantee mean:
   (a) the "Assured": the party or parties named as the Assured in this Guarantee, or on a supplemental writing executed by the Company.
   (b) "land": the land described or referred to in Schedule (A)(C) or in Part 2, and improvements affixed thereto which by law constitute real property. The term "land" does not include any property beyond the lines of the area described or referred to in Schedule (A)(C) or in Part 2, nor any right, title, interest, estate or easement in abutting streets, roads, avenues, alleys, lanes, ways or waterways.
   (c) "mortgage": mortgage, deed of trust, trust deed, or other security instrument.
   (d) "public records": records established under state statutes at Date of Guarantee for the purpose of imparting constructive notice of matters relating to real property to purchasers for value and without knowledge.
   (e) "date": the effective date.

2. Notice of Claim to be Given by Assured Claimant.
An Assured shall notify the Company promptly in writing in case knowledge shall come to an Assured hereunder of any claim of title or interest which is adverse to the title to the estate or interest, as stated herein, and which might cause loss or damage for which the Company may be liable by virtue of this Guarantee. If prompt notice shall not be given to the Company, then all liability of the Company shall terminate with regard to the matter or matters for which prompt notice is required; provided, however, that failure to notify the Company shall in no case prejudice the rights of any Assured unless the Company shall be prejudiced by the failure and then only to the extent of the prejudice.

3. No Duty to Defend or Prosecute.
The Company shall have no duty to defend or prosecute any action or proceeding to which the Assured is a party, notwithstanding the nature of any allegation in such action or proceeding.

4. Company's Option to Defend or Prosecute Actions; Duty of Assured Claimant to Cooperate.
Even though the Company has no duty to defend or prosecute as set forth in Paragraph 3 above:
   (a) The Company shall have the right, at its sole option and cost, to institute and prosecute any action or proceeding, interpose a defense, as limited in (b), or to do any other act which in its opinion may be necessary or desirable to establish the title to the estate or interest as stated herein, or to establish the lien rights of the Assured, or to prevent or reduce loss or damage to the Assured. The Company may take any appropriate action under the terms of this Guarantee, whether or not it shall be liable hereunder, and shall not thereby concede liability or waive any provision of this Guarantee. If the Company shall exercise its rights under this paragraph, it shall do so diligently.
   (b) If the Company elects to exercise its options as stated in Paragraph 4(a) the Company shall have the right to select counsel of its choice (subject to the right of such Assured to object for reasonable cause) to represent the Assured and shall not be liable for and will not pay the fees of any other counsel, nor will the Company pay any fees, costs or expenses incurred by an Assured in the defense of those causes of action which allege matters not covered by this Guarantee.
   (c) Whenever the Company shall have brought an action or interposed a defense as permitted by the provisions of this Guarantee, the Company may pursue any litigation to final determination by a court of competent jurisdiction and expressly reserves the right, in its sole discretion, to appeal from an adverse judgment or order.
   (d) In all cases where this Guarantee permits the Company to prosecute or provide for the defense of any action or proceeding, an Assured shall secure to the Company the right to so prosecute or provide for the defense of any action or proceeding, and all appeals therein, and permit the Company to use, at its option, the name of

such Assured for this purpose. Whenever requested by the Company, an Assured, at the Company's expense, shall give the Company all reasonable aid in any action or proceeding, securing evidence, obtaining witnesses, prosecuting or defending the action or lawful act which in the opinion of the Company may be necessary or desirable to establish the title to the estate or interest as stated herein, or to establish the lien rights of the Assured. If the Company is prejudiced by the failure of the Assured to furnish the required cooperation, the Company's obligations to the Assured under the Guarantee shall terminate.

5. Proof of Loss or Damage.

In addition to and after the notices required under Section 2 of these Conditions and Stipulations have been provided to the Company, a proof of loss or damage signed and sworn to by the Assured shall be furnished to the Company within ninety (90) days after the Assured shall ascertain the facts giving rise to the loss or damage. The proof of loss or damage shall describe the matters covered by this Guarantee which constitute the basis of loss or damage and shall state, to the extent possible, the basis of calculating the amount of the loss or damage. If the Company is prejudiced by the failure of the Assured to provide the required proof of loss or damage, the Company's obligation to such assured under the Guarantee shall terminate. In addition, the Assured may reasonably be required to submit to examination under oath by any authorized representative of the Company and shall produce for examination, inspection and copying, at such reasonable times and places as may be designated by any authorized representative of the Company, all records, books, ledgers, checks, correspondence and memoranda, whether bearing a date before or after Date of Guarantee, which reasonably pertain to the loss or damage. Further, if requested by any authorized representative of the Company, the Assured shall grant its permission, in writing, for any authorized representative of the Company to examine, inspect and copy all records, books, ledgers, checks, correspondence and memoranda in the custody or control of a third party, which reasonably pertain to the loss or damage. All information designated as confidential by the Assured provided to the Company pursuant to this Section shall not be disclosed to others unless, in the reasonable judgment of the Company, it is necessary in the administration of the claim. Failure of the Assured to submit for examination under oath, produce other reasonably requested information or grant permission to secure reasonably necessary information from third parties as required in the above paragraph, unless prohibited by law or governmental regulation, shall terminate any liability of the Company under this Guarantee to the Assured for that claim.

6. Options to Pay or Otherwise Settle Claims: Termination of Liability.

In case of a claim under this Guarantee, the Company shall have the following additional options:

(a) To Pay or Tender Payment of the Amount of Liability or to Purchase the Indebtedness.

The Company shall have the option to pay or settle or compromise for or in the name of the Assured any claim which could result in loss to the Assured within the coverage of this Guarantee, or to pay the full amount of this Guarantee or, if this Guarantee is issued for the benefit of a holder of a mortgage or a lienholder, the Company shall have the option to purchase the indebtedness secured by said mortgage or said lien for the amount owing thereon, together with any costs, reasonable attorneys' fees and expenses incurred by the Assured claimant which were authorized by the Company up to the time of purchase. Such purchase, payment or tender of payment of the full amount of the Guarantee shall terminate all liability of the Company hereunder. In the event after notice of claim has been given to the Company by the Assured the Company offers to purchase said indebtedness, the owner of such indebtedness shall transfer and assign said indebtedness, together with any collateral security, to the Company upon payment of the purchase price.

Upon the exercise by the Company of the option provided for in Paragraph (a) the Company's obligation to the Assured under this Guarantee for the claimed loss or damage, other than to make the payment required in that paragraph, shall terminate, including any obligation to continue the defense or prosecution of any litigation for which the Company has exercised its options under Paragraph 4, and the Guarantee shall be surrendered to the Company for cancellation.

(b) To Pay or Otherwise Settle With Parties Other Than the Assured or With the Assured Claimant.

To pay or otherwise settle with other parties for or in the name of an Assured claimant any claim assured against under this Guarantee, together with any costs, attorneys' fees and expenses incurred by the Assured claimant which were authorized by the Company up to the time of payment and which the Company is obligated to pay.

Upon the exercise by the Company of the option provided for in Paragraph (b) the Company's obligation to the Assured under this Guarantee for the claimed loss or damage, other than to make the payment required in that paragraph, shall terminate, including any obligation to continue the defense or prosecution of any litigation for which the Company has exercised its options under Paragraph 4.

7. Determination and Extent of Liability.

This Guarantee is a contract of Indemnity against actual monetary loss or damage sustained or incurred by the Assured claimant who has suffered loss or damage by reason of reliance upon the assurances set forth in this Guarantee and only to the extent herein described, and subject to the Exclusions From Coverage of This Guarantee. The liability of the Company under this Guarantee to the Assured shall not exceed the least of:

(a) the amount of liability stated in Schedule A or in Part 2;

(b) the amount of the unpaid principal indebtedness secured by the mortgage of an Assured mortgagee, as limited or provided under Section 6 of these Conditions and Stipulations or as reduced under Section 9 of these Conditions and Stipulations, at the time the loss or damage assured against by this Guarantee occurs, together with interest thereon; or

(c) the difference between the value of the estate or interest covered hereby as stated herein and the value of the estate or interest subject to any defect, lien or encumbrance assured against by this Guarantee.

8. Limitation of Liability.

(a) If the Company establishes the title, or removes the alleged defect, lien or encumbrance, or cures any other matter assured against by this Guarantee in a reasonably diligent manner by any method, including

litigation and the completion of any appeals therefrom, it shall have fully performed its obligations with respect to that matter and shall not be liable for any loss or damage caused thereby.

(b) In the event of any litigation by the Company or with the Company's consent, the Company shall have no liability for loss or damage until there has been a final determination by a court of competent jurisdiction, and disposition of all appeals therefrom, adverse to the title, as stated herein.

(c) The Company shall not be liable for loss or damage to any Assured for liability voluntarily assumed by the Assured in settling any claim or suit without the prior written consent of the Company.

9. Reduction of Liability or Termination of Liability.

All payments under this Guarantee, except payments made for costs, attorneys' fees and expenses pursuant to Paragraph 4 shall reduce the amount of liability pro tanto.

10. Payment of Loss.

(a) No payment shall be made without producing this Guarantee for endorsement of the payment unless the Guarantee has been lost or destroyed, in which case proof of loss or destruction shall be furnished to the satisfaction of the Company.

(b) When liability and the extent of loss or damage has been definitely fixed in accordance with these Conditions and Stipulations, the loss or damage shall be payable within thirty (30) days thereafter.

11. Subrogation Upon Payment or Settlement.

Whenever the Company shall have settled and paid a claim under this Guarantee, all right of subrogation shall vest in the Company unaffected by any act of the Assured claimant. The Company shall be subrogated to and be entitled to all rights and remedies which the Assured would have had against any person or property in respect to the claim had this Guarantee not been issued. If requested by the Company, the Assured shall transfer to the Company all rights and remedies against any person or property necessary in order to perfect this right of subrogation. The Assured shall permit the Company to sue, compromise or settle in the name of the Assured and to use the name of the Assured in any transaction or litigation involving these rights or remedies.

If a payment on account of a claim does not fully cover the loss of the Assured the Company shall be subrogated to all rights and remedies of the Assured after the Assured shall have recovered its principal, interest, and costs of collection.

12. Arbitration.

Unless prohibited by applicable law, either the Company or the Assured may demand arbitration pursuant to the Title Insurance Arbitration Rules of the American Land Title Association. Arbitrable matters may include, but are not limited to, any controversy or claim between the Company and the Assured arising out of or relating to this Guarantee, any service of the Company in connection with its issuance or the breach of a Guarantee provision or other obligation. All arbitrable matters when the Amount of Liability is $2,000,000 or less shall be arbitrated at the option of either the Company or the Assured. All arbitrable matters when the amount of liability is in excess of $2,000,000 shall be arbitrated only when agreed to by both the Company and the Assured. The Rules in effect at Date of Guarantee shall be binding upon the parties. The award may include attorneys' fees only if the laws of the state in which the land is located permits a court to award attorneys' fees to a prevailing party. Judgment upon the award rendered by the Arbitrator(s) may be entered in any court having jurisdiction thereof.

The law of the situs of the land shall apply to an arbitration under the Title Insurance Arbitration Rules.

A copy of the Rules may be obtained from the Company upon request.

13. Liability Limited to This Guarantee; Guarantee Entire Contract.

(a) This Guarantee together with all endorsements, if any, attached hereto by the Company is the entire Guarantee and contract between the Assured and the Company. In interpreting any provision of this Guarantee, this Guarantee shall be construed as a whole.

(b) Any claim of loss or damage, whether or not based on negligence, or any action asserting such claim, shall be restricted to this Guarantee.

(c) No amendment of or endorsement to this Guarantee can be made except by a writing endorsed hereon or attached hereto signed by either the President, a Vice President, the Secretary, an Assistant Secretary, or validating officer or authorized signatory of the Company.

14. Notices, Where Sent.

All notices required to be given the Company and any statement in writing required to be furnished the Company shall include the number of this Guarantee and shall be addressed to the Company at **First American Title Insurance Company, Attn: Claims National Intake Center, 1 First American Way, Santa Ana, California 92707. Claims.NIC@firstam.com Phone: 888-632-1642 Fax: 877-804-7606**

First American Title

First American Title

Schedule A

Chain of Title Guarantee

ISSUED BY

First American Title Insurance Company

GUARANTEE NUMBER
0623-6947051

File No.: 0623-6947051 Liability: $1,000.00 Fee: $250.00

1. Name of Assured: Laura Carias

2. Date of Guarantee: January 18, 2023

The assurances referred to on the face page are:

That, according to those public records which, under the recording laws, impart constructive notice of matters relating to the interest, if any, which was (acquired) (reserved) by Apple Bear Valley, LLC, A Delaware Limited Liability Company as to an Undivided 94.04% Tenants in Common Interest, Apple Bear Wood, LLC, A Delaware Limited Liability Company as to an Undivided 2.98% Tenants in Common Interest and Apple Valley Young, LLC, A Delaware Limited Liability Company, as to an Undivided 2.98% Tenants in Common

pursuant to a in and to the land described as follows:

Real Property in the city of Apple Valley, County of San Bernardino, State of California, described as follows:

THAT PORTION OF GOVERNMENT LOT 2 OF THE NORTHWEST ONE-QUARTER OF SECTION 6, TOWNSHIP 4 NORTH, RANGE 3 WEST, SAN BERNARDINO MERIDIAN, IN THE COUNTY OF SAN BERNARDINO, STATE OF CALIFORNIA, ACCORDING TO THE OFFICIAL PLAT THEREOF DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT ON THE NORTH LINE OF SAID SECTION 6, WHICH IS 1350.3 FEET EAST FROM THE NORTHWEST CORNER OF SAID SECTION, THENCE SOUTH PARALLEL WITH THE WEST LINE OF SAID SECTION 1320 FEET TO THE SOUTH LINE OF SAID LOT 2; THENCE EAST ALONG SAID SOUTH LINE 320.2 FEET; THENCE NORTH PARALLEL WITH THE WEST LINE OF SAID SECTION, 1320 FEET TO THE NORTH LINE OF SAID SECTION; THENCE WEST ALONG SAID NORTH LINE, 320.2 FEET TO THE POINT OF BEGINNING.

EXCEPT THAT PORTION THEREOF CONVEYED TO THE COUNTY OF SAN BERNARDINO, BY DEED RECORDED NOVEMBER 7, 1961 IN BOOK 5579, PAGE 244, OF OFFICIAL RECORDS OF SAID COUNTY.

APN: 0434-021-10-0-000

Only the following matters appear in such records subsequent to:

1. A document recorded FEBRUARY 11, 1946 as BOOK 1865, PAGE 131 of Official Records.

From: DORA G. WALLIN, WIFE OF THE GRANTEE
To: RAYMOND A. WALLIN

2. A document recorded MAY 12, 1953 as BOOK 3166, PAGE 499 of Official Records.

   From: RAYMOND A. WALLIN AND ALBERTA L. WALLIN, HUSBAND AND WIFE
   To: RAYMOND A. WALLIN AND ALBERTA L. WALLIN, HUSBAND AND WIFE, AS JOINT TENANTS

3. Document: CERTIFICATE OF DEATH

   Recorded: MAY 12, 1953 as BOOK 3166, PAGE 499 of Official Records.

4. A document recorded JANUARY 08, 1957 as BOOK 4126, PAGE 183 of Official Records.

   From: ALBERTA L. WALLIN
   To: ALBERTA L. LOWER AND ERNEST H. LOWER

5. A document recorded NOVEMBER 07, 1961 as BOOK 5579, PAGE 242 of Official Records.

   From: JOHN REISENHOFER AND PAULA REISENHOFER, HUSBAND AND WIFE
   To: JOHN REISENHOFER AND PAULA REISENHOFER, HUSBAND AND WIFE, AS JOINT TENANTS, AS TO AN UNDIVIDED 1/2 INTEREST, AND ANTHONY KUCHAR AND GISELA KUCHAR, HUSBAND AND WIFE, AS JOINT TENANTS, AS TO AN UNDIVIDED 1/2 INTEREST

6. A document recorded AUGUST 17, 1970 as BOOK 7499, PAGE 510 of Official Records.

   From: ERNEST H. LOWER AND ALBERTA L. LOWER, HUSBAND AND WIFE
   To: ANTHONY KUCHAR AND GISELA KUCHAR, HUSBAND AND WIFE AND JOHN REISENHOFER AND PAULA REISENHOFER, HUSBAND AND WIFE, ALL AS JOINT TENANTS

7. A document recorded JUNE 08, 1977 as BOOK 9194, PAGE 1197 of Official Records.

   From: ANTHONY KUCHAR AND GISELA KUCHAR, HUSBAND AND WIFE AND JOHN REISENHOFER AND PAULA REISENHOFER, HUSBAND AND WIFE
   To: JOHN REISENHOFER AND PAULA REISENHOFER, HUSBAND AND WIFE AND FRANK S. NOVAK AND MARGARET NOVAK, HUSBAND AND WIFE ALL AS JOINT TENANTS

8. A document recorded DECEMBER 15, 1989 as INSTRUMENT NO. 89-488937 of Official Records.

   From: JOHN REISENHOFER AND PAULA REISENHOFER, HUSBAND AND WIFE AND FRANK S. NOVAK AND MARGARET NOVAK, HUSBAND AND WIFE ALL AS JOINT TENANTS
   To: FREDERICK WILLIAM VON ARX AND MARY REISENHOFER VON ARX, HUSBAND AND WIFE, AND FRANK S. NOVAK AND MARGARET NOVAK, HUSBAND AND WIFE, ALL AS JOINT TENANTS

9. A document recorded OCTOBER 04, 1994 as INSTRUMENT NO. 406671 of Official Records.

   From: FRANK S. NOVAK AND MARGARET NOVAK, HUSBAND AND WIFE
   To: FRANK S. NOVAK AND MARGARET NOVAK, AS TRUSTEES OF THE NOVAK FAMILY TRUST INITIALLY CREATED 9TH DAY OF SEPTEMBER 1994,

10. A document recorded MAY 31, 1995 as INSTRUMENT NO. 188856 of Official Records.

From: FREDERICK WILLIAM VONARX AND MARY C. VON ARX HUSBAND AND WIFE, AND FRANK S. NOVAK AND MARGARET NOVAK HUSBAND AND WIFE, ALL AS JOINT TENANTS.
To: WALTER J. HOYLE AND ANN E. HOYLE, HUSBAND AND WIFE, AND FRANK S. NOVAK AND MARGARET NOVAK, HUSBAND AND WIFE, ALL AS JOINT TENANTS

11. Document: AFFIDAVIT OF SUCCESSOR TRUSTEE

Recorded: DECEMBER 10, 1998 as INSTRUMENT NO. 98-525407 of Official Records.

12. A document recorded DECEMBER 10, 1998 as INSTRUMENT NO. 98-525408 of Official Records.

From: MARGARET NOVAK, TRUSTEE OF THE NOVAK FAMILY TRUST DATED SEPTEMBER 9, 1994
To: MARGARET NOVAK, TRUSTEE OF THE NOVAK FAMILY TRUST B UTA 9-9-94

13. A document recorded AUGUST 27, 1999 as INSTRUMENT NO. 99-364376 of Official Records.

From: WALTER J. HOYLE, ANN E. HOYLE AND MARGARET NOVAK, INDIVIDUALLY, SURVIVING SPOUSE OF FRANK S. NOVAK, AND TRUSTEE OF THE NOVAK FAMILY TRUST B UTA 9/9/94
To: WALTER J. HOYLE AND ANN E. HOYLE, HUSBAND AND WIFE, AS JOINT TENANTS, AS TO AN UNDIVIDED ONE-HALF INTEREST; AND MARGARET NOVAK, TRUSTEE OF THE NOVAK FAMILY TRUST B UTA 9/9/94, AS TO AN UNDIVIDED ONE-HALF INTEREST.

14. A document recorded MARCH 10, 2005 as INSTRUMENT NO. 05-166865 of Official Records.

From: WALTER J. HOYLE AND ANN E. HOYLE, HUSBAND AND WIFE, AS JOINT TENANTS, AND MARGARET NOVAK, TRUSTEE OF THE NOVAK FAMILY TRUST B UTA SEPTEMBER 9, 1994
To: JIMMY SUMMERS AND DOTTI B. SUMMERS, TRUSTEES OF THE SUMMERS FAMILY TRUST DATED JULY 11, 1985

15. A document recorded JANUARY 02, 2013 as INSTRUMENT NO. 13-2539 of Official Records.

From: JIMMY SUMMERS, TRUSTEE AND DOTTI B. SUMMERS, TRUSTEE, OF THE SUMMERS FAMILY TRUST DATED JULY 11, 1985
To: JIMMY SUMMERS AND DOTTI B. SUMMERS, HUSBAND AND WIFE AS JOINT TENANTS

16. A document recorded JANUARY 02, 2013 as INSTRUMENT NO. 13-2540 of Official Records.

From: JIMMY SUMMERS AND DOTTI B. SUMMERS, HUSBAND AND WIFE AS JOINT TENANTS
To: MARK ABRAHAM SUMMERS, A MARRIED MAN AS HIS SOLE AND SEPARATE PROPERTY

17. A document recorded JANUARY 02, 2013 as INSTRUMENT NO. 13-2544 of Official Records.

From: ANN ELIZABETH SUMMERS, SPOUSE OF GRANTEE
To: MARK ABRAHAM SUMMERS, A MARRIED MAN AS HIS SOLE AND SEPARATE PROPERTY

18. A document recorded SEPTEMBER 23, 2014 as INSTRUMENT NO. 14-350510 of Official Records.

From: MARK ABRAHAM SUMMERS, A MARRIED MAN, AS HIS SOLE AND SEPARATE PROPERTY
To: VICTORVILLE RL HOLDINGS, LLC

19. A document recorded SEPTEMBER 30, 2022 as INSTRUMENT NO. 22-330126 of Official Records.

From: VICTORVILLE RL HOLDINGS LLC, A DELAWARE LIMITED LIABILITY COMPANY
To: APPLE BEAR VALLEY, LLC, A DELAWARE LIMITED LIABILITY COMPANY AS TO AN UNDIVIDED 94.04% TENANTS IN COMMON INTEREST, APPLE BEAR WOOD, LLC, A DELAWARE LIMITED LIABILITY COMPANY AS TO AN UNDIVIDED 2.98% TENANTS IN COMMON INTEREST AND APPLE VALLEY YOUNG, LLC, A DELAWARE LIMITED LIABILITY COMPANY, AS TO AN UNDIVIDED 2.98% TENANTS IN COMMON

This Guarantee does not cover:

1. Taxes, assessments, and matters related thereto.
2. Instruments, proceedings or other matters which do not specifically describe the land.

The map attached, if any, may or may not be a survey of the land depicted hereon. First American Title Company expressly disclaims any liability for loss or damage which may result from reliance on this map except to the extent coverage for such loss or damage is expressly provided by the terms and provisions of the title insurance policy, if any, to which this map is attached.

First American Title Company
1855 W Redlands Blvd, Suite 100
Redlands, CA 92373

Illegal Restrictive Covenants

Please be advised that any provision contained in this document, or in a document that is attached, linked, or referenced in this document, that under applicable law illegally discriminates against a class of individuals based upon personal characteristics such as race, color, religion, sex, sexual orientation, gender identity, familial status, disability, national origin, or any other legally protected class, is illegal and unenforceable by law.

First American Title

Guarantee

Chain of Title Guarantee

ISSUED BY

First American Title Insurance Company

GUARANTEE NUMBER

5013500-0623-6947052

SUBJECT TO THE EXCLUSIONS FROM COVERAGE, THE LIMITS OF LIABILITY AND THE CONDITIONS AND STIPULATIONS OF THIS GUARANTEE,

FIRST AMERICAN TITLE INSURANCE COMPANY
a Nebraska corporation, herein called the Company

GUARANTEES

the Assured named in Schedule A against actual monetary loss or damage not exceeding the liability stated in Schedule A, which the Assured shall sustain by reason of any incorrectness in the assurances set forth in Schedule A.

First American Title Insurance Company

Kenneth D. DeGiorgio, President

Lisa W. Cornehl, Secretary

SCHEDULE OF EXCLUSIONS FROM COVERAGE OF THIS GUARANTEE

1. Except to the extent that specific assurances are provided in Schedule A of this Guarantee, the Company assumes no liability for loss or damage by reason of the following:
   (a) Defects, liens, encumbrances, adverse claims or other matters against the title, whether or not shown by the public records.
   (b) (1) Taxes or assessments of any taxing authority that levies taxes or assessments on real property; or, (2) Proceedings by a public agency which may result in taxes or assessments, or notices of such proceedings, whether or not the matters excluded under (1) or (2) are shown by the records of the taxing authority or by the public records.
   (c) (1) Unpatented mining claims; (2) reservations or exceptions in patents or in Acts authorizing the issuance thereof; (3) water rights, claims or title to water, whether or not the matters excluded under (1), (2) or (3) are shown by the public records.
2. Notwithstanding any specific assurances which are provided in Schedule A of this Guarantee, the Company assumes no liability for loss or damage by reason of the following:
   (a) Defects, liens, encumbrances, adverse claims or other matters affecting the title to any property beyond the lines of the land expressly described in the description set forth in Schedule (A), (C) or in Part 2 of this Guarantee, or title to streets, roads, avenues, lanes, ways or waterways to which such land abuts, or the right to maintain therein vaults, tunnels, ramps or any structure or improvements; or any rights or easements therein, unless such property, rights or easements are expressly and specifically set forth in said description.
   (b) Defects, liens, encumbrances, adverse claims or other matters, whether or not shown by the public records; (1) which are created, suffered, assumed or agreed to by one or more of the Assureds; (2) which result in no loss to the Assured; or (3) which do not result in the invalidity or potential invalidity of any judicial or non-judicial proceeding which is within the scope and purpose of the assurances provided.
   (c) The identity of any party shown or referred to in Schedule A.
   (d) The validity, legal effect or priority of any matter shown or referred to in this Guarantee.

GUARANTEE CONDITIONS AND STIPULATIONS

1. Definition of Terms.
The following terms when used in the Guarantee mean:
   (a) the "Assured": the party or parties named as the Assured in this Guarantee, or on a supplemental writing executed by the Company.
   (b) "land": the land described or referred to in Schedule (A)(C) or in Part 2, and improvements affixed thereto which by law constitute real property. The term "land" does not include any property beyond the lines of the area described or referred to in Schedule (A)(C) or in Part 2, nor any right, title, interest, estate or easement in abutting streets, roads, avenues, alleys, lanes, ways or waterways.
   (c) "mortgage": mortgage, deed of trust, trust deed, or other security instrument.
   (d) "public records": records established under state statutes at Date of Guarantee for the purpose of imparting constructive notice of matters relating to real property to purchasers for value and without knowledge.
   (e) "date": the effective date.

2. Notice of Claim to be Given by Assured Claimant.
An Assured shall notify the Company promptly in writing in case knowledge shall come to an Assured hereunder of any claim of title or interest which is adverse to the title to the estate or interest, as stated herein, and which might cause loss or damage for which the Company may be liable by virtue of this Guarantee. If prompt notice shall not be given to the Company, then all liability of the Company shall terminate with regard to the matter or matters for which prompt notice is required; provided, however, that failure to notify the Company shall in no case prejudice the rights of any Assured unless the Company shall be prejudiced by the failure and then only to the extent of the prejudice.

3. No Duty to Defend or Prosecute.
The Company shall have no duty to defend or prosecute any action or proceeding to which the Assured is a party, notwithstanding the nature of any allegation in such action or proceeding.

4. Company's Option to Defend or Prosecute Actions; Duty of Assured Claimant to Cooperate.
Even though the Company has no duty to defend or prosecute as set forth in Paragraph 3 above:
   (a) The Company shall have the right, at its sole option and cost, to institute and prosecute any action or proceeding, interpose a defense, as limited in (b), or to do any other act which in its opinion may be necessary or desirable to establish the title to the estate or interest as stated herein, or to establish the lien rights of the Assured, or to prevent or reduce loss or damage to the Assured. The Company may take any appropriate action under the terms of this Guarantee, whether or not it shall be liable hereunder, and shall not thereby concede liability or waive any provision of this Guarantee. If the Company shall exercise its rights under this paragraph, it shall do so diligently.
   (b) If the Company elects to exercise its options as stated in Paragraph 4(a) the Company shall have the right to select counsel of its choice (subject to the right of such Assured to object for reasonable cause) to represent the Assured and shall not be liable for and will not pay the fees of any other counsel, nor will the Company pay any fees, costs or expenses incurred by an Assured in the defense of those causes of action which allege matters not covered by this Guarantee.
   (c) Whenever the Company shall have brought an action or interposed a defense as permitted by the provisions of this Guarantee, the Company may pursue any litigation to final determination by a court of competent jurisdiction and expressly reserves the right, in its sole discretion, to appeal from an adverse judgment or order.
   (d) In all cases where this Guarantee permits the Company to prosecute or provide for the defense of any action or proceeding, an Assured shall secure to the Company the right to so prosecute or provide for the defense of any action or proceeding, and all appeals therein, and permit the Company to use, at its option, the name of

such Assured for this purpose. Whenever requested by the Company, an Assured, at the Company's expense, shall give the Company all reasonable aid in any action or proceeding, securing evidence, obtaining witnesses, prosecuting or defending the action or lawful act which in the opinion of the Company may be necessary or desirable to establish the title to the estate or interest as stated herein, or to establish the lien rights of the Assured. If the Company is prejudiced by the failure of the Assured to furnish the required cooperation, the Company's obligations to the Assured under the Guarantee shall terminate.

5. Proof of Loss or Damage.

In addition to and after the notices required under Section 2 of these Conditions and Stipulations have been provided to the Company, a proof of loss or damage signed and sworn to by the Assured shall be furnished to the Company within ninety (90) days after the Assured shall ascertain the facts giving rise to the loss or damage. The proof of loss or damage shall describe the matters covered by this Guarantee which constitute the basis of loss or damage and shall state, to the extent possible, the basis of calculating the amount of the loss or damage. If the Company is prejudiced by the failure of the Assured to provide the required proof of loss or damage, the Company's obligation to such assured under the Guarantee shall terminate. In addition, the Assured may reasonably be required to submit to examination under oath by any authorized representative of the Company and shall produce for examination, inspection and copying, at such reasonable times and places as may be designated by any authorized representative of the Company, all records, books, ledgers, checks, correspondence and memoranda, whether bearing a date before or after Date of Guarantee, which reasonably pertain to the loss or damage. Further, if requested by any authorized representative of the Company, the Assured shall grant its permission, in writing, for any authorized representative of the Company to examine, inspect and copy all records, books, ledgers, checks, correspondence and memoranda in the custody or control of a third party, which reasonably pertain to the loss or damage. All information designated as confidential by the Assured provided to the Company pursuant to this Section shall not be disclosed to others unless, in the reasonable judgment of the Company, it is necessary in the administration of the claim. Failure of the Assured to submit for examination under oath, produce other reasonably requested information or grant permission to secure reasonably necessary information from third parties as required in the above paragraph, unless prohibited by law or governmental regulation, shall terminate any liability of the Company under this Guarantee to the Assured for that claim.

6. Options to Pay or Otherwise Settle Claims: Termination of Liability.

In case of a claim under this Guarantee, the Company shall have the following additional options:

(a) To Pay or Tender Payment of the Amount of Liability or to Purchase the Indebtedness.
The Company shall have the option to pay or settle or compromise for or in the name of the Assured any claim which could result in loss to the Assured within the coverage of this Guarantee, or to pay the full amount of this Guarantee or, if this Guarantee is issued for the benefit of a holder of a mortgage or a lienholder, the Company shall have the option to purchase the indebtedness secured by said mortgage or said lien for the amount owing thereon, together with any costs, reasonable attorneys' fees and expenses incurred by the Assured claimant which were authorized by the Company up to the time of purchase. Such purchase, payment or tender of payment of the full amount of the Guarantee shall terminate all liability of the Company hereunder. In the event after notice of claim has been given to the Company by the Assured the Company offers to purchase said indebtedness, the owner of such indebtedness shall transfer and assign said indebtedness, together with any collateral security, to the Company upon payment of the purchase price. Upon the exercise by the Company of the option provided for in Paragraph (a) the Company's obligation to the Assured under this Guarantee for the claimed loss or damage, other than to make the payment required in that paragraph, shall terminate, including any obligation to continue the defense or prosecution of any litigation for which the Company has exercised its options under Paragraph 4, and the Guarantee shall be surrendered to the Company for cancellation.

(b) To Pay or Otherwise Settle With Parties Other Than the Assured or With the Assured Claimant.
To pay or otherwise settle with other parties for or in the name of an Assured claimant any claim assured against under this Guarantee, together with any costs, attorneys' fees and expenses incurred by the Assured claimant which were authorized by the Company up to the time of payment and which the Company is obligated to pay.
Upon the exercise by the Company of the option provided for in Paragraph (b) the Company's obligation to the Assured under this Guarantee for the claimed loss or damage, other than to make the payment required in that paragraph, shall terminate, including any obligation to continue the defense or prosecution of any litigation for which the Company has exercised its options under Paragraph 4.

7. Determination and Extent of Liability.

This Guarantee is a contract of Indemnity against actual monetary loss or damage sustained or incurred by the Assured claimant who has suffered loss or damage by reason of reliance upon the assurances set forth in this Guarantee and only to the extent herein described, and subject to the Exclusions From Coverage of This Guarantee. The liability of the Company under this Guarantee to the Assured shall not exceed the least of:

(a) the amount of liability stated in Schedule A or in Part 2;
(b) the amount of the unpaid principal indebtedness secured by the mortgage of an Assured mortgagee, as limited or provided under Section 6 of these Conditions and Stipulations or as reduced under Section 9 of these Conditions and Stipulations, at the time the loss or damage assured against by this Guarantee occurs, together with interest thereon; or
(c) the difference between the value of the estate or interest covered hereby as stated herein and the value of the estate or interest subject to any defect, lien or encumbrance assured against by this Guarantee.

8. Limitation of Liability.

(a) If the Company establishes the title, or removes the alleged defect, lien or encumbrance, or cures any other matter assured against by this Guarantee in a reasonably diligent manner by any method, including

litigation and the completion of any appeals therefrom, it shall have fully performed its obligations with respect to that matter and shall not be liable for any loss or damage caused thereby.

(b) In the event of any litigation by the Company or with the Company's consent, the Company shall have no liability for loss or damage until there has been a final determination by a court of competent jurisdiction, and disposition of all appeals therefrom, adverse to the title, as stated herein.

(c) The Company shall not be liable for loss or damage to any Assured for liability voluntarily assumed by the Assured in settling any claim or suit without the prior written consent of the Company.

9. Reduction of Liability or Termination of Liability.

All payments under this Guarantee, except payments made for costs, attorneys' fees and expenses pursuant to Paragraph 4 shall reduce the amount of liability pro tanto.

10. Payment of Loss.

(a) No payment shall be made without producing this Guarantee for endorsement of the payment unless the Guarantee has been lost or destroyed, in which case proof of loss or destruction shall be furnished to the satisfaction of the Company.

(b) When liability and the extent of loss or damage has been definitely fixed in accordance with these Conditions and Stipulations, the loss or damage shall be payable within thirty (30) days thereafter.

11. Subrogation Upon Payment or Settlement.

Whenever the Company shall have settled and paid a claim under this Guarantee, all right of subrogation shall vest in the Company unaffected by any act of the Assured claimant. The Company shall be subrogated to and be entitled to all rights and remedies which the Assured would have had against any person or property in respect to the claim had this Guarantee not been issued. If requested by the Company, the Assured shall transfer to the Company all rights and remedies against any person or property necessary in order to perfect this right of subrogation. The Assured shall permit the Company to sue, compromise or settle in the name of the Assured and to use the name of the Assured in any transaction or litigation involving these rights or remedies.

If a payment on account of a claim does not fully cover the loss of the Assured the Company shall be subrogated to all rights and remedies of the Assured after the Assured shall have recovered its principal, interest, and costs of collection.

12. Arbitration.

Unless prohibited by applicable law, either the Company or the Assured may demand arbitration pursuant to the Title Insurance Arbitration Rules of the American Land Title Association. Arbitrable matters may include, but are not limited to, any controversy or claim between the Company and the Assured arising out of or relating to this Guarantee, any service of the Company in connection with its issuance or the breach of a Guarantee provision or other obligation. All arbitrable matters when the Amount of Liability is $2,000,000 or less shall be arbitrated at the option of either the Company or the Assured. All arbitrable matters when the amount of liability is in excess of $2,000,000 shall be arbitrated only when agreed to by both the Company and the Assured. The Rules in effect at Date of Guarantee shall be binding upon the parties. The award may include attorneys' fees only if the laws of the state in which the land is located permits a court to award attorneys' fees to a prevailing party. Judgment upon the award rendered by the Arbitrator(s) may be entered in any court having jurisdiction thereof.

The law of the situs of the land shall apply to an arbitration under the Title Insurance Arbitration Rules.

A copy of the Rules may be obtained from the Company upon request.

13. Liability Limited to This Guarantee; Guarantee Entire Contract.

(a) This Guarantee together with all endorsements, if any, attached hereto by the Company is the entire Guarantee and contract between the Assured and the Company. In interpreting any provision of this Guarantee, this Guarantee shall be construed as a whole.

(b) Any claim of loss or damage, whether or not based on negligence, or any action asserting such claim, shall be restricted to this Guarantee.

(c) No amendment of or endorsement to this Guarantee can be made except by a writing endorsed hereon or attached hereto signed by either the President, a Vice President, the Secretary, an Assistant Secretary, or validating officer or authorized signatory of the Company.

14. Notices, Where Sent.

All notices required to be given the Company and any statement in writing required to be furnished the Company shall include the number of this Guarantee and shall be addressed to the Company at **First American Title Insurance Company, Attn: Claims National Intake Center, 1 First American Way, Santa Ana, California 92707. Claims.NIC@firstam.com Phone: 888-632-1642 Fax: 877-804-7606**

First American Title

First American Title

Schedule A

Chain of Title Guarantee

ISSUED BY

First American Title Insurance Company

GUARANTEE NUMBER
0623-6947052

File No.: 0623-6947052 Liability: $1,000.00 Fee: $250.00

1. Name of Assured: Laura Carias

2. Date of Guarantee: January 18, 2023

The assurances referred to on the face page are:

That, according to those public records which, under the recording laws, impart constructive notice of matters relating to the interest, if any, which was (acquired) (reserved) by Apple Bear Valley, LLC, A Delaware Limited Liability Company as to an Undivided 94.04% Tenants in Common Interest, Apple Bear Wood, LLC, A Delaware Limited Liability Company as to an Undivided 2.98% Tenants in Common Interest and Apple Valley Young, LLC, A Delaware Limited Liability Company, as to an Undivided 2.98% Tenants in Common

pursuant to a Grant Deed in and to the land described as follows:

Real Property in the city of Apple Valley, County of San Bernardino, State of California, described as follows:

THE EAST 443.30 FEET OF THE WEST 1350.30 FEET OF THE NORTH HALF OF THE NORTHWEST QUARTER OF SECTION 6, TOWNSHIP 4 NORTH, RANGE 3 WEST, SAN BERNARDINO BASE AND MERIDIAN, IN THE COUNTY OF SAN BERNARDINO, STATE OF CALIFORNIA, ACCORDING TO THE OFFICIAL PLAT OF SAID LAND APPROVED BY THE SURVEYOR GENERAL MARCH 19, 1856.

EXCEPT ANY PORTION THEREOF LYING WITHIN THE LAND DESCRIBED IN THE DEED TO RAYMOND A. WALLIN, ET UX., RECORDED NOVEMBER 27, 1942 IN BOOK 1565, PAGE(S) 162, OFFICIAL RECORDS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY.

ALSO EXCEPT ANY PORTION THEREOF LYING WITHIN THE LAND DESCRIBED IN THE DEED TO STODDARD JESS, ET UX., RECORDED FEBRUARY 18, 1947 IN BOOK 2026, PAGE(S) 257, OFFICIAL RECORDS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY.

ALSO EXCEPT THE NORTH 350 FEET OF THE WEST 93.3 FEET THEREOF.

ALSO EXCEPT THAT PORTION DEEDED TO THE COUNTY OF SAN BERNARDINO, BY DEED DATED MARCH 22, 1961, AND RECORDED APRIL 19, 1961, IN BOOK 5407, PAGE(S) 398, OFFICIAL RECORDS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY.

APN: 0434-021-37-0-000

Only the following matters appear in such records subsequent to: January 1, 1900

1. A document recorded JULY 19, 1915 as BOOK J, PAGE 348 of Patents.

   From: THE UNITED STATES OF AMERICA
   To: ABBOTT W. PHILLIPS

2. A document recorded JULY 25, 1930 as BOOK 640, PAGE 221 of Official Records.

   From: A. W. PHILLIPS AND FANNIE E. PHILLIPS, HIS WIFE
   To: NANCY RUTH PERSONS, A WIDOW

3. A document recorded JULY 25, 1930 as BOOK 623, PAGE 400 of Official Records.

   From: NANCY RUTH PARSONS, A WIDOW
   To: A. W. PHILLIPS AND FANNIE E. PHILLIPS, HIS WIFE, AS JOINT TENANTS WITH THE RIGHT OF SURVIVORSHIP

4. A document recorded AUGUST 17, 1950 as BOOK 2624, PAGE 398 of Official Records.

   From: FANNIE E. PHILLIPS, A WIDOW
   To: FANNIE E. PHILLIPS, A WIDOW, CLAIRE K. BECKMANN, A MARRIED WOMAN, AND BILL W. PHILLIPS, A MARRIED MAN, MOTHER, DAUGHTER AND SON, AS JOINT TENANTS

5. A document recorded JUNE 05, 1951 as BOOK 2774, PAGE 211 of Official Records.

   From: FANNIE E. PHILLIPS, A WIDOW, CLAIRE K. BECKMAN, A MARRIED WOMAN, AND BILL W. PHILLIPS, AND ILDA PHILLIPS, HUSBAND AND WIFE
   To: WARREN J. SMITHSON AND IRENE L. SMITHSON, HUSBAND AND WIFE AS JOINT TENANTS

6. A document recorded APRIL 24, 1964 as BOOK 6135, PAGE 166 of Official Records.

   From: CLAIRE P. BECKMANN, A MARRIED WOMAN, AND BILL W. PHILLIPS, AND ILDA PHILLIPS, HUSBAND AND WIFE
   To: WARREN J. SMITHSON AND IRENE L. SMITHSON, HUSBAND AND WIFE AS JOINT TENANTS

7. A document recorded OCTOBER 19, 1965 as BOOK 6494, PAGE 906 of Official Records.

   From: WARREN J. SMITHSON AND IRENE L. SMITHSON, HUSBAND AND WIFE
   To: CHRIS V. BARNETT AND MARCELLA L. BARNETT, HUSBAND AND WIFE AS JOINT TENANTS, AN UNDIVIDED 1/3 INTEREST; HARLAN R. DOWNS AND WILMA M. DOWNS, HUSBAND AND WIFE, AS JOINT TENANTS, AN UNDIVIDED 1/3 INTEREST AND PAT BARNETT AND JEAN R. BARNETT, HUSBAND AND WIFE AS JOINT TENANTS, AN UNDIVIDED 1/3 INTEREST

8. Document: AFFIDAVIT - DEATH OF JOINT TENANT

   Recorded: FEBRUARY 13, 1970 as BOOK 7388, PAGE 868 of Official Records.

9. A document recorded FEBRUARY 13, 1970 as BOOK 7388, PAGE 871 of Official Records.

From: WILMA M. DOWNS
To: CHRIS V. BARNETT AND MARCELLA L. BARNETT, HUSBAND AND WIFE AS JOINT TENANTS

10. Document: AFFIDAVIT - DEATH OF JOINT TENANT

Recorded: JUNE 19, 1973 as BOOK 8207, PAGE 1497 of Official Records.

11. A document recorded JANUARY 06, 1987 as INSTRUMENT NO. 87-2189 of Official Records.

From: CHRIS V. BARNETT, MARCELLA L. BARNETT AND JEAN R. BARNETT
To: FLYING FEATHER, A GENERAL PARTNERSHIP

12. A document recorded FEBRUARY 28, 1997 as INSTRUMENT NO. 97-70657 of Official Records.

From: RESS FINANCIAL CORPORATION, A CALIFORNIA CORPORATION, WHO ACQUIRED TITLE AS RESS
To: DOHERTY ENTERPRISES RETIREMENT TRUST, WILLIAM J. DOHERTY, TRUSTEE

13. A document recorded OCTOBER 14, 2004 as INSTRUMENT NO. 04-749714 of Official Records.

From: DOHERTY ENTERPRISES RETIREMENT TRUST, WILLIAM J. DOHERTY, TRUSTEE
To: WILLIAM J. DOHERTY, TRUSTEE OF THE WILLIAM J. DOHERTY REVOCABLE LIVING TRUST, DATED JANUARY 30, 1997

14. A document recorded NOVEMBER 23, 2004 as INSTRUMENT NO. 04-866532 of Official Records.

From: WILLIAM J. DOHERTY, TRUSTEE OF THE WILLIAM J. DOHERTY REVOCABLE LIVING TRUST, DATED JANUARY 30, 1997
To: PATRICK THOMAS DOHERTY AND KIMBERLY DAWN NIBLER

15. A document recorded DECEMBER 27, 2013 as INSTRUMENT NO. 13-553332 of Official Records.

From: PATRICK THOMAS DOHERTY AND KIMBERLY DAWN NIBLER, SUCCESSOR CO-TRUSTEES OF THE WILLIAM J. DOHERTY REVOCABLE TRUST DATED JANUARY 30, 1997, AND PATRICK THOMAS DOHERTY AND KIMBERLY DAWN NIBLER
To: INLAND VENTURES I LLC, A CALIFORNIA LIMITED LIABILITY COMPANY

16. A document recorded DECEMBER 27, 2013 as INSTRUMENT NO. 13-553333 of Official Records.

From: INLAND VENTURES I LLC, A CALIFORNIA LIMITED LIABILITY COMPANY
To: VICTORVILLE RL HOLDINGS LLC, A DELAWARE LIMITED LIABILITY COMPANY

17. A document recorded SEPTEMBER 30, 2022 as INSTRUMENT NO. 22-330126 of Official Records.

From: VICTORVILLE RL HOLDINGS LLC, A DELAWARE LIMITED LIABILITY COMPANY

To: APPLE BEAR VALLEY, LLC, A DELAWARE LIMITED LIABILITY COMPANY AS TO AN UNDIVIDED 94.04% TENANTS IN COMMON INTEREST, APPLE BEAR WOOD, LLC, A DELAWARE LIMITED LIABILITY COMPANY AS TO AN UNDIVIDED 2.98% TENANTS IN COMMON INTEREST AND APPLE VALLEY YOUNG, LLC, A DELAWARE LIMITED LIABILITY COMPANY, AS TO AN UNDIVIDED 2.98% TENANTS IN COMMON

This Guarantee does not cover:

1. Taxes, assessments, and matters related thereto.
2. Instruments, proceedings or other matters which do not specifically describe the land.

The map attached, if any, may or may not be a survey of the land depicted hereon. First American Title Company expressly disclaims any liability for loss or damage which may result from reliance on this map except to the extent coverage for such loss or damage is expressly provided by the terms and provisions of the title insurance policy, if any, to which this map is attached.

First American Title Company
1855 W Redlands Blvd, Suite 100
Redlands, CA 92373

Illegal Restrictive Covenants

Please be advised that any provision contained in this document, or in a document that is attached, linked, or referenced in this document, that under applicable law illegally discriminates against a class of individuals based upon personal characteristics such as race, color, religion, sex, sexual orientation, gender identity, familial status, disability, national origin, or any other legally protected class, is illegal and unenforceable by law.

APPENDIX B

DPR SITE RECORD UPDATE

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

PRIMARY RECORD

Primary #
HRI #
Trinomial
NRHP Status Code

Other Listings
Review Code | Reviewer | Date

*Resource Name or # : (Assigned by recorder) LSA-WDN2201-S-1

P1. Other Identifier:

***P2. Location:** ☐ **Not for Publication** ■ **Unrestricted**

***a. County:** San Bernardino, California

and (P2b and P2c or P2d. Attach a Location Map as necessary.)

***b. USGS 7.5' Quad:** *Apple Valley South* **Date:** 1989 **T** 4**S**; **R** 3**W**; NE ¼ **of** NW ¼ **of Sec** 10; M.D. SB**B.M.**

c. Address: Formerly 19501 Bear Valley Road City: Apple Valley Zip: 92308

d. UTM: Zone: 11 ; 478120 mE/ 3814276 mN (G.P.S. NAD 83)

e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, etc., as appropriate) Elevation: ~2850; APNs 434-021-010 and -037. From Interstate 15, take Bear Valley Road east for 6 miles to Westmont Drive south.

***P3a. Description:** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)
This resource consists of multiple building slabs, building debris, water conveyance features and temporally ambiguous debris/ refuse (see Archaeological Site Record for details).

***P3b. Resource Attributes:** (List attributes and codes) AH2 (slabs/ruins), AH6 (water conveyance features)

***P4. Resources Present:** ☐Building ☐Structure ☐Object ■Site ☐District ☐Element of District ☐Other (Isolates, etc.)

P5a. Photo or Drawing (Photo required for buildings, structures, and objects.)

P5b. Description of Photo: (View, date, accession #) View south-southwest of F-3, trenches 3N and 3E with F-4, F-5 and F-6 at left in background ; frame #3276.

***P6. Date Constructed/Age and Sources:** ■ Historic ☐ Prehistoric ☐Both
Pre-World War II to 1970s

***P7. Owner and Address:**
Andrew Neff
2950 Airway Avenue, Unit A-9
Costa Mesa, California 92626

***P8. Recorded by:** (Name, affiliation, and address)
Riordan Goodwin, Carlton Bennett LSA
1500 Iowa Ave 200
Riverside, California 92507

***P9. Date Recorded:**
October 15, 2022 and March 31, 2023.

***P10. Survey Type:** (Describe)
Intensive pedestrian/Phase II testing.

***P11. Report Citation:** (Cite survey report and other sources, or enter "none.")
Goodwin, Riordan 2023: Phase II Archaeological Testing, Apple Bear Commercial Project, Town of Apple Valley, San Bernardino County, California.

***Attachments:** ☐NONE ■Location Map ■Sketch Map ■Continuation Sheet ☐Building, Structure, and Object Record ■Archaeological Record ☐District Record ☐Linear Feature Record ☐Milling Station Record ☐Rock Art Record ☐Artifact Record ☐Photograph Record ☐ Other (List):

ARCHAEOLOGICAL SITE RECORD

***A1. Dimensions:** (Both parcels) **a. Length:** 750′ × **Width:** 600′ (Provisional)
Method of Measurement: ☐ Paced ☐ Taped ☐ Visual estimate ■ Other: Electronically mapped (GPS)
Method of Determination (Check any that apply.): ☐ Artifacts ■Features ☐ Soil ☐ Vegetation ☐ Topography ☐ Cut bank ☐ Animal burrow ☐ Excavation ☐ Property boundary ☐ Other (Explain):
Reliability of Determination: ■ High ☐ Medium ☐ Low Explain:
Limitations (Check any that apply): ☐ Restricted access ☐ Paved/built over ☐ Site limits incompletely defined ☐ Disturbances ☐ Vegetation ☐ Other (Explain):
A2. Depth: 4+ feet ☐ None ☐ Unknown Method of Determination: Phase II testing
***A3. Human Remains:** ☐ Present ☐ Absent ☐ Possible ■ Unknown (Explain): Very unlikely at this type of site.

***A4. Features** (Number, briefly describe, indicate size, list associated cultural constituents, and show location of each feature on sketch map.): This site comprises 7 poured concrete building slabs and several water management/conveyance features: F-1 is a 50′ x 40′ slab with a concrete septic tank and structural debris (residence); F-2 is an 120′ x 90' unlined (earthen) reservoir; F-3 is a 42′ x 40′ slab (possible residence); F-4 is a 37′ x 30′ slab/footing wall (possibly an equipment shed); F-5 is an elongate 40′ x12′ slab (possibly a shed); F-6 is an approximately 20′ x 15′ water conveyance feature cluster comprising a steel , brick, and concrete water tank/supporting structure, cinderblock water conveyance structure and abandoned well that once fed the water tank; F-7 is collectively two adjacent slabs totaling 24′ x 12′ with structural debris; F-8 is a 38′ x 30′ slab with structural debris (a residence); F-9 appears to be a 20′ x 12′ water pool feature; F-10 is a 7′ x 5′ water conveyance feature (possibly a weir). See Continuation Sheets for Phase II testing results/details.

***A5. Cultural Constituents (**Describe and quantify artifacts, ecofacts, cultural residues, etc., not associated with features.): Building debris, trace historic period refuse (amethyst glass fragments), modern and temporally ambiguous refuse were noted around the entire surface of the site. Trace historic period and temporally ambiguous refuse was recovered from a portion of Feature 3 during Phase II testing comprising beverage and condiment bottle bases with Ernest and Julio Gallo (1958 or younger), Glass Container Corp. (1945-1970s), Hazel-Atlas (1920-1964) and Owens-Illinois (possibly 1949 and 1955) maker's marks (see Continuation Sheet).

***A6. Were Specimens Collected?** ■ No ☐ Yes (If yes, attach Artifact Record or catalog and identify where specimens are curated.)

***A7. Site Condition:** ☐ Good ■ Fair ☐ Poor (Describe disturbances.):

***A8. Nearest Water** (Type, distance, and direction.)**:** Bracketed by ephemeral drainages.

***A9. Elevation:** Approximately 2,850 feet.

A10. Environmental Setting (Describe culturally relevant variables such as vegetation, fauna, soils, geology, landform, slope, aspect, exposure, etc.)**:** Open land– slope is less than 1% to the west.

A11. Historical Information: Buildings and water management features were constructed after the 1920s (a few after World War II) and all buildings had been demolished by the mid-2000s. The property appears to have been partially under cultivation into the 1950s, but this was discontinued by the end of the next decade.

***A12. Age:** ☐ Prehistoric ☐ Protohistoric ☐ 1542-1769 ☐ 1769-1848 ☐ 1848-1880 ☐ 1880-1914 ■ 1914-1945 ☐ Post 1945 ☐ Undetermined **Describe position in regional prehistoric chronology or factual historic dates if known:** A construction date of 1920 is associated with one of the buildings formerly on APN 434-021-037 (see A14 and A15 below).

A13. Interpretations (Discuss data potential, function[s], ethnic affiliation, and other interpretations): These remants of what appear to have been at least one, possibly two rural agricultural complexes that date from before World War II to the 1970s (see A14). Collectively, the features are not associated with significant events or people (see A14), do not represent unique engineering or construction of a particular time period, and Phase II testing results (that were inconclusive) suggests they lack potential for significant data. Therefore, they do not appear to meet any of the apllicable criteria of a "historical resource" under CEQA and are not elegible for listing in the CRHR.

A14. Remarks: The site is adjacent to the northeast corner of the former site of the Jess Ranch (Depression Era to 1970s) which raised turkeys and trout. Unfortunately it could not be determined if remnants of the 1920 structure remain on APN 434-021-037. The parcels were not owned by any of the individuals associated with Jess Ranch (Dr. Harris Garcelon, Stoddard Jess, or Gay Lewis). In addition, the parcels were never owned by the same people, so possible relationships between the features on the respective parcels could not be determined.

A15. References (Documents, informants, maps, and other references):
Town of Apple Valley 2002: Historical Points of Interest in Apple Valley
Carias, Laura 2023: Research for Assessor's Parcel Numbers 0434-021-37 and 0434-021-10 in Apple Valley, San Bernardino County, California
Historic Aerials.com 2022: Aerial photos from 1930s to 1960s
Parcelquest 2022: Details of house formerly in APN 434-021-037.

A16. Photographs (List subjects, direction of view, and accession numbers or attach a Photograph Record.): Frames 1-19 and 1-38 (accession #s 3260-3297).

Original Media/Negatives Kept at: LSA Associates, Inc., 1500 Iowa Avenue, Suite 200, Riverside, CA 92507

***A17. Form Prepared by:** Riordan Goodwin, RA **Date:** 4/4/2023
Affiliation and Address: LSA Associates, Inc., 1500 Iowa Avenue, Suite 200, Riverside, CA 92507

Phase II testing was conducted utilizing mechanical excavation on March 30th, 2023. The edges of Features 1 and 3 through 8 were excavated with 2 foot-wide trenches down to the soil change (consolidation) at 3-4 feet in depth. Features 2, 9 and 10 are minor water management infrastructure and were not tested due to low potential for subsurface deposits. A single trench was excavated between Features 4 and 5 (4S/5N) due to their proximity (approximately 4 feet apart).

Feature 1 was a residence of wood frame and cement plaster construction with a septic tank on its northwest corner – charred structural debris indicate it burned down.

Feature	Trench	Depth	Recovery	Soils
1	1N	3-4 feet	(Concrete septic tank)	Sandy silt
1	1S	3-4 feet	-	Sandy silt
1	1E	3-4 feet	-	Sandy silt
1	1W	3-4 feet	-	Sandy silt

Feature 3 may have been a residence due to its size and apparent toilet plumbing in its southwest corner. A portion of the original slab was resurfaced with 1 inch-thick cement, suggesting the building may have been repurposed. A short (approximately 3 feet long) segment of concrete footing on the southeast edge utilized bottles in its construction (embedded in the concrete).

Feature	Trench	Depth	Recovery	Soils
3	3N	3-4 feet	-	Sandy silt
3	3S	3-4 feet	A few 1950s and temporally ambiguous bottles in footing	Sandy silt
3	3E	3-4 feet	-	Sandy silt
3	3W	3-4 feet	-	Sandy silt

Feature 4 appears to be footing wall/slab for large equipment shed. Modern refuse noted in southern trench.

Feature	Trench	Depth	Recovery	Soils
4	4N	3-4 feet	-	Sandy silt
4	4S/5N	3-4 feet	Trace modern refuse (No recovery between F-4 and F-5)	Sandy silt
4	4E	3-4 feet	-	Sandy silt
4	4W	3-4 feet	-	Sandy silt

Feature 5 may have been a poultry or equipment shed.

Feature	Trench	Depth	Recovery	Soils
5	4S/5N	3-4 feet	(No recovery between F-4 and F-5)	Sandy silt
5	5S	3-4 feet	-	Sandy silt
5	5E	3-4 feet	Temporally ambiguous refuse (sanitary food can)	Sandy silt
5	5W	3-4 feet	-	Sandy silt

Feature 6 is a cluster of water conveyance structures of composite construction including cinderblock which became common after World War II and may have been augmented/expanded over time.

Feature	Trench	Depth	Recovery	Soils
6	6N	3-4 feet	-	Sandy silt
6	6S	3-4 feet	-	Sandy silt
6	6E	3-4 feet	-	Sandy silt
6	6W	3-4 feet	-	Sandy silt

Feature 7 was two adjacent buildings, both apparently of wood frame and cement plaster construction that also burned down: northern slab was 12 feet x 9 feet with what appeared to be a metal septic tank on its west site; southern slab was 10.5 x 6 feet with toilet debris in its southwest corner indicating it was at least a restroom.

Feature	Trench	Depth	Recovery	Soils
7	1N	3-4 feet	-	Sandy silt
7	1S	3-4 feet	-	Sandy silt
7	1E	3-4 feet	-	Sandy silt
7	1W	3-4 feet	(Metal septic tank)	Sandy silt

Feature 8 was a residence of wood frame and cement plaster construction – charred structural debris indicate it also burned down.

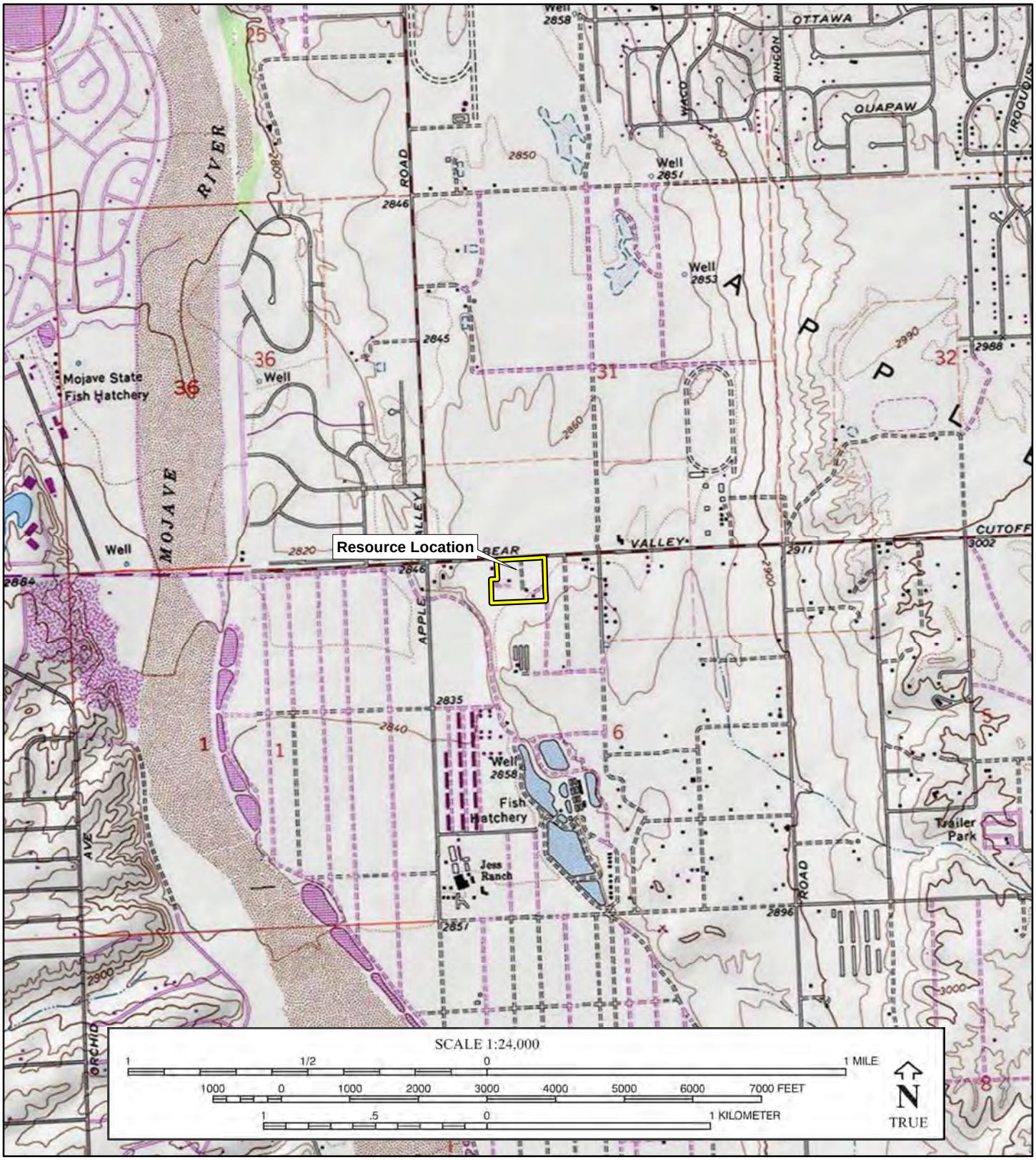
Feature	Trench	Depth	Recovery	Soils
8	8N	3-4 feet	-	Sandy silt
8	8S	3-4 feet	-	Sandy silt
8	8E	3-4 feet	Temporally ambiguous refuse (sanitary food can)	Sandy silt
8	8W	3-4 feet	-	Sandy silt

State of California - Resource Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary # _____
HRI # _____
Trinomial _____

Page 5 of 6 *Resource Name or LSA-WDN2202-S-1

*Map Name: USGS 7.5' Quad, *Apple Valley South, Hesperia* *Scale: 1:24000 *Date of Map: 1980



I:\WDN2201\GIS\MXD\Cultural\DPRlocation.mxd (10/18/2022)

DPR 523J (1/95)

***Required Information**

State of California - The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
SKETCH MAP

Primary # _____
HRI # _____
Trinomial _____

Page 6 of 6 *Resource Name or (Number Assigned by Recorder) LSA-WDN2201-S-1

Drawn By: Rory Goodwin Date: October 18, 2022

I:\WDN2201\GIS\MXD\Cultural\DPRSketch_Map.mxd (11/10/2022)

DPR 523K (1/95) ***Required Information**

CARLSBAD
CLOVIS
IRVINE
LOS ANGELES
PALM SPRINGS
POINT RICHMOND
RIVERSIDE
ROSEVILLE
SAN LUIS OBISPO

MEMORANDUM

DATE: April 13, 2023

TO: Andrew Neff, Wood Investments Companies, Inc.

FROM: Samuel Bressler, Assistant Biologist, LSA

SUBJECT: Biological Monitoring for Cultural Resource Investigation Associated with the Apple Bear Commercial Project, Apple Valley, California

On March 30th, 2023, LSA Biologist Samuel Bressler conducted biological monitoring at the Apple Bear Commercial Project (project) site in Apple Valley, California. Mr. Bressler conducted burrowing owls (*Athene cunicularia*) and nesting birds surveys prior to the cultural resources investigation excavation to ensure compliance with applicable aspects of the Migratory Bird Treaty Act (16 United States Code §§ 703–712); California Fish and Game Code Sections 3503, 3503.5, and 3513. In addition, the biological monitoring was necessary to comply with the proposed Initial Study/Mitigated Negative Declaration (IS/MND) Mitigation Measures BIO-1 and BIO-2.

Mr. Bressler arrived on site at 6:35 a.m., where he met LSA archaeologists Rory Goodwin and Carlton Bennett. Weather conditions were conducive to observing bird nesting behavior (clear and windy, with temperatures between 35 and 49 degrees Fahrenheit). Mr. Bressler surveyed the entirety of the project area on foot and with the aid of binoculars until 7:00 a.m. Areas outside the project site but within 150 meters of construction activity were surveyed from the edge of the project site using binoculars. Subsequently, Mr. Bressler monitored the trenching by a backhoe until 1:53 p.m., when exploration activity ceased.

No burrowing owls were observed during the monitoring, and one common raven (*Corvus* corax) nest (see Photo 1) was found on a water tank west of Westmont Drive (GPS point 34.467501, -117.238924), immediately southwest of the project site. The nest was located several hundred feet from active equipment, at which distance all equipment noise was attenuated by the ambient wind. As a result, no buffers or mitigation measures were necessary. Other species observed over the course of monitoring included Canada goose (*Branta canadensis*), rock pigeon (*Columba livia*), Anna's hummingbird (*Calypte anna*), California gull (*Larus californicus*), American kestrel (*Falco sparverius*), Say's phoebe (*Sayornis saya*), black phoebe (*Sayornis nigricans*), cliff swallow (*Petrochelidon pryrrhonota*), (*Tachycineta thalassina*), barn swallow (*Hirundo rustica*), northern mockingbird (*Mimus polyglottos*), sage thrasher (*Oreoscoptes montanus*), European starling (*Sturnus vulgaris*), American pipit (*Anthus rubescens*), verdin (*Auriparus flaviceps*), and white-crowned sparrow (*Zonotrichia leucophrys*).

3210 El Camino Real, Suite 100, Irvine, California 92602 949.553.0666 www.lsa.net

In ensuring that no burrowing owls were present on or adjacent to the site during cultural exploration, the monitoring and survey described above are consistent with the intent of Preliminary Mitigation Measures BIO-1 and BIO-2.

If you have any questions or comments about the survey, please contact Samuel Bressler at (949) 553-0666 or by email at Samuel.Bressler@lsa.net.

Photo 1: Common Raven nest on water tower southeast of the project site.

GEOTECHNICAL ENGINEERING INVESTIGATION
PROPOSED APPLE BEAR RETAIL CENTER
19439 BEAR VALLEY ROAD
APPLE VALLEY, CALIFORNIA

PROJECT NO. 112-21076
SEPTEMBER 9, 2021

Prepared for:

MR. MATTHEW BUSH
WOOD INVESTMENTS COMPANIES
2950 AIRWAY AVENUE, UNIT A-9
COSTA MESA, CALIFORNIA 92626

PREPARED BY:

KRAZAN & ASSOCIATES, INC.
GEOTECHNICAL ENGINEERING DIVISION
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CORONA, CALIFORNIA 92881
(951) 273-1011

Krazan & ASSOCIATES, INC.

GEOTECHNICAL ENGINEERING • ENVIRONMENTAL ENGINEERING
CONSTRUCTION TESTING & INSPECTION

September 9, 2021

KA Project No. 112-21076

Mr. Matthew Bush
Wood Investments Companies
2950 Airway Avenue, Unit A-9
Costa Mesa, California 92626

RE: Geotechnical Engineering Investigation
Proposed Apple Bear Retail Center
19439 Bear Valley Road
Apple Valley, California

Dear Mr. Bush:

In accordance with your request, we have completed a Geotechnical Engineering Investigation for the above-referenced site. The results of our investigation are presented in the attached report.

If you have any questions, or if we may be of further assistance, please do not hesitate to contact our office at (951) 273-1011.

Respectfully submitted,
KRAZAN & ASSOCIATES, INC.

David R. Jarosz, II
Managing Engineer
RGE No. 2698 RCE No. 60185

DRJ:ht

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September 9, 2021 Project No. 112-21016

GEOTECHNICAL ENGINEERING INVESTIGATION
PROPOSED APPLE BEAR RETAIL CENTER
19439 BEAR VALLEY ROAD
APPLE VALLEY, CALIFORNIA

INTRODUCTION

This report presents the results of our Geotechnical Engineering Investigation for the proposed Apple Bear Retail Center, to be located at 19439 Bear Valley Road in Apple Valley, California. Discussions regarding site conditions are presented herein, together with conclusions and recommendations pertaining to site preparation, Engineered Fill, utility trench backfill, drainage and landscaping, foundations, concrete floor slabs and exterior flatwork, retaining walls, excavation stability, soil cement reactivity, and pavement design.

A site plan showing the approximate boring locations is presented following the text of this report. A description of the field investigation, boring logs, and the boring log legend are presented in Appendix A. Appendix A contains a description of the laboratory testing phase of this study along with the laboratory test results. Appendices B and C contain guides to earthwork and pavement specifications. When conflicts in the text of the report occur with the general specifications in the appendices, the recommendations in the text of the report have precedence.

PURPOSE AND SCOPE

This investigation was conducted to evaluate the soil and groundwater conditions at the site, to make geotechnical engineering recommendations for use in design of specific construction elements, and to provide criteria for site preparation and Engineered Fill construction.

Our scope of services was outlined in our proposal dated July 14, 2021 (KA Proposal No. G21094CAC) and included the following:

- A site reconnaissance by a member of our engineering staff to evaluate the surface conditions at the project site.
- A field investigation consisting of drilling 24 borings to depths ranging from approximately 10 to 50 feet and conducting 4 percolation tests at depths of 6 to 8 feet for evaluation of the subsurface conditions at the project site.
- Performing laboratory tests on representative soil samples obtained from the borings to evaluate the physical and index properties of the subsurface soils.

- Evaluation of the data obtained from the investigation and an engineering analysis to provide recommendations for use in the project design and preparation of construction specifications.

- Preparation of this report summarizing the results, conclusions, recommendations, and findings of our investigation.

PROPOSED CONSTRUCTION

We understand that design of the proposed development is currently underway; structural load information and other final details pertaining to the structures are unavailable. On a preliminary basis, it is understood the development will include the construction of a new retail center. The development is understood to include eight (8) retail building pads intended for single story retail buildings. The proposed structures are anticipated to be single-story, wood or metal framed buildings supported on shallow foundation systems. Underground utility connections, flexible and rigid asphalt pavements, trash enclosures and localized landscaped areas are anticipated as part of the proposed development.

In the event these structural or grading details are inconsistent with the final design criteria, the Soils Engineer should be notified so that we may update this writing as applicable.

SITE LOCATION, SITE HISTORY AND SITE DESCRIPTION

The property site is rectangular in shape and encompasses approximately 10.32 acres. The project site is located on the south side of Bear Valley Road, approximately 0.2 miles east of Apple Valley Road in Apple Valley, California. The site is surrounded by vacant land, commercial developments, and rural residences.

Presently, the site consists of a rural residence and vacant land. The house and associated structures are located in the northwest corner of the site. An unpaved access road and overhead electrical line and power poles trend north-south through the middle of the site. The site is surrounded by vacant land to the west, south and east, and a commercial development and vacant land to the north. The site is bordered by Bear Valley Road and overhead electrical lines to the north, and Flying Feather Road to the east. Buried utility lines associated with the existing and surrounding developments may be located within and along the edges of the project site. The surface soils have a loose consistency. The site is relatively level with no major changes in grade.

GEOLOGIC SETTING

The subject site is located in Victor Valley, which is situated in the southwestern portion of the Mojave Desert Geomorphic Province. The Mojave Desert is bound by the Tehachapi Mountains of the Sierra Nevada Geomorphic Province to the northwest and the San Gabriel and San Bernardino Mountains of the Transverse Range Geomorphic Province to the south and southwest. A major portion of the Mojave Desert is underlain by Mesozoic granitic rocks. Quaternary alluvium covers a majority of the Victor Valley floor.

Groundwater is reported to occur at an elevation of approximately 80 to 100 feet below existing ground surface. No known regional groundwater impairments were reported within the subject site vicinity.

Both the Tehachapi and the San Gabriel mountain ranges are geologically young mountain ranges and possess active and potentially active fault zones. Numerous moderate to large earthquakes have affected the area of the subject site within historic time. Based on the proximity of several dominant active faults and seismogenic structures, as well as the historic seismic record, the area of the subject site is considered subject to relatively high seismicity. The site under consideration is located in a seismically active area of Southern California. The nearest significant active fault is the North Frontal Fault Zone, which is approximately 8.5 miles southwest of the project site. The Helendale – So Lockhart and San Andreas Fault Zones are located approximately 17.8 and 29.5 miles from the site, respectively. The area in consideration shows no mapped faults on-site according to maps prepared by the California Geologic Survey and published by the International Conference of Building Officials (ICBO). No evidence of surface faulting was observed on the property during our reconnaissance. The project site is not located within an Earthquake Fault Zone.

FAULT RUPTURE HAZARD ZONES

The Alquist-Priolo Geologic Hazards Zones Act went into effect in March, 1973. Since that time, the Act has been amended 11 times (Hart, 2007). The purpose of the Act, as provided in California Geologic Survey (CGS) Special Publication 42 (SP 42), is to prohibit the location of most structures for human occupancy across the traces of active faults and to mitigate thereby the hazard of fault-rupture." The Act was renamed the Alquist-Priolo Earthquake Fault Zoning Act in 1994, and at that time, the originally designated "Special Studies Zones" was renamed the "Earthquake Fault Zones."

The subject site is located in the State of California, Earthquake Fault Zones Map for the Apple Valley South Quadrangle dated March 1, 1988. The site is not located in a Fault Zone area. The nearest zoned fault is North Frontal Fault Zone, located approximately 8.5 miles from the subject site.

SEISMIC HAZARDS ZONES

In 1990, the California State Legislature passed the Seismic Hazard Mapping Act to protect public safety from the effects of strong shaking, liquefaction, landslides, or other ground failure, and other hazards caused by earthquakes. The Act requires that the State Geologist delineate various seismic hazards zones on Seismic Hazards Zones Maps. Specifically, the maps identify areas where soil liquefaction and earthquake-induced landslides are most likely to occur. A site-specific geotechnical evaluation is required prior to permitting most urban developments within the mapped zones. The Act also requires sellers of real property within the zones to disclose this fact to potential buyers. The subject site is located in the State of California, Earthquake Fault Zones Map for the Apple Valley South Quadrangle dated March 1, 1988. The area of the subject is not located in an area designated as a seismic hazard zone. According to the San Bernardino County Geologic Hazard Overlay Map FH07C dated May 30, 2007, the site is not located in an area of liquefaction susceptibility.

OTHER HAZARDS

Rockfall, Landslide, Slope Instability, Debris Flow: The subject site is relatively flat and level. It is our understanding that there are no significant slopes proposed as part of the proposed development. Provided the recommendations presented in this report are implemented into the design and construction of the anticipated development, rockfalls, landslides, slope instability, and debris flows are not anticipated to pose a hazard to the subject site.

Seiches: Seiches are large waves generated within enclosed bodies of water. The site is not located in close proximity to any lakes or reservoirs. As such, seiches are not anticipated to pose a hazard to the subject site.

Hydroconsolidation: The near surface soils encountered at the subject site were found to be medium dense to very dense. Provided remedial grading recommendations presented in this report are incorporated in the design and construction, hydroconsolidation is not anticipated to be a significant concern for the subject site.

FIELD AND LABORATORY INVESTIGATIONS

Subsurface soil conditions were explored by drilling 24 borings to depths ranging from approximately 10 to 50 feet below existing site grade, using a truck-mounted drill rig. In addition, a bulk subgrade sample was obtained from the site for laboratory R-value testing. In addition, 4 percolation tests were performed within the site at depths of 5 to 8 feet to evaluate the soils absorption characteristics. The approximate boring, bulk sample, and percolation locations are shown on the site plan. During drilling operations, penetration tests were performed at regular intervals to evaluate the soil consistency and to obtain information regarding the engineering properties of the subsoils. Soil samples were retained for laboratory testing. The soils encountered were continuously examined and visually classified in accordance with the Unified Soil Classification System. A more detailed description of the field investigation is presented in Appendix A.

Laboratory tests were performed on selected soil samples to evaluate their physical characteristics and engineering properties. The laboratory testing program was formulated with emphasis on the evaluation of natural moisture, density, gradation, shear strength, consolidation potential, R-value, and moisture-density relationships of the materials encountered. In addition, chemical tests were performed to evaluate the soil-cement reactivity. Details of the laboratory test program and results of the laboratory tests are summarized in Appendix A. This information, along with the field observations, was used to prepare the final boring logs in Appendix A.

SOIL PROFILE AND SUBSURFACE CONDITIONS

Based on our findings, the subsurface conditions encountered appear typical of those found in the geologic region of the site. In general, the upper soils predominately consisted of approximately 6 to 12 inches of very loose silty sand or sand. These soils are disturbed, have moderate strength characteristics, and are slightly compressible when saturated.

Beneath the loose surface soils, approximately 3 to 4 feet of medium dense to very dense silty sand or sand was encountered. Field and laboratory tests suggest that these soils are moderately strong and moderately compressible. Penetration resistance ranged from 25 blows per foot to over 50 blows per 6 inches. Dry densities ranged from 103 to 116 pcf. Representative soil samples consolidated approximately 5 to 8½ percent under a 2 ksf load when saturated. Representative soil samples had angles of internal friction of 31 and 33 degrees.

Below 4 to 5 feet, predominately medium dense to very dense silty sand, silty sand/sand, sand and sandy silt were encountered. Penetration resistance ranged from 10 blows per foot to greater than 50 blows per 6 inches. Dry densities ranged from 90 to 117 pcf. These soils had slightly stronger strength characteristics than the upper soils and extended to the termination depth of our boring.

For additional information about the soils encountered, please refer to the boring log in Appendix A.

PERCOLATION TESTING

As requested, four percolation tests were performed within the site to evaluate the soils absorption characteristics. The percolation tests were performed at a depth of 6 to 8 feet below existing site grade. The tests were conducted in general accordance with the criteria set in the "Manual of Septic Tank Practice" published by the Department of Health, Education, and Welfare. The test results were converted to infiltration rate utilizing the Porchet Method. Results of the tests are as follows:

Test No.	Depth (feet)	Infiltration Rate (in/hr)	Soil Type
1	8	1.42	Silty Sand (SM)
2	8	1.20	Silty Sand (SM)
3	6	1.33	Silty Sand (SM)
4	6	1.73	Silty Sand (SM)

The test results indicate that the soils tested at depths of 6 to 8 feet have fair absorption characteristics. The test results do not include a factor of safety.

GROUNDWATER

Test boring locations were checked for the presence of groundwater during and immediately following the drilling operations. Groundwater was not encountered in any of the borings drilled as part of our subsurface investigation. Information obtained from the Department of Water Resources indicated that water wells had historic groundwater elevations as shallow as 12 feet below existing site grade within the project site vicinity.

It should be recognized that water table elevations may fluctuate with time, being dependent upon seasonal precipitation, irrigation, land use, and climatic conditions, as well as other factors. Therefore, water level observations at the time of the field investigation may vary from those encountered during the construction phase of the project. The evaluation of such factors is beyond the scope of this report.

SEISMIC CONSIDERATIONS

Although ground rupture is not considered to be a major concern at the subject site, the site will likely be subject to at least one moderate to severe earthquake and associated seismic shaking during its lifetime, as well as periodic slight to moderate earthquakes. Some degree of structural damage due to stronger seismic shaking should be expected at the site, but the risk can be reduced through adherence to seismic design codes.

SOIL LIQUEFACTION

Seismicity is a general term relating to the abrupt release of accumulated strain energy in the rock materials of the earth's crust in a given geographical area. The recurrence of accumulation and subsequent release of strain have resulted in faults and fault systems. Fault patterns and density reflect relative degrees of regional stress through time, but do not necessarily indicate recent seismic activity; therefore, the degree of seismic risk must be determined or estimated by the seismic record in any given region.

Soil liquefaction is a state of soil particle suspension caused by a complete loss of strength when the effective stress drops to zero. Liquefaction normally occurs under saturated conditions in soils such as sand in which the strength is purely frictional. However, liquefaction has occurred in soils other than clean sand. Liquefaction usually occurs under vibratory conditions such as those induced by seismic events. To evaluate the liquefaction potential of the site, the following items were evaluated:

1) Soil type

2) Groundwater depth

3) Relative density

4) Initial confining pressure

5) Intensity and duration of ground shaking

The soil beneath the site consists of medium to very dense silty sands, silty sands/sands, and sands. Groundwater was not encountered at any of the boring locations during the site visit. However, historic groundwater elevations as shallow as 12 feet below existing site grade within the project site vicinity.

The potential for soil liquefaction during a seismic event was evaluated using the LIQUEFYPRO computer program (version 5.9d) developed by CivilTech Software. For the analysis, a maximum earthquake magnitude of 7.9 was used. A peak horizontal ground surface acceleration of 0.573g was considered conservative and appropriate for the liquefaction analysis. An estimated high groundwater depth of 12 feet was used for our analysis. The computer analysis indicates that soils above a depth of 12 feet are non-liquefiable due to the absence of groundwater. The soils below a depth of 12 feet have a slight to moderate potential for liquefaction under seismic shaking.

The analysis indicates that the estimated total seismic induced settlement is less than ¼ inch. Differential settlement caused by a seismic event is estimated to be less than ¼ inch. The anticipated differential settlement is estimated over a horizontal distance of 100 feet.

CONCLUSIONS AND RECOMMENDATIONS

Based on the findings of our field and laboratory investigations, along with previous geotechnical experience in the project area, the following is a summary of our evaluations, conclusions, and recommendations.

Administrative Summary

In brief, the subject site and soil conditions, with the exception of the loose surface soils, and existing and surrounding developments, appear to be conducive to the development of the project. The surface soils have a loose consistency. These soils are disturbed, have low strength characteristics and are highly compressible when saturated. Accordingly, it is recommended that the surface soils be recompacted. This compaction effort should stabilize the surface soils and locate any unsuitable or pliant areas not found during our field investigation.

Fill material was not encountered in our borings. However, fill may be located between or beyond our borings. It is anticipated fill soils will consist of silty sands and sands. The thickness and extent of fill material was determined based on limited test borings and visual observation. Verification of the extent of fill should be determined during site grading. It is recommended that fill soils that have not been properly compacted and certified be excavated and recompacted. Prior to backfilling, the bottom of the excavation should be observed by Krazan & Associates, Inc. to verify no additional removal is required.

Trees are located within the project site vicinity. Tree or root removal operations should include roots greater than 1 inch in diameter. The resulting excavations should be backfilled with Engineered Fill compacted to a minimum of 95 percent of maximum density based on ASTM Test Method D1557.

Presently, the site consists of a rural residence, vacant land, and power poles with overhead electrical lines. Associated with these developments may be buried structures, such as utility lines and irrigation lines that may extend into the project site. Demolition activities should include proper removal of any buried structures or loosely backfilled excavations encountered. The resulting excavations should be backfilled with Engineered Fill. It is suspected that demolition activities of the existing structures will disturb the upper soils. After demolition activities, it is recommended that these disturbed soils be removed and/or recompacted. This compaction effort should stabilize the upper soils and locate any unsuitable or pliant areas not found during our field investigation.

In order to provide uniform foundation support, it is recommended that following stripping, fill removal operations and demolition activities, the upper four (4) feet of native soil below existing site grade or two (2) foot below the bottom of proposed foundations, whichever is deeper, should be excavated, moisture-conditioned to near optimum moisture content, and recompacted to a minimum of 95 percent of the maximum dry density based on ASTM Test Method D1557. Fill soils should be moisture conditions to at least optimum moisture content prior to compaction. Excavation should extend to a

minimum of 5 feet beyond structural elements. The on-site, native soils will be suitable for reuse as Engineered Fill, provided they are cleansed of excessive organics, debris, and fragments larger than 4 inches in maximum dimension. Prior to backfilling, the bottom of the excavation should be proof-rolled and observed by Krazan and Associates, Inc. to verify stability. This compaction effort should stabilize the surface soils and locate any unsuitable or pliant areas not found during our field investigation. The bottom of the of the excavation as well as all fill material should be moisture conditioned to at least optimum moisture content and compacted to a minimum of 95 percent of maximum density based on ASTM Test Method D1557.

Relatively clean sands were encountered at various locations throughout the site. The possibility exists that site grading operations could expose these soils in areas of proposed buildings, pavements, and/or retaining walls. The Contractor should note that these soils lack the cohesion necessary to stand vertically, even in shallow excavations such as footing trenches. If these conditions are encountered, it will be necessary to over-excavate the affected area(s) to a minimum of 12 inches below the proposed bearing surface. These areas may be backfilled using a mix of the silty sand and sand soils that contains at least 20 percent fines and meeting the requirements for Engineered Fill. This material may be obtained from elsewhere at the site, imported to the site from an approved off-site source, or manufactured through blending of the excavated clean sand with other suitable material containing a higher percentage of fines to result in material meeting the requirements for Engineered Fill.

In pavement and exterior flatwork areas, the upper 12 inches of native soils should be excavated, moisture-conditioned to near optimum moisture content, and recompacted to a minimum of 95 percent of the maximum dry density based on ASTM Test Method D1557. Excavation should extend to a minimum of 3 feet beyond the edge of pavements or back of curbs. The on-site native soils will be suitable for reuse as Engineered Fill, provided they are cleansed of excessive organics, debris, and fragments larger than 4 inches in maximum dimension. Prior to backfilling, the bottom of the excavation should be proof-rolled and observed by Krazan and Associates, Inc. to verify stability. This compaction effort should stabilize the surface soils and locate any unsuitable or pliant areas not found during our field investigation. Fill material should be compacted to a minimum of 95 percent of maximum dry density based on ASTM Test Method D1557.

Sandy soil conditions were encountered at the site. These cohesionless soils have a tendency to cave in trench wall excavation. Shoring or sloping back trench sidewalls may be required within these sandy soils.

After completion of the recommended site preparation, the site should be suitable for shallow footing support. The proposed structure footings may be designed utilizing an allowable bearing pressure of 2,600 psf for dead-plus-live loads. Footings should have a minimum embedment of 12 inches.

Groundwater Influence on Structures/Construction

Based on our findings and historical records, it is not anticipated that groundwater will rise within the zone of structural influence or affect the construction of foundations and pavements for the project. Groundwater was not encountered in any of the borings drilled as part of our subsurface investigation.

However, information obtained from the Department of Water Resources indicated that water wells had historic groundwater elevations as shallow as 12 feet below existing site grade within the project site vicinity.

If earthwork is performed during or soon after periods of precipitation, the subgrade soils may become saturated, "pump," or not respond to densification techniques. Typical remedial measures include: discing and aerating the soil during dry weather; mixing the soil with dryer materials; removing and replacing the soil with an approved fill material; or mixing the soil with an approved lime or cement product. Our firm should be consulted prior to implementing remedial measures to observe the unstable subgrade conditions and provide appropriate recommendations.

Site Preparation

General site clearing should include removal of concrete; vegetation and existing utilities; and structures; including foundations; basement walls and floors; existing stockpiled soil; trees and associated root systems; rubble; rubbish; and any loose and/or saturated materials. Site stripping should extend to a minimum depth of 2 to 4 inches, or until all organics in excess of 3 percent by volume are removed. Deeper stripping may be required in localized areas. These materials will not be suitable for reuse as Engineered Fill. However, stripped topsoil may be stockpiled and reused in landscape or non-structural areas.

Fill material was not encountered in our borings. However, fill may be located between or beyond our borings. It is anticipated fill soils will consist of silty sands and sands. The thickness and extent of fill material was determined based on limited test borings and visual observation. Verification of the extent of fill should be determined during site grading. It is recommended that fill soils that have not been properly compacted and certified be excavated and recompacted. Prior to backfilling, the bottom of the excavation should be observed by Krazan & Associates, Inc. to verify no additional removal is required.

Presently, the site consists of a rural residence, vacant land, and power poles with overhead electrical lines. Associated with these developments may be buried structures, such as utility lines, irrigation lines, septic systems, and water wells. Demolition activities should include proper removal of any buried structures. Any buried structures or loosely backfilled excavations encountered during construction should be properly removed and the resulting excavations backfilled. Excavations, depressions, or soft and pliant areas extending below planned finish subgrade level should be cleaned to firm undisturbed soil, and backfilled with Engineered Fill. In general, any septic tanks, debris pits, cesspools, or similar structures should be entirely removed. Concrete footings should be removed to an equivalent depth of at least 3 feet below proposed footing elevations or as recommended by the Soils Engineer. Water wells should be abandoned in accordance with county standards. Any other buried structures should be removed in accordance with the recommendations of the Soils Engineer. Resulting excavations should be backfilled with Engineered Fill.

Trees are located within the project site vicinity. Tree or root removal operations should include roots greater than 1 inch in diameter. The resulting excavations should be backfilled with Engineered Fill compacted to a minimum of 95 percent of maximum density based on ASTM Test Method D1557.

In order to provide uniform foundation support, it is recommended that following stripping, fill removal operations and demolition activities, the upper four (4) feet of native soil below existing site grade or two (2) foot below the bottom of proposed foundations, whichever is deeper, should be excavated, moisture-conditioned to near optimum moisture content, and recompacted to a minimum of 95 percent of the maximum dry density based on ASTM Test Method D1557. Fill soils should be moisture conditions to at least optimum moisture content prior to compaction. Excavation should extend to a minimum of 5 feet beyond structural elements. The on-site native soils will be suitable for reuse as Engineered Fill, provided they are cleansed of excessive organics, debris, and fragments larger than 4 inches in maximum dimension. Prior to backfilling, the bottom of the excavation should be proof-rolled and observed by Krazan and Associates, Inc. to verify stability. This compaction effort should stabilize the surface soils and locate any unsuitable or pliant areas not found during our field investigation. The bottom of the of the excavation as well as all fill material should be moisture conditioned to at least optimum moisture content and compacted to a minimum of 95 percent of maximum density based on ASTM Test Method D1557.

In pavement and exterior flatwork areas, the upper 12 inches of native soils should be excavated, moisture-conditioned to near optimum moisture content, and recompacted to a minimum of 95 percent of the maximum dry density based on ASTM Test Method D1557. Excavation should extend to a minimum of 3 feet beyond the edge of pavements or back of curbs. The on-site native soils will be suitable for reuse as Engineered Fill, provided they are cleansed of excessive organics, debris, and fragments larger than 4 inches in maximum dimension. Prior to backfilling, the bottom of the excavation should be proof-rolled and observed by Krazan and Associates, Inc. to verify stability. This compaction effort should stabilize the surface soils and locate any unsuitable or pliant areas not found during our field investigation. Fill material should be compacted to a minimum of 95 percent of maximum dry density based on ASTM Test Method D1557.

The upper soils, during wet winter months, become very moist due to the absorptive characteristics of the soil. Earthwork operations performed during winter months may encounter very moist unstable soils, which may require removal to grade a stable building foundation. Project site winterization consisting of placement of aggregate base and protecting exposed soils during the construction phase should be performed.

A representative of our firm should be present during all site clearing and grading operations to test and observe earthwork construction. This testing and observation is an integral part of our service as acceptance of earthwork construction is dependent upon compaction of the material and the stability of the material. The Soils Engineer may reject any material that does not meet compaction and stability requirements. Further recommendations of this report are predicated upon the assumption that earthwork construction will conform to recommendations set forth in this section and the Engineered Fill section.

Engineered Fill

The on-site, native soils are predominately silty sands, silty sands/sands, and sands. These soils will be suitable for reuse as Engineered Fill, provided they are cleansed of excessive organics, debris, and fragments larger than 4 inches in maximum dimension.

Relatively clean sands were encountered at various locations throughout the site. The possibility exists that site grading operations could expose these soils in areas of proposed buildings, pavements, and/or retaining walls. The Contractor should note that these soils lack the cohesion necessary to stand vertically, even in shallow excavations such as footing trenches. If these conditions are encountered, it will be necessary to over-excavate the affected area(s) to a minimum of 12 inches below the proposed bearing surface. These areas may be backfilled using a mix of the silty sand and sand soils that contains at least 20 percent fines and meeting the requirements for Engineered Fill. This material may be obtained from elsewhere at the site, imported to the site from an approved off-site source, or manufactured through blending of the excavated clean sand with other suitable material containing a higher percentage of fines to result in material meeting the requirements for Engineered Fill.

The preferred materials specified for Engineered Fill are suitable for most applications with the exception of exposure to erosion. Project site winterization and protection of exposed soils during the construction phase should be the sole responsibility of the Contractor, since he has complete control of the project site at that time.

Imported Fill material should be predominately granular material with between 20 and 50 percent passing the No. 200 sieve, a plasticity index less than 10 and an expansion index less than 15. Imported Fill should be free from rocks and clods greater than 4 inches in diameter. All Imported Fill material should be submitted to the Soils Engineer for approval at least 48 hours prior to delivery at the site.

Fill soils should be placed in lifts approximately 6 inches thick, moisture-conditioned as necessary, and compacted to achieve at least 95 percent maximum density as based on ASTM Test Method D1557. Additional lifts should not be placed if the previous lift did not meet the required dry density or if soil conditions are not stable.

Drainage and Landscaping

The ground surface should slope away from building pad and pavement areas toward appropriate drop inlets or other surface drainage devices. In accordance with Section 1804 of the 2019 California Building Code, it is recommended that the ground surface adjacent to foundations be sloped a minimum of 5 percent for a minimum distance of 10 feet away from structures, or to an approved alternative means of drainage conveyance. Swales used for conveyance of drainage and located within 10 feet of foundations should be sloped a minimum of 2 percent. Impervious surfaces, such as pavement and exterior concrete flatwork, within 10 feet of building foundations should be sloped a minimum of 1 percent away from the structure. Drainage gradients should be maintained to carry all surface water to collection facilities and off-site. These grades should be maintained for the life of the project.

Utility Trench Backfill

Utility trenches should be excavated according to accepted engineering practices following OSHA (Occupational Safety and Health Administration) standards by a Contractor experienced in such work. The responsibility for the safety of open trenches should be borne by the Contractor. Traffic and vibration adjacent to trench walls should be reduced and cyclic wetting and drying of excavation side slopes should be avoided. Depending upon the location and depth of some utility trenches, groundwater flow into open excavations could be experienced, especially during or shortly following periods of precipitation.

Sandy soil conditions were encountered at the site. These cohesionless soils have a tendency to cave in trench wall excavation. Shoring or sloping back trench sidewalls may be required within these sandy soils.

Utility trench backfill placed in or adjacent to buildings and exterior slabs should be compacted to at least 95 percent of maximum density based on ASTM Test Method D1557. Utility trench backfill placed in pavement areas should be compacted to at least 95 percent of maximum density based on ASTM Test Method D1557. Pipe bedding should be in accordance with pipe manufacturer's recommendations.

The Contractor is responsible for removing all water sensitive soil from the trench regardless of the backfill location and compaction requirements. The Contractor should use appropriate equipment and methods to avoid damage to the utilities and/or structures during fill placement and compaction.

Foundations

After completion of the recommended site preparation, the site should be suitable for shallow footing support. The proposed structures may be supported on a shallow foundation system bearing on a minimum of 2 feet of Engineered Fill. Spread and continuous footings can be designed for the following maximum allowable soil bearing pressures:

Load	Allowable Loading
Dead Load Only	1,950 psf
Dead-Plus-Live Load	2,600 psf
Total Load, including wind or seismic loads	3,450 psf

The footings should have a minimum depth of 12 inches below pad subgrade (soil grade) or adjacent exterior grade, whichever is lower. Footings should have a minimum width of 12 inches, regardless of load.

The total settlement is not expected to exceed 1 inch. Differential settlement should be less than ½ inch across 30 feet. Most of the settlement is expected to occur during construction as the loads are applied. However, additional post-construction soil movement may occur if the foundation soils are flooded or

saturated. Based on the soil liquefaction analysis performed within the site, the estimated total seismic-induced settlement is less than ¼ inch. Differential settlement caused by a seismic event is estimated to be less than ¼ inch. The anticipated differential settlement is estimated over a horizontal distance of 100 feet.

Resistance to lateral footing displacement can be computed using an allowable friction factor of 0.4 acting between the base of foundations and the supporting subgrade. Lateral resistance for footings can alternatively be developed using an allowable equivalent fluid passive pressure of 325 pounds per cubic foot acting against the appropriate vertical footing faces. The frictional and passive resistance of the soil may be combined without reduction in determining the total lateral resistance. A ⅓ increase in the above value may be used for short duration, wind, or seismic loads.

Floor Slabs and Exterior Flatwork

In areas where moisture-sensitive floor coverings will be included or where moisture-sensitive materials will be stored, concrete slab-on-grade floors should be underlain by a water vapor retarder. The water vapor retarder should be installed in accordance with accepted engineering practice.

The exterior floors should be poured separately in order to act independently of the walls and foundation system. All fills required to bring the building pads to grade should be Engineered Fills.

Moisture within the structure may be derived from water vapors, which were transformed from the moisture within the soils. This moisture vapor can travel through the vapor membrane and penetrate the slab-on-grade. This moisture vapor penetration can affect floor coverings and produce mold and mildew in the structure. To reduce moisture vapor intrusion, it is recommended that a vapor retarder be installed. It is recommended that the utility trenches within the structure be compacted, as specified in our report, to reduce the transmission of moisture through the utility trench backfill. Special attention to the immediate drainage and irrigation around the building is recommended. Positive drainage should be established away from the structure and should be maintained throughout the life of the structure. Ponding of water should not be allowed adjacent to the structure. Over-irrigation within landscaped areas adjacent to the structure should not be performed. In addition, ventilation of the structure (i.e. ventilation fans) is recommended to reduce the accumulation of interior moisture.

Lateral Earth Pressures and Retaining Walls

Walls retaining horizontal backfill and capable of deflecting a minimum of 0.1 percent of its height at the top may be designed using an equivalent fluid active pressure of 31 pounds per square foot per foot of depth. Walls that are incapable of this deflection or are fully constrained against deflection may be designed for an equivalent fluid at-rest pressure of 52 pounds per square foot per foot of depth. Expansive soils should not be used for backfill against walls. The wedge of non-expansive backfill material should extend from the bottom of each retaining wall outward and upward at a slope of 2:1 (horizontal to vertical) or flatter. The stated lateral earth pressures do not include the effects of hydrostatic water pressures generated by infiltrating surface water that may accumulate behind the retaining walls; or loads imposed by construction equipment, foundations, or roadways.

Retaining and/or below grade walls should be drained with either perforated pipe encased in free-draining gravel or a prefabricated drainage system. The gravel zone should have a minimum width of 12 inches and should extend upward to within 12 inches of the top of the wall. The upper 12 inches of backfill should consist of native soils, concrete, asphaltic concrete, or other suitable backfill to reduce surface drainage into the wall drain system. The aggregate should conform to Class 2 permeable materials graded in accordance with CalTrans Standard Specifications (2018). Prefabricated drainage systems, such as Miradrain®, Enkadrain®, or an equivalent substitute, are acceptable alternatives in lieu of gravel provided they are installed in accordance with the manufacturer's recommendations. If a prefabricated drainage system is proposed, our firm should review the system for final acceptance prior to installation.

Drainage pipes should be placed with perforations down and should discharge in a non-erosive manner away from foundations and other improvements. The pipes should be placed no higher than 6 inches above the heel of the wall, in the center line of the drainage blanket and should have a minimum diameter of four inches. Collector pipes may be either slotted or perforated. Slots should be no wider than ⅛ inch in diameter, while perforations should be no more than ¼ inch in diameter. If retaining walls are less than 6 feet in height, the perforated pipe may be omitted in lieu of weep holes on 4 feet maximum spacing. The weep holes should consist of 4-inch diameter holes (concrete walls) or unmortared head joints (masonry walls) and not be higher than 18 inches above the lowest adjacent grade. Two 8-inch square overlapping patches of geotextile fabric (conforming to CalTrans Standard Specifications for "edge drains") should be affixed to the rear wall opening of each weep hole to retard soil piping.

During grading and backfill operations adjacent to any walls, heavy equipment should not be allowed to operate within a lateral distance of 5 feet from the wall, or within a lateral distance equal to the wall height, whichever is greater, to avoid developing excessive lateral pressures. Within this zone, only hand-operated equipment ("whackers," vibratory plates, or pneumatic compactors) should be used to compact the backfill soils.

Seismic Parameters – 2019 California Building Code

The Site Class per Section 1613 of the 2019 California Building Code (2019 CBC) and ASCE 7-16, Chapter 20 is based upon the site soil conditions. It is our opinion that a Site Class D is most consistent with the subject site soil conditions. For seismic design of the structures based on the seismic provisions of the 2019 CBC, we recommend the following parameters:

Seismic Item	Value*	CBC Reference
Site Class	D	Section 1613.2.2
Site Coefficient F_a	1.015	Table 1613.2.3 (1)
S_s	1.213	Section 1613.2.1
S_{MS}	1.231	Section 1613.2.3
S_{DS}	0.821	Section 1613.2.4
Site Coefficient F_v	1.836	Table 1613.2.3 (2)

S_1	0.464	Section 1613.2.1
S_{M1}	0.852	Section 1613.2.3
S_{D1}	0.568	Section 1613.2.4
T_S	0.692	Section 1613.2

* Based on Equivalent Lateral Force (ELF) Design Procedure being used.

Soil Cement Reactivity

Excessive sulfate in either the soil or native water may result in an adverse reaction between the cement in concrete (or stucco) and the soil. HUD/FHA and CBC have developed criteria for evaluation of sulfate levels and how they relate to cement reactivity with soil and/or water.

Soil samples were obtained from the site and tested in accordance with State of California Materials Manual Test Designation 417. The sulfate concentrations detected from these soil samples were greater than 1000 ppm (2,057 ppm) and are greater than the maximum allowable values established by HUD/FHA and CBC. Therefore, it is recommended that a Type V cement be used within the concrete to compensate for sulfate reactivity with the cement.

Compacted Material Acceptance

Compaction specifications are not the only criteria for acceptance of the site grading or other such activities. However, the compaction test is the most universally recognized test method for assessing the performance of the Grading Contractor. The numerical test results from the compaction test cannot be used to predict the engineering performance of the compacted material. Therefore, the acceptance of compacted materials will also be dependent on the stability of that material. The Soils Engineer has the option of rejecting any compacted material regardless of the degree of compaction if that material is considered to be unstable or if future instability is suspected. A specific example of rejection of fill material passing the required percent compaction is a fill which has been compacted with an in-situ moisture content significantly less than optimum moisture. This type of dry fill (brittle fill) is susceptible to future settlement if it becomes saturated or flooded.

Testing and Inspection

A representative of Krazan & Associates, Inc. should be present at the site during the earthwork activities to confirm that actual subsurface conditions are consistent with the exploratory fieldwork. This activity is an integral part of our service, as acceptance of earthwork construction is dependent upon compaction testing and stability of the material. This representative can also verify that the intent of these recommendations is incorporated into the project design and construction. Krazan & Associates, Inc. will not be responsible for grades or staking, since this is the responsibility of the Prime Contractor.

LIMITATIONS

Soils Engineering is one of the newest divisions of Civil Engineering. This branch of Civil Engineering is constantly improving as new technologies and understanding of earth sciences advance. Although your site was analyzed using the most appropriate and most current techniques and methods, undoubtedly there will be substantial future improvements in this branch of engineering. In addition to advancements in the field of Soils Engineering, physical changes in the site, either due to excavation or fill placement, new agency regulations, or possible changes in the proposed structure after the soils report is completed may require the soils report to be professionally reviewed. In light of this, the Owner should be aware that there is a practical limit to the usefulness of this report without critical review. Although the time limit for this review is strictly arbitrary, it is suggested that 2 years be considered a reasonable time for the usefulness of this report.

Foundation and earthwork construction is characterized by the presence of a calculated risk that soil and groundwater conditions have been fully revealed by the original foundation investigation. This risk is derived from the practical necessity of basing interpretations and design conclusions on limited sampling of the earth. The recommendations made in this report are based on the assumption that soil conditions do not vary significantly from those disclosed during our field investigation. If any variations or undesirable conditions are encountered during construction, the Soils Engineer should be notified so that supplemental recommendations may be made.

The conclusions of this report are based on the information provided regarding the proposed construction. If the proposed construction is relocated or redesigned, the conclusions in this report may not be valid. The Soils Engineer should be notified of any changes so the recommendations may be reviewed and re-evaluated.

This report is a Geotechnical Engineering Investigation with the purpose of evaluating the soil conditions in terms of foundation design. The scope of our services did not include any Environmental Site Assessment for the presence or absence of hazardous and/or toxic materials in the soil, groundwater, or atmosphere; or the presence of wetlands. Any statements, or absence of statements, in this report or on any boring log regarding odors, unusual or suspicious items, or conditions observed, are strictly for descriptive purposes and are not intended to convey engineering judgment regarding potential hazardous and/or toxic assessment.

The geotechnical engineering information presented herein is based upon professional interpretation utilizing standard engineering practices and a degree of conservatism deemed proper for this project. It is not warranted that such information and interpretation cannot be superseded by future geotechnical engineering developments. We emphasize that this report is valid for the project outlined above and should not be used for any other sites.

If you have any questions or if we may be of further assistance, please do not hesitate to contact our office at (951) 273-1011.

Respectfully submitted,
KRAZAN & ASSOCIATES, INC.

Madison K. Weber, P.E.
Project Engineer
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Managing Engineer
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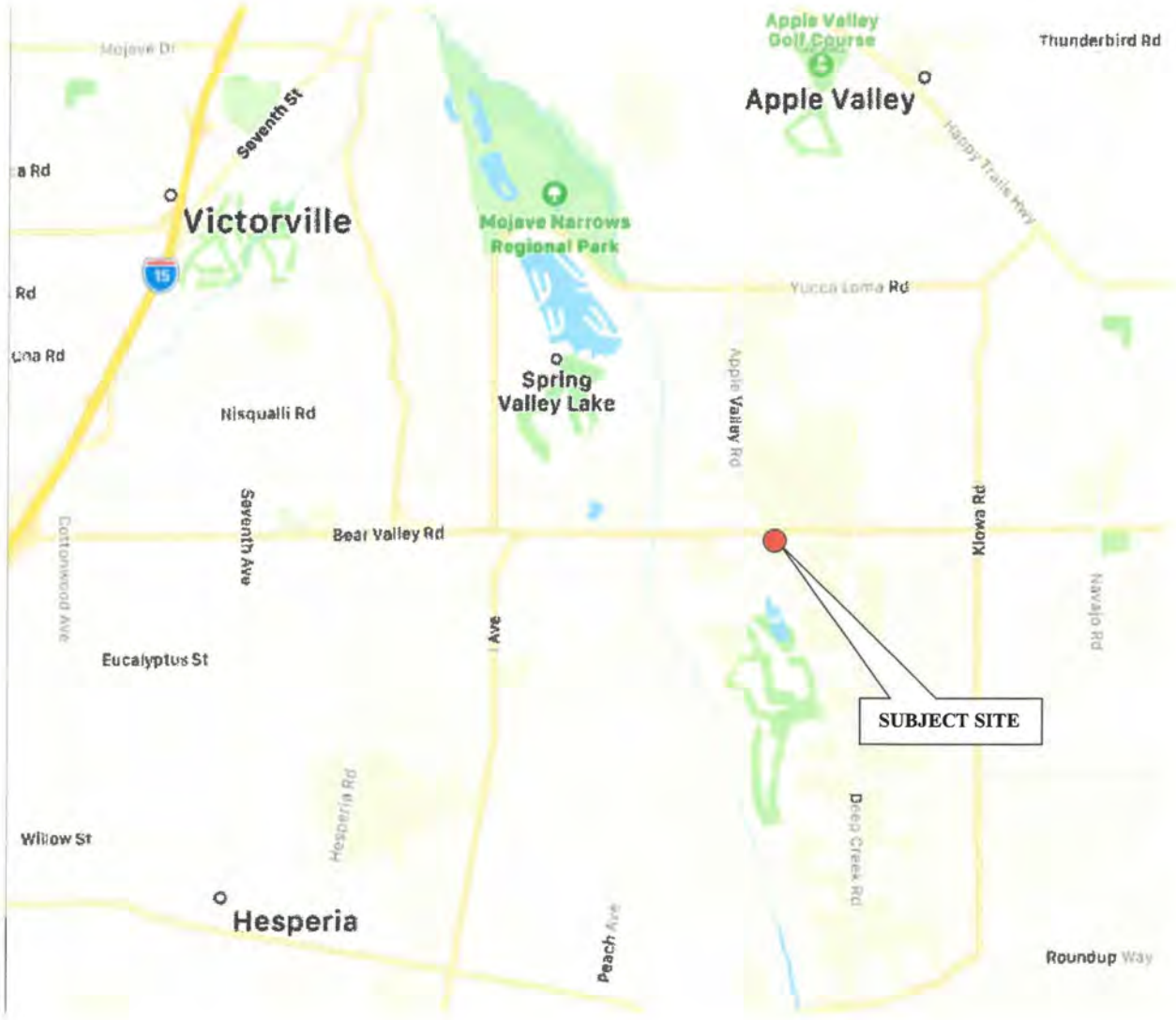
MKW/DRJ:ht

APPROXIMATE BORING LOCATION

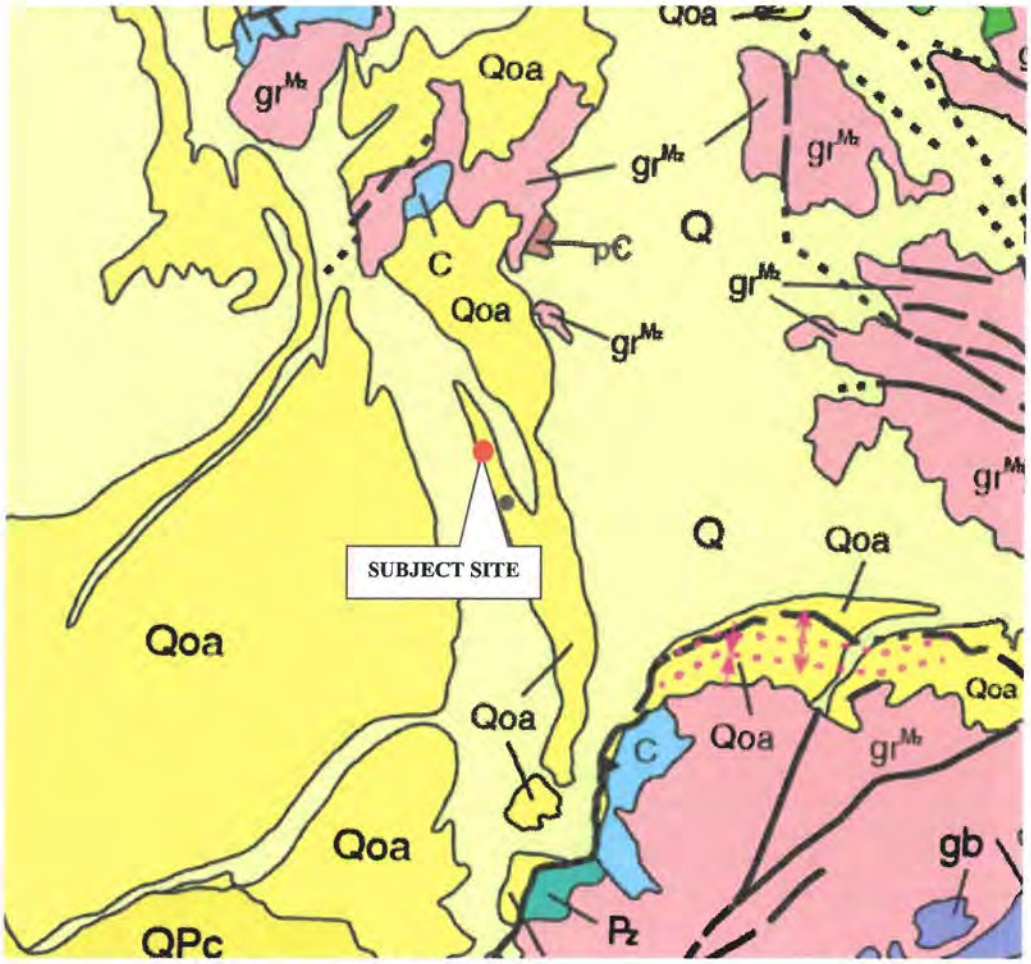
APPROXIMATE PERCOLATION/INFILTRATION TEST LOCATION

N
W
E
S

SITE MAP	**Scale:** Not to Scale	**Date:** Sept. 2021	Krazan GEOTECHNICAL ENGINEERING
PROPOSED APPLE BEAR RETAIL CENTER 19439 BEAR VALLEY ROAD APPLE VALLEY, CALIFORNIA	**Drawn by:** AM	**Approved by:** MW	
	Project No. 112-21076	**Figure No.** 2	



VICINITY MAP	Scale: Not to Scale	Date: Sept. 2021	Krazan GEOTECHNICAL ENGINEERING
PROPOSED APPLE BEAR RETAIL CENTER 19439 BEAR VALLEY ROAD APPLE VALLEY, CALIFORNIA	Drawn by: MW	Approved by: DJ	
	Project No. 112-21076	Figure No. 1	



DESCRIPTION OF MAP UNITS

QUATERNARY DEPOSITS

- Qs — Extensive marine and nonmarine sand deposits, generally near the coast or desert playas
- Q — Alluvium, lake, playa, and terrace deposits; unconsolidated and semi-consolidated
- Qls — Selected large landslides
- Qg — Glacial till and moraines. Found at high elevations mostly in the Sierra Nevada and Klamath Mountains
- Qoa — Older alluvium, lake, playa, and terrace deposits
- QPc — Pleistocene and/or Pliocene sandstone, shale, and gravels deposits; mostly loosely consolidated

QUATERNARY VOLCANIC ROCKS

- Qrv — Recent (Holocene) volcanic flow rocks; minor pyroclastic deposits
- Qrv* — Recent (Holocene) pyroclastic and volcanic mudflow deposits
- Qv — Quaternary volcanic flow rocks; minor pyroclastic deposits
- Qv* — Quaternary pyroclastic and volcanic mudflow deposits

MESOZOIC PLUTONIC ROCKS

- gr^Mz — Mesozoic granite, quartz monzonite, granodiorite, and quartz diorite
- um — Ultramafic rocks, mostly serpentine. Minor peridotite, gabbro, and diabase, chiefly Mesozoic
- gb — Gabbro and dark dioritic rocks, chiefly Mesozoic
- gr — Undated granitic rocks

PALEOZOIC SEDIMENTARY AND METASEDIMENTARY ROCKS

- Pz — Undivided Paleozoic metasedimentary rocks. Includes slate, sandstone, shale, chert, conglomerate, limestone, dolomite, marble, phyllite, schist, hornfels, and quartzite
- Pm — Permian shale, conglomerate, limestone, dolomite, sandstone, slate, hornfels, and quartzite; minor pyroclastic rocks
- C — Carboniferous shale, sandstone, conglomerate, limestone, dolomite, chert, hornfels, marble, and quartzite, in part pyroclastic rocks
- D — Devonian limestone, dolomite, sandstone, and shale; in part tuffaceous
- SO — Silurian to Ordovician sandstone, shale, conglomerate, chert, slate, quartzite, hornfels, marble, dolomite, and phyllite; some greenstone
- C — Cambrian sandstone, shale, limestone, dolomite, chert, quartzite, and phyllite; includes some rocks that are possibly Precambrian

SYMBOL EXPLANATION

Contact between geologic units - approximately located

Fault traces - solid where well located, dashed where approximately located or inferred, dotted where concealed, and queried where continuation or existence is uncertain. Ball and bar on downthrown side (relative or apparent). Arrows indicate direction of lateral movement (relative or apparent)

Thrust fault (barbs on upper plate)

Regional strike and dip of stratified rocks

Regional strike and dip of stratified rocks (overturned)

Anticlinal fold

Synclinal fold

Monoclinal fold

Source: Department of Conservation: Geologic Map of California, 2010

GEOLOGIC MAP	**Scale:** Not to Scale	**Date:** Sept. 2021
PROPOSED APPLE BEAR RETAIL CENTER 19439 BEAR VALLEY ROAD APPLE VALLEY, CALIFORNIA	**Drawn by:** MW	**Approved by:** DJ
	Project No. 112-21076	**Figure No.** 3

Krazan
GEOTECHNICAL ENGINEERING

APPENDIX A

FIELD AND LABORATORY INVESTIGATIONS

Field Investigation

The field investigation consisted of a surface reconnaissance and a subsurface exploratory program. Twenty-four 5½-inch diameter exploratory borings were advanced. The boring locations are shown on the site plan.

The soils encountered were logged in the field during the exploration and, with supplementary laboratory test data, are described in accordance with the Unified Soil Classification System.

Modified standard penetration tests and standard penetration tests were performed at selected depths. These tests represent the resistance to driving a 2½-inch and 1½-inch diameter split barrel sampler, respectively. The driving energy was provided by a hammer weighing 140 pounds falling 30 inches. Relatively undisturbed soil samples were obtained while performing this test. Bag samples of the disturbed soil were obtained from the auger cuttings. The modified standard penetration tests are identified in the sample type on the boring logs with a full shaded in block. The standard penetration tests are identified in the sample type on the boring logs with half of the block shaded. All samples were returned to our Clovis laboratory for evaluation.

Laboratory Investigation

The laboratory investigation was programmed to determine the physical and mechanical properties of the foundation soil underlying the site. Test results were used as criteria for determining the engineering suitability of the surface and subsurface materials encountered.

In-situ moisture content, dry density, consolidation, direct shear, and sieve analysis tests were completed for the undisturbed samples representative of the subsurface material. R-value tests were completed for select bag samples obtained from the auger cuttings. These tests, supplemented by visual observation, comprised the basis for our evaluation of the site material.

The logs of the exploratory borings and laboratory determinations are presented in this Appendix.

UNIFIED SOIL CLASSIFICATION SYSTEM

UNIFIED SOIL CLASSIFICATION AND SYMBOL CHART

COARSE-GRAINED SOILS (more than 50% of material is larger than No. 200 sieve size.)			
GRAVELS More than 50% of coarse fraction larger than No. 4 sieve size	Clean Gravels (Less than 5% fines)	GW	Well-graded gravels, gravel-sand mixtures, little or no fines
		GP	Poorly-graded gravels, gravel-sand mixtures, little or no fines
	Gravels with fines (More than 12% fines)	GM	Silty gravels, gravel-sand-silt mixtures
		GC	Clayey gravels, gravel-sand-clay mixtures
SANDS 50% or more of coarse fraction smaller than No. 4 sieve size	Clean Sands (Less than 5% fines)	SW	Well-graded sands, gravelly sands, little or no fines
		SP	Poorly graded sands, gravelly sands, little or no fines
	Sands with fines (More than 12% fines)	SM	Silty sands, sand-silt mixtures
		SC	Clayey sands, sand-clay mixtures
FINE-GRAINED SOILS (50% or more of material is smaller than No. 200 sieve size.)			
SILTS AND CLAYS Liquid limit less than 50%		ML	Inorganic silts and very fine sands, rock flour, silty of clayey fine sands or clayey silts with slight plasticity
		CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays
		OL	Organic silts and organic silty clays of low plasticity
SILTS AND CLAYS Liquid limit 50% or greater		MH	Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts
		CH	Inorganic clays of high plasticity, fat clays
		OH	Organic clays of medium to high plasticity, organic silts
HIGHLY ORGANIC SOILS		PT	Peat and other highly organic soils

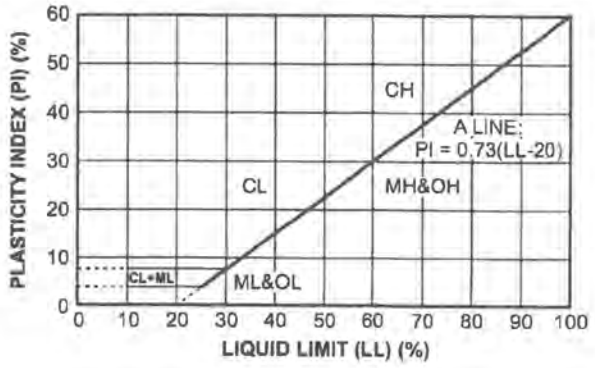
CONSISTENCY CLASSIFICATION

Description	Blows per Foot
Granular Soils	
Very Loose	< 5
Loose	5 – 15
Medium Dense	16 – 40
Dense	41 – 65
Very Dense	> 65
Cohesive Soils	
Very Soft	< 3
Soft	3 – 5
Firm	6 – 10
Stiff	11 – 20
Very Stiff	21 – 40
Hard	> 40

GRAIN SIZE CLASSIFICATION

Grain Type	*Standard Sieve Size*	*Grain Size in Millimeters*
Boulders	Above 12 inches	Above 305
Cobbles	12 to 13 inches	305 to 76.2
Gravel	3 inches to No. 4	76.2 to 4.76
Coarse-grained	3 to ¾ inches	76.2 to 19.1
Fine-grained	¾ inches to No. 4	19.1 to 4.76
Sand	No. 4 to No. 200	4.76 to 0.074
Coarse-grained	No. 4 to No. 10	4.76 to 2.00
Medium-grained	No. 10 to No. 40	2.00 to 0.042
Fine-grained	No. 40 to No. 200	0.042 to 0.074
Silt and Clay	Below No. 200	Below 0.074

PLASTICITY CHART



Log of Boring B1

Project: Retail Center

Project No: 112-21076

Client: Wood Investments

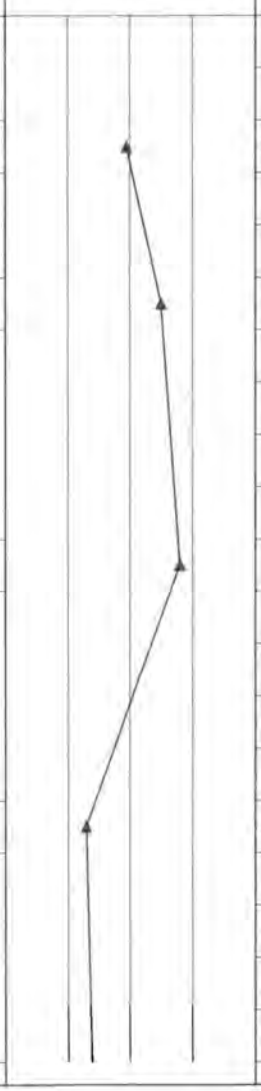
Figure No.: A-1

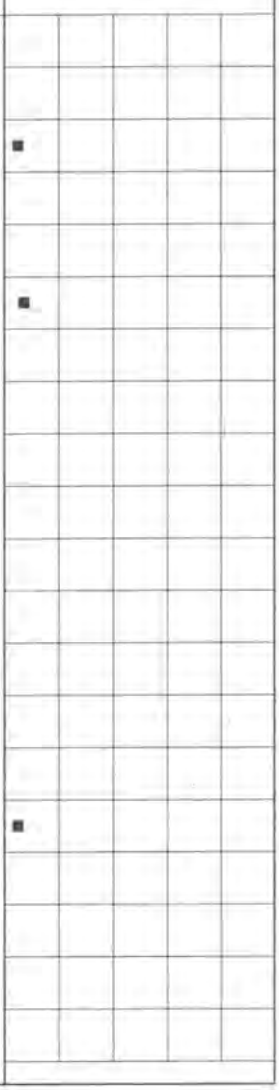
Location: 19439 Bear Valley Road, Apple Valley, California

Logged By: Angel Menchaca

Depth to Water> Not Encountered **Initial:** N/A **At Completion:** N/A

Depth (ft)	Symbol	Description	Dry Density (pcf)	Moisture (%)	Type	Blows/ft.
0		Ground Surface				
0		***SAND (SP)*** Very loose, fine- to medium-grained; brown, damp, drills easily Medium dense below 12 inches				
2			115.9	2.6		39
4						
4		***SILTY SAND (SM)*** Very dense, fine- to medium-grained; brown, damp, drills firmly	106.1	3.7		50+
6						
8						
10		Dense below 10 feet				56
12						
14						
14		***SILTY SAND/SAND (SM/SP)*** Medium dense, fine- to medium-grained; brown, damp, drills easily		2.5		26
16						
18						
20						





Drill Method: Hollow Stem

Drill Date: 7-29-21

Drill Rig: CME 75

Krazan and Associates

Hole Size: 5½ Inches

Driller: Whitcomb Drilling, Inc.

Elevation: 50 Feet

Log of Boring B1

Project: Retail Center

Project No: 112-21076

Client: Wood Investments

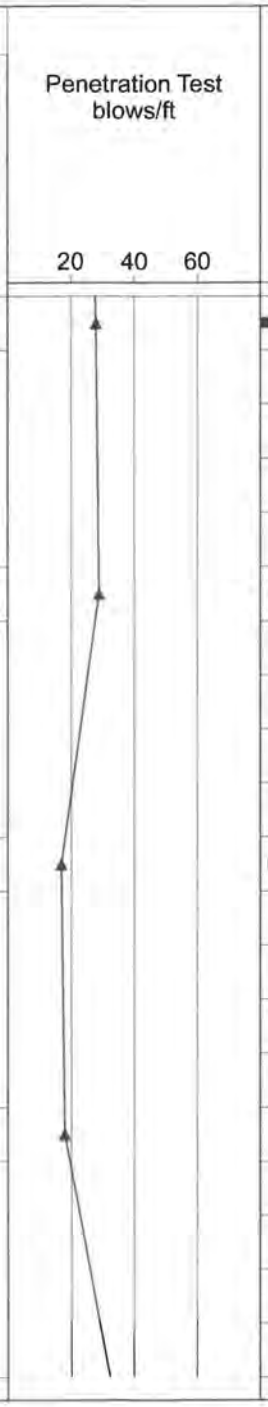
Figure No.: A-1

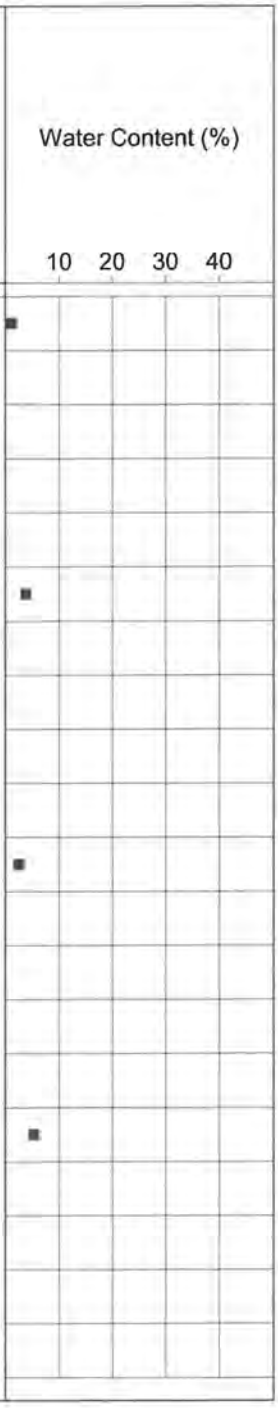
Location: 19439 Bear Valley Road, Apple Valley, California

Logged By: Angel Menchaca

Depth to Water> Not Encountered **Initial:** N/A **At Completion:** N/A

Depth (ft)	Symbol	Description	Dry Density (pcf)	Moisture (%)	Type	Blows/ft.
		SILTY SAND (SM) Medium dense, fine- to medium-grained; brown, damp, drills easily		1.2		28
22						
24				3.9		29
26						
28						
30		***SILTY SAND/SAND (SM/SP)*** Medium dense, fine- to medium-grained; brown, damp, drills easily		2.6		17
32						
34						
		SILTY SAND (SM) Medium dense, fine- to medium-grained; brown, damp, drills easily		5.4		18
36						
38						
40		Dense and drills firmly below 40 feet				





Drill Method: Hollow Stem

Drill Date: 7-29-21

Drill Rig: CME 75

Krazan and Associates

Hole Size: 5½ Inches

Driller: Whitcomb Drilling, Inc.

Elevation: 50 Feet

Log of Boring B1

Project: Retail Center

Project No: 112-21076

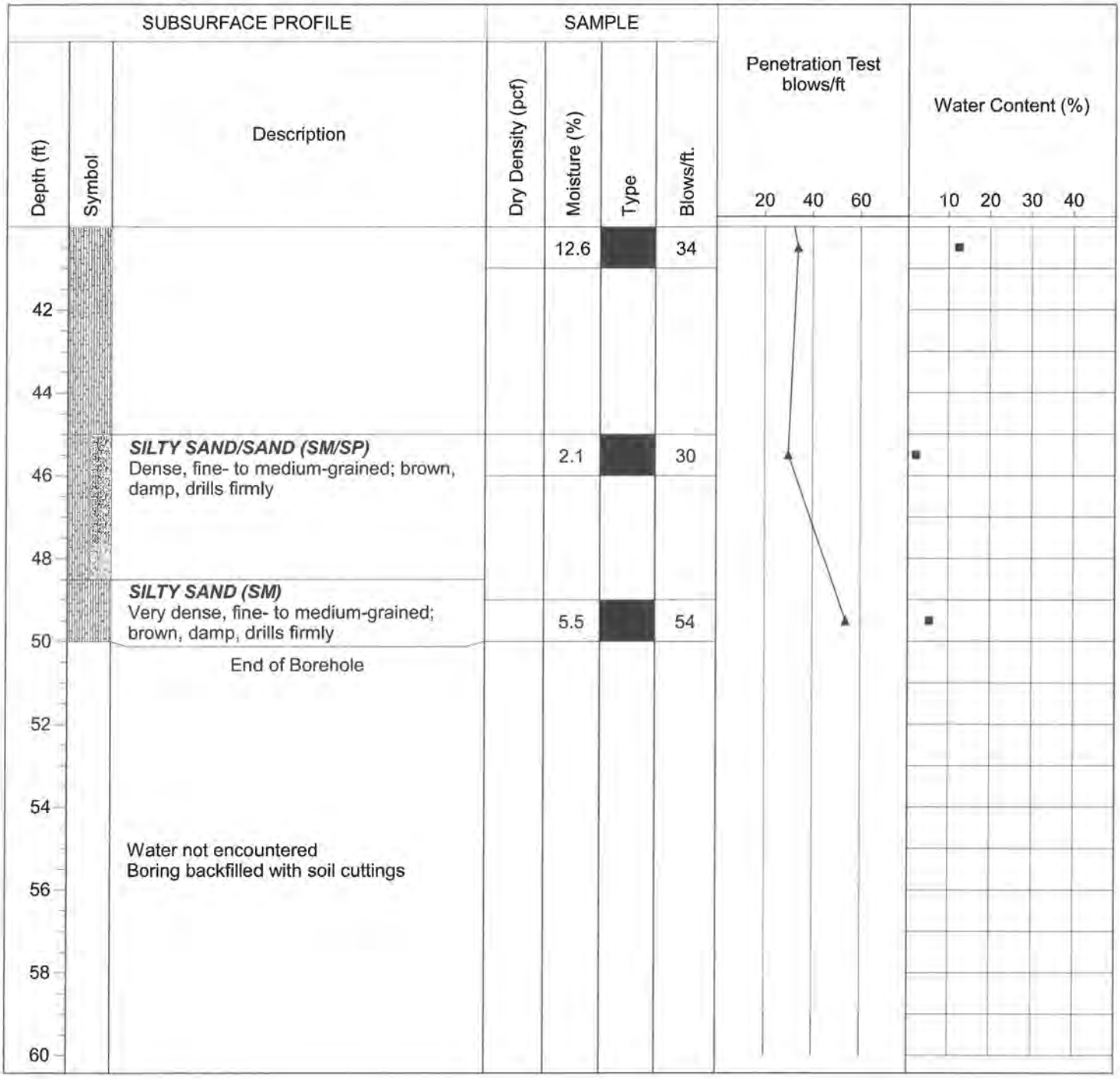
Client: Wood Investments

Figure No.: A-1

Location: 19439 Bear Valley Road, Apple Valley, California

Logged By: Angel Menchaca

Depth to Water> Not Encountered **Initial:** N/A **At Completion:** N/A



Drill Method: Hollow Stem

Drill Date: 7-29-21

Drill Rig: CME 75

Krazan and Associates

Hole Size: 5½ Inches

Driller: Whitcomb Drilling, Inc.

Elevation: 50 Feet

Log of Boring B2

Project: Retail Center

Project No: 112-21076

Client: Wood Investments

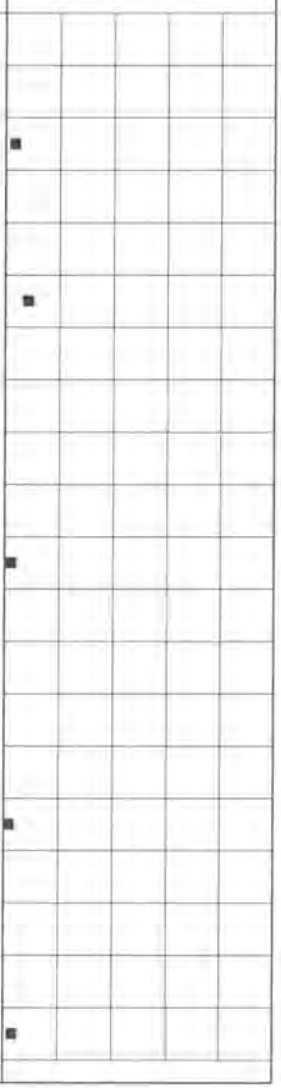
Figure No.: A-2

Location: 19439 Bear Valley Road, Apple Valley, California

Logged By: Angel Menchaca

Depth to Water> Not Encountered **Initial:** N/A **At Completion:** N/A

Depth (ft)	Symbol	Description	Dry Density (pcf)	Moisture (%)	Type	Blows/ft.
0		Ground Surface				
0		***SILTY SAND (SM)*** Very loose, fine- to medium-grained; brown, damp, drills easily Medium dense below 12 inches				
2			112.6	1.8		25
4						
6		Very dense below 5½ feet	108.4	4.3		50+
8						
10		***SAND (SP)*** Medium dense, fine- to coarse-grained; brown, damp, drills easily	103.1	1.3		39
12						
14		Dense below 15 feet		1.0		30
16						
18		Water not encountered Boring backfilled with soil cuttings				
20				1.7		34



Drill Method: Hollow Stem

Drill Date: 7-29-21

Drill Rig: CME 75

Krazan and Associates

Hole Size: 5½ Inches

Driller: Whitcomb Drilling, Inc.

Elevation: 20 Feet

Sheet: 1 of 1

Log of Boring B3

Project: Retail Center

Project No: 112-21076

Client: Wood Investments

Figure No.: A-3

Location: 19439 Bear Valley Road, Apple Valley, California

Logged By: Angel Menchaca

Depth to Water> Not Encountered

Initial: N/A

At Completion: N/A

Depth (ft)	Symbol	Description	Dry Density (pcf)	Moisture (%)	Type	Blows/ft.
0		Ground Surface				
0		***SILTY SAND (SM)*** Very loose, fine- to medium-grained; brown, damp, drills easily Medium dense below 12 inches				
4		Dense below 5 feet		5.0		44
8		Very dense below 9 feet		4.3		63
10		End of Borehole				
18		Water not encountered Boring backfilled with soil cuttings				

Penetration Test blows/ft: 20, 40, 60

Water Content (%): 10, 20, 30, 40

Drill Method: Hollow Stem

Drill Date: 7-29-21

Drill Rig: CME 75

Krazan and Associates

Hole Size: 5½ Inches

Driller: Whitcomb Drilling, Inc.

Elevation: 10 Feet

Sheet: 1 of 1

Log of Boring B4

Project: Retail Center

Project No: 112-21076

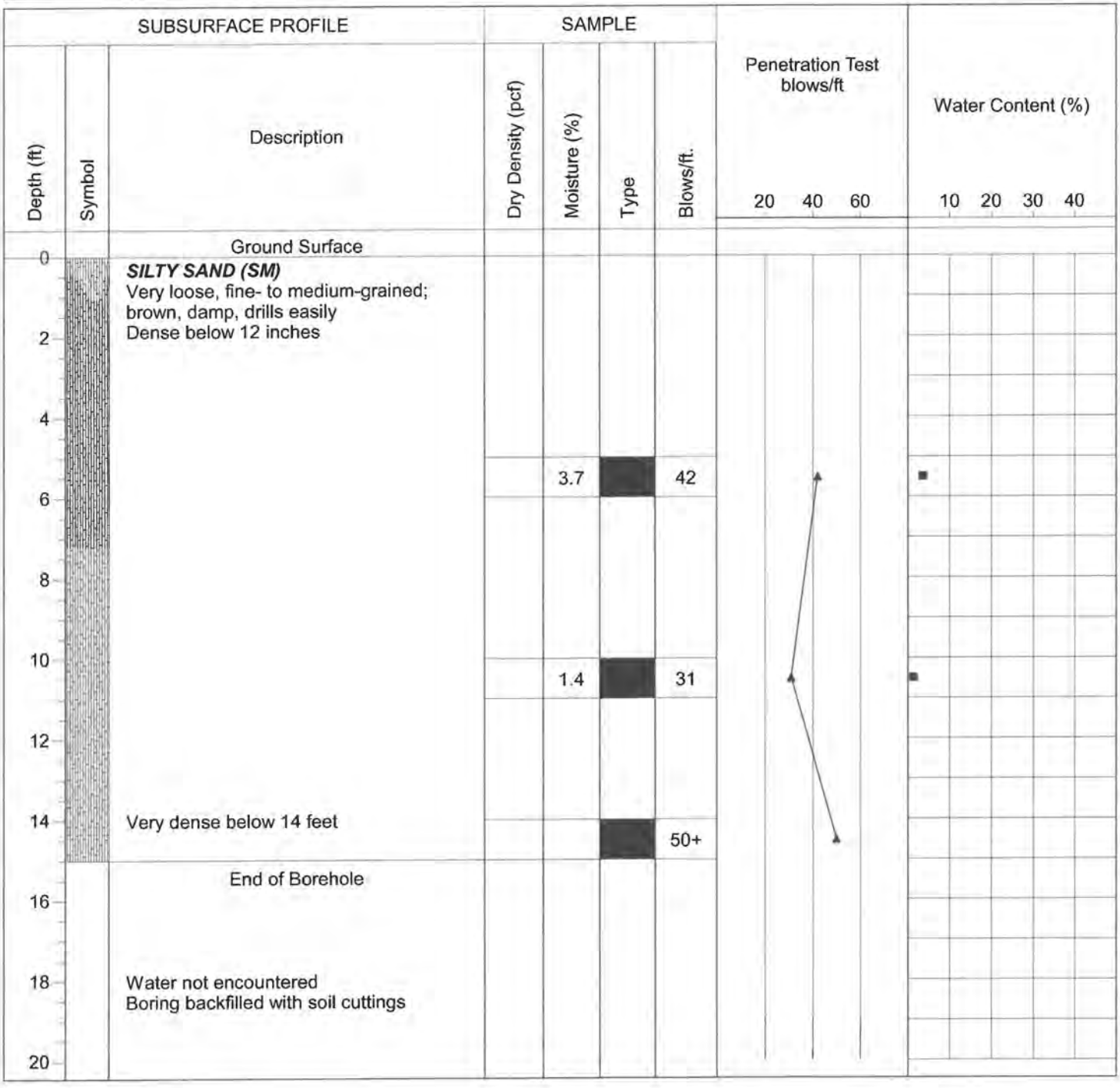
Client: Wood Investments

Figure No.: A-4

Location: 19439 Bear Valley Road, Apple Valley, California

Logged By: Angel Menchaca

Depth to Water> Not Encountered **Initial:** N/A **At Completion:** N/A



Drill Method: Hollow Stem

Drill Date: 7-29-21

Drill Rig: CME 75

Krazan and Associates

Hole Size: 5½ Inches

Driller: Whitcomb Drilling, Inc.

Elevation: 15 Feet

Sheet: 1 of 1

Log of Boring B5

Project: Retail Center

Project No: 112-21076

Client: Wood Investments

Figure No.: A-5

Location: 19439 Bear Valley Road, Apple Valley, California

Logged By: Angel Menchaca

Depth to Water> Not Encountered **Initial:** N/A **At Completion:** N/A

Depth (ft)	Symbol	Description	Dry Density (pcf)	Moisture (%)	Type	Blows/ft.
0		Ground Surface				
0		***SILTY SAND (SM)*** Very loose, fine- to medium-grained; brown, damp, drills easily Very dense below 12 inches				
2			113.9	6.5		50+
4		Medium dense below 5 feet				
6			109.6	3.3		30
8						
10		Very dense below 10 feet	101.6	2.4		50+
12						
14		Dense below 15 feet		0.9		34
16						
18						
20		Medium dense below 20 feet				

Penetration Test blows/ft: 20 40 60

Water Content (%): 10 20 30 40

Drill Method: Hollow Stem

Drill Date: 7-29-21

Drill Rig: CME 75

Krazan and Associates

Hole Size: 5½ Inches

Driller: Whitcomb Drilling, Inc.

Elevation: 25 Feet

Log of Boring B5

Project: Retail Center

Project No: 112-21076

Client: Wood Investments

Figure No.: A-5

Location: 19439 Bear Valley Road, Apple Valley, California

Logged By: Angel Menchaca

Depth to Water> Not Encountered **Initial:** N/A **At Completion:** N/A

Depth (ft)	Symbol	Description	Dry Density (pcf)	Moisture (%)	Type	Blows/ft.	Penetration Test blows/ft (20 40 60)	Water Content (%) (10 20 30 40)
				14.3		14		
22								
24				12.6		17		
		End of Borehole						
26								
28								
30								
32								
34								
		Water not encountered Boring backfilled with soil cuttings						
36								
38								
40								

Drill Method: Hollow Stem

Drill Date: 7-29-21

Drill Rig: CME 75

Krazan and Associates

Hole Size: 5½ Inches

Driller: Whitcomb Drilling, Inc.

Elevation: 25 Feet

Log of Boring B6

Project: Retail Center

Project No: 112-21076

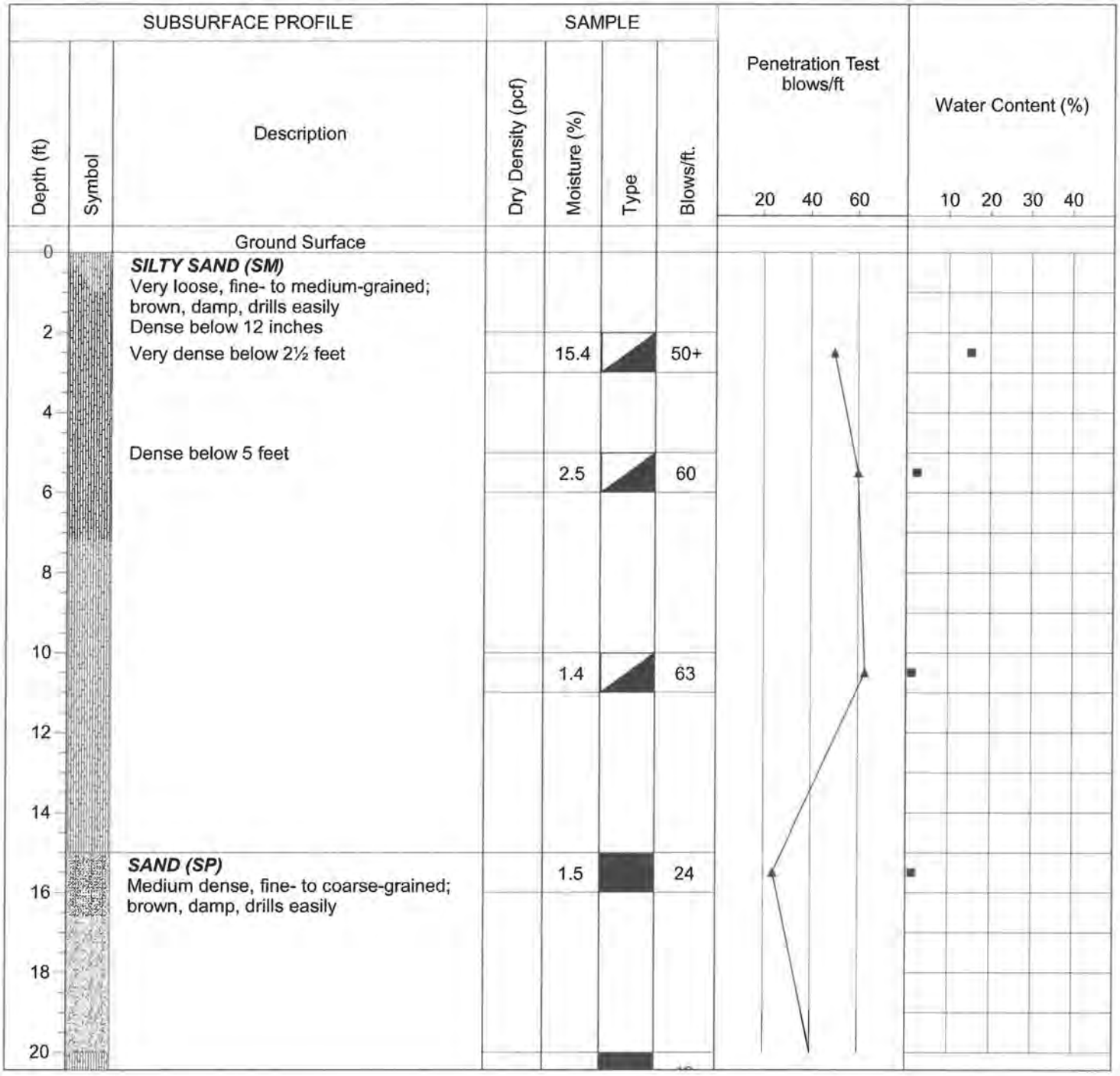
Client: Wood Investments

Figure No.: A-6

Location: 19439 Bear Valley Road, Apple Valley, California

Logged By: Angel Menchaca

Depth to Water> Not Encountered **Initial:** N/A **At Completion:** N/A



Drill Method: Hollow Stem

Drill Date: 7-29-21

Drill Rig: CME 75

Krazan and Associates

Hole Size: 5½ Inches

Driller: Whitcomb Drilling, Inc.

Elevation: 25 Feet

Log of Boring B6

Project: Retail Center

Project No: 112-21076

Client: Wood Investments

Figure No.: A-6

Location: 19439 Bear Valley Road, Apple Valley, California

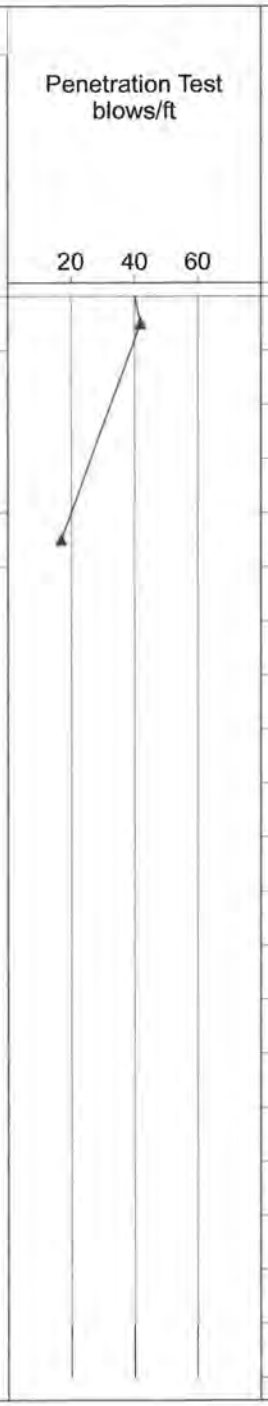
Logged By: Angel Menchaca

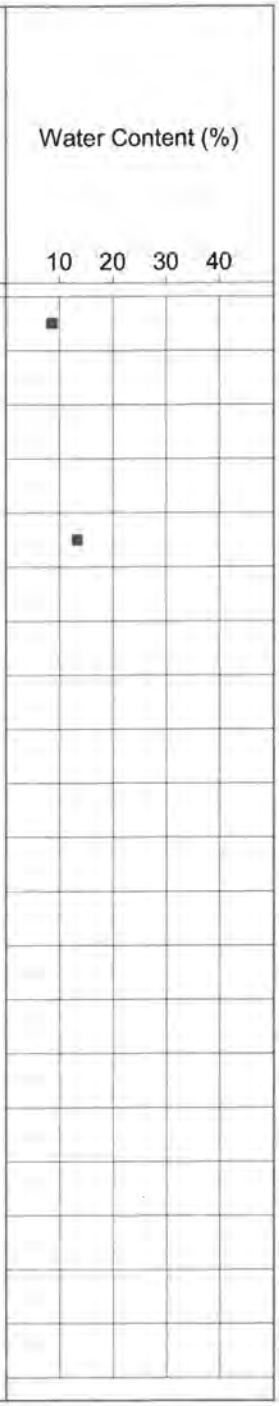
Depth to Water> Not Encountered

Initial: N/A

At Completion: N/A

Depth (ft)	Symbol	Description	Dry Density (pcf)	Moisture (%)	Type	Blows/ft.
22		***SILTY SAND (SM)*** Dense, fine- to medium-grained; brown, damp, drills firmly		8.7		42
24		Medium dense below 24 feet		13.4		17
26		End of Borehole				
28						
30						
32						
34						
36		Water not encountered Boring backfilled with soil cuttings				
38						
40						





Drill Method: Hollow Stem

Drill Date: 7-29-21

Drill Rig: CME 75

Krazan and Associates

Hole Size: 5½ Inches

Driller: Whitcomb Drilling, Inc.

Elevation: 25 Feet

Log of Boring B7

Project: Retail Center

Project No: 112-21076

Client: Wood Investments

Figure No.: A-7

Location: 19439 Bear Valley Road, Apple Valley, California

Logged By: Angel Menchaca

Depth to Water> Not Encountered

Initial: N/A

At Completion: N/A

Depth (ft)	Symbol	Description	Dry Density (pcf)	Moisture (%)	Type	Blows/ft.
0		Ground Surface				
0		***SILTY SAND (SM)*** Very loose, fine- to medium-grained; brown, damp, drills easily Medium dense below 12 inches				
4		Dense below 5 feet		3.0		37
8		***SAND (SP)*** Medium dense, fine- to coarse-grained; brown, damp, drills easily		1.0		26
12		***SILTY SAND (SM)*** Medium dense, fine- to medium-grained; brown, damp, drills easily		3.7		23
14		End of Borehole				
16		Water not encountered Boring backfilled with soil cuttings				
20						

Penetration Test blows/ft: 20, 40, 60

Water Content (%): 10, 20, 30, 40

Drill Method: Hollow Stem

Drill Date: 7-29-21

Drill Rig: CME 75

Krazan and Associates

Hole Size: 5½ Inches

Driller: Whitcomb Drilling, Inc.

Elevation: 15 Feet

Sheet: 1 of 1

Log of Boring B8

Project: Retail Center

Project No: 112-21076

Client: Wood Investments

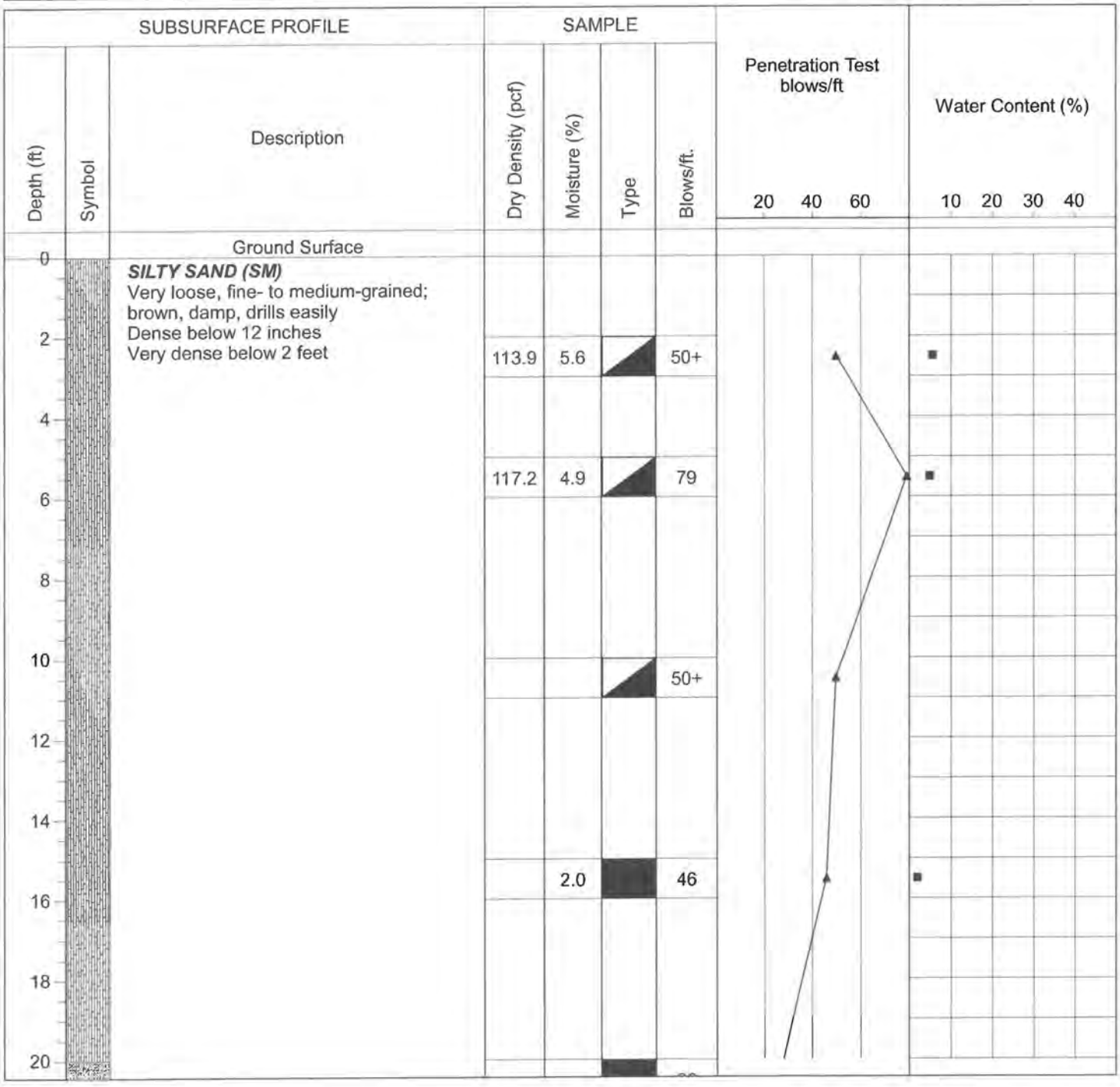
Figure No.: A-8

Location: 19439 Bear Valley Road, Apple Valley, California

Logged By: Angel Menchaca

Depth to Water> Not Encountered **Initial:** N/A

At Completion: N/A



Drill Method: Hollow Stem

Drill Date: 7-29-21

Drill Rig: CME 75

Krazan and Associates

Hole Size: 5½ Inches

Driller: Whitcomb Drilling, Inc.

Elevation: 25 Feet

Log of Boring B8

Project: Retail Center

Project No: 112-21076

Client: Wood Investments

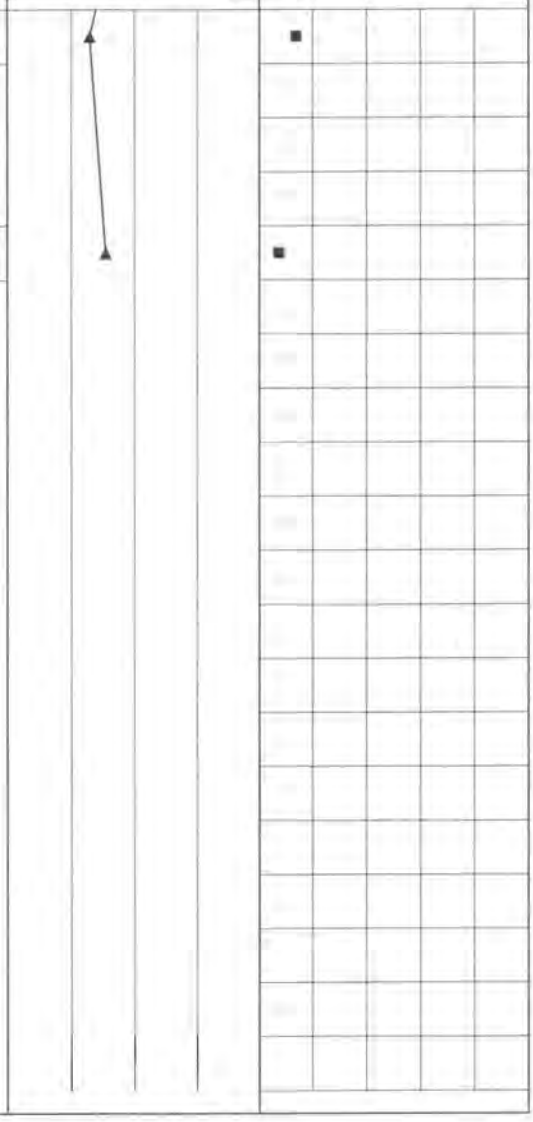
Figure No.: A-8

Location: 19439 Bear Valley Road, Apple Valley, California

Logged By: Angel Menchaca

Depth to Water> Not Encountered **Initial:** N/A **At Completion:** N/A

Depth (ft)	Symbol	Description	Dry Density (pcf)	Moisture (%)	Type	Blows/ft.
		SAND (SP) Medium dense, fine- to coarse-grained; brown, damp, drills easily		7.0		26
22						
24		Dense below 24 feet		3.8		31
		End of Borehole				
26						
28						
30						
32						
34						
		Water not encountered Boring backfilled with soil cuttings				
36						
38						
40						



Drill Method: Hollow Stem

Drill Date: 7-29-21

Drill Rig: CME 75

Krazan and Associates

Hole Size: 5½ Inches

Driller: Whitcomb Drilling, Inc.

Elevation: 25 Feet

Log of Boring B9

Project: Retail Center

Project No: 112-21076

Client: Wood Investments

Figure No.: A-9

Location: 19439 Bear Valley Road, Apple Valley, California

Logged By: Angel Menchaca

Depth to Water> Not Encountered **Initial:** N/A **At Completion:** N/A

Depth (ft)	Symbol	Description	Dry Density (pcf)	Moisture (%)	Type	Blows/ft.
0		Ground Surface				
0		***SILTY SAND (SM)*** Very loose, fine- to medium-grained; brown, damp, drills easily Medium dense below 12 inches				
6				8.3		20
10		***SAND (SP)*** Medium dense, fine- to coarse-grained; brown, damp, drills easily		1.5		20
14		Dense below 14 feet		1.0		32
16		End of Borehole				
18		Water not encountered Boring backfilled with soil cuttings				

Penetration Test blows/ft: 20 40 60

Water Content (%): 10 20 30 40

Drill Method: Hollow Stem

Drill Date: 7-29-21

Drill Rig: CME 75

Krazan and Associates

Hole Size: 5½ Inches

Driller: Whitcomb Drilling, Inc.

Elevation: 15 Feet

Sheet: 1 of 1

Log of Boring B10

Project: Retail Center

Project No: 112-21076

Client: Wood Investments

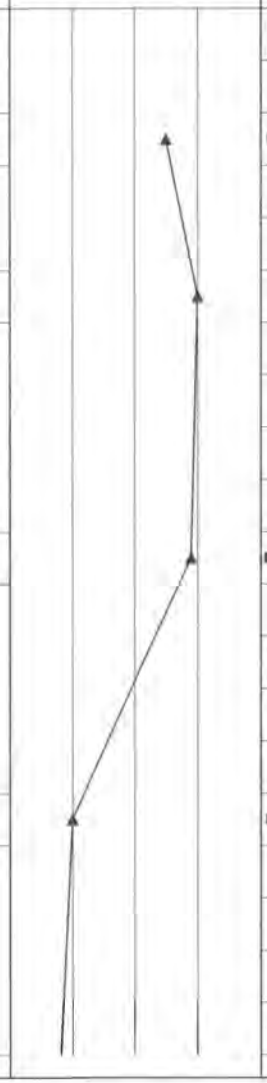
Figure No.: A-10

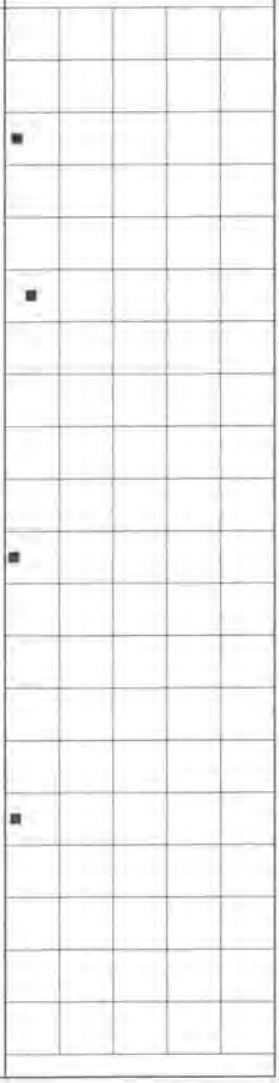
Location: 19439 Bear Valley Road, Apple Valley, California

Logged By: Angel Menchaca

Depth to Water> Not Encountered **Initial:** N/A **At Completion:** N/A

Depth (ft)	Symbol	Description	Dry Density (pcf)	Moisture (%)	Type	Blows/ft.
0		Ground Surface				
0		***SILTY SAND (SM)*** Very loose, fine- to medium-grained; brown, damp, drills easily Dense below 12 inches Very dense below 2 feet				
2			110.4	2.3		50+
4		Dense below 5 feet				
6			113.3	4.9		60
8						
10		***SAND (SP)*** Dense, fine- to coarse-grained; brown/light red, damp, drills firmly	100.0	1.7		58
12						
14		Medium dense below 15 feet				
16				2.0		20
18						
20						





Drill Method: Hollow Stem

Drill Date: 7-29-21

Drill Rig: CME 75

Krazan and Associates

Hole Size: 5½ Inches

Driller: Whitcomb Drilling, Inc.

Elevation: 25 Feet

Log of Boring B10

Project: Retail Center

Project No: 112-21076

Client: Wood Investments

Figure No.: A-10

Location: 19439 Bear Valley Road, Apple Valley, California

Logged By: Angel Menchaca

Depth to Water> Not Encountered **Initial:** N/A **At Completion:** N/A

Depth (ft)	Symbol	Description	Dry Density (pcf)	Moisture (%)	Type	Blows/ft.
		SILTY SAND (SM) Medium dense, fine- to medium-grained; brown, damp, drills easily		15.4		16
22						
24				16.0		10
		End of Borehole				
26						
28						
30						
32						
34						
		Water not encountered Boring backfilled with soil cuttings				
36						
38						
40						

Penetration Test blows/ft: 20 40 60

Water Content (%): 10 20 30 40

Drill Method: Hollow Stem

Drill Date: 7-29-21

Drill Rig: CME 75

Krazan and Associates

Hole Size: 5½ Inches

Driller: Whitcomb Drilling, Inc.

Elevation: 25 Feet

Log of Boring B11

Project: Retail Center

Project No: 112-21076

Client: Wood Investments

Figure No.: A-11

Location: 19439 Bear Valley Road, Apple Valley, California

Logged By: Angel Menchaca

Depth to Water> Not Encountered **Initial:** N/A **At Completion:** N/A

Depth (ft)	Symbol	Description	Dry Density (pcf)	Moisture (%)	Type	Blows/ft.
0		Ground Surface				
0		***SILTY SAND (SM)*** Very loose, fine- to medium-grained; brown, damp, drills easily				
2		Dense below 12 inches				
4						
6				8.0		38
8		Medium dense below 8 feet				
10				1.7		23
12						
14		***SAND (SP)*** Medium dense, fine- to coarse-grained; brown, damp, drills easily		1.2		25
16		End of Borehole				
18		Water not encountered Boring backfilled with soil cuttings				
20						

Penetration Test blows/ft: 20 40 60

Water Content (%): 10 20 30 40

Drill Method: Hollow Stem

Drill Date: 7-29-21

Drill Rig: CME 75

Krazan and Associates

Hole Size: 5½ Inches

Driller: Whitcomb Drilling, Inc.

Elevation: 15 Feet

Sheet: 1 of 1

Log of Boring B12

Project: Retail Center

Project No: 112-21076

Client: Wood Investments

Figure No.: A-12

Location: 19439 Bear Valley Road, Apple Valley, California

Logged By: Angel Menchaca

Depth to Water> Not Encountered **Initial:** N/A **At Completion:** N/A

Depth (ft)	Symbol	Description	Dry Density (pcf)	Moisture (%)	Type	Blows/ft.
0		Ground Surface				
0		***SILTY SAND (SM)*** Very loose, fine- to medium-grained; brown, damp, drills easily Medium dense below 12 inches				
2			103.5	5.0		28
4						
6		Very dense below 5½ feet	94.9	12.0		50+
8						
10		***SAND (SP)*** Dense, fine- to coarse-grained; brown, damp, drills easily	99.4	7.9		42
12						
14		Medium dense below 15 feet		1.1		25
16						
18						
20						

Penetration Test blows/ft: 20 40 60

Water Content (%): 10 20 30 40

Drill Method: Hollow Stem

Drill Rig: CME 75

Driller: Whitcomb Drilling, Inc.

Krazan and Associates

Drill Date: 7-29-21

Hole Size: 5½ Inches

Elevation: 25 Feet

Log of Boring B12

Project: Retail Center

Project No: 112-21076

Client: Wood Investments

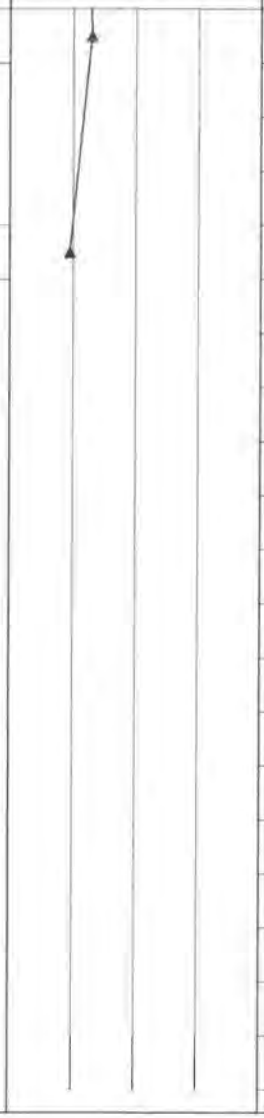
Figure No.: A-12

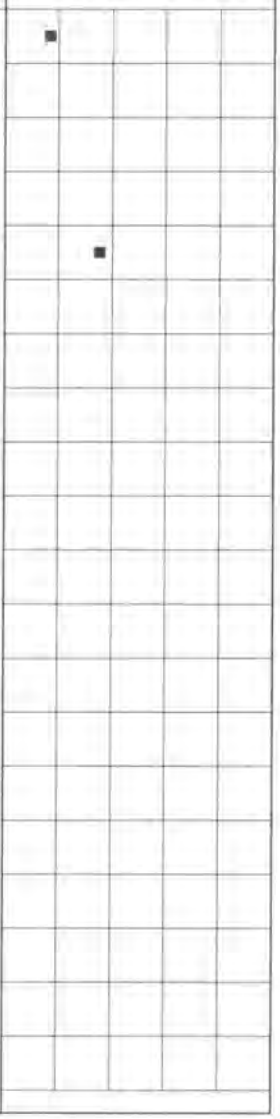
Location: 19439 Bear Valley Road, Apple Valley, California

Logged By: Angel Menchaca

Depth to Water> Not Encountered **Initial:** N/A **At Completion:** N/A

Depth (ft)	Symbol	Description	Dry Density (pcf)	Moisture (%)	Type	Blows/ft.
		SILTY SAND (SM) Medium dense, fine- to medium-grained; brown, damp, drills easily		8.5		26
22						
24				17.7		19
		End of Borehole				
26						
28						
30						
32						
34						
		Water not encountered Boring backfilled with soil cuttings				
36						
38						
40						





Drill Method: Hollow Stem

Drill Date: 7-29-21

Drill Rig: CME 75

Krazan and Associates

Hole Size: 5½ Inches

Driller: Whitcomb Drilling, Inc.

Elevation: 25 Feet

Log of Boring B13

Project: Retail Center

Project No: 112-21076

Client: Wood Investments

Figure No.: A-13

Location: 19439 Bear Valley Road, Apple Valley, California

Logged By: Angel Menchaca

Depth to Water> Not Encountered

Initial: N/A

At Completion: N/A

Depth (ft)	Symbol	Description	Dry Density (pcf)	Moisture (%)	Type	Blows/ft.	Penetration Test blows/ft (20 40 60)	Water Content (%) (10 20 30 40)
0		Ground Surface						
0		***SILTY SAND (SM)*** Very loose, fine- to medium-grained; brown, damp, drills easily Medium dense below 12 inches						
6				8.4		21		
10		***SAND (SP)*** Medium dense, fine- to coarse-grained; brown, damp, drills easily		1.5		26		
14				1.2		24		
16		End of Borehole						
18		Water not encountered Boring backfilled with soil cuttings						
20								

Drill Method: Hollow Stem

Drill Date: 7-29-21

Drill Rig: CME 75

Krazan and Associates

Hole Size: 5½ Inches

Driller: Whitcomb Drilling, Inc.

Elevation: 15 Feet

Sheet: 1 of 1

Log of Boring B14

Project: Retail Center

Project No: 112-21076

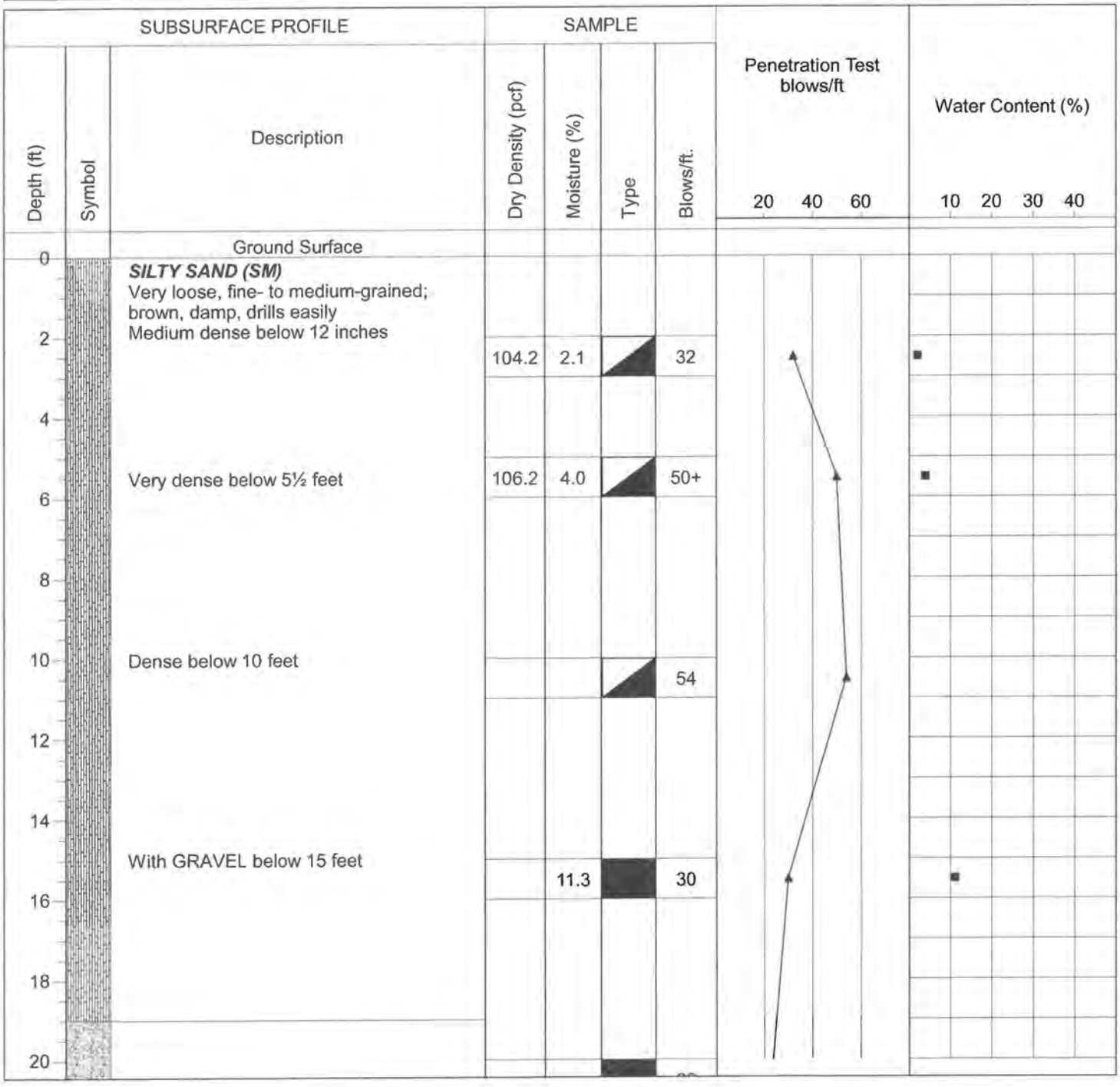
Client: Wood Investments

Figure No.: A-14

Location: 19439 Bear Valley Road, Apple Valley, California

Logged By: Angel Menchaca

Depth to Water> Not Encountered **Initial:** N/A **At Completion:** N/A



Drill Method: Hollow Stem

Drill Date: 7-29-21

Drill Rig: CME 75

Krazan and Associates

Hole Size: 5½ Inches

Driller: Whitcomb Drilling, Inc.

Elevation: 25 Feet

Log of Boring B14

Project: Retail Center

Project No: 112-21076

Client: Wood Investments

Figure No.: A-14

Location: 19439 Bear Valley Road, Apple Valley, California

Logged By: Angel Menchaca

Depth to Water> Not Encountered **Initial:** N/A **At Completion:** N/A

Depth (ft)	Symbol	Description	Dry Density (pcf)	Moisture (%)	Type	Blows/ft.	Penetration Test blows/ft (20 40 60)	Water Content (%) (10 20 30 40)
22		***SAND (SP)*** Medium dense, fine- to coarse-grained; brown, damp, drills easily		15.7		23		
24		***SILTY SAND (SM)*** Medium dense, fine- to medium-grained; brown, damp, drills easily		3.0		17		
26		End of Borehole						
28								
30								
32								
34								
36		Water not encountered Boring backfilled with soil cuttings						
38								
40								

Drill Method: Hollow Stem

Drill Date: 7-29-21

Drill Rig: CME 75

Krazan and Associates

Hole Size: 5½ Inches

Driller: Whitcomb Drilling, Inc.

Elevation: 25 Feet

Log of Boring B15

Project: Retail Center

Project No: 112-21076

Client: Wood Investments

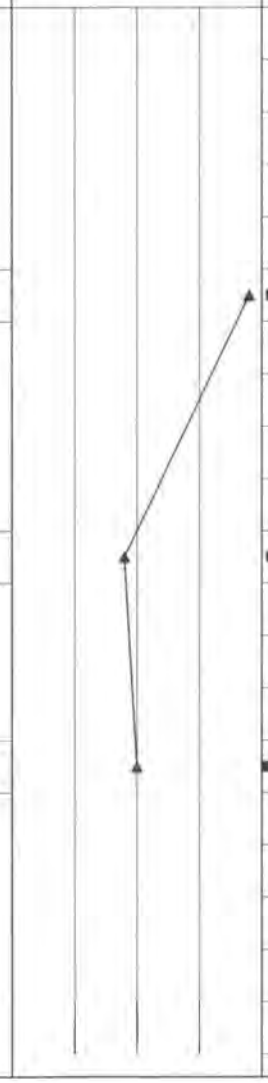
Figure No.: A-15

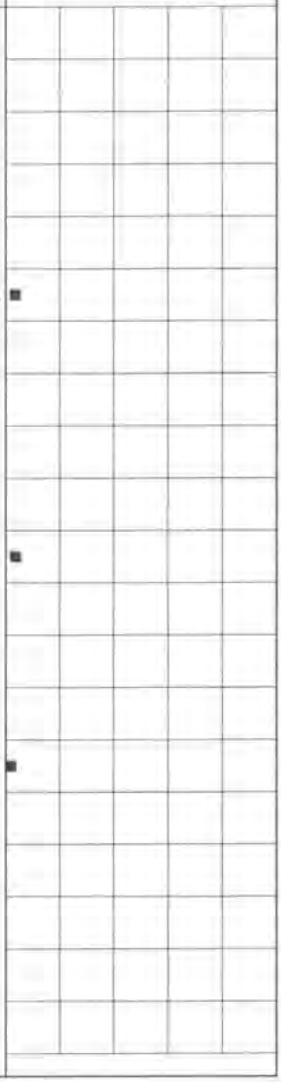
Location: 19439 Bear Valley Road, Apple Valley, California

Logged By: Angel Menchaca

Depth to Water> Not Encountered **Initial:** N/A **At Completion:** N/A

Depth (ft)	Symbol	Description	Dry Density (pcf)	Moisture (%)	Type	Blows/ft.
0		Ground Surface				
0		***SILTY SAND (SM)*** Very loose, fine- to medium-grained; brown, damp, drills easily Very dense below 12 inches				
6				1.8		76
10		Dense below 10 feet		1.9		36
14				1.0		40
16		End of Borehole				
18		Water not encountered Boring backfilled with soil cuttings				





Drill Method: Hollow Stem

Drill Date: 7-29-21

Drill Rig: CME 75

Krazan and Associates

Hole Size: 5½ Inches

Driller: Whitcomb Drilling, Inc.

Elevation: 15 Feet

Sheet: 1 of 1

Log of Boring B16

Project: Retail Center

Project No: 112-21076

Client: Wood Investments

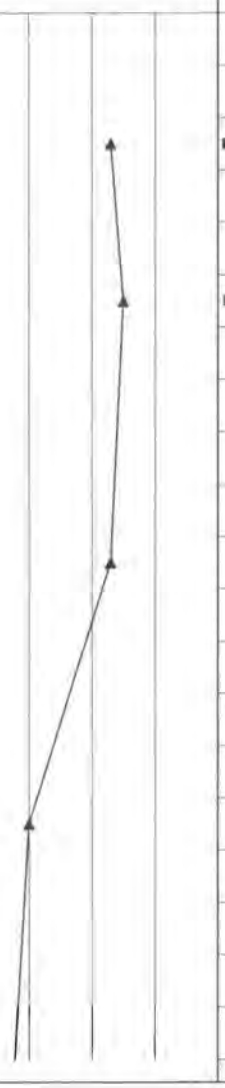
Figure No.: A-16

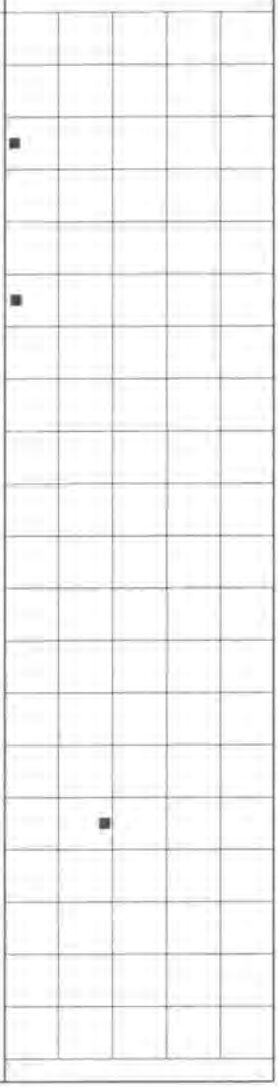
Location: 19439 Bear Valley Road, Apple Valley, California

Logged By: Angel Menchaca

Depth to Water> Not Encountered **Initial:** N/A **At Completion:** N/A

Depth (ft)	Symbol	Description	Dry Density (pcf)	Moisture (%)	Type	Blows/ft.
0		Ground Surface				
0		***SILTY SAND (SM)*** Very loose, fine- to medium-grained; brown, damp, drills easily Dense below 12 inches				
2			105.1	1.9		46
4						
6		Very dense below 5½ feet	90.7	2.2		50+
8						
10		Dense below 10 feet				48
12						
14						
16		***SANDY SILT (ML)*** Medium dense, fine- to medium-grained; brown, damp, drills easily		18.6		20
18						
20						





Drill Method: Hollow Stem

Drill Date: 7-29-21

Drill Rig: CME 75

Krazan and Associates

Hole Size: 5½ Inches

Driller: Whitcomb Drilling, Inc.

Elevation: 25 Feet

Log of Boring B16

Project: Retail Center

Project No: 112-21076

Client: Wood Investments

Figure No.: A-16

Location: 19439 Bear Valley Road, Apple Valley, California

Logged By: Angel Menchaca

Depth to Water> Not Encountered **Initial:** N/A **At Completion:** N/A

Depth (ft)	Symbol	Description	Dry Density (pcf)	Moisture (%)	Type	Blows/ft.
				1.9		15
22						
24		***SAND (SP)*** Medium dense, fine- to coarse-grained; brown, damp, drills easily		11.2		17
		End of Borehole				
26						
28						
30						
32						
34		Water not encountered Boring backfilled with soil cuttings				
36						
38						
40						

Penetration Test blows/ft: 20, 40, 60

Water Content (%): 10, 20, 30, 40

Drill Method: Hollow Stem

Drill Date: 7-29-21

Drill Rig: CME 75

Krazan and Associates

Hole Size: 5½ Inches

Driller: Whitcomb Drilling, Inc.

Elevation: 25 Feet

Log of Boring B17

Project: Retail Center

Project No: 112-21076

Client: Wood Investments

Figure No.: A-17

Location: 19439 Bear Valley Road, Apple Valley, California

Logged By: Angel Menchaca

Depth to Water> Not Encountered **Initial:** N/A **At Completion:** N/A

Depth (ft)	Symbol	Description	Dry Density (pcf)	Moisture (%)	Type	Blows/ft.
0		Ground Surface				
0		***SILTY SAND (SM)*** Very loose, fine- to medium-grained; brown, damp, drills easily Dense below 12 inches				
4		Very dense below 5 feet		2.7	■	55
10		***SANDY SILT (ML)*** Very dense, fine- to medium-grained; brown, damp, drills firmly		7.2	■	64
14		***SILTY SAND (SM)*** Medium dense, fine- to medium-grained; brown, damp, drills easily		1.9	■	20
16		End of Borehole				
18		Water not encountered Boring backfilled with soil cuttings				

Penetration Test blows/ft: 20 40 60

Water Content (%): 10 20 30 40

Drill Method: Hollow Stem

Drill Date: 7-29-21

Drill Rig: CME 75

Krazan and Associates

Hole Size: 5½ Inches

Driller: Whitcomb Drilling, Inc.

Elevation: 15 Feet

Sheet: 1 of 1

Log of Boring B18

Project: Retail Center

Project No: 112-21076

Client: Wood Investments

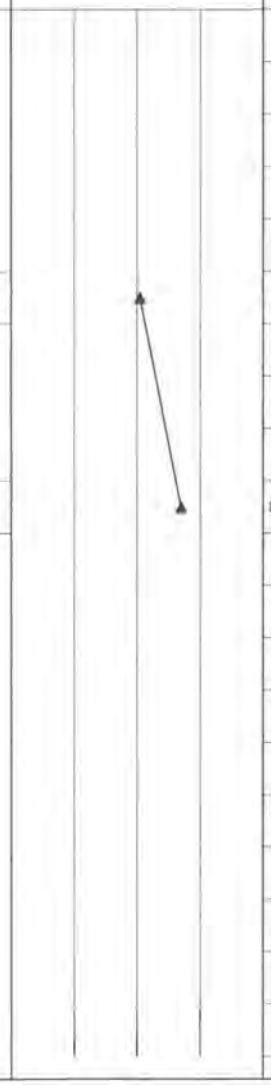
Figure No.: A-18

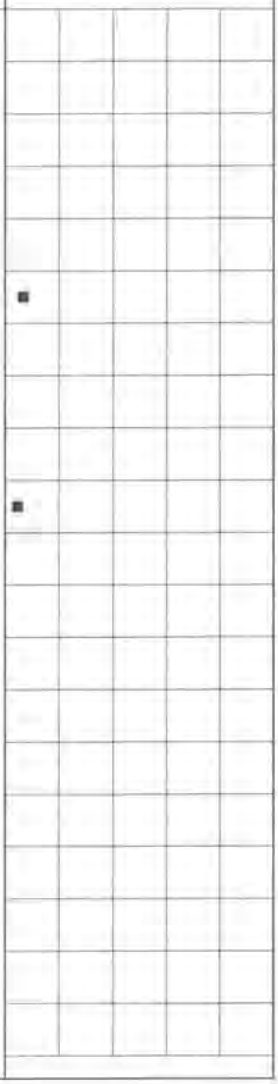
Location: 19439 Bear Valley Road, Apple Valley, California

Logged By: Angel Menchaca

Depth to Water> Not Encountered **Initial:** N/A **At Completion:** N/A

Depth (ft)	Symbol	Description	Dry Density (pcf)	Moisture (%)	Type	Blows/ft.
0		Ground Surface				
0		***SILTY SAND (SM)*** Very loose, fine- to medium-grained; brown, damp, drills easily Dense below 12 inches				
6				3.5		41
8		Very dense below 9 feet				
10				2.4		54
10		End of Borehole				
18		Water not encountered Boring backfilled with soil cuttings				





Drill Method: Hollow Stem

Drill Date: 7-29-21

Drill Rig: CME 75

Krazan and Associates

Hole Size: 5½ Inches

Driller: Whitcomb Drilling, Inc.

Elevation: 10 Feet

Sheet: 1 of 1

Log of Boring B19

Project: Retail Center

Project No: 112-21076

Client: Wood Investments

Figure No.: A-19

Location: 19439 Bear Valley Road, Apple Valley, California

Logged By: Angel Menchaca

Depth to Water> Not Encountered **Initial:** N/A **At Completion:** N/A

Depth (ft)	Symbol	Description	Dry Density (pcf)	Moisture (%)	Type	Blows/ft.	Penetration Test blows/ft (20 40 60)	Water Content (%) (10 20 30 40)
0		Ground Surface						
0		***SILTY SAND (SM)*** Very loose, fine- to medium-grained; brown, damp, drills easily						
2		Medium dense below 12 inches						
4								
6				4.0		22		■
8								
8		Very dense below 9 feet		4.3		46		■
10		End of Borehole						
12								
14								
16								
18		Water not encountered Boring backfilled with soil cuttings						
20								

Drill Method: Hollow Stem

Drill Date: 7-29-21

Drill Rig: CME 75

Krazan and Associates

Hole Size: 5½ Inches

Driller: Whitcomb Drilling, Inc.

Elevation: 10 Feet

Sheet: 1 of 1

Log of Boring B20

Project: Retail Center

Project No: 112-21076

Client: Wood Investments

Figure No.: A-20

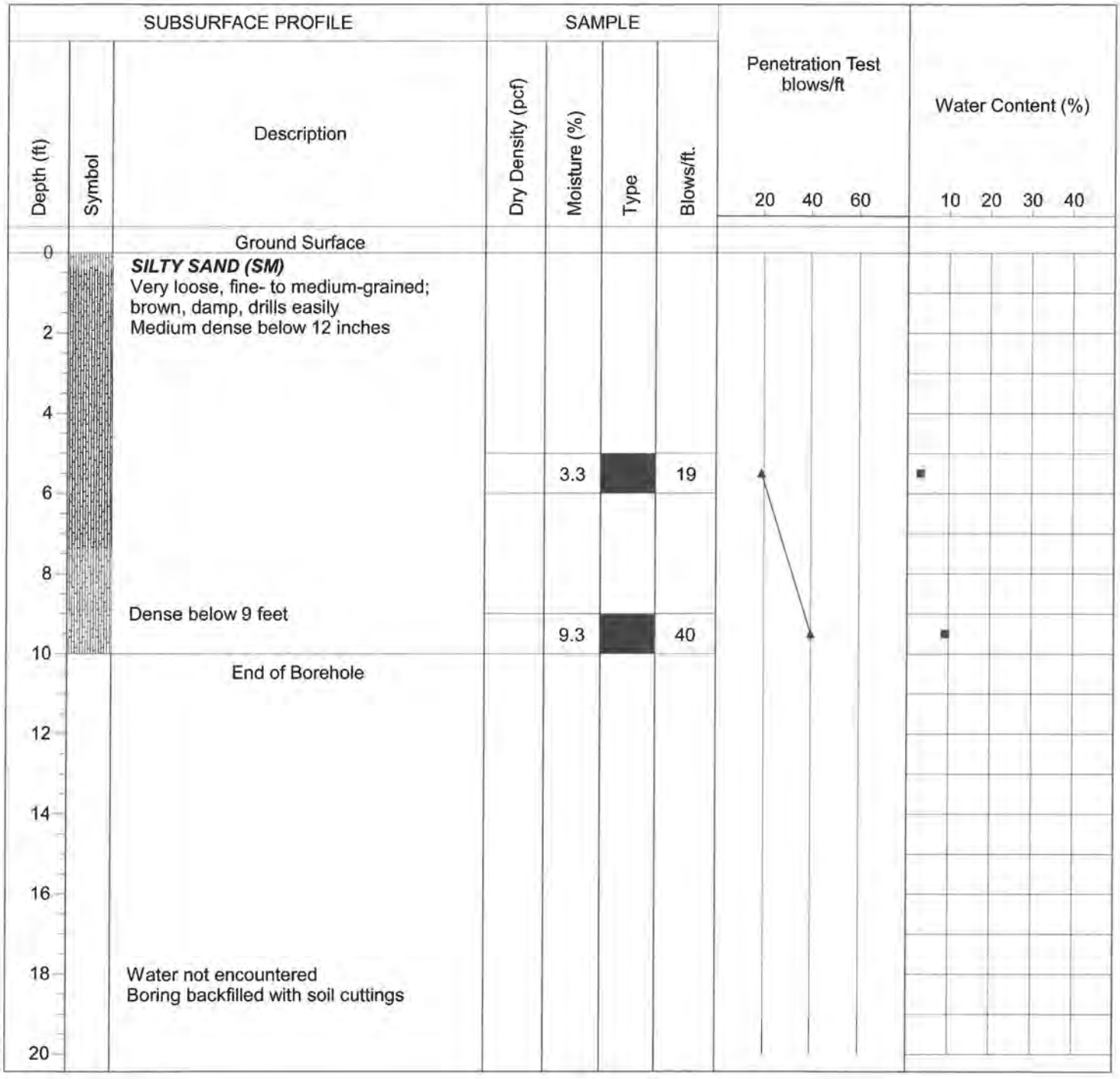
Location: 19439 Bear Valley Road, Apple Valley, California

Logged By: Angel Menchaca

Depth to Water> Not Encountered

Initial: N/A

At Completion: N/A



Drill Method: Hollow Stem

Drill Date: 7-29-21

Drill Rig: CME 75

Krazan and Associates

Hole Size: 5½ Inches

Driller: Whitcomb Drilling, Inc.

Elevation: 10 Feet

Sheet: 1 of 1

Log of Boring B21

Project: Retail Center

Project No: 112-21076

Client: Wood Investments

Figure No.: A-21

Location: 19439 Bear Valley Road, Apple Valley, California

Logged By: Angel Menchaca

Depth to Water> Not Encountered **Initial:** N/A **At Completion:** N/A

Depth (ft)	Symbol	Description	Dry Density (pcf)	Moisture (%)	Type	Blows/ft.	Penetration Test blows/ft (20 40 60)	Water Content (%) (10 20 30 40)
0		Ground Surface						
0		***SILTY SAND (SM)*** Very loose, fine- to medium-grained; brown, damp, drills easily Very dense below 12 inches						
6				3.0		53		
8		***SAND (SP)*** Medium dense, fine- to coarse-grained; brown, damp, drills easily		1.2		20		
10		End of Borehole						
18		Water not encountered Boring backfilled with soil cuttings						

Drill Method: Hollow Stem

Drill Date: 7-29-21

Drill Rig: CME 75

Krazan and Associates

Hole Size: 5½ Inches

Driller: Whitcomb Drilling, Inc.

Elevation: 10 Feet

Sheet: 1 of 1

Log of Boring B22

Project: Retail Center

Project No: 112-21076

Client: Wood Investments

Figure No.: A-22

Location: 19439 Bear Valley Road, Apple Valley, California

Logged By: Angel Menchaca

Depth to Water> Not Encountered

Initial: N/A

At Completion: N/A

Depth (ft)	Symbol	Description	Dry Density (pcf)	Moisture (%)	Type	Blows/ft.	Penetration Test blows/ft (20 40 60)	Water Content (%) (10 20 30 40)
0		Ground Surface						
0		***SILTY SAND (SM)*** Very loose, fine- to medium-grained; brown, damp, drills easily Dense below 12 inches						
6				1.9		41		■
10				2.1		44		■
10		End of Borehole						
18		Water not encountered Boring backfilled with soil cuttings						

Drill Method: Hollow Stem

Drill Date: 7-29-21

Drill Rig: CME 75

Krazan and Associates

Hole Size: 5½ Inches

Driller: Whitcomb Drilling, Inc.

Elevation: 10 Feet

Sheet: 1 of 1

Log of Boring B23

Project: Retail Center

Project No: 112-21076

Client: Wood Investments

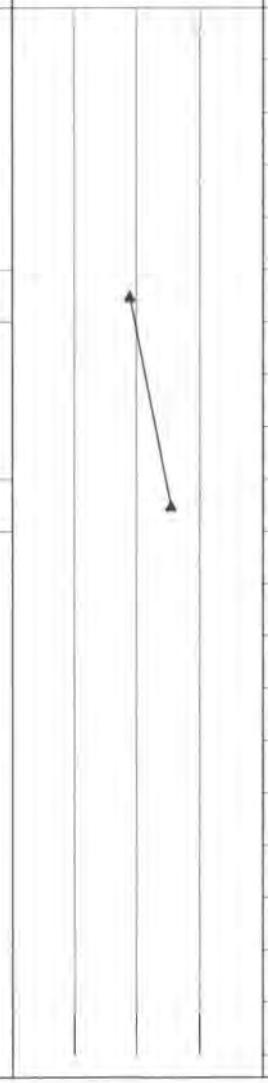
Figure No.: A-23

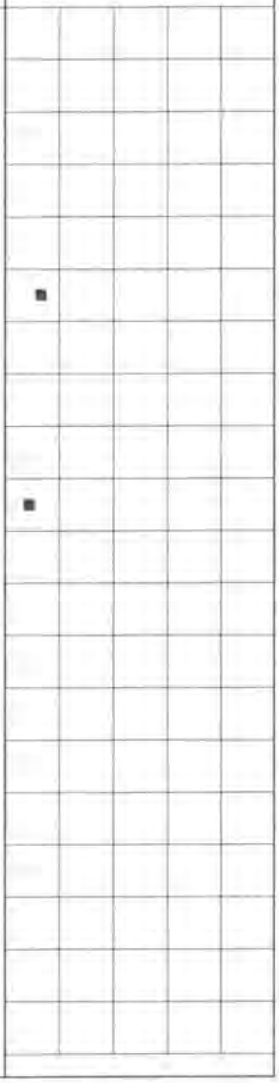
Location: 19439 Bear Valley Road, Apple Valley, California

Logged By: Angel Menchaca

Depth to Water> Not Encountered **Initial:** N/A **At Completion:** N/A

Depth (ft)	Symbol	Description	Dry Density (pcf)	Moisture (%)	Type	Blows/ft.
0		Ground Surface				
0		***SILTY SAND (SM)*** Very loose, fine- to medium-grained; brown, damp, drills easily				
2		Dense below 12 inches				
4						
6				6.7		38
8		Very dense below 10 feet				
10				4.5		51
10		End of Borehole				
12						
14						
16						
18		Water not encountered Boring backfilled with soil cuttings				
20						





Drill Method: Hollow Stem

Drill Date: 7-29-21

Drill Rig: CME 75

Krazan and Associates

Hole Size: 5½ Inches

Driller: Whitcomb Drilling, Inc.

Elevation: 10 Feet

Sheet: 1 of 1

Log of Boring B24

Project: Retail Center

Project No: 112-21076

Client: Wood Investments

Figure No.: A-24

Location: 19439 Bear Valley Road, Apple Valley, California

Logged By: Angel Menchaca

Depth to Water> Not Encountered **Initial:** N/A **At Completion:** N/A

Depth (ft)	Symbol	Description	Dry Density (pcf)	Moisture (%)	Type	Blows/ft.	Penetration Test blows/ft (20 40 60)	Water Content (%) (10 20 30 40)
0		Ground Surface						
0		***SILTY SAND (SM)*** Very loose, fine- to medium-grained; brown, damp, drills easily Very dense below 12 inches						
6				1.8		65		
10				3.4		52		
10		End of Borehole						
18		Water not encountered Boring backfilled with soil cuttings						

Drill Method: Hollow Stem

Drill Date: 7-29-21

Drill Rig: CME 75

Krazan and Associates

Hole Size: 5½ Inches

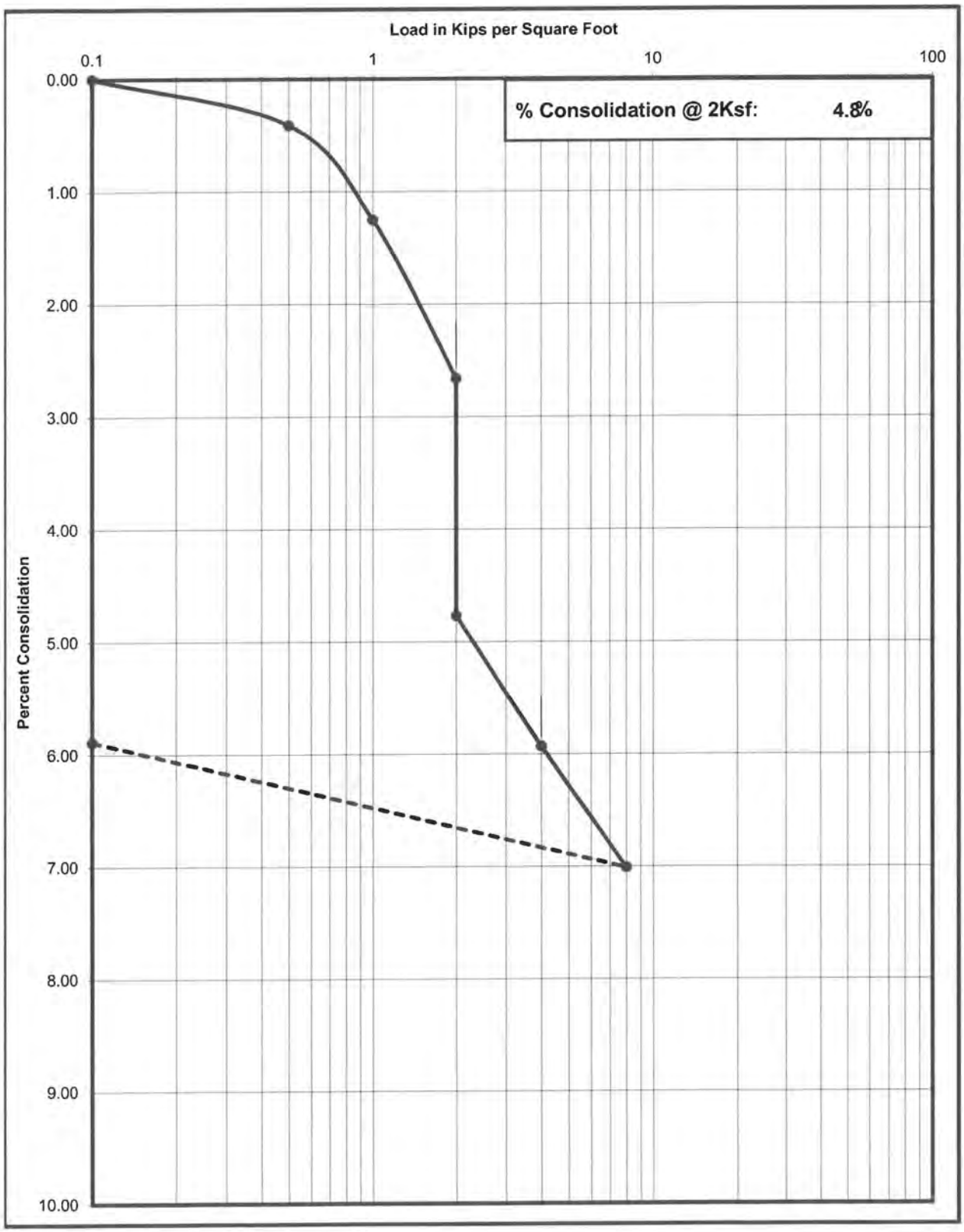
Driller: Whitcomb Drilling, Inc.

Elevation: 10 Feet

Sheet: 1 of 1

Consolidation Test

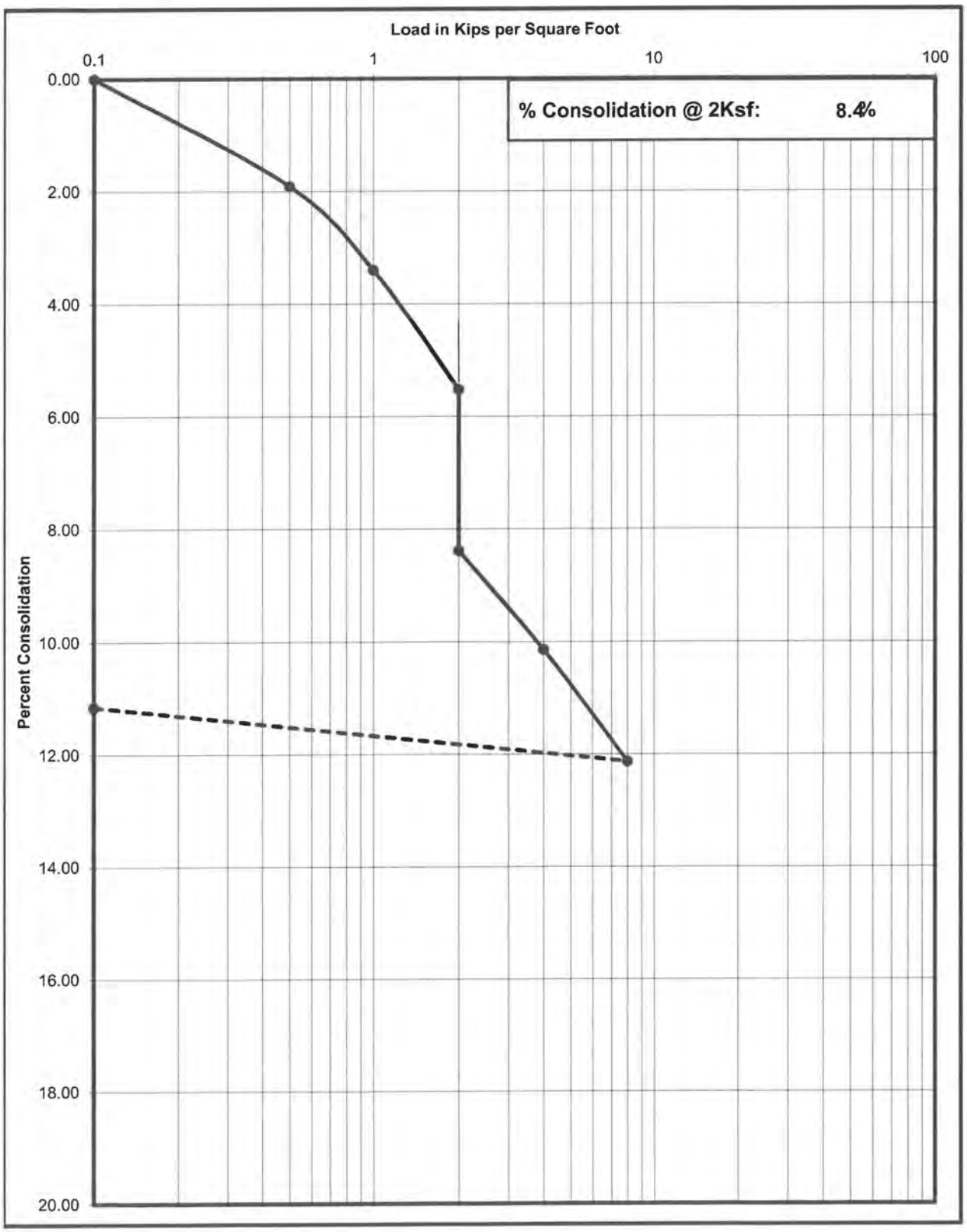
Project No	Boring No. & Depth	Date	Soil Classification
11221076	B-1 @ 2'	8/10/2021	SP



Krazan Testing Laboratory

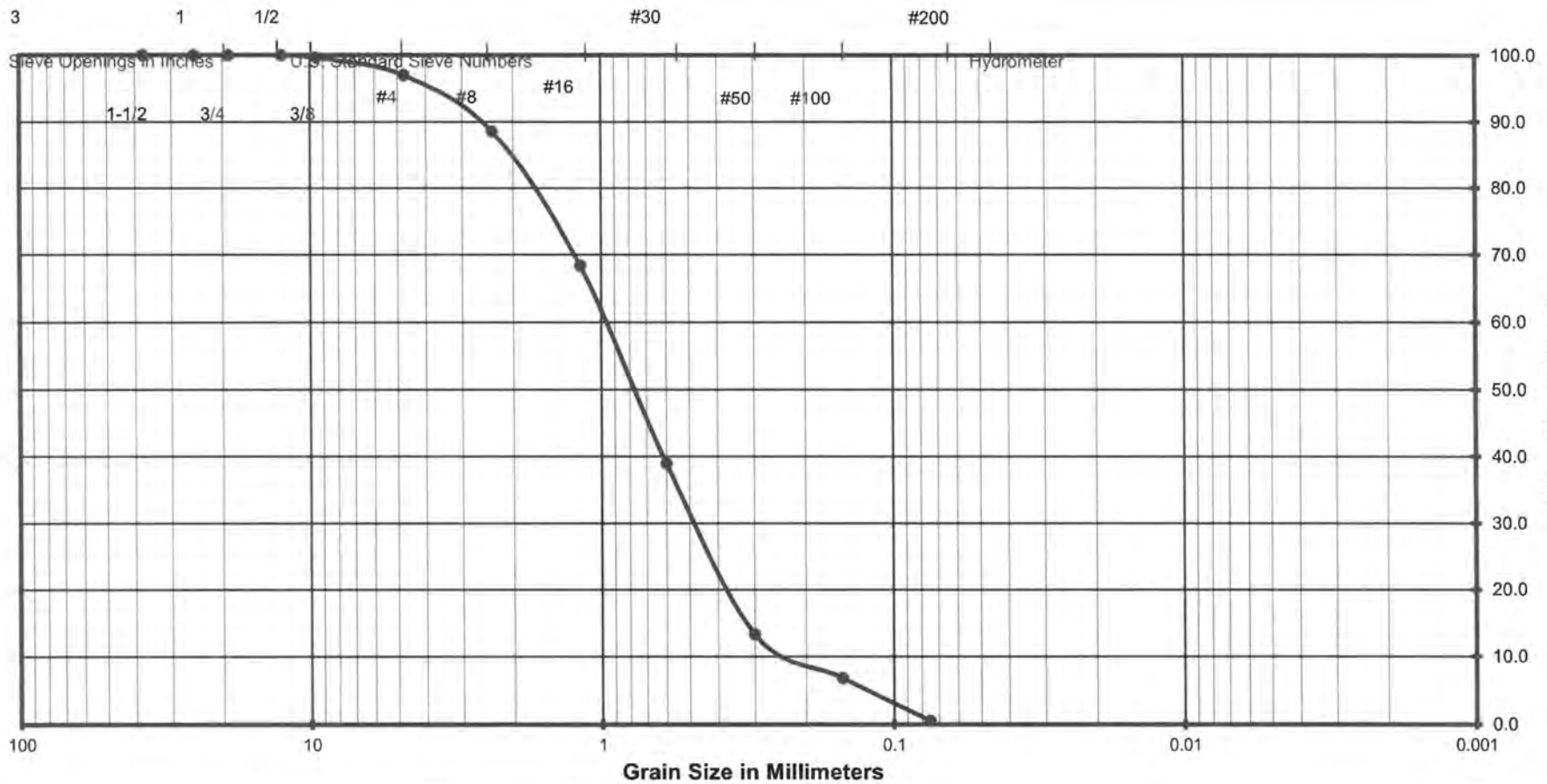
Consolidation Test

Project No	Boring No. & Depth	Date	Soil Classification
11221076	B-16 @ 2'	8/10/2021	SM



Krazan Testing Laboratory

Grain Size Analysis



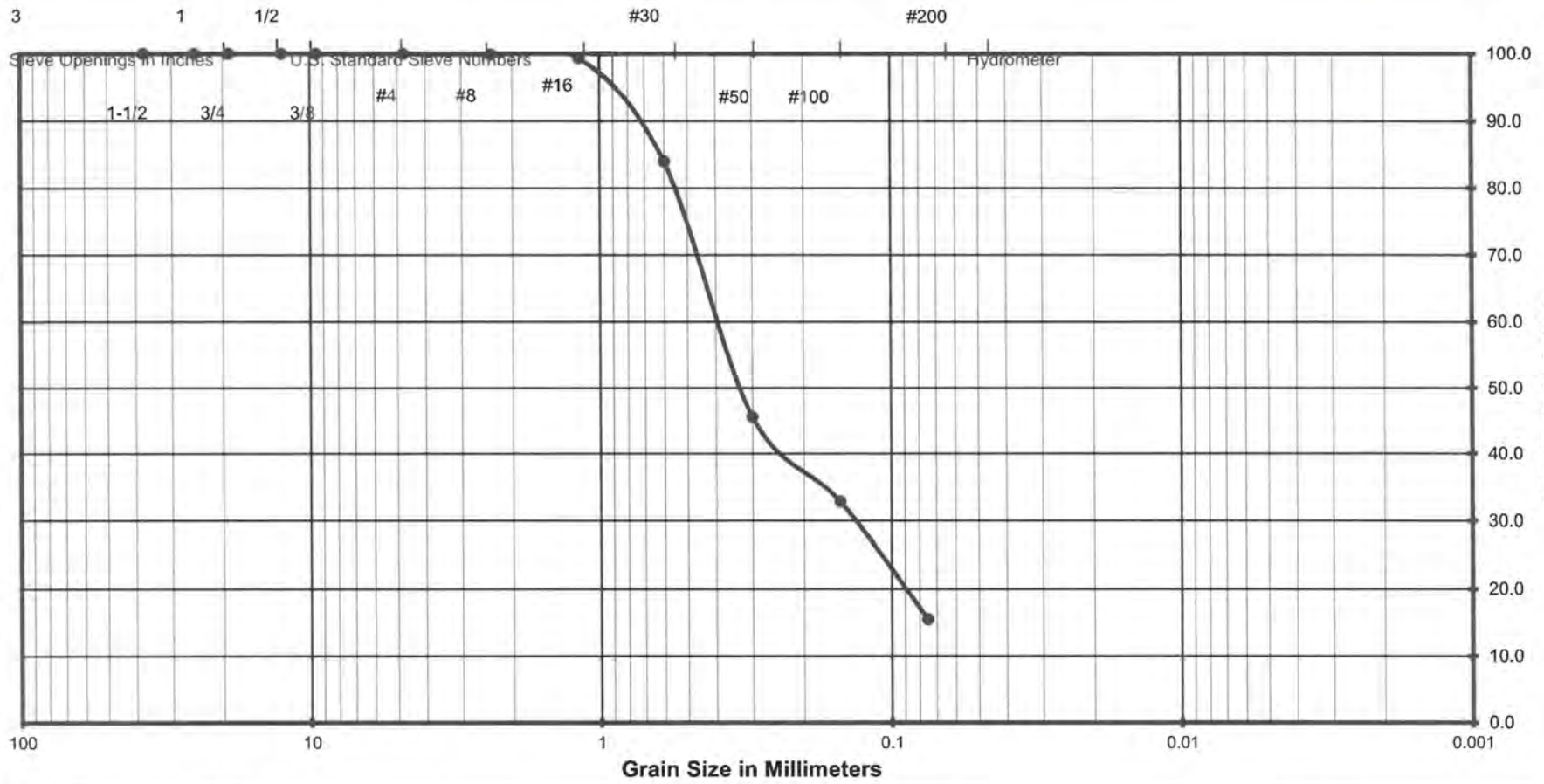
Gravel		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

(Unified Soils Classification)

Project Name	Apple Bear Retail Center
Project Number	11221076
Soil Classification	SP
Sample Number	B-1 @ 2'

Krazan Testing Laboratory

Grain Size Analysis



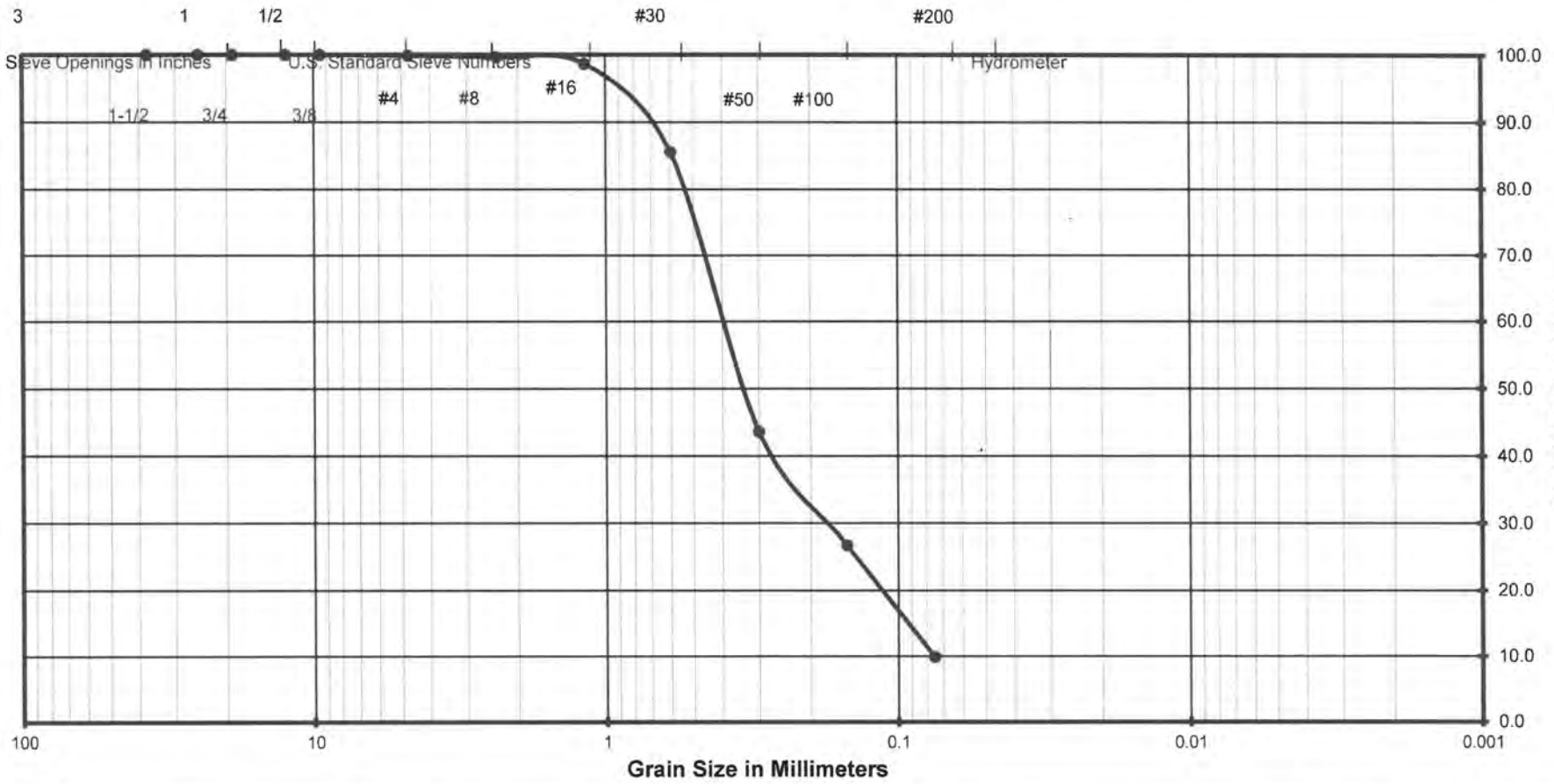
Gravel		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

(Unified Soils Classification)

Project Name	Apple Bear Retail Center
Project Number	11221076
Soil Classification	SM
Sample Number	B-1 @ 5'

Krazan Testing Laboratory

Grain Size Analysis



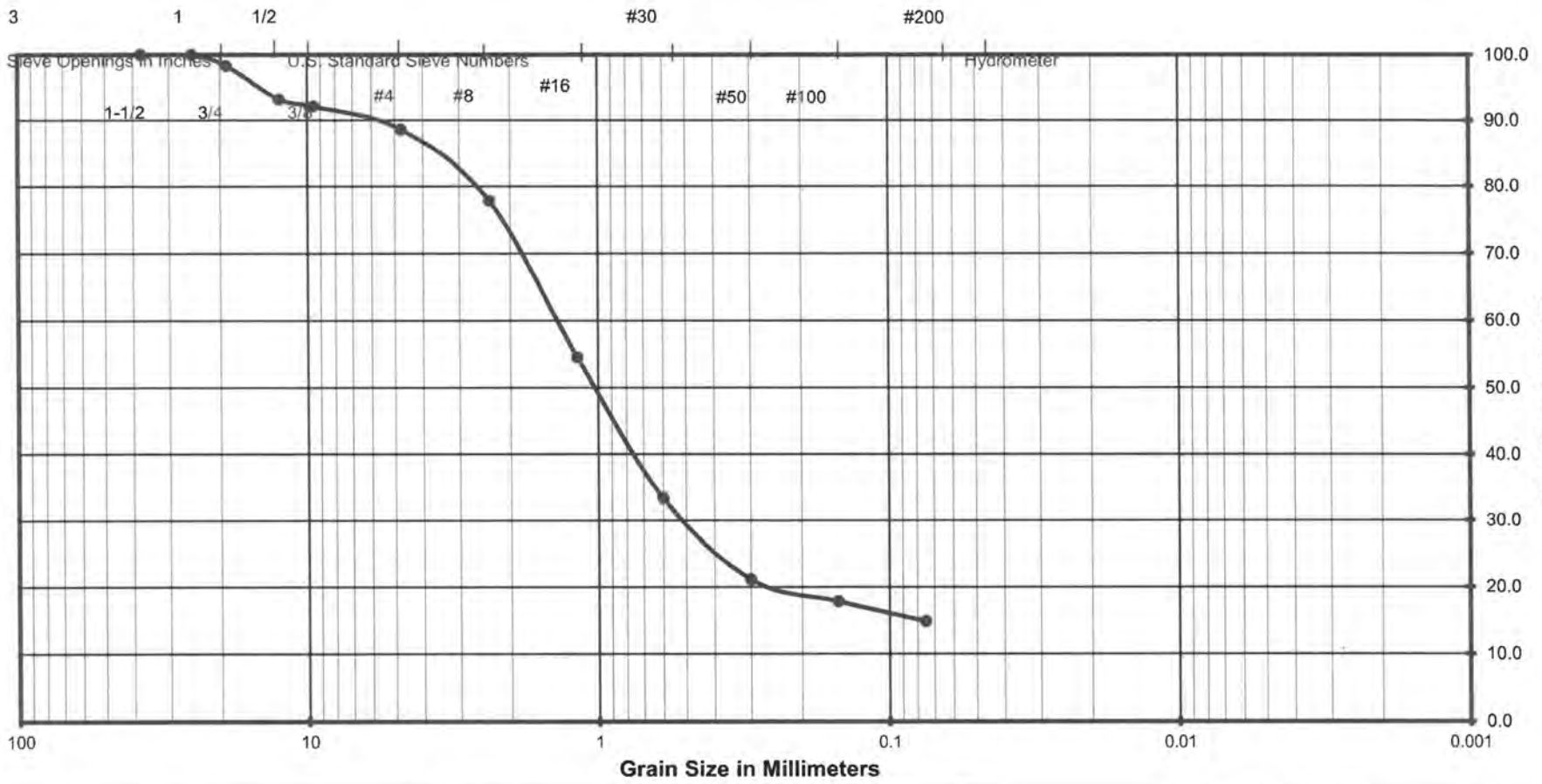
Gravel		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

(Unified Soils Classification)

Project Name	Apple Bear Retail Center
Project Number	11221076
Soil Classification	SM-SP
Sample Number	B-1 @ 15'

Krazan Testing Laboratory

Grain Size Analysis



Gravel		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

(Unified Soils Classification)

Project Name	Apple Bear Retail Center
Project Number	11221076
Soil Classification	SM
Sample Number	B-1 @ 20'

Krazan Testing Laboratory

Grain Size Analysis

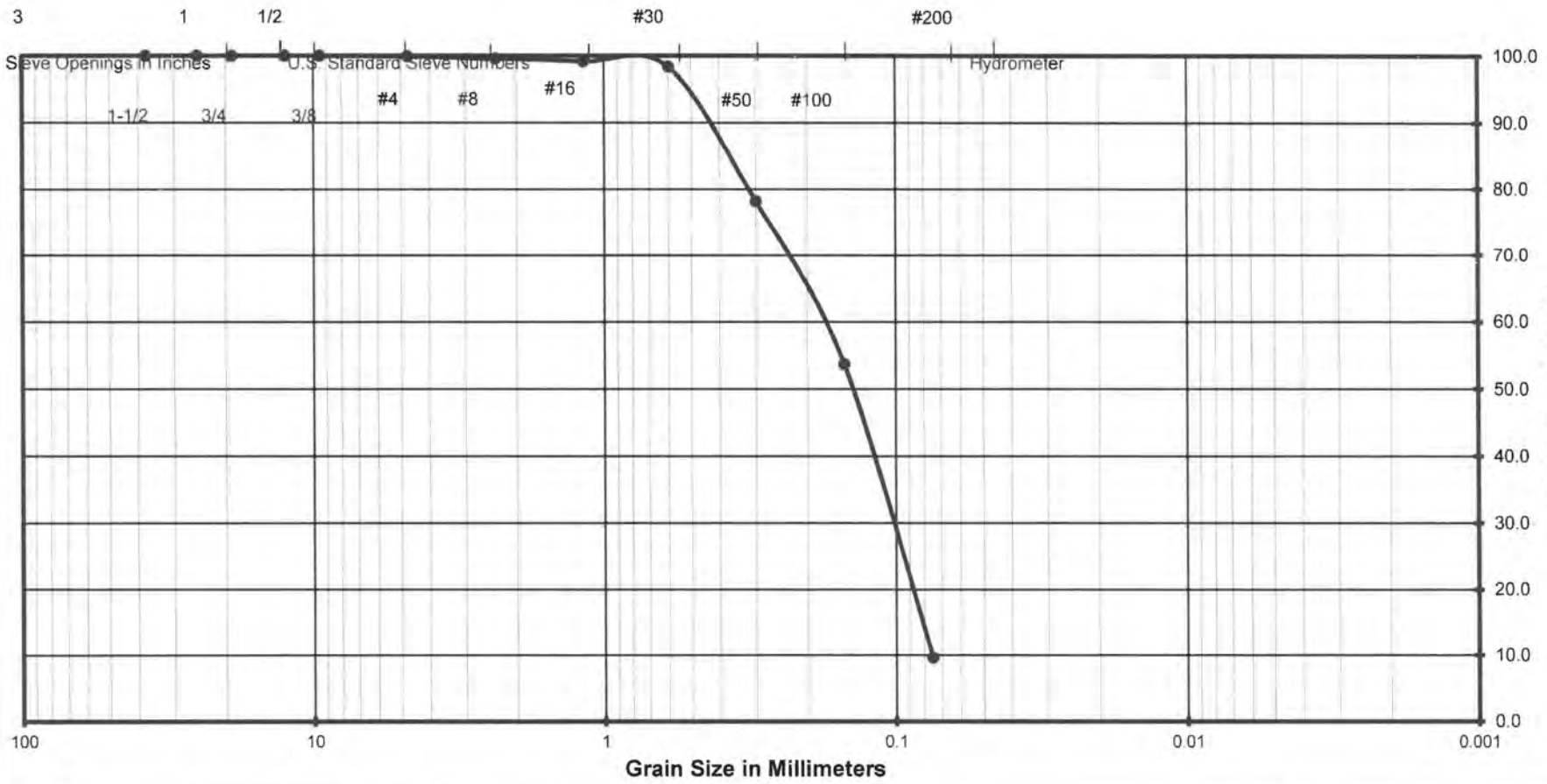
Gravel		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

(Unified Soils Classification)

Project Name	Apple Bear Retail Center
Project Number	11221076
Soil Classification	SM
Sample Number	B-1 @ 25'

Krazan Testing Laboratory

Grain Size Analysis



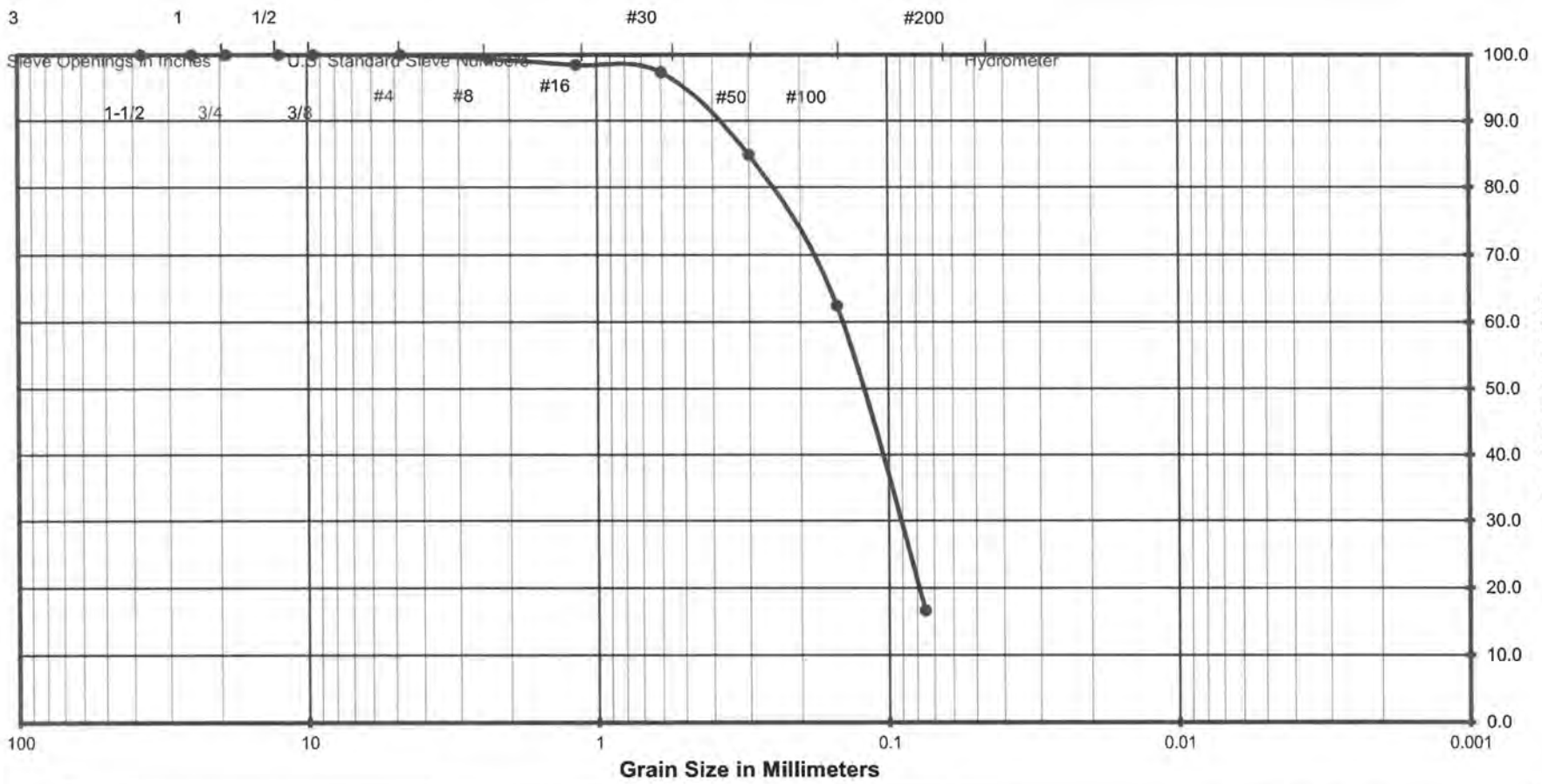
Gravel		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

(Unified Soils Classification)

Project Name	Apple Bear Retail Center
Project Number	11221076
Soil Classification	SM-SP
Sample Number	B-1 @ 30'

Krazan Testing Laboratory

Grain Size Analysis



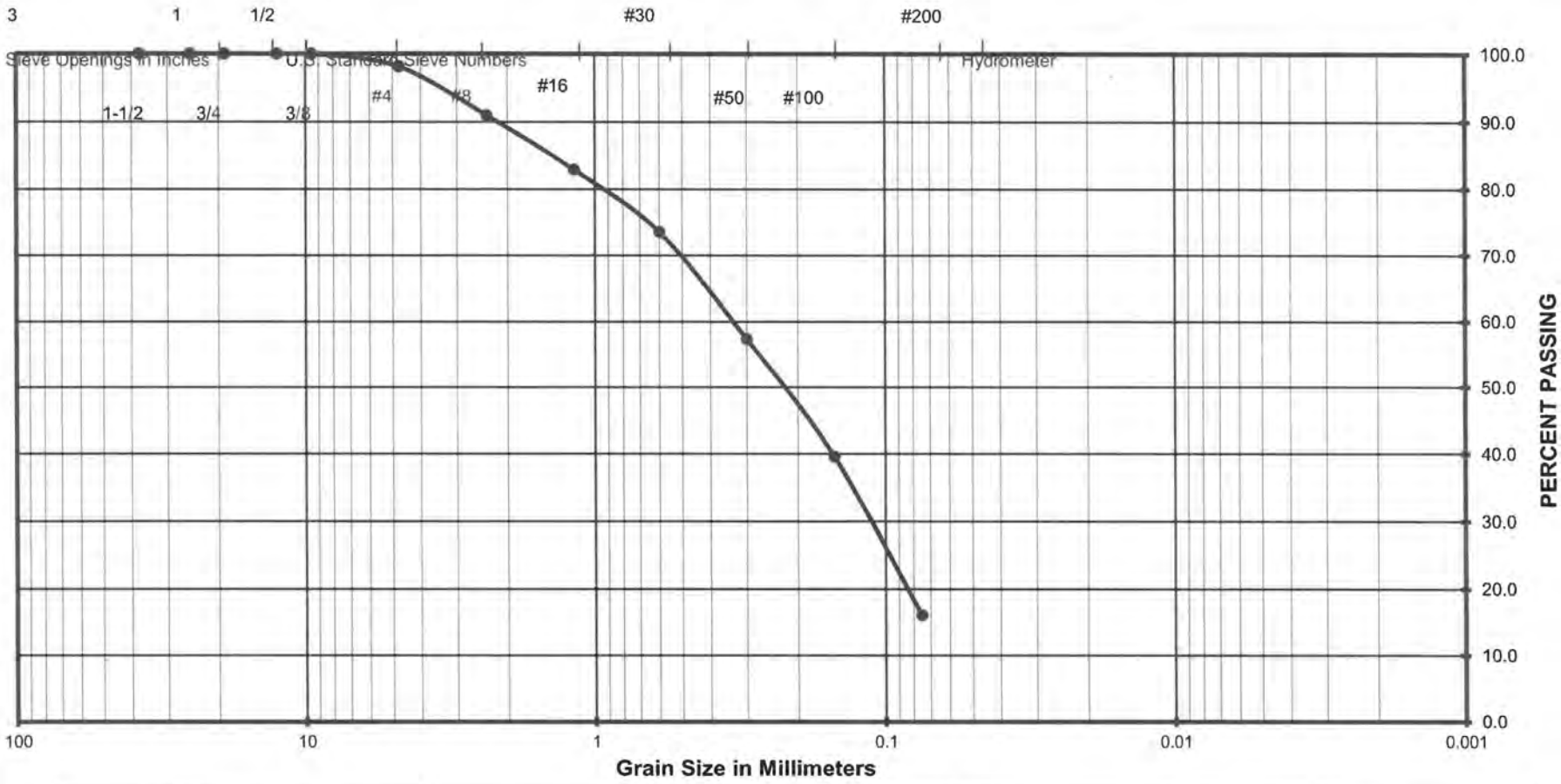
Gravel		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

(Unified Soils Classification)

Project Name	Apple Bear Retail Center
Project Number	11221076
Soil Classification	SM
Sample Number	B-1 @ 35'

Krazan Testing Laboratory

Grain Size Analysis



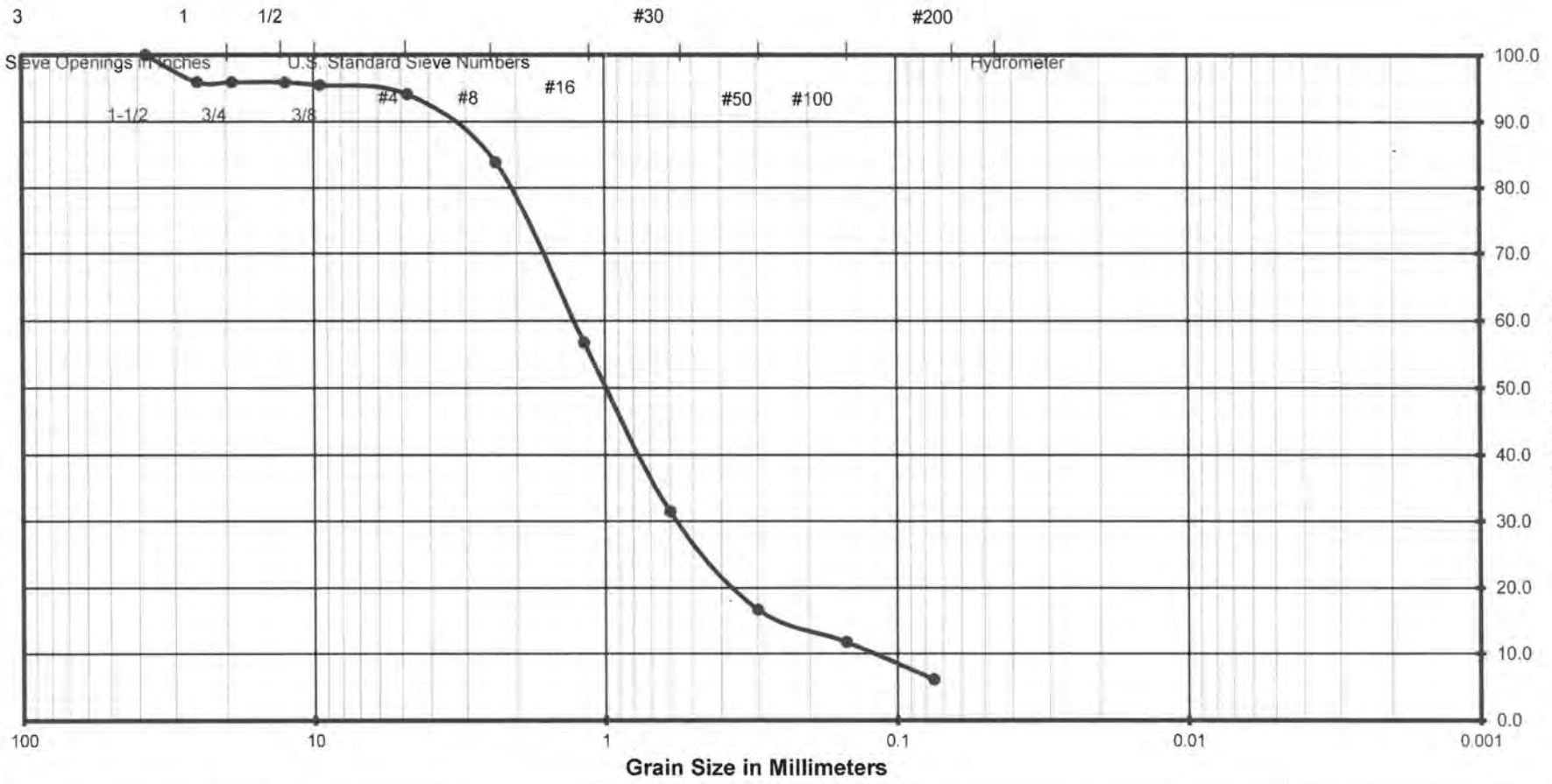
Gravel		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

(Unified Soils Classification)

Project Name	Apple Bear Retail Center
Project Number	11221076
Soil Classification	SM
Sample Number	B-1 @ 40'

Krazan Testing Laboratory

Grain Size Analysis



Gravel		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

(Unified Soils Classification)

Project Name	Apple Bear Retail Center
Project Number	11221076
Soil Classification	SM-SP
Sample Number	B-1 @ 45'

Krazan Testing Laboratory

Grain Size Analysis

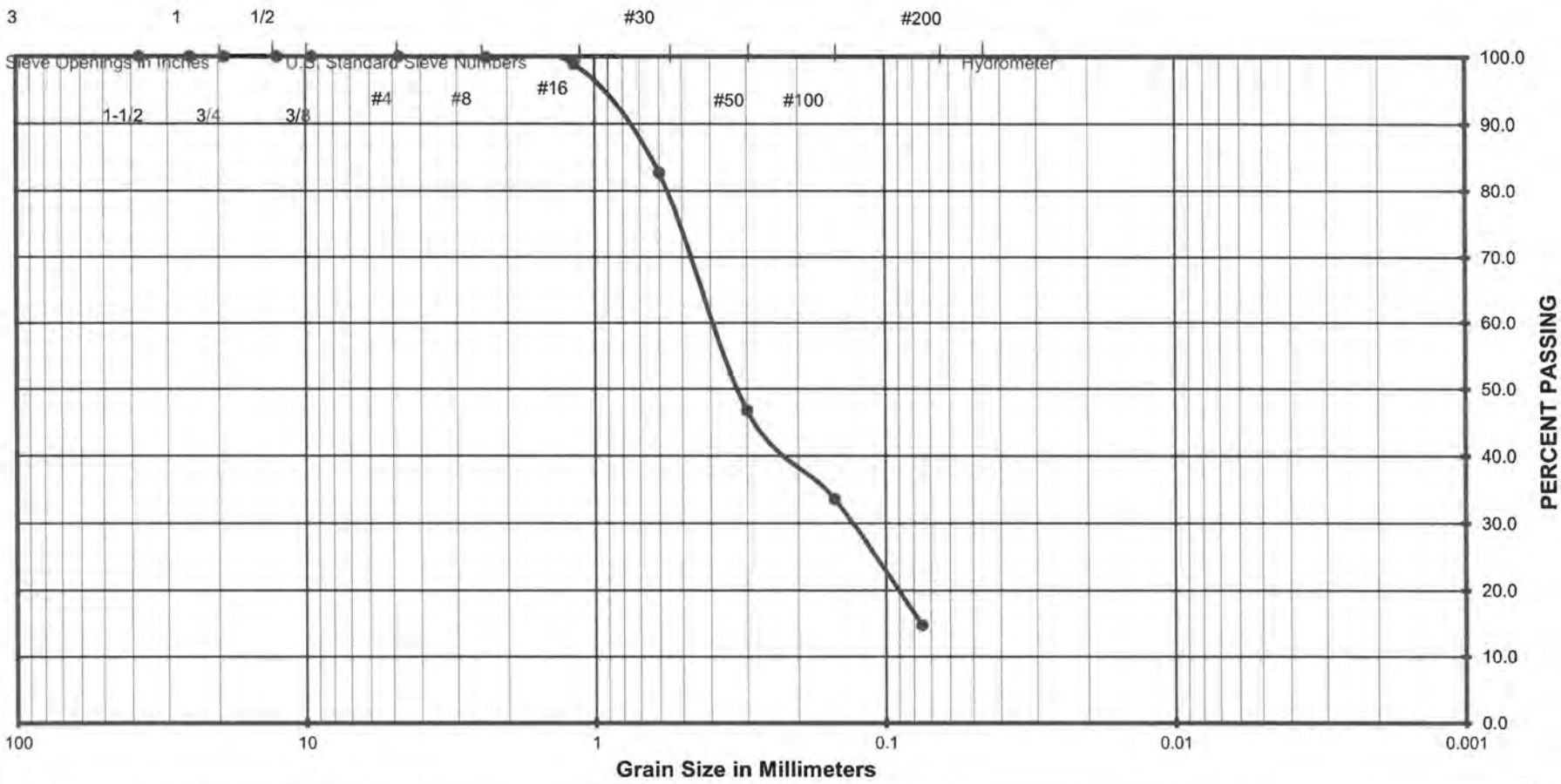
Gravel		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

(Unified Soils Classification)

Project Name	Apple Bear Retail Center
Project Number	11221076
Soil Classification	SM
Sample Number	B-1 @ 50'

Krazan Testing Laboratory

Grain Size Analysis



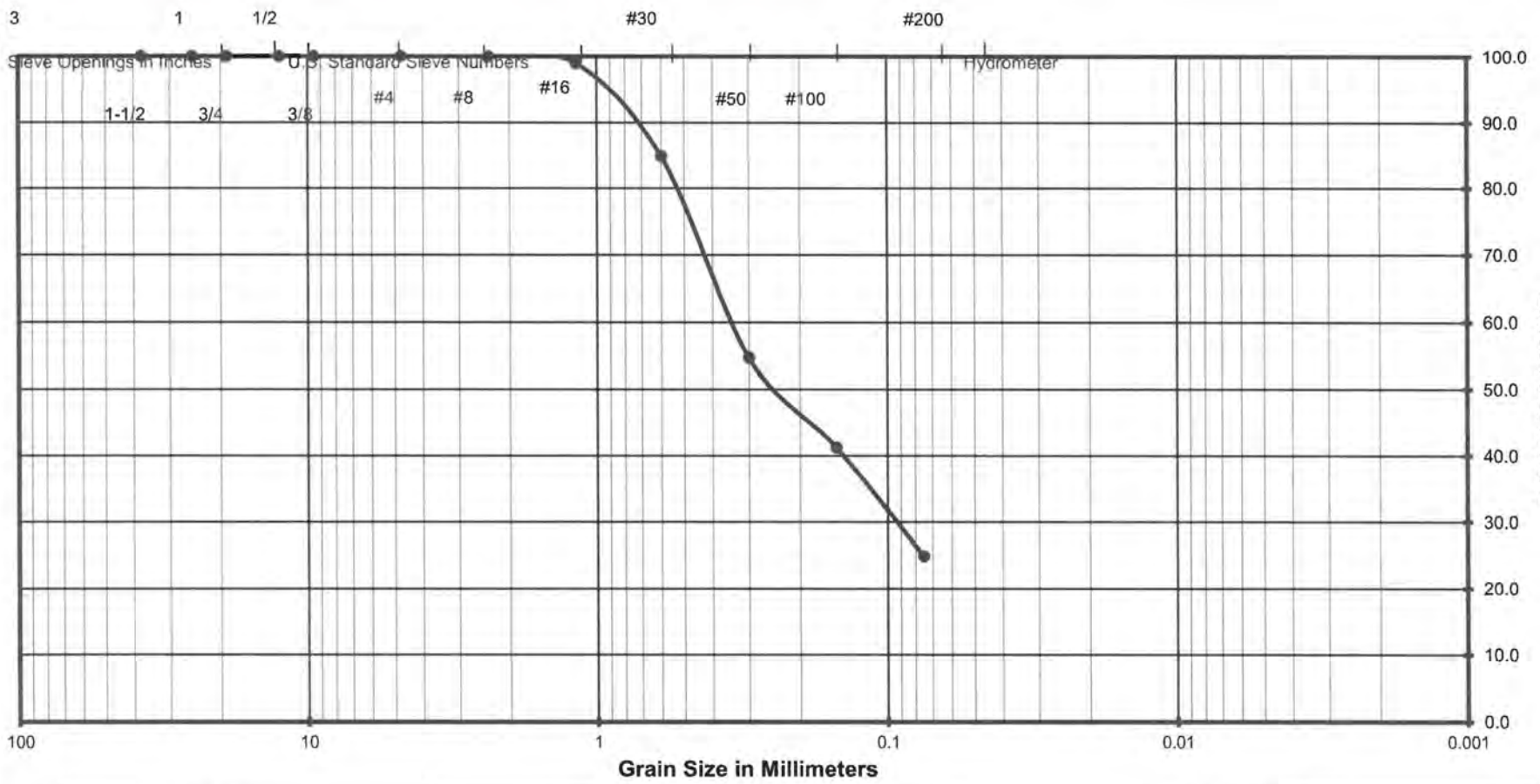
Gravel		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

(Unified Soils Classification)

Project Name	Apple Bear Retail Center
Project Number	11221076
Soil Classification	SM
Sample Number	B-4 @ 5'

Krazan Testing Laboratory

Grain Size Analysis



Gravel		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

(Unified Soils Classification)

Project Name	Apple Bear Retail Center
Project Number	11221076
Soil Classification	SM
Sample Number	B-4 @ 10'

Krazan Testing Laboratory

Grain Size Analysis

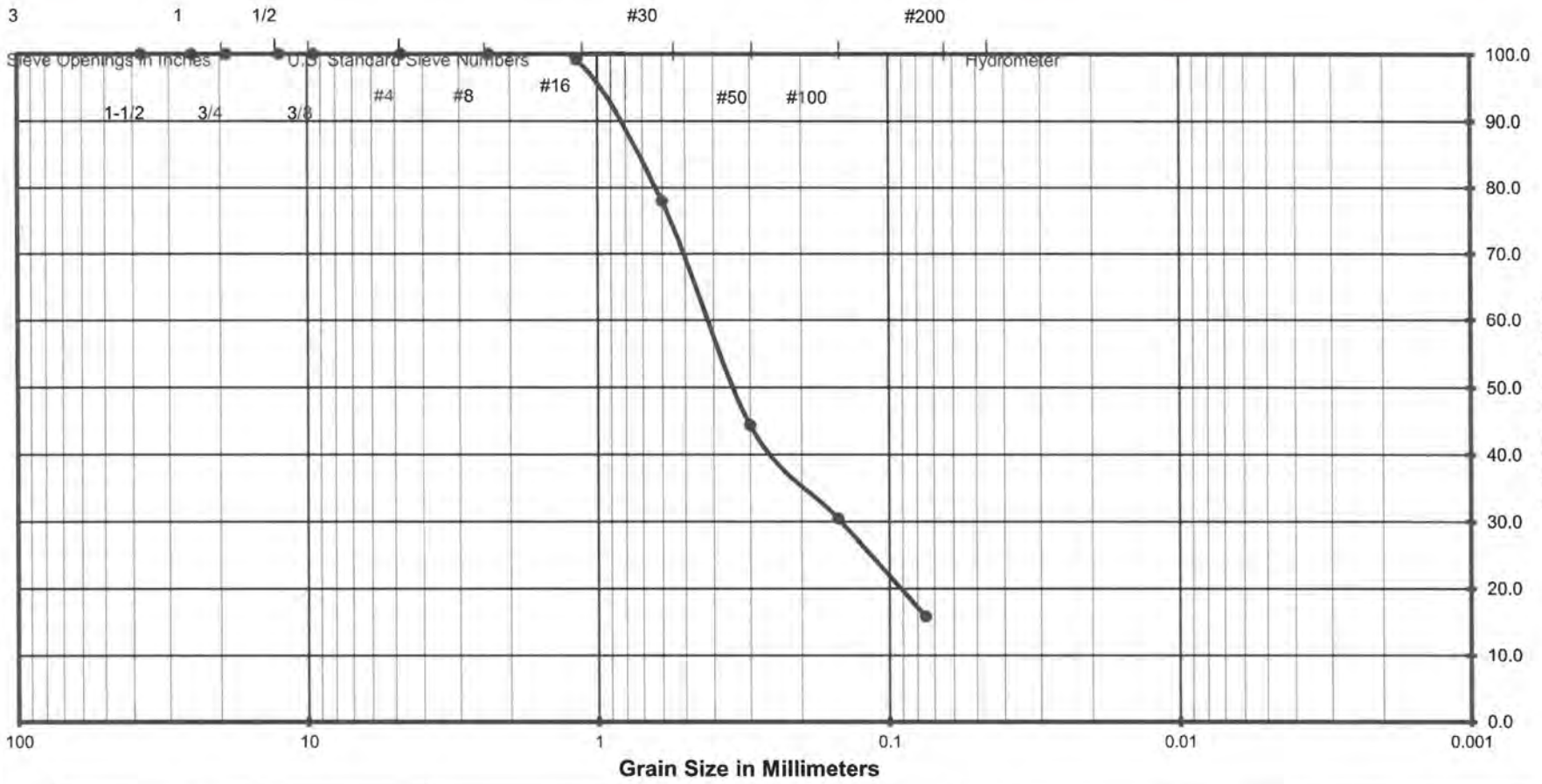
Gravel		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

(Unified Soils Classification)

Project Name	Apple Bear Retail Center
Project Number	11221076
Soil Classification	SM
Sample Number	B-8 @ 2'

Krazan Testing Laboratory

Grain Size Analysis



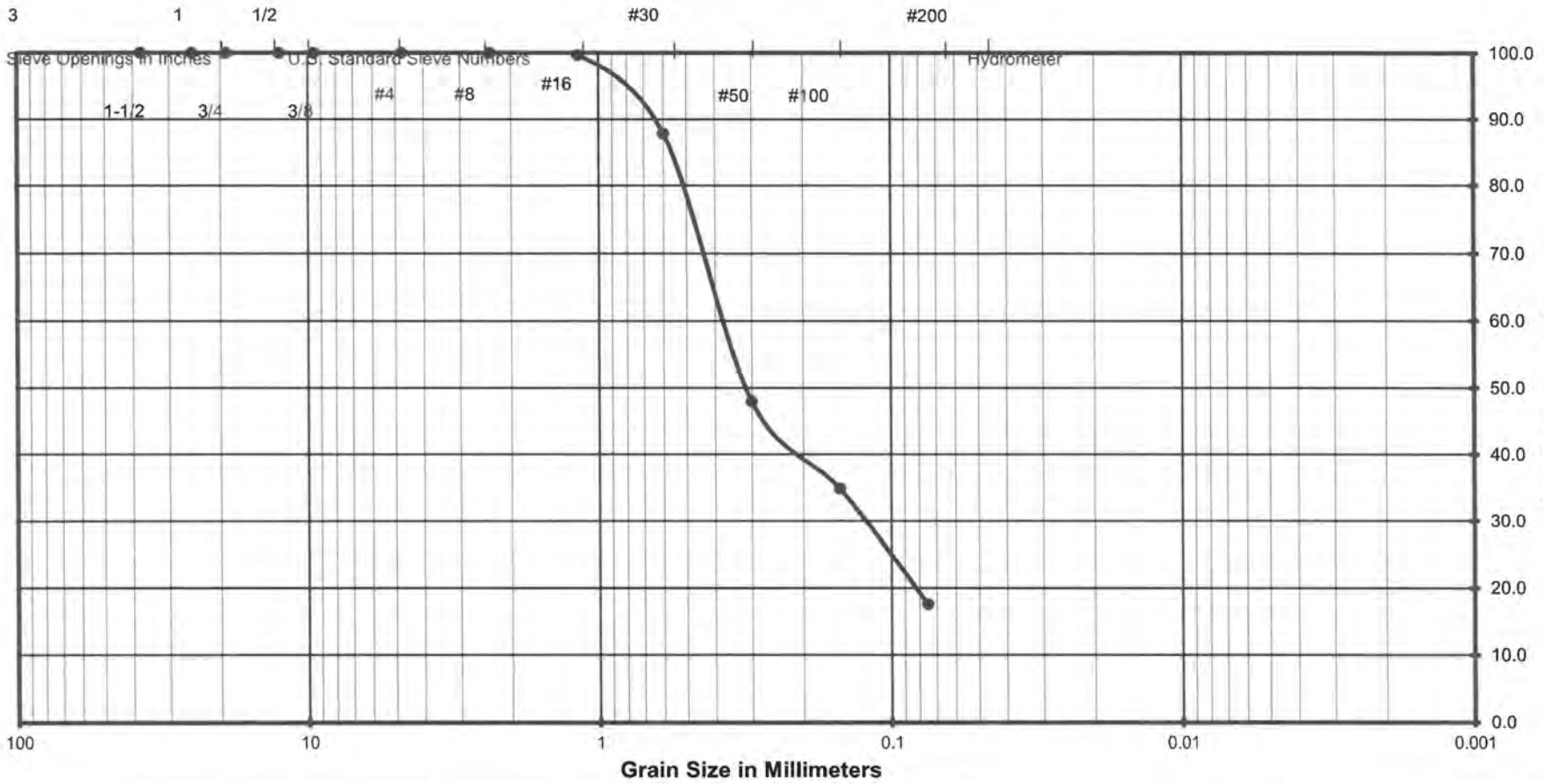
Gravel		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

(Unified Soils Classification)

Project Name	Apple Bear Retail Center
Project Number	11221076
Soil Classification	SM
Sample Number	B-8 @ 5'

Krazan Testing Laboratory

Grain Size Analysis



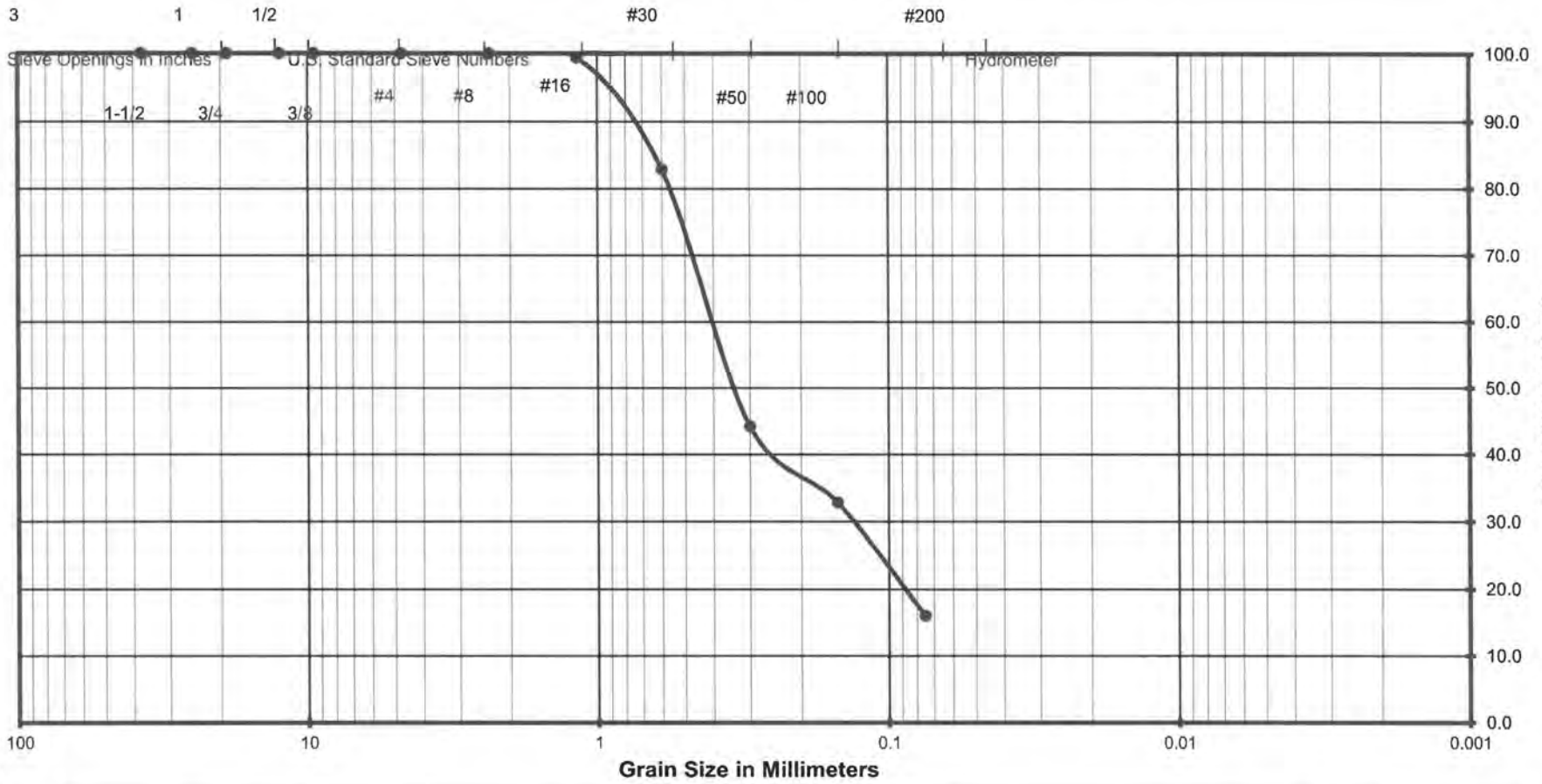
Gravel		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

(Unified Soils Classification)

Project Name	Apple Bear Retail Center
Project Number	11221076
Soil Classification	SM
Sample Number	B-10 @ 2'

Krazan Testing Laboratory

Grain Size Analysis



Gravel		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

(Unified Soils Classification)

Project Name	Apple Bear Retail Center
Project Number	11221076
Soil Classification	SM
Sample Number	B-10 @ 5'

Krazan Testing Laboratory

Grain Size Analysis

Gravel		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

(Unified Soils Classification)

Project Name	Apple Bear Retail Center
Project Number	11221076
Soil Classification	SM
Sample Number	B-16 @ 2'

Krazan Testing Laboratory

Grain Size Analysis

Gravel		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

(Unified Soils Classification)

Project Name	Apple Bear Retail Center
Project Number	11221076
Soil Classification	SM
Sample Number	B-16 @ 5'

Krazan Testing Laboratory

Grain Size Analysis

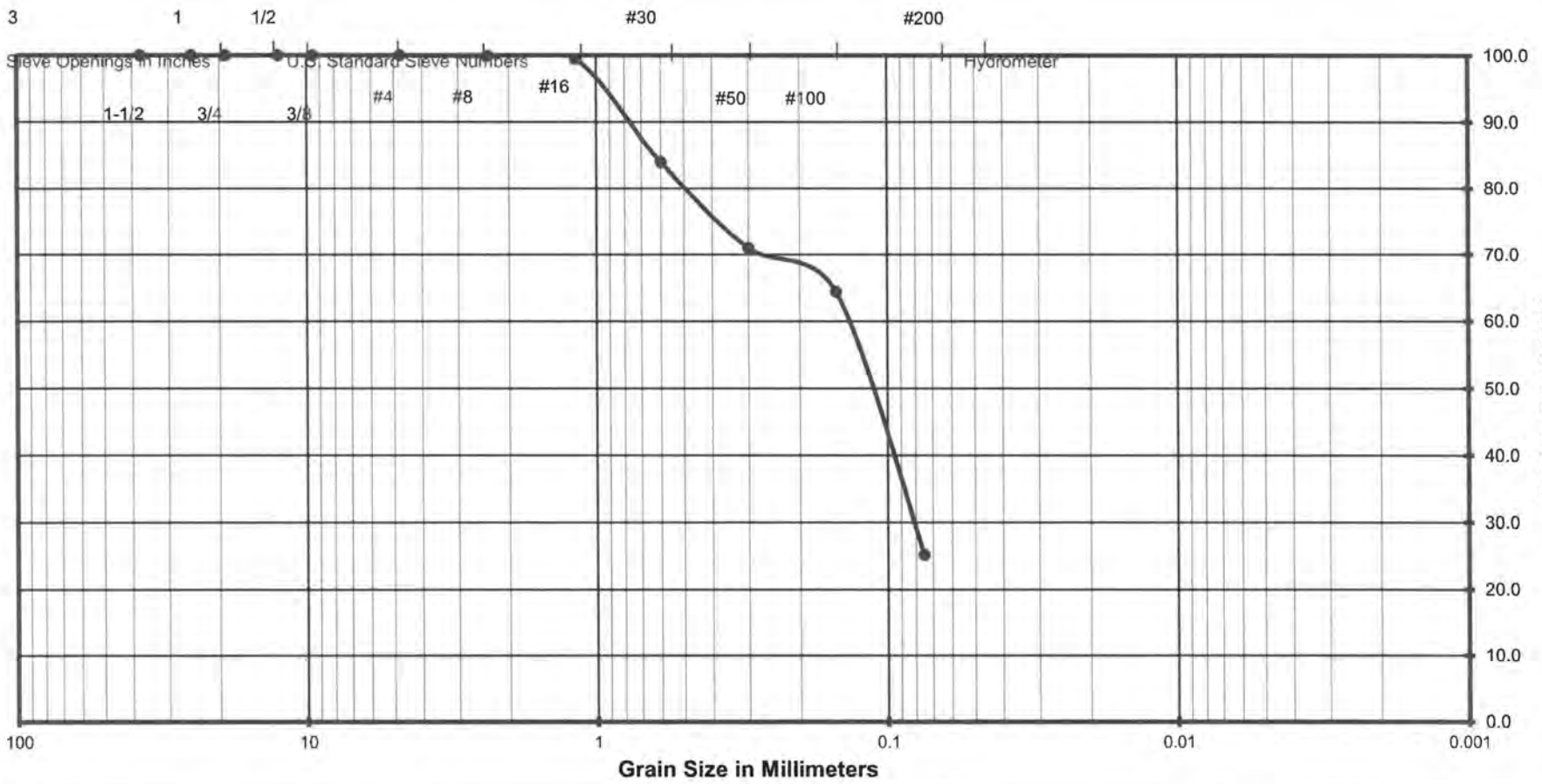
Gravel		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

(Unified Soils Classification)

Project Name	Apple Bear Retail Center
Project Number	11221076
Soil Classification	SM
Sample Number	B-24 @ 2'

Krazan Testing Laboratory

Grain Size Analysis



Gravel		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

(Unified Soils Classification)

Project Name	Apple Bear Retail Center
Project Number	11221076
Soil Classification	SM
Sample Number	B-24 @ 5'

Krazan Testing Laboratory

APPENDIX B

EARTHWORK SPECIFICATIONS

GENERAL

When the text of the report conflicts with the general specifications in this appendix, the recommendations in the report have precedence.

SCOPE OF WORK: These specifications and applicable plans pertain to and include all earthwork associated with the site rough grading, including but not limited to the furnishing of all labor, tools, and equipment necessary for site clearing and grubbing, stripping, preparation of foundation materials for receiving fill, excavation, processing, placement and compaction of fill and backfill materials to the lines and grades shown on the project grading plans, and disposal of excess materials.

PERFORMANCE: The Contractor shall be responsible for the satisfactory completion of all earthwork in accordance with the project plans and specifications. This work shall be inspected and tested by a representative of Krazan and Associates, Inc., hereinafter known as the Soils Engineer and/or Testing Agency. Attainment of design grades when achieved shall be certified by the project Civil Engineer. Both the Soils Engineer and the Civil Engineer are the Owner's representatives. If the Contractor should fail to meet the technical or design requirements embodied in this document and on the applicable plans, he shall make the necessary readjustments until all work is deemed satisfactory as determined by both the Soils Engineer and the Civil Engineer. No deviation from these specifications shall be made except upon written approval of the Soils Engineer, Civil Engineer or project Architect.

No earthwork shall be performed without the physical presence or approval of the Soils Engineer. The Contractor shall notify the Soils Engineer at least 2 working days prior to the commencement of any aspect of the site earthwork.

The Contractor agrees that he shall assume sole and complete responsibility for job site conditions during the course of construction of this project, including safety of all persons and property; that this requirement shall apply continuously and not be limited to normal working hours; and that the Contractor shall defend, indemnify and hold the Owner and the Engineers harmless from any and all liability, real or alleged, in connection with the performance of work on this project, except for liability arising from the sole negligence of the Owner or the Engineers.

TECHNICAL REQUIREMENTS: All compacted materials shall be densified to a density not less than 95 percent relative compaction based on ASTM Test Method D1557 or CAL-216, as specified in the technical portion of the Soil Engineer's report. The location and frequency of field density tests shall be as determined by the Soils Engineer. The results of these tests and compliance with these specifications shall be the basis upon which satisfactory completion of work will be judged by the Soils Engineer.

SOILS AND FOUNDATION CONDITIONS: The Contractor is presumed to have visited the site and to have familiarized himself with existing site conditions and the contents of the data presented in the soil report.

The Contractor shall make his own interpretation of the data contained in said report, and the Contractor shall not be relieved of liability under the Contract documents for any loss sustained as a result of any variance between conditions indicated by or deduced from said report and the actual conditions encountered during the progress of the work.

DUST CONTROL: The work includes dust control as required for the alleviation or prevention of any dust nuisance on or about the site or the borrow area, or off-site if caused by the Contractor's operation either during the performance of the earthwork or resulting from the conditions in which the Contractor leaves the site. The Contractor shall assume all liability, including court costs of codefendants, for all claims related to dust or windblown materials attributable to his work.

SITE PREPARATION

Site preparation shall consist of site clearing and grubbing and the preparations of foundation materials for receiving fill.

CLEARING AND GRUBBING: The Contractor shall accept the site in this present condition and shall demolish and/or remove from the area of designated project earthwork all structures, both surface and subsurface, trees, brush, roots, debris, organic matter, and all other matter determined by the Soils Engineer to be deleterious or otherwise unsuitable. Such materials shall become the property of the Contractor and shall be removed from the site.

Tree root systems in proposed building areas should be removed to a minimum depth of 3 feet and to such an extent which would permit removal of all roots larger than 1 inch. Tree roots removed in parking areas may be limited to the upper 1½ feet of the ground surface. Backfill of tree root excavations should not be permitted until all exposed surfaces have been inspected and the Soils Engineer is present for the proper control of backfill placement and compaction. Burning in areas which are to receive fill materials shall not be permitted.

SUBGRADE PREPARATION: Surfaces to receive Engineered Fill, building or slab loads shall be prepared as outlined above, excavated/scarified to a depth of 12 inches, moisture-conditioned as necessary, and compacted to 95 percent relative compaction.

Loose soil areas, areas of uncertified fill, and/or areas of disturbed soils shall be moisture-conditioned as necessary and recompacted to 95 percent relative compaction. All ruts, hummocks, or other uneven surface features shall be removed by surface grading prior to placement of any fill materials. All areas which are to receive fill materials shall be approved by the Soils Engineer prior to the placement of any of the fill material.

EXCAVATION: All excavation shall be accomplished to the tolerance normally defined by the Civil Engineer as shown on the project grading plans. All over-excavation below the grades specified shall be backfilled at the Contractor's expense and shall be compacted in accordance with the applicable technical requirements.

FILL AND BACKFILL MATERIAL: No material shall be moved or compacted without the presence of the Soils Engineer. Material from the required site excavation may be utilized for construction site fills provided prior approval is given by the Soils Engineer. All materials utilized for constructing site fills shall be free from vegetation or other deleterious matter as determined by the Soils Engineer.

PLACEMENT, SPREADING AND COMPACTION: The placement and spreading of approved fill materials and the processing and compaction of approved fill and native materials shall be the responsibility of the Contractor. However, compaction of fill materials by flooding, ponding, or jetting shall not be permitted unless specifically approved by local code, as well as the Soils Engineer.

Both cut and fill areas shall be surface-compacted to the satisfaction of the Soils Engineer prior to final acceptance.

SEASONAL LIMITS: No fill material shall be placed, spread, or rolled while it is frozen or thawing or during unfavorable wet weather conditions. When the work is interrupted by heavy rains, fill operations shall not be resumed until the Soils Engineer indicates that the moisture content and density of previously placed fill are as specified.

APPENDIX C

PAVEMENT SPECIFICATIONS

1. DEFINITIONS - The term "pavement" shall include asphaltic concrete surfacing, untreated aggregate base, and aggregate subbase. The term "subgrade" is that portion of the area on which surfacing, base, or subbase is to be placed.

The term "Standard Specifications": hereinafter referred to is the 2018 Standard Specifications of the State of California, Department of Transportation, and the "Materials Manual" is the Materials Manual of Testing and Control Procedures, State of California, Department of Public Works, Division of Highways. The term "relative compaction" refers to the field density expressed as a percentage of the maximum laboratory density as defined in the applicable tests outlined in the Materials Manual.

2. SCOPE OF WORK - This portion of the work shall include all labor, materials, tools, and equipment necessary for, and reasonably incidental to the completion of the pavement shown on the plans and as herein specified, except work specifically noted as "Work Not Included."

3. PREPARATION OF THE SUBGRADE - The Contractor shall prepare the surface of the various subgrades receiving subsequent pavement courses to the lines, grades, and dimensions given on the plans. The upper 12 inches of the soil subgrade beneath the pavement section shall be compacted to a minimum relative compaction of 95 percent. The finished subgrades shall be tested and approved by the Soils Engineer prior to the placement of additional pavement courses.

4. UNTREATED AGGREGATE BASE - The aggregate base material shall be spread and compacted on the prepared subgrade in conformity with the lines, grades, and dimensions shown on the plans. The aggregate base material shall conform to the requirements of Section 26 of the Standard Specifications for Class 2 material, 1½ inches maximum size. The aggregate base material shall be spread and compacted in accordance with Section 26 of the Standard Specifications. The aggregate base material shall be spread in layers not exceeding 6 inches and each layer of aggregate material course shall be tested and approved by the Soils Engineer prior to the placement of successive layers. The aggregate base material shall be compacted to a minimum relative compaction of 95 percent.

5. AGGREGATE SUBBASE - The aggregate subbase shall be spread and compacted on the prepared subgrade in conformity with the lines, grades, and dimensions shown on the plans. The aggregate subbase material shall conform to the requirements of Section 25 of the Standard Specifications for Class 2 material. The aggregate subbase material shall be compacted to a minimum relative compaction of 95 percent, and it shall be spread and compacted in accordance with Section 25 of the Standard Specifications. Each layer of aggregate subbase shall be tested and approved by the Soils Engineer prior to the placement of successive layers.

6. ASPHALTIC CONCRETE SURFACING - Asphaltic concrete surfacing shall consist of a mixture of mineral aggregate and paving grade asphalt, mixed at a central mixing plant and spread and compacted on a prepared base in conformity with the lines, grades and dimensions shown on the plans. The viscosity grade of the asphalt shall be PG 64-10. The mineral aggregate shall be Type B, ½ inch maximum size, medium grading and shall conform to the requirements set forth in Section 39 of the Standard Specifications. The drying, proportioning and mixing of the materials shall conform to Section 39.

The prime coat, spreading and compacting equipment and spreading and compacting mixture shall conform to the applicable chapters of Section 39, with the exception that no surface course shall be placed when the atmospheric temperature is below 50° F. The surfacing shall be rolled with a combination of steel wheel and pneumatic rollers, as described in Section 39-6. The surface course shall be placed with an approved self-propelled mechanical spreading and finishing machine.

7. FOG SEAL COAT - The fog seal (mixing type asphaltic emulsion) shall conform to and be applied in accordance with the requirements of Section 37.

Krazan & ASSOCIATES, INC.

GEOTECHNICAL ENGINEERING • ENVIRONMENTAL ENGINEERING
CONSTRUCTION TESTING & INSPECTION

October 6, 2021 KA No. 112-21076

Mr. Matthew Bush
Wood Investments Companies
2950 Airway Avenue, Unit A-9
Costa Mesa, CA 92626
(657) 247-2600 x306
matt@woodinvco.com

Re: Addendum No. 1 - Geotechnical Engineering Investigation Report
Proposed Apple Bear Retail Center
19439 Bear Valley Road
Apple Valley, California

Dear Mr. Bush:

Krazan & Associates, Inc. are providing this Addendum No. 1 to our previous Geotechnical Engineering Investigation report for this project (KA Project No. 112-21076) dated September 9, 2021. The purpose of this Addendum is to provide recommendations for Asphalt-Concrete (AC) pavement design and Portland Cement Concrete (PCC) pavement design for the site. At the time of our previous report, R-Value test results were not available.

R-Value Test Results and Pavement Design

Two R-value samples were obtained from the project site at the locations shown on the attached site plan. The samples were tested in accordance with the State of California Materials Manual Test Designation 301. Results of the tests are as follows:

Sample	Depth	Description	R-Value at Equilibrium
1	12-24"	Silty Sand (SM)	56
2	12-24"	Silty Sand (SM)	50

The test results are good and indicate good subgrade support characteristics under dynamic traffic loads. The following table shows the recommended pavement sections for various traffic indices based on an R-value of 50.

Traffic Index	Asphaltic Concrete	Class II Aggregate Base*	Compacted Subgrade**
4.0	2.0"	4.0"	12.0"
4.5	2.5"	4.0"	12.0"
5.0	2.5"	4.0"	12.0"
5.5	3.0"	4.0"	12.0"
6.0	3.0"	4.0"	12.0"
6.5	3.5"	4.0"	12.0"
7.0	4.0"	4.5"	12.0"
7.5	4.0"	5.5"	12.0"

**** 95% compaction based on ASTM Test Method D1557 or CAL 216***
***** 95% compaction based on ASTM Test Method D1557 or CAL 216***

If traffic indices are not available, an estimated index of 4.5 may be used for light automobile traffic, and an index of 7.0 for light truck traffic are typical values.

The following recommendations are for light duty and heavy-duty Portland Cement Concrete pavement sections.

PORTLAND CEMENT PAVEMENT
LIGHT DUTY

Traffic Index	Portland Cement Concrete***	Class II Aggregate Base*	Compacted Subgrade**
4.5	5.0"	4.0”	12.0"

HEAVY DUTY

Traffic Index	Portland Cement Concrete***	Class II Aggregate Base*	Compacted Subgrade**
7.0	6.5"	4.0”	12.0"

**** 95% compaction based on ASTM Test Method D1557 or CAL 216***
***** 95% compaction based on ASTM Test Method D1557 or CAL 216***
******Minimum concrete compressive strength of 3000 psi***

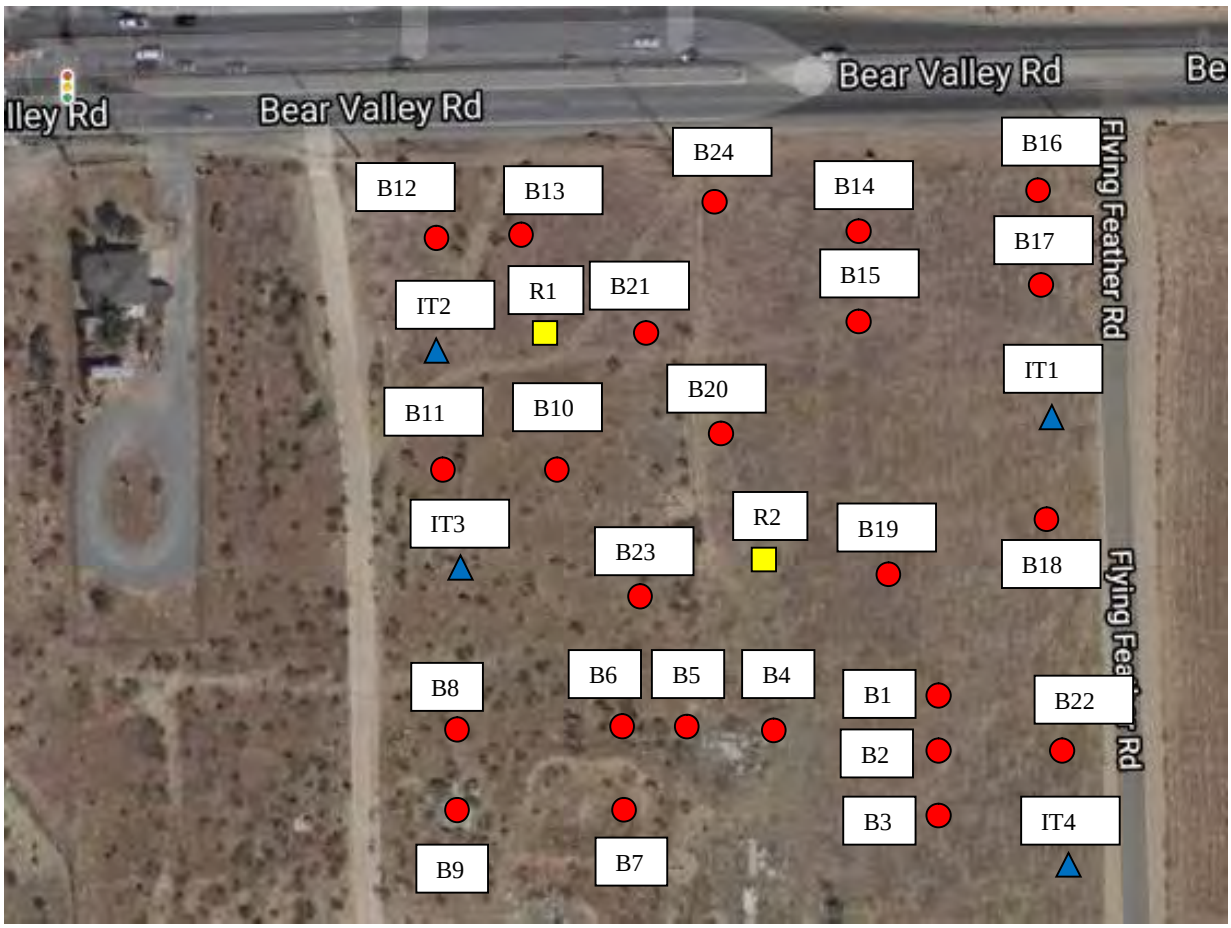
It is recommended that any uncertified fill material encountered within pavement areas be removed and/or recompacted. The fill materials should be moisture-conditioned to at or above optimum moisture and recompacted to a minimum of 95 percent of maximum density based on ASTM Test Method D1557. As an alternative, the Owner may elect not to recompact the existing fill within paved areas. However, the Owner should be aware that the paved areas may settle which may require annual maintenance. At a minimum, it is recommended that the upper 12 inches of subgrade soil be moisture-conditioned as necessary and recompacted to a minimum of 95 percent of maximum density based on ASTM Test Method D1557.

The recommendations and limitations provided in our Geotechnical Engineering Investigation report dated September 9, 2021, shall remain applicable where not superseded by the recommendations provided herein.

If you have any questions, or if we may be of further assistance, please do not hesitate to contact our office at (951) 273-1011.

Respectfully submitted,
KRAZAN & ASSOCIATES, INC.

Madison K. Weber, P.E.
Project Engineer
RCE No. 81935



- APPROXIMATE BORING LOCATION
- APPROXIMATE PERCOLATION/INFILTRATION TEST LOCATION
- APPROXIMATE R-VALUE SAMPLE LOCATION

N
W
E
S

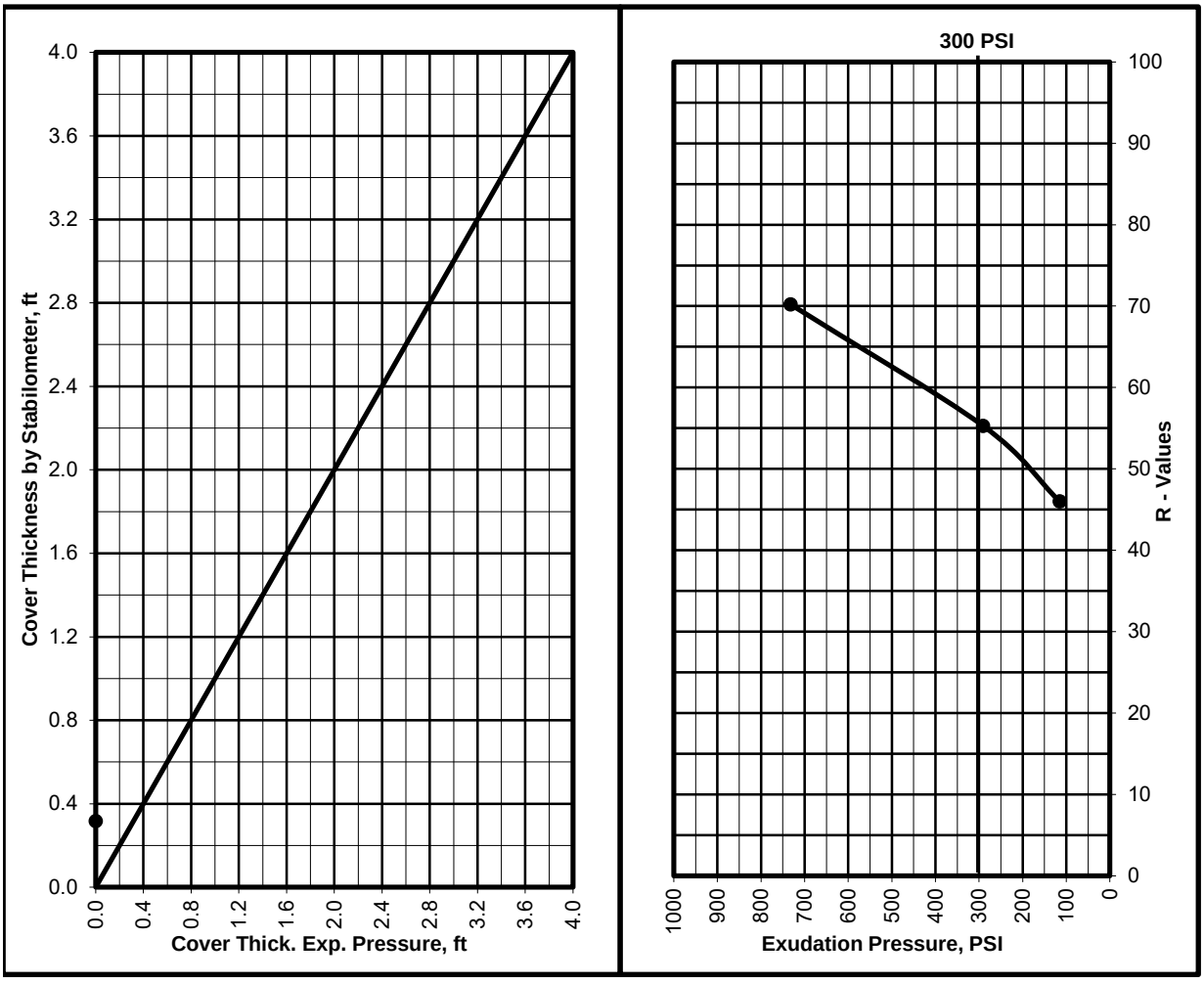
SITE MAP	**Scale:** Not to Scale	**Date:** Sept. 2021	Krazan GEOTECHNICAL ENGINEERING
PROPOSED APPLE BEAR RETAIL CENTER 19439 BEAR VALLEY ROAD APPLE VALLEY, CALIFORNIA	**Drawn by:** AM	**Approved by:** MW	
	Project No. 112-21076	**Figure No.** 2	

R - VALUE TEST
ASTM D - 2844 / CAL 301

Project Number	:	11221076
Project Name	:	Apple Bear Retail Center
Date	:	9/1/2021
Sample Location/Curve Number	:	R-1
Soil Classification	:	Silty Sand

TEST	A	B	C
Percent Moisture @ Compaction, %	12.1	12.7	13.6
Dry Density, lbm/cu.ft.	122.9	120.6	118.1
Exudation Pressure, psi	732.4	290.6	115.4
Expansion Pressure, (Dial Reading)	0	0	0
Expansion Pressure, psf	0	0	0
Resistance Value R	70	55	46

R Value at 300 PSI Exudation Pressure	**56**
R Value by Expansion Pressure (TI =): 5	**Expansion Pressure nil**



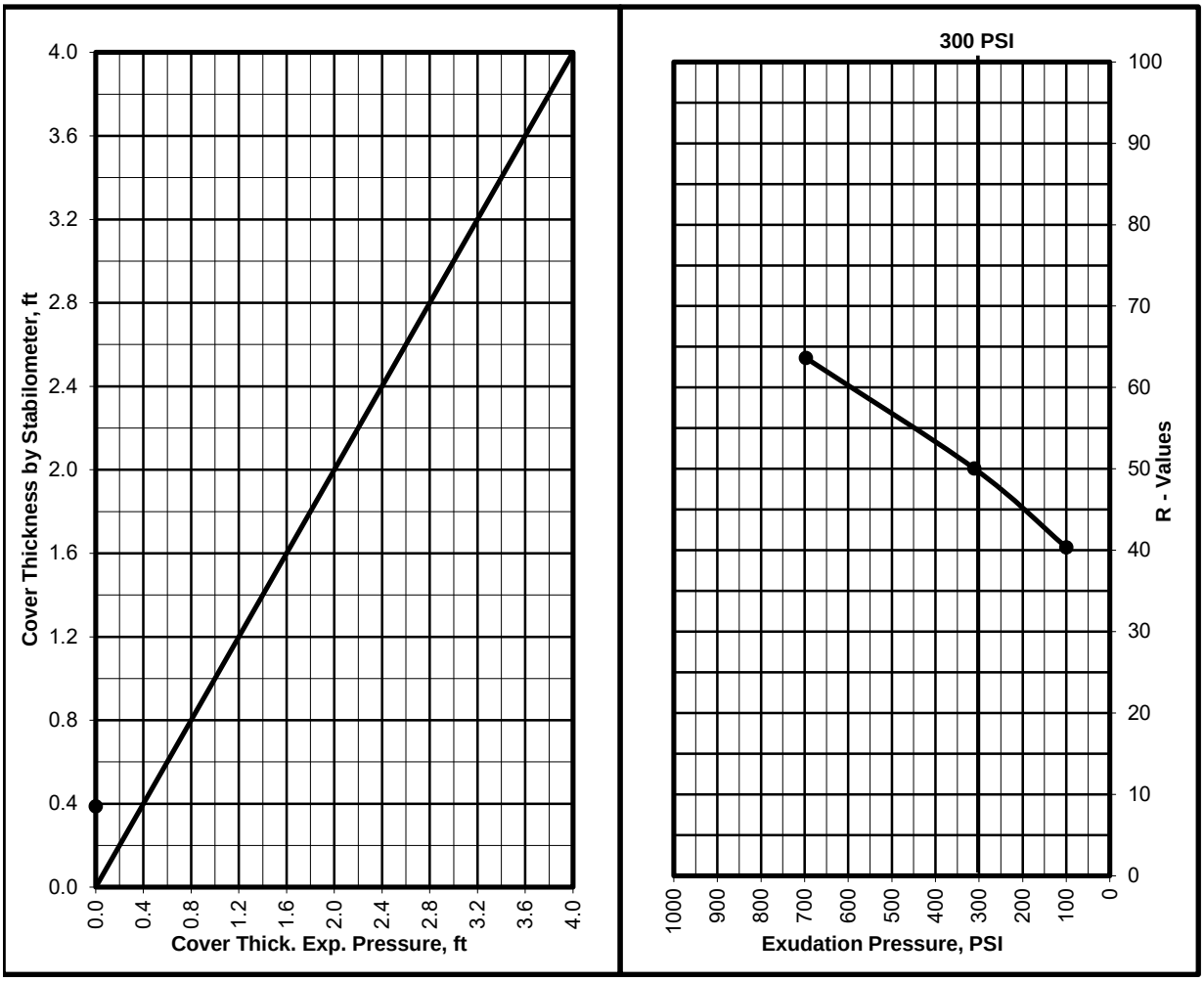
Krazan Testing Laboratory

R - VALUE TEST
ASTM D - 2844 / CAL 301

Project Number	:	11221076
Project Name	:	Apple Bear Retail Center
Date	:	9/1/2021
Sample Location/Curve Number	:	R-2
Soil Classification	:	Silty Sand

TEST	A	B	C
Percent Moisture @ Compaction, %	8.2	9.4	10.0
Dry Density, lbm/cu.ft.	122.4	122.0	119.4
Exudation Pressure, psi	697	311	100
Expansion Pressure, (Dial Reading)	0	0	0
Expansion Pressure, psf	0	0	0
Resistance Value R	64	50	40

R Value at 300 PSI Exudation Pressure	**50**
R Value by Expansion Pressure (TI =): 5	**Expansion Pressure nil**



Krazan Testing Laboratory

AEI Consultants

February 1, 2021

PHASE I ENVIRONMENTAL SITE ASSESSMENT

DRAFT

Property Information:
19439 Bear Valley Road
Apple Valley, San Bernardino County, California 92307

Project Information:
AEI Project No. 450104
Client Reference Name: 19439 Bear Valley Road, Apple Valley, CA

Prepared For:
Wood Investments, Inc.
2950 Airway Avenue Suite A9
Costa Mesa, California 92626

Prepared By:
AEI Consultants
2500 Camino Diablo
Walnut Creek, CA 94597

Environmental Due Diligence

Building Assessments

Site Investigation & Remediation

Energy Performance & Benchmarking

Industrial Hygiene

Construction Risk Management

Zoning Analysis Reports & ALTA Surveys

AEI Consultants

February 1, 2021

Patrick Wood
Wood Investments, Inc.
2950 Airway Avenue Suite A9
Costa Mesa, California 92626

Subject: **Phase I Environmental Site Assessment**
19439 Bear Valley Road
Apple Valley, California 92307
AEI Project No. 450104
Client Reference Name: 19439 Bear Valley Road, Apple Valley, CA

Dear Mr. Wood:

AEI Consultants is pleased to provide the *Phase I Environmental Site Assessment* of the above referenced property. This assessment was authorized and performed in accordance with the scope of services engaged.

We appreciate the opportunity to provide services to you. If you have any questions concerning this report, or if we can assist you in any other matter, please contact me at (925) 746-6000 or cmonheit@aeiconsultants.com.

Sincerely,
DRAFT
Courtney Monheit
Business Development Manager
AEI Consultants

DRAFT

PROJECT SUMMARY

19439 Bear Valley Road, Apple Valley, San Bernardino County, California 92307
AEI Project No. 450104

Report Section		REC	CREC	HREC	OEC	Recommended Action
1.0	Introduction					None
2.0	Site and Vicinity Description					None
3.0	Historical Review of Site and Vicinity					None
4.0	Regulatory Agency Records Review					None
5.0	Regulatory Database Records Review					None
6.0	Interviews and User Provided Information					None
7.0	Site Reconnaissance				✔	Characterize the contents of and properly dispose of 55-gallon drums.
8.1	Asbestos-Containing Building Materials				✔	O&M Plan
8.2	Lead-Based Paint				✔	O&M Plan
8.3	Radon				✔	None
8.4	Mold					None

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AEI Consultants

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EXECUTIVE SUMMARY

AEI Consultants (AEI) was retained by Wood Investments, Inc. to conduct a Phase I ESA in conformance with AEI's contract and the scope and limitations of ASTM Standard Practice E1527-13 and the EPA Standards and Practices for All Appropriate Inquiries (40 CFR Part 312) for the property located at 19439 Bear Valley Road, Apple Valley, San Bernardino County, California (the "subject property"). Any exceptions to, or deletions from, this practice are described in Sections 1.4, 1.5, and 1.6 of this report.

Pertinent subject property information is noted below:

PROPERTY INFORMATION	
Site Address(es)	19439 Bear Valley Road, Apple Valley, San Bernardino County, California 92307
Property ID (APN or Block/Lot)	0434-021-35-0000; 0434-021-37-0000; 0434-021-10-0000
Location	Bound by Bear Valley Road to the north and Flying Feather Road to the east
Property Type	Vacant Land
SITE AND BUILDING INFORMATION	
Approximate Site Acreage/Source	21.56/Assessor
Number of Buildings	One
Building Construction Date(s)/Source	1965/Assessor
Building Square Footage (SF)/Source	1,307/Assessor
Number of Floors/Stories	One
Basement or Subgrade Area(s)	None identified
Number of Units	N/A
Additional Improvements	The subject property is improved with a concrete paved patio/porch area as well as a gravel driveway leading into the single family residence and an ancillary shed. Westmont Drive (unpaved)
On-site Occupant(s)	Residential tenant
Current On-site Operations/Use	The subject property is currently in use as both a single-family residence as well as multiple acres of undeveloped land.
Current Use of Hazardous Substances	None identified
REGULATORY INFORMATION	
Regulatory Database Listing(s)	None identified

A chronological summary of historical subject property information is as follows:

Date Range	Subject Property Description and Occupancy (Historical Addresses)	Source(s)
1902-1947	Vacant land	Topographic maps
1953-1957	Large agricultural parcel consisting of a farmstead and related structures	Aerial photographs, topographic maps
1959	Graded, vacant land	Aerial photographs

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Date Range	Subject Property Description and Occupancy (Historical Addresses)	Source(s)
1965	Current building constructed for residential use (19439 Bear Valley Road)	Agency records
1965-Present	Current single family residence occupied by residential tenants as well as a large area of undeveloped land	Aerial photographs, topographic maps, city directories, agency records, site observation

The immediately surrounding properties consist of the following:

Direction	Tenant/Use (Address)	Regulatory Database Listing(s)
North	Bear Valley Road followed by: Wells Fargo Bank (12121 Apple Valley Road) Pollo Loco Restaurant (19380 Bear Valley Road) Vacant land (APN:308717116) Sonic Drive-In (19398 Bear Valley Road) Vacant land (16850 Bear Valley Road)	None identified
East	Flying Feather Road followed by: Vacant land (19575 Bear Valley Road)	None identified
South	Single family residence (19575 Bear Valley Road) Water Tower Duplex (11775 Flying Feather Road) Vacant land (APN: 043402152) Vacant land (APN: 043402158) StorAmerica Apple Valley Town Center Self Storage (19464 Town Center Drive)	None identified
West	Vacant land (APN: 043402147) Vacant land (APN: 043402149) Vacant land (APN: 043402130)	None identified

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If the surrounding properties are listed in the regulatory database, please refer to Section 5.1 for discussion.

FINDINGS

Recognized Environmental Condition (REC) is defined by the ASTM Standard Practice E1527-13 as the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: (1) due to release to the environment; (2) under conditions indicative of a release to the environment; or (3) under conditions that pose a material threat of a future release to the environment.

- AEI did not identify evidence of RECs during the course of this assessment.

Controlled Recognized Environmental Condition (CREC) is defined by the ASTM Standard Practice E1527-13 as a past release of hazardous substances or petroleum products that has been addressed to the satisfaction of the applicable regulatory authority, with hazardous substances or petroleum products allowed to remain in place subject to the implementation of required controls.

- AEI did not identify evidence of CRECs during the course of this assessment.

Historical Recognized Environmental Condition (HREC) is defined by the ASTM Standard Practice E1527-13 as a past release of any hazardous substances or petroleum products that has occurred in connection with the property and has been addressed to the satisfaction of the applicable regulatory authority or meeting unrestricted use criteria established by a regulatory authority, without subjecting the property to any required controls.

- AEI did not identify evidence of HRECs during the course of this assessment.

Other Environmental Considerations (OEC) warrant discussion, but do not qualify as RECs as defined by the ASTM Standard Practice E1527-13. These include, but are not limited to, de minimis conditions and/or environmental considerations such as the presence of ACMs, LBP, radon, mold, and lead in drinking water, which can affect the liabilities and financial obligations of the client, the health and safety of site occupants, and the value and marketability of the subject property. A de minimis condition is defined by the ASTM Standard as a condition that generally does not present a threat to human health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies. The following OECs were noted:

- Due to the age of the subject property building, there is a potential that ACMs are present. AEI was not provided access to the interiors of the building (buildings were locked, boarded up and the residential tenant currently occupying the property did not wish provide access to AEI), therefore the condition of suspect ACMs could not be evaluated. Based on the potential presence of ACMs, AEI recommends the implementation of an O&M Plan which stipulates that the repair and maintenance of damaged materials should be performed to protect the health and safety of the building occupants. In the event that building renovation or demolition activities are planned, a thorough asbestos survey to identify asbestos-containing building materials is required in accordance with the EPA NESHAP 40 CFR Part 61 prior to demolition or renovation activities that may disturb suspect ACMs.
- Due to the age of the subject property building, there is a potential that LBP is present. AEI was not provided access to the interiors of the buildings (buildings were locked, boarded up and the residential tenant currently occupying the property did not wish provide access to AEI), therefore the condition of interior painted surfaces could not be evaluated. During the site reconnaissance, the observed outdoor painted areas of the subject property seemed to be in good condition with the exception of two walls which seemed to be additions to the original buildings and were constructed of what appeared to be plywood. Based on the potential presence of LBP, AEI recommends the property owner implement an O&M Plan which stipulates that the assessment, repair and maintenance of damaged painted surfaces be performed to protect the health and safety of the building occupants. Local regulations may apply to LBP in association with building demolition/renovations and worker/occupant protection. Actual material samples would need to be collected or an x-ray fluorescence (XRF) survey performed in order to determine if LBP is present. It should be noted that construction activities that disturb materials or paints containing any amount of lead may be subject to certain requirements of the OSHA lead standard contained in 29 CFR 1910.1025 and 1926.62.

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- Radon sampling was not requested as part of this assessment. According to the California Department of Health Services Radon Database, 33 tests were conducted for radon levels in the subject property zip code (92307) in 2016. Two of the tests exceeded the action level of 4.0 pCi/L set forth by the US EPA. While a relatively small percentage of the test results exceeded the EPA threshold, the majority of the locations sampled were below 4.0 pCi/L. Consequently, radon does not appear to be a widespread concern; however, radon sampling would be required to determine site-specific radon levels.

- AEI was not provided access to the single-family residence or any of its surrounding, fenced in, property located on the northwestern corner of the subject property. Assessment of the property from just outside the perimeter of the subject property fence revealed that there are currently multiple unmarked 55-gallon drums being stored on the southern end of the property. The contents of these drums remains unknown. AEI recommends characterization of the drum contents and proper disposal prior to redevelopment of the property.

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CONCLUSIONS, OPINIONS, AND RECOMMENDATIONS

We have performed a Phase I Environmental Site Assessment in conformance with the scope and limitations of ASTM Standard Practice E1527-13 and the EPA Standards and Practices for All Appropriate Inquiries (40 CFR Part 312) of 19439 Bear Valley Road, Apple Valley, San Bernardino County, California, the *subject property*. Any exceptions to, or deletions from, this practice are described in Sections 1.4, 1.5, and 1.6 of this report.

AEI did not identify evidence of RECs or CRECs in connection with the subject property during the course of this assessment. AEI recommends no further investigation for the subject property at this time.

1.0 INTRODUCTION

This report documents the methods and findings of the Phase I Environmental Site Assessment performed in conformance with AEI's contract and scope and limitations of ASTM Standard Practice E1527-13 and the EPA Standards and Practices for All Appropriate Inquiries (40 CFR Part 312) for the property located at 19439 Bear Valley Road, Apple Valley, San Bernardino County, California (Appendix A: Figures and Appendix B: Property Photographs).

1.1 SCOPE OF WORK

The purpose of the Phase I ESA is to assist the client in identifying potential RECs, in accordance with ASTM E1527-13, associated with the presence of any hazardous substances or petroleum products, their use, storage, and disposal at and in the vicinity of the subject property. Property assessment activities focused on: 1) a review of federal, state, tribal, and local databases that identify and describe underground fuel tank sites, leaking underground fuel tank sites, hazardous waste generation sites, and hazardous waste storage and disposal facility sites within the ASTM approximate minimum search distance; 2) a property and surrounding site reconnaissance, and interviews with the past and present owners and current occupants and operators to identify potential environmental contamination; and 3) a review of historical sources to help ascertain previous land use at the site and in the surrounding area.

1.2 ADDITIONAL SERVICES

Other Environmental Considerations such as ACMs, LBP, lead in drinking water, radon, mold, and wetlands can result in business environmental risks for property owners which may disrupt current or planned operations or cash flow and are generally beyond the scope of a Phase I assessment as defined by ASTM E1527-13. Based upon the agreed-on scope of services this ESA did not include subsurface or other invasive assessments, business environmental risks, or other services not specifically identified and discussed herein.

1.3 SIGNIFICANT ASSUMPTIONS

The following assumptions are made by AEI in this report. AEI relied on information derived from secondary sources including governmental agencies, the client, designated representatives of the client, property contact, property owner, property owner representatives, computer databases, and personal interviews. AEI has reviewed and evaluated the thoroughness and reliability of the information derived from secondary sources including government agencies, the client, designated representatives of the client, property contact, property owner, property owner representatives, computer databases, or personal interviews. It appears that all information obtained from outside sources and reviewed for this assessment is thorough and reliable. However, AEI cannot guarantee the thoroughness or reliability of this information.

Groundwater flow, unless otherwise specified by on-site well data or well data from the subject property or nearby sites, is inferred from contour information depicted on the USGS topographic maps. AEI assumes the property has been correctly and accurately identified by the client, designated representative of the client, property contact, property owner, and property owner's representatives.

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1.4 LIMITATIONS

Property conditions, as well as local, state, tribal, and federal regulations can change significantly over time. Therefore, the recommendations and conclusions presented as a result of this assessment apply strictly to the environmental regulations and property conditions existing at the time the assessment was performed. Available information has been analyzed using currently accepted assessment techniques and it is believed that the inferences made are reasonably representative of the property. AEI makes no warranty, expressed or implied, except that the services have been performed in accordance with generally accepted environmental property assessment practices applicable at the time and location of the assessment.

Considerations identified by ASTM as beyond the scope of a Phase I ESA that may affect business environmental risk at a given property include the following: ACMs, radon, LBP, lead in drinking water, wetlands, regulatory compliance, cultural and historical resources, industrial hygiene, health and safety, ecological resources, endangered species, indoor air quality, mold, and high voltage lines. These environmental issues or conditions may warrant assessment based on the type of the property transaction; however, they are considered non-scope issues under ASTM Standard Practice E1527-13.

If requested by the client, these non-scope issues are discussed herein. Otherwise, the purpose of this assessment is solely to satisfy one of the requirements for qualification of the innocent landowner defense, contiguous property owner or bona fide prospective purchaser under CERCLA. ASTM Standard Practice E1527-13 and the United States EPA Standards and Practices for All Appropriate Inquiries (40 CFR Part 312) constitute the "all appropriate inquiry into the previous ownership and uses of the property consistent with good commercial or customary practice" as defined in:

1. 42 U.S.C. § 9601(35)(B), referenced in the ASTM Standard Practice E1527-13.
2. Sections 101(35)(B) (ii) and (iii) of CERCLA and referenced in the EPA Standards and Practices for All Appropriate Inquiries (40 CFR Part 312).
3. 42 U.S.C. § 9601(40) and 42 U.S.C. § 9607(q).

The Phase I Environmental Site Assessment is not, and should not be construed as, a warranty or guarantee about the presence or absence of environmental contaminants that may affect the property. Neither is the assessment intended to assure clear title to the property in question. The sole purpose of assessment into property title records is to ascertain a historical basis of prior land use. All findings, conclusions, and recommendations stated in this report are based upon facts, circumstances, and industry-accepted procedures for such services as they existed at the time this report was prepared (i.e., federal, state, and local laws, rules, regulations, market conditions, economic conditions, political climate, and other applicable matters). All findings, conclusions, and recommendations stated in this report are based on the data and information provided, current subject property use, and observations and conditions that existed on the date and time of the property reconnaissance.

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Responses received from local, state, or federal agencies or other secondary sources of information after the issuance of this report may change certain facts, findings, conclusions, or circumstances to the report. A change in any fact, circumstance, or industry-accepted procedure upon which this report was based may adversely affect the findings, conclusions, and recommendations expressed in this report.

AEI's limited radon screening, if included, is intended to provide a preliminary screening to evaluate the potential presence of elevated radon concentrations at the site. The proposed scope is not intended to define the full extent of the presence of radon at the subject property. As such, the results should be used for lending purposes only. The recommendations and conclusions presented as a result of the limited preliminary radon screening apply strictly to the property conditions existing at the time the sampling was performed. The sample analytical results are only valid for the time, place, and condition of the site at the time of collection and AEI does not warrant that the results will be repeatable or are representative of past or future conditions.

1.5 Limiting Conditions/Deviations

The performance of this assessment was limited by the following:

- While additional assessments may have been conducted on the subject property, these documents must be provided for AEI's review in order for the information to be summarized/included in this report. Please refer to Section 6.3 for a summary of previous reports and other documentation provided to AEI during this assessment.
- The User did not complete the ASTM User Questionnaire or provide the User information to AEI. AEI assumes that qualification for the LLPs is being established by the User in documentation outside of this assessment.
- AEI requested an interview with the current subject property owner - Victorville RL Holdings LLC - as well as the previous owner, Deanna L Herold; however, neither the current nor previous subject property owner has responded as of this report date. Based on the quality of information obtained from other sources, including historic aerial photographs and topographic maps, this limitation is not expected to alter the overall findings of this assessment.
- Pursuant to ASTM Standard E1527, information that is obtainable within a reasonable time frame is information that will be provided by the source within 20 calendar days of receiving a public information request. Based on the expected response time of over 20 calendar days for the San Bernardino County Building & Safety Division, records from this agency are not considered reasonably ascertainable. However, based on the quality of information obtained from other sources including the San Bernardino County Assessor's Office, this limitation is not expected to significantly alter the findings of this assessment.
- AEI was not provided access to the interiors of the buildings (buildings were locked, boarded up and the residential tenant currently occupying the property did not wish provide access to AEI), therefore the condition of interior of the subject property building could not be evaluated. The report was issued with this limitation at the request of the client.

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- Due to the size of the subject property, AEI performed a reconnaissance of the property utilizing a field technique of traversing the site in an attempt to provide an overlapping field of view. Due to the size of the property and the vegetation present on site, isolated areas of the site may have not been accessible for direct observation during AEI's field reconnaissance. This limitation is not expected to significantly alter the findings of this assessment.

1.6 Data Failure and Data Gaps

According to ASTM E1527-13, data gaps occur when the Environmental Professional is unable to obtain information required by the Standard, despite good faith efforts to gather such information. Pursuant to ASTM E1527-13, only significant data gaps, defined as those that affect the ability of the Environmental Professional to identify RECs, need to be documented.

Data failure is one type of data gap. According to ASTM E1527-13, data failure occurs when all of the standard historical sources that are reasonably ascertainable and likely to be useful have been reviewed and yet the objectives have not been met. Pursuant to ASTM E1527-13, historical sources are required to document property use back to the property's first developed use or back to 1940, whichever is earlier, or periods of five years or greater.

1.6.1 Data Failure

AEI did not identify evidence of data failure during the course of this assessment.

1.6.2 Significant Data Gaps

AEI did not identify significant data gaps which affected our ability to identify RECs.

1.7 Reliance

All reports, both verbal and written, are for the benefit of Wood Investments, Inc.. This report has no other purpose and may not be relied upon by any other person or entity without the written consent of AEI. Either verbally or in writing, third parties may come into possession of this report or all or part of the information generated as a result of this work. In the absence of a written agreement with AEI granting such rights, no third parties shall have rights of recourse or recovery whatsoever under any course of action against AEI, its officers, employees, vendors, successors or assigns. Reliance is provided in accordance with AEI's contract and Terms and Conditions executed by Wood Investments, Inc. on October 28, 2021. The limitation of liability defined in the Terms and Conditions is the aggregate limit of AEI's liability to the client and all relying parties.

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2.0 SITE AND VICINITY DESCRIPTION

2.1 SITE LOCATION AND DESCRIPTION

PROPERTY INFORMATION	
Site Address(es)	19439 Bear Valley Road, Apple Valley, San Bernardino County, California 92307
Property ID (APN or Block/Lot)	0434-021-35-0000; 0434-021-37-0000; 0434-021-10-0000
Location	Bound by Bear Valley Road to the north and Flying Feather Road to the east
Property Type	Vacant Land
SITE AND BUILDING INFORMATION	
Approximate Site Acreage/Source	21.56/Assessor
Number of Buildings	One
Building Construction Date(s)/Source	1965/Assessor
Building Square Footage (SF)/Source	1,307/Assessor
Number of Floors/Stories	One
Basement or Subgrade Area(s)	None identified
Number of Units	N/A
Additional Improvements	The subject property is improved with a concrete paved patio/porch area as well as a gravel driveway leading into the single family residence and an ancillary shed. Westmont Drive (unpaved)
On-site Occupant(s)	Residential tenant
Current On-site Operations/Use	The subject property is currently in use as both a single-family residence as well as multiple acres of undeveloped land.
Current Use of Hazardous Substances	None identified
REGULATORY INFORMATION	
Regulatory Database Listing(s)	None identified

2.2 ON-SITE UTILITIES

Utility	Source/System Information
Heating System	Natural gas
Cooling System	Electricity
Potable Water	Victorville Water District
Sewage Disposal/Treatment	Septic System

Utility source/system information listed in the table above is provided by a city clerk, unless otherwise noted above.

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2.3 SITE AND VICINITY CHARACTERISTICS

The subject property is located in a residential and commercial area of Apple Valley, California. The immediately surrounding properties consist of the following:

Direction	Tenant/Use (Address)	Regulatory Database Listing(s)
North	Bear Valley Road followed by: Wells Fargo Bank (12121 Apple Valley Road) Pollo Loco Restaurant (19380 Bear Valley Road) Vacant land (APN:308717116) Sonic Drive-In (19398 Bear Valley Road) Vacant land (16850 Bear Valley Road)	None identified
East	Flying Feather Road followed by: Vacant land (19575 Bear Valley Road)	None identified
South	Single family residence (19575 Bear Valley Road) Water Tower Duplex (11775 Flying Feather Road) Vacant land (APN: 043402152) Vacant land (APN: 043402158) StorAmerica Apple Valley Town Center Self Storage (19464 Town Center Drive)	None identified
West	Vacant land (APN: 043402147) Vacant land (APN: 043402149) Vacant land (APN: 043402130)	None identified

If the surrounding properties are listed in the regulatory database, please refer to Section 5.1 for discussion.

2.4 PHYSICAL SETTING

Geologic Unit: Description/Source	Qof: Old alluvial fan deposits (late to middle Pleistocene) Reddish-brown, sand, gravel, cobble and boulder alluvial fan deposits that are usually indurated and slightly dissected./USGS and United States Department of the Interior
Soil Series: Description/Source	105: Bryman Loamy fine sand, 0 to 2 percent slopes, typically at an elevation of 2,800 to 3,200 feet. The mean annual precipitation received for this type of soil ranges anywhere between 3 to 6 inches. The soil is well drained, non saline, and is prime farmland if irrigated./USDA Soil Survey
Groundwater Flow Direction/Source	West-to-northwest/Topographic map interpretation
Estimated Depth to Groundwater/ Source	>150 feet bgs/*Environmental Site Characterization and Low-Threat Underground Storage Tank Case Closure Request* for Former J & M Automotive located at 20307 Bear Valley Road, approximately 1.05 miles east of the subject property.
Surface waters on the subject property or adjoining sites	None
Additional notes	None

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Note: Groundwater flow direction can be influenced locally and regionally by the presence of local wetland features, surface topography, recharge and discharge areas, horizontal and vertical inconsistencies in the types and location of subsurface soils, and proximity to water pumping wells. Depth and gradient of the water table can change seasonally in response to variation in precipitation and recharge, and over time, in response to urban development such as storm water controls, impervious surfaces, pumping wells, cleanup activities, dewatering, seawater intrusion barrier projects near the coast, and other factors.

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3.0 HISTORICAL REVIEW OF SITE AND VICINITY

Reasonably ascertainable standard historical sources as outlined in ASTM Standard E1527-13 were used to determine previous uses and occupancies of the subject property that are likely to have led to RECs in connection with the subject property. A chronological summary of historical data found, including but not limited to aerial photographs, historical city directories, Sanborn fire insurance maps, and agency records, is as follows:

Date Range	Subject Property Description and Occupancy (Historical Addresses)	Source(s)
1902-1947	Vacant land	Topographic maps
1953-1957	Large agricultural parcel consisting of a farmstead and related structures	Aerial photographs, topographic maps
1959	Graded, vacant land	Aerial photographs
1965	Current building constructed for residential use (19439 Bear Valley Road)	Agency records
1965-Present	Current single family residence occupied by residential tenants as well as a large area of undeveloped land	Aerial photographs, topographic maps, city directories, agency records, site observation

The following historical address was associated with the subject property: 19501 Bear Valley Road. This address was also researched as part of this assessment.

Based on a review of aerial photographs, the subject property was historically used for agricultural purposes. There is a potential that agricultural chemicals, such as pesticides, herbicides and fertilizers, were used on site, and that the subject property has been impacted by the use of such agricultural chemicals. In general, historical agricultural use is not the subject of environmental enforcement actions by regulatory agencies, and therefore, could be considered a de minimis condition. However, AEI understands that the subject property is slated for redevelopment. Consequently, it would be prudent for the owner of the subject property to determine whether sampling relating to the former agricultural use of the subject property is required by the local planning department or other applicable oversight agency prior to the commencement of redevelopment activities.

A review of historical aerial photographs indicates that the subject property was formerly developed with a farmstead, centrally located with residential and/or agricultural-type structures. Due to the historical use of the subject property, the potential exists that fuel tanks may have formerly been present on site. However, no documentation of any fuel tanks at the subject property was found during the course of this assessment; therefore, this former use is not expected to represent a significant environmental concern.

If available, copies of historical sources are provided in Appendix D.

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3.1 AERIAL PHOTOGRAPHS

AEI reviewed aerial photographs of the subject property and surrounding area. A search was made of the EDR collection of aerial photographs. Aerial photographs were reviewed for the following years:

Year(s)	Subject Property Description	Adjoining Site Descriptions
1952* 1953	Large agricultural parcel occupied by a residence and several scattered and associated outbuildings and a pond. Structures are centrally located along the western portion of the property.	NORTH: Roadway followed by vacant shrubland EAST: Dirt roadway followed by vacant shrubland SOUTH: Shrubland occupied two residential buildings WEST: Vacant land as well as large area of what seems to be agricultural production
1959	Graded vacant land; and remnants of previous structures present	NORTH: No significant changes EAST: No significant changes SOUTH: Vacant shrubland as well as two residential buildings with what appears to be stables for horses or other animals WEST: No significant changes
1968, 1975	Small residential building located on the northwest side of large parcel of otherwise vacant land; remnants of prior development still present	NORTH: Roadway followed by heavily moistened soil, possibly the beginnings of agricultural production EAST: No significant changes SOUTH: No significant changes WEST: No significant changes
1984	No significant changes	NORTH: Roadway followed by agricultural land EAST: Dirt roadway followed by agricultural land SOUTH: Vacant land, several residential buildings and various animal corrals/stables WEST: Graded vacant land and agricultural land
1994	No significant changes, except several small remnant structures are present along the central portion of the property.	NORTH: Roadway followed by graded vacant land EAST: No significant changes SOUTH: Vacant land, several residential buildings and various animal corrals/stables, a water tower, and a self storage building WEST: Vacant land
2005	No significant changes	NORTH: Roadway followed by vacant land as well as mid-stage construction of a commercial plaza EAST: No significant changes SOUTH: No significant changes WEST: No significant changes

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Year(s)	Subject Property Description	Adjoining Site Descriptions
2009, 2012, 2016	No significant changes	NORTH: Roadway followed by vacant land as well as various commercial buildings EAST: No significant changes SOUTH: No significant changes WEST: No significant changes

AEI did not identify potential environmental concerns in association with the historical use of the subject property during the aerial photograph review.

*Due to copyright restrictions, copies of the aerial photographs reviewed are not included in the appendices, but can be viewed online at historicaerials.com and through Google Earth.

3.2 Sanborn Fire Insurance Maps

Sanborn Fire Insurance maps were developed in the late 1800s and early 1900s for use as an assessment tool for fire insurance rates in urbanized areas. A search was made of the EDR collection of Sanborn Fire Insurance maps.

Sanborn map coverage was not available for the subject property.

3.3 City Directories

A search of historical city directories was conducted for the subject property utilizing EDR. No potential tenants of concern were identified based on AEI's review of the historical city directories. Directories were reviewed in approximate five-year increments from 1964 to 2017. The first listing for the subject property appeared in 1971. The following table summarizes the results of the city directory search.

Year(s)	Address - Occupant Listed
1971	19439 Bear Valley Road - Warren J Smithson 19501 Bear Valley Road - XXXX
1986	19439 Bear Valley Road - William R Young 19501 Bear Valley Road - XXXX
1995, 2000	19439 Bear Valley Road - Occupant Unknown
2005, 2010	19439 Bear Valley Road - William R Young
2014	19439 Bear Valley Road - Heather Young
2017	19439 Bear Valley Road - Mary B Young

If listed above, XXXX indicates that the address is valid but there is no occupancy information available.

AEI did not identify potential environmental concerns in association with the historical use of the subject property during the city directory review.

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3.4 HISTORICAL TOPOGRAPHIC MAPS

A search of historical topographic maps was conducted for the subject property utilizing NETR Online (www.historicaerials.com). Topographic maps were reviewed for the following years:

Year(s)	Subject Property Description	Adjoining Site Descriptions
1902, 1906, 1912, 1925, 1933, 1941, 1947	No features depicted	NORTH: No features depicted EAST: No features depicted SOUTH: No features depicted WEST: No features depicted
1957, 1959, 1961, 1965, 1974	Small residence depicted on the northwest corner of the subject property, and several small residential-sized structures along the center of the property	NORTH: Secondary highway followed by no features depicted EAST: No features depicted SOUTH: Several small structure surrounded by no features depicted WEST: No significant changes
1975	No significant changes	NORTH: No significant changes EAST: Single structure surrounded by no features depicted SOUTH: No features depicted WEST: No significant changes
1980, 1985	Single small structure flanked by an unpaved roadway directly to the east	NORTH: No significant changes EAST: Single structure flanked by an unpaved roadway directly south of the building SOUTH: No significant changes WEST: No significant changes

AEI did not identify potential environmental concerns in association with the historical use of the subject property during the historic topographic map review.

3.5 CHAIN OF TITLE

Based on the quality of information obtained from other sources, a chain of title search was not performed as part of this assessment.

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4.0 REGULATORY AGENCY RECORDS REVIEW

Local and state agencies, such as environmental health departments, fire prevention bureaus, and building and planning departments are contacted to identify any current or previous reports of hazardous substance use, storage, and/or unauthorized releases that may have impacted the subject property. In addition, information pertaining to AULs, defined as legal or physical restrictions, or limitations on the use of, or access to, a site or facility, is requested.

4.1 LOCAL ENVIRONMENTAL HEALTH DEPARTMENT AND/OR STATE ENVIRONMENTAL AGENCY

Agency	Date Contacted	Method of Contact	Name & Title of Contact	Agency Response
San Bernardino County Environmental Health Services (SBCEHS)	November 9, 2021	Office visit	N/A	No records on file

4.2 FIRE DEPARTMENT

Agency	Date Contacted	Method of Contact	Name & Title of Contact	Agency Response
San Bernardino County Fire Protection District Hazardous Material Division (SBCFPD HMD)	November 9, 2021	Website	Ms. Maria Molina	No records on file

4.3 BUILDING DEPARTMENT

Agency	Date Contacted	Method of Contact	Name & Title of Contact	Agency Response
San Bernardino County Building & Safety Division (SBCBSD)	November 9, 2021	Website	N/A	Response pending, refer to Section 1.5

4.4 PLANNING DEPARTMENT

Agency	Date Contacted	Method of Contact	Name & Title of Contact	Agency Response
Town of Apple Valley Planning Division (AVPD)	November 9, 2021	Email	N/A	No evidence indicating the existence of AULs on file for the subject property

4.5 ASSESSOR'S OFFICE

Agency	Date Contacted	Method of Contact	Name & Title of Contact	Agency Response
San Bernardino County Assessor's Office	October 9, 2021	Website and telephone	N/A	Information obtained is discussed below

Records Summary

APN	0434-021-35-0000; 0434-021-37-0000; 0434-021-10-0000
Acreage	21.56 acres

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Construction Date	1965
Building Square Footage	1,307 square feet
Current Owner	Victorville RL Holdings LLC
Additional Information	N/A

4.6 Other Agencies Searched

Agency	Date Contacted	Method of Contact	Name & Title of Contact	Agency Response
CA State Water Resources Control Board (SWRCB) GeoTracker	November 9, 2021	Website	N/A	No records on file
SWRCB GeoTraker Historical Hazardous Substance Storage Information	November 9, 2021	Website	N/A	No records on file
CA Department of Toxic Substances Control (DTSC) Hazardous Waste Tracking System (HWTS)	November 9, 2021	Website	N/A	No records on file
CA DTSC EnviroStor	November 9, 2021	Website	N/A	No records on file
South Coast Air Quality Management District (AQMD)	November 9, 2021	Website	N/A	No records on file

No other agencies were contacted during the course of this assessment.

4.7 Oil and Gas Wells

Agency	Date Referenced	Resource	Oil or gas wells located within 500 feet of the subject property
California Geologic Energy Management Division (CalGEM)	November 9, 2021	CalGEM Map	No

4.8 Oil and Gas Pipelines

Agency	Date Referenced	Resource	Pipelines located within 500 feet of the subject property
National Pipeline Mapping System (NPMS)	November 9, 2021	NPMS Public Map Viewer	No

4.9 State Environmental Superliens

In accordance with our approved scope of services, AEI did not assess whether the subject property is subject to any state environmental superliens.

4.10 State Property Transfer Laws

In accordance with our approved scope of services, AEI did not assess whether the subject property is subject to any state property transfer laws.

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5.0 REGULATORY DATABASE RECORDS REVIEW

AEI contracted EDR to conduct a search of publicly available information from federal, state, tribal, and local databases containing known and suspected sites of environmental contamination and sites of potential environmental significance. Data gathered during the current regulatory database search is compiled by EDR into one regulatory database report. Location information for listed sites is designated using geocoded information provided by federal, state, or local agencies and commonly used mapping databases with the exception of "Orphan" sites. Due to poor or inadequate address information, Orphan sites are identified but not geocoded/mapped by EDR, rather, information is provided based upon vicinity zip codes, city name, and state. The number of listed sites identified within the approximate minimum search distance from the federal and state environmental records database listings specified in ASTM Standard E1527-13 is summarized in Section 5.1, along with the total number of Orphan sites. A copy of the regulatory database report, which includes detailed descriptions of the databases noted below, is included in Appendix C of this report.

In determining if a listed site is a potential environmental concern to the subject property, AEI generally applies the following criteria to classify the site as lower potential environmental concern: 1) the site only holds an operating permit (which does not imply a release), 2) the site's distance from, and/or topographic position relative to, the subject property, and/or 3) the site has recently been granted "No Further Action" by the appropriate regulatory agency.

Regulatory database listings associated with the subject property, adjoining site(s) and/or nearby sites of concern that were determined to warrant additional discussion are identified and further discussed in Section 5.1.

5.1 RECORDS SUMMARY

Database	Search Distance (Miles)	Listings Within Search Distance	Subject Property	Adjoining Site(s)	Other Nearby Sites of Concern
NPL	1.0	0			
DELISTED NPL	0.5	0			
SEMS/CERCLIS	0.5	0			
SEMS-ARCHIVE/CERCLIS NFRAP	0.5	0			
RCRA CORRACTS	1.0	0			
RCRA-TSDF	0.5	0			
RCRA LQG, SQG, CESQGs, NLR	SP/ADJ	0			
US ENG CONTROLS	SP	0			
US INST CONTROLS	SP	0			
ERNS	SP	0			
STATE/TRIBAL HWS	1.0	0			
STATE/TRIBAL SWLF	0.5	0			
STATE/TRIBAL REGISTERED STORAGE TANKS	SP/ADJ	0			

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Database	Search Distance (Miles)	Listings Within Search Distance	Subject Property	Adjoining Site(s)	Other Nearby Sites of Concern
STATE/TRIBAL LUST	0.5	1			
STATE/TRIBAL EC and IC	SP	0			
STATE/TRIBAL VCP	0.5	0			
STATE/TRIBAL BROWNFIELD	0.5	0			
ORPHAN	N/A	1			
ADDITIONAL ENVIRONMENTAL RECORD SOURCES	SP/ADJ	0			

5.2 VAPOR MIGRATION

AEI reviewed reasonably ascertainable information for the subject and nearby properties, including a regulatory database, files for nearby release sites, and/or historical documentation, to determine if potential vapor-phase migration concerns may be present which could impact the subject property.

AEI did not identify significant on-site concerns and/or regulated listings from nearby sites which suggest that a vapor-phase migration concern currently exists at the subject property.

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6.0 INTERVIEWS AND USER PROVIDED INFORMATION

6.1 INTERVIEWS

Pursuant to ASTM E1527-13, the following interviews were performed during this assessment in order to obtain information indicating RECs in connection with the subject property.

6.1.1 OWNER AND KEY SITE MANAGER

AEI requested an interview with the current subject property owner, Victorville RL Holdings LLC, as well as the previous owner, Deanna L Herold; however, neither the current nor previous subject property owner has responded as of this report date. Based on the quality of information obtained from other sources, including historic aerial photographs and topographic maps, this limitation is not expected to alter the overall findings of this assessment.

6.1.2 PAST OWNERS, OPERATORS, AND OCCUPANTS

AEI attempted to obtain contact information for past owners, operators and occupants of the subject property in order to interview them regarding the potential for contamination at the property. AEI requested this contact information of Ms. Deanna L Herold, reviewed agency records, and performed online research to obtain this information. Contact information was not found. As such, interviews with past owners, operators and occupants were not reasonably ascertainable.

6.1.3 INTERVIEW WITH OTHERS

Information obtained during interviews with local government officials is incorporated into the appropriate segments of this report.

6.2 USER PROVIDED INFORMATION

User provided information is intended to help identify the possibility of RECs in connection with the subject property. According to ASTM E1527-13 and the EPA Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), certain items should be researched by the prospective landowner or grantee, and the results of such inquiries may be provided to the Environmental Professional. The responsibility for qualifying for LLPs by conducting the inquiries ultimately rests with the User, and providing the information to the Environmental Professional would be prudent if such information is available.

The User did not complete the ASTM User Questionnaire or provide the User information to AEI. AEI assumes that qualification for the LLPs is being established by the User in documentation outside of this assessment.

Question	Response/ Comment
1. Environmental liens that are filed or recorded against the property (40 CFR 312.25)	Information not provided

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Question	Response/ Comment
Did a search of recorded land title records (or judicial records where appropriate) identify any environmental liens filed or recorded against the property under federal, tribal, state or local law?	
2. Activity and use limitations that are in place on the property or that have been filed or recorded against the property (40 CFR 312.26(a)(1)(v) and vi)). Did a search of recorded land title records (or judicial records where appropriate) identify any AULs, such as engineering controls, land use restrictions or institutional controls that are in place at the property and/or have been filed or recorded against the property under federal, tribal, state or local law?	Information not provided
3. Specialized knowledge or experience of the person seeking to qualify for the LLP (40 CFR 312.28). Do you have any specialized knowledge or experience related to the property or nearby properties? For example, are you involved in the same line of business as the current or former occupants of the property or an adjoining property so that you would have specialized knowledge of the chemicals and processes used by this type of business?	Information not provided
4. Relationship of the purchase price to the fair market value of the property if it were not contaminated (40 CFR 312.29). Does the purchase price being paid for this property reasonably reflect the fair market value of the property? If you conclude that there is a difference, have you considered whether the lower purchase price is because contamination is known or believed to be present at the property?	Information not provided
5. Commonly known or reasonably ascertainable information about the property (40 CFR 312.30). Are you aware of commonly known or reasonably ascertainable information about the property that would help the environmental professional to identify conditions indicative of releases or threatened releases? For example: (a) Do you know the past uses of the property? (b) Do you know of specific chemicals that are present or once were present at the property? (c) Do you know of spills or other chemical releases that have taken place at the property? (d) Do you know of any environmental cleanups that have taken place at the property?	Information not provided
6. The degree of obviousness of the presence or likely presence of contamination at the property, and the ability to detect the contamination by appropriate investigation (40 CFR 312.31). Based on your knowledge and experience related to the property, are there any obvious indicators that point to the presence or likely presence of contamination at the property?	Information not provided

6.3 Previous Reports and Other Provided Documentation

No prior reports or other relevant documentation in association with the subject property was made available to AEI during the course of this assessment.

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6.4 ENVIRONMENTAL LIEN SEARCH

In accordance with our approved scope of services, an environmental lien search was not performed as part of this assessment.

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7.0 SITE RECONNAISSANCE

Site Reconnaissance Date	November 18, 2021
AEI Site Assessor	Breezy Carreno
Property Escort/ Relationship to Property	Mr. Townsand Cropsey/Real Estate Agent
Units/Areas Observed	Buildings/Units/Suites/Sheds: None Exterior areas: Due to the size of the subject property, AEI performed a reconnaissance of the property utilizing a field technique of traversing the site in an attempt to provide an overlapping field of view.
Area(s) not accessed and reason(s)	Buildings/Units/Suites/Sheds: AEI was not provided access to the interiors of the buildings (buildings were locked, boarded up and the residential tenant currently occupying the property did not wish provide access to AEI); therefore, the condition of interior of the subject property building could not be evaluated. The report was issued with this limitation at the request of the client. Exterior areas: Due to the size of the property and the vegetation present on site, isolated areas of the site may have not been accessible for direct observation during AEI's field reconnaissance. This limitation is not expected to significantly alter the findings of this assessment. Refer to Section 1.5 for discussion of limiting conditions.
Other Physical Constraints	None

Reconnaissance Findings Summary

Feature	Observed on Subject Property (see Section 7.1)	Observed on Adjoining Property (see Section 7.2)
Regulated Hazardous Substances/Wastes and/or Petroleum Products in Connection with Property Use		
Aboveground/Underground Hazardous Substance or Petroleum Product Storage Tanks (ASTs/USTs)		
Hazardous Substance and Petroleum Product Containers Not in Connection with Property Use		
Unidentified Substance Containers	✔	
Electrical or Mechanical Equipment Likely to Contain Fluids		✔
Interior Stains or Corrosion		
Strong, Pungent, or Noxious Odors		
Pools of Liquid		
Drains, Sumps, and Clarifiers		✔
Pits, Ponds, and Lagoons		
Stained Soil or Pavement		
Stressed Vegetation		
Solid Waste Disposal or Evidence of Fill Materials		
Waste Water Discharges		
Wells		
Septic Systems	✔	
Biomedical Wastes		

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Feature	Observed on Subject Property (see Section 7.1)	Observed on Adjoining Property (see Section 7.2)
Other	✔	

7.1 Subject Property Reconnaissance Findings

During the site reconnaissance, AEI observed the items listed in the above Reconnaissance Findings Summary table, which are further discussed below.

7.1.1 Unidentified Substance Containers

Substance/Waste (size/ quantity)	Container Condition	Location	Secondary Containment	Staining/Spills
Unknown substances (55-gallon drum/10)	Exterior fenced area	Backyard area of fenced in single- family residence	No	No spills were visible from the location of observance, approximately 100 feet away

AEI was not provided access to the single-family residence or any of its surrounding, fenced in, property located on the northwestern corner of the subject property. Assessment of the property from just outside the perimeter of the subject property fence revealed that there are currently multiple unmarked 55-gallon drums being stored on the southern end of the property. The contents of these drums remains unknown. AEI recommends characterization of the drum contents and proper disposal prior to redevelopment of the property.

7.1.2 Septic Systems

According to the San Bernardino Assessor's Office, subject property is equipped with an on-site septic system for the treatment and disposal of domestic waste. The exact location is unknown. Based on the use of the system solely for domestic waste, and since no hazardous substances or petroleum products are utilized on site, the presence of this septic system is not expected to represent a significant environmental concern.

7.1.3 Other

AEI observed several debris piles within the vacant portion of the property. The piles contained concrete debris and no hazardous materials containers were observed. Based upon the nature of the debris, they are not considered a significant issue to the subject property.

7.2 Adjoining Property Reconnaissance Findings

During the site reconnaissance, AEI observed the items listed in the above Reconnaissance Findings Summary table, which are further discussed below.

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7.2.1 Electrical or Mechanical Equipment Likely to Contain Fluids

Toxic PCBs were commonly used historically in electrical equipment such as transformers, fluorescent lamp ballasts, and capacitors. According to United States EPA regulation 40 CFR, Part 761, there are three categories for classifying such equipment: <50 ppm of PCBs is considered "Non-PCB"; between 50 and 500 ppm is considered "PCB-Contaminated"; and >500 ppm is considered "PCB-Containing." Pursuant to 15 U.S.C. 2605(e)(2)(A), the manufacture, process, or distribution in commerce or use of any polychlorinated biphenyl in any manner other than in a totally enclosed manner was prohibited after January 1, 1977.

Transformers

The management of potential PCB-containing transformers is the responsibility of the local utility or the transformer owner. Actual material samples need to be collected to determine if transformers are PCB-containing.

Two pad-mounted transformers were observed on the adjoining sites during the site reconnaissance. No spills, staining, or leaks were observed on or around the transformers. Based on the good condition of the equipment, the transformers are not expected to represent a significant environmental concern.

7.2.2 Drains, Sumps, and Clarifiers

Several storm drains were observed in the parking areas of the adjoining properties and adjoining roadways. AEI did not observe evidence of hazardous substances or petroleum products in the vicinity of the drains. Based on the use of the drains solely for storm water runoff, the presence of the drains is not expected to represent a significant environmental concern.

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8.0 NON-ASTM SERVICES

8.1 ASBESTOS-CONTAINING BUILDING MATERIALS

Due to the age of the subject property building, there is a potential that ACMs are present. AEI was not provided access to the interiors of the building (buildings were locked, boarded up and the residential tenant currently occupying the property did not wish provide access to AEI), therefore the condition of suspect ACMs could not be evaluated. Based on the potential presence of ACMs, AEI recommends the implementation of an O&M Plan which stipulates that the repair and maintenance of damaged materials should be performed to protect the health and safety of the building occupants. In the event that building renovation or demolition activities are planned, a thorough asbestos survey to identify asbestos-containing building materials is required in accordance with the EPA NESHAP 40 CFR Part 61 prior to demolition or renovation activities that may disturb suspect ACMs.

8.2 LEAD-BASED PAINT

Due to the age of the subject property building, there is a potential that LBP is present. AEI was not provided access to the interiors of the buildings (buildings were locked, boarded up and the residential tenant currently occupying the property did not wish provide access to AEI), therefore the condition of interior painted surfaces could not be evaluated. During the site reconnaissance, the observed outdoor painted areas of the subject property seemed to be in good condition with the exception of two walls which seemed to be additions to the original buildings and were constructed of what appeared to be plywood. Based on the potential presence of LBP, AEI recommends the property owner implement an O&M Plan which stipulates that the assessment, repair and maintenance of damaged painted surfaces be performed to protect the health and safety of the building occupants. Local regulations may apply to LBP in association with building demolition/renovations and worker/occupant protection. Actual material samples would need to be collected or an x-ray fluorescence (XRF) survey performed in order to determine if LBP is present. It should be noted that construction activities that disturb materials or paints containing any amount of lead may be subject to certain requirements of the OSHA lead standard contained in 29 CFR 1910.1025 and 1926.62.

8.3 RADON

Radon is a naturally-occurring, odorless, and invisible gas. Natural radon levels vary and are closely related to geologic formations. Radon may enter buildings through basement sumps or other openings.

Radon sampling was not requested as part of this assessment. According to the California Department of Health Services Radon Database, 33 tests were conducted for radon levels in the subject property zip code (92307) in 2016. Two of the tests exceeded the action level of 4.0 pCi/L set forth by the US EPA. While a relatively small percentage of the test results exceeded the EPA threshold, the majority of the locations sampled were below 4.0 pCi/L. Consequently, radon does not appear to be a widespread concern; however, radon sampling would be required to determine site-specific radon levels.

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8.4 MOLD

AEI did not observe interior areas of the subject property building, as the building was locked, boarded up and a site escort was not present to facilitate entry.

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9.0 SIGNATURE OF ENVIRONMENTAL PROFESSIONALS

I declare that, to the best of my professional knowledge and belief, I meet the definition of Environmental Professional as defined in § 312.10 of 40 CFR Part 312.

I have the specific qualifications based on education, training, and experience to assess a property of the nature, history and setting of the subject property. I have developed and performed the all appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312.

Prepared By:
DRAFT
Breezy Carreno
Project Manager

Reviewed By:
DRAFT
Edna Picciolini
Senior Author, EP

DRAFT

10.0 REFERENCES

Item	Date(s)	Source
Soils Information	Accessed December 2021	USDA Web Soil Survey http://websoilsurvey.nrcs.usda.gov/app/WebSoilSurvey.aspx
Topographic Map	2012	USGS, Apple Valley South, CA
Depth to Groundwater Information	May 25, 2016	*Environmental Site Characterization and Low-Threat Underground Storage Tank Case Closure Request* for Former J & M Automotive located at 20307 Bear Valley Road, approximately 1.05 miles east of the subject property.
Aerial Photographs	1953-2016 (non-inclusive)	EDR
Sanborn Map Report/Search	November 3, 2021	EDR
City Directories	1964-2017 (non-inclusive)	EDR
Historical Topographic Maps	1902-1985 (non-inclusive)	NETR Online (www.historicaerials.com)
Environmental Health Department	November 9, 2021	San Bernardino County Environmental Health Services
Fire Department	November 9, 2021	San Bernardino County Fire Protection District Hazardous Material Division
Building Department	November 9, 2021	San Bernardino County Building & Safety Division
Planning Department	November 9, 2021	Town of Apple Valley Planning Division
Assessor's Information and Parcel Map	October 9, 2021	San Bernardino County Assessor's Office
Other Agencies Searched	November 9, 2021	SWRCB GeoTracker, DTSC HWTS, and DTSC EnviroStor, South Coast AQMD
Oil and Gas Wells	November 9, 2021	California Geologic Energy Management Division
Oil and Gas Pipelines	November 9, 2021	NPMS Public Map Viewer https://www.npms.phmsa.dot.gov/PublicViewer/composite.jsf
Regulatory Database Report	November 3, 2021	EDR
Radon Zone Information	2016	California Indoor Radon Test Results by Zip Code https://www.cdph.ca.gov/Programs/CEH/DRSEM/CDPH%20Document%20Library/EMB/Radon/Radon%20Test%20Results.pdf

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APPENDIX A

FIGURES

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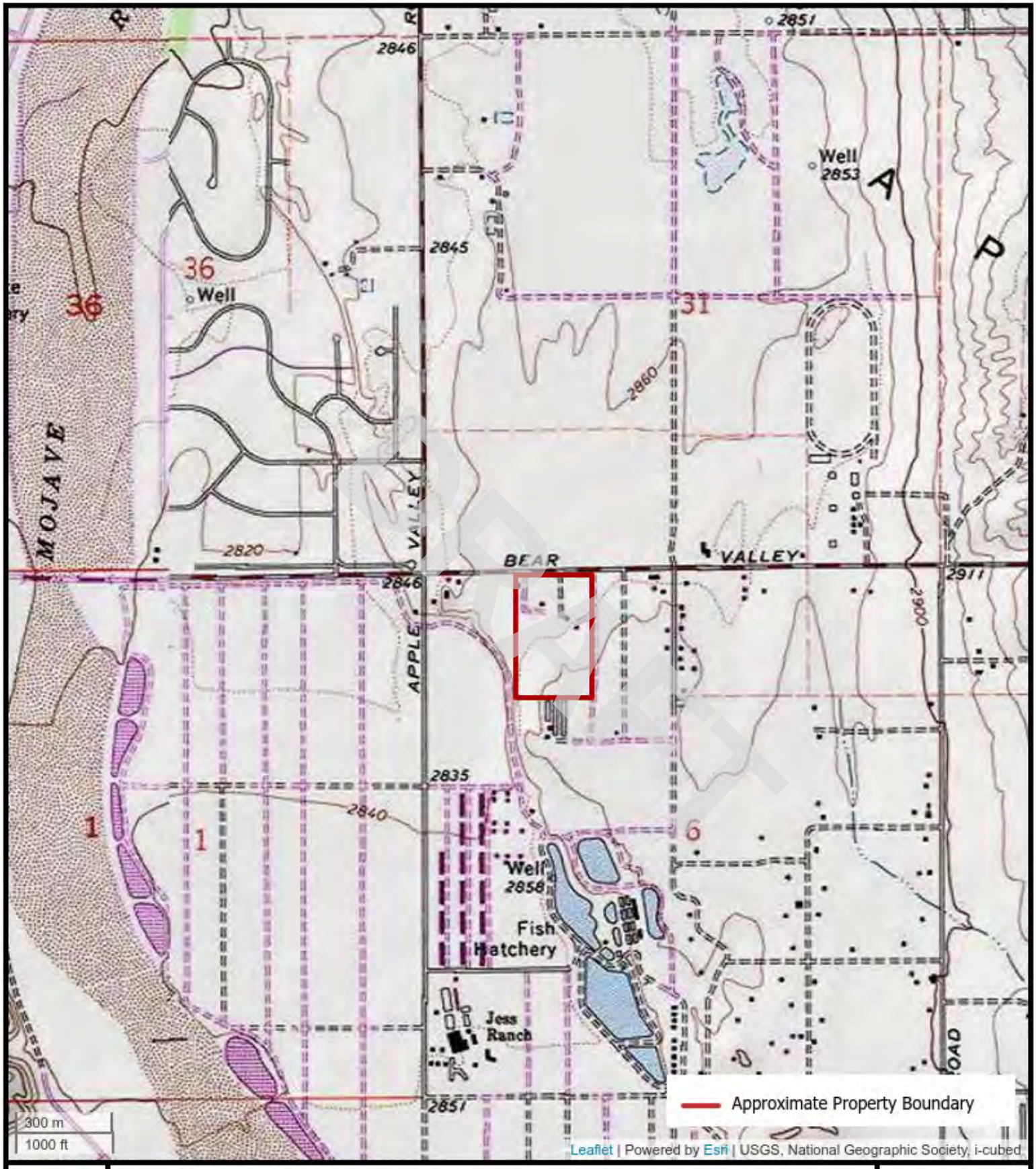

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FIGURE 1: TOPOGRAPHIC MAP

19439 Bear Valley Road, Apple Valley, California 92307

AEI Project Number: 450104

AEI Consultants

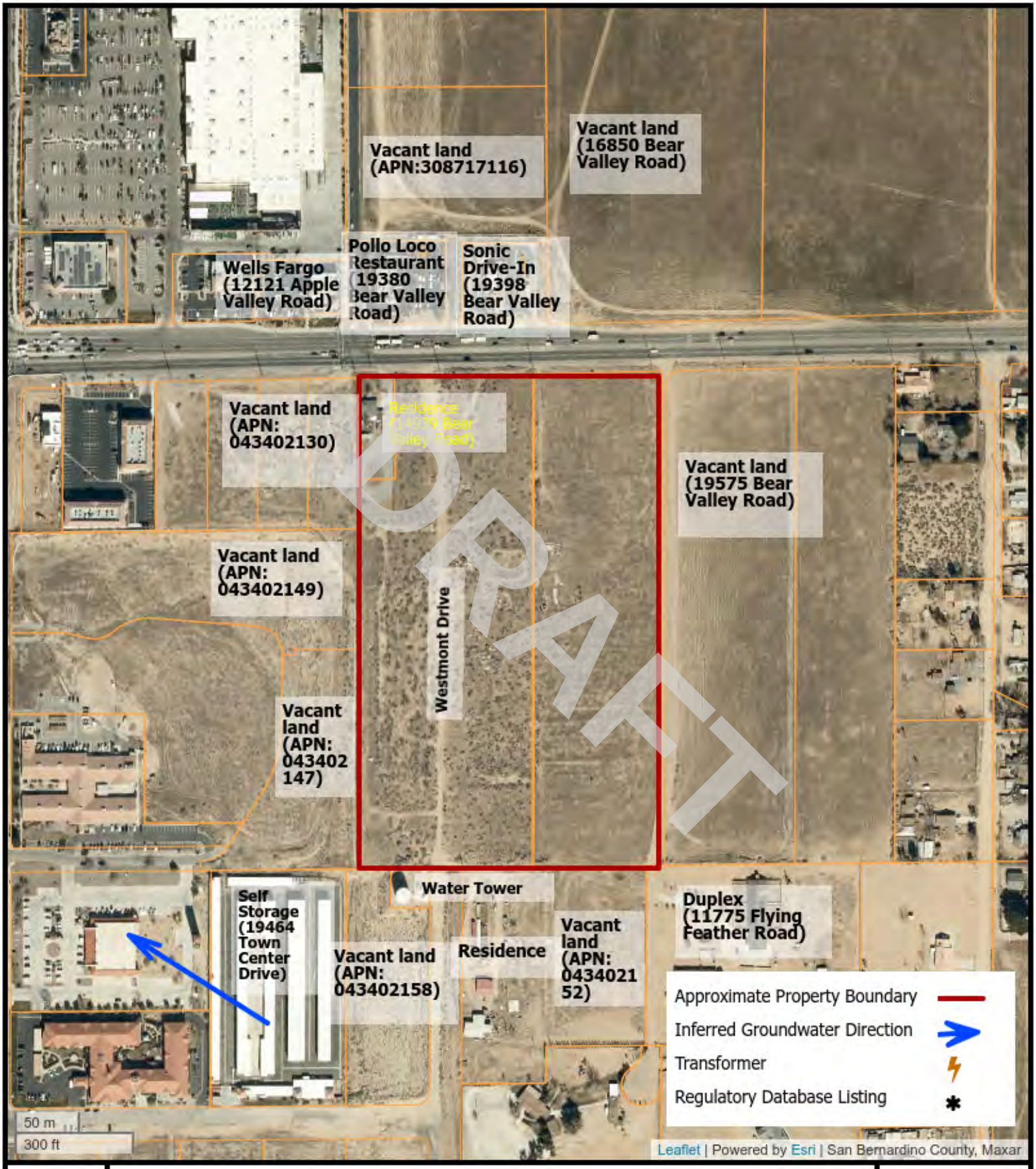

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FIGURE 2: SITE MAP

19439 Bear Valley Road, Apple Valley, California 92307

AEI Project Number: 450104

AEI Consultants

APPENDIX B

PROPERTY PHOTOGRAPHS

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1. South facing view of subject property driveway to on-site residence along the northwest portion of the subject property

2. South facing view of subject property residence

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3. Southeast facing view of subject property residence

4. East facing view of subject property residence and out-building

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5. East facing view of subject property residence and out building

6. View facing southeast across vacant portion of the subject property

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7. South facing view of subject property

8. West facing view of subject property residence

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9. West facing view of subject property

10. East facing view of subject property vacant land

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11. East facing view of subject property vacant land

12. View of concrete debris on vacant portion of subject property.

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13. North adjoining Wells Fargo bank (12121 Apple Valley Road)

14. North adjoining Pollo Loco Restaurant (19380 Bear Valley Road)

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15. North-adjoining Sonic Drive-In (19398 Bear Valley Road)

16. North adjoining Vacant land (16850 Bear Valley Road)

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17. East adjoining Vacant land (19575 Bear Valley Road)

18. South adjoining Duplex (11775 Flying Feather Road)

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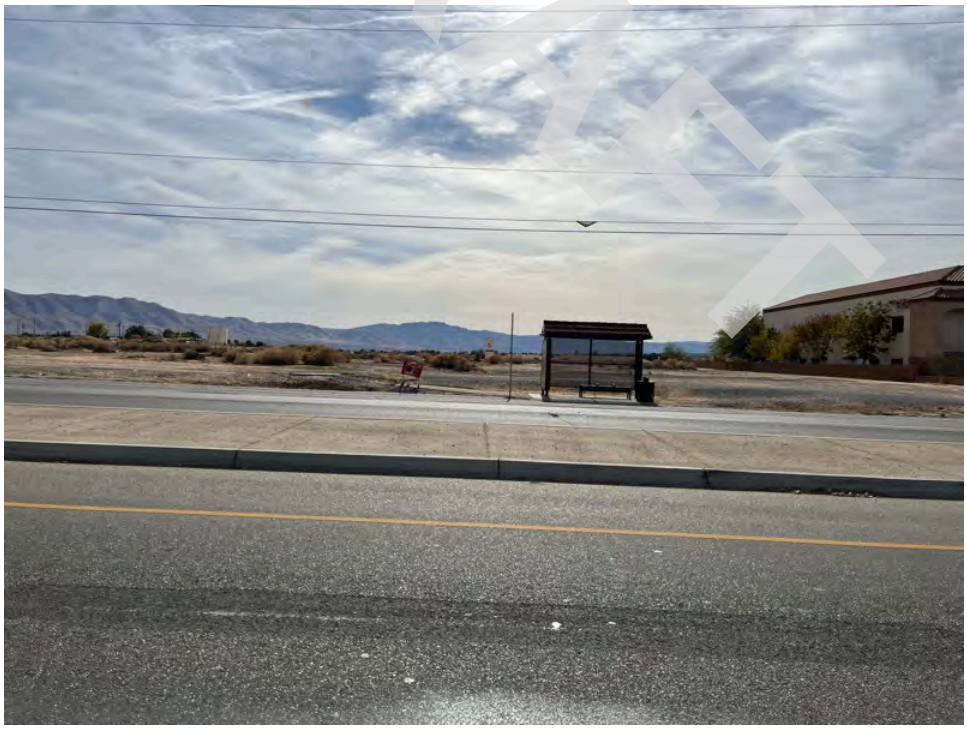
19. South adjoining vacant land (APN: 043402158)



20. West adjoining vacant land (APN: 043402130)

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21. South adjoining water tower

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APPENDIX C

REGULATORY DATABASE

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450104
19439 Bear Valley Road
Apple Valley, CA 92308

Inquiry Number: 6733055.2s
November 03, 2021

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The EDR Radius Map™ Report with GeoCheck®

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

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Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

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EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E 1527-13), the ASTM Standard Practice for Environmental Site Assessments for Forestland or Rural Property (E 2247-16), the ASTM Standard Practice for Limited Environmental Due Diligence: Transaction Screen Process (E 1528-14) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

TARGET PROPERTY INFORMATION

ADDRESS

19439 BEAR VALLEY ROAD
APPLE VALLEY, CA 92308

COORDINATES

Latitude (North):	34.4706410 - 34° 28' 14.30''
Longitude (West):	117.2391640 - 117° 14' 20.99''
Universal Tranverse Mercator:	Zone 11
UTM X (Meters):	478035.8
UTM Y (Meters):	3814171.8
Elevation:	2867 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property Map:	5619094 APPLE VALLEY SOUTH, CA
Version Date:	2012
Southwest Map:	5620406 HESPERIA, CA
Version Date:	2012

AERIAL PHOTOGRAPHY IN THIS REPORT

Portions of Photo from:	20140527, 20140529
Source:	USDA

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MAPPED SITES SUMMARY

Target Property Address:
19439 BEAR VALLEY ROAD
APPLE VALLEY, CA 92308

Click on Map ID to see full detail.

MAP ID	SITE NAME	ADDRESS	DATABASE ACRONYMS	RELATIVE ELEVATION	DIST (ft. & mi.) DIRECTION
1	AG-LOW RANCH	19728 BEAR VALLEY RD	SWEEPS UST	Higher	451, 0.085, ENE
A2	SIMPSON EDWARD	19341 BEAR VALLEY RD	EDR Hist Auto	Lower	573, 0.109, WNW
A3	APPLE VALLEY AUTO &	19341 BEAR VALLEY	EDR Hist Auto	Lower	573, 0.109, WNW
A4	APPLE VALLEY TRANSMI	19341 BEAR VALLEY	LUST, SWEEPS UST, Cortese, HIST CORTESE, CERS,...	Lower	573, 0.109, WNW
A5	MASTER MECHANIC	19341 BEAR VALLEY RD	RCRA-SQG, FINDS, ECHO	Lower	573, 0.109, WNW
A6	ST MARY HIGH DESERT	19333 BEAR VALLEY RD	RCRA NonGen / NLR	Lower	614, 0.116, West
A7	WALGREENS #1870	12109 APPLE VALLEY R	RCRA-SQG	Lower	745, 0.141, WNW
A8	WALGREENS #1870	12109 APPLE VALLEY R	CERS HAZ WASTE, San Bern. Co. Permit, CERS	Lower	745, 0.141, WNW
A9	WALGREENS STORE #187	12109 APPLE VALLEY R	RCRA-VSQG	Lower	745, 0.141, WNW
10	VERIZON WIRELESS: OR	11873 APPLE VALLEY R	San Bern. Co. Permit, CERS	Lower	865, 0.164, SW
B11	LOWE'S #2528	12189 APPLE VALLEY R	AST	Lower	1012, 0.192, NW
B12	LOWE'S OF APPLE VALL	12189 APPLE VALLEY R	CERS HAZ WASTE, CERS TANKS, HAZNET, CERS, HWTS	Lower	1012, 0.192, NW
B13	LOWE'S OF APPLE VALL	12189 APPLE VALLEY R	RCRA-SQG	Lower	1012, 0.192, NW
B14	AV RANCHOS WATER - W	12189 APPLE VALLEY R	EMI, San Bern. Co. Permit	Lower	1012, 0.192, NW
B15	LOWE'S #2528	12189 APPLE VALLEY	AST	Lower	1012, 0.192, NW
B16	DEL TACO #1007	12207 APPLE VALLEY R	San Bern. Co. Permit	Lower	1149, 0.218, NW
C17	TARGET STORE T0939	19201 BEAR VALLEY RD	RCRA-LQG	Lower	1260, 0.239, WSW
C18	TARGET STORE T0939	19201 BEAR VALLEY RD	RCRA-LQG, ICIS, FINDS, ECHO	Lower	1260, 0.239, WSW
C19	APPLEBEE'S NEIGHBORH	19201 BEAR VALLEY RD	San Bern. Co. Permit	Lower	1260, 0.239, WSW
C20	KAISER PERMANENTE TA	19201 BEAR VALLEY RD	RCRA-SQG	Lower	1260, 0.239, WSW
C21	CVS PHARMACY #16358	19201 BEAR VALLEY RD	RCRA-VSQG, FINDS, ECHO	Lower	1260, 0.239, WSW
C22	STAPLES THE OFFICE S	19201 BEAR VALLEY RD	CERS HAZ WASTE, San Bern. Co. Permit, CERS	Lower	1260, 0.239, WSW
C23	99 CENTS ONLY STORES	19201 BEAR VALLEY RD	RCRA NonGen / NLR	Lower	1260, 0.239, WSW
C24	99 CENTS ONLY STORES	19201 BEAR VALLEY RD	CERS HAZ WASTE, San Bern. Co. Permit, CERS	Lower	1260, 0.239, WSW
C25	STAPLES THE OFFICE S	19201 BEAR VALLEY RD	RCRA NonGen / NLR	Lower	1260, 0.239, WSW
26	BURLINGTON STORE # 7	19131 BEAR VALLEY RD	SWRCY, CERS HAZ WASTE, HAZNET, San Bern. Co....	Lower	1951, 0.370, WSW

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EXECUTIVE SUMMARY

TARGET PROPERTY SEARCH RESULTS

The target property was not listed in any of the databases searched by EDR.

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the search radius around the target property for the following databases:

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL ---------- National Priority List
Proposed NPL ---------- Proposed National Priority List Sites
NPL LIENS ---------- Federal Superfund Liens

Federal Delisted NPL site list

Delisted NPL ---------- National Priority List Deletions

Federal CERCLIS list

FEDERAL FACILITY ---------- Federal Facility Site Information listing
SEMS ---------- Superfund Enterprise Management System

Federal CERCLIS NFRAP site list

SEMS-ARCHIVE ---------- Superfund Enterprise Management System Archive

Federal RCRA CORRACTS facilities list

CORRACTS ---------- Corrective Action Report

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF ---------- RCRA - Treatment, Storage and Disposal

Federal institutional controls / engineering controls registries

LUCIS ---------- Land Use Control Information System
US ENG CONTROLS ---------- Engineering Controls Sites List
US INST CONTROLS ---------- Institutional Controls Sites List

Federal ERNS list

ERNS ---------- Emergency Response Notification System

State- and tribal - equivalent NPL

RESPONSE ---------- State Response Sites

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EXECUTIVE SUMMARY

State- and tribal - equivalent CERCLIS

ENVIROSTOR ---------- EnviroStor Database

State and tribal landfill and/or solid waste disposal site lists

SWF/LF ---------- Solid Waste Information System

State and tribal leaking storage tank lists

INDIAN LUST ---------- Leaking Underground Storage Tanks on Indian Land
CPS-SLIC ---------- Statewide SLIC Cases

State and tribal registered storage tank lists

FEMA UST ---------- Underground Storage Tank Listing
UST ---------- Active UST Facilities
INDIAN UST ---------- Underground Storage Tanks on Indian Land

State and tribal voluntary cleanup sites

INDIAN VCP ---------- Voluntary Cleanup Priority Listing
VCP ---------- Voluntary Cleanup Program Properties

State and tribal Brownfields sites

BROWNFIELDS ---------- Considered Brownfields Sites Listing

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS ---------- A Listing of Brownfields Sites

Local Lists of Landfill / Solid Waste Disposal Sites

WMUDS/SWAT ---------- Waste Management Unit Database
HAULERS ---------- Registered Waste Tire Haulers Listing
INDIAN ODI ---------- Report on the Status of Open Dumps on Indian Lands
ODI ---------- Open Dump Inventory
DEBRIS REGION 9 ---------- Torres Martinez Reservation Illegal Dump Site Locations
IHS OPEN DUMPS ---------- Open Dumps on Indian Land

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL ---------- Delisted National Clandestine Laboratory Register
HIST Cal-Sites ---------- Historical Calsites Database
SCH ---------- School Property Evaluation Program
CDL ---------- Clandestine Drug Labs
Toxic Pits ---------- Toxic Pits Cleanup Act Sites
US CDL ---------- National Clandestine Laboratory Register
AQUEOUS FOAM ---------- Former Fire Training Facility Assessments Listing
PFAS ---------- PFAS Contamination Site Location Listing

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EXECUTIVE SUMMARY

Local Lists of Registered Storage Tanks

HIST UST	Hazardous Substance Storage Container Database
CA FID UST	Facility Inventory Database

Local Land Records

LIENS	Environmental Liens Listing
LIENS 2	CERCLA Lien Information
DEED	Deed Restriction Listing

Records of Emergency Release Reports

HMIRS	Hazardous Materials Information Reporting System
CHMIRS	California Hazardous Material Incident Report System
LDS	Land Disposal Sites Listing
MCS	Military Cleanup Sites Listing
SPILLS 90	SPILLS 90 data from FirstSearch

Other Ascertainable Records

FUDS	Formerly Used Defense Sites
DOD	Department of Defense Sites
SCRD DRYCLEANERS	State Coalition for Remediation of Drycleaners Listing
US FIN ASSUR	Financial Assurance Information
EPA WATCH LIST	EPA WATCH LIST
2020 COR ACTION	2020 Corrective Action Program List
TSCA	Toxic Substances Control Act
TRIS	Toxic Chemical Release Inventory System
SSTS	Section 7 Tracking Systems
ROD	Records Of Decision
RMP	Risk Management Plans
RAATS	RCRA Administrative Action Tracking System
PRP	Potentially Responsible Parties
PADS	PCB Activity Database System
ICIS	Integrated Compliance Information System
FTTS	FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
MLTS	Material Licensing Tracking System
COAL ASH DOE	Steam-Electric Plant Operation Data
COAL ASH EPA	Coal Combustion Residues Surface Impoundments List
PCB TRANSFORMER	PCB Transformer Registration Database
RADINFO	Radiation Information Database
HIST FTTS	FIFRA/TSCA Tracking System Administrative Case Listing
DOT OPS	Incident and Accident Data
CONSENT	Superfund (CERCLA) Consent Decrees
INDIAN RESERV	Indian Reservations
FUSRAP	Formerly Utilized Sites Remedial Action Program
UMTRA	Uranium Mill Tailings Sites
LEAD SMELTERS	Lead Smelter Sites
US AIRS	Aerometric Information Retrieval System Facility Subsystem
US MINES	Mines Master Index File
ABANDONED MINES	Abandoned Mines
FINDS	Facility Index System/Facility Registry System

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DOCKET HWC ---- Hazardous Waste Compliance Docket Listing
UXO ---- Unexploded Ordnance Sites
ECHO ---- Enforcement & Compliance History Information
FUELS PROGRAM ---- EPA Fuels Program Registered Listing
CA BOND EXP. PLAN ---- Bond Expenditure Plan
CUPA Listings ---- CUPA Resources List
DRYCLEANERS ---- Cleaner Facilities
EMI ---- Emissions Inventory Data
ENF ---- Enforcement Action Listing
Financial Assurance ---- Financial Assurance Information Listing
HAZNET ---- Facility and Manifest Data
ICE ---- ICE
HWP ---- EnviroStor Permitted Facilities Listing
HWT ---- Registered Hazardous Waste Transporter Database
MINES ---- Mines Site Location Listing
MWMP ---- Medical Waste Management Program Listing
NPDES ---- NPDES Permits Listing
PEST LIC ---- Pesticide Regulation Licenses Listing
PROC ---- Certified Processors Database
Notify 65 ---- Proposition 65 Records
UIC ---- UIC Listing
UIC GEO ---- UIC GEO (GEOTRACKER)
WASTEWATER PITS ---- Oil Wastewater Pits Listing
WDS ---- Waste Discharge System
WIP ---- Well Investigation Program Case List
MILITARY PRIV SITES ---- MILITARY PRIV SITES (GEOTRACKER)
PROJECT ---- PROJECT (GEOTRACKER)
WDR ---- Waste Discharge Requirements Listing
CIWQS ---- California Integrated Water Quality System
CERS ---- CERS
NON-CASE INFO ---- NON-CASE INFO (GEOTRACKER)
OTHER OIL GAS ---- OTHER OIL & GAS (GEOTRACKER)
PROD WATER PONDS ---- PROD WATER PONDS (GEOTRACKER)
SAMPLING POINT ---- SAMPLING POINT (GEOTRACKER)
WELL STIM PROJ ---- Well Stimulation Project (GEOTRACKER)
MINES MRDS ---- Mineral Resources Data System
HWTS ---- Hazardous Waste Tracking System

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP ---- EDR Proprietary Manufactured Gas Plants
EDR Hist Cleaner ---- EDR Exclusive Historical Cleaners

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA LF ---- Recovered Government Archive Solid Waste Facilities List
RGA LUST ---- Recovered Government Archive Leaking Underground Storage Tank

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified in the following databases.

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EXECUTIVE SUMMARY

Elevations have been determined from the USGS Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified. Sites with an elevation equal to or higher than the target property have been differentiated below from sites with an elevation lower than the target property.
Page numbers and map identification numbers refer to the EDR Radius Map report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

STANDARD ENVIRONMENTAL RECORDS

Federal RCRA generators list

RCRA-LQG: RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

A review of the RCRA-LQG list, as provided by EDR, and dated 09/13/2021 has revealed that there are 2 RCRA-LQG sites within approximately 0.25 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
TARGET STORE T0939 EPA ID:: CAR000048983	19201 BEAR VALLEY RD	WSW 1/8 - 1/4 (0.239 mi.)	C17	95
TARGET STORE T0939 EPA ID:: CAL000292614	***19201 BEAR VALLEY RD***	***WSW 1/8 - 1/4 (0.239 mi.)***	***C18***	***101***

RCRA-SQG: RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

A review of the RCRA-SQG list, as provided by EDR, and dated 09/13/2021 has revealed that there are 4 RCRA-SQG sites within approximately 0.25 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
MASTER MECHANIC EPA ID:: CA0000133140	***19341 BEAR VALLEY RD***	***WNW 0 - 1/8 (0.109 mi.)***	***A5***	***13***
WALGREENS #1870 EPA ID:: CAL000322881	12109 APPLE VALLEY R	WNW 1/8 - 1/4 (0.141 mi.)	A7	18
LOWE'S OF APPLE VALL EPA ID:: CAR000279935	12189 APPLE VALLEY R	NW 1/8 - 1/4 (0.192 mi.)	B13	87
KAISER PERMANENTE TA EPA ID:: CAR000295113	19201 BEAR VALLEY RD	WSW 1/8 - 1/4 (0.239 mi.)	C20	106

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RCRA-VSQG: RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Very small quantity generators (VSQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

A review of the RCRA-VSQG list, as provided by EDR, and dated 09/13/2021 has revealed that there are 2 RCRA-VSQG sites within approximately 0.25 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
WALGREENS STORE #187	12109 APPLE VALLEY R	WNW 1/8 - 1/4 (0.141 mi.)	A9	28
CVS PHARMACY #16358	***19201 BEAR VALLEY RD***	***WSW 1/8 - 1/4 (0.239 mi.)***	***C21***	***109***
EPA ID:: CAR000258509				

State and tribal leaking storage tank lists

LUST: Leaking Underground Storage Tank (LUST) Sites included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

A review of the LUST list, as provided by EDR, has revealed that there is 1 LUST site within approximately 0.5 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
APPLE VALLEY TRANSMI	***19341 BEAR VALLEY***	***WNW 0 - 1/8 (0.109 mi.)***	***A4***	***10***
Database: LUST REG 6V, Date of Government Version: 06/07/2005				
Database: LUST, Date of Government Version: 06/03/2021				
Status: Completed - Case Closed				
Close Date: 3/25/1993				
Status: Case Closed				
Global Id: T0607100840				

State and tribal registered storage tank lists

AST: A listing of aboveground storage tank petroleum storage tank locations.

A review of the AST list, as provided by EDR, has revealed that there are 2 AST sites within approximately 0.25 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
LOWE'S #2528	12189 APPLE VALLEY R	NW 1/8 - 1/4 (0.192 mi.)	B11	33
Database: AST, Date of Government Version: 07/06/2016				
LOWE'S #2528	12189 APPLE VALLEY	NW 1/8 - 1/4 (0.192 mi.)	B15	94
Database: AST, Date of Government Version: 07/06/2016				

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EXECUTIVE SUMMARY

ADDITIONAL ENVIRONMENTAL RECORDS

Local Lists of Landfill / Solid Waste Disposal Sites

SWRCY: A listing of recycling facilities in California.

A review of the SWRCY list, as provided by EDR, and dated 06/04/2021 has revealed that there is 1 SWRCY site within approximately 0.5 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
BURLINGTON STORE # 7 Cert Id: RC228830.001	***19131 BEAR VALLEY RD***	***WSW 1/4 - 1/2 (0.370 mi.)***	***26***	***128***

Local Lists of Hazardous waste / Contaminated Sites

CERS HAZ WASTE: List of sites in the California Environmental Protection Agency (CalEPA) Regulated Site Portal which fall under the Hazardous Chemical Management, Hazardous Waste Onsite Treatment, Household Hazardous Waste Collection, Hazardous Waste Generator, and RCRA LQ HW Generator programs.

A review of the CERS HAZ WASTE list, as provided by EDR, and dated 07/15/2021 has revealed that there are 4 CERS HAZ WASTE sites within approximately 0.25 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
WALGREENS #1870	***12109 APPLE VALLEY R***	***WNW 1/8 - 1/4 (0.141 mi.)***	***A8***	***24***
LOWE'S OF APPLE VALL	***12189 APPLE VALLEY R***	***NW 1/8 - 1/4 (0.192 mi.)***	***B12***	***34***
STAPLES THE OFFICE S	***19201 BEAR VALLEY RD***	***WSW 1/8 - 1/4 (0.239 mi.)***	***C22***	***112***
99 CENTS ONLY STORES	***19201 BEAR VALLEY RD***	***WSW 1/8 - 1/4 (0.239 mi.)***	***C24***	***121***

Local Lists of Registered Storage Tanks

SWEEPS UST: Statewide Environmental Evaluation and Planning System. This underground storage tank listing was updated and maintained by a company contacted by the SWRCB in the early 1990's. The listing is no longer updated or maintained. The local agency is the contact for more information on a site on the SWEEPS list.

A review of the SWEEPS UST list, as provided by EDR, and dated 06/01/1994 has revealed that there are 2 SWEEPS UST sites within approximately 0.25 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
AG-LOW RANCH Status: A Tank Status: A Comp Number: 13700	19728 BEAR VALLEY RD	ENE 0 - 1/8 (0.085 mi.)	1	9

Lower Elevation	Address	Direction / Distance	Map ID	Page
APPLE VALLEY TRANSMI	***19341 BEAR VALLEY***	***WNW 0 - 1/8 (0.109 mi.)***	***A4***	***10***

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EXECUTIVE SUMMARY

Comp Number: 493

CERS TANKS: List of sites in the California Environmental Protection Agency (CalEPA) Regulated Site Portal which fall under the Aboveground Petroleum Storage and Underground Storage Tank regulatory programs.

A review of the CERS TANKS list, as provided by EDR, and dated 07/15/2021 has revealed that there is 1 CERS TANKS site within approximately 0.25 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
LOWE'S OF APPLE VALL	***12189 APPLE VALLEY R***	***NW 1/8 - 1/4 (0.192 mi.)***	***B12***	***34***

Other Ascertainable Records

RCRA NonGen / NLR: RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

A review of the RCRA NonGen / NLR list, as provided by EDR, and dated 09/13/2021 has revealed that there are 3 RCRA NonGen / NLR sites within approximately 0.25 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
ST MARY HIGH DESERT EPA ID:: CAL000433850	19333 BEAR VALLEY RD	W 0 - 1/8 (0.116 mi.)	A6	16
99 CENTS ONLY STORES EPA ID:: CAL000369896	19201 BEAR VALLEY RD	WSW 1/8 - 1/4 (0.239 mi.)	C23	118
STAPLES THE OFFICE S EPA ID:: CAL000390692	19201 BEAR VALLEY RD	WSW 1/8 - 1/4 (0.239 mi.)	C25	126

Cortese: The sites for the list are designated by the State Water Resource Control Board (LUST), the Integrated Waste Board (SWF/LS), and the Department of Toxic Substances Control (Cal-Sites).

A review of the Cortese list, as provided by EDR, and dated 06/17/2021 has revealed that there is 1 Cortese site within approximately 0.5 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
APPLE VALLEY TRANSMI Cleanup Status: COMPLETED - CASE CLOSED	***19341 BEAR VALLEY***	***WNW 0 - 1/8 (0.109 mi.)***	***A4***	***10***

HIST CORTESE: The sites for the list are designated by the State Water Resource Control Board [LUST], the Integrated Waste Board [SWF/LS], and the Department of Toxic Substances Control [CALSITES]. This listing is no longer updated by the state agency.

A review of the HIST CORTESE list, as provided by EDR, and dated 04/01/2001 has revealed that there

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is 1 HIST CORTESE site within approximately 0.5 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
APPLE VALLEY TRANSMI Reg Id: 6B3600618T	***19341 BEAR VALLEY***	***WNW 0 - 1/8 (0.109 mi.)***	***A4***	***10***

San Bern. Co. Permit: San Bernardino County Fire Department Hazardous Materials Division.

A review of the San Bern. Co. Permit list, as provided by EDR, and dated 05/19/2021 has revealed that there are 7 San Bern. Co. Permit sites within approximately 0.25 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
WALGREENS #1870 Facility Status: ACTIVE Facility Id: FA0010657	***12109 APPLE VALLEY R***	***WNW 1/8 - 1/4 (0.141 mi.)***	***A8***	***24***
VERIZON WIRELESS: OR Facility Status: ACTIVE Facility Id: FA0017879	***11873 APPLE VALLEY R***	***SW 1/8 - 1/4 (0.164 mi.)***	***10***	***31***
AV RANCHOS WATER - W Facility Status: ACTIVE Facility Id: FA0011237	***12189 APPLE VALLEY R***	***NW 1/8 - 1/4 (0.192 mi.)***	***B14***	***92***
DEL TACO #1007 Facility Status: INACTIVE Facility Id: FA0012559	12207 APPLE VALLEY R	NW 1/8 - 1/4 (0.218 mi.)	B16	94
APPLEBEE'S NEIGHBORH Facility Status: INACTIVE Facility Id: FA0012339	19201 BEAR VALLEY RD	WSW 1/8 - 1/4 (0.239 mi.)	C19	106
STAPLES THE OFFICE S Facility Status: ACTIVE Facility Status: FEE EXEMPT Facility Id: FA0006587 Facility Id: FA0017509	***19201 BEAR VALLEY RD***	***WSW 1/8 - 1/4 (0.239 mi.)***	***C22***	***112***
99 CENTS ONLY STORES Facility Status: ACTIVE Facility Status: FEE EXEMPT Facility Id: FA0014801 Facility Id: FA0016666	***19201 BEAR VALLEY RD***	***WSW 1/8 - 1/4 (0.239 mi.)***	***C24***	***121***

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EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR Hist Auto: EDR has searched selected national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include gas station/filling station/service station establishments. The categories reviewed included, but were not limited to gas, gas station, gasoline station, filling station, auto, automobile repair, auto service station,

service station, etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

A review of the EDR Hist Auto list, as provided by EDR, has revealed that there are 2 EDR Hist Auto sites within approximately 0.125 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
SIMPSON EDWARD	19341 BEAR VALLEY RD	WNW 0 - 1/8 (0.109 mi.)	A2	9
APPLE VALLEY AUTO &	19341 BEAR VALLEY	WNW 0 - 1/8 (0.109 mi.)	A3	9

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EXECUTIVE SUMMARY

Due to poor or inadequate address information, the following sites were not mapped. Count: 1 records.

Site Name	Database(s)
	CDL

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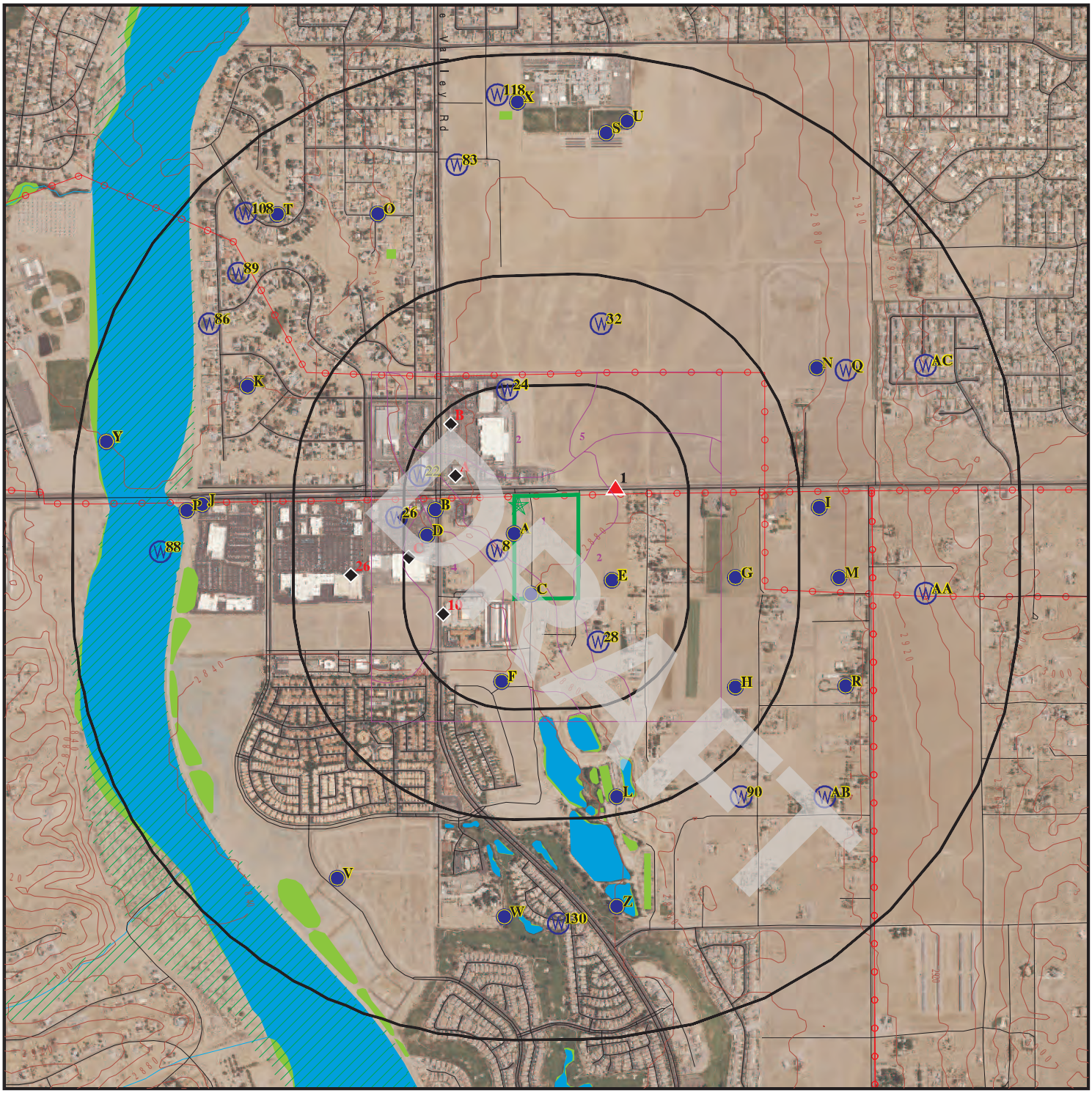
OVERVIEW MAP - 6733055.2S



Target Property

Sites at elevations higher than or equal to the target property

Sites at elevations lower than the target property

Manufactured Gas Plants

National Priority List Sites

Dept. Defense Sites

0 1/4 1/2 1 Miles

Indian Reservations BIA

Power transmission lines

100-year flood zone

500-year flood zone

National Wetland Inventory

State Wetlands

Areas of Concern

N

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME:	450104	CLIENT:	AEI Consultants
ADDRESS:	19439 Bear Valley Road Apple Valley CA 92308	CONTACT:	Rocio Romero
		INQUIRY #:	6733055.2s
LAT/LONG:	34.470641 / 117.239164	DATE:	November 03, 2021 1:27 pm

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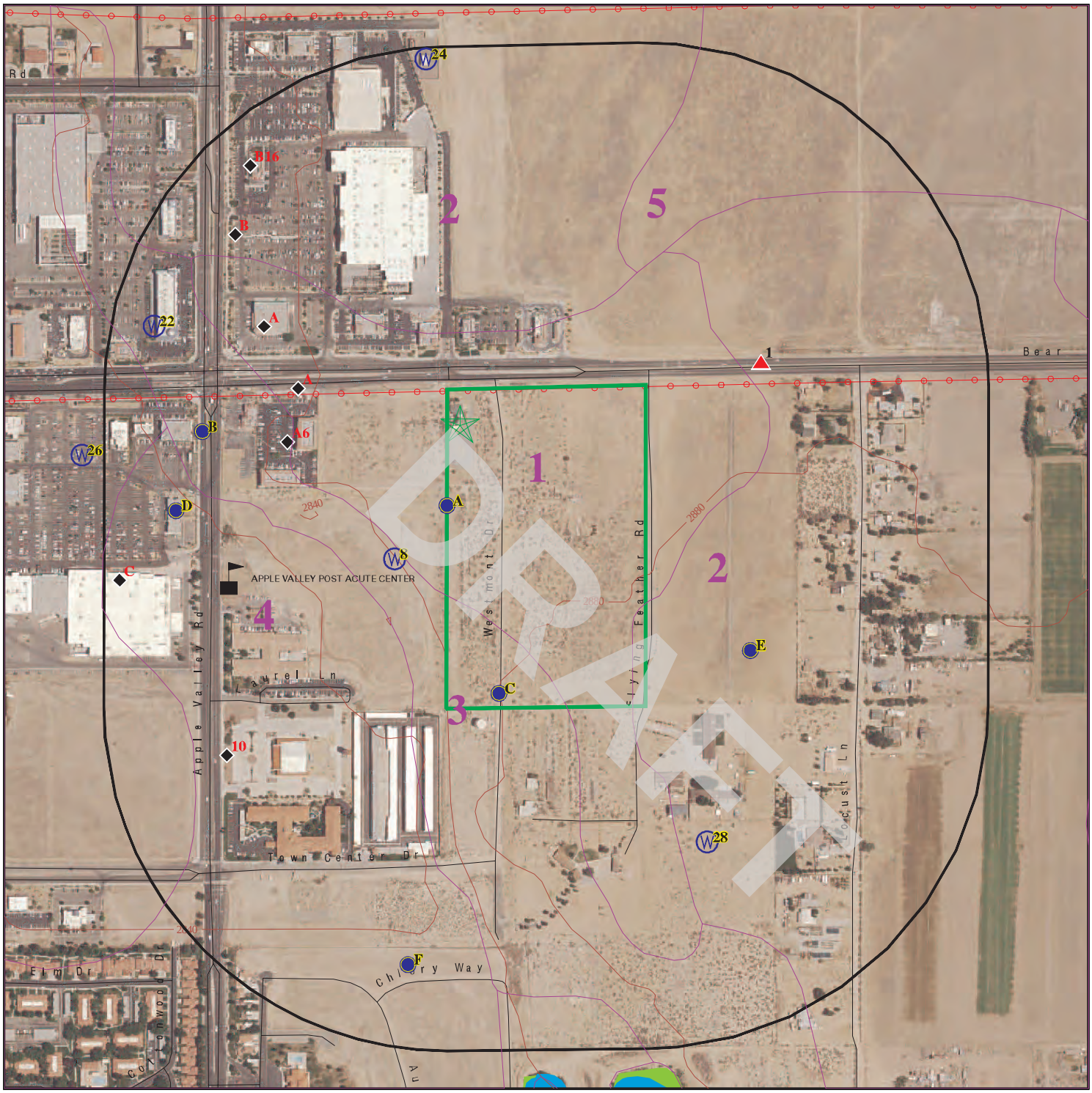
DETAIL MAP - 6733055.2S



Target Property

Sites at elevations higher than or equal to the target property

Sites at elevations lower than the target property

Manufactured Gas Plants

Sensitive Receptors

National Priority List Sites

Dept. Defense Sites

0 1/16 1/8 1/4 Miles

Indian Reservations BIA

Power transmission lines

100-year flood zone

500-year flood zone

National Wetland Inventory

State Wetlands

Areas of Concern

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: 450104	CLIENT: AEI Consultants
ADDRESS: 19439 Bear Valley Road Apple Valley CA 92308	CONTACT: Rocio Romero INQUIRY #: 6733055.2s
LAT/LONG: 34.470641 / 117.239164	DATE: November 03, 2021 1:32 pm

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MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
STANDARD ENVIRONMENTAL RECORDS								
Federal NPL site list								
NPL	1.000		0	0	0	0	NR	0
Proposed NPL	1.000		0	0	0	0	NR	0
NPL LIENS	1.000		0	0	0	0	NR	0
Federal Delisted NPL site list								
Delisted NPL	1.000		0	0	0	0	NR	0
Federal CERCLIS list								
FEDERAL FACILITY	0.500		0	0	0	NR	NR	0
SEMS	0.500		0	0	0	NR	NR	0
Federal CERCLIS NFRAP site list								
SEMS-ARCHIVE	0.500		0	0	0	NR	NR	0
Federal RCRA CORRACTS facilities list								
CORRACTS	1.000		0	0	0	0	NR	0
Federal RCRA non-CORRACTS TSD facilities list								
RCRA-TSDF	0.500		0	0	0	NR	NR	0
Federal RCRA generators list								
RCRA-LQG	0.250		0	2	NR	NR	NR	2
RCRA-SQG	0.250		1	3	NR	NR	NR	4
RCRA-VSQG	0.250		0	2	NR	NR	NR	2
Federal institutional controls / engineering controls registries								
LUCIS	0.500		0	0	0	NR	NR	0
US ENG CONTROLS	0.500		0	0	0	NR	NR	0
US INST CONTROLS	0.500		0	0	0	NR	NR	0
Federal ERNS list								
ERNS	TP		NR	NR	NR	NR	NR	0
State- and tribal - equivalent NPL								
RESPONSE	1.000		0	0	0	0	NR	0
State- and tribal - equivalent CERCLIS								
ENVIROSTOR	1.000		0	0	0	0	NR	0
State and tribal landfill and/or solid waste disposal site lists								
SWF/LF	0.500		0	0	0	NR	NR	0
State and tribal leaking storage tank lists								
LUST	0.500		1	0	0	NR	NR	1

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MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
INDIAN LUST	0.500		0	0	0	NR	NR	0
CPS-SLIC	0.500		0	0	0	NR	NR	0
State and tribal registered storage tank lists								
FEMA UST	0.250		0	0	NR	NR	NR	0
UST	0.250		0	0	NR	NR	NR	0
AST	0.250		0	2	NR	NR	NR	2
INDIAN UST	0.250		0	0	NR	NR	NR	0
State and tribal voluntary cleanup sites								
INDIAN VCP	0.500		0	0	0	NR	NR	0
VCP	0.500		0	0	0	NR	NR	0
State and tribal Brownfields sites								
BROWNFIELDS	0.500		0	0	0	NR	NR	0
ADDITIONAL ENVIRONMENTAL RECORDS								
Local Brownfield lists								
US BROWNFIELDS	0.500		0	0	0	NR	NR	0
Local Lists of Landfill / Solid Waste Disposal Sites								
WMUDS/SWAT	0.500		0	0	0	NR	NR	0
SWRCY	0.500		0	0	1	NR	NR	1
HAULERS	TP		NR	NR	NR	NR	NR	0
INDIAN ODI	0.500		0	0	0	NR	NR	0
ODI	0.500		0	0	0	NR	NR	0
DEBRIS REGION 9	0.500		0	0	0	NR	NR	0
IHS OPEN DUMPS	0.500		0	0	0	NR	NR	0
Local Lists of Hazardous waste / Contaminated Sites								
US HIST CDL	TP		NR	NR	NR	NR	NR	0
HIST Cal-Sites	1.000		0	0	0	0	NR	0
SCH	0.250		0	0	NR	NR	NR	0
CDL	TP		NR	NR	NR	NR	NR	0
Toxic Pits	1.000		0	0	0	0	NR	0
CERS HAZ WASTE	0.250		0	4	NR	NR	NR	4
US CDL	TP		NR	NR	NR	NR	NR	0
AQUEOUS FOAM	TP		NR	NR	NR	NR	NR	0
PFAS	0.500		0	0	0	NR	NR	0
Local Lists of Registered Storage Tanks								
SWEEPS UST	0.250		2	0	NR	NR	NR	2
HIST UST	0.250		0	0	NR	NR	NR	0
CERS TANKS	0.250		0	1	NR	NR	NR	1
CA FID UST	0.250		0	0	NR	NR	NR	0
Local Land Records								
LIENS	TP		NR	NR	NR	NR	NR	0

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MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
LIENS 2	TP		NR	NR	NR	NR	NR	0
DEED	0.500		0	0	0	NR	NR	0
Records of Emergency Release Reports								
HMIRS	TP		NR	NR	NR	NR	NR	0
CHMIRS	TP		NR	NR	NR	NR	NR	0
LDS	TP		NR	NR	NR	NR	NR	0
MCS	TP		NR	NR	NR	NR	NR	0
SPILLS 90	TP		NR	NR	NR	NR	NR	0
Other Ascertainable Records								
RCRA NonGen / NLR	0.250		1	2	NR	NR	NR	3
FUDS	1.000		0	0	0	0	NR	0
DOD	1.000		0	0	0	0	NR	0
SCRD DRYCLEANERS	0.500		0	0	0	NR	NR	0
US FIN ASSUR	TP		NR	NR	NR	NR	NR	0
EPA WATCH LIST	TP		NR	NR	NR	NR	NR	0
2020 COR ACTION	0.250		0	0	NR	NR	NR	0
TSCA	TP		NR	NR	NR	NR	NR	0
TRIS	TP		NR	NR	NR	NR	NR	0
SSTS	TP		NR	NR	NR	NR	NR	0
ROD	1.000		0	0	0	0	NR	0
RMP	TP		NR	NR	NR	NR	NR	0
RAATS	TP		NR	NR	NR	NR	NR	0
PRP	TP		NR	NR	NR	NR	NR	0
PADS	TP		NR	NR	NR	NR	NR	0
ICIS	TP		NR	NR	NR	NR	NR	0
FTTS	TP		NR	NR	NR	NR	NR	0
MLTS	TP		NR	NR	NR	NR	NR	0
COAL ASH DOE	TP		NR	NR	NR	NR	NR	0
COAL ASH EPA	0.500		0	0	0	NR	NR	0
PCB TRANSFORMER	TP		NR	NR	NR	NR	NR	0
RADINFO	TP		NR	NR	NR	NR	NR	0
HIST FTTS	TP		NR	NR	NR	NR	NR	0
DOT OPS	TP		NR	NR	NR	NR	NR	0
CONSENT	1.000		0	0	0	0	NR	0
INDIAN RESERV	1.000		0	0	0	0	NR	0
FUSRAP	1.000		0	0	0	0	NR	0
UMTRA	0.500		0	0	0	NR	NR	0
LEAD SMELTERS	TP		NR	NR	NR	NR	NR	0
US AIRS	TP		NR	NR	NR	NR	NR	0
US MINES	0.250		0	0	NR	NR	NR	0
ABANDONED MINES	0.250		0	0	NR	NR	NR	0
FINDS	TP		NR	NR	NR	NR	NR	0
DOCKET HWC	TP		NR	NR	NR	NR	NR	0
UXO	1.000		0	0	0	0	NR	0
ECHO	TP		NR	NR	NR	NR	NR	0
FUELS PROGRAM	0.250		0	0	NR	NR	NR	0
CA BOND EXP. PLAN	1.000		0	0	0	0	NR	0
Cortese	0.500		1	0	0	NR	NR	1
CUPA Listings	0.250		0	0	NR	NR	NR	0

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MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
DRYCLEANERS	0.250		0	0	NR	NR	NR	0
EMI	TP		NR	NR	NR	NR	NR	0
ENF	TP		NR	NR	NR	NR	NR	0
Financial Assurance	TP		NR	NR	NR	NR	NR	0
HAZNET	TP		NR	NR	NR	NR	NR	0
ICE	TP		NR	NR	NR	NR	NR	0
HIST CORTESE	0.500		1	0	0	NR	NR	1
HWP	1.000		0	0	0	0	NR	0
HWT	0.250		0	0	NR	NR	NR	0
MINES	0.250		0	0	NR	NR	NR	0
MWMP	0.250		0	0	NR	NR	NR	0
NPDES	TP		NR	NR	NR	NR	NR	0
San Bern. Co. Permit	0.250		0	7	NR	NR	NR	7
PEST LIC	TP		NR	NR	NR	NR	NR	0
PROC	0.500		0	0	0	NR	NR	0
Notify 65	1.000		0	0	0	0	NR	0
UIC	TP		NR	NR	NR	NR	NR	0
UIC GEO	TP		NR	NR	NR	NR	NR	0
WASTEWATER PITS	0.500		0	0	0	NR	NR	0
WDS	TP		NR	NR	NR	NR	NR	0
WIP	0.250		0	0	NR	NR	NR	0
MILITARY PRIV SITES	TP		NR	NR	NR	NR	NR	0
PROJECT	TP		NR	NR	NR	NR	NR	0
WDR	TP		NR	NR	NR	NR	NR	0
CIWQS	TP		NR	NR	NR	NR	NR	0
CERS	TP		NR	NR	NR	NR	NR	0
NON-CASE INFO	TP		NR	NR	NR	NR	NR	0
OTHER OIL GAS	TP		NR	NR	NR	NR	NR	0
PROD WATER PONDS	TP		NR	NR	NR	NR	NR	0
SAMPLING POINT	TP		NR	NR	NR	NR	NR	0
WELL STIM PROJ	TP		NR	NR	NR	NR	NR	0
MINES MRDS	TP		NR	NR	NR	NR	NR	0
HWTS	TP		NR	NR	NR	NR	NR	0
EDR HIGH RISK HISTORICAL RECORDS								
EDR Exclusive Records								
EDR MGP	1.000		0	0	0	0	NR	0
EDR Hist Auto	0.125		2	NR	NR	NR	NR	2
EDR Hist Cleaner	0.125		0	NR	NR	NR	NR	0
EDR RECOVERED GOVERNMENT ARCHIVES								
Exclusive Recovered Govt. Archives								
RGA LF	TP		NR	NR	NR	NR	NR	0
RGA LUST	TP		NR	NR	NR	NR	NR	0
- Totals --		0	9	23	1	0	0	33

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MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted

NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

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1
ENE
< 1/8
0.085 mi.
451 ft.

AG-LOW RANCH
19728 BEAR VALLEY RD
APPLE VALLEY, CA 92307

SWEEPS UST **S106922449**
N/A

Relative:
Higher

Actual:
2872 ft.

SWEEPS UST:

Name:	AG-LOW RANCH
Address:	19728 BEAR VALLEY RD
City:	APPLE VALLEY
Status:	Active
Comp Number:	13700
Number:	2
Board Of Equalization:	44-020504
Referral Date:	03-24-92
Action Date:	03-24-92
Created Date:	09-16-88
Owner Tank Id:	Not reported
SWRCB Tank Id:	36-000-013700-000001
Tank Status:	A
Capacity:	1
Active Date:	09-16-88
Tank Use:	UNKNOWN
STG:	P
Content:	UNKNOWN
Number Of Tanks:	1

A2
WNW
< 1/8
0.109 mi.
573 ft.

SIMPSON EDWARD
19341 BEAR VALLEY RD
APPLE VALLEY, CA 92308
Site 1 of 8 in cluster A

EDR Hist Auto **1020843629**
N/A

Relative:
Lower

Actual:
2856 ft.

EDR Hist Auto

Year:	Name:	Type:
1991	APPLE VALLEY AUTO & TRANSM	Automotive Transmission Repair Shops
1992	SIMPSON EDWARD	Automotive Transmission Repair Shops
1993	SIMPSON EDWARD	Automotive Transmission Repair Shops
1994	MASTER MECHANICS	General Automotive Repair Shops
1994	SIMPSON EDWARD	Automotive Transmission Repair Shops
1995	MASTER MECHANICS	General Automotive Repair Shops
1995	SIMPSON EDWARD	Automotive Transmission Repair Shops

A3
WNW
< 1/8
0.109 mi.
573 ft.

APPLE VALLEY AUTO & TRANSM
19341 BEAR VALLEY
APPLE VALLEY, CA 92308
Site 2 of 8 in cluster A

EDR Hist Auto **1021731958**
N/A

Relative:
Lower

Actual:
2856 ft.

EDR Hist Auto

Year:	Name:	Type:
1989	APPLE VALLEY TRANSMISSION	Automotive Transmission Repair Shops
1990	APPLE VALLEY AUTO & TRANSM	Automotive Transmission Repair Shops

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A4 **APPLE VALLEY TRANSMISSION** **LUST** **S102424047**
WNW **19341 BEAR VALLEY** **SWEEPS UST** **N/A**
< 1/8 **APPLE VALLEY, CA 92307** **Cortese**
0.109 mi. **HIST CORTESE**
573 ft. **Site 3 of 8 in cluster A** **CERS**
HWTS

Relative:
Lower

Actual:
2856 ft.

LUST:

Name:	APPLE VALLEY TRANSMISSION
Address:	19341 BEAR VALLEY RD
City,State,Zip:	APPLE VALLEY, CA 92308
Lead Agency:	SAN BERNARDINO COUNTY
Case Type:	LUST Cleanup Site
Geo Track:	http://geotracker.waterboards.ca.gov/profile_report.asp?global_id=T0607100840
Global Id:	T0607100840
Latitude:	34.4709607
Longitude:	-117.2409343
Status:	Completed - Case Closed
Status Date:	03/25/1993
Case Worker:	Not reported
RB Case Number:	6B3600618T
Local Agency:	Not reported
File Location:	Local Agency
Local Case Number:	93068
Potential Media Affect:	Soil
Potential Contaminants of Concern:	Not reported
Site History:	Not reported

LUST:

Global Id:	T0607100840
Action Type:	REMEDIATION
Date:	03/25/1993
Action:	Not reported

Global Id:	T0607100840
Action Type:	Other
Date:	03/25/1993
Action:	Leak Reported

LUST:

Global Id:	T0607100840
Status:	Completed - Case Closed
Status Date:	03/25/1993

Global Id:	T0607100840
Status:	Open - Case Begin Date
Status Date:	03/25/1993

LUST Region 6V:

Name:	APPLE VALLEY TRANSMISSION
Address:	19341 BEAR VALLEY RD
City:	APPLE VALLEY
Region:	6V
Case Number:	6B3600618T
Leak Record:	4/20/1994
Report Date:	3/25/1993
Reported By Address:	19241 BEAR VALLEY ROAD
Responsible Party:	RICHARD TATRO

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APPLE VALLEY TRANSMISSION (Continued) **S102424047**

Operator: Not reported
Cross Street: Not reported
Local Agency: 36000L
Regional Board: 6V
Chemical: Not reported
Case Type: Soil only
Funding: Not reported
Enforce Type: Not reported
How Found: Not reported
How Stopped: Not reported
Cause of Leak: Not reported
Leak Source: Not reported
Global ID: T0607100840
Stop Date: Not reported
Leak Confirm: Not reported
Submit Workplan: Not reported
Prelim Assess: Not reported
Pollution Char: Not reported
Remed Plan: Not reported
Remed Action: Not reported
Monitoring: Not reported
Close Date: 3/25/1993
Discovered: Not reported
Enforce Date: Not reported
Review Date: 4/20/1994
GW Qualifier: Not reported
Soil Qualifier: Not reported
MTBE class: *
Max MTBE Grnd Wtr: Not reported
Max MTBE Soil: Not reported
MTBE Counts: 0
MTBE Fuel: 0
MTBE Tested: NRQ
Organization Name: Not reported
Status: Case Closed
Contact: Not reported
Interim Action: Not reported
Pilot Program: LUST
Lat/Long: 34.4709607 / -117.2409343
Staff Initials: KD
Local Agency Staff: LH6
Lead Agency: Local Agency
Summary: Not reported
Basin Number: UPPER MOJAVE RIVER V
Beneficial: Not reported
Priority: Not reported
UST Cleanup Fund ID: Not reported
Suspended: Not reported
Local Case Number: 93068
Amount: Not reported
Abate Method: Not reported
Water System: Not reported
Well Name: Not reported
Distance: 70.55168732
Wst Disch Reqrmnt Global ID: Not reported
Wst Disch Reqrmnt Name: Not reported

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APPLE VALLEY TRANSMISSION (Continued) **S102424047**

SWEEPS UST:

Name:	RICHARD TATRO
Address:	19341 BEAR VALLEY RD
City:	APPLE VALLEY
Status:	Not reported
Comp Number:	493
Number:	Not reported
Board Of Equalization:	Not reported
Referral Date:	Not reported
Action Date:	Not reported
Created Date:	Not reported
Owner Tank Id:	Not reported
SWRCB Tank Id:	36-000-000493-000001
Tank Status:	Not reported
Capacity:	400
Active Date:	Not reported
Tank Use:	OIL
STG:	WASTE
Content:	WASTE OIL
Number Of Tanks:	1

CORTESE:

Name:	APPLE VALLEY TRANSMISSION
Address:	19341 BEAR VALLEY RD
City,State,Zip:	APPLE VALLEY, CA 92308
Region:	CORTESE
Envirostor Id:	Not reported
Global ID:	T0607100840
Site/Facility Type:	LUST CLEANUP SITE
Cleanup Status:	COMPLETED - CASE CLOSED
Status Date:	Not reported
Site Code:	Not reported
Latitude:	Not reported
Longitude:	Not reported
Owner:	Not reported
Enf Type:	Not reported
Swat R:	Not reported
Flag:	active
Order No:	Not reported
Waste Discharge System No:	Not reported
Effective Date:	Not reported
Region 2:	Not reported
WID Id:	Not reported
Solid Waste Id No:	Not reported
Waste Management Uit Name:	Not reported
File Name:	Active Open

HIST CORTESE:

edr_fname:	APPLE VALLEY TRANSMISSION
edr_fadd1:	19341 BEAR VALLEY
City,State,Zip:	APPLE VALLEY, CA
Region:	CORTESE
Facility County Code:	36
Reg By:	LTNKA
Reg Id:	6B3600618T

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APPLE VALLEY TRANSMISSION (Continued) **S102424047**

CERS:
- Name: APPLE VALLEY TRANSMISSION
- Address: 19341 BEAR VALLEY RD
- City,State,Zip: APPLE VALLEY, CA 92308
- Site ID: 229851
- CERS ID: T0607100840
- CERS Description: Leaking Underground Storage Tank Cleanup Site

HWTS:
- Name: APPLE VALLEY TRANSMISSION
- Address: 19341 BEAR VALLEY
- Address 2: Not reported
- City,State,Zip: APPLE VALLEY, CA 923070000
- EPA ID: CAL000025758
- Inactive Date: 06/30/1996
- Create Date: 05/10/1990
- Last Act Date: 07/10/2001
- Mailing Name: Not reported
- Mailing Address: 19341 BEAR VALLEY
- Mailing Address 2: Not reported
- Mailing City,State,Zip: APPLE VALLEY, CA 923070000
- Owner Name: LITTLE RAY
- Owner Address: --
- Owner Address 2: Not reported
- Owner City,State,Zip: --, 99 --
- Contact Name: UNDELIVERABLE 1996 FEES FORM
- Contact Address: --
- Contact Address 2: Not reported
- City,State,Zip: --, 99 --

A5 **MASTER MECHANIC** **RCRA-SQG 1000886197**
WNW **19341 BEAR VALLEY RD** **FINDS CA0000133140**
< 1/8 **APPLE VALLEY, CA 92308** **ECHO**
0.109 mi.
573 ft. **Site 4 of 8 in cluster A**

Relative: **Lower**
Actual: **2856 ft.**

RCRA-SQG:

Date Form Received by Agency:		19940211
Handler Name:	MASTER MECHANIC	
Handler Address:		19341 BEAR VALLEY RD
Handler City,State,Zip:		APPLE VALLEY, CA 92308
EPA ID:		CA0000133140
Contact Name:		KURT KEELER
Contact Address:		19341 BEAR VALLEY RD
Contact City,State,Zip:		APPLE VALLEY, CA 92308
Contact Telephone:		619-247-3311
Contact Fax:		Not reported
Contact Email:		Not reported
Contact Title:		Not reported
EPA Region:		09
Land Type:		Private
Federal Waste Generator Description:		Small Quantity Generator
Non-Notifier:		Not reported
Biennial Report Cycle:		Not reported
Accessibility:		Not reported
Active Site Indicator:		Handler Activities
State District Owner:		Not reported

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MASTER MECHANIC (Continued) **1000886197**

State District:	Not reported
Mailing Address:	BEAR VALLEY RD
Mailing City,State,Zip:	APPLE VALLEY, CA 92308
Owner Name:	KEELER AND ASSOCIATES
Owner Type:	Private
Operator Name:	Not reported
Operator Type:	Not reported
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	No
Universal Waste Destination Facility:	No
Federal Universal Waste:	No
Active Site Fed-Reg Treatment Storage and Disposal Facility:	Not reported
Active Site Converter Treatment storage and Disposal Facility:	Not reported
Active Site State-Reg Treatment Storage and Disposal Facility:	Not reported
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	NN
Sub-Part K Indicator:	Not reported
Commercial TSD Indicator:	No
Treatment Storage and Disposal Type:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
Permit Renewals Workload Universe:	Not reported
Permit Workload Universe:	Not reported
Permit Progress Universe:	Not reported
Post-Closure Workload Universe:	Not reported
Closure Workload Universe:	Not reported
202 GPRA Corrective Action Baseline:	No
Corrective Action Workload Universe:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
TSDFs Potentially Subject to CA Under 3004 (u)/(v) Universe:	No
TSDFs Only Subject to CA under Discretionary Auth Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No
Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Operating TSDF Universe:	Not reported
Full Enforcement Universe:	Not reported
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20000915
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No

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MASTER MECHANIC (Continued) **1000886197**

Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	Not reported
Manifest Broker:	Not reported
Sub-Part P Indicator:	No

Handler - Owner Operator:

Owner/Operator Indicator:	Owner
Owner/Operator Name:	KEELER AND ASSOCIATES
Legal Status:	Private
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	915 STEWARTON WY
Owner/Operator City,State,Zip:	GLENDALE, CA 91207
Owner/Operator Telephone:	818-500-0693
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Historic Generators:

Receive Date:	19940211
Handler Name: MASTER MECHANIC	
Federal Waste Generator Description:	Small Quantity Generator
State District Owner:	Not reported
Large Quantity Handler of Universal Waste:	No
Recognized Trader Importer:	No
Recognized Trader Exporter:	No
Spent Lead Acid Battery Importer:	No
Spent Lead Acid Battery Exporter:	No
Current Record:	Yes
Non Storage Recycler Activity:	Not reported
Electronic Manifest Broker:	Not reported

List of NAICS Codes and Descriptions:

NAICS Codes:	No NAICS Codes Found

Facility Has Received Notices of Violations:

Violations:	No Violations Found

Evaluation Action Summary:

Evaluations:	No Evaluations Found

FINDS:

Registry ID: 110002613280

Click Here:

Environmental Interest/Information System:

RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and

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MASTER MECHANIC (Continued) **1000886197**

corrective action activities required under RCRA.

Click this hyperlink while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

ECHO:

Envid:	1000886197
Registry ID:	110002613280
DFR URL:	http://echo.epa.gov/detailed-facility-report?fid=110002613280
Name:	MASTER MECHANIC
Address:	19341 BEAR VALLEY RD
City,State,Zip:	APPLE VALLEY, CA 92308

A6
West
< 1/8
0.116 mi.
614 ft.

Relative:
Lower

Actual:
2864 ft.

ST MARY HIGH DESERT MEDICAL GROUP **RCRA NonGen / NLR** **1024865279**
19333 BEAR VALLEY RD #101 **CAL000433850**
APPLE VALLEY, CA 92308

Site 5 of 8 in cluster A

RCRA NonGen / NLR:

Date Form Received by Agency:	20180226
Handler Name:	ST MARY HIGH DESERT MEDICAL GROUP
Handler Address:	19333 BEAR VALLEY RD #101
Handler City,State,Zip:	APPLE VALLEY, CA 92308
EPA ID:	CAL000433850
Contact Name:	LAURA BODROG
Contact Address:	19333 BEAR VALLEY RD #101
Contact City,State,Zip:	APPLE VALLEY, CA 92308
Contact Telephone:	760-240-5505
Contact Fax:	760-947-5619
Contact Email:	LAURA.BODROG@STJOE.ORG
Contact Title:	Not reported
EPA Region:	09
Land Type:	Not reported
Federal Waste Generator Description:	Not a generator, verified
Non-Notifier:	Not reported
Biennial Report Cycle:	Not reported
Accessibility:	Not reported
Active Site Indicator:	Handler Activities
State District Owner:	Not reported
State District:	Not reported
Mailing Address:	17095 MAIN ST
Mailing City,State,Zip:	HESPERIA, CA 92345
Owner Name:	ST JOSEPH HERITAGE
Owner Type:	Other
Operator Name:	LAURA BODROG
Operator Type:	Other
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	Yes

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ST MARY HIGH DESERT MEDICAL GROUP (Continued) **1024865279**

Universal Waste Destination Facility:	Yes
Federal Universal Waste:	No
Active Site Fed-Reg Treatment Storage and Disposal Facility:	Not reported
Active Site Converter Treatment storage and Disposal Facility:	Not reported
Active Site State-Reg Treatment Storage and Disposal Facility:	Not reported
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	N
Sub-Part K Indicator:	Not reported
Commercial TSD Indicator:	No
Treatment Storage and Disposal Type:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
Permit Renewals Workload Universe:	Not reported
Permit Workload Universe:	Not reported
Permit Progress Universe:	Not reported
Post-Closure Workload Universe:	Not reported
Closure Workload Universe:	Not reported
202 GPRA Corrective Action Baseline:	No
Corrective Action Workload Universe:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
TSDFs Potentially Subject to CA Under 3004 (u)/(v) Universe:	No
TSDFs Only Subject to CA under Discretionary Auth Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No
Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Operating TSDF Universe:	Not reported
Full Enforcement Universe:	Not reported
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20180907
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	No
Manifest Broker:	No
Sub-Part P Indicator:	No

Handler - Owner Operator:

Owner/Operator Indicator:	Owner
Owner/Operator Name:	ST JOSEPH HERITAGE
Legal Status:	Other
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	200 W CENTER ST PROMENADE STE 800
Owner/Operator City,State,Zip:	ANAHEIM, CA 92805
Owner/Operator Telephone:	760-956-4136
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported

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ST MARY HIGH DESERT MEDICAL GROUP (Continued) **1024865279**

Owner/Operator Email: Not reported

Owner/Operator Indicator: Operator
Owner/Operator Name: LAURA BODROG
Legal Status: Other
Date Became Current: Not reported
Date Ended Current: Not reported
Owner/Operator Address: 19333 BEAR VALLEY RD #101
Owner/Operator City,State,Zip: APPLE VALLEY, CA 92308
Owner/Operator Telephone: 760-240-5505
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Historic Generators:
Receive Date: 20180226
Handler Name: ST MARY HIGH DESERT MEDICAL GROUP
Federal Waste Generator Description: Not a generator, verified
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: Yes
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

List of NAICS Codes and Descriptions:
NAICS Code: 621493
NAICS Description: FREESTANDING AMBULATORY SURGICAL AND EMERGENCY CENTERS

Facility Has Received Notices of Violations:
Violations: No Violations Found

Evaluation Action Summary:
Evaluations: No Evaluations Found

A7 **WALGREENS #1870** **RCRA-SQG** **1016954200**
WNW **12109 APPLE VALLEY RD** **CAL000322881**
1/8-1/4 **APPLE VALLEY, CA 92308**
0.141 mi.
745 ft. **Site 6 of 8 in cluster A**

Relative:
Lower

Actual:
2852 ft.

RCRA-SQG:
Date Form Received by Agency: 20200724
Handler Name: WALGREENS #1870
Handler Address: 12109 APPLE VALLEY RD
Handler City,State,Zip: APPLE VALLEY, CA 92308
EPA ID: CAL000322881
Contact Name: AMBER DURKIN
Contact Address: WILMOT RD, 5TH FL, MS#1450
Contact City,State,Zip: DEERFIELD, IL 60015
Contact Telephone: 847-964-8816
Contact Fax: 760-918-4025

DRAFT

WALGREENS #1870 (Continued) **1016954200**

Contact Email:	AMBER.DURKIN@WALGREENS.COM
Contact Title:	APS SAFETY MANAGER, NON-RETAIL / SUPPLY CHAIN
EPA Region:	09
Land Type:	Private
Federal Waste Generator Description:	Small Quantity Generator
Non-Notifier:	Not reported
Biennial Report Cycle:	2019
Accessibility:	Not reported
Active Site Indicator:	Handler Activities
State District Owner:	Not reported
State District:	Not reported
Mailing Address:	GREYHAWK CT. SUITE 200
Mailing City,State,Zip:	CARLSBAD, CA 92010
Owner Name:	APPLE-BEAR PARTNERS
Owner Type:	Private
Operator Name:	WALGREEN CO.
Operator Type:	Private
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	No
Universal Waste Destination Facility:	No
Federal Universal Waste:	No
Active Site Fed-Reg Treatment Storage and Disposal Facility:	Not reported
Active Site Converter Treatment storage and Disposal Facility:	Not reported
Active Site State-Reg Treatment Storage and Disposal Facility:	Not reported
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	N
Sub-Part K Indicator:	Not reported
Commercial TSD Indicator:	No
Treatment Storage and Disposal Type:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
Permit Renewals Workload Universe:	Not reported
Permit Workload Universe:	Not reported
Permit Progress Universe:	Not reported
Post-Closure Workload Universe:	Not reported
Closure Workload Universe:	Not reported
202 GPRA Corrective Action Baseline:	No
Corrective Action Workload Universe:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
TSDFs Potentially Subject to CA Under 3004 (u)/(v) Universe:	No
TSDFs Only Subject to CA under Discretionary Auth Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No
Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A

DRAFT

WALGREENS #1870 (Continued) **1016954200**

Operating TSDF Universe:	Not reported
Full Enforcement Universe:	Not reported
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20201009
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	No
Manifest Broker:	No
Sub-Part P Indicator:	No

Biennial: List of Years
Year: 2019

Click Here for Biennial Reporting System Data:
Year: 2015

Click Here for Biennial Reporting System Data:
Year: 2013

Click Here for Biennial Reporting System Data:

Hazardous Waste Summary:

Waste Code:	D001
Waste Description:	IGNITABLE WASTE
Waste Code:	D002
Waste Description:	CORROSIVE WASTE
Waste Code:	D005
Waste Description:	BARIUM
Waste Code:	D007
Waste Description:	CHROMIUM
Waste Code:	D009
Waste Description:	MERCURY
Waste Code:	D010
Waste Description:	SELENIUM
Waste Code:	D016
Waste Description:	2,4-D (2,4-DICHLOROPHENOXYACETIC ACID)
Waste Code:	D022
Waste Description:	CHLOROFORM
Waste Code:	D024
Waste Description:	M-CRESOL
Waste Code:	P001

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WALGREENS #1870 (Continued) **1016954200**

Waste Description: 2H-1-BENZOPYRAN-2-ONE, 4-HYDROXY-3-(3-OXO-1-PHENYLBUTYL)-, & SALTS, WHEN PRESENT AT CONCENTRATIONS GREATER THAN 0.3% (OR) WARFARIN, & SALTS, WHEN PRESENT AT CONCENTRATIONS GREATER THAN 0.3%

Waste Code: P075
Waste Description: NICOTINE, & SALTS (OR) PYRIDINE, 3-(1-METHYL-2-PYRROLIDINYL)-,(S)-, & SALTS

Waste Code: U034
Waste Description: ACETALDEHYDE, TRICHLORO- (OR) CHLORAL

Waste Code: U058
Waste Description: 2H-1,3,2-OXAZAPHOSPHORIN-2-AMINE, N,N-BIS(2-CHLOROETHYL)TETRAHYDRO-, 2-OXIDE (OR) CYCLOPHOSPHAMIDE

Waste Code: U129
Waste Description: CYCLOHEXANE, 1,2,3,4,5,6-HEXACHLORO-, (1ALPHA, 2ALPHA, 3BETA, 4ALPHA, 5ALPHA, 6BETA)- (OR) LINDANE

Waste Code: U150
Waste Description: L-PHENYLALANINE, 4-[BIS(2-CHLOROETHYL)AMINO]- (OR) MELPHALAN

Waste Code: U165
Waste Description: NAPHTHALENE

Waste Code: U188
Waste Description: PHENOL

Waste Code: U205
Waste Description: SELENIUM SULFIDE (OR) SELENIUM SULFIDE SES2 (R,T)

Handler - Owner Operator:

Owner/Operator Indicator:	Operator
Owner/Operator Name:	WALGREEN CO
Legal Status:	Private
Date Became Current:	20060407
Date Ended Current:	Not reported
Owner/Operator Address:	Not reported
Owner/Operator City,State,Zip:	Not reported
Owner/Operator Telephone:	Not reported
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Owner/Operator Indicator:	Operator
Owner/Operator Name:	WALGREEN CO.
Legal Status:	Private
Date Became Current:	20060417
Date Ended Current:	Not reported
Owner/Operator Address:	Not reported
Owner/Operator City,State,Zip:	Not reported
Owner/Operator Telephone:	Not reported
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Owner/Operator Indicator: Owner

DRAFT

WALGREENS #1870 (Continued) **1016954200**

Owner/Operator Name: APPLE-BEAR PARTNERS
Legal Status: Private
Date Became Current: 20060327
Date Ended Current: Not reported
Owner/Operator Address: 1915 A E KATELLA AVE
Owner/Operator City,State,Zip: ORANGE, CA 92867
Owner/Operator Telephone: 714-639-2131
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Operator
Owner/Operator Name: WALGREEN CO.
Legal Status: Private
Date Became Current: 20060417
Date Ended Current: Not reported
Owner/Operator Address: Not reported
Owner/Operator City,State,Zip: Not reported
Owner/Operator Telephone: Not reported
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner
Owner/Operator Name: WALGREEN CO
Legal Status: Private
Date Became Current: 20060407
Date Ended Current: Not reported
Owner/Operator Address: 200 WILMOT RD
Owner/Operator City,State,Zip: DEERFIELD, IL 60015
Owner/Operator Telephone: 847-914-2264
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner
Owner/Operator Name: APPLE-BEAR PARTNERS
Legal Status: Private
Date Became Current: 20060327
Date Ended Current: Not reported
Owner/Operator Address: 1915 A E KATELLA AVE
Owner/Operator City,State,Zip: ORANGE, CA 92867
Owner/Operator Telephone: Not reported
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner
Owner/Operator Name: APPLE-BEAR PARTNERS
Legal Status: Private
Date Became Current: 20060327
Date Ended Current: Not reported
Owner/Operator Address: 1915 A E KATELLA AVE
Owner/Operator City,State,Zip: ORANGE, CA 92867
Owner/Operator Telephone: 714-639-2131
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported

DRAFT

WALGREENS #1870 (Continued) **1016954200**

Owner/Operator Email: Not reported

Owner/Operator Indicator: Operator
Owner/Operator Name: WALGREEN CO.
Legal Status: Private
Date Became Current: 20060417
Date Ended Current: Not reported
Owner/Operator Address: 200 WILMONT RD.
Owner/Operator City,State,Zip: DEERFIELD, IL 60015
Owner/Operator Telephone: Not reported
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Historic Generators:
Receive Date: 20140301
Handler Name: WALGREENS #1870
Federal Waste Generator Description: Conditionally Exempt Small Quantity Generator
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 20160412
Handler Name: WALGREENS #1870
Federal Waste Generator Description: Conditionally Exempt Small Quantity Generator
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 20200724
Handler Name: WALGREENS #1870
Federal Waste Generator Description: Small Quantity Generator
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: Yes
Non Storage Recycler Activity: No
Electronic Manifest Broker: No

Receive Date: 20190516
Handler Name: WALGREENS #1870
Federal Waste Generator Description: Not a generator, verified

DRAFT

WALGREENS #1870 (Continued) **1016954200**

State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: No
Electronic Manifest Broker: No

List of NAICS Codes and Descriptions:
NAICS Code: 44611
NAICS Description: PHARMACIES AND DRUG STORES

NAICS Code: 446110
NAICS Description: PHARMACIES AND DRUG STORES

Facility Has Received Notices of Violations:
Violations: No Violations Found

Evaluation Action Summary:
Evaluations: No Evaluations Found

A8
WNW
1/8-1/4
0.141 mi.
745 ft.

Relative:
Lower

Actual:
2852 ft.

WALGREENS #1870 **CERS HAZ WASTE** **S108419406**
12109 APPLE VALLEY RD **San Bern. Co. Permit** **N/A**
APPLE VALLEY, CA 92308 **CERS**

Site 7 of 8 in cluster A

CERS HAZ WASTE:
Name: WALGREENS #1870
Address: 12109 APPLE VALLEY RD
City,State,Zip: APPLE VALLEY, CA 92308
Site ID: 169910
CERS ID: 10051594
CERS Description: Hazardous Waste Generator

San Bern. Co. Permit:
Name: WALGREENS #1870
Address: 12109 APPLE VALLEY RD
City,State,Zip: APPLE VALLEY, CA 92308
Region: SAN BERNARDINO
Facility ID: FA0010657
Owner: Walgreen Co.
Permit Number: PT0018560
Permit Category: HAZARDOUS MATERIALS 1-3 CHEMICALS
Facility Status: ACTIVE
Expiration Date: 10/31/2021

Name: WALGREENS #1870
Address: 12109 APPLE VALLEY RD
City,State,Zip: APPLE VALLEY, CA 92308
Region: SAN BERNARDINO
Facility ID: FA0010657
Owner: Walgreen Co.

DRAFT

WALGREENS #1870 (Continued) **S108419406**

Permit Number: PT0018561
Permit Category: CONDITIONALLY EXEMPT SM QTY GENERATOR
Facility Status: ACTIVE
Expiration Date: 10/31/2021

CERS:
Name: WALGREENS #1870
Address: 12109 APPLE VALLEY RD
City,State,Zip: APPLE VALLEY, CA 92308
Site ID: 169910
CERS ID: 10051594
CERS Description: Chemical Storage Facilities

Evaluation:
Eval General Type: Compliance Evaluation Inspection
Eval Date: 03-24-2020
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: Not reported
Eval Division: San Bernardino County Fire Department
Eval Program: HW
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection
Eval Date: 04-21-2017
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: ROUTINE HANDLER INSPECTION, INSPECTION PREP
Eval Division: San Bernardino County Fire Department
Eval Program: HMRRP
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection
Eval Date: 03-24-2020
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: Not reported
Eval Division: San Bernardino County Fire Department
Eval Program: HMRRP
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection
Eval Date: 04-10-2014
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: INSPECTION - BP
Eval Division: San Bernardino County Fire Department
Eval Program: HMRRP
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection
Eval Date: 04-10-2014
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: INSPECTION - HW
Eval Division: San Bernardino County Fire Department
Eval Program: HW

DRAFT

WALGREENS #1870 (Continued) **S108419406**

Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection
Eval Date: 04-21-2017
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: ROUTINE GENERATOR INSPECTION, INSPECTION PREP
Eval Division: San Bernardino County Fire Department
Eval Program: HW
Eval Source: CERS

Coordinates:
Site ID: 169910
Facility Name: WALGREENS #1870
Env Int Type Code: HWG
Program ID: 10051594
Coord Name: Not reported
Ref Point Type Desc: Unknown
Latitude: 34.471664
Longitude: -117.241669

Affiliation:
Affiliation Type Desc: Environmental Contact
Entity Name: Verisk 3E, Regulatory Department/Walgreen Co.
Entity Title: Not reported
Affiliation Address: 3207 Grey Hawk Court, Suite 200
Affiliation City: Carlsbad
Affiliation State: CA
Affiliation Country: Not reported
Affiliation Zip: 92010
Affiliation Phone: Not reported

Affiliation Type Desc: Identification Signer
Entity Name: Tristan Guison, on behalf of Walgreen Co.
Entity Title: Regulatory Compliance Specialist II, Verisk 3E
Affiliation Address: Not reported
Affiliation City: Not reported
Affiliation State: Not reported
Affiliation Country: Not reported
Affiliation Zip: Not reported
Affiliation Phone: Not reported

Affiliation Type Desc: Operator
Entity Name: Walgreen Co.
Entity Title: Not reported
Affiliation Address: Not reported
Affiliation City: Not reported
Affiliation State: Not reported
Affiliation Country: Not reported
Affiliation Zip: Not reported
Affiliation Phone: (847) 914-2264

Affiliation Type Desc: CUPA District
Entity Name: San Bernardino County Fire
Entity Title: Not reported
Affiliation Address: 620 South E Street

DRAFT

WALGREENS #1870 (Continued) **S108419406**

Affiliation City:	San Bernardino
Affiliation State:	CA
Affiliation Country:	Not reported
Affiliation Zip:	92415-0153
Affiliation Phone:	(909) 386-8401
Affiliation Type Desc:	Legal Owner
Entity Name:	Walgreen Co.
Entity Title:	Not reported
Affiliation Address:	200 Wilmot Road
Affiliation City:	Deerfield
Affiliation State:	IL
Affiliation Country:	United States
Affiliation Zip:	60015
Affiliation Phone:	(847) 914-2264
Affiliation Type Desc:	Document Preparer
Entity Name:	Tristan Guison, On behalf of Walgreen Co.
Entity Title:	Not reported
Affiliation Address:	Not reported
Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	Not reported
Affiliation Type Desc:	Facility Mailing Address
Entity Name:	Mailing Address
Entity Title:	Not reported
Affiliation Address:	Verisk 3E, Regulatory Dept/Walgreen Co., 3207 Grey Hawk Ct, Suite 200
Affiliation City:	Carlsbad
Affiliation State:	CA
Affiliation Country:	Not reported
Affiliation Zip:	92010
Affiliation Phone:	Not reported
Affiliation Type Desc:	Parent Corporation
Entity Name:	Walgreens
Entity Title:	Not reported
Affiliation Address:	Not reported
Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	Not reported
Affiliation Type Desc:	Property Owner
Entity Name:	APPLE-BEAR PARTNERS ATTN ACCOUNTS RECEIVABLE
Entity Title:	Not reported
Affiliation Address:	1915-A E KATELLA AVE
Affiliation City:	ORANGE
Affiliation State:	CA
Affiliation Country:	United States
Affiliation Zip:	92867-0000
Affiliation Phone:	(714) 639-2131

DRAFT

A9
WNW
1/8-1/4
0.141 mi.
745 ft.

WALGREENS STORE #1870
12109 APPLE VALLEY ROAD
APPLE VALLEY, CA 92308

Site 8 of 8 in cluster A

RCRA-VSQG **1026171622**
CAR000308627

Relative:
Lower

Actual:
2852 ft.

RCRA-VSQG:

Date Form Received by Agency:		20200528
Handler Name:	WALGREENS STORE #1870	
Handler Address:		12109 APPLE VALLEY ROAD
Handler City,State,Zip:		APPLE VALLEY, CA 92308
EPA ID:		CAR000308627
Contact Name:		AMBER DURKIN
Contact Address:		WILMOT ROAD 5TH FLOOR
Contact City,State,Zip:		DEERFIELD, IL 60015
Contact Telephone:		847-964-8816
Contact Fax:		Not reported
Contact Email:		AMBER.DURKIN@WALGREENS.COM
Contact Title:		APS SAFETY MANAGER
EPA Region:		09
Land Type:		Private
Federal Waste Generator Description:		Conditionally Exempt Small Quantity Generator
Non-Notifier:		Not reported
Biennial Report Cycle:		Not reported
Accessibility:		Not reported
Active Site Indicator:		Handler Activities
State District Owner:		Not reported
State District:		Not reported
Mailing Address:		WILMOT ROAD 5TH FLOOR
Mailing City,State,Zip:		DEERFIELD, IL 60015
Owner Name:		APPLE-BEAR PARTNERS
Owner Type:		Private
Operator Name:		WALGREEN CO
Operator Type:		Private
Short-Term Generator Activity:		No
Importer Activity:		No
Mixed Waste Generator:		No
Transporter Activity:		No
Transfer Facility Activity:		No
Recycler Activity with Storage:		No
Small Quantity On-Site Burner Exemption:		No
Smelting Melting and Refining Furnace Exemption:		No
Underground Injection Control:		No
Off-Site Waste Receipt:		No
Universal Waste Indicator:		No
Universal Waste Destination Facility:		No
Federal Universal Waste:		No
Active Site Fed-Reg Treatment Storage and Disposal Facility:		Not reported
Active Site Converter Treatment storage and Disposal Facility:		Not reported
Active Site State-Reg Treatment Storage and Disposal Facility:		Not reported
Active Site State-Reg Handler:		---
Federal Facility Indicator:		Not reported
Hazardous Secondary Material Indicator:		N
Sub-Part K Indicator:		Not reported
Commercial TSD Indicator:		No
Treatment Storage and Disposal Type:		Not reported
2018 GPRA Permit Baseline:		Not on the Baseline
2018 GPRA Renewals Baseline:		Not on the Baseline
Permit Renewals Workload Universe:		Not reported

DRAFT

WALGREENS STORE #1870 (Continued) **1026171622**

Permit Workload Universe:	Not reported
Permit Progress Universe:	Not reported
Post-Closure Workload Universe:	Not reported
Closure Workload Universe:	Not reported
202 GPRA Corrective Action Baseline:	No
Corrective Action Workload Universe:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
TSDFs Potentially Subject to CA Under 3004 (u)/(v) Universe:	No
TSDFs Only Subject to CA under Discretionary Auth Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No
Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Operating TSDF Universe:	Not reported
Full Enforcement Universe:	Not reported
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20200529
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	No
Manifest Broker:	No
Sub-Part P Indicator:	No

Hazardous Waste Summary:

Waste Code:	D001
Waste Description:	IGNITABLE WASTE
Waste Code:	D002
Waste Description:	CORROSIVE WASTE
Waste Code:	D007
Waste Description:	CHROMIUM
Waste Code:	D009
Waste Description:	MERCURY
Waste Code:	D010
Waste Description:	SELENIUM
Waste Code:	D011
Waste Description:	SILVER
Waste Code:	D016
Waste Description:	2,4-D (2,4-DICHLOROPHENOXYACETIC ACID)
Waste Code:	D035
Waste Description:	METHYL ETHYL KETONE

DRAFT

WALGREENS STORE #1870 (Continued) **1026171622**

Waste Code: P001
Waste Description: 2H-1-BENZOPYRAN-2-ONE, 4-HYDROXY-3-(3-OXO-1-PHENYLBUTYL)-, & SALTS, WHEN PRESENT AT CONCENTRATIONS GREATER THAN 0.3% (OR) WARFARIN, & SALTS, WHEN PRESENT AT CONCENTRATIONS GREATER THAN 0.3%

Waste Code: P075
Waste Description: NICOTINE, & SALTS (OR) PYRIDINE, 3-(1-METHYL-2-PYRROLIDINYL)-,(S)-, & SALTS

Handler - Owner Operator:
Owner/Operator Indicator: Owner
Owner/Operator Name: APPLE-BEAR PARTNERS
Legal Status: Private
Date Became Current: 20060327
Date Ended Current: Not reported
Owner/Operator Address: 1915 A E KATELLA AVE
Owner/Operator City,State,Zip: ORANGE, CA 92867
Owner/Operator Telephone: 714-639-2131
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Operator
Owner/Operator Name: WALGREEN CO
Legal Status: Private
Date Became Current: 20060327
Date Ended Current: Not reported
Owner/Operator Address: 200 WILMOT ROAD
Owner/Operator City,State,Zip: DEERFIELD, IL 60015
Owner/Operator Telephone: 847-914-2400
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Historic Generators:
Receive Date: 20200528
Handler Name: WALGREENS STORE #1870
Federal Waste Generator Description: Conditionally Exempt Small Quantity Generator
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: Yes
Non Storage Recycler Activity: No
Electronic Manifest Broker: No

List of NAICS Codes and Descriptions:
NAICS Code: 446110
NAICS Description: PHARMACIES AND DRUG STORES

Facility Has Received Notices of Violations:
Violations: No Violations Found

DRAFT

WALGREENS STORE #1870 (Continued) **1026171622**

Evaluation Action Summary:
Evaluations: No Evaluations Found

10
SW
1/8-1/4
0.164 mi.
865 ft.

VERIZON WIRELESS: ORIOLE
11873 APPLE VALLEY RD
APPLE VALLEY, CA 92308

San Bern. Co. Permit **S122218729**
CERS **N/A**

Relative:
Lower

Actual:
2837 ft.

San Bern. Co. Permit:
Name: VERIZON WIRELESS: ORIOLE
Address: 11873 APPLE VALLEY RD
City,State,Zip: APPLE VALLEY, CA 92308
Region: SAN BERNARDINO
Facility ID: FA0017879
Owner: Verizon Wireless
Permit Number: PT0038596
Permit Category: HAZARDOUS MATERIALS 1-3 CHEMICALS SPECIAL
Facility Status: ACTIVE
Expiration Date: 05/31/2021

CERS:
Name: VERIZON WIRELESS: ORIOLE
Address: 11873 APPLE VALLEY RD
City,State,Zip: APPLE VALLEY, CA 92308
Site ID: 435270
CERS ID: 10758508
CERS Description: Chemical Storage Facilities

Evaluation:
Eval General Type: Compliance Evaluation Inspection
Eval Date: 08-11-2020
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: Not reported
Eval Division: San Bernardino County Fire Department
Eval Program: HMRRP
Eval Source: CERS

Coordinates:
Site ID: 435270
Facility Name: Verizon Wireless: Oriole
Env Int Type Code: HMBP
Program ID: 10758508
Coord Name: Not reported
Ref Point Type Desc: Center of a facility or station.
Latitude: 34.467120
Longitude: -117.241360

Affiliation:
Affiliation Type Desc: CUPA District
Entity Name: San Bernardino County Fire
Entity Title: Not reported
Affiliation Address: 620 South E Street
Affiliation City: San Bernardino

DRAFT

VERIZON WIRELESS: ORIOLE (Continued) **S122218729**

Affiliation State:	CA
Affiliation Country:	Not reported
Affiliation Zip:	92415-0153
Affiliation Phone:	(909) 386-8401
Affiliation Type Desc:	Legal Owner
Entity Name:	Verizon Wireless
Entity Title:	Not reported
Affiliation Address:	15505 Sand Canyon Avenue, MS D-104
Affiliation City:	Irvine
Affiliation State:	CA
Affiliation Country:	United States
Affiliation Zip:	92618
Affiliation Phone:	(949) 286-7000
Affiliation Type Desc:	Identification Signer
Entity Name:	Wilson Rodriguez
Entity Title:	Engr III Spec-RE/Regulatory
Affiliation Address:	Not reported
Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	Not reported
Affiliation Type Desc:	Parent Corporation
Entity Name:	Verizon Wireless [Southern California]
Entity Title:	Not reported
Affiliation Address:	Not reported
Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	Not reported
Affiliation Type Desc:	Environmental Contact
Entity Name:	Environmental Compliance
Entity Title:	Not reported
Affiliation Address:	15505 Sand Canyon Avenue, MS D-104
Affiliation City:	Irvine
Affiliation State:	CA
Affiliation Country:	Not reported
Affiliation Zip:	92618
Affiliation Phone:	Not reported
Affiliation Type Desc:	Facility Mailing Address
Entity Name:	Mailing Address
Entity Title:	Not reported
Affiliation Address:	15505 Sand Canyon Avenue, MS D-104
Affiliation City:	Irvine
Affiliation State:	CA
Affiliation Country:	Not reported
Affiliation Zip:	92618
Affiliation Phone:	Not reported
Affiliation Type Desc:	Operator
Entity Name:	Verizon Wireless

DRAFT

VERIZON WIRELESS: ORIOLE (Continued) **S122218729**

Entity Title:	Not reported
Affiliation Address:	Not reported
Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	(949) 286-7000
Affiliation Type Desc:	Document Preparer
Entity Name:	Steve Skanderson, Stantec
Entity Title:	Not reported
Affiliation Address:	Not reported
Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	Not reported

B11 **LOWE'S #2528** **AST** **A100422021**
NW **12189 APPLE VALLEY RD** **N/A**
1/8-1/4 **APPLE VALLEY, CA 92308**
0.192 mi.
1012 ft. **Site 1 of 6 in cluster B**

Relative: **Lower**

Actual: **2851 ft.**

AST:

Name:	LOWE'S #2528
Address:	12189 APPLE VALLEY RD
City/Zip:	APPLE VALLEY,92308
Certified Unified Program Agencies:	Not reported
Owner:	Lowe's Home Centers, LLC
Total Gallons:	Not reported
CERSID:	10052521
Facility ID:	FA0011237
Business Name:	Lowe's HIW, Inc.
Phone:	(888) 429-6281
Fax:	(760) 961-3003
Mailing Address:	1000 Lowe's Blvd., Mail Code A2ELP
Mailing Address City:	Mooresville
Mailing Address State:	NC
Mailing Address Zip Code:	28117
Operator Name:	Lowe's Home Centers, LLC
Operator Phone:	(760) 961-3000
Owner Phone:	(704) 758-6033
Owner Mail Address:	1605 Curtis Bridge Rd, Mailcode A2ELP
Owner State:	NC
Owner Zip Code:	28697
Owner Country:	United States
Property Owner Name:	Not reported
Property Owner Phone:	Not reported
Property Owner Mailing Address:	Not reported
Property Owner City:	Not reported
Property Owner Stat :	Not reported
Property Owner Zip Code:	Not reported
Property Owner Country:	Not reported
EPAID:	CAL000300870

DRAFT

B12 **LOWE'S OF APPLE VALLEY #2528** **CERS HAZ WASTE** **S113140037**
NW **12189 APPLE VALLEY RD** **CERS TANKS** **N/A**
1/8-1/4 **APPLE VALLEY, CA 28117** **HAZNET**
0.192 mi. **CERS**
1012 ft. **Site 2 of 6 in cluster B** **HWTS**

Relative:
Lower

Actual:
2851 ft.

CERS HAZ WASTE:
Name: LOWE'S #2528
Address: 12189 APPLE VALLEY RD
City,State,Zip: APPLE VALLEY, CA 92308
Site ID: 131576
CERS ID: 10052521
CERS Description: Hazardous Waste Generator

CERS TANKS:
Name: LOWE'S #2528
Address: 12189 APPLE VALLEY RD
City,State,Zip: APPLE VALLEY, CA 92308
Site ID: 131576
CERS ID: 10052521
CERS Description: Aboveground Petroleum Storage

HAZNET:
Name: LOWE'S OF APPLE VALLEY #2528
Address: 12189 APPLE VALLEY RD
Address 2: Not reported
City,State,Zip: APPLE VALLEY, CA 281170000
Contact: ROB GASS
Telephone: 7047586033
Mailing Name: Not reported
Mailing Address: 1000 LOWE'S BLVD

Year: 2019
Gepaid: CAR000279935
TSD EPA ID: AZR000515924
CA Waste Code: 331 - Off-specification, aged or surplus organics
Disposal Method: H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Tons: 0.24000

Year: 2019
Gepaid: CAR000279935
TSD EPA ID: CAD008364432
CA Waste Code: 331 - Off-specification, aged or surplus organics
Disposal Method: H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Tons: 1.02250

Year: 2019
Gepaid: CAR000279935
TSD EPA ID: NVD980895338
CA Waste Code: 214 - Unspecified solvent mixture
Disposal Method: H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Tons: 0.01600

Year: 2019
Gepaid: CAR000279935

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LOWE'S OF APPLE VALLEY #2528 (Continued) **S113140037**

TSD EPA ID: AZR000515924
CA Waste Code: 181 - Other inorganic solid waste
Disposal Method: H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Tons: 0.06500

Year: 2019
Gepaid: CAR000279935
TSD EPA ID: CAD008364432
CA Waste Code: 791 - Liquids with pH <= 2
Disposal Method: H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Tons: 0.03250

Year: 2019
Gepaid: CAR000279935
TSD EPA ID: NVD980895338
CA Waste Code: 122 - Alkaline solution without metals pH >= 12.5
Disposal Method: H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Tons: 0.00350

Year: 2019
Gepaid: CAR000279935
TSD EPA ID: NVD980895338
CA Waste Code: 141 - Off-specification, aged or surplus inorganics
Disposal Method: H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Tons: 0.00750

Year: 2019
Gepaid: CAR000279935
TSD EPA ID: CAD008364432
CA Waste Code: 122 - Alkaline solution without metals pH >= 12.5
Disposal Method: H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Tons: 0.12250

Year: 2019
Gepaid: CAR000279935
TSD EPA ID: NVD980895338
CA Waste Code: 331 - Off-specification, aged or surplus organics
Disposal Method: H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Tons: 0.46250

Year: 2018
Gepaid: CAR000279935
TSD EPA ID: CAD008364432
CA Waste Code: 122 - Alkaline solution without metals pH >= 12.5
Disposal Method: H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Tons: 0.08550

Click this hyperlink while viewing on your computer to access
59 additional CA HAZNET: record(s) in the EDR Site Report.

DRAFT

LOWE'S OF APPLE VALLEY #2528 (Continued) **S113140037**

Additional Info:

Year:	2009
Gen EPA ID:	CAL000300870
Shipment Date:	20090728
Creation Date:	Not reported
Receipt Date:	Not reported
Manifest ID:	005468199JJK
Trans EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
Trans 2 EPA ID:	Not reported
Trans 2 Name:	Not reported
TSDF EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	331 - Off-specification, aged, or surplus organics
RCRA Code:	Not reported
Meth Code:	H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons:	0.0825
Waste Quantity:	165
Quantity Unit:	P
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20090728
Creation Date:	10/12/2009 18:30:19
Receipt Date:	20090729
Manifest ID:	005468199JJK
Trans EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
Trans 2 EPA ID:	Not reported
Trans 2 Name:	Not reported
TSDF EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	331 - Off-specification, aged, or surplus organics
RCRA Code:	D035
Meth Code:	H061 - Fuel Blending Prior To Energy Recovery At Another Site
Quantity Tons:	0.071
Waste Quantity:	142
Quantity Unit:	P
Additional Code 1:	D018
Additional Code 2:	D007
Additional Code 3:	D005
Additional Code 4:	D001
Additional Code 5:	Not reported
Shipment Date:	20090728
Creation Date:	Not reported
Receipt Date:	Not reported
Manifest ID:	005468199JJK

DRAFT

LOWE'S OF APPLE VALLEY #2528 (Continued) **S113140037**

Trans EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
Trans 2 EPA ID:	Not reported
Trans 2 Name:	Not reported
TSDF EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	791 - Liquids with pH < 2 792 Liquids with pH < 2 with metals
RCRA Code:	D002
Meth Code:	H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons:	0.012
Waste Quantity:	24
Quantity Unit:	P
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20090204
Creation Date:	Not reported
Receipt Date:	Not reported
Manifest ID:	002926096JJK
Trans EPA ID:	Not reported
Trans Name:	Not reported
Trans 2 EPA ID:	Not reported
Trans 2 Name:	Not reported
TSDF EPA ID:	Not reported
Trans Name:	Not reported
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	122 - Alkaline solution without metals (pH > 12.5
RCRA Code:	D002
Meth Code:	H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons:	0.011
Waste Quantity:	22
Quantity Unit:	P
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20090204
Creation Date:	Not reported
Receipt Date:	Not reported
Manifest ID:	002926096JJK
Trans EPA ID:	Not reported
Trans Name:	Not reported
Trans 2 EPA ID:	Not reported
Trans 2 Name:	Not reported
TSDF EPA ID:	Not reported
Trans Name:	Not reported
TSDF Alt EPA ID:	Not reported

DRAFT

LOWE'S OF APPLE VALLEY #2528 (Continued) **S113140037**

TSDF Alt Name:	Not reported
Waste Code Description:	791 - Liquids with pH < 2 792 Liquids with pH < 2 with metals
RCRA Code:	D002
Meth Code:	H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons:	0.004
Waste Quantity:	8
Quantity Unit:	P
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20090119
Creation Date:	Not reported
Receipt Date:	Not reported
Manifest ID:	002933273JJK
Trans EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
Trans 2 EPA ID:	Not reported
Trans 2 Name:	Not reported
TSDF EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	331 - Off-specification, aged, or surplus organics
RCRA Code:	Not reported
Meth Code:	H061 - Fuel Blending Prior To Energy Recovery At Another Site
Quantity Tons:	0.13
Waste Quantity:	260
Quantity Unit:	P
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20090119
Creation Date:	4/15/2009 18:30:09
Receipt Date:	20090123
Manifest ID:	002933273JJK
Trans EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
Trans 2 EPA ID:	Not reported
Trans 2 Name:	Not reported
TSDF EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	331 - Off-specification, aged, or surplus organics
RCRA Code:	D035
Meth Code:	H061 - Fuel Blending Prior To Energy Recovery At Another Site
Quantity Tons:	0.12
Waste Quantity:	240
Quantity Unit:	P
Additional Code 1:	D018

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LOWE'S OF APPLE VALLEY #2528 (Continued) **S113140037**

Additional Code 2:	D007
Additional Code 3:	D005
Additional Code 4:	D001
Additional Code 5:	Not reported
Shipment Date:	20090119
Creation Date:	Not reported
Receipt Date:	Not reported
Manifest ID:	002933273JJK
Trans EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
Trans 2 EPA ID:	Not reported
Trans 2 Name:	Not reported
TSDF EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	791 - Liquids with pH < 2 792 Liquids with pH < 2 with metals
RCRA Code:	D002
Meth Code:	H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons:	0.0225
Waste Quantity:	45
Quantity Unit:	P
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported

Additional Info:

Year:	2017
Gen EPA ID:	CAL000300870
Shipment Date:	20171211
Creation Date:	Not reported
Receipt Date:	Not reported
Manifest ID:	001721640PSC
Trans EPA ID:	MNS000110924
Trans Name:	STERICYCLE SPECIALTY WASTE SOLUTIONS INC
Trans 2 EPA ID:	CAR000217000
Trans 2 Name:	LA CHIQUITA TRUCKING
TSDF EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	331 - Off-specification, aged, or surplus organics
RCRA Code:	D016
Meth Code:	H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons:	0.0275
Waste Quantity:	55
Quantity Unit:	P
Additional Code 1:	D011
Additional Code 2:	D008
Additional Code 3:	D006
Additional Code 4:	Not reported

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LOWE'S OF APPLE VALLEY #2528 (Continued) **S113140037**

Additional Code 5:	Not reported
Shipment Date:	20171211
Creation Date:	7/5/2018 18:32:15
Receipt Date:	20171218
Manifest ID:	001721640PSC
Trans EPA ID:	MNS000110924
Trans Name:	STERICYCLE SPECIALTY WASTE SOLUTIONS INC
Trans 2 EPA ID:	CAR000217000
Trans 2 Name:	LA CHIQUITA TRUCKING
TSDF EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	331 - Off-specification, aged, or surplus organics
RCRA Code:	Not reported
Meth Code:	H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons:	0.2165
Waste Quantity:	433
Quantity Unit:	P
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20171211
Creation Date:	7/5/2018 18:32:15
Receipt Date:	20171218
Manifest ID:	001721640PSC
Trans EPA ID:	MNS000110924
Trans Name:	STERICYCLE SPECIALTY WASTE SOLUTIONS INC
Trans 2 EPA ID:	CAR000217000
Trans 2 Name:	LA CHIQUITA TRUCKING
TSDF EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	331 - Off-specification, aged, or surplus organics
RCRA Code:	D035
Meth Code:	H061 - Fuel Blending Prior To Energy Recovery At Another Site
Quantity Tons:	0.0525
Waste Quantity:	105
Quantity Unit:	P
Additional Code 1:	D018
Additional Code 2:	D007
Additional Code 3:	D005
Additional Code 4:	D001
Additional Code 5:	Not reported
Shipment Date:	20171211
Creation Date:	7/5/2018 18:32:15
Receipt Date:	20171218
Manifest ID:	001721640PSC
Trans EPA ID:	MNS000110924
Trans Name:	STERICYCLE SPECIALTY WASTE SOLUTIONS INC

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LOWE'S OF APPLE VALLEY #2528 (Continued) **S113140037**

Trans 2 EPA ID:	CAR000217000
Trans 2 Name:	LA CHIQUITA TRUCKING
TSDF EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	331 - Off-specification, aged, or surplus organics
RCRA Code:	D035
Meth Code:	H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons:	0.0305
Waste Quantity:	61
Quantity Unit:	P
Additional Code 1:	D007
Additional Code 2:	D005
Additional Code 3:	D001
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20171211
Creation Date:	Not reported
Receipt Date:	Not reported
Manifest ID:	001721640PSC
Trans EPA ID:	MNS000110924
Trans Name:	STERICYCLE SPECIALTY WASTE SOLUTIONS INC
Trans 2 EPA ID:	CAR000217000
Trans 2 Name:	LA CHIQUITA TRUCKING
TSDF EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	352 - Other organic solids
RCRA Code:	Not reported
Meth Code:	H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons:	0.23
Waste Quantity:	460
Quantity Unit:	P
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20171211
Creation Date:	7/5/2018 18:32:15
Receipt Date:	20171218
Manifest ID:	001721640PSC
Trans EPA ID:	MNS000110924
Trans Name:	STERICYCLE SPECIALTY WASTE SOLUTIONS INC
Trans 2 EPA ID:	CAR000217000
Trans 2 Name:	LA CHIQUITA TRUCKING
TSDF EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	122 - Alkaline solution without metals (pH > 12.5

DRAFT

LOWE'S OF APPLE VALLEY #2528 (Continued) **S113140037**

RCRA Code:	D002
Meth Code:	H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons:	0.075
Waste Quantity:	150
Quantity Unit:	P
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20170918
Creation Date:	6/29/2018 18:30:18
Receipt Date:	20170925
Manifest ID:	001656783PSC
Trans EPA ID:	MNS000110924
Trans Name:	STERICYCLE SPECIALTY WASTE SOLUTIONS INC
Trans 2 EPA ID:	CAR000217000
Trans 2 Name:	LA CHIQUITA TRUCKING
TSDF EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	331 - Off-specification, aged, or surplus organics
RCRA Code:	D035
Meth Code:	H061 - Fuel Blending Prior To Energy Recovery At Another Site
Quantity Tons:	0.0985
Waste Quantity:	197
Quantity Unit:	P
Additional Code 1:	D018
Additional Code 2:	D007
Additional Code 3:	D005
Additional Code 4:	D001
Additional Code 5:	Not reported
Shipment Date:	20170918
Creation Date:	Not reported
Receipt Date:	Not reported
Manifest ID:	001656783PSC
Trans EPA ID:	MNS000110924
Trans Name:	STERICYCLE SPECIALTY WASTE SOLUTIONS INC
Trans 2 EPA ID:	CAR000217000
Trans 2 Name:	LA CHIQUITA TRUCKING
TSDF EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	331 - Off-specification, aged, or surplus organics
RCRA Code:	Not reported
Meth Code:	H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons:	0.3835
Waste Quantity:	767
Quantity Unit:	P
Additional Code 1:	Not reported
Additional Code 2:	Not reported

DRAFT

LOWE'S OF APPLE VALLEY #2528 (Continued) **S113140037**

Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20170918
Creation Date:	Not reported
Receipt Date:	Not reported
Manifest ID:	001656783PSC
Trans EPA ID:	MNS000110924
Trans Name:	STERICYCLE SPECIALTY WASTE SOLUTIONS INC
Trans 2 EPA ID:	CAR000217000
Trans 2 Name:	LA CHIQUITA TRUCKING
TSDF EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	791 - Liquids with pH < 2 792 Liquids with pH < 2 with metals
RCRA Code:	D002
Meth Code:	H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons:	0.0195
Waste Quantity:	39
Quantity Unit:	P
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20170918
Creation Date:	Not reported
Receipt Date:	Not reported
Manifest ID:	001656783PSC
Trans EPA ID:	MNS000110924
Trans Name:	STERICYCLE SPECIALTY WASTE SOLUTIONS INC
Trans 2 EPA ID:	CAR000217000
Trans 2 Name:	LA CHIQUITA TRUCKING
TSDF EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	122 - Alkaline solution without metals (pH > 12.5
RCRA Code:	D002
Meth Code:	H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons:	0.151
Waste Quantity:	302
Quantity Unit:	P
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported

Additional Info:

Year:	2013
Gen EPA ID:	CAL000300870

DRAFT

LOWE'S OF APPLE VALLEY #2528 (Continued) **S113140037**

Shipment Date:	20131206
Creation Date:	Not reported
Receipt Date:	Not reported
Manifest ID:	000652624PSC
Trans EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
Trans 2 EPA ID:	CAD983649880
Trans 2 Name:	PSC ENVIRONMENTAL SERVICES OF POMONA LP
TSDF EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	352 - Other organic solids
RCRA Code:	Not reported
Meth Code:	H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons:	0.186
Waste Quantity:	372
Quantity Unit:	P
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported

Shipment Date:	20131206
Creation Date:	2/7/2014 22:15:07
Receipt Date:	20131216
Manifest ID:	000652624PSC
Trans EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
Trans 2 EPA ID:	CAD983649880
Trans 2 Name:	PSC ENVIRONMENTAL SERVICES OF POMONA LP
TSDF EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	- Not reported
RCRA Code:	Not reported
Meth Code:	H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons:	0.0315
Waste Quantity:	63
Quantity Unit:	P
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported

Shipment Date:	20131206
Creation Date:	Not reported
Receipt Date:	Not reported
Manifest ID:	000652624PSC
Trans EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
Trans 2 EPA ID:	CAD983649880

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LOWE'S OF APPLE VALLEY #2528 (Continued) **S113140037**

Trans 2 Name:	PSC ENVIRONMENTAL SERVICES OF POMONA LP
TSDF EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	791 - Liquids with pH < 2 792 Liquids with pH < 2 with metals
RCRA Code:	D002
Meth Code:	H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons:	0.0365
Waste Quantity:	73
Quantity Unit:	P
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20131206
Creation Date:	Not reported
Receipt Date:	Not reported
Manifest ID:	000652624PSC
Trans EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
Trans 2 EPA ID:	CAD983649880
Trans 2 Name:	PSC ENVIRONMENTAL SERVICES OF POMONA LP
TSDF EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	331 - Off-specification, aged, or surplus organics
RCRA Code:	D016
Meth Code:	H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons:	0.034
Waste Quantity:	68
Quantity Unit:	P
Additional Code 1:	D011
Additional Code 2:	D008
Additional Code 3:	D006
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20131206
Creation Date:	Not reported
Receipt Date:	Not reported
Manifest ID:	000652624PSC
Trans EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
Trans 2 EPA ID:	CAD983649880
Trans 2 Name:	PSC ENVIRONMENTAL SERVICES OF POMONA LP
TSDF EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	331 - Off-specification, aged, or surplus organics
RCRA Code:	D035

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LOWE'S OF APPLE VALLEY #2528 (Continued) **S113140037**

Meth Code:	H061 - Fuel Blending Prior To Energy Recovery At Another Site
Quantity Tons:	0.029
Waste Quantity:	58
Quantity Unit:	P
Additional Code 1:	D018
Additional Code 2:	D007
Additional Code 3:	D005
Additional Code 4:	D001
Additional Code 5:	Not reported
Shipment Date:	20131206
Creation Date:	2/7/2014 22:15:07
Receipt Date:	20131216
Manifest ID:	000652624PSC
Trans EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
Trans 2 EPA ID:	CAD983649880
Trans 2 Name:	PSC ENVIRONMENTAL SERVICES OF POMONA LP
TSDF EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	331 - Off-specification, aged, or surplus organics
RCRA Code:	Not reported
Meth Code:	H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons:	0.1455
Waste Quantity:	291
Quantity Unit:	P
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20131206
Creation Date:	2/7/2014 22:15:07
Receipt Date:	20131216
Manifest ID:	000652624PSC
Trans EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
Trans 2 EPA ID:	CAD983649880
Trans 2 Name:	PSC ENVIRONMENTAL SERVICES OF POMONA LP
TSDF EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	122 - Alkaline solution without metals (pH > 12.5
RCRA Code:	D002
Meth Code:	H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons:	0.0415
Waste Quantity:	83
Quantity Unit:	P
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported

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LOWE'S OF APPLE VALLEY #2528 (Continued) **S113140037**

Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20131206
Creation Date:	2/7/2014 22:15:07
Receipt Date:	20131216
Manifest ID:	000652624PSC
Trans EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
Trans 2 EPA ID:	CAD983649880
Trans 2 Name:	PSC ENVIRONMENTAL SERVICES OF POMONA LP
TSDF EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	214 - Unspecified solvent mixture
RCRA Code:	D035
Meth Code:	H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons:	0.046
Waste Quantity:	92
Quantity Unit:	P
Additional Code 1:	D007
Additional Code 2:	D005
Additional Code 3:	D001
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20130916
Creation Date:	11/16/2013 22:15:06
Receipt Date:	20130930
Manifest ID:	000603664PSC
Trans EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
Trans 2 EPA ID:	CAD983649880
Trans 2 Name:	PSC ENVIRONMENTAL SERVICES OF POMONA LP
TSDF EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	214 - Unspecified solvent mixture
RCRA Code:	D035
Meth Code:	H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons:	0.023
Waste Quantity:	46
Quantity Unit:	P
Additional Code 1:	D007
Additional Code 2:	D005
Additional Code 3:	D001
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20130916
Creation Date:	11/16/2013 22:15:06
Receipt Date:	20130930
Manifest ID:	000603664PSC

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LOWE'S OF APPLE VALLEY #2528 (Continued) **S113140037**

Trans EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
Trans 2 EPA ID:	CAD983649880
Trans 2 Name:	PSC ENVIRONMENTAL SERVICES OF POMONA LP
TSDF EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	331 - Off-specification, aged, or surplus organics
RCRA Code:	D035
Meth Code:	H061 - Fuel Blending Prior To Energy Recovery At Another Site
Quantity Tons:	0.073
Waste Quantity:	146
Quantity Unit:	P
Additional Code 1:	D018
Additional Code 2:	D007
Additional Code 3:	D005
Additional Code 4:	D001
Additional Code 5:	Not reported

Additional Info:

Year:	2010
Gen EPA ID:	CAL000300870
Shipment Date:	20101208
Creation Date:	Not reported
Receipt Date:	Not reported
Manifest ID:	000075971MWI
Trans EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
Trans 2 EPA ID:	CAD983649880
Trans 2 Name:	PSC ENVIRONMENTAL SERVICE OF POMONA LP
TSDF EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	331 - Off-specification, aged, or surplus organics
RCRA Code:	Not reported
Meth Code:	H061 - Fuel Blending Prior To Energy Recovery At Another Site
Quantity Tons:	0.0375
Waste Quantity:	75
Quantity Unit:	P
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20101208
Creation Date:	2/8/2011 18:30:44
Receipt Date:	20101209
Manifest ID:	000075971MWI
Trans EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
Trans 2 EPA ID:	CAD983649880
Trans 2 Name:	PSC ENVIRONMENTAL SERVICE OF POMONA LP
TSDF EPA ID:	CAD008364432

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LOWE'S OF APPLE VALLEY #2528 (Continued) **S113140037**

Trans Name:	RHO CHEM LLC
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	331 - Off-specification, aged, or surplus organics
RCRA Code:	D018
Meth Code:	H061 - Fuel Blending Prior To Energy Recovery At Another Site
Quantity Tons:	0.021
Waste Quantity:	42
Quantity Unit:	P
Additional Code 1:	D007
Additional Code 2:	D005
Additional Code 3:	D001
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20100609
Creation Date:	Not reported
Receipt Date:	Not reported
Manifest ID:	000067431MWI
Trans EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
Trans 2 EPA ID:	CAD980584510
Trans 2 Name:	PHILIP WEST INDUSTRIAL SERVICES
TSDF EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	122 - Alkaline solution without metals (pH > 12.5
RCRA Code:	D002
Meth Code:	H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons:	0.003
Waste Quantity:	6
Quantity Unit:	P
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20100609
Creation Date:	8/30/2010 18:30:37
Receipt Date:	20100611
Manifest ID:	000067431MWI
Trans EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
Trans 2 EPA ID:	CAD980584510
Trans 2 Name:	PHILIP WEST INDUSTRIAL SERVICES
TSDF EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	331 - Off-specification, aged, or surplus organics
RCRA Code:	D018
Meth Code:	H061 - Fuel Blending Prior To Energy Recovery At Another Site
Quantity Tons:	0.0595
Waste Quantity:	119

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LOWE'S OF APPLE VALLEY #2528 (Continued) **S113140037**

Quantity Unit:	P
Additional Code 1:	D007
Additional Code 2:	D005
Additional Code 3:	D001
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20100609
Creation Date:	Not reported
Receipt Date:	Not reported
Manifest ID:	000067431MWI
Trans EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
Trans 2 EPA ID:	CAD980584510
Trans 2 Name:	PHILIP WEST INDUSTRIAL SERVICES
TSDF EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	- Not reported
RCRA Code:	D016
Meth Code:	H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons:	0.014
Waste Quantity:	28
Quantity Unit:	P
Additional Code 1:	D011
Additional Code 2:	D008
Additional Code 3:	D006
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20100609
Creation Date:	Not reported
Receipt Date:	Not reported
Manifest ID:	000067431MWI
Trans EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
Trans 2 EPA ID:	CAD980584510
Trans 2 Name:	PHILIP WEST INDUSTRIAL SERVICES
TSDF EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	791 - Liquids with pH < 2 792 Liquids with pH < 2 with metals
RCRA Code:	D002
Meth Code:	H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons:	0.008
Waste Quantity:	16
Quantity Unit:	P
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported

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LOWE'S OF APPLE VALLEY #2528 (Continued) **S113140037**

Additional Info:

Year:	2007
Gen EPA ID:	CAL000300870
Shipment Date:	20070905
Creation Date:	3/12/2008 18:30:10
Receipt Date:	20070905
Manifest ID:	002976175JJK
Trans EPA ID:	CAD008364432
Trans Name:	RHO CHEM CORPORATION
Trans 2 EPA ID:	Not reported
Trans 2 Name:	Not reported
TSDF EPA ID:	CAD008364432
Trans Name:	RHO CHEM CORPORATION
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	331 - Off-specification, aged, or surplus organics
RCRA Code:	P012
Meth Code:	H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons:	0.1
Waste Quantity:	200
Quantity Unit:	P
Additional Code 1:	D016
Additional Code 2:	D011
Additional Code 3:	D008
Additional Code 4:	D006
Additional Code 5:	Not reported
Shipment Date:	20070905
Creation Date:	3/12/2008 18:30:10
Receipt Date:	20070905
Manifest ID:	002976175JJK
Trans EPA ID:	CAD008364432
Trans Name:	RHO CHEM CORPORATION
Trans 2 EPA ID:	Not reported
Trans 2 Name:	Not reported
TSDF EPA ID:	CAD008364432
Trans Name:	RHO CHEM CORPORATION
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	791 - Liquids with pH < 2 792 Liquids with pH < 2 with metals
RCRA Code:	D002
Meth Code:	H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons:	0.025
Waste Quantity:	50
Quantity Unit:	P
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20070905
Creation Date:	3/12/2008 18:30:10
Receipt Date:	20070905

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LOWE'S OF APPLE VALLEY #2528 (Continued) **S113140037**

Manifest ID:	002976175JJK
Trans EPA ID:	CAD008364432
Trans Name:	RHO CHEM CORPORATION
Trans 2 EPA ID:	Not reported
Trans 2 Name:	Not reported
TSDF EPA ID:	CAD008364432
Trans Name:	RHO CHEM CORPORATION
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	331 - Off-specification, aged, or surplus organics
RCRA Code:	D035
Meth Code:	H061 - Fuel Blending Prior To Energy Recovery At Another Site
Quantity Tons:	0.1
Waste Quantity:	200
Quantity Unit:	P
Additional Code 1:	D018
Additional Code 2:	D007
Additional Code 3:	D005
Additional Code 4:	D001
Additional Code 5:	Not reported
Shipment Date:	20070905
Creation Date:	Not reported
Receipt Date:	Not reported
Manifest ID:	002976175JJK
Trans EPA ID:	CAD008364432
Trans Name:	RHO CHEM CORPORATION
Trans 2 EPA ID:	Not reported
Trans 2 Name:	Not reported
TSDF EPA ID:	CAD008364432
Trans Name:	RHO CHEM CORPORATION
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	122 - Alkaline solution without metals (pH > 12.5
RCRA Code:	D002
Meth Code:	H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons:	0.0375
Waste Quantity:	75
Quantity Unit:	P
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20070905
Creation Date:	Not reported
Receipt Date:	Not reported
Manifest ID:	002976175JJK
Trans EPA ID:	CAD008364432
Trans Name:	RHO CHEM CORPORATION
Trans 2 EPA ID:	Not reported
Trans 2 Name:	Not reported
TSDF EPA ID:	CAD008364432
Trans Name:	RHO CHEM CORPORATION
TSDF Alt EPA ID:	Not reported

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LOWE'S OF APPLE VALLEY #2528 (Continued) **S113140037**

TSDF Alt Name:	Not reported
Waste Code Description:	331 - Off-specification, aged, or surplus organics
RCRA Code:	Not reported
Meth Code:	H061 - Fuel Blending Prior To Energy Recovery At Another Site
Quantity Tons:	0.2
Waste Quantity:	400
Quantity Unit:	P
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20070613
Creation Date:	11/3/2007 18:30:06
Receipt Date:	20070613
Manifest ID:	003017640JJK
Trans EPA ID:	CAD008364432
Trans Name:	RHO CHEM CORPORATION
Trans 2 EPA ID:	Not reported
Trans 2 Name:	Not reported
TSDF EPA ID:	CAD008364432
Trans Name:	RHO CHEM CORPORATION
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	181 - Other inorganic solid waste Organics
RCRA Code:	D002
Meth Code:	H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons:	0.05
Waste Quantity:	100
Quantity Unit:	P
Additional Code 1:	D001
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20070613
Creation Date:	11/3/2007 18:30:06
Receipt Date:	20070613
Manifest ID:	003017640JJK
Trans EPA ID:	CAD008364432
Trans Name:	RHO CHEM CORPORATION
Trans 2 EPA ID:	Not reported
Trans 2 Name:	Not reported
TSDF EPA ID:	CAD008364432
Trans Name:	RHO CHEM CORPORATION
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	331 - Off-specification, aged, or surplus organics
RCRA Code:	Not reported
Meth Code:	H061 - Fuel Blending Prior To Energy Recovery At Another Site
Quantity Tons:	0.2
Waste Quantity:	400
Quantity Unit:	P
Additional Code 1:	Not reported

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LOWE'S OF APPLE VALLEY #2528 (Continued) **S113140037**

Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20070613
Creation Date:	11/3/2007 18:30:06
Receipt Date:	20070613
Manifest ID:	003017640JJK
Trans EPA ID:	CAD008364432
Trans Name:	RHO CHEM CORPORATION
Trans 2 EPA ID:	Not reported
Trans 2 Name:	Not reported
TSDF EPA ID:	CAD008364432
Trans Name:	RHO CHEM CORPORATION
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	331 - Off-specification, aged, or surplus organics
RCRA Code:	D035
Meth Code:	H061 - Fuel Blending Prior To Energy Recovery At Another Site
Quantity Tons:	0.1
Waste Quantity:	200
Quantity Unit:	P
Additional Code 1:	D018
Additional Code 2:	D007
Additional Code 3:	D005
Additional Code 4:	D001
Additional Code 5:	Not reported
Shipment Date:	20070322
Creation Date:	5/13/2008 13:12:34
Receipt Date:	20070328
Manifest ID:	000504608JJK
Trans EPA ID:	CAD008364432
Trans Name:	RHO CHEM CORPORATION
Trans 2 EPA ID:	Not reported
Trans 2 Name:	Not reported
TSDF EPA ID:	CAD008364432
Trans Name:	RHO CHEM CORPORATION
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	331 - Off-specification, aged, or surplus organics
RCRA Code:	Not reported
Meth Code:	H061 - Fuel Blending Prior To Energy Recovery At Another Site
Quantity Tons:	0.2
Waste Quantity:	400
Quantity Unit:	P
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20070322
Creation Date:	5/13/2008 13:12:34
Receipt Date:	20070328
Manifest ID:	000504608JJK

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LOWE'S OF APPLE VALLEY #2528 (Continued) **S113140037**

Trans EPA ID:	CAD008364432
Trans Name:	RHO CHEM CORPORATION
Trans 2 EPA ID:	Not reported
Trans 2 Name:	Not reported
TSDF EPA ID:	CAD008364432
Trans Name:	RHO CHEM CORPORATION
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	331 - Off-specification, aged, or surplus organics
RCRA Code:	U002
Meth Code:	H061 - Fuel Blending Prior To Energy Recovery At Another Site
Quantity Tons:	0.3
Waste Quantity:	600
Quantity Unit:	P
Additional Code 1:	D035
Additional Code 2:	D018
Additional Code 3:	D005
Additional Code 4:	D001
Additional Code 5:	Not reported

Additional Info:

Year:	2014
Gen EPA ID:	CAL000300870
Shipment Date:	20141201
Creation Date:	2/11/2015 22:15:10
Receipt Date:	20141204
Manifest ID:	000901706PSC
Trans EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
Trans 2 EPA ID:	CAD983649880
Trans 2 Name:	PSC ENVIRONMENTAL SERVICES OF POMONA LP
TSDF EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	331 - Off-specification, aged, or surplus organics
RCRA Code:	Not reported
Meth Code:	H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons:	0.158
Waste Quantity:	316
Quantity Unit:	P
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20141201
Creation Date:	Not reported
Receipt Date:	Not reported
Manifest ID:	000901706PSC
Trans EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
Trans 2 EPA ID:	CAD983649880
Trans 2 Name:	PSC ENVIRONMENTAL SERVICES OF POMONA LP

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LOWE'S OF APPLE VALLEY #2528 (Continued) **S113140037**

TSDF EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	352 - Other organic solids
RCRA Code:	Not reported
Meth Code:	H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons:	0.36
Waste Quantity:	720
Quantity Unit:	P
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20141201
Creation Date:	Not reported
Receipt Date:	Not reported
Manifest ID:	000901706PSC
Trans EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
Trans 2 EPA ID:	CAD983649880
Trans 2 Name:	PSC ENVIRONMENTAL SERVICES OF POMONA LP
TSDF EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	331 - Off-specification, aged, or surplus organics
RCRA Code:	D016
Meth Code:	H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons:	0.0235
Waste Quantity:	47
Quantity Unit:	P
Additional Code 1:	D011
Additional Code 2:	D008
Additional Code 3:	D006
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20141201
Creation Date:	2/11/2015 22:15:10
Receipt Date:	20141204
Manifest ID:	000901706PSC
Trans EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
Trans 2 EPA ID:	CAD983649880
Trans 2 Name:	PSC ENVIRONMENTAL SERVICES OF POMONA LP
TSDF EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	331 - Off-specification, aged, or surplus organics
RCRA Code:	D035
Meth Code:	H141 - Storage, Bulking, And/Or Transfer Off Site--No

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LOWE'S OF APPLE VALLEY #2528 (Continued) **S113140037**

	Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons:	0.045
Waste Quantity:	90
Quantity Unit:	P
Additional Code 1:	D007
Additional Code 2:	D005
Additional Code 3:	D001
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20141201
Creation Date:	2/11/2015 22:15:10
Receipt Date:	20141204
Manifest ID:	000901706PSC
Trans EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
Trans 2 EPA ID:	CAD983649880
Trans 2 Name:	PSC ENVIRONMENTAL SERVICES OF POMONA LP
TSDF EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	331 - Off-specification, aged, or surplus organics
RCRA Code:	D035
Meth Code:	H061 - Fuel Blending Prior To Energy Recovery At Another Site
Quantity Tons:	0.081
Waste Quantity:	162
Quantity Unit:	P
Additional Code 1:	D018
Additional Code 2:	D007
Additional Code 3:	D005
Additional Code 4:	D001
Additional Code 5:	Not reported
Shipment Date:	20141201
Creation Date:	Not reported
Receipt Date:	Not reported
Manifest ID:	000901706PSC
Trans EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
Trans 2 EPA ID:	CAD983649880
Trans 2 Name:	PSC ENVIRONMENTAL SERVICES OF POMONA LP
TSDF EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	- Not reported
RCRA Code:	Not reported
Meth Code:	H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons:	0.0235
Waste Quantity:	47
Quantity Unit:	P
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported

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LOWE'S OF APPLE VALLEY #2528 (Continued) **S113140037**

Additional Code 5:	Not reported
Shipment Date:	20141201
Creation Date:	2/11/2015 22:15:10
Receipt Date:	20141204
Manifest ID:	000901706PSC
Trans EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
Trans 2 EPA ID:	CAD983649880
Trans 2 Name:	PSC ENVIRONMENTAL SERVICES OF POMONA LP
TSDF EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	122 - Alkaline solution without metals (pH > 12.5
RCRA Code:	D002
Meth Code:	H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons:	0.07
Waste Quantity:	140
Quantity Unit:	P
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20140825
Creation Date:	Not reported
Receipt Date:	Not reported
Manifest ID:	000837298PSC
Trans EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
Trans 2 EPA ID:	CAD983649880
Trans 2 Name:	PSC ENVIRONMENTAL SERVICES OF POMONA LP
TSDF EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	791 - Liquids with pH < 2 792 Liquids with pH < 2 with metals
RCRA Code:	D002
Meth Code:	H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons:	0.104
Waste Quantity:	208
Quantity Unit:	P
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20140825
Creation Date:	Not reported
Receipt Date:	Not reported
Manifest ID:	000837298PSC
Trans EPA ID:	CAD008364432

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LOWE'S OF APPLE VALLEY #2528 (Continued) **S113140037**

Trans Name:	RHO CHEM LLC
Trans 2 EPA ID:	CAD983649880
Trans 2 Name:	PSC ENVIRONMENTAL SERVICES OF POMONA LP
TSDF EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	122 - Alkaline solution without metals (pH > 12.5
RCRA Code:	D002
Meth Code:	H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons:	0.0225
Waste Quantity:	45
Quantity Unit:	P
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20140825
Creation Date:	Not reported
Receipt Date:	Not reported
Manifest ID:	000837298PSC
Trans EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
Trans 2 EPA ID:	CAD983649880
Trans 2 Name:	PSC ENVIRONMENTAL SERVICES OF POMONA LP
TSDF EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	331 - Off-specification, aged, or surplus organics
RCRA Code:	D016
Meth Code:	H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons:	0.049
Waste Quantity:	98
Quantity Unit:	P
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported

Additional Info:

Year:	2015
Gen EPA ID:	CAL000300870
Shipment Date:	20151207
Creation Date:	3/2/2016 22:15:14
Receipt Date:	20151214
Manifest ID:	001155251PSC
Trans EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
Trans 2 EPA ID:	CAD983649880
Trans 2 Name:	PSC ENVIRONMENTAL SERVICES OF POMONA LP

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LOWE'S OF APPLE VALLEY #2528 (Continued) **S113140037**

TSDF EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	331 - Off-specification, aged, or surplus organics
RCRA Code:	D016
Meth Code:	H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons:	0.012
Waste Quantity:	24
Quantity Unit:	P
Additional Code 1:	D011
Additional Code 2:	D008
Additional Code 3:	D006
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20151207
Creation Date:	3/2/2016 22:15:14
Receipt Date:	20151214
Manifest ID:	001155251PSC
Trans EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
Trans 2 EPA ID:	CAD983649880
Trans 2 Name:	PSC ENVIRONMENTAL SERVICES OF POMONA LP
TSDF EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	331 - Off-specification, aged, or surplus organics
RCRA Code:	D035
Meth Code:	H061 - Fuel Blending Prior To Energy Recovery At Another Site
Quantity Tons:	0.067
Waste Quantity:	134
Quantity Unit:	P
Additional Code 1:	D018
Additional Code 2:	D007
Additional Code 3:	D005
Additional Code 4:	D001
Additional Code 5:	Not reported
Shipment Date:	20151207
Creation Date:	3/2/2016 22:15:14
Receipt Date:	20151214
Manifest ID:	001155251PSC
Trans EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
Trans 2 EPA ID:	CAD983649880
Trans 2 Name:	PSC ENVIRONMENTAL SERVICES OF POMONA LP
TSDF EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	331 - Off-specification, aged, or surplus organics
RCRA Code:	D035
Meth Code:	H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)

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LOWE'S OF APPLE VALLEY #2528 (Continued) **S113140037**

Quantity Tons:	0.01
Waste Quantity:	20
Quantity Unit:	P
Additional Code 1:	D007
Additional Code 2:	D005
Additional Code 3:	D001
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20151207
Creation Date:	Not reported
Receipt Date:	Not reported
Manifest ID:	001155251PSC
Trans EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
Trans 2 EPA ID:	CAD983649880
Trans 2 Name:	PSC ENVIRONMENTAL SERVICES OF POMONA LP
TSDF EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	352 - Other organic solids
RCRA Code:	Not reported
Meth Code:	H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons:	0.1635
Waste Quantity:	327
Quantity Unit:	P
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20151207
Creation Date:	Not reported
Receipt Date:	Not reported
Manifest ID:	001155251PSC
Trans EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
Trans 2 EPA ID:	CAD983649880
Trans 2 Name:	PSC ENVIRONMENTAL SERVICES OF POMONA LP
TSDF EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	181 - Other inorganic solid waste Organics
RCRA Code:	D008
Meth Code:	H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons:	0.0045
Waste Quantity:	9
Quantity Unit:	P
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported

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LOWE'S OF APPLE VALLEY #2528 (Continued) **S113140037**

Additional Code 5:	Not reported
Shipment Date:	20151207
Creation Date:	3/2/2016 22:15:14
Receipt Date:	20151214
Manifest ID:	001155251PSC
Trans EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
Trans 2 EPA ID:	CAD983649880
Trans 2 Name:	PSC ENVIRONMENTAL SERVICES OF POMONA LP
TSDF EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	122 - Alkaline solution without metals (pH > 12.5
RCRA Code:	D002
Meth Code:	H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons:	0.026
Waste Quantity:	52
Quantity Unit:	P
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20151116
Creation Date:	2/5/2016 22:15:30
Receipt Date:	20151120
Manifest ID:	001146623PSC
Trans EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
Trans 2 EPA ID:	CAD983649880
Trans 2 Name:	PSC ENVIRONMENTAL SERVICES OF POMONA LP
TSDF EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	122 - Alkaline solution without metals (pH > 12.5
RCRA Code:	D002
Meth Code:	H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons:	0.005
Waste Quantity:	10
Quantity Unit:	P
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20151116
Creation Date:	Not reported
Receipt Date:	Not reported
Manifest ID:	001146623PSC
Trans EPA ID:	CAD008364432

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LOWE'S OF APPLE VALLEY #2528 (Continued) **S113140037**

Trans Name:	RHO CHEM LLC
Trans 2 EPA ID:	CAD983649880
Trans 2 Name:	PSC ENVIRONMENTAL SERVICES OF POMONA LP
TSDF EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	331 - Off-specification, aged, or surplus organics
RCRA Code:	Not reported
Meth Code:	H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons:	0.0475
Waste Quantity:	95
Quantity Unit:	P
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20151116
Creation Date:	2/5/2016 22:15:30
Receipt Date:	20151120
Manifest ID:	001146623PSC
Trans EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
Trans 2 EPA ID:	CAD983649880
Trans 2 Name:	PSC ENVIRONMENTAL SERVICES OF POMONA LP
TSDF EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	331 - Off-specification, aged, or surplus organics
RCRA Code:	D016
Meth Code:	H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons:	0.0045
Waste Quantity:	9
Quantity Unit:	P
Additional Code 1:	D011
Additional Code 2:	D008
Additional Code 3:	D006
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20151116
Creation Date:	2/5/2016 22:15:30
Receipt Date:	20151120
Manifest ID:	001146623PSC
Trans EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
Trans 2 EPA ID:	CAD983649880
Trans 2 Name:	PSC ENVIRONMENTAL SERVICES OF POMONA LP
TSDF EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported

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LOWE'S OF APPLE VALLEY #2528 (Continued) **S113140037**

Waste Code Description:	331 - Off-specification, aged, or surplus organics
RCRA Code:	D035
Meth Code:	H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons:	0.012
Waste Quantity:	24
Quantity Unit:	P
Additional Code 1:	D007
Additional Code 2:	D005
Additional Code 3:	D001
Additional Code 4:	Not reported
Additional Code 5:	Not reported

Additional Info:

Year:	2012
Gen EPA ID:	CAL000300870
Shipment Date:	20121214
Creation Date:	3/7/2013 22:15:08
Receipt Date:	20121231
Manifest ID:	000424567PSC
Trans EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
Trans 2 EPA ID:	CAD983649880
Trans 2 Name:	PSC ENVIRONMENTAL SERVICES OF POMONA LP
TSDF EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	352 - Other organic solids
RCRA Code:	Not reported
Meth Code:	H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons:	0.3345
Waste Quantity:	669
Quantity Unit:	P
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20121214
Creation Date:	3/7/2013 22:15:08
Receipt Date:	20121231
Manifest ID:	000424567PSC
Trans EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
Trans 2 EPA ID:	CAD983649880
Trans 2 Name:	PSC ENVIRONMENTAL SERVICES OF POMONA LP
TSDF EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	214 - Unspecified solvent mixture
RCRA Code:	D035
Meth Code:	H141 - Storage, Bulking, And/Or Transfer Off Site--No

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LOWE'S OF APPLE VALLEY #2528 (Continued) **S113140037**

	Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons:	0.0635
Waste Quantity:	127
Quantity Unit:	P
Additional Code 1:	D007
Additional Code 2:	D005
Additional Code 3:	D001
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20121214
Creation Date:	3/7/2013 22:15:08
Receipt Date:	20121231
Manifest ID:	000424567PSC
Trans EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
Trans 2 EPA ID:	CAD983649880
Trans 2 Name:	PSC ENVIRONMENTAL SERVICES OF POMONA LP
TSDF EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	331 - Off-specification, aged, or surplus organics
RCRA Code:	Not reported
Meth Code:	H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons:	0.1415
Waste Quantity:	283
Quantity Unit:	P
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20120920
Creation Date:	11/22/2012 22:15:09
Receipt Date:	20120925
Manifest ID:	000374771PSC
Trans EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
Trans 2 EPA ID:	CAD983649880
Trans 2 Name:	PSC ENVIRONMENTAL SERVICES OF POMONA LP
TSDF EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	- Not reported
RCRA Code:	Not reported
Meth Code:	H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons:	0.1235
Waste Quantity:	247
Quantity Unit:	P
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported

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LOWE'S OF APPLE VALLEY #2528 (Continued) **S113140037**

Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20120920
Creation Date:	11/22/2012 22:15:09
Receipt Date:	20120925
Manifest ID:	000374771PSC
Trans EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
Trans 2 EPA ID:	CAD983649880
Trans 2 Name:	PSC ENVIRONMENTAL SERVICES OF POMONA LP
TSDF EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	352 - Other organic solids
RCRA Code:	Not reported
Meth Code:	H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons:	0.532
Waste Quantity:	1064
Quantity Unit:	P
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20120920
Creation Date:	11/22/2012 22:15:09
Receipt Date:	20120925
Manifest ID:	000374771PSC
Trans EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
Trans 2 EPA ID:	CAD983649880
Trans 2 Name:	PSC ENVIRONMENTAL SERVICES OF POMONA LP
TSDF EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	331 - Off-specification, aged, or surplus organics
RCRA Code:	Not reported
Meth Code:	H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons:	0.0935
Waste Quantity:	187
Quantity Unit:	P
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20120615
Creation Date:	11/16/2012 22:15:09
Receipt Date:	20120620
Manifest ID:	000138385MWI

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LOWE'S OF APPLE VALLEY #2528 (Continued) **S113140037**

Trans EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
Trans 2 EPA ID:	CAD983649880
Trans 2 Name:	PSC ENVIRONMENTAL SERVICES OF POMONA LP
TSDF EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	122 - Alkaline solution without metals (pH > 12.5
RCRA Code:	D002
Meth Code:	H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons:	0.0205
Waste Quantity:	41
Quantity Unit:	P
Additional Code 1:	D001
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20120615
Creation Date:	11/16/2012 22:15:09
Receipt Date:	20120620
Manifest ID:	000138385MWI
Trans EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
Trans 2 EPA ID:	CAD983649880
Trans 2 Name:	PSC ENVIRONMENTAL SERVICES OF POMONA LP
TSDF EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	331 - Off-specification, aged, or surplus organics
RCRA Code:	D035
Meth Code:	H061 - Fuel Blending Prior To Energy Recovery At Another Site
Quantity Tons:	0.034
Waste Quantity:	68
Quantity Unit:	P
Additional Code 1:	D018
Additional Code 2:	D007
Additional Code 3:	D005
Additional Code 4:	D001
Additional Code 5:	Not reported
Shipment Date:	20120615
Creation Date:	Not reported
Receipt Date:	Not reported
Manifest ID:	000138385MWI
Trans EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
Trans 2 EPA ID:	CAD983649880
Trans 2 Name:	PSC ENVIRONMENTAL SERVICES OF POMONA LP
TSDF EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported

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LOWE'S OF APPLE VALLEY #2528 (Continued) **S113140037**

Waste Code Description:	- Not reported
RCRA Code:	Not reported
Meth Code:	H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons:	0.02
Waste Quantity:	40
Quantity Unit:	P
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20120615
Creation Date:	11/16/2012 22:15:09
Receipt Date:	20120620
Manifest ID:	000138385MWI
Trans EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
Trans 2 EPA ID:	CAD983649880
Trans 2 Name:	PSC ENVIRONMENTAL SERVICES OF POMONA LP
TSDF EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	- Not reported
RCRA Code:	Not reported
Meth Code:	H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons:	Not reported
Waste Quantity:	Not reported
Quantity Unit:	Not reported
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported

Additional Info:

Year:	2011
Gen EPA ID:	CAL000300870
Shipment Date:	20110812
Creation Date:	7/25/2012 18:30:17
Receipt Date:	20110816
Manifest ID:	000126377MWI
Trans EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
Trans 2 EPA ID:	CAD983649880
Trans 2 Name:	PSC ENVIRONMENTAL SERVICES OF POMONA LP
TSDF EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	331 - Off-specification, aged, or surplus organics
RCRA Code:	D035
Meth Code:	H061 - Fuel Blending Prior To Energy Recovery At Another Site

DRAFT

LOWE'S OF APPLE VALLEY #2528 (Continued) **S113140037**

Quantity Tons:	0.2135
Waste Quantity:	427
Quantity Unit:	P
Additional Code 1:	D018
Additional Code 2:	D007
Additional Code 3:	D005
Additional Code 4:	D001
Additional Code 5:	Not reported
Shipment Date:	20110812
Creation Date:	Not reported
Receipt Date:	Not reported
Manifest ID:	000126377MWI
Trans EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
Trans 2 EPA ID:	CAD983649880
Trans 2 Name:	PSC ENVIRONMENTAL SERVICES OF POMONA LP
TSDF EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	791 - Liquids with pH < 2 792 Liquids with pH < 2 with metals
RCRA Code:	D002
Meth Code:	H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Recovery (H010-H129) Or (H131-H135)
Quantity Tons:	0.006
Waste Quantity:	12
Quantity Unit:	P
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported

Additional Info:

Year:	2006
Gen EPA ID:	CAL000300870
Shipment Date:	20061227
Creation Date:	8/3/2007 18:30:13
Receipt Date:	20061228
Manifest ID:	000505742JJK
Trans EPA ID:	CAD008364432
Trans Name:	RHO-CHEM
Trans 2 EPA ID:	Not reported
Trans 2 Name:	Not reported
TSDF EPA ID:	CAD008364432
Trans Name:	RHO-CHEM CORPORATION
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	331 - Off-specification, aged, or surplus organics
RCRA Code:	U002
Meth Code:	H061 - Fuel Blending Prior To Energy Recovery At Another Site
Quantity Tons:	0.2
Waste Quantity:	400
Quantity Unit:	P
Additional Code 1:	D035

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LOWE'S OF APPLE VALLEY #2528 (Continued) **S113140037**

Additional Code 2:	D018
Additional Code 3:	D005
Additional Code 4:	D001
Additional Code 5:	Not reported
Shipment Date:	20061227
Creation Date:	8/3/2007 18:30:13
Receipt Date:	20061228
Manifest ID:	000505742JJK
Trans EPA ID:	CAD008364432
Trans Name:	RHO-CHEM
Trans 2 EPA ID:	Not reported
Trans 2 Name:	Not reported
TSDF EPA ID:	CAD008364432
Trans Name:	RHO-CHEM CORPORATION
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	181 - Other inorganic solid waste Organics
RCRA Code:	D002
Meth Code:	H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons:	0.04
Waste Quantity:	80
Quantity Unit:	P
Additional Code 1:	D001
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20061227
Creation Date:	8/3/2007 18:30:13
Receipt Date:	20061228
Manifest ID:	000505742JJK
Trans EPA ID:	CAD008364432
Trans Name:	RHO-CHEM
Trans 2 EPA ID:	Not reported
Trans 2 Name:	Not reported
TSDF EPA ID:	CAD008364432
Trans Name:	RHO-CHEM CORPORATION
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	331 - Off-specification, aged, or surplus organics
RCRA Code:	Not reported
Meth Code:	H061 - Fuel Blending Prior To Energy Recovery At Another Site
Quantity Tons:	0.3
Waste Quantity:	600
Quantity Unit:	P
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20061101
Creation Date:	3/30/2007 13:32:14
Receipt Date:	20061102

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LOWE'S OF APPLE VALLEY #2528 (Continued) **S113140037**

Manifest ID:	000498767JJK
Trans EPA ID:	CAD008364432
Trans Name:	RHO-CHEM
Trans 2 EPA ID:	Not reported
Trans 2 Name:	Not reported
TSDF EPA ID:	CAD008364432
Trans Name:	RHO-CHEM CORPORATION
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	331 - Off-specification, aged, or surplus organics
RCRA Code:	U002
Meth Code:	H061 - Fuel Blending Prior To Energy Recovery At Another Site
Quantity Tons:	0.2
Waste Quantity:	400
Quantity Unit:	P
Additional Code 1:	D035
Additional Code 2:	D018
Additional Code 3:	D005
Additional Code 4:	D001
Additional Code 5:	Not reported
Shipment Date:	20061101
Creation Date:	3/30/2007 13:32:14
Receipt Date:	20061102
Manifest ID:	000498767JJK
Trans EPA ID:	CAD008364432
Trans Name:	RHO-CHEM
Trans 2 EPA ID:	Not reported
Trans 2 Name:	Not reported
TSDF EPA ID:	CAD008364432
Trans Name:	RHO-CHEM CORPORATION
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	791 - Liquids with pH < 2 792 Liquids with pH < 2 with metals
RCRA Code:	D002
Meth Code:	H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons:	0.035
Waste Quantity:	70
Quantity Unit:	P
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20061101
Creation Date:	3/30/2007 13:32:14
Receipt Date:	20061102
Manifest ID:	000498767JJK
Trans EPA ID:	CAD008364432
Trans Name:	RHO-CHEM
Trans 2 EPA ID:	Not reported
Trans 2 Name:	Not reported
TSDF EPA ID:	CAD008364432
Trans Name:	RHO-CHEM CORPORATION
TSDF Alt EPA ID:	Not reported

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LOWE'S OF APPLE VALLEY #2528 (Continued) **S113140037**

TSDF Alt Name:	Not reported
Waste Code Description:	331 - Off-specification, aged, or surplus organics
RCRA Code:	Not reported
Meth Code:	H061 - Fuel Blending Prior To Energy Recovery At Another Site
Quantity Tons:	0.2
Waste Quantity:	400
Quantity Unit:	P
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20060810
Creation Date:	11/21/2006 18:30:32
Receipt Date:	20060811
Manifest ID:	24951638
Trans EPA ID:	CAD008364432
Trans Name:	RHO CHEM
Trans 2 EPA ID:	Not reported
Trans 2 Name:	Not reported
TSDF EPA ID:	CAD008364432
Trans Name:	RHO CHEM CORPORATION
TSDF Alt EPA ID:	CAD008364432
TSDF Alt Name:	Not reported
Waste Code Description:	331 - Off-specification, aged, or surplus organics
RCRA Code:	D001
Meth Code:	T01 - Treatment, Tank
Quantity Tons:	0.19
Waste Quantity:	380
Quantity Unit:	P
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20060712
Creation Date:	9/17/2006 18:31:02
Receipt Date:	20060713
Manifest ID:	24954389
Trans EPA ID:	CAD008364432
Trans Name:	RHO CHEM
Trans 2 EPA ID:	Not reported
Trans 2 Name:	Not reported
TSDF EPA ID:	CAD008364432
Trans Name:	RHO CHEM CORPORATION
TSDF Alt EPA ID:	CAD008364432
TSDF Alt Name:	Not reported
Waste Code Description:	791 - Liquids with pH < 2 792 Liquids with pH < 2 with metals
RCRA Code:	D002
Meth Code:	H01 - Transfer Station
Quantity Tons:	0.02
Waste Quantity:	40
Quantity Unit:	P
Additional Code 1:	Not reported
Additional Code 2:	Not reported

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LOWE'S OF APPLE VALLEY #2528 (Continued) **S113140037**

Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20060712
Creation Date:	9/17/2006 18:31:02
Receipt Date:	20060713
Manifest ID:	24954389
Trans EPA ID:	CAD008364432
Trans Name:	RHO CHEM
Trans 2 EPA ID:	Not reported
Trans 2 Name:	Not reported
TSDF EPA ID:	CAD008364432
Trans Name:	RHO CHEM CORPORATION
TSDF Alt EPA ID:	CAD008364432
TSDF Alt Name:	Not reported
Waste Code Description:	331 - Off-specification, aged, or surplus organics
RCRA Code:	D001
Meth Code:	T01 - Treatment, Tank
Quantity Tons:	0.375
Waste Quantity:	750
Quantity Unit:	P
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20060712
Creation Date:	9/17/2006 18:31:02
Receipt Date:	20060713
Manifest ID:	24954389
Trans EPA ID:	CAD008364432
Trans Name:	RHO CHEM
Trans 2 EPA ID:	Not reported
Trans 2 Name:	Not reported
TSDF EPA ID:	CAD008364432
Trans Name:	RHO CHEM CORPORATION
TSDF Alt EPA ID:	CAD008364432
TSDF Alt Name:	Not reported
Waste Code Description:	331 - Off-specification, aged, or surplus organics
RCRA Code:	D006
Meth Code:	H01 - Transfer Station
Quantity Tons:	0.01
Waste Quantity:	20
Quantity Unit:	P
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported

Additional Info:

Year:	2008
Gen EPA ID:	CAL000300870
Shipment Date:	20081024

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LOWE'S OF APPLE VALLEY #2528 (Continued) **S113140037**

Creation Date:	12/16/2008 18:30:20
Receipt Date:	20081029
Manifest ID:	002946077JJK
Trans EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
Trans 2 EPA ID:	CAR000190355
Trans 2 Name:	PHILIP WEST INDUSTRIAL SERVICES
TSDF EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	331 - Off-specification, aged, or surplus organics
RCRA Code:	D035
Meth Code:	H061 - Fuel Blending Prior To Energy Recovery At Another Site
Quantity Tons:	0.2
Waste Quantity:	400
Quantity Unit:	P
Additional Code 1:	D018
Additional Code 2:	D007
Additional Code 3:	D005
Additional Code 4:	D001
Additional Code 5:	Not reported

Shipment Date:	20081024
Creation Date:	12/16/2008 18:30:20
Receipt Date:	20081029
Manifest ID:	002946077JJK
Trans EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
Trans 2 EPA ID:	CAR000190355
Trans 2 Name:	PHILIP WEST INDUSTRIAL SERVICES
TSDF EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	214 - Unspecified solvent mixture
RCRA Code:	D018
Meth Code:	H061 - Fuel Blending Prior To Energy Recovery At Another Site
Quantity Tons:	0.125
Waste Quantity:	250
Quantity Unit:	P
Additional Code 1:	D001
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported

Shipment Date:	20081024
Creation Date:	Not reported
Receipt Date:	Not reported
Manifest ID:	002946077JJK
Trans EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
Trans 2 EPA ID:	CAR000190355
Trans 2 Name:	PHILIP WEST INDUSTRIAL SERVICES
TSDF EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC

DRAFT

LOWE'S OF APPLE VALLEY #2528 (Continued) **S113140037**

TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	331 - Off-specification, aged, or surplus organics
RCRA Code:	Not reported
Meth Code:	H061 - Fuel Blending Prior To Energy Recovery At Another Site
Quantity Tons:	0.1
Waste Quantity:	200
Quantity Unit:	P
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20081024
Creation Date:	12/16/2008 18:30:20
Receipt Date:	20081029
Manifest ID:	002946077JJK
Trans EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
Trans 2 EPA ID:	CAR000190355
Trans 2 Name:	PHILIP WEST INDUSTRIAL SERVICES
TSDF EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	352 - Other organic solids
RCRA Code:	D035
Meth Code:	- Not reported
Quantity Tons:	Not reported
Waste Quantity:	Not reported
Quantity Unit:	Not reported
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20080604
Creation Date:	Not reported
Receipt Date:	Not reported
Manifest ID:	002938208JJK
Trans EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
Trans 2 EPA ID:	Not reported
Trans 2 Name:	Not reported
TSDF EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	331 - Off-specification, aged, or surplus organics
RCRA Code:	Not reported
Meth Code:	H061 - Fuel Blending Prior To Energy Recovery At Another Site
Quantity Tons:	0.15
Waste Quantity:	300
Quantity Unit:	P
Additional Code 1:	Not reported

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LOWE'S OF APPLE VALLEY #2528 (Continued) **S113140037**

Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20080604
Creation Date:	Not reported
Receipt Date:	Not reported
Manifest ID:	002938208JJK
Trans EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
Trans 2 EPA ID:	Not reported
Trans 2 Name:	Not reported
TSDF EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	122 - Alkaline solution without metals (pH > 12.5
RCRA Code:	D002
Meth Code:	H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons:	0.01
Waste Quantity:	20
Quantity Unit:	P
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20080604
Creation Date:	Not reported
Receipt Date:	Not reported
Manifest ID:	002938208JJK
Trans EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
Trans 2 EPA ID:	Not reported
Trans 2 Name:	Not reported
TSDF EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	331 - Off-specification, aged, or surplus organics
RCRA Code:	P012
Meth Code:	H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons:	0.0175
Waste Quantity:	35
Quantity Unit:	P
Additional Code 1:	D016
Additional Code 2:	D011
Additional Code 3:	D008
Additional Code 4:	D006
Additional Code 5:	Not reported
Shipment Date:	20080604
Creation Date:	8/8/2008 18:30:23

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LOWE'S OF APPLE VALLEY #2528 (Continued) **S113140037**

Receipt Date:	20080605
Manifest ID:	002938208JJK
Trans EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
Trans 2 EPA ID:	Not reported
Trans 2 Name:	Not reported
TSDF EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	331 - Off-specification, aged, or surplus organics
RCRA Code:	D035
Meth Code:	H061 - Fuel Blending Prior To Energy Recovery At Another Site
Quantity Tons:	0.125
Waste Quantity:	250
Quantity Unit:	P
Additional Code 1:	D018
Additional Code 2:	D007
Additional Code 3:	D005
Additional Code 4:	D001
Additional Code 5:	Not reported

Shipment Date:	20080604
Creation Date:	8/8/2008 18:30:23
Receipt Date:	20080605
Manifest ID:	002938208JJK
Trans EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
Trans 2 EPA ID:	Not reported
Trans 2 Name:	Not reported
TSDF EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	181 - Other inorganic solid waste Organics
RCRA Code:	D002
Meth Code:	H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons:	0.0175
Waste Quantity:	35
Quantity Unit:	P
Additional Code 1:	D001
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported

Shipment Date:	20080107
Creation Date:	Not reported
Receipt Date:	Not reported
Manifest ID:	002929936JJK
Trans EPA ID:	CAD008364432
Trans Name:	RHO CHEM CORPORATION
Trans 2 EPA ID:	Not reported
Trans 2 Name:	Not reported
TSDF EPA ID:	CAD008364432
Trans Name:	RHO CHEM CORPORATION

DRAFT

LOWE'S OF APPLE VALLEY #2528 (Continued) **S113140037**

TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	791 - Liquids with pH < 2 792 Liquids with pH < 2 with metals
RCRA Code:	D002
Meth Code:	H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons:	0.025
Waste Quantity:	50
Quantity Unit:	P
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported

Additional Info:

Year:	2016
Gen EPA ID:	CAL000300870
Shipment Date:	20151207
Creation Date:	Not reported
Receipt Date:	Not reported
Manifest ID:	001155251PSC
Trans EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
Trans 2 EPA ID:	CAD983649880
Trans 2 Name:	PSC ENVIRONMENTAL SERVICES OF POMONA LP
TSDF EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	181 - Other inorganic solid waste Organics
RCRA Code:	D008
Meth Code:	H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons:	0.0045
Waste Quantity:	9
Quantity Unit:	P
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20151207
Creation Date:	3/2/2016 22:15:14
Receipt Date:	20151214
Manifest ID:	001155251PSC
Trans EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
Trans 2 EPA ID:	CAD983649880
Trans 2 Name:	PSC ENVIRONMENTAL SERVICES OF POMONA LP
TSDF EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	331 - Off-specification, aged, or surplus organics

DRAFT

LOWE'S OF APPLE VALLEY #2528 (Continued) **S113140037**

RCRA Code:	D016
Meth Code:	H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons:	0.012
Waste Quantity:	24
Quantity Unit:	P
Additional Code 1:	D011
Additional Code 2:	D008
Additional Code 3:	D006
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20151207
Creation Date:	3/2/2016 22:15:14
Receipt Date:	20151214
Manifest ID:	001155251PSC
Trans EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
Trans 2 EPA ID:	CAD983649880
Trans 2 Name:	PSC ENVIRONMENTAL SERVICES OF POMONA LP
TSDF EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	122 - Alkaline solution without metals (pH > 12.5
RCRA Code:	D002
Meth Code:	H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons:	0.026
Waste Quantity:	52
Quantity Unit:	P
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20151207
Creation Date:	3/2/2016 22:15:14
Receipt Date:	20151214
Manifest ID:	001155251PSC
Trans EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
Trans 2 EPA ID:	CAD983649880
Trans 2 Name:	PSC ENVIRONMENTAL SERVICES OF POMONA LP
TSDF EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	331 - Off-specification, aged, or surplus organics
RCRA Code:	D035
Meth Code:	H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons:	0.01
Waste Quantity:	20
Quantity Unit:	P
Additional Code 1:	D007

DRAFT

LOWE'S OF APPLE VALLEY #2528 (Continued) **S113140037**

Additional Code 2:	D005
Additional Code 3:	D001
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20151207
Creation Date:	Not reported
Receipt Date:	Not reported
Manifest ID:	001155251PSC
Trans EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
Trans 2 EPA ID:	CAD983649880
Trans 2 Name:	PSC ENVIRONMENTAL SERVICES OF POMONA LP
TSDF EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	352 - Other organic solids
RCRA Code:	Not reported
Meth Code:	H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons:	0.1635
Waste Quantity:	327
Quantity Unit:	P
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20151207
Creation Date:	3/2/2016 22:15:14
Receipt Date:	20151214
Manifest ID:	001155251PSC
Trans EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
Trans 2 EPA ID:	CAD983649880
Trans 2 Name:	PSC ENVIRONMENTAL SERVICES OF POMONA LP
TSDF EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	331 - Off-specification, aged, or surplus organics
RCRA Code:	D035
Meth Code:	H061 - Fuel Blending Prior To Energy Recovery At Another Site
Quantity Tons:	0.067
Waste Quantity:	134
Quantity Unit:	P
Additional Code 1:	D018
Additional Code 2:	D007
Additional Code 3:	D005
Additional Code 4:	D001
Additional Code 5:	Not reported
Shipment Date:	20151116
Creation Date:	2/5/2016 22:15:30
Receipt Date:	20151120

DRAFT

LOWE'S OF APPLE VALLEY #2528 (Continued) **S113140037**

Manifest ID:	001146623PSC
Trans EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
Trans 2 EPA ID:	CAD983649880
Trans 2 Name:	PSC ENVIRONMENTAL SERVICES OF POMONA LP
TSDF EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	331 - Off-specification, aged, or surplus organics
RCRA Code:	D035
Meth Code:	H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons:	0.012
Waste Quantity:	24
Quantity Unit:	P
Additional Code 1:	D007
Additional Code 2:	D005
Additional Code 3:	D001
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20151116
Creation Date:	2/5/2016 22:15:30
Receipt Date:	20151120
Manifest ID:	001146623PSC
Trans EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
Trans 2 EPA ID:	CAD983649880
Trans 2 Name:	PSC ENVIRONMENTAL SERVICES OF POMONA LP
TSDF EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	331 - Off-specification, aged, or surplus organics
RCRA Code:	D035
Meth Code:	H061 - Fuel Blending Prior To Energy Recovery At Another Site
Quantity Tons:	0.004
Waste Quantity:	8
Quantity Unit:	P
Additional Code 1:	D018
Additional Code 2:	D007
Additional Code 3:	D005
Additional Code 4:	D001
Additional Code 5:	Not reported
Shipment Date:	20151116
Creation Date:	2/5/2016 22:15:30
Receipt Date:	20151120
Manifest ID:	001146623PSC
Trans EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
Trans 2 EPA ID:	CAD983649880
Trans 2 Name:	PSC ENVIRONMENTAL SERVICES OF POMONA LP
TSDF EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
TSDF Alt EPA ID:	Not reported

DRAFT

LOWE'S OF APPLE VALLEY #2528 (Continued) **S113140037**

TSDF Alt Name:	Not reported
Waste Code Description:	331 - Off-specification, aged, or surplus organics
RCRA Code:	D016
Meth Code:	H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons:	0.0045
Waste Quantity:	9
Quantity Unit:	P
Additional Code 1:	D011
Additional Code 2:	D008
Additional Code 3:	D006
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20151116
Creation Date:	2/5/2016 22:15:30
Receipt Date:	20151120
Manifest ID:	001146623PSC
Trans EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
Trans 2 EPA ID:	CAD983649880
Trans 2 Name:	PSC ENVIRONMENTAL SERVICES OF POMONA LP
TSDF EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	122 - Alkaline solution without metals (pH > 12.5
RCRA Code:	D002
Meth Code:	H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons:	0.005
Waste Quantity:	10
Quantity Unit:	P
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported

CERS:

Name:	LOWE'S #2528
Address:	12189 APPLE VALLEY RD
City,State,Zip:	APPLE VALLEY, CA 92308
Site ID:	131576
CERS ID:	10052521
CERS Description:	Chemical Storage Facilities

Violations:

Site ID:	131576
Site Name:	LOWE'S #2528
Violation Date:	03-09-2016
Citation:	HSC 6.95 25508.2 - California Health and Safety Code, Chapter 6.95, Section(s) 25508.2
Violation Description:	Failure to annually review and electronically certify that the business plan is complete, accurate, and up-to-date.
Violation Notes:	Returned to compliance on 08/12/2016.
Violation Division:	San Bernardino County Fire Department

DRAFT

LOWE'S OF APPLE VALLEY #2528 (Continued) **S113140037**

Violation Program:	HMRRP
Violation Source:	CERS
Site ID:	131576
Site Name:	LOWE'S #2528
Violation Date:	03-09-2016
Citation:	HSC 6.5 Multiple Sections - California Health and Safety Code, Chapter 6.5, Section(s) Multiple Sections
Violation Description:	Haz Waste Generator Program - Operations/Maintenance - General
Violation Notes:	Returned to compliance on 03/09/2016. Failure to complete hazardous waste labels (CCR 66262.34(f)(3))
Violation Division:	San Bernardino County Fire Department
Violation Program:	HW
Violation Source:	CERS
Site ID:	131576
Site Name:	LOWE'S #2528
Violation Date:	03-09-2016
Citation:	HSC 6.5 Multiple Sections - California Health and Safety Code, Chapter 6.5, Section(s) Multiple Sections
Violation Description:	Haz Waste Generator Program - Operations/Maintenance - General
Violation Notes:	Returned to compliance on 03/09/2016. Failure to label hazardous waste containers (CCR 66262.34(f)(3))
Violation Division:	San Bernardino County Fire Department
Violation Program:	HW
Violation Source:	CERS
Site ID:	131576
Site Name:	LOWE'S #2528
Violation Date:	03-09-2016
Citation:	HSC 6.95 25508(d) - California Health and Safety Code, Chapter 6.95, Section(s) 25508(d)
Violation Description:	Failure to complete and/or electronically submit a business plan when storing/handling a hazardous material at or above reportable quantities.
Violation Notes:	Returned to compliance on 08/12/2016.
Violation Division:	San Bernardino County Fire Department
Violation Program:	HMRRP
Violation Source:	CERS
Site ID:	131576
Site Name:	LOWE'S #2528
Violation Date:	03-09-2016
Citation:	HSC 6.5 Multiple Sections - California Health and Safety Code, Chapter 6.5, Section(s) Multiple Sections
Violation Description:	Haz Waste Generator Program - Operations/Maintenance - General
Violation Notes:	Returned to compliance on 03/09/2016. Failure to note accumulation start date on labels (CCR 66262.34(f)(2))
Violation Division:	San Bernardino County Fire Department
Violation Program:	HW
Violation Source:	CERS

Evaluation:

Eval General Type:	Compliance Evaluation Inspection
Eval Date:	03-09-2016
Violations Found:	Yes
Eval Type:	Routine done by local agency

DRAFT

LOWE'S OF APPLE VALLEY #2528 (Continued) **S113140037**

Eval Notes: INSPECTION OF LOWES IN APPLE VALLEY.
Eval Division: San Bernardino County Fire Department
Eval Program: HMRRP
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection
Eval Date: 04-04-2019
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: Not reported
Eval Division: San Bernardino County Fire Department
Eval Program: APSA
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection
Eval Date: 04-04-2019
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: Not reported
Eval Division: San Bernardino County Fire Department
Eval Program: HW
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection
Eval Date: 03-09-2016
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: INSPECTION OF LOWES IN APPLE VALLEY.
Eval Division: San Bernardino County Fire Department
Eval Program: APSA
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection
Eval Date: 03-09-2016
Violations Found: Yes
Eval Type: Routine done by local agency
Eval Notes: INSPECTION OF LOWES IN APPLE VALLEY.
Eval Division: San Bernardino County Fire Department
Eval Program: HW
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection
Eval Date: 04-04-2019
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: Not reported
Eval Division: San Bernardino County Fire Department
Eval Program: HMRRP
Eval Source: CERS

Enforcement Action:
Site ID: 131576
Site Name: LOWE'S #2528
Site Address: 12189 APPLE VALLEY RD
Site City: APPLE VALLEY
Site Zip: 92308
Enf Action Date: 03-09-2016

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LOWE'S OF APPLE VALLEY #2528 (Continued) **S113140037**

Enf Action Type:	Notice of Violation (Unified Program)
Enf Action Description:	Notice of Violation Issued by the Inspector at the Time of Inspection
Enf Action Notes:	Not reported
Enf Action Division:	San Bernardino County Fire Department
Enf Action Program:	HMRRP
Enf Action Source:	CERS
Site ID:	131576
Site Name:	LOWE'S #2528
Site Address:	12189 APPLE VALLEY RD
Site City:	APPLE VALLEY
Site Zip:	92308
Enf Action Date:	03-09-2016
Enf Action Type:	Notice of Violation (Unified Program)
Enf Action Description:	Notice of Violation Issued by the Inspector at the Time of Inspection
Enf Action Notes:	Not reported
Enf Action Division:	San Bernardino County Fire Department
Enf Action Program:	HW
Enf Action Source:	CERS

Coordinates:

Site ID:	131576
Facility Name:	LOWE'S #2528
Env Int Type Code:	HWG
Program ID:	10052521
Coord Name:	Not reported
Ref Point Type Desc:	Unknown
Latitude:	34.472698
Longitude:	-117.240639

Affiliation:

Affiliation Type Desc:	CUPA District
Entity Name:	San Bernardino County Fire
Entity Title:	Not reported
Affiliation Address:	620 South E Street
Affiliation City:	San Bernardino
Affiliation State:	CA
Affiliation Country:	Not reported
Affiliation Zip:	92415-0153
Affiliation Phone:	(909) 386-8401
Affiliation Type Desc:	Document Preparer
Entity Name:	APTIM
Entity Title:	Not reported
Affiliation Address:	Not reported
Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	Not reported
Affiliation Type Desc:	Facility Mailing Address
Entity Name:	Mailing Address
Entity Title:	Not reported
Affiliation Address:	2603 Main St., Suite 700
Affiliation City:	Irvine

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LOWE'S OF APPLE VALLEY #2528 (Continued) **S113140037**

Affiliation State:	CA
Affiliation Country:	Not reported
Affiliation Zip:	92614
Affiliation Phone:	Not reported
Affiliation Type Desc:	Identification Signer
Entity Name:	Laurie Litwin
Entity Title:	Regional Environmental Compliance Manager
Affiliation Address:	Not reported
Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	Not reported
Affiliation Type Desc:	Legal Owner
Entity Name:	LOWE'S Home Centers, LLC
Entity Title:	Not reported
Affiliation Address:	1000 Lowe's Blvd.
Affiliation City:	Mooresville
Affiliation State:	NC
Affiliation Country:	United States
Affiliation Zip:	28117
Affiliation Phone:	(704) 758-6033
Affiliation Type Desc:	Property Owner
Entity Name:	Lowe's Home Centers, LLC
Entity Title:	Not reported
Affiliation Address:	1000 Lowe's Blvd.
Affiliation City:	Mooresville
Affiliation State:	NC
Affiliation Country:	United States
Affiliation Zip:	28117
Affiliation Phone:	(704) 758-6033
Affiliation Type Desc:	Environmental Contact
Entity Name:	Laurie Litwin
Entity Title:	Not reported
Affiliation Address:	2603 Main St., Suite 700
Affiliation City:	Irvine
Affiliation State:	CA
Affiliation Country:	Not reported
Affiliation Zip:	92614
Affiliation Phone:	Not reported
Affiliation Type Desc:	Operator
Entity Name:	LOWE'S Home Centers, LLC
Entity Title:	Not reported
Affiliation Address:	Not reported
Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	(760) 961-3000
Affiliation Type Desc:	Parent Corporation
Entity Name:	LOWE'S Home Centers, LLC

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LOWE'S OF APPLE VALLEY #2528 (Continued) **S113140037**

Entity Title:	Not reported
Affiliation Address:	Not reported
Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	Not reported

HWTS:

Name:	LOWES #2528
Address:	12189 APPLE VALLEY RD
Address 2:	Not reported
City,State,Zip:	APPLE VALLEY, CA 92308
EPA ID:	CAL000300870
Inactive Date:	01/25/2018
Create Date:	11/29/2005
Last Act Date:	08/27/2019
Mailing Name:	BOBBI TENBORG
Mailing Address:	1000 LOWE'S BLVD
Mailing Address 2:	MAIL CODE A3WLP
Mailing City,State,Zip:	MOORESVILLE, NC 281170000
Owner Name:	LOWES HOME CENTERS, LLC
Owner Address:	1000 LOWE'S BLVD
Owner Address 2:	MAIL CODE A3WLP
Owner City,State,Zip:	MOORESVILLE, NC 281170000
Contact Name:	ROB GASS
Contact Address:	1000 LOWE'S BLVD
Contact Address 2:	MAILCODE: A3WLP
City,State,Zip:	MOORESVILLE, NC 28117

NAICS:

EPA ID:	CAL000300870
Create Date:	2006-11-27 18:30:15.000
NAICS Code:	44419
NAICS Description:	Other Building Material Dealers
Issued EPA ID Date:	2005-11-29 11:24:00.65300
Inactive Date:	2018-01-25 00:00:00
Facility Name:	LOWES #2528
Facility Address:	12189 APPLE VALLEY RD
Facility Address 2:	Not reported
Facility City:	APPLE VALLEY
Facility County:	Not reported
Facility State:	CA
Facility Zip:	92308

B13 **LOWE'S OF APPLE VALLEY #2528** **RCRA-SQG** **1024089937**
NW **12189 APPLE VALLEY ROAD** **CAR000279935**
1/8-1/4 **APPLE VALLEY, CA 92308**
0.192 mi.
1012 ft. **Site 3 of 6 in cluster B**

Relative: RCRA-SQG:
Lower

Date Form Received by Agency:	20201106
Handler Name:	LOWE'S OF APPLE VALLEY #2528
Handler Address:	12189 APPLE VALLEY ROAD
Handler City,State,Zip:	APPLE VALLEY, CA 92308

Actual:
2851 ft.

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LOWE'S OF APPLE VALLEY #2528 (Continued) **1024089937**

EPA ID:	CAR000279935
Contact Name:	BOBBI TENBORG
Contact Address:	LOWES BLVD.
Contact City,State,Zip:	MOORESVILLE, NC 28117
Contact Telephone:	704-758-2955
Contact Fax:	877-658-9885
Contact Email:	BOBBI.L.TENBORG@LOWES.COM
Contact Title:	ENVIRONMENTAL COMPLIANCE SUPERVISOR
EPA Region:	09
Land Type:	Private
Federal Waste Generator Description:	Small Quantity Generator
Non-Notifier:	Not reported
Biennial Report Cycle:	Not reported
Accessibility:	Not reported
Active Site Indicator:	Handler Activities
State District Owner:	Not reported
State District:	Not reported
Mailing Address:	LOWES BLVD.
Mailing City,State,Zip:	MOORESVILLE, NC 28117
Owner Name:	LOWE'S HOME CENTERS, LLC
Owner Type:	Private
Operator Name:	LOWE'S HOME CENTERS, LLC
Operator Type:	Private
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	No
Universal Waste Destination Facility:	No
Federal Universal Waste:	No
Active Site Fed-Reg Treatment Storage and Disposal Facility:	Not reported
Active Site Converter Treatment storage and Disposal Facility:	Not reported
Active Site State-Reg Treatment Storage and Disposal Facility:	Not reported
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	N
Sub-Part K Indicator:	Not reported
Commercial TSD Indicator:	No
Treatment Storage and Disposal Type:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
Permit Renewals Workload Universe:	Not reported
Permit Workload Universe:	Not reported
Permit Progress Universe:	Not reported
Post-Closure Workload Universe:	Not reported
Closure Workload Universe:	Not reported
202 GPRA Corrective Action Baseline:	No
Corrective Action Workload Universe:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
TSDFs Potentially Subject to CA Under 3004 (u)/(v) Universe:	No

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LOWE'S OF APPLE VALLEY #2528 (Continued) **1024089937**

TSDFs Only Subject to CA under Discretionary Auth Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No
Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Operating TSDF Universe:	Not reported
Full Enforcement Universe:	Not reported
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20201113
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	No
Manifest Broker:	No
Sub-Part P Indicator:	No

Hazardous Waste Summary:

Waste Code:	D001
Waste Description:	IGNITABLE WASTE
Waste Code:	D002
Waste Description:	CORROSIVE WASTE
Waste Code:	D004
Waste Description:	ARSENIC
Waste Code:	D005
Waste Description:	BARIUM
Waste Code:	D006
Waste Description:	CADMIUM
Waste Code:	D007
Waste Description:	CHROMIUM
Waste Code:	D008
Waste Description:	LEAD
Waste Code:	D009
Waste Description:	MERCURY
Waste Code:	D011
Waste Description:	SILVER
Waste Code:	D016
Waste Description:	2,4-D (2,4-DICHLOROPHENOXYACETIC ACID)
Waste Code:	D018
Waste Description:	BENZENE

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LOWE'S OF APPLE VALLEY #2528 (Continued) **1024089937**

Waste Code: D027
Waste Description: 1,4-DICHLOROBENZENE

Waste Code: D035
Waste Description: METHYL ETHYL KETONE

Waste Code: D039
Waste Description: TETRACHLOROETHYLENE

Waste Code: U002
Waste Description: 2-PROPANONE (I) (OR) ACETONE (I)

Waste Code: U072
Waste Description: BENZENE, 1,4-DICHLORO- (OR) P-DICHLOROBENZENE

Waste Code: U134
Waste Description: HYDROFLUORIC ACID (C,T) (OR) HYDROGEN FLUORIDE (C,T)

Waste Code: U154
Waste Description: METHANOL (I) (OR) METHYL ALCOHOL (I)

Waste Code: U159
Waste Description: 2-BUTANONE (I,T) (OR) METHYL ETHYL KETONE (MEK) (I,T)

Waste Code: U165
Waste Description: NAPHTHALENE

Waste Code: U210
Waste Description: ETHENE, TETRACHLORO- (OR) TETRACHLOROETHYLENE

Waste Code: U240
Waste Description: 2,4-D, SALTS & ESTERS (OR) ACETIC ACID, (2,4-DICHLOROPHENOXY)-, SALTS & ESTERS (OR) DICHLOROPHENOXYACETIC ACID 2,4-D

Waste Code: U249
Waste Description: ZINC PHOSPHIDE ZN3P2, WHEN PRESENT AT CONCENTRATIONS OF 10% OR LESS

Waste Code: U279
Waste Description: U279

Waste Code: U411
Waste Description: U411

Handler - Owner Operator:
Owner/Operator Indicator: Owner
Owner/Operator Name: LOWE'S HOME CENTERS, LLC
Legal Status: Private
Date Became Current: 20051202
Date Ended Current: Not reported
Owner/Operator Address: 1000 LOWES BLVD.
Owner/Operator City,State,Zip: MOORESVILLE, NC 28117
Owner/Operator Telephone: 704-758-2955
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: 877-658-9885
Owner/Operator Email: BOBBI.L.TENBORG@LOWES.COM

Owner/Operator Indicator: Operator

DRAFT

LOWE'S OF APPLE VALLEY #2528 (Continued) **1024089937**

Owner/Operator Name: LOWE'S HOME CENTERS, LLC
Legal Status: Private
Date Became Current: 20051202
Date Ended Current: Not reported
Owner/Operator Address: 1000 LOWES BLVD.
Owner/Operator City,State,Zip: MOORESVILLE, NC 28117
Owner/Operator Telephone: 704-758-2955
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: 877-658-9885
Owner/Operator Email: BOBBI.L.TENBORG@LOWES.COM

Owner/Operator Indicator: Owner
Owner/Operator Name: LOWE'S HOME CENTERS, LLC
Legal Status: Private
Date Became Current: 20051202
Date Ended Current: Not reported
Owner/Operator Address: 1605 CURTIS BRIDGE RD
Owner/Operator City,State,Zip: WILKESBORO, NC 28697
Owner/Operator Telephone: 704-758-2955
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: 877-658-9885
Owner/Operator Email: BOBBI.L.TENBORG@LOWES.COM

Owner/Operator Indicator: Operator
Owner/Operator Name: LOWE'S HOME CENTERS, LLC
Legal Status: Private
Date Became Current: 20051202
Date Ended Current: Not reported
Owner/Operator Address: 1605 CURTIS BRIDGE RD
Owner/Operator City,State,Zip: WILKESBORO, NC 28697
Owner/Operator Telephone: 704-758-2955
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: 877-658-9885
Owner/Operator Email: BOBBI.L.TENBORG@LOWES.COM

Historic Generators:
Receive Date: 20171226
Handler Name: LOWE'S OF APPLE VALLEY #2528
Federal Waste Generator Description: Small Quantity Generator
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: No
Electronic Manifest Broker: No

Receive Date: 20201106
Handler Name: LOWE'S OF APPLE VALLEY #2528
Federal Waste Generator Description: Small Quantity Generator
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No

DRAFT

LOWE'S OF APPLE VALLEY #2528 (Continued) **1024089937**

Spent Lead Acid Battery Exporter: No
Current Record: Yes
Non Storage Recycler Activity: No
Electronic Manifest Broker: No

List of NAICS Codes and Descriptions:
NAICS Code: 444110
NAICS Description: HOME CENTERS

Facility Has Received Notices of Violations:
Violations: No Violations Found

Evaluation Action Summary:
Evaluations: No Evaluations Found

B14
NW
1/8-1/4
0.192 mi.
1012 ft.

AV RANCHOS WATER - WELL #33
12189 APPLE VALLEY ROAD
APPLE VALLEY, CA 92307

Site 4 of 6 in cluster B

EMI **S108750521**
San Bern. Co. Permit **N/A**

Relative:
Lower

Actual:
2851 ft.

EMI:
Name: AV RANCHOS WATER - WELL #33
Address: 12189 APPLE VALLEY ROAD
City,State,Zip: APPLE VALLEY, CA 92307
Year: 2014
County Code: 36
Air Basin: MD
Facility ID: 70302992
Air District Name: MOJ
SIC Code: 4941
Air District Name: MOJAVE DESERT AQMD
Community Health Air Pollution Info System: Not reported
Consolidated Emission Reporting Rule: Not reported
Total Organic Hydrocarbon Gases Tons/Yr: 0.000945
Reactive Organic Gases Tons/Yr: 0.0008301825
Carbon Monoxide Emissions Tons/Yr: 0.0025704
NOX - Oxides of Nitrogen Tons/Yr: 0.0118188
SOX - Oxides of Sulphur Tons/Yr: 0.00017892
Particulate Matter Tons/Yr: 0.00120456
Part. Matter 10 Micrometers and Smllr Tons/Yr: 0.00117565056

Name: AV RANCHOS WATER - WELL #33
Address: 12189 APPLE VALLEY ROAD
City,State,Zip: APPLE VALLEY, CA 92307
Year: 2015
County Code: 36
Air Basin: MD
Facility ID: 70302992
Air District Name: MOJ
SIC Code: 4941
Air District Name: MOJAVE DESERT AQMD
Community Health Air Pollution Info System: Not reported
Consolidated Emission Reporting Rule: Not reported
Total Organic Hydrocarbon Gases Tons/Yr: 0.000945

DRAFT

AV RANCHOS WATER - WELL #33 (Continued) **S108750521**

Reactive Organic Gases Tons/Yr: 0.0008301825
Carbon Monoxide Emissions Tons/Yr: 0.0025704
NOX - Oxides of Nitrogen Tons/Yr: 0.0118188
SOX - Oxides of Sulphur Tons/Yr: 0.00017892
Particulate Matter Tons/Yr: 0.00120456
Part. Matter 10 Micrometers and Smllr Tons/Yr: 0.001175651

Name: AV RANCHOS WATER - WELL #33
Address: 12189 APPLE VALLEY ROAD
City,State,Zip: APPLE VALLEY, CA 92307
Year: 2016
County Code: 36
Air Basin: MD
Facility ID: 70302992
Air District Name: MOJ
SIC Code: 4941
Air District Name: MOJAVE DESERT AQMD
Community Health Air Pollution Info System: Not reported
Consolidated Emission Reporting Rule: Not reported
Total Organic Hydrocarbon Gases Tons/Yr: 0.000945
Reactive Organic Gases Tons/Yr: 0.0008301825
Carbon Monoxide Emissions Tons/Yr: 0.0025704
NOX - Oxides of Nitrogen Tons/Yr: 0.0118188
SOX - Oxides of Sulphur Tons/Yr: 0.00017892
Particulate Matter Tons/Yr: 0.00120456
Part. Matter 10 Micrometers and Smllr Tons/Yr: 0.001175651

San Bern. Co. Permit:
Name: LOWE'S #2528
Address: 12189 APPLE VALLEY RD
City,State,Zip: APPLE VALLEY, CA 92308
Region: SAN BERNARDINO
Facility ID: FA0011237
Owner: Lowe's Home Centers, LLC
Permit Number: PT0019364
Permit Category: HAZARDOUS MATERIALS 4-10 CHEMICALS
Facility Status: ACTIVE
Expiration Date: 10/31/2021

Name: LOWE'S #2528
Address: 12189 APPLE VALLEY RD
City,State,Zip: APPLE VALLEY, CA 92308
Region: SAN BERNARDINO
Facility ID: FA0011237
Owner: Lowe's Home Centers, LLC
Permit Number: PT0020355
Permit Category: APSA 1,320-10,000 GAL FAC CAPACITY
Facility Status: ACTIVE
Expiration Date: 10/31/2021

Name: LOWE'S #2528
Address: 12189 APPLE VALLEY RD
City,State,Zip: APPLE VALLEY, CA 92308
Region: SAN BERNARDINO
Facility ID: FA0011237
Owner: Lowe's Home Centers, LLC
Permit Number: PT0019365

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AV RANCHOS WATER - WELL #33 (Continued) **S108750521**

Permit Category: SMALL QUANTITY GENERATOR
Facility Status: ACTIVE
Expiration Date: 10/31/2021

B15 **LOWE'S #2528** **AST** **S108724390**
NW **12189 APPLE VALLEY** **N/A**
1/8-1/4 **APPLE VALLEY, CA**
0.192 mi.
1012 ft. **Site 5 of 6 in cluster B**

Relative: AST:
Lower
Actual:
2851 ft.

Name:	LOWE'S #2528
Address:	12189 APPLE VALLEY
City/Zip:	APPLE VALLEY,
Certified Unified Program Agencies:	San Bernardino
Owner:	LOWE'S COMPANIES INC.
Total Gallons:	1,500
CERSID:	Not reported
Facility ID:	Not reported
Business Name:	Not reported
Phone:	Not reported
Fax:	Not reported
Mailing Address:	Not reported
Mailing Address City:	Not reported
Mailing Address State:	Not reported
Mailing Address Zip Code:	Not reported
Operator Name:	Not reported
Operator Phone:	Not reported
Owner Phone:	Not reported
Owner Mail Address:	Not reported
Owner State:	Not reported
Owner Zip Code:	Not reported
Owner Country:	Not reported
Property Owner Name:	Not reported
Property Owner Phone:	Not reported
Property Owner Mailing Address:	Not reported
Property Owner City:	Not reported
Property Owner Stat :	Not reported
Property Owner Zip Code:	Not reported
Property Owner Country:	Not reported
EPAID:	Not reported

B16 **DEL TACO #1007** **San Bern. Co. Permit** **S109849282**
NW **12207 APPLE VALLEY RD** **N/A**
1/8-1/4 **APPLE VALLEY, CA 92307**
0.218 mi.
1149 ft. **Site 6 of 6 in cluster B**

Relative: San Bern. Co. Permit:
Lower
Actual:
2854 ft.

Name:	DEL TACO #1007
Address:	12207 APPLE VALLEY RD
City,State,Zip:	APPLE VALLEY, CA 92307
Region:	SAN BERNARDINO
Facility ID:	FA0012559
Owner:	DEL TACO INC
Permit Number:	PT0021960

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DEL TACO #1007 (Continued) **S109849282**

Permit Category: BULK CO2 AT RETAIL FOOD FACILITIES
Facility Status: INACTIVE
Expiration Date: 05/31/2010

C17 **TARGET STORE T0939** **RCRA-LQG** **1001459723**
WSW **19201 BEAR VALLEY RD** **CAR000048983**
1/8-1/4 **APPLE VALLEY, CA 92308**
0.239 mi.
1260 ft. **Site 1 of 9 in cluster C**

Relative: **Lower**
Actual: **2831 ft.**

RCRA-LQG:

Date Form Received by Agency:	20200226
Handler Name:	TARGET STORE T0939
Handler Address:	19201 BEAR VALLEY RD
Handler City,State,Zip:	APPLE VALLEY, CA 92308-6763
EPA ID:	CAR000048983
Contact Name:	STEVE MUSSER
Contact Address:	P.O. BOX 111
Contact City,State,Zip:	MINNEAPOLIS, MN 55440
Contact Telephone:	800-587-2228
Contact Fax:	Not reported
Contact Email:	POC@TARGET.COM
Contact Title:	SR COMPLIANCE DIRECTOR
EPA Region:	09
Land Type:	Private
Federal Waste Generator Description:	Large Quantity Generator
Non-Notifier:	Not reported
Biennial Report Cycle:	2019
Accessibility:	Not reported
Active Site Indicator:	Handler Activities
State District Owner:	Not reported
State District:	Not reported
Mailing Address:	P.O. BOX 111
Mailing City,State,Zip:	MINNEAPOLIS, MN 55440
Owner Name:	TARGET CORPORATION
Owner Type:	Private
Operator Name:	TARGET CORPORATION
Operator Type:	Private
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	No
Universal Waste Destination Facility:	No
Federal Universal Waste:	No
Active Site Fed-Reg Treatment Storage and Disposal Facility:	Not reported
Active Site Converter Treatment storage and Disposal Facility:	Not reported
Active Site State-Reg Treatment Storage and Disposal Facility:	Not reported
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	N
Sub-Part K Indicator:	Not reported

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TARGET STORE T0939 (Continued) **1001459723**

Commercial TSD Indicator:	No
Treatment Storage and Disposal Type:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
Permit Renewals Workload Universe:	Not reported
Permit Workload Universe:	Not reported
Permit Progress Universe:	Not reported
Post-Closure Workload Universe:	Not reported
Closure Workload Universe:	Not reported
202 GPRA Corrective Action Baseline:	No
Corrective Action Workload Universe:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
TSDFs Potentially Subject to CA Under 3004 (u)/(v) Universe:	No
TSDFs Only Subject to CA under Discretionary Auth Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No
Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Operating TSDF Universe:	Not reported
Full Enforcement Universe:	Not reported
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20201013
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	No
Manifest Broker:	No
Sub-Part P Indicator:	No

Biennial: List of Years
Year: 2019

Click Here for Biennial Reporting System Data:
Year: 2013

Click Here for Biennial Reporting System Data:

Hazardous Waste Summary:
Waste Code: D000
Waste Description: Not Defined

Waste Code: D001
Waste Description: IGNITABLE WASTE

Waste Code: D002
Waste Description: CORROSIVE WASTE

Waste Code: D003
Waste Description: REACTIVE WASTE

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TARGET STORE T0939 (Continued) **1001459723**

Waste Code: D004
Waste Description: ARSENIC

Waste Code: D005
Waste Description: BARIUM

Waste Code: D006
Waste Description: CADMIUM

Waste Code: D007
Waste Description: CHROMIUM

Waste Code: D008
Waste Description: LEAD

Waste Code: D009
Waste Description: MERCURY

Waste Code: D010
Waste Description: SELENIUM

Waste Code: D011
Waste Description: SILVER

Waste Code: D016
Waste Description: 2,4-D (2,4-DICHLOROPHENOXYACETIC ACID)

Waste Code: D018
Waste Description: BENZENE

Waste Code: D024
Waste Description: M-CRESOL

Waste Code: D026
Waste Description: CRESOL

Waste Code: D027
Waste Description: 1,4-DICHLOROBENZENE

Waste Code: D028
Waste Description: 1,2-DICHLOROETHANE

Waste Code: D035
Waste Description: METHYL ETHYL KETONE

Waste Code: D039
Waste Description: TETRACHLOROETHYLENE

Waste Code: P001
Waste Description: 2H-1-BENZOPYRAN-2-ONE, 4-HYDROXY-3-(3-OXO-1-PHENYLBUTYL)-, & SALTS, WHEN PRESENT AT CONCENTRATIONS GREATER THAN 0.3% (OR) WARFARIN, & SALTS, WHEN PRESENT AT CONCENTRATIONS GREATER THAN 0.3%

Waste Code: P042
Waste Description: 1,2-BENZENEDIOL, 4-[1-HYDROXY-2-(METHYLAMINO)ETHYL]-, (R)- (OR) EPINEPHRINE

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TARGET STORE T0939 (Continued) **1001459723**

Waste Code: P046
Waste Description: ALPHA,ALPHA-DIMETHYLPHENETHYLAMINE (OR) BENZENEETHANAMINE, ALPHA, ALPHA-DIMETHYL-

Waste Code: P075
Waste Description: NICOTINE, & SALTS (OR) PYRIDINE, 3-(1-METHYL-2-PYRROLIDINYL)-,(S)-, & SALTS

Waste Code: P081
Waste Description: 1,2,3-PROPANETRIOL, TRINITRATE (R) (OR) NITROGLYCERINE (R)

Waste Code: U002
Waste Description: 2-PROPANONE (I) (OR) ACETONE (I)

Waste Code: U034
Waste Description: ACETALDEHYDE, TRICHLORO- (OR) CHLORAL

Waste Code: U035
Waste Description: BENZENEBUTANOIC ACID, 4-[BIS(2-CHLOROETHYL)AMINO]- (OR) CHLORAMBUCIL

Waste Code: U044
Waste Description: CHLOROFORM (OR) METHANE, TRICHLORO-

Waste Code: U058
Waste Description: 2H-1,3,2-OXAZAPHOSPHORIN-2-AMINE, N,N-BIS(2-CHLOROETHYL)TETRAHYDRO-, 2-OXIDE (OR) CYCLOPHOSPHAMIDE

Waste Code: U072
Waste Description: BENZENE, 1,4-DICHLORO- (OR) P-DICHLOROBENZENE

Waste Code: U122
Waste Description: FORMALDEHYDE

Waste Code: U129
Waste Description: CYCLOHEXANE, 1,2,3,4,5,6-HEXACHLORO-, (1ALPHA, 2ALPHA, 3BETA, 4ALPHA, 5ALPHA, 6BETA)- (OR) LINDANE

Waste Code: U134
Waste Description: HYDROFLUORIC ACID (C,T) (OR) HYDROGEN FLUORIDE (C,T)

Waste Code: U150
Waste Description: L-PHENYLALANINE, 4-[BIS(2-CHLOROETHYL)AMINO]- (OR) MELPHALAN

Waste Code: U154
Waste Description: METHANOL (I) (OR) METHYL ALCOHOL (I)

Waste Code: U188
Waste Description: PHENOL

Waste Code: U200
Waste Description: RESERPINE (OR) YOHIMBAN-16-CARBOXYLIC ACID, 11,17-DIMETHOXY-18-[(3,4,5-TRIMETHOXYBENZOYL)OXY]-, METHYL ESTER, (3BETA, 16BETA, 17ALPHA, 18BETA, 20ALPHA)-

Waste Code: U201
Waste Description: 1,3-BENZENEDIOL (OR) RESORCINOL

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TARGET STORE T0939 (Continued) **1001459723**

Waste Code: U279
Waste Description: U279

Handler - Owner Operator:
Owner/Operator Indicator: Owner
Owner/Operator Name: TARGET CORPORATION
Legal Status: Private
Date Became Current: 19941009
Date Ended Current: Not reported
Owner/Operator Address: P.O. BOX 111
Owner/Operator City,State,Zip: MINNEAPOLIS, MN 55440
Owner/Operator Telephone: 800-587-2228
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner
Owner/Operator Name: QUALEX INC
Legal Status: Private
Date Became Current: Not reported
Date Ended Current: Not reported
Owner/Operator Address: 4020 STIRRUP CREEK D NO 211
Owner/Operator City,State,Zip: DURHAM, NC 27703
Owner/Operator Telephone: 919-484-3631
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Operator
Owner/Operator Name: TARGET CORPORATION
Legal Status: Private
Date Became Current: 19941009
Date Ended Current: Not reported
Owner/Operator Address: P.O. BOX 111
Owner/Operator City,State,Zip: MINNEAPOLIS, MN 55440
Owner/Operator Telephone: 800-587-2228
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner
Owner/Operator Name: TARGET CORPORATION
Legal Status: Private
Date Became Current: 19941005
Date Ended Current: Not reported
Owner/Operator Address: P.O. BOX 111
Owner/Operator City,State,Zip: MINNEAPOLIS, MN 55440
Owner/Operator Telephone: 800-587-2228
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Operator
Owner/Operator Name: TARGET CORPORATION
Legal Status: Private
Date Became Current: 19941005
Date Ended Current: Not reported

DRAFT

TARGET STORE T0939 (Continued) **1001459723**

Owner/Operator Address: P.O. BOX 111
Owner/Operator City,State,Zip: MINNEAPOLIS, MN 55440
Owner/Operator Telephone: 800-587-2228
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Operator
Owner/Operator Name: TARGET CORP
Legal Status: Private
Date Became Current: 19941005
Date Ended Current: Not reported
Owner/Operator Address: Not reported
Owner/Operator City,State,Zip: Not reported
Owner/Operator Telephone: Not reported
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Owner
Owner/Operator Name: TARGET CORP
Legal Status: Private
Date Became Current: 19941005
Date Ended Current: Not reported
Owner/Operator Address: PO BOX 111
Owner/Operator City,State,Zip: MINNEAPOLIS, MN 55440-0111
Owner/Operator Telephone: 800-587-2228
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Historic Generators:
Receive Date: 20140301
Handler Name: TARGET STORE T0939
Federal Waste Generator Description: Small Quantity Generator
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 20200226
Handler Name: TARGET STORE T0939
Federal Waste Generator Description: Large Quantity Generator
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: Yes
Non Storage Recycler Activity: No
Electronic Manifest Broker: No

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TARGET STORE T0939 (Continued) **1001459723**

Receive Date: 19990217
Handler Name: QUALEX TARGET NO 939
Federal Waste Generator Description: Small Quantity Generator
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

Receive Date: 20110411
Handler Name: TARGET STORE 0939
Federal Waste Generator Description: Small Quantity Generator
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No
Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: No
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

List of NAICS Codes and Descriptions:
NAICS Code: 452112
NAICS Description: DISCOUNT DEPARTMENT STORES

NAICS Code: 452210
NAICS Description: DEPARTMENT STORES

Facility Has Received Notices of Violations:
Violations: No Violations Found

Evaluation Action Summary:
Evaluations: No Evaluations Found

C18 **TARGET STORE T0939** **RCRA-LQG** **1014386833**
WSW **19201 BEAR VALLEY RD** **ICIS** **CAL000292614**
1/8-1/4 **APPLE VALLEY, CA 92308** **FINDS**
0.239 mi. **ECHO**
1260 ft. **Site 2 of 9 in cluster C**

Relative: **Lower**
Actual: **2831 ft.**

RCRA-LQG:
Date Form Received by Agency: 20100624
Handler Name: TARGET #0939
Handler Address: 19201 BEAR VALLEY RD
Handler City,State,Zip: APPLE VALLEY, CA 92308
EPA ID: CAL000292614
Contact Name: JANNA ADAIR-POTTS
Contact Address: P.O. BOX 111
Contact City,State,Zip: MINNEAPOLIS, MN 55440
Contact Telephone: 800-587-2228

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TARGET STORE T0939 (Continued) **1014386833**

Contact Fax:	Not reported
Contact Email:	CORPORATE.COMPLIANCE@TARGET.COM
Contact Title:	SR. VP STORE OPS
EPA Region:	09
Land Type:	Private
Federal Waste Generator Description:	Large Quantity Generator
Non-Notifier:	Not reported
Biennial Report Cycle:	2009
Accessibility:	Not reported
Active Site Indicator:	Handler Activities
State District Owner:	Not reported
State District:	Not reported
Mailing Address:	P.O. BOX 111
Mailing City,State,Zip:	MINNEAPOLIS, MN 55440
Owner Name:	TARGET CORPORATION
Owner Type:	Private
Operator Name:	TARGET CORPORATION
Operator Type:	Private
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	No
Universal Waste Destination Facility:	No
Federal Universal Waste:	No
Active Site Fed-Reg Treatment Storage and Disposal Facility:	Not reported
Active Site Converter Treatment storage and Disposal Facility:	Not reported
Active Site State-Reg Treatment Storage and Disposal Facility:	Not reported
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	NN
Sub-Part K Indicator:	Not reported
Commercial TSD Indicator:	No
Treatment Storage and Disposal Type:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
Permit Renewals Workload Universe:	Not reported
Permit Workload Universe:	Not reported
Permit Progress Universe:	Not reported
Post-Closure Workload Universe:	Not reported
Closure Workload Universe:	Not reported
202 GPRA Corrective Action Baseline:	No
Corrective Action Workload Universe:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
TSDFs Potentially Subject to CA Under 3004 (u)/(v) Universe:	No
TSDFs Only Subject to CA under Discretionary Auth Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No
Human Exposure Controls Indicator:	N/A

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TARGET STORE T0939 (Continued) **1014386833**

Groundwater Controls Indicator:	N/A
Operating TSDF Universe:	Not reported
Full Enforcement Universe:	Not reported
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20101006
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	Not reported
Manifest Broker:	Not reported
Sub-Part P Indicator:	No

Biennial: List of Years
Year: 2009

Click Here for Biennial Reporting System Data:

Hazardous Waste Summary:

Waste Code:	D001
Waste Description:	IGNITABLE WASTE
Waste Code:	D002
Waste Description:	CORROSIVE WASTE
Waste Code:	D008
Waste Description:	LEAD
Waste Code:	D009
Waste Description:	MERCURY
Waste Code:	D010
Waste Description:	SELENIUM
Waste Code:	P001
Waste Description:	2H-1-BENZOPYRAN-2-ONE, 4-HYDROXY-3-(3-OXO-1-PHENYLBUTYL)-, & SALTS, WHEN PRESENT AT CONCENTRATIONS GREATER THAN 0.3% (OR) WARFARIN, & SALTS, WHEN PRESENT AT CONCENTRATIONS GREATER THAN 0.3%
Waste Code:	P046
Waste Description:	ALPHA,ALPHA-DIMETHYLPHENETHYLAMINE (OR) BENZENEETHANAMINE, ALPHA, ALPHA-DIMETHYL-
Waste Code:	P075
Waste Description:	NICOTINE, & SALTS (OR) PYRIDINE, 3-(1-METHYL-2-PYRROLIDINYL)-,(S)-, & SALTS
Waste Code:	U240
Waste Description:	2,4-D, SALTS & ESTERS (OR) ACETIC ACID, (2,4-DICHLOROPHENOXY)-, SALTS & ESTERS (OR) DICHLOROPHENOXYACETIC ACID 2,4-D

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TARGET STORE T0939 (Continued) **1014386833**

Handler - Owner Operator:

Owner/Operator Indicator:	Owner
Owner/Operator Name:	TARGET CORPORATION
Legal Status:	Private
Date Became Current:	19941005
Date Ended Current:	Not reported
Owner/Operator Address:	1000 NICOLLET MALL
Owner/Operator City,State,Zip:	MINNEAPOLIS, MN 55403
Owner/Operator Telephone:	800-587-2228
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Owner/Operator Indicator:	Operator
Owner/Operator Name:	TARGET CORPORATION
Legal Status:	Private
Date Became Current:	19941005
Date Ended Current:	Not reported
Owner/Operator Address:	Not reported
Owner/Operator City,State,Zip:	Not reported
Owner/Operator Telephone:	Not reported
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Historic Generators:

Receive Date:	20100624
Handler Name: TARGET #0939	
Federal Waste Generator Description:	Large Quantity Generator
State District Owner:	Not reported
Large Quantity Handler of Universal Waste:	No
Recognized Trader Importer:	No
Recognized Trader Exporter:	No
Spent Lead Acid Battery Importer:	No
Spent Lead Acid Battery Exporter:	No
Current Record:	Yes
Non Storage Recycler Activity:	Not reported
Electronic Manifest Broker:	Not reported

List of NAICS Codes and Descriptions:

NAICS Code:	452112
NAICS Description:	DISCOUNT DEPARTMENT STORES

Facility Has Received Notices of Violations:

Violations:	No Violations Found

Evaluation Action Summary:

Evaluations:	No Evaluations Found

ICIS:

Enforcement Action ID:	HQ-200014791
FRS ID:	110002926380
Action Name:	Target Corporation

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TARGET STORE T0939 (Continued) **1014386833**

Facility Name:	TARGET (T-0939)
Facility Address:	19201 BEAR VALLEY ROAD APPLE VALLEY, CA 92308
Enforcement Action Type:	Letter of Violation/ Warning Letter
Facility County:	SAN BERNARDINO
Program System Acronym:	ICIS
Enforcement Action Forum Desc:	Administrative - Informal
EA Type Code:	LOVWL
Facility SIC Code:	Not reported
Federal Facility ID:	Not reported
Latitude in Decimal Degrees:	34.47107
Longitude in Decimal Degrees:	-117.244251
Permit Type Desc:	Not reported
Program System Acronym:	1400019727
Facility NAICS Code:	Not reported
Tribal Land Code:	Not reported

FINDS:
Registry ID: 110002926380

Click Here:

Environmental Interest/Information System:
RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.
STATE MASTER
HAZARDOUS WASTE BIENNIAL REPORTER
ICIS (Integrated Compliance Information System) is the Integrated Compliance Information System and provides a database that, when complete, will contain integrated Enforcement and Compliance information across most of EPA's programs. The vision for ICIS is to replace EPA's independent databases that contain Enforcement data with a single repository for that information. Currently, ICIS contains all Federal Administrative and Judicial enforcement actions. This information is maintained in ICIS by EPA in the Regional offices and it Headquarters. A future release of ICIS will replace the Permit Compliance System (PCS) which supports the NPDES and will integrate that information with Federal actions already in the system. ICIS also has the capability to track other activities occurring in the Region that support Compliance and Enforcement programs. These include; Incident Tracking, Compliance Assistance, and Compliance Monitoring.

Click this hyperlink while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

ECHO:

Envid:	1014386833
Registry ID:	110002926380
DFR URL:	http://echo.epa.gov/detailed-facility-report?fid=110002926380
Name:	TARGET STORE T0939
Address:	19201 BEAR VALLEY RD
City,State,Zip:	APPLE VALLEY, CA 92308

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C19 **APPLEBEE'S NEIGHBORHOOD GRILL** **San Bern. Co. Permit** **S108756168**
WSW **19201 BEAR VALLEY RD** **N/A**
1/8-1/4 **APPLE VALLEY, CA 92308**
0.239 mi.
1260 ft. **Site 3 of 9 in cluster C**

Relative: **Lower**
Actual: **2831 ft.**

San Bern. Co. Permit:

Name:	APPLEBEE'S NEIGHBORHOOD GRILL
Address:	19201 BEAR VALLEY RD
City,State,Zip:	APPLE VALLEY, CA 92308
Region:	SAN BERNARDINO
Facility ID:	FA0012339
Owner:	APPLE SO CAL, LLC
Permit Number:	PT0021636
Permit Category:	BULK CO2 AT RETAIL FOOD FACILITIES
Facility Status:	INACTIVE
Expiration Date:	05/31/2010

C20 **KAISER PERMANENTE TARGET CLINIC APPLE VALLEY** **RCRA-SQG** **1025502100**
WSW **19201 BEAR VALLEY RD.** **CAR000295113**
1/8-1/4 **APPLE VALLEY, CA 92308**
0.239 mi.
1260 ft. **Site 4 of 9 in cluster C**

Relative: **Lower**
Actual: **2831 ft.**

RCRA-SQG:

Date Form Received by Agency:	20190506
Handler Name:	KAISER PERMANENTE TARGET CLINIC APPLE VALLEY
Handler Address:	19201 BEAR VALLEY RD.
Handler City,State,Zip:	APPLE VALLEY, CA 92308
EPA ID:	CAR000295113
Contact Name:	MARTHA LATTA
Contact Address:	E. WALNUT ST.
Contact City,State,Zip:	PASADENA, CA 91188
Contact Telephone:	760-567-8264
Contact Fax:	Not reported
Contact Email:	Not reported
Contact Title:	Not reported
EPA Region:	09
Land Type:	Private
Federal Waste Generator Description:	Small Quantity Generator
Non-Notifier:	Not reported
Biennial Report Cycle:	Not reported
Accessibility:	Not reported
Active Site Indicator:	Handler Activities
State District Owner:	Not reported
State District:	Not reported
Mailing Address:	E. WALNUT ST.
Mailing City,State,Zip:	PASADENA, CA 91188
Owner Name:	KAISER FOUNDATION HEALTH PLAN
Owner Type:	Private
Operator Name:	SOUTHERN CALIFORNIA PERMANENTE MEDICAL GROUP
Operator Type:	Private
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No

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KAISER PERMANENTE TARGET CLINIC APPLE VALLEY (Continued) **1025502100**

Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	No
Universal Waste Destination Facility:	No
Federal Universal Waste:	No
Active Site Fed-Reg Treatment Storage and Disposal Facility:	Not reported
Active Site Converter Treatment storage and Disposal Facility:	Not reported
Active Site State-Reg Treatment Storage and Disposal Facility:	Not reported
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	NN
Sub-Part K Indicator:	Not reported
Commercial TSD Indicator:	No
Treatment Storage and Disposal Type:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
Permit Renewals Workload Universe:	Not reported
Permit Workload Universe:	Not reported
Permit Progress Universe:	Not reported
Post-Closure Workload Universe:	Not reported
Closure Workload Universe:	Not reported
202 GPRA Corrective Action Baseline:	No
Corrective Action Workload Universe:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
TSDFs Potentially Subject to CA Under 3004 (u)/(v) Universe:	No
TSDFs Only Subject to CA under Discretionary Auth Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No
Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Operating TSDF Universe:	Not reported
Full Enforcement Universe:	Not reported
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20190507
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	No
Manifest Broker:	No
Sub-Part P Indicator:	No

Hazardous Waste Summary:

Waste Code:	D001
Waste Description:	IGNITABLE WASTE
Waste Code:	D002
Waste Description:	CORROSIVE WASTE
Waste Code:	D009

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KAISER PERMANENTE TARGET CLINIC APPLE VALLEY (Continued) **1025502100**

Waste Description: MERCURY

Waste Code: D011
Waste Description: SILVER

Handler - Owner Operator:

Owner/Operator Indicator:	Operator
Owner/Operator Name:	SOUTHERN CALIFORNIA PERMANENTE MEDICAL GROUP
Legal Status:	Private
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	393 E. WALNUT ST.
Owner/Operator City,State,Zip:	PASADENA, CA 91188
Owner/Operator Telephone:	Not reported
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Owner/Operator Indicator:	Owner
Owner/Operator Name:	KAISER FOUNDATION HEALTH PLAN
Legal Status:	Private
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	ONE KAISER PLAZA
Owner/Operator City,State,Zip:	OAKLAND, CA 94612
Owner/Operator Telephone:	Not reported
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Historic Generators:

Receive Date:	20190506
Handler Name:	KAISER PERMANENTE TARGET CLINIC APPLE VALLEY
Federal Waste Generator Description:	Small Quantity Generator
State District Owner:	Not reported
Large Quantity Handler of Universal Waste:	No
Recognized Trader Importer:	No
Recognized Trader Exporter:	No
Spent Lead Acid Battery Importer:	No
Spent Lead Acid Battery Exporter:	No
Current Record:	Yes
Non Storage Recycler Activity:	No
Electronic Manifest Broker:	No

List of NAICS Codes and Descriptions:
NAICS Code: 621111
NAICS Description: OFFICES OF PHYSICIANS (EXCEPT MENTAL HEALTH SPECIALISTS)

Facility Has Received Notices of Violations:
Violations: No Violations Found

Evaluation Action Summary:
Evaluations: No Evaluations Found

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C21 **CVS PHARMACY #16358** **RCRA-VSQG** **1018273677**
WSW **19201 BEAR VALLEY RD STE B** **FINDS** **CAR000258509**
1/8-1/4 **APPLE VALLEY, CA 92308** **ECHO**
0.239 mi.
1260 ft. **Site 5 of 9 in cluster C**

Relative: **Lower**
Actual: **2831 ft.**

RCRA-VSQG:

Date Form Received by Agency:		20160216
Handler Name:	CVS PHARMACY #16358	
Handler Address:		19201 BEAR VALLEY RD STE B
Handler City,State,Zip:		APPLE VALLEY, CA 92308
EPA ID:		CAR000258509
Contact Name:		NICOLE WILKINSON
Contact Address:		ONE CVS DR MAIL CODE 2340
Contact City,State,Zip:		WOONSOCKET, RI 02895
Contact Telephone:		401-770-7132
Contact Fax:		Not reported
Contact Email:		NICOLE.WILKINSON@CVSHEALTH.COM
Contact Title:		SR CORPORATE ENV MANAGER
EPA Region:		09
Land Type:		Private
Federal Waste Generator Description:		Conditionally Exempt Small Quantity Generator
Non-Notifier:		Not reported
Biennial Report Cycle:		Not reported
Accessibility:		Not reported
Active Site Indicator:		Handler Activities
State District Owner:		Not reported
State District:		Not reported
Mailing Address:		ONE CVS DR
Mailing City,State,Zip:		WOONSOCKET, RI 02895
Owner Name:		TARGET CORP
Owner Type:		Private
Operator Name:		GARFIELD BEACH CVS LLC
Operator Type:		Private
Short-Term Generator Activity:		No
Importer Activity:		No
Mixed Waste Generator:		No
Transporter Activity:		No
Transfer Facility Activity:		No
Recycler Activity with Storage:		No
Small Quantity On-Site Burner Exemption:		No
Smelting Melting and Refining Furnace Exemption:		No
Underground Injection Control:		No
Off-Site Waste Receipt:		No
Universal Waste Indicator:		No
Universal Waste Destination Facility:		No
Federal Universal Waste:		No
Active Site Fed-Reg Treatment Storage and Disposal Facility:		Not reported
Active Site Converter Treatment storage and Disposal Facility:		Not reported
Active Site State-Reg Treatment Storage and Disposal Facility:		Not reported
Active Site State-Reg Handler:		---
Federal Facility Indicator:		Not reported
Hazardous Secondary Material Indicator:		NN
Sub-Part K Indicator:		Not reported
Commercial TSD Indicator:		No
Treatment Storage and Disposal Type:		Not reported
2018 GPRA Permit Baseline:		Not on the Baseline
2018 GPRA Renewals Baseline:		Not on the Baseline
Permit Renewals Workload Universe:		Not reported

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CVS PHARMACY #16358 (Continued) **1018273677**

Permit Workload Universe:	Not reported
Permit Progress Universe:	Not reported
Post-Closure Workload Universe:	Not reported
Closure Workload Universe:	Not reported
202 GPRA Corrective Action Baseline:	No
Corrective Action Workload Universe:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
TSDFs Potentially Subject to CA Under 3004 (u)/(v) Universe:	No
TSDFs Only Subject to CA under Discretionary Auth Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No
Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Operating TSDF Universe:	Not reported
Full Enforcement Universe:	Not reported
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20160318
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	Not reported
Manifest Broker:	Not reported
Sub-Part P Indicator:	No

Hazardous Waste Summary:

Waste Code:	D001
Waste Description:	IGNITABLE WASTE
Waste Code:	D002
Waste Description:	CORROSIVE WASTE
Waste Code:	D007
Waste Description:	CHROMIUM
Waste Code:	D009
Waste Description:	MERCURY
Waste Code:	D010
Waste Description:	SELENIUM
Waste Code:	D011
Waste Description:	SILVER
Waste Code:	D024
Waste Description:	M-CRESOL
Waste Code:	P001
Waste Description:	2H-1-BENZOPYRAN-2-ONE, 4-HYDROXY-3-(3-OXO-1-PHENYLBUTYL)-, & SALTS, WHEN PRESENT AT CONCENTRATIONS GREATER THAN 0.3% (OR) WARFARIN, &

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CVS PHARMACY #16358 (Continued) **1018273677**

SALTS, WHEN PRESENT AT CONCENTRATIONS GREATER THAN 0.3%

Waste Code: U034
Waste Description: ACETALDEHYDE, TRICHLORO- (OR) CHLORAL

Waste Code: U044
Waste Description: CHLOROFORM (OR) METHANE, TRICHLORO-

Waste Code: U122
Waste Description: FORMALDEHYDE

Waste Code: U129
Waste Description: CYCLOHEXANE, 1,2,3,4,5,6-HEXACHLORO-, (1ALPHA, 2ALPHA, 3BETA, 4ALPHA, 5ALPHA, 6BETA)- (OR) LINDANE

Waste Code: U188
Waste Description: PHENOL

Waste Code: U201
Waste Description: 1,3-BENZENEDIOL (OR) RESORCINOL

Waste Code: U205
Waste Description: SELENIUM SULFIDE (OR) SELENIUM SULFIDE SES2 (R,T)

Handler - Owner Operator:
Owner/Operator Indicator: Owner
Owner/Operator Name: TARGET CORP
Legal Status: Private
Date Became Current: 19941005
Date Ended Current: Not reported
Owner/Operator Address: 1000 NICOLLET MALL
Owner/Operator City,State,Zip: MINNEAPOLIS, MN 55403
Owner/Operator Telephone: 612-304-6073
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Owner/Operator Indicator: Operator
Owner/Operator Name: GARFIELD BEACH CVS LLC
Legal Status: Private
Date Became Current: 20151216
Date Ended Current: Not reported
Owner/Operator Address: Not reported
Owner/Operator City,State,Zip: Not reported
Owner/Operator Telephone: Not reported
Owner/Operator Telephone Ext: Not reported
Owner/Operator Fax: Not reported
Owner/Operator Email: Not reported

Historic Generators:
Receive Date: 20160216
Handler Name: CVS PHARMACY #16358
Federal Waste Generator Description: Conditionally Exempt Small Quantity Generator
State District Owner: Not reported
Large Quantity Handler of Universal Waste: No
Recognized Trader Importer: No

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CVS PHARMACY #16358 (Continued) **1018273677**

Recognized Trader Exporter: No
Spent Lead Acid Battery Importer: No
Spent Lead Acid Battery Exporter: No
Current Record: Yes
Non Storage Recycler Activity: Not reported
Electronic Manifest Broker: Not reported

List of NAICS Codes and Descriptions:
NAICS Code: 446110
NAICS Description: PHARMACIES AND DRUG STORES

Facility Has Received Notices of Violations:
Violations: No Violations Found

Evaluation Action Summary:
Evaluations: No Evaluations Found

FINDS:
Registry ID: 110067552482

Click Here:

Environmental Interest/Information System:
RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

Click this hyperlink while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

ECHO:
Envid: 1018273677
Registry ID: 110067552482
DFR URL: http://echo.epa.gov/detailed-facility-report?fid=110067552482
Name: CVS PHARMACY #16358
Address: 19201 BEAR VALLEY RD STE B
City,State,Zip: APPLE VALLEY, CA 92308

C22 **STAPLES THE OFFICE SUPERSTORE #1426** **CERS HAZ WASTE** **S113803363**
WSW **19201 BEAR VALLEY RD STE A** **San Bern. Co. Permit** **N/A**
1/8-1/4 **APPLE VALLEY, CA 92308** **CERS**
0.239 mi.
1260 ft. **Site 6 of 9 in cluster C**

Relative:
Lower

Actual:
2831 ft.

CERS HAZ WASTE:
Name: TARGET T0939
Address: 19201 BEAR VALLEY RD
City,State,Zip: APPLE VALLEY, CA 92308
Site ID: 403522
CERS ID: 10045399
CERS Description: Hazardous Waste Generator

Name: STAPLES THE OFFICE SUPERSTORE #1426

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STAPLES THE OFFICE SUPERSTORE #1426 (Continued) **S113803363**

Address: 19201 BEAR VALLEY RD STE A
City,State,Zip: APPLE VALLEY, CA 92308
Site ID: 355017
CERS ID: 10636930
CERS Description: Hazardous Waste Generator

San Bern. Co. Permit:
Name: TARGET T0939
Address: 19201 BEAR VALLEY RD
City,State,Zip: APPLE VALLEY, CA 92308
Region: SAN BERNARDINO
Facility ID: FA0006587
Owner: Target Corporation
Permit Number: PT0009461
Permit Category: SMALL QUANTITY GENERATOR
Facility Status: ACTIVE
Expiration Date: 05/31/2022

Name: TARGET T0939
Address: 19201 BEAR VALLEY RD
City,State,Zip: APPLE VALLEY, CA 92308
Region: SAN BERNARDINO
Facility ID: FA0006587
Owner: Target Corporation
Permit Number: PT0009460
Permit Category: HAZARDOUS MATERIALS 4-10 CHEMICALS
Facility Status: ACTIVE
Expiration Date: 05/31/2022

Name: STAPLES THE OFFICE SUPERSTORE #1426
Address: 19201 BEAR VALLEY RD STE A
City,State,Zip: APPLE VALLEY, CA 92308
Region: SAN BERNARDINO
Facility ID: FA0017509
Owner: Staples Inc.
Permit Number: PT0037478
Permit Category: CONDITIONALLY EXEMPT SM QTY GENERATOR SPECIAL
Facility Status: ACTIVE
Expiration Date: 08/31/2021

Name: STAPLES THE OFFICE SUPERSTORE #1426
Address: 19201 BEAR VALLEY RD STE A
City,State,Zip: APPLE VALLEY, CA 92308
Region: SAN BERNARDINO
Facility ID: FA0017509
Owner: Staples Inc.
Permit Number: PT0038805
Permit Category: HAZMAT HANDLER GENERAL ACT.(NB)
Facility Status: FEE EXEMPT
Expiration Date: 08/31/2019

CERS:
Name: TARGET T0939
Address: 19201 BEAR VALLEY RD
City,State,Zip: APPLE VALLEY, CA 92308
Site ID: 403522

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STAPLES THE OFFICE SUPERSTORE #1426 (Continued) **S113803363**

CERS ID: 10045399
CERS Description: Chemical Storage Facilities

Evaluation:
Eval General Type: Compliance Evaluation Inspection
Eval Date: 04-04-2019
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: Not reported
Eval Division: San Bernardino County Fire Department
Eval Program: HW
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection
Eval Date: 03-09-2016
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: INSPECTION OF TARGET IN APPLE VALLEY.
Eval Division: San Bernardino County Fire Department
Eval Program: HMRRP
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection
Eval Date: 03-09-2016
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: INSPECTION OF TARGET IN APPLE VALLEY.
Eval Division: San Bernardino County Fire Department
Eval Program: HW
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection
Eval Date: 04-04-2019
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: Not reported
Eval Division: San Bernardino County Fire Department
Eval Program: HMRRP
Eval Source: CERS

Affiliation:
Affiliation Type Desc: CUPA District
Entity Name: San Bernardino County Fire
Entity Title: Not reported
Affiliation Address: 620 South E Street
Affiliation City: San Bernardino
Affiliation State: CA
Affiliation Country: Not reported
Affiliation Zip: 92415-0153
Affiliation Phone: (909) 386-8401

Affiliation Type Desc: Environmental Contact
Entity Name: Environmental Compliance
Entity Title: Not reported
Affiliation Address: PO Box 111
Affiliation City: Minneapolis
Affiliation State: MN

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STAPLES THE OFFICE SUPERSTORE #1426 (Continued) **S113803363**

Affiliation Country:	Not reported
Affiliation Zip:	55440
Affiliation Phone:	Not reported
Affiliation Type Desc:	Facility Mailing Address
Entity Name:	Mailing Address
Entity Title:	Not reported
Affiliation Address:	PO Box 111
Affiliation City:	Minneapolis
Affiliation State:	MN
Affiliation Country:	Not reported
Affiliation Zip:	55440
Affiliation Phone:	Not reported
Affiliation Type Desc:	Operator
Entity Name:	Target Corporation
Entity Title:	Not reported
Affiliation Address:	Not reported
Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	(800) 587-2228
Affiliation Type Desc:	Property Owner
Entity Name:	Target Corporation
Entity Title:	Not reported
Affiliation Address:	PO Box 111
Affiliation City:	Minneapolis
Affiliation State:	MN
Affiliation Country:	United States
Affiliation Zip:	55440
Affiliation Phone:	(800) 587-2228
Affiliation Type Desc:	Identification Signer
Entity Name:	Steve Musser
Entity Title:	Sr. Compliance Director
Affiliation Address:	Not reported
Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	Not reported
Affiliation Type Desc:	Legal Owner
Entity Name:	Target Corporation
Entity Title:	Not reported
Affiliation Address:	PO Box 111
Affiliation City:	Minneapolis
Affiliation State:	MN
Affiliation Country:	United States
Affiliation Zip:	55440
Affiliation Phone:	(800) 587-2228
Affiliation Type Desc:	Parent Corporation
Entity Name:	Target Corporate Office Headquarters
Entity Title:	Not reported

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STAPLES THE OFFICE SUPERSTORE #1426 (Continued) **S113803363**

Affiliation Address: Not reported
Affiliation City: Not reported
Affiliation State: Not reported
Affiliation Country: Not reported
Affiliation Zip: Not reported
Affiliation Phone: Not reported

Affiliation Type Desc: Document Preparer
Entity Name: Nathan White
Entity Title: Not reported
Affiliation Address: Not reported
Affiliation City: Not reported
Affiliation State: Not reported
Affiliation Country: Not reported
Affiliation Zip: Not reported
Affiliation Phone: Not reported

Name: STAPLES THE OFFICE SUPERSTORE #1426
Address: 19201 BEAR VALLEY RD STE A
City,State,Zip: APPLE VALLEY, CA 92308
Site ID: 355017
CERS ID: 10636930
CERS Description: Chemical Storage Facilities

Violations:
Site ID: 355017
Site Name: Staples the Office Superstore #1426
Violation Date: 12-03-2018
Citation: Un-Specified
Violation Description: Hazardous Waste Generator Program - Administration/Documentation - General Local Ordinance
Violation Notes: Returned to compliance on 01/02/2019. Failure to provide facility information to CUPA including, but not limited to, the following: 1. Names, addresses and phone numbers of the business and owner. 2. Name and twenty-four (24) hour phone number of the emergency contact person. 3. Site address where hazardous waste is generated or produced, if different from the facility address. 4. List of each type of hazardous waste generated. 5. The permittee shall prepare a Contingency Plan as defined in Section 66260.10 and Section 66265.50 et seq of Title 22 of the California Code of Regulations (SBCC 23.0602.23.0712) OBSERVATION: Failure to provide facility information to CUPA including, but not limited to, the following: Local Unified Program Agency emergency hazardous material spill notification telephone number (the correct number is 909-386-8425), and failure to submit an updated facility map showing the following required elements: evacuation staging area, storm drains, store layout, emergency shutoffs, and [Truncated]
Violation Division: San Bernardino County Fire Department
Violation Program: HW
Violation Source: CERS

Evaluation:
Eval General Type: Compliance Evaluation Inspection
Eval Date: 12-03-2018
Violations Found: Yes
Eval Type: Routine done by local agency

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STAPLES THE OFFICE SUPERSTORE #1426 (Continued) **S113803363**

Eval Notes: Not reported
Eval Division: San Bernardino County Fire Department
Eval Program: HW
Eval Source: CERS

Affiliation:
Affiliation Type Desc: CUPA District
Entity Name: San Bernardino County Fire
Entity Title: Not reported
Affiliation Address: 620 South E Street
Affiliation City: San Bernardino
Affiliation State: CA
Affiliation Country: Not reported
Affiliation Zip: 92415-0153
Affiliation Phone: (909) 386-8401

Affiliation Type Desc: Facility Mailing Address
Entity Name: Mailing Address
Entity Title: Not reported
Affiliation Address: 500 Staples Drive
Affiliation City: Framingham
Affiliation State: MA
Affiliation Country: Not reported
Affiliation Zip: 01702
Affiliation Phone: Not reported

Affiliation Type Desc: Operator
Entity Name: Staples the Office Superstore East Inc
Entity Title: Not reported
Affiliation Address: Not reported
Affiliation City: Not reported
Affiliation State: Not reported
Affiliation Country: Not reported
Affiliation Zip: Not reported
Affiliation Phone: (508) 253-5000

Affiliation Type Desc: Property Owner
Entity Name: ROSCOE O. AND CHARLOTTE STEWART, TRUSTEES
Entity Title: Not reported
Affiliation Address: 19118 PACIFIC COAST HIGHWAY
Affiliation City: MALIBU
Affiliation State: CA
Affiliation Country: United States
Affiliation Zip: 90265
Affiliation Phone: (310) 456-2798

Affiliation Type Desc: Document Preparer
Entity Name: David Lainez
Entity Title: Not reported
Affiliation Address: Not reported
Affiliation City: Not reported
Affiliation State: Not reported
Affiliation Country: Not reported
Affiliation Zip: Not reported
Affiliation Phone: Not reported

Affiliation Type Desc: Legal Owner

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STAPLES THE OFFICE SUPERSTORE #1426 (Continued) **S113803363**

Entity Name:	Staples the Office Superstore East Inc
Entity Title:	Not reported
Affiliation Address:	500 Staples Drive
Affiliation City:	Framingham
Affiliation State:	MA
Affiliation Country:	United States
Affiliation Zip:	01702
Affiliation Phone:	(508) 253-5000
Affiliation Type Desc:	Parent Corporation
Entity Name:	Staples the Office Superstore East Inc
Entity Title:	Not reported
Affiliation Address:	Not reported
Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	Not reported
Affiliation Type Desc:	Environmental Contact
Entity Name:	Keith Barrows
Entity Title:	Not reported
Affiliation Address:	500 Staples Drive
Affiliation City:	Framingham
Affiliation State:	MA
Affiliation Country:	Not reported
Affiliation Zip:	01702
Affiliation Phone:	Not reported
Affiliation Type Desc:	Identification Signer
Entity Name:	David Lainez
Entity Title:	Safety and Compliance Analyst
Affiliation Address:	Not reported
Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	Not reported

C23 **99 CENTS ONLY STORES** **RCRA NonGen / NLR** **1024832204**
WSW **19201 BEAR VALLEY RD** **CAL000369896**
1/8-1/4 **APPLE VALLEY, CA 92308**
0.239 mi.
1260 ft. **Site 7 of 9 in cluster C**

Relative: RCRA NonGen / NLR:
Lower

Actual: Date Form Received by Agency:		20111206
2831 ft. Handler Name:	99 CENTS ONLY STORES	
Handler Address:		19201 BEAR VALLEY RD
Handler City,State,Zip:		APPLE VALLEY, CA 92308
EPA ID:		CAL000369896
Contact Name:		EDGAR FLORES
Contact Address:		4000 UNION PACIFIC AVE
Contact City,State,Zip:		COMMERCE, CA 90023
Contact Telephone:		323-919-3290
Contact Fax:		323-729-3455
Contact Email:		EDGAR.FLORES@99ONLY.COM

DRAFT

99 CENTS ONLY STORES (Continued) **1024832204**

Contact Title:	Not reported
EPA Region:	09
Land Type:	Not reported
Federal Waste Generator Description:	Not a generator, verified
Non-Notifier:	Not reported
Biennial Report Cycle:	Not reported
Accessibility:	Not reported
Active Site Indicator:	Handler Activities
State District Owner:	Not reported
State District:	Not reported
Mailing Address:	4000 UNION PACIFIC AVENUE
Mailing City,State,Zip:	COMMERCE, CA 90023
Owner Name:	99 CENTS ONLY STORES
Owner Type:	Other
Operator Name:	EDGAR FLORES
Operator Type:	Other
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	Yes
Universal Waste Destination Facility:	Yes
Federal Universal Waste:	No
Active Site Fed-Reg Treatment Storage and Disposal Facility:	Not reported
Active Site Converter Treatment storage and Disposal Facility:	Not reported
Active Site State-Reg Treatment Storage and Disposal Facility:	Not reported
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	N
Sub-Part K Indicator:	Not reported
Commercial TSD Indicator:	No
Treatment Storage and Disposal Type:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
Permit Renewals Workload Universe:	Not reported
Permit Workload Universe:	Not reported
Permit Progress Universe:	Not reported
Post-Closure Workload Universe:	Not reported
Closure Workload Universe:	Not reported
202 GPRA Corrective Action Baseline:	No
Corrective Action Workload Universe:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
TSDFs Potentially Subject to CA Under 3004 (u)/(v) Universe:	No
TSDFs Only Subject to CA under Discretionary Auth Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No
Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Operating TSDF Universe:	Not reported

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99 CENTS ONLY STORES (Continued) **1024832204**

Full Enforcement Universe:	Not reported
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20180906
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	No
Manifest Broker:	No
Sub-Part P Indicator:	No

Handler - Owner Operator:

Owner/Operator Indicator:	Operator
Owner/Operator Name:	EDGAR FLORES
Legal Status:	Other
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	4000 UNION PACIFIC AVE
Owner/Operator City,State,Zip:	COMMERCE, CA 90023
Owner/Operator Telephone:	323-919-3290
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Owner/Operator Indicator:	Owner
Owner/Operator Name:	99 CENTS ONLY STORES
Legal Status:	Other
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	4000 UNION PACIFIC AVENUE
Owner/Operator City,State,Zip:	COMMERCE, CA 90023
Owner/Operator Telephone:	323-980-8145
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Historic Generators:

Receive Date:	20111206
Handler Name: 99 CENTS ONLY STORES	
Federal Waste Generator Description:	Not a generator, verified
State District Owner:	Not reported
Large Quantity Handler of Universal Waste:	No
Recognized Trader Importer:	No
Recognized Trader Exporter:	No
Spent Lead Acid Battery Importer:	No
Spent Lead Acid Battery Exporter:	No
Current Record:	Yes
Non Storage Recycler Activity:	Not reported
Electronic Manifest Broker:	Not reported

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99 CENTS ONLY STORES (Continued) **1024832204**

List of NAICS Codes and Descriptions:
NAICS Code: 45299
NAICS Description: ALL OTHER GENERAL MERCHANDISE STORES

Facility Has Received Notices of Violations:
Violations: No Violations Found

Evaluation Action Summary:
Evaluations: No Evaluations Found

C24 **99 CENTS ONLY STORES #254** **CERS HAZ WASTE** **S112274101**
WSW **19201 BEAR VALLEY RD** **San Bern. Co. Permit** **N/A**
1/8-1/4 **APPLE VALLEY, CA 92308** **CERS**
0.239 mi.
1260 ft. **Site 8 of 9 in cluster C**

Relative:
Lower

Actual:
2831 ft.

CERS HAZ WASTE:
Name: 99 CENTS ONLY STORES #254
Address: 19201 BEAR VALLEY RD
City,State,Zip: APPLE VALLEY, CA 92308
Site ID: 1781
CERS ID: 10444417
CERS Description: Hazardous Waste Generator

Name: CVS PHARMACY #16358
Address: 19201 BEAR VALLEY RD STE A
City,State,Zip: APPLE VALLEY, CA 92308
Site ID: 366987
CERS ID: 10666663
CERS Description: Hazardous Waste Generator

San Bern. Co. Permit:
Name: 99 CENTS ONLY STORES #254
Address: 19201 BEAR VALLEY RD
City,State,Zip: APPLE VALLEY, CA 92308
Region: SAN BERNARDINO
Facility ID: FA0014801
Owner: 99 Cents Only Stores LLC
Permit Number: PT0025791
Permit Category: CONDITIONALLY EXEMPT SM QTY GENERATOR SPECIAL
Facility Status: ACTIVE
Expiration Date: 11/30/2021

Name: CVS PHARMACY #16358
Address: 19201 BEAR VALLEY RD STE A
City,State,Zip: APPLE VALLEY, CA 92308
Region: SAN BERNARDINO
Facility ID: FA0016666
Owner: Garfield Beach CVS, L.L.C.
Permit Number: PT0036052
Permit Category: CONDITIONALLY EXEMPT SM QTY GENERATOR SPECIAL
Facility Status: ACTIVE
Expiration Date: 08/31/2021

Name: 99 CENTS ONLY STORES #254

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99 CENTS ONLY STORES #254 (Continued) **S112274101**

Address: 19201 BEAR VALLEY RD
City,State,Zip: APPLE VALLEY, CA 92308
Region: SAN BERNARDINO
Facility ID: FA0014801
Owner: 99 Cents Only Stores LLC
Permit Number: PT0036864
Permit Category: HAZMAT HANDLER GENERAL ACT.(NB)
Facility Status: FEE EXEMPT
Expiration Date: 11/30/2017

Name: CVS PHARMACY #16358
Address: 19201 BEAR VALLEY RD STE A
City,State,Zip: APPLE VALLEY, CA 92308
Region: SAN BERNARDINO
Facility ID: FA0016666
Owner: Garfield Beach CVS, L.L.C.
Permit Number: PT0036805
Permit Category: HAZMAT HANDLER GENERAL ACT.(NB)
Facility Status: FEE EXEMPT
Expiration Date: 08/31/2017

CERS:
Name: CVS PHARMACY #16358
Address: 19201 BEAR VALLEY RD STE A
City,State,Zip: APPLE VALLEY, CA 92308
Site ID: 366987
CERS ID: 10666663
CERS Description: Chemical Storage Facilities

Evaluation:
Eval General Type: Compliance Evaluation Inspection
Eval Date: 12-06-2018
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: Not reported
Eval Division: San Bernardino County Fire Department
Eval Program: HW
Eval Source: CERS

Affiliation:
Affiliation Type Desc: Document Preparer
Entity Name: Erin Baltazar, Agent for Garfield Beach CVS, L.L.C.
Entity Title: Not reported
Affiliation Address: Not reported
Affiliation City: Not reported
Affiliation State: Not reported
Affiliation Country: Not reported
Affiliation Zip: Not reported
Affiliation Phone: Not reported

Affiliation Type Desc: Identification Signer
Entity Name: Erin Baltazar, Agent for Garfield Beach CVS, L.L.C.
Entity Title: Regulatory Compliance Specialist, Verisk 3E
Affiliation Address: Not reported
Affiliation City: Not reported
Affiliation State: Not reported
Affiliation Country: Not reported

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99 CENTS ONLY STORES #254 (Continued) **S112274101**

Affiliation Zip: Not reported
Affiliation Phone: Not reported

Affiliation Type Desc: Facility Mailing Address
Entity Name: Mailing Address
Entity Title: Not reported
Affiliation Address: CVS Health, Attn: Dianne E. Durand, Licensing One CVS Drive G MC 1160
Affiliation City: Woonsocket
Affiliation State: RI
Affiliation Country: Not reported
Affiliation Zip: 02895
Affiliation Phone: Not reported

Affiliation Type Desc: Legal Owner
Entity Name: Garfield Beach CVS, L.L.C
Entity Title: Not reported
Affiliation Address: One CVS Drive
Affiliation City: Woonsocket
Affiliation State: RI
Affiliation Country: United States
Affiliation Zip: 02895
Affiliation Phone: (401) 765-1500

Affiliation Type Desc: Operator
Entity Name: Garfield Beach CVS, L.L.C
Entity Title: Not reported
Affiliation Address: Not reported
Affiliation City: Not reported
Affiliation State: Not reported
Affiliation Country: Not reported
Affiliation Zip: Not reported
Affiliation Phone: (401) 765-1500

Affiliation Type Desc: CUPA District
Entity Name: San Bernardino County Fire
Entity Title: Not reported
Affiliation Address: 620 South E Street
Affiliation City: San Bernardino
Affiliation State: CA
Affiliation Country: Not reported
Affiliation Zip: 92415-0153
Affiliation Phone: (909) 386-8401

Affiliation Type Desc: Environmental Contact
Entity Name: Verisk 3E, Regulatory Services/CVS
Entity Title: Not reported
Affiliation Address: 3207 Grey Hawk Ct., Ste. 200
Affiliation City: Carlsbad
Affiliation State: CA
Affiliation Country: Not reported
Affiliation Zip: 92010
Affiliation Phone: Not reported

Affiliation Type Desc: Parent Corporation
Entity Name: CVS Health
Entity Title: Not reported
Affiliation Address: Not reported

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99 CENTS ONLY STORES #254 (Continued) **S112274101**

Affiliation City: Not reported
Affiliation State: Not reported
Affiliation Country: Not reported
Affiliation Zip: Not reported
Affiliation Phone: Not reported

Name: 99 CENTS ONLY STORES #254
Address: 19201 BEAR VALLEY RD
City,State,Zip: APPLE VALLEY, CA 92308
Site ID: 1781
CERS ID: 10444417
CERS Description: Chemical Storage Facilities

Evaluation:
Eval General Type: Compliance Evaluation Inspection
Eval Date: 02-19-2016
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: INSPECTION OF 99 CENT ONLY STORES #254 IN APPLE VALLEY.
Eval Division: San Bernardino County Fire Department
Eval Program: HW
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection
Eval Date: 01-24-2019
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: Not reported
Eval Division: San Bernardino County Fire Department
Eval Program: HW
Eval Source: CERS

Affiliation:
Affiliation Type Desc: CUPA District
Entity Name: San Bernardino County Fire
Entity Title: Not reported
Affiliation Address: 620 South E Street
Affiliation City: San Bernardino
Affiliation State: CA
Affiliation Country: Not reported
Affiliation Zip: 92415-0153
Affiliation Phone: (909) 386-8401

Affiliation Type Desc: Legal Owner
Entity Name: 99 Cents Only Stores LLC
Entity Title: Not reported
Affiliation Address: 4000 Union Pacific Avenue
Affiliation City: Commerce
Affiliation State: CA
Affiliation Country: United States
Affiliation Zip: 90023
Affiliation Phone: (323) 980-8145

Affiliation Type Desc: Operator
Entity Name: 99 Cents Only Stores LLC
Entity Title: Not reported

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99 CENTS ONLY STORES #254 (Continued) **S112274101**

Affiliation Address:	Not reported
Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	(760) 961-1879
Affiliation Type Desc:	Document Preparer
Entity Name:	Janelle Brown
Entity Title:	Not reported
Affiliation Address:	Not reported
Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	Not reported
Affiliation Type Desc:	Environmental Contact
Entity Name:	EDGAR FLORES
Entity Title:	Not reported
Affiliation Address:	4000 Union Pacific Avenue
Affiliation City:	Commerce
Affiliation State:	CA
Affiliation Country:	Not reported
Affiliation Zip:	90023
Affiliation Phone:	Not reported
Affiliation Type Desc:	Facility Mailing Address
Entity Name:	Mailing Address
Entity Title:	Not reported
Affiliation Address:	4000 Union Pacific Avenue
Affiliation City:	Commerce
Affiliation State:	CA
Affiliation Country:	Not reported
Affiliation Zip:	90023
Affiliation Phone:	Not reported
Affiliation Type Desc:	Identification Signer
Entity Name:	Edgar Flores
Entity Title:	Compliance Manager
Affiliation Address:	Not reported
Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	Not reported
Affiliation Type Desc:	Parent Corporation
Entity Name:	99 Cents Only Stores LLC
Entity Title:	Not reported
Affiliation Address:	Not reported
Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	Not reported

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99 CENTS ONLY STORES #254 (Continued) **S112274101**

Affiliation Type Desc:	Property Owner
Entity Name:	99 CENTS ONLY STORES
Entity Title:	Not reported
Affiliation Address:	4000 Union Pacific Avenue
Affiliation City:	Commerce
Affiliation State:	CA
Affiliation Country:	United States
Affiliation Zip:	90023
Affiliation Phone:	(323) 980-8145

C25 **STAPLES THE OFFICE SUPERSTORE EAST INC STORE 1426** **RCRA NonGen / NLR** **1024841125**
WSW **19201 BEAR VALLEY RD STE A** **CAL000390692**
1/8-1/4 **APPLE VALLEY, CA 92308**
0.239 mi.
1260 ft. **Site 9 of 9 in cluster C**

Relative: **Lower**
Actual: **2831 ft.**

RCRA NonGen / NLR:

Date Form Received by Agency:	20131101
Handler Name:	STAPLES THE OFFICE SUPERSTORE EAST INC STORE 1426
Handler Address:	19201 BEAR VALLEY RD STE A
Handler City,State,Zip:	APPLE VALLEY, CA 92308-2704
EPA ID:	CAL000390692
Contact Name:	KEITH BARROWS
Contact Address:	500 STAPLES DR
Contact City,State,Zip:	FRAMINGHAM, MA 01702
Contact Telephone:	508-253-1498
Contact Fax:	Not reported
Contact Email:	KEITH.BARROWS@STAPLES.COM
Contact Title:	Not reported
EPA Region:	09
Land Type:	Not reported
Federal Waste Generator Description:	Not a generator, verified
Non-Notifier:	Not reported
Biennial Report Cycle:	Not reported
Accessibility:	Not reported
Active Site Indicator:	Handler Activities
State District Owner:	Not reported
State District:	Not reported
Mailing Address:	500 STAPLES DR
Mailing City,State,Zip:	FRAMINGHAM, MA 01702
Owner Name:	STAPLES THE OFFICE SUPERSTORE E INC
Owner Type:	Other
Operator Name:	KEITH BARROWS
Operator Type:	Other
Short-Term Generator Activity:	No
Importer Activity:	No
Mixed Waste Generator:	No
Transporter Activity:	No
Transfer Facility Activity:	No
Recycler Activity with Storage:	No
Small Quantity On-Site Burner Exemption:	No
Smelting Melting and Refining Furnace Exemption:	No
Underground Injection Control:	No
Off-Site Waste Receipt:	No
Universal Waste Indicator:	Yes
Universal Waste Destination Facility:	Yes
Federal Universal Waste:	No

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STAPLES THE OFFICE SUPERSTORE EAST INC STORE 1426 (Continued) **1024841125**

Active Site Fed-Reg Treatment Storage and Disposal Facility:	Not reported
Active Site Converter Treatment storage and Disposal Facility:	Not reported
Active Site State-Reg Treatment Storage and Disposal Facility:	Not reported
Active Site State-Reg Handler:	---
Federal Facility Indicator:	Not reported
Hazardous Secondary Material Indicator:	N
Sub-Part K Indicator:	Not reported
Commercial TSD Indicator:	No
Treatment Storage and Disposal Type:	Not reported
2018 GPRA Permit Baseline:	Not on the Baseline
2018 GPRA Renewals Baseline:	Not on the Baseline
Permit Renewals Workload Universe:	Not reported
Permit Workload Universe:	Not reported
Permit Progress Universe:	Not reported
Post-Closure Workload Universe:	Not reported
Closure Workload Universe:	Not reported
202 GPRA Corrective Action Baseline:	No
Corrective Action Workload Universe:	No
Subject to Corrective Action Universe:	No
Non-TSDFs Where RCRA CA has Been Imposed Universe:	No
TSDFs Potentially Subject to CA Under 3004 (u)/(v) Universe:	No
TSDFs Only Subject to CA under Discretionary Auth Universe:	No
Corrective Action Priority Ranking:	No NCAPS ranking
Environmental Control Indicator:	No
Institutional Control Indicator:	No
Human Exposure Controls Indicator:	N/A
Groundwater Controls Indicator:	N/A
Operating TSDF Universe:	Not reported
Full Enforcement Universe:	Not reported
Significant Non-Complier Universe:	No
Unaddressed Significant Non-Complier Universe:	No
Addressed Significant Non-Complier Universe:	No
Significant Non-Complier With a Compliance Schedule Universe:	No
Financial Assurance Required:	Not reported
Handler Date of Last Change:	20180906
Recognized Trader-Importer:	No
Recognized Trader-Exporter:	No
Importer of Spent Lead Acid Batteries:	No
Exporter of Spent Lead Acid Batteries:	No
Recycler Activity Without Storage:	No
Manifest Broker:	No
Sub-Part P Indicator:	No

Handler - Owner Operator:

Owner/Operator Indicator:	Operator
Owner/Operator Name:	KEITH BARROWS
Legal Status:	Other
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	500 STAPLES DR
Owner/Operator City,State,Zip:	FRAMINGHAM, MA 01702
Owner/Operator Telephone:	508-253-1498
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

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STAPLES THE OFFICE SUPERSTORE EAST INC STORE 1426 (Continued) **1024841125**

Owner/Operator Indicator:	Owner
Owner/Operator Name:	STAPLES THE OFFICE SUPERSTORE E INC
Legal Status:	Other
Date Became Current:	Not reported
Date Ended Current:	Not reported
Owner/Operator Address:	500 STAPLES DR
Owner/Operator City,State,Zip:	FRAMINGHAM, MA 01702
Owner/Operator Telephone:	508-253-1498
Owner/Operator Telephone Ext:	Not reported
Owner/Operator Fax:	Not reported
Owner/Operator Email:	Not reported

Historic Generators:

Receive Date:	20131101
Handler Name:	STAPLES THE OFFICE SUPERSTORE EAST INC STORE 1426
Federal Waste Generator Description:	Not a generator, verified
State District Owner:	Not reported
Large Quantity Handler of Universal Waste:	No
Recognized Trader Importer:	No
Recognized Trader Exporter:	No
Spent Lead Acid Battery Importer:	No
Spent Lead Acid Battery Exporter:	No
Current Record:	Yes
Non Storage Recycler Activity:	Not reported
Electronic Manifest Broker:	Not reported

List of NAICS Codes and Descriptions:

NAICS Code:	45321
NAICS Description:	OFFICE SUPPLIES AND STATIONERY STORES

Facility Has Received Notices of Violations:

Violations:	No Violations Found

Evaluation Action Summary:

Evaluations:	No Evaluations Found

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26 **BURLINGTON STORE # 768** **SWRCY** **S109348846**
WSW **19131 BEAR VALLEY RD** **CERS HAZ WASTE** **N/A**
1/4-1/2 **APPLE VALLEY, CA 92308** **HAZNET**
0.370 mi. **San Bern. Co. Permit**
1951 ft. **CERS**
HWTS

Relative:
Lower

Actual:
2831 ft.

SWRCY:

Name:	MILLENIA RECYCLING
Address:	19131 BEAR VALLEY RD
City,State,Zip:	APPLE VALLEY, CA 92308
Reg Id:	228830
Cert Id:	RC228830.001
Mailing Address:	20947 Bear Valley Rd
Mailing City:	Apple Valley
Mailing State:	CA
Mailing Zip Code:	92308
Website:	Not reported
Email:	garytatar@milleniarecycling.com

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BURLINGTON STORE # 768 (Continued) **S109348846**

Phone Number: (909) 240-6183
Rural: N
Operation Begin Date: 07/01/2015
Aluminium: Y
Glass: Y
Plastic: Y
Bimetal: Y
Hours of Operation: Mon - Sat 9:00 am - 5:00 pm, Closed 12:00 pm - 1:00 pm; Sun Closed
Organization ID: 209321
Organization Name: Millenia Asset Management Inc

CERS HAZ WASTE:
Name: BURLINGTON STORE #768
Address: 19131 BEAR VALLEY RD
City,State,Zip: APPLE VALLEY, CA 92308
Site ID: 273958
CERS ID: 10624894
CERS Description: Hazardous Waste Generator

HAZNET:
Name: BURLINGTON STORE # 768
Address: 19131 BEAR VALLEY RD
Address 2: Not reported
City,State,Zip: APPLE VALLEY, CA 080160000
Contact: NANCY DENNION
Telephone: 6093877800
Mailing Name: Not reported
Mailing Address: 1830 ROUTE 130 N

Year: 2019
Gepaid: CAL000403258
TSD EPA ID: AZR000515924
CA Waste Code: 331 - Off-specification, aged or surplus organics
Disposal Method: H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Tons: 1.54750

Year: 2019
Gepaid: CAL000403258
TSD EPA ID: NVD980895338
CA Waste Code: 331 - Off-specification, aged or surplus organics
Disposal Method: H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Tons: 0.04550

Year: 2018
Gepaid: CAL000403258
TSD EPA ID: AZR000515924
CA Waste Code: 331 - Off-specification, aged or surplus organics
Disposal Method: H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Tons: 0.51050

Year: 2018
Gepaid: CAL000403258
TSD EPA ID: CAD008364432

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BURLINGTON STORE # 768 (Continued) **S109348846**

CA Waste Code: 331 - Off-specification, aged or surplus organics
Disposal Method: H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Tons: 0.00650

Year: 2018
Gepaid: CAL000403258
TSD EPA ID: NVD980895338
CA Waste Code: 331 - Off-specification, aged or surplus organics
Disposal Method: H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Tons: 0.02200

Year: 2017
Gepaid: CAL000403258
TSD EPA ID: CAD008364432
CA Waste Code: 331 - Off-specification, aged or surplus organics
Disposal Method: H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Tons: 0.0815

Year: 2016
Gepaid: CAL000403258
TSD EPA ID: CAD008364432
CA Waste Code: 331 - Off-specification, aged or surplus organics
Disposal Method: H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Tons: 0.0095

Year: 2015
Gepaid: CAL000403258
TSD EPA ID: CAD008364432
CA Waste Code: 331 - Off-specification, aged or surplus organics
Disposal Method: H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Tons: 0.0415

Year: 2015
Gepaid: CAL000403258
TSD EPA ID: CAD008364432
CA Waste Code: 141 - Off-specification, aged or surplus inorganics
Disposal Method: H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Tons: 0.006

Additional Info:
Year: 2017
Gen EPA ID: CAL000403258

Shipment Date: 20170725
Creation Date: 5/21/2018 18:32:48
Receipt Date: 20170731
Manifest ID: 009350791FLE
Trans EPA ID: MNS000110924
Trans Name: STERICYCLE SPECIALTY WASTE SOLUTIONS INC
Trans 2 EPA ID: CAR000217000

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BURLINGTON STORE # 768 (Continued) **S109348846**

Trans 2 Name:	LA CHIQUITA TRUCKING
TSDF EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	331 - Off-specification, aged, or surplus organics
RCRA Code:	D002
Meth Code:	H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons:	0.0035
Waste Quantity:	7
Quantity Unit:	P
Additional Code 1:	D001
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20170725
Creation Date:	5/21/2018 18:32:48
Receipt Date:	20170731
Manifest ID:	009350791FLE
Trans EPA ID:	MNS000110924
Trans Name:	STERICYCLE SPECIALTY WASTE SOLUTIONS INC
Trans 2 EPA ID:	CAR000217000
Trans 2 Name:	LA CHIQUITA TRUCKING
TSDF EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	331 - Off-specification, aged, or surplus organics
RCRA Code:	D001
Meth Code:	H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons:	0.005
Waste Quantity:	10
Quantity Unit:	P
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20170725
Creation Date:	5/21/2018 18:32:48
Receipt Date:	20170731
Manifest ID:	009350791FLE
Trans EPA ID:	MNS000110924
Trans Name:	STERICYCLE SPECIALTY WASTE SOLUTIONS INC
Trans 2 EPA ID:	CAR000217000
Trans 2 Name:	LA CHIQUITA TRUCKING
TSDF EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	331 - Off-specification, aged, or surplus organics
RCRA Code:	Not reported

DRAFT

BURLINGTON STORE # 768 (Continued) **S109348846**

Meth Code:	H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons:	0.047
Waste Quantity:	94
Quantity Unit:	P
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20170127
Creation Date:	3/23/2017 18:30:37
Receipt Date:	20170202
Manifest ID:	010108431FLE
Trans EPA ID:	MNS000110924
Trans Name:	STERICYCLE SPECIALTY WASTE SOLUTIONS INC
Trans 2 EPA ID:	CAD983649880
Trans 2 Name:	PSC ENVIRONMENTAL SERVICES LP
TSDF EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	331 - Off-specification, aged, or surplus organics
RCRA Code:	D002
Meth Code:	H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons:	0.001
Waste Quantity:	2
Quantity Unit:	P
Additional Code 1:	D001
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20170127
Creation Date:	3/23/2017 18:30:37
Receipt Date:	20170202
Manifest ID:	010108431FLE
Trans EPA ID:	MNS000110924
Trans Name:	STERICYCLE SPECIALTY WASTE SOLUTIONS INC
Trans 2 EPA ID:	CAD983649880
Trans 2 Name:	PSC ENVIRONMENTAL SERVICES LP
TSDF EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	331 - Off-specification, aged, or surplus organics
RCRA Code:	Not reported
Meth Code:	H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons:	0.025
Waste Quantity:	50
Quantity Unit:	P
Additional Code 1:	Not reported
Additional Code 2:	Not reported

DRAFT

BURLINGTON STORE # 768 (Continued) **S109348846**

Additional Code 3: Not reported
Additional Code 4: Not reported
Additional Code 5: Not reported

Additional Info:
Year: 2016
Gen EPA ID: CAL000403258

Shipment Date: 20150812
Creation Date: 10/1/2015 22:15:34
Receipt Date: 20150820
Manifest ID: 006374198FLE
Trans EPA ID: MNS000110924
Trans Name: STERICYCLE SPECIALTY WASTE SOLUTIONS INC
Trans 2 EPA ID: CAD983649880
Trans 2 Name: PSC ENVIRONMENTAL SERVICES LP
TSDF EPA ID: CAD008364432
Trans Name: RHO CHEM LLC
TSDF Alt EPA ID: Not reported
TSDF Alt Name: Not reported
Waste Code Description: 331 - Off-specification, aged, or surplus organics
RCRA Code: D001
Meth Code: H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons: 0.003
Waste Quantity: 6
Quantity Unit: P
Additional Code 1: Not reported
Additional Code 2: Not reported
Additional Code 3: Not reported
Additional Code 4: Not reported
Additional Code 5: Not reported

Shipment Date: 20150812
Creation Date: 10/1/2015 22:15:34
Receipt Date: 20150820
Manifest ID: 006374198FLE
Trans EPA ID: MNS000110924
Trans Name: STERICYCLE SPECIALTY WASTE SOLUTIONS INC
Trans 2 EPA ID: CAD983649880
Trans 2 Name: PSC ENVIRONMENTAL SERVICES LP
TSDF EPA ID: CAD008364432
Trans Name: RHO CHEM LLC
TSDF Alt EPA ID: Not reported
TSDF Alt Name: Not reported
Waste Code Description: 141 - Off-specification, aged, or surplus inorganics
RCRA Code: D002
Meth Code: H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons: 0.006
Waste Quantity: 12
Quantity Unit: P
Additional Code 1: Not reported
Additional Code 2: Not reported
Additional Code 3: Not reported
Additional Code 4: Not reported
Additional Code 5: Not reported

DRAFT

BURLINGTON STORE # 768 (Continued) **S109348846**

Shipment Date:	20150812
Creation Date:	10/1/2015 22:15:34
Receipt Date:	20150820
Manifest ID:	006374198FLE
Trans EPA ID:	MNS000110924
Trans Name:	STERICYCLE SPECIALTY WASTE SOLUTIONS INC
Trans 2 EPA ID:	CAD983649880
Trans 2 Name:	PSC ENVIRONMENTAL SERVICES LP
TSDF EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	331 - Off-specification, aged, or surplus organics
RCRA Code:	Not reported
Meth Code:	H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons:	0.0165
Waste Quantity:	33
Quantity Unit:	P
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20150326
Creation Date:	6/25/2015 22:16:05
Receipt Date:	20150402
Manifest ID:	007344519FLE
Trans EPA ID:	MNS000110924
Trans Name:	STERICYCLE SPECIALTY WASTE SOLUTIONS INC
Trans 2 EPA ID:	CAD983649880
Trans 2 Name:	PSC ENVIRONMENTAL SERVICES LP
TSDF EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	331 - Off-specification, aged, or surplus organics
RCRA Code:	Not reported
Meth Code:	H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons:	0.019
Waste Quantity:	38
Quantity Unit:	P
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20150326
Creation Date:	6/25/2015 22:16:05
Receipt Date:	20150402
Manifest ID:	007344519FLE
Trans EPA ID:	MNS000110924
Trans Name:	STERICYCLE SPECIALTY WASTE SOLUTIONS INC
Trans 2 EPA ID:	CAD983649880

DRAFT

BURLINGTON STORE # 768 (Continued) **S109348846**

Trans 2 Name: PSC ENVIRONMENTAL SERVICES LP
TSDF EPA ID: CAD008364432
Trans Name: RHO CHEM LLC
TSDF Alt EPA ID: Not reported
TSDF Alt Name: Not reported
Waste Code Description: 331 - Off-specification, aged, or surplus organics
RCRA Code: D001
Meth Code: H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons: 0.003
Waste Quantity: 6
Quantity Unit: P
Additional Code 1: Not reported
Additional Code 2: Not reported
Additional Code 3: Not reported
Additional Code 4: Not reported
Additional Code 5: Not reported

Additional Info:
Year: 2015
Gen EPA ID: CAL000403258

Shipment Date: 20150812
Creation Date: 10/1/2015 22:15:34
Receipt Date: 20150820
Manifest ID: 006374198FLE
Trans EPA ID: MNS000110924
Trans Name: STERICYCLE SPECIALTY WASTE SOLUTIONS INC
Trans 2 EPA ID: CAD983649880
Trans 2 Name: PSC ENVIRONMENTAL SERVICES LP
TSDF EPA ID: CAD008364432
Trans Name: RHO CHEM LLC
TSDF Alt EPA ID: Not reported
TSDF Alt Name: Not reported
Waste Code Description: 331 - Off-specification, aged, or surplus organics
RCRA Code: D001
Meth Code: H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons: 0.003
Waste Quantity: 6
Quantity Unit: P
Additional Code 1: Not reported
Additional Code 2: Not reported
Additional Code 3: Not reported
Additional Code 4: Not reported
Additional Code 5: Not reported

Shipment Date: 20150812
Creation Date: 10/1/2015 22:15:34
Receipt Date: 20150820
Manifest ID: 006374198FLE
Trans EPA ID: MNS000110924
Trans Name: STERICYCLE SPECIALTY WASTE SOLUTIONS INC
Trans 2 EPA ID: CAD983649880
Trans 2 Name: PSC ENVIRONMENTAL SERVICES LP
TSDF EPA ID: CAD008364432
Trans Name: RHO CHEM LLC

DRAFT

BURLINGTON STORE # 768 (Continued) **S109348846**

TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	141 - Off-specification, aged, or surplus inorganics
RCRA Code:	D002
Meth Code:	H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons:	0.006
Waste Quantity:	12
Quantity Unit:	P
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20150812
Creation Date:	10/1/2015 22:15:34
Receipt Date:	20150820
Manifest ID:	006374198FLE
Trans EPA ID:	MNS000110924
Trans Name:	STERICYCLE SPECIALTY WASTE SOLUTIONS INC
Trans 2 EPA ID:	CAD983649880
Trans 2 Name:	PSC ENVIRONMENTAL SERVICES LP
TSDF EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	331 - Off-specification, aged, or surplus organics
RCRA Code:	Not reported
Meth Code:	H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons:	0.0165
Waste Quantity:	33
Quantity Unit:	P
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20150326
Creation Date:	6/25/2015 22:16:05
Receipt Date:	20150402
Manifest ID:	007344519FLE
Trans EPA ID:	MNS000110924
Trans Name:	STERICYCLE SPECIALTY WASTE SOLUTIONS INC
Trans 2 EPA ID:	CAD983649880
Trans 2 Name:	PSC ENVIRONMENTAL SERVICES LP
TSDF EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	331 - Off-specification, aged, or surplus organics
RCRA Code:	D001
Meth Code:	H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons:	0.003

DRAFT

BURLINGTON STORE # 768 (Continued) **S109348846**

Waste Quantity:	6
Quantity Unit:	P
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported
Shipment Date:	20150326
Creation Date:	6/25/2015 22:16:05
Receipt Date:	20150402
Manifest ID:	007344519FLE
Trans EPA ID:	MNS000110924
Trans Name:	STERICYCLE SPECIALTY WASTE SOLUTIONS INC
Trans 2 EPA ID:	CAD983649880
Trans 2 Name:	PSC ENVIRONMENTAL SERVICES LP
TSDF EPA ID:	CAD008364432
Trans Name:	RHO CHEM LLC
TSDF Alt EPA ID:	Not reported
TSDF Alt Name:	Not reported
Waste Code Description:	331 - Off-specification, aged, or surplus organics
RCRA Code:	Not reported
Meth Code:	H141 - Storage, Bulking, And/Or Transfer Off Site--No Treatment/Reovery (H010-H129) Or (H131-H135)
Quantity Tons:	0.019
Waste Quantity:	38
Quantity Unit:	P
Additional Code 1:	Not reported
Additional Code 2:	Not reported
Additional Code 3:	Not reported
Additional Code 4:	Not reported
Additional Code 5:	Not reported

San Bern. Co. Permit:

Name:	BURLINGTON STORE #768
Address:	19131 BEAR VALLEY RD
City,State,Zip:	APPLE VALLEY, CA 92308
Region:	SAN BERNARDINO
Facility ID:	FA0015973
Owner:	Burlington Stores
Permit Number:	PT0034590
Permit Category:	CONDITIONALLY EXEMPT SM QTY GENERATOR SPECIAL
Facility Status:	ACTIVE
Expiration Date:	05/31/2021

Name:	BURLINGTON STORE #768
Address:	19131 BEAR VALLEY RD
City,State,Zip:	APPLE VALLEY, CA 92308
Region:	SAN BERNARDINO
Facility ID:	FA0015973
Owner:	Burlington Stores
Permit Number:	PT0037239
Permit Category:	HAZMAT HANDLER GENERAL ACT.(NB)
Facility Status:	FEE EXEMPT
Expiration Date:	05/31/2018

DRAFT

BURLINGTON STORE # 768 (Continued) **S109348846**

CERS:
Name: BURLINGTON STORE #768
Address: 19131 BEAR VALLEY RD
City,State,Zip: APPLE VALLEY, CA 92308
Site ID: 273958
CERS ID: 10624894
CERS Description: Chemical Storage Facilities

Violations:
Site ID: 273958
Site Name: Burlington Store #768
Violation Date: 04-14-2021
Citation: Un-Specified
Violation Description: Hazardous Waste Generator Program - Administration/Documentation - General Local Ordinance
Violation Notes: Returned to compliance on 04/19/2021. OBSERVATION: At the time of the inspection (3) 57 gallon drums of waste toxic liquids, (1) 57 gallon drum of waste toxic solids, and (1) 18 gallon container of waste aerosols were observed on site which were reported in lesser quantities via CERS. CORRECTIVE ACTION: Submit an accurate and complete hazardous waste inventory via CERS. Your CERS ID is 10624894.
Violation Division: San Bernardino County Fire Department
Violation Program: HW
Violation Source: CERS

Site ID: 273958
Site Name: Burlington Store #768
Violation Date: 09-27-2018
Citation: Un-Specified
Violation Description: Hazardous Waste Generator Program - Administration/Documentation - General Local Ordinance
Violation Notes: Returned to compliance on 04/19/2021. Failure to provide facility information to CUPA including, but not limited to, the following: 1. Names, addresses and phone numbers of the business and owner. 2. Name and twenty-four (24) hour phone number of the emergency contact person. 3. Site address where hazardous waste is generated or produced, if different from the facility address. 4. List of each type of hazardous waste generated. 5. The permittee shall prepare a Contingency Plan as defined in Section 66260.10 and Section 66265.50 et seq of Title 22 of the California Code of Regulations (SBCC 23.0602.23.0712) Observation: Failure to provide the correct CUPA local agency release notification telephone number to the facility Business Plan (909-386-8425 is the correct telephone number), and failure to submit the correct maximum daily amount for the disclosure of toxic waste; 3 - 55-gallon containers of toxic waste are present at this time. Corrective Action: Update the facility Business Plan and submit the [Truncated]
Violation Division: San Bernardino County Fire Department
Violation Program: HW
Violation Source: CERS

Evaluation:
Eval General Type: Compliance Evaluation Inspection
Eval Date: 04-14-2021
Violations Found: Yes
Eval Type: Routine done by local agency
Eval Notes: Not reported

DRAFT

BURLINGTON STORE # 768 (Continued) **S109348846**

Eval Division: San Bernardino County Fire Department
Eval Program: HW
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection
Eval Date: 08-07-2015
Violations Found: No
Eval Type: Routine done by local agency
Eval Notes: INSPECTION OF BURLINGTON STORE
Eval Division: San Bernardino County Fire Department
Eval Program: HW
Eval Source: CERS

Eval General Type: Compliance Evaluation Inspection
Eval Date: 09-27-2018
Violations Found: Yes
Eval Type: Routine done by local agency
Eval Notes: Not reported
Eval Division: San Bernardino County Fire Department
Eval Program: HW
Eval Source: CERS

Coordinates:
Site ID: 273958
Facility Name: Burlington Store #768
Env Int Type Code: HWG
Program ID: 10624894
Coord Name: Not reported
Ref Point Type Desc: Center of a facility or station.
Latitude: 34.470950
Longitude: -117.246320

Affiliation:
Affiliation Type Desc: Identification Signer
Entity Name: ASHLEY CAMPBELL
Entity Title: Agent For
Affiliation Address: Not reported
Affiliation City: Not reported
Affiliation State: Not reported
Affiliation Country: Not reported
Affiliation Zip: Not reported
Affiliation Phone: Not reported

Affiliation Type Desc: Operator
Entity Name: Burlington Stores
Entity Title: Not reported
Affiliation Address: Not reported
Affiliation City: Not reported
Affiliation State: Not reported
Affiliation Country: Not reported
Affiliation Zip: Not reported
Affiliation Phone: (609) 387-7800

Affiliation Type Desc: Document Preparer
Entity Name: ASHLEY CAMPBELL
Entity Title: Not reported

DRAFT

BURLINGTON STORE # 768 (Continued) **S109348846**

Affiliation Address: Not reported
Affiliation City: Not reported
Affiliation State: Not reported
Affiliation Country: Not reported
Affiliation Zip: Not reported
Affiliation Phone: Not reported

Affiliation Type Desc: Facility Mailing Address
Entity Name: Mailing Address
Entity Title: Not reported
Affiliation Address: 1830 Route 130 North
Affiliation City: Burlington
Affiliation State: NJ
Affiliation Country: Not reported
Affiliation Zip: 08016
Affiliation Phone: Not reported

Affiliation Type Desc: Legal Owner
Entity Name: Burlington Stores
Entity Title: Not reported
Affiliation Address: 1830 Route 130 North
Affiliation City: Burlington
Affiliation State: NJ
Affiliation Country: United States
Affiliation Zip: 08016
Affiliation Phone: (609) 387-7800

Affiliation Type Desc: CUPA District
Entity Name: San Bernardino County Fire
Entity Title: Not reported
Affiliation Address: 620 South E Street
Affiliation City: San Bernardino
Affiliation State: CA
Affiliation Country: Not reported
Affiliation Zip: 92415-0153
Affiliation Phone: (909) 386-8401

Affiliation Type Desc: Environmental Contact
Entity Name: ASHLEY CAMPBELL
Entity Title: Not reported
Affiliation Address: 5151 San Felipe St, Ste 1000
Affiliation City: Houston
Affiliation State: TX
Affiliation Country: Not reported
Affiliation Zip: 77056
Affiliation Phone: Not reported

Affiliation Type Desc: Property Owner
Entity Name: WRI Alliance Riley Venture
Entity Title: Not reported
Affiliation Address: 2600 Citadel Plaza
Affiliation City: Houston
Affiliation State: TX
Affiliation Country: United States
Affiliation Zip: 77008
Affiliation Phone: (714) 653-7300

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BURLINGTON STORE # 768 (Continued) **S109348846**

Affiliation Type Desc:	Parent Corporation
Entity Name:	Burlington Stores
Entity Title:	Not reported
Affiliation Address:	Not reported
Affiliation City:	Not reported
Affiliation State:	Not reported
Affiliation Country:	Not reported
Affiliation Zip:	Not reported
Affiliation Phone:	Not reported

HWTS:

Name:	BURLINGTON STORE # 768
Address:	19131 BEAR VALLEY RD
Address 2:	Not reported
City,State,Zip:	APPLE VALLEY, CA 92308
EPA ID:	CAL000403258
Inactive Date:	Not reported
Create Date:	12/24/2014
Last Act Date:	11/02/2020
Mailing Name:	Not reported
Mailing Address:	1830 ROUTE 130 N
Mailing Address 2:	Not reported
Mailing City,State,Zip:	BURLINGTON ', NJ 080160000
Owner Name:	BURLINGTON COAT FACTORY
Owner Address:	1830 ROUTE 130 N
Owner Address 2:	Not reported
Owner City,State,Zip:	BURLINGTON, NJ 080163017
Contact Name:	NANCY DENNION
Contact Address:	1830 ROUTE 130N
Contact Address 2:	Not reported
City,State,Zip:	BURLINGTON, NJ 080163017

NAICS:

EPA ID:	CAL000403258
Create Date:	2014-12-24 11:55:54.183
NAICS Code:	45211
NAICS Description:	Department Stores
Issued EPA ID Date:	2014-12-24 11:55:54.17300
Inactive Date:	Not reported
Facility Name:	BURLINGTON STORE # 768
Facility Address:	19131 BEAR VALLEY RD
Facility Address 2:	Not reported
Facility City:	APPLE VALLEY
Facility County:	Not reported
Facility State:	CA
Facility Zip:	92308

DRAFT

Count: 1 records.

ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
SAN BERNARDINO COUNT	S107532438		3 1/2 MI E OF BEAR VALLEY & HW		CDL

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GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Number of Days to Update: Provides confirmation that EDR is reporting records that have been updated within 90 days from the date the government agency made the information available to the public.

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL: National Priority List

National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 07/29/2021
Date Data Arrived at EDR: 08/04/2021
Date Made Active in Reports: 08/31/2021
Number of Days to Update: 27

Source: EPA
Telephone: N/A
Last EDR Contact: 10/01/2021
Next Scheduled EDR Contact: 01/10/2022
Data Release Frequency: Quarterly

NPL Site Boundaries

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC)
Telephone: 202-564-7333

EPA Region 1
Telephone 617-918-1143

EPA Region 6
Telephone: 214-655-6659

EPA Region 3
Telephone 215-814-5418

EPA Region 7
Telephone: 913-551-7247

EPA Region 4
Telephone 404-562-8033

EPA Region 8
Telephone: 303-312-6774

EPA Region 5
Telephone 312-886-6686

EPA Region 9
Telephone: 415-947-4246

EPA Region 10
Telephone 206-553-8665

Proposed NPL: Proposed National Priority List Sites

A site that has been proposed for listing on the National Priorities List through the issuance of a proposed rule in the Federal Register. EPA then accepts public comments on the site, responds to the comments, and places on the NPL those sites that continue to meet the requirements for listing.

Date of Government Version: 07/29/2021
Date Data Arrived at EDR: 08/04/2021
Date Made Active in Reports: 08/31/2021
Number of Days to Update: 27

Source: EPA
Telephone: N/A
Last EDR Contact: 10/01/2021
Next Scheduled EDR Contact: 01/10/2022
Data Release Frequency: Quarterly

NPL LIENS: Federal Superfund Liens

Federal Superfund Liens. Under the authority granted the USEPA by CERCLA of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner received notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

DRAFT

Date of Government Version: 10/15/1991
Date Data Arrived at EDR: 02/02/1994
Date Made Active in Reports: 03/30/1994
Number of Days to Update: 56

Source: EPA
Telephone: 202-564-4267
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

Federal Delisted NPL site list

Delisted NPL: National Priority List Deletions

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 07/29/2021
Date Data Arrived at EDR: 08/04/2021
Date Made Active in Reports: 08/31/2021
Number of Days to Update: 27

Source: EPA
Telephone: N/A
Last EDR Contact: 10/01/2021
Next Scheduled EDR Contact: 01/10/2022
Data Release Frequency: Quarterly

Federal CERCLIS list

FEDERAL FACILITY: Federal Facility Site Information listing

A listing of National Priority List (NPL) and Base Realignment and Closure (BRAC) sites found in the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) Database where EPA Federal Facilities Restoration and Reuse Office is involved in cleanup activities.

Date of Government Version: 05/25/2021
Date Data Arrived at EDR: 06/24/2021
Date Made Active in Reports: 09/20/2021
Number of Days to Update: 88

Source: Environmental Protection Agency
Telephone: 703-603-8704
Last EDR Contact: 10/01/2021
Next Scheduled EDR Contact: 01/10/2022
Data Release Frequency: Varies

SEMS: Superfund Enterprise Management System

SEMS (Superfund Enterprise Management System) tracks hazardous waste sites, potentially hazardous waste sites, and remedial activities performed in support of EPA's Superfund Program across the United States. The list was formerly know as CERCLIS, renamed to SEMS by the EPA in 2015. The list contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). This dataset also contains sites which are either proposed to or on the National Priorities List (NPL) and the sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 07/29/2021
Date Data Arrived at EDR: 08/04/2021
Date Made Active in Reports: 08/31/2021
Number of Days to Update: 27

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 10/01/2021
Next Scheduled EDR Contact: 01/24/2022
Data Release Frequency: Quarterly

Federal CERCLIS NFRAP site list

SEMS-ARCHIVE: Superfund Enterprise Management System Archive

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SEMS-ARCHIVE (Superfund Enterprise Management System Archive) tracks sites that have no further interest under the Federal Superfund Program based on available information. The list was formerly known as the CERCLIS-NFRAP, renamed to SEMS ARCHIVE by the EPA in 2015. EPA may perform a minimal level of assessment work at a site while it is archived if site conditions change and/or new information becomes available. Archived sites have been removed and archived from the inventory of SEMS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list the site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. The decision does not necessarily mean that there is no hazard associated with a given site; it only means that. based upon available information, the location is not judged to be potential NPL site.

Date of Government Version: 07/29/2021
Date Data Arrived at EDR: 08/04/2021
Date Made Active in Reports: 08/31/2021
Number of Days to Update: 27

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 10/01/2021
Next Scheduled EDR Contact: 01/24/2022
Data Release Frequency: Quarterly

Federal RCRA CORRACTS facilities list

CORRACTS: Corrective Action Report

CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 09/13/2021
Date Data Arrived at EDR: 09/15/2021
Date Made Active in Reports: 10/12/2021
Number of Days to Update: 27

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 09/15/2021
Next Scheduled EDR Contact: 01/03/2022
Data Release Frequency: Quarterly

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF: RCRA - Treatment, Storage and Disposal

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Transporters are individuals or entities that move hazardous waste from the generator offsite to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

Date of Government Version: 09/13/2021
Date Data Arrived at EDR: 09/15/2021
Date Made Active in Reports: 10/12/2021
Number of Days to Update: 27

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 09/15/2021
Next Scheduled EDR Contact: 01/03/2022
Data Release Frequency: Quarterly

Federal RCRA generators list

RCRA-LQG: RCRA - Large Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

Date of Government Version: 09/13/2021
Date Data Arrived at EDR: 09/15/2021
Date Made Active in Reports: 10/12/2021
Number of Days to Update: 27

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 09/15/2021
Next Scheduled EDR Contact: 01/03/2022
Data Release Frequency: Quarterly

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RCRA-SQG: RCRA - Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

Date of Government Version: 09/13/2021
Date Data Arrived at EDR: 09/15/2021
Date Made Active in Reports: 10/12/2021
Number of Days to Update: 27

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 09/15/2021
Next Scheduled EDR Contact: 01/03/2022
Data Release Frequency: Quarterly

RCRA-VSQG: RCRA - Very Small Quantity Generators (Formerly Conditionally Exempt Small Quantity Generators)

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Very small quantity generators (VSQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

Date of Government Version: 09/13/2021
Date Data Arrived at EDR: 09/15/2021
Date Made Active in Reports: 10/12/2021
Number of Days to Update: 27

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 09/15/2021
Next Scheduled EDR Contact: 01/03/2022
Data Release Frequency: Quarterly

Federal institutional controls / engineering controls registries

LUCIS: Land Use Control Information System

LUCIS contains records of land use control information pertaining to the former Navy Base Realignment and Closure properties.

Date of Government Version: 07/12/2021
Date Data Arrived at EDR: 08/06/2021
Date Made Active in Reports: 10/22/2021
Number of Days to Update: 77

Source: Department of the Navy
Telephone: 843-820-7326
Last EDR Contact: 08/05/2021
Next Scheduled EDR Contact: 11/22/2021
Data Release Frequency: Varies

US ENG CONTROLS: Engineering Controls Sites List

A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

Date of Government Version: 05/17/2021
Date Data Arrived at EDR: 05/21/2021
Date Made Active in Reports: 08/11/2021
Number of Days to Update: 82

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 08/23/2021
Next Scheduled EDR Contact: 12/06/2021
Data Release Frequency: Varies

US INST CONTROLS: Institutional Controls Sites List

A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

Date of Government Version: 05/17/2021
Date Data Arrived at EDR: 05/21/2021
Date Made Active in Reports: 08/11/2021
Number of Days to Update: 82

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 08/23/2021
Next Scheduled EDR Contact: 12/06/2021
Data Release Frequency: Varies

DRAFT

Federal ERNS list

ERNS: Emergency Response Notification System

Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 06/14/2021
Date Data Arrived at EDR: 06/17/2021
Date Made Active in Reports: 08/17/2021
Number of Days to Update: 61

Source: National Response Center, United States Coast Guard
Telephone: 202-267-2180
Last EDR Contact: 09/21/2021
Next Scheduled EDR Contact: 01/03/2022
Data Release Frequency: Quarterly

State- and tribal - equivalent NPL

RESPONSE: State Response Sites

Identifies confirmed release sites where DTSC is involved in remediation, either in a lead or oversight capacity. These confirmed release sites are generally high-priority and high potential risk.

Date of Government Version: 07/22/2021
Date Data Arrived at EDR: 07/22/2021
Date Made Active in Reports: 10/08/2021
Number of Days to Update: 78

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 10/26/2021
Next Scheduled EDR Contact: 02/07/2022
Data Release Frequency: Quarterly

State- and tribal - equivalent CERCLIS

ENVIROSTOR: EnviroStor Database

The Department of Toxic Substances Control's (DTSC's) Site Mitigation and Brownfields Reuse Program's (SMBRP's) EnviroStor database identifes sites that have known contamination or sites for which there may be reasons to investigate further. The database includes the following site types: Federal Superfund sites (National Priorities List (NPL)); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites. EnviroStor provides similar information to the information that was available in CalSites, and provides additional site information, including, but not limited to, identification of formerly-contaminated properties that have been released for reuse, properties where environmental deed restrictions have been recorded to prevent inappropriate land uses, and risk characterization information that is used to assess potential impacts to public health and the environment at contaminated sites.

Date of Government Version: 07/22/2021
Date Data Arrived at EDR: 07/22/2021
Date Made Active in Reports: 10/08/2021
Number of Days to Update: 78

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 10/26/2021
Next Scheduled EDR Contact: 02/07/2022
Data Release Frequency: Quarterly

State and tribal landfill and/or solid waste disposal site lists

SWF/LF (SWIS): Solid Waste Information System

Active, Closed and Inactive Landfills. SWF/LF records typically contain an inve ntory of solid waste disposal facilities or landfills. These may be active or i nactive facilities or open dumps that failed to meet RCRA Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 05/10/2021
Date Data Arrived at EDR: 05/11/2021
Date Made Active in Reports: 07/27/2021
Number of Days to Update: 77

Source: Department of Resources Recycling and Recovery
Telephone: 916-341-6320
Last EDR Contact: 08/10/2021
Next Scheduled EDR Contact: 11/22/2021
Data Release Frequency: Quarterly

State and tribal leaking storage tank lists

DRAFT

LUST REG 5: Leaking Underground Storage Tank Database

Leaking Underground Storage Tank locations. Alameda, Alpine, Amador, Butte, Colusa, Contra Costa, Calveras, El Dorado, Fresno, Glenn, Kern, Kings, Lake, Lassen, Madera, Mariposa, Merced, Modoc, Napa, Nevada, Placer, Plumas, Sacramento, San Joaquin, Shasta, Solano, Stanislaus, Sutter, Tehama, Tulare, Tuolumne, Yolo, Yuba counties.

Date of Government Version: 07/01/2008
Date Data Arrived at EDR: 07/22/2008
Date Made Active in Reports: 07/31/2008
Number of Days to Update: 9

Source: California Regional Water Quality Control Board Central Valley Region (5)
Telephone: 916-464-4834
Last EDR Contact: 07/01/2011
Next Scheduled EDR Contact: 10/17/2011
Data Release Frequency: No Update Planned

LUST: Leaking Underground Fuel Tank Report (GEOTRACKER)

Leaking Underground Storage Tank (LUST) Sites included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 06/03/2021
Date Data Arrived at EDR: 06/03/2021
Date Made Active in Reports: 08/24/2021
Number of Days to Update: 82

Source: State Water Resources Control Board
Telephone: see region list
Last EDR Contact: 09/07/2021
Next Scheduled EDR Contact: 12/20/2021
Data Release Frequency: Quarterly

LUST REG 9: Leaking Underground Storage Tank Report

Orange, Riverside, San Diego counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 03/01/2001
Date Data Arrived at EDR: 04/23/2001
Date Made Active in Reports: 05/21/2001
Number of Days to Update: 28

Source: California Regional Water Quality Control Board San Diego Region (9)
Telephone: 858-637-5595
Last EDR Contact: 09/26/2011
Next Scheduled EDR Contact: 01/09/2012
Data Release Frequency: No Update Planned

LUST REG 8: Leaking Underground Storage Tanks

California Regional Water Quality Control Board Santa Ana Region (8). For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/14/2005
Date Data Arrived at EDR: 02/15/2005
Date Made Active in Reports: 03/28/2005
Number of Days to Update: 41

Source: California Regional Water Quality Control Board Santa Ana Region (8)
Telephone: 909-782-4496
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

LUST REG 7: Leaking Underground Storage Tank Case Listing

Leaking Underground Storage Tank locations. Imperial, Riverside, San Diego, Santa Barbara counties.

Date of Government Version: 02/26/2004
Date Data Arrived at EDR: 02/26/2004
Date Made Active in Reports: 03/24/2004
Number of Days to Update: 27

Source: California Regional Water Quality Control Board Colorado River Basin Region (7)
Telephone: 760-776-8943
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

LUST REG 4: Underground Storage Tank Leak List

Los Angeles, Ventura counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/07/2004
Date Data Arrived at EDR: 09/07/2004
Date Made Active in Reports: 10/12/2004
Number of Days to Update: 35

Source: California Regional Water Quality Control Board Los Angeles Region (4)
Telephone: 213-576-6710
Last EDR Contact: 09/06/2011
Next Scheduled EDR Contact: 12/19/2011
Data Release Frequency: No Update Planned

DRAFT

LUST REG 3: Leaking Underground Storage Tank Database
Leaking Underground Storage Tank locations. Monterey, San Benito, San Luis Obispo, Santa Barbara, Santa Cruz counties.

Date of Government Version: 05/19/2003
Date Data Arrived at EDR: 05/19/2003
Date Made Active in Reports: 06/02/2003
Number of Days to Update: 14

Source: California Regional Water Quality Control Board Central Coast Region (3)
Telephone: 805-542-4786
Last EDR Contact: 07/18/2011
Next Scheduled EDR Contact: 10/31/2011
Data Release Frequency: No Update Planned

LUST REG 2: Fuel Leak List
Leaking Underground Storage Tank locations. Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, Sonoma counties.

Date of Government Version: 09/30/2004
Date Data Arrived at EDR: 10/20/2004
Date Made Active in Reports: 11/19/2004
Number of Days to Update: 30

Source: California Regional Water Quality Control Board San Francisco Bay Region (2)
Telephone: 510-622-2433
Last EDR Contact: 09/19/2011
Next Scheduled EDR Contact: 01/02/2012
Data Release Frequency: No Update Planned

LUST REG 1: Active Toxic Site Investigation
Del Norte, Humboldt, Lake, Mendocino, Modoc, Siskiyou, Sonoma, Trinity counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/01/2001
Date Data Arrived at EDR: 02/28/2001
Date Made Active in Reports: 03/29/2001
Number of Days to Update: 29

Source: California Regional Water Quality Control Board North Coast (1)
Telephone: 707-570-3769
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

LUST REG 6V: Leaking Underground Storage Tank Case Listing
Leaking Underground Storage Tank locations. Inyo, Kern, Los Angeles, Mono, San Bernardino counties.

Date of Government Version: 06/07/2005
Date Data Arrived at EDR: 06/07/2005
Date Made Active in Reports: 06/29/2005
Number of Days to Update: 22

Source: California Regional Water Quality Control Board Victorville Branch Office (6)
Telephone: 760-241-7365
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

LUST REG 6L: Leaking Underground Storage Tank Case Listing
For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/09/2003
Date Data Arrived at EDR: 09/10/2003
Date Made Active in Reports: 10/07/2003
Number of Days to Update: 27

Source: California Regional Water Quality Control Board Lahontan Region (6)
Telephone: 530-542-5572
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

INDIAN LUST R5: Leaking Underground Storage Tanks on Indian Land
Leaking underground storage tanks located on Indian Land in Michigan, Minnesota and Wisconsin.

Date of Government Version: 04/06/2021
Date Data Arrived at EDR: 06/11/2021
Date Made Active in Reports: 09/07/2021
Number of Days to Update: 88

Source: EPA, Region 5
Telephone: 312-886-7439
Last EDR Contact: 10/22/2021
Next Scheduled EDR Contact: 01/31/2022
Data Release Frequency: Varies

INDIAN LUST R6: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in New Mexico and Oklahoma.

Date of Government Version: 05/17/2021
Date Data Arrived at EDR: 06/11/2021
Date Made Active in Reports: 09/07/2021
Number of Days to Update: 88

Source: EPA Region 6
Telephone: 214-665-6597
Last EDR Contact: 10/22/2021
Next Scheduled EDR Contact: 01/31/2022
Data Release Frequency: Varies

DRAFT

INDIAN LUST R4: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Florida, Mississippi and North Carolina.

Date of Government Version: 05/28/2021
Date Data Arrived at EDR: 06/22/2021
Date Made Active in Reports: 09/20/2021
Number of Days to Update: 90
Source: EPA Region 4
Telephone: 404-562-8677
Last EDR Contact: 10/22/2021
Next Scheduled EDR Contact: 01/31/2022
Data Release Frequency: Varies

INDIAN LUST R10: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 04/27/2021
Date Data Arrived at EDR: 06/11/2021
Date Made Active in Reports: 09/07/2021
Number of Days to Update: 88
Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 10/22/2021
Next Scheduled EDR Contact: 01/31/2022
Data Release Frequency: Varies

INDIAN LUST R9: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Arizona, California, New Mexico and Nevada

Date of Government Version: 05/27/2021
Date Data Arrived at EDR: 06/11/2021
Date Made Active in Reports: 09/07/2021
Number of Days to Update: 88
Source: Environmental Protection Agency
Telephone: 415-972-3372
Last EDR Contact: 10/22/2021
Next Scheduled EDR Contact: 01/31/2022
Data Release Frequency: Varies

INDIAN LUST R8: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming.

Date of Government Version: 05/27/2021
Date Data Arrived at EDR: 06/11/2021
Date Made Active in Reports: 09/07/2021
Number of Days to Update: 88
Source: EPA Region 8
Telephone: 303-312-6271
Last EDR Contact: 10/22/2021
Next Scheduled EDR Contact: 01/31/2022
Data Release Frequency: Varies

INDIAN LUST R7: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Iowa, Kansas, and Nebraska

Date of Government Version: 06/01/2021
Date Data Arrived at EDR: 06/11/2021
Date Made Active in Reports: 09/07/2021
Number of Days to Update: 88
Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 10/22/2021
Next Scheduled EDR Contact: 01/31/2022
Data Release Frequency: Varies

INDIAN LUST R1: Leaking Underground Storage Tanks on Indian Land
A listing of leaking underground storage tank locations on Indian Land.

Date of Government Version: 04/28/2021
Date Data Arrived at EDR: 06/11/2021
Date Made Active in Reports: 09/07/2021
Number of Days to Update: 88
Source: EPA Region 1
Telephone: 617-918-1313
Last EDR Contact: 10/22/2021
Next Scheduled EDR Contact: 01/31/2022
Data Release Frequency: Varies

CPS-SLIC: Statewide SLIC Cases (GEOTRACKER)
Cleanup Program Sites (CPS; also known as Site Cleanups [SC] and formerly known as Spills, Leaks, Investigations, and Cleanups [SLIC] sites) included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 06/03/2021
Date Data Arrived at EDR: 06/03/2021
Date Made Active in Reports: 08/24/2021
Number of Days to Update: 82
Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 09/07/2021
Next Scheduled EDR Contact: 12/20/2021
Data Release Frequency: Varies

DRAFT

SLIC REG 1: Active Toxic Site Investigations
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/03/2003
Date Data Arrived at EDR: 04/07/2003
Date Made Active in Reports: 04/25/2003
Number of Days to Update: 18

Source: California Regional Water Quality Control Board, North Coast Region (1)
Telephone: 707-576-2220
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

SLIC REG 2: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/30/2004
Date Data Arrived at EDR: 10/20/2004
Date Made Active in Reports: 11/19/2004
Number of Days to Update: 30

Source: Regional Water Quality Control Board San Francisco Bay Region (2)
Telephone: 510-286-0457
Last EDR Contact: 09/19/2011
Next Scheduled EDR Contact: 01/02/2012
Data Release Frequency: No Update Planned

SLIC REG 3: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 05/18/2006
Date Data Arrived at EDR: 05/18/2006
Date Made Active in Reports: 06/15/2006
Number of Days to Update: 28

Source: California Regional Water Quality Control Board Central Coast Region (3)
Telephone: 805-549-3147
Last EDR Contact: 07/18/2011
Next Scheduled EDR Contact: 10/31/2011
Data Release Frequency: No Update Planned

SLIC REG 4: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 11/17/2004
Date Data Arrived at EDR: 11/18/2004
Date Made Active in Reports: 01/04/2005
Number of Days to Update: 47

Source: Region Water Quality Control Board Los Angeles Region (4)
Telephone: 213-576-6600
Last EDR Contact: 07/01/2011
Next Scheduled EDR Contact: 10/17/2011
Data Release Frequency: No Update Planned

SLIC REG 5: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/01/2005
Date Data Arrived at EDR: 04/05/2005
Date Made Active in Reports: 04/21/2005
Number of Days to Update: 16

Source: Regional Water Quality Control Board Central Valley Region (5)
Telephone: 916-464-3291
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

SLIC REG 6V: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 05/24/2005
Date Data Arrived at EDR: 05/25/2005
Date Made Active in Reports: 06/16/2005
Number of Days to Update: 22

Source: Regional Water Quality Control Board, Victorville Branch
Telephone: 619-241-6583
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

DRAFT

SLIC REG 6L: SLIC Sites
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/07/2004
Date Data Arrived at EDR: 09/07/2004
Date Made Active in Reports: 10/12/2004
Number of Days to Update: 35
Source: California Regional Water Quality Control Board, Lahontan Region
Telephone: 530-542-5574
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

SLIC REG 7: SLIC List
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 11/24/2004
Date Data Arrived at EDR: 11/29/2004
Date Made Active in Reports: 01/04/2005
Number of Days to Update: 36
Source: California Regional Quality Control Board, Colorado River Basin Region
Telephone: 760-346-7491
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

SLIC REG 8: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/03/2008
Date Data Arrived at EDR: 04/03/2008
Date Made Active in Reports: 04/14/2008
Number of Days to Update: 11
Source: California Region Water Quality Control Board Santa Ana Region (8)
Telephone: 951-782-3298
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

SLIC REG 9: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/10/2007
Date Data Arrived at EDR: 09/11/2007
Date Made Active in Reports: 09/28/2007
Number of Days to Update: 17
Source: California Regional Water Quality Control Board San Diego Region (9)
Telephone: 858-467-2980
Last EDR Contact: 08/08/2011
Next Scheduled EDR Contact: 11/21/2011
Data Release Frequency: No Update Planned

State and tribal registered storage tank lists

FEMA UST: Underground Storage Tank Listing
A listing of all FEMA owned underground storage tanks.

Date of Government Version: 01/29/2021
Date Data Arrived at EDR: 02/17/2021
Date Made Active in Reports: 03/22/2021
Number of Days to Update: 33
Source: FEMA
Telephone: 202-646-5797
Last EDR Contact: 11/01/2021
Next Scheduled EDR Contact: 01/17/2022
Data Release Frequency: Varies

MILITARY UST SITES: Military UST Sites (GEOTRACKER)
Military ust sites

Date of Government Version: 06/03/2021
Date Data Arrived at EDR: 06/03/2021
Date Made Active in Reports: 08/24/2021
Number of Days to Update: 82
Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 09/07/2021
Next Scheduled EDR Contact: 12/20/2021
Data Release Frequency: Varies

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GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

UST: Active UST Facilities
Active UST facilities gathered from the local regulatory agencies

Date of Government Version: 06/03/2021
Date Data Arrived at EDR: 06/03/2021
Date Made Active in Reports: 08/24/2021
Number of Days to Update: 82
Source: SWRCB
Telephone: 916-341-5851
Last EDR Contact: 09/07/2021
Next Scheduled EDR Contact: 12/20/2021
Data Release Frequency: Semi-Annually

UST CLOSURE: Proposed Closure of Underground Storage Tank (UST) Cases
UST cases that are being considered for closure by either the State Water Resources Control Board or the Executive Director have been posted for a 60-day public comment period. UST Case Closures being proposed for consideration by the State Water Resources Control Board. These are primarily UST cases that meet closure criteria under the decisional framework in State Water Board Resolution No. 92-49 and other Board orders. UST Case Closures proposed for consideration by the Executive Director pursuant to State Water Board Resolution No. 2012-0061. These are cases that meet the criteria of the Low-Threat UST Case Closure Policy. UST Case Closure Review Denials and Approved Orders.

Date of Government Version: 05/20/2021
Date Data Arrived at EDR: 06/04/2021
Date Made Active in Reports: 08/30/2021
Number of Days to Update: 87
Source: State Water Resources Control Board
Telephone: 916-327-7844
Last EDR Contact: 09/08/2021
Next Scheduled EDR Contact: 12/20/2021
Data Release Frequency: Varies

AST: Aboveground Petroleum Storage Tank Facilities
A listing of aboveground storage tank petroleum storage tank locations.

Date of Government Version: 07/06/2016
Date Data Arrived at EDR: 07/12/2016
Date Made Active in Reports: 09/19/2016
Number of Days to Update: 69
Source: California Environmental Protection Agency
Telephone: 916-327-5092
Last EDR Contact: 09/09/2021
Next Scheduled EDR Contact: 12/27/2021
Data Release Frequency: Varies

INDIAN UST R1: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 1 (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont and ten Tribal Nations).

Date of Government Version: 04/28/2021
Date Data Arrived at EDR: 06/11/2021
Date Made Active in Reports: 09/07/2021
Number of Days to Update: 88
Source: EPA, Region 1
Telephone: 617-918-1313
Last EDR Contact: 10/22/2021
Next Scheduled EDR Contact: 01/31/2022
Data Release Frequency: Varies

INDIAN UST R7: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 7 (Iowa, Kansas, Missouri, Nebraska, and 9 Tribal Nations).

Date of Government Version: 06/01/2021
Date Data Arrived at EDR: 06/11/2021
Date Made Active in Reports: 09/07/2021
Number of Days to Update: 88
Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 10/22/2021
Next Scheduled EDR Contact: 01/31/2022
Data Release Frequency: Varies

INDIAN UST R8: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 8 (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming and 27 Tribal Nations).

Date of Government Version: 05/27/2021
Date Data Arrived at EDR: 06/11/2021
Date Made Active in Reports: 09/07/2021
Number of Days to Update: 88
Source: EPA Region 8
Telephone: 303-312-6137
Last EDR Contact: 10/22/2021
Next Scheduled EDR Contact: 01/31/2022
Data Release Frequency: Varies

DRAFT

INDIAN UST R10: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 10 (Alaska, Idaho, Oregon, Washington, and Tribal Nations).

Date of Government Version: 04/27/2021
Date Data Arrived at EDR: 06/11/2021
Date Made Active in Reports: 09/07/2021
Number of Days to Update: 88

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 10/22/2021
Next Scheduled EDR Contact: 01/31/2022
Data Release Frequency: Varies

INDIAN UST R9: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 9 (Arizona, California, Hawaii, Nevada, the Pacific Islands, and Tribal Nations).

Date of Government Version: 05/27/2021
Date Data Arrived at EDR: 06/11/2021
Date Made Active in Reports: 09/07/2021
Number of Days to Update: 88

Source: EPA Region 9
Telephone: 415-972-3368
Last EDR Contact: 10/22/2021
Next Scheduled EDR Contact: 01/31/2022
Data Release Frequency: Varies

INDIAN UST R6: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 6 (Louisiana, Arkansas, Oklahoma, New Mexico, Texas and 65 Tribes).

Date of Government Version: 05/17/2021
Date Data Arrived at EDR: 06/11/2021
Date Made Active in Reports: 09/07/2021
Number of Days to Update: 88

Source: EPA Region 6
Telephone: 214-665-7591
Last EDR Contact: 10/22/2021
Next Scheduled EDR Contact: 01/31/2022
Data Release Frequency: Varies

INDIAN UST R4: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 4 (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee and Tribal Nations)

Date of Government Version: 05/28/2021
Date Data Arrived at EDR: 06/22/2021
Date Made Active in Reports: 09/20/2021
Number of Days to Update: 90

Source: EPA Region 4
Telephone: 404-562-9424
Last EDR Contact: 10/22/2021
Next Scheduled EDR Contact: 01/31/2022
Data Release Frequency: Varies

INDIAN UST R5: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 5 (Michigan, Minnesota and Wisconsin and Tribal Nations).

Date of Government Version: 04/06/2021
Date Data Arrived at EDR: 06/11/2021
Date Made Active in Reports: 09/07/2021
Number of Days to Update: 88

Source: EPA Region 5
Telephone: 312-886-6136
Last EDR Contact: 10/22/2021
Next Scheduled EDR Contact: 01/31/2022
Data Release Frequency: Varies

State and tribal voluntary cleanup sites

VCP: Voluntary Cleanup Program Properties

Contains low threat level properties with either confirmed or unconfirmed releases and the project proponents have request that DTSC oversee investigation and/or cleanup activities and have agreed to provide coverage for DTSC's costs.

Date of Government Version: 07/22/2021
Date Data Arrived at EDR: 07/22/2021
Date Made Active in Reports: 10/08/2021
Number of Days to Update: 78

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 10/26/2021
Next Scheduled EDR Contact: 02/07/2022
Data Release Frequency: Quarterly

DRAFT

INDIAN VCP R7: Voluntary Cleanup Priority Lisitng
A listing of voluntary cleanup priority sites located on Indian Land located in Region 7.

Date of Government Version: 03/20/2008
Date Data Arrived at EDR: 04/22/2008
Date Made Active in Reports: 05/19/2008
Number of Days to Update: 27
Source: EPA, Region 7
Telephone: 913-551-7365
Last EDR Contact: 07/08/2021
Next Scheduled EDR Contact: 07/20/2009
Data Release Frequency: Varies

INDIAN VCP R1: Voluntary Cleanup Priority Listing
A listing of voluntary cleanup priority sites located on Indian Land located in Region 1.

Date of Government Version: 07/27/2015
Date Data Arrived at EDR: 09/29/2015
Date Made Active in Reports: 02/18/2016
Number of Days to Update: 142
Source: EPA, Region 1
Telephone: 617-918-1102
Last EDR Contact: 09/15/2021
Next Scheduled EDR Contact: 01/03/2022
Data Release Frequency: Varies

State and tribal Brownfields sites

BROWNFIELDS: Considered Brownfieds Sites Listing
A listing of sites the SWRCB considers to be Brownfields since these are sites have come to them through the MOA Process.

Date of Government Version: 06/17/2021
Date Data Arrived at EDR: 06/17/2021
Date Made Active in Reports: 09/13/2021
Number of Days to Update: 88
Source: State Water Resources Control Board
Telephone: 916-323-7905
Last EDR Contact: 09/21/2021
Next Scheduled EDR Contact: 01/03/2022
Data Release Frequency: Quarterly

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS: A Listing of Brownfields Sites
Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties takes development pressures off of undeveloped, open land, and both improves and protects the environment. Assessment, Cleanup and Redevelopment Exchange System (ACRES) stores information reported by EPA Brownfields grant recipients on brownfields properties assessed or cleaned up with grant funding as well as information on Targeted Brownfields Assessments performed by EPA Regions. A listing of ACRES Brownfield sites is obtained from Cleanups in My Community. Cleanups in My Community provides information on Brownfields properties for which information is reported back to EPA, as well as areas served by Brownfields grant programs.

Date of Government Version: 06/10/2021
Date Data Arrived at EDR: 06/10/2021
Date Made Active in Reports: 08/17/2021
Number of Days to Update: 68
Source: Environmental Protection Agency
Telephone: 202-566-2777
Last EDR Contact: 09/14/2021
Next Scheduled EDR Contact: 12/27/2021
Data Release Frequency: Semi-Annually

Local Lists of Landfill / Solid Waste Disposal Sites

WMUDS/SWAT: Waste Management Unit Database
Waste Management Unit Database System. WMUDS is used by the State Water Resources Control Board staff and the Regional Water Quality Control Boards for program tracking and inventory of waste management units. WMUDS is composed of the following databases: Facility Information, Scheduled Inspections Information, Waste Management Unit Information, SWAT Program Information, SWAT Report Summary Information, SWAT Report Summary Data, Chapter 15 (formerly Subchapter 15) Information, Chapter 15 Monitoring Parameters, TPCA Program Information, RCRA Program Information, Closure Information, and Interested Parties Information.

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Date of Government Version: 04/01/2000
Date Data Arrived at EDR: 04/10/2000
Date Made Active in Reports: 05/10/2000
Number of Days to Update: 30

Source: State Water Resources Control Board
Telephone: 916-227-4448
Last EDR Contact: 10/22/2021
Next Scheduled EDR Contact: 02/07/2022
Data Release Frequency: No Update Planned

SWRCY: Recycler Database
A listing of recycling facilities in California.

Date of Government Version: 06/04/2021
Date Data Arrived at EDR: 06/04/2021
Date Made Active in Reports: 08/27/2021
Number of Days to Update: 84

Source: Department of Conservation
Telephone: 916-323-3836
Last EDR Contact: 09/08/2021
Next Scheduled EDR Contact: 12/20/2021
Data Release Frequency: Quarterly

HAULERS: Registered Waste Tire Haulers Listing
A listing of registered waste tire haulers.

Date of Government Version: 11/23/2020
Date Data Arrived at EDR: 11/23/2020
Date Made Active in Reports: 02/08/2021
Number of Days to Update: 77

Source: Integrated Waste Management Board
Telephone: 916-341-6422
Last EDR Contact: 08/17/2021
Next Scheduled EDR Contact: 11/22/2021
Data Release Frequency: Varies

INDIAN ODI: Report on the Status of Open Dumps on Indian Lands
Location of open dumps on Indian land.

Date of Government Version: 12/31/1998
Date Data Arrived at EDR: 12/03/2007
Date Made Active in Reports: 01/24/2008
Number of Days to Update: 52

Source: Environmental Protection Agency
Telephone: 703-308-8245
Last EDR Contact: 10/22/2021
Next Scheduled EDR Contact: 02/07/2022
Data Release Frequency: Varies

ODI: Open Dump Inventory
An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.

Date of Government Version: 06/30/1985
Date Data Arrived at EDR: 08/09/2004
Date Made Active in Reports: 09/17/2004
Number of Days to Update: 39

Source: Environmental Protection Agency
Telephone: 800-424-9346
Last EDR Contact: 06/09/2004
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

DEBRIS REGION 9: Torres Martinez Reservation Illegal Dump Site Locations
A listing of illegal dump sites location on the Torres Martinez Indian Reservation located in eastern Riverside County and northern Imperial County, California.

Date of Government Version: 01/12/2009
Date Data Arrived at EDR: 05/07/2009
Date Made Active in Reports: 09/21/2009
Number of Days to Update: 137

Source: EPA, Region 9
Telephone: 415-947-4219
Last EDR Contact: 10/14/2021
Next Scheduled EDR Contact: 01/31/2022
Data Release Frequency: No Update Planned

IHS OPEN DUMPS: Open Dumps on Indian Land
A listing of all open dumps located on Indian Land in the United States.

Date of Government Version: 04/01/2014
Date Data Arrived at EDR: 08/06/2014
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 176

Source: Department of Health & Human Serivces, Indian Health Service
Telephone: 301-443-1452
Last EDR Contact: 10/28/2021
Next Scheduled EDR Contact: 02/07/2022
Data Release Frequency: Varies

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GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL: National Clandestine Laboratory Register

A listing of clandestine drug lab locations that have been removed from the DEAs National Clandestine Laboratory Register.

Date of Government Version: 05/18/2021
Date Data Arrived at EDR: 05/18/2021
Date Made Active in Reports: 08/03/2021
Number of Days to Update: 77

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 08/17/2021
Next Scheduled EDR Contact: 12/06/2021
Data Release Frequency: No Update Planned

HIST CAL-SITES: Calsites Database

The Calsites database contains potential or confirmed hazardous substance release properties. In 1996, California EPA reevaluated and significantly reduced the number of sites in the Calsites database. No longer updated by the state agency. It has been replaced by ENVIROSTOR.

Date of Government Version: 08/08/2005
Date Data Arrived at EDR: 08/03/2006
Date Made Active in Reports: 08/24/2006
Number of Days to Update: 21

Source: Department of Toxic Substance Control
Telephone: 916-323-3400
Last EDR Contact: 02/23/2009
Next Scheduled EDR Contact: 05/25/2009
Data Release Frequency: No Update Planned

SCH: School Property Evaluation Program

This category contains proposed and existing school sites that are being evaluated by DTSC for possible hazardous materials contamination. In some cases, these properties may be listed in the CalSites category depending on the level of threat to public health and safety or the environment they pose.

Date of Government Version: 07/22/2021
Date Data Arrived at EDR: 07/22/2021
Date Made Active in Reports: 10/08/2021
Number of Days to Update: 78

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 10/26/2021
Next Scheduled EDR Contact: 02/07/2022
Data Release Frequency: Quarterly

CDL: Clandestine Drug Labs

A listing of drug lab locations. Listing of a location in this database does not indicate that any illegal drug lab materials were or were not present there, and does not constitute a determination that the location either requires or does not require additional cleanup work.

Date of Government Version: 12/31/2019
Date Data Arrived at EDR: 01/20/2021
Date Made Active in Reports: 04/08/2021
Number of Days to Update: 78

Source: Department of Toxic Substances Control
Telephone: 916-255-6504
Last EDR Contact: 10/29/2021
Next Scheduled EDR Contact: 01/17/2022
Data Release Frequency: Varies

TOXIC PITS: Toxic Pits Cleanup Act Sites

Toxic PITS Cleanup Act Sites. TOXIC PITS identifies sites suspected of containing hazardous substances where cleanup has not yet been completed.

Date of Government Version: 07/01/1995
Date Data Arrived at EDR: 08/30/1995
Date Made Active in Reports: 09/26/1995
Number of Days to Update: 27

Source: State Water Resources Control Board
Telephone: 916-227-4364
Last EDR Contact: 01/26/2009
Next Scheduled EDR Contact: 04/27/2009
Data Release Frequency: No Update Planned

CERS HAZ WASTE: CERS HAZ WASTE

List of sites in the California Environmental Protection Agency (CalEPA) Regulated Site Portal which fall under the Hazardous Chemical Management, Hazardous Waste Onsite Treatment, Household Hazardous Waste Collection, Hazardous Waste Generator, and RCRA LQ HW Generator programs.

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Date of Government Version: 07/15/2021
Date Data Arrived at EDR: 07/15/2021
Date Made Active in Reports: 10/06/2021
Number of Days to Update: 83
Source: CalEPA
Telephone: 916-323-2514
Last EDR Contact: 10/19/2021
Next Scheduled EDR Contact: 01/31/2022
Data Release Frequency: Quarterly

US CDL: Clandestine Drug Labs

A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 05/18/2021
Date Data Arrived at EDR: 05/18/2021
Date Made Active in Reports: 08/03/2021
Number of Days to Update: 77
Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 08/17/2021
Next Scheduled EDR Contact: 12/06/2021
Data Release Frequency: Quarterly

PFAS: PFAS Contamination Site Location Listing

A listing of PFAS contaminated sites included in the GeoTracker database.

Date of Government Version: 06/04/2021
Date Data Arrived at EDR: 06/04/2021
Date Made Active in Reports: 08/27/2021
Number of Days to Update: 84
Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 09/08/2021
Next Scheduled EDR Contact: 12/20/2021
Data Release Frequency: Varies

AQUEOUS FOAM: Former Fire Training Facility Assessments Listing

Airports shown on this list are those believed to use Aqueous Film Forming Foam (AFFF), and certified by the Federal Aviation Administration (FAA) under Title 14, Code of Federal Regulations (CFR), Part 139 (14 CFR Part 139). This list was created by SWRCB using information available from the FAA. Location points shown are from the latitude and longitude listed on the FAA airport master record.

Date of Government Version: 12/01/2019
Date Data Arrived at EDR: 08/19/2021
Date Made Active in Reports: 10/28/2021
Number of Days to Update: 70
Source: State Water Resources Control Board
Telephone: 916-341-5455
Last EDR Contact: 08/19/2021
Next Scheduled EDR Contact: 12/20/2021
Data Release Frequency: Varies

Local Lists of Registered Storage Tanks

SWEEPS UST: SWEEPS UST Listing

Statewide Environmental Evaluation and Planning System. This underground storage tank listing was updated and maintained by a company contacted by the SWRCB in the early 1990's. The listing is no longer updated or maintained. The local agency is the contact for more information on a site on the SWEEPS list.

Date of Government Version: 06/01/1994
Date Data Arrived at EDR: 07/07/2005
Date Made Active in Reports: 08/11/2005
Number of Days to Update: 35
Source: State Water Resources Control Board
Telephone: N/A
Last EDR Contact: 06/03/2005
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

HIST UST: Hazardous Substance Storage Container Database

The Hazardous Substance Storage Container Database is a historical listing of UST sites. Refer to local/county source for current data.

Date of Government Version: 10/15/1990
Date Data Arrived at EDR: 01/25/1991
Date Made Active in Reports: 02/12/1991
Number of Days to Update: 18
Source: State Water Resources Control Board
Telephone: 916-341-5851
Last EDR Contact: 07/26/2001
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

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SAN FRANCISCO AST: Aboveground Storage Tank Site Listing
Aboveground storage tank sites

Date of Government Version: 08/05/2021
Date Data Arrived at EDR: 08/05/2021
Date Made Active in Reports: 10/29/2021
Number of Days to Update: 85

Source: San Francisco County Department of Public Health
Telephone: 415-252-3896
Last EDR Contact: 07/26/2021
Next Scheduled EDR Contact: 11/15/2021
Data Release Frequency: Varies

CERS TANKS: California Environmental Reporting System (CERS) Tanks
List of sites in the California Environmental Protection Agency (CalEPA) Regulated Site Portal which fall under the Aboveground Petroleum Storage and Underground Storage Tank regulatory programs.

Date of Government Version: 07/15/2021
Date Data Arrived at EDR: 07/15/2021
Date Made Active in Reports: 10/06/2021
Number of Days to Update: 83

Source: California Environmental Protection Agency
Telephone: 916-323-2514
Last EDR Contact: 10/19/2021
Next Scheduled EDR Contact: 01/31/2022
Data Release Frequency: Quarterly

CA FID UST: Facility Inventory Database
The Facility Inventory Database (FID) contains a historical listing of active and inactive underground storage tank locations from the State Water Resource Control Board. Refer to local/county source for current data.

Date of Government Version: 10/31/1994
Date Data Arrived at EDR: 09/05/1995
Date Made Active in Reports: 09/29/1995
Number of Days to Update: 24

Source: California Environmental Protection Agency
Telephone: 916-341-5851
Last EDR Contact: 12/28/1998
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

Local Land Records

LIENS: Environmental Liens Listing
A listing of property locations with environmental liens for California where DTSC is a lien holder.

Date of Government Version: 05/27/2021
Date Data Arrived at EDR: 05/28/2021
Date Made Active in Reports: 08/20/2021
Number of Days to Update: 84

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 08/24/2021
Next Scheduled EDR Contact: 12/13/2021
Data Release Frequency: Varies

LIENS 2: CERCLA Lien Information
A Federal CERCLA ('Superfund') lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. These monies are spent to investigate and address releases and threatened releases of contamination. CERCLIS provides information as to the identity of these sites and properties.

Date of Government Version: 07/29/2021
Date Data Arrived at EDR: 08/04/2021
Date Made Active in Reports: 08/31/2021
Number of Days to Update: 27

Source: Environmental Protection Agency
Telephone: 202-564-6023
Last EDR Contact: 10/01/2021
Next Scheduled EDR Contact: 01/10/2022
Data Release Frequency: Semi-Annually

DEED: Deed Restriction Listing

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Site Mitigation and Brownfields Reuse Program Facility Sites with Deed Restrictions & Hazardous Waste Management Program Facility Sites with Deed / Land Use Restriction. The DTSC Site Mitigation and Brownfields Reuse Program (SMBRP) list includes sites cleaned up under the program's oversight and generally does not include current or former hazardous waste facilities that required a hazardous waste facility permit. The list represents deed restrictions that are active. Some sites have multiple deed restrictions. The DTSC Hazardous Waste Management Program (HWMP) has developed a list of current or former hazardous waste facilities that have a recorded land use restriction at the local county recorder's office. The land use restrictions on this list were required by the DTSC HWMP as a result of the presence of hazardous substances that remain on site after the facility (or part of the facility) has been closed or cleaned up. The types of land use restriction include deed notice, deed restriction, or a land use restriction that binds current and future owners.

Date of Government Version: 05/28/2021
Date Data Arrived at EDR: 05/28/2021
Date Made Active in Reports: 08/20/2021
Number of Days to Update: 84

Source: DTSC and SWRCB
Telephone: 916-323-3400
Last EDR Contact: 08/31/2021
Next Scheduled EDR Contact: 12/13/2021
Data Release Frequency: Semi-Annually

Records of Emergency Release Reports

HMIRS: Hazardous Materials Information Reporting System

Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 09/12/2021
Date Data Arrived at EDR: 09/13/2021
Date Made Active in Reports: 09/28/2021
Number of Days to Update: 15

Source: U.S. Department of Transportation
Telephone: 202-366-4555
Last EDR Contact: 09/13/2021
Next Scheduled EDR Contact: 01/03/2022
Data Release Frequency: Quarterly

CHMIRS: California Hazardous Material Incident Report System

California Hazardous Material Incident Reporting System. CHMIRS contains information on reported hazardous material incidents (accidental releases or spills).

Date of Government Version: 06/30/2021
Date Data Arrived at EDR: 07/15/2021
Date Made Active in Reports: 10/06/2021
Number of Days to Update: 83

Source: Office of Emergency Services
Telephone: 916-845-8400
Last EDR Contact: 10/19/2021
Next Scheduled EDR Contact: 01/31/2022
Data Release Frequency: Semi-Annually

LDS: Land Disposal Sites Listing (GEOTRACKER)

Land Disposal sites (Landfills) included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 06/03/2021
Date Data Arrived at EDR: 06/03/2021
Date Made Active in Reports: 08/24/2021
Number of Days to Update: 82

Source: State Water Qualilty Control Board
Telephone: 866-480-1028
Last EDR Contact: 09/07/2021
Next Scheduled EDR Contact: 12/20/2021
Data Release Frequency: Quarterly

MCS: Military Cleanup Sites Listing (GEOTRACKER)

Military sites (consisting of: Military UST sites; Military Privatized sites; and Military Cleanup sites [formerly known as DoD non UST]) included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 06/03/2021
Date Data Arrived at EDR: 06/03/2021
Date Made Active in Reports: 08/24/2021
Number of Days to Update: 82

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 09/07/2021
Next Scheduled EDR Contact: 12/20/2021
Data Release Frequency: Quarterly

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SPILLS 90: SPILLS90 data from FirstSearch

Spills 90 includes those spill and release records available exclusively from FirstSearch databases. Typically, they may include chemical, oil and/or hazardous substance spills recorded after 1990. Duplicate records that are already included in EDR incident and release records are not included in Spills 90.

Date of Government Version: 06/06/2012
Date Data Arrived at EDR: 01/03/2013
Date Made Active in Reports: 02/22/2013
Number of Days to Update: 50

Source: FirstSearch
Telephone: N/A
Last EDR Contact: 01/03/2013
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

Other Ascertainable Records

RCRA NonGen / NLR: RCRA - Non Generators / No Longer Regulated

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

Date of Government Version: 09/13/2021
Date Data Arrived at EDR: 09/15/2021
Date Made Active in Reports: 10/12/2021
Number of Days to Update: 27

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 09/15/2021
Next Scheduled EDR Contact: 01/03/2022
Data Release Frequency: Quarterly

FUDS: Formerly Used Defense Sites

The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

Date of Government Version: 08/10/2021
Date Data Arrived at EDR: 08/17/2021
Date Made Active in Reports: 10/22/2021
Number of Days to Update: 66

Source: U.S. Army Corps of Engineers
Telephone: 202-528-4285
Last EDR Contact: 08/17/2021
Next Scheduled EDR Contact: 11/29/2021
Data Release Frequency: Varies

DOD: Department of Defense Sites

This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 11/10/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 62

Source: USGS
Telephone: 888-275-8747
Last EDR Contact: 10/15/2021
Next Scheduled EDR Contact: 01/24/2022
Data Release Frequency: Semi-Annually

FEDLAND: Federal and Indian Lands

Federally and Indian administrated lands of the United States. Lands included are administrated by: Army Corps of Engineers, Bureau of Reclamation, National Wild and Scenic River, National Wildlife Refuge, Public Domain Land, Wilderness, Wilderness Study Area, Wildlife Management Area, Bureau of Indian Affairs, Bureau of Land Management, Department of Justice, Forest Service, Fish and Wildlife Service, National Park Service.

Date of Government Version: 04/02/2018
Date Data Arrived at EDR: 04/11/2018
Date Made Active in Reports: 11/06/2019
Number of Days to Update: 574

Source: U.S. Geological Survey
Telephone: 888-275-8747
Last EDR Contact: 10/05/2021
Next Scheduled EDR Contact: 01/17/2022
Data Release Frequency: N/A

SCRD DRYCLEANERS: State Coalition for Remediation of Drycleaners Listing

The State Coalition for Remediation of Drycleaners was established in 1998, with support from the U.S. EPA Office of Superfund Remediation and Technology Innovation. It is comprised of representatives of states with established drycleaner remediation programs. Currently the member states are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin.

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Date of Government Version: 01/01/2017
Date Data Arrived at EDR: 02/03/2017
Date Made Active in Reports: 04/07/2017
Number of Days to Update: 63

Source: Environmental Protection Agency
Telephone: 615-532-8599
Last EDR Contact: 08/06/2021
Next Scheduled EDR Contact: 11/22/2021
Data Release Frequency: Varies

US FIN ASSUR: Financial Assurance Information

All owners and operators of facilities that treat, store, or dispose of hazardous waste are required to provide proof that they will have sufficient funds to pay for the clean up, closure, and post-closure care of their facilities.

Date of Government Version: 09/13/2021
Date Data Arrived at EDR: 09/15/2021
Date Made Active in Reports: 09/28/2021
Number of Days to Update: 13

Source: Environmental Protection Agency
Telephone: 202-566-1917
Last EDR Contact: 09/15/2021
Next Scheduled EDR Contact: 01/03/2022
Data Release Frequency: Quarterly

EPA WATCH LIST: EPA WATCH LIST

EPA maintains a "Watch List" to facilitate dialogue between EPA, state and local environmental agencies on enforcement matters relating to facilities with alleged violations identified as either significant or high priority. Being on the Watch List does not mean that the facility has actually violated the law only that an investigation by EPA or a state or local environmental agency has led those organizations to allege that an unproven violation has in fact occurred. Being on the Watch List does not represent a higher level of concern regarding the alleged violations that were detected, but instead indicates cases requiring additional dialogue between EPA, state and local agencies - primarily because of the length of time the alleged violation has gone unaddressed or unresolved.

Date of Government Version: 08/30/2013
Date Data Arrived at EDR: 03/21/2014
Date Made Active in Reports: 06/17/2014
Number of Days to Update: 88

Source: Environmental Protection Agency
Telephone: 617-520-3000
Last EDR Contact: 11/01/2021
Next Scheduled EDR Contact: 02/14/2022
Data Release Frequency: Quarterly

2020 COR ACTION: 2020 Corrective Action Program List

The EPA has set ambitious goals for the RCRA Corrective Action program by creating the 2020 Corrective Action Universe. This RCRA cleanup baseline includes facilities expected to need corrective action. The 2020 universe contains a wide variety of sites. Some properties are heavily contaminated while others were contaminated but have since been cleaned up. Still others have not been fully investigated yet, and may require little or no remediation. Inclusion in the 2020 Universe does not necessarily imply failure on the part of a facility to meet its RCRA obligations.

Date of Government Version: 09/30/2017
Date Data Arrived at EDR: 05/08/2018
Date Made Active in Reports: 07/20/2018
Number of Days to Update: 73

Source: Environmental Protection Agency
Telephone: 703-308-4044
Last EDR Contact: 08/06/2021
Next Scheduled EDR Contact: 11/15/2021
Data Release Frequency: Varies

TSCA: Toxic Substances Control Act

Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/2016
Date Data Arrived at EDR: 06/17/2020
Date Made Active in Reports: 09/10/2020
Number of Days to Update: 85

Source: EPA
Telephone: 202-260-5521
Last EDR Contact: 09/17/2021
Next Scheduled EDR Contact: 12/27/2021
Data Release Frequency: Every 4 Years

TRIS: Toxic Chemical Release Inventory System

Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

DRAFT

Date of Government Version: 12/31/2018
Date Data Arrived at EDR: 08/14/2020
Date Made Active in Reports: 11/04/2020
Number of Days to Update: 82

Source: EPA
Telephone: 202-566-0250
Last EDR Contact: 08/17/2021
Next Scheduled EDR Contact: 11/29/2021
Data Release Frequency: Annually

SSTS: Section 7 Tracking Systems

Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 07/19/2021
Date Data Arrived at EDR: 07/19/2021
Date Made Active in Reports: 10/12/2021
Number of Days to Update: 85

Source: EPA
Telephone: 202-564-4203
Last EDR Contact: 10/20/2021
Next Scheduled EDR Contact: 01/31/2022
Data Release Frequency: Annually

ROD: Records Of Decision

Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 07/29/2021
Date Data Arrived at EDR: 08/04/2021
Date Made Active in Reports: 08/31/2021
Number of Days to Update: 27

Source: EPA
Telephone: 703-416-0223
Last EDR Contact: 10/01/2021
Next Scheduled EDR Contact: 12/13/2021
Data Release Frequency: Annually

RMP: Risk Management Plans

When Congress passed the Clean Air Act Amendments of 1990, it required EPA to publish regulations and guidance for chemical accident prevention at facilities using extremely hazardous substances. The Risk Management Program Rule (RMP Rule) was written to implement Section 112(r) of these amendments. The rule, which built upon existing industry codes and standards, requires companies of all sizes that use certain flammable and toxic substances to develop a Risk Management Program, which includes a(n): Hazard assessment that details the potential effects of an accidental release, an accident history of the last five years, and an evaluation of worst-case and alternative accidental releases; Prevention program that includes safety precautions and maintenance, monitoring, and employee training measures; and Emergency response program that spells out emergency health care, employee training measures and procedures for informing the public and response agencies (e.g the fire department) should an accident occur.

Date of Government Version: 05/07/2021
Date Data Arrived at EDR: 05/13/2021
Date Made Active in Reports: 08/03/2021
Number of Days to Update: 82

Source: Environmental Protection Agency
Telephone: 202-564-8600
Last EDR Contact: 10/18/2021
Next Scheduled EDR Contact: 01/31/2022
Data Release Frequency: Varies

RAATS: RCRA Administrative Action Tracking System

RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/1995
Date Data Arrived at EDR: 07/03/1995
Date Made Active in Reports: 08/07/1995
Number of Days to Update: 35

Source: EPA
Telephone: 202-564-4104
Last EDR Contact: 06/02/2008
Next Scheduled EDR Contact: 09/01/2008
Data Release Frequency: No Update Planned

DRAFT

PRP: Potentially Responsible Parties
A listing of verified Potentially Responsible Parties

Date of Government Version: 12/30/2020
Date Data Arrived at EDR: 01/14/2021
Date Made Active in Reports: 03/05/2021
Number of Days to Update: 50

Source: EPA
Telephone: 202-564-6023
Last EDR Contact: 10/01/2021
Next Scheduled EDR Contact: 11/15/2021
Data Release Frequency: Quarterly

PADS: PCB Activity Database System
PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 11/19/2020
Date Data Arrived at EDR: 01/08/2021
Date Made Active in Reports: 03/22/2021
Number of Days to Update: 73

Source: EPA
Telephone: 202-566-0500
Last EDR Contact: 10/08/2021
Next Scheduled EDR Contact: 01/17/2022
Data Release Frequency: Annually

ICIS: Integrated Compliance Information System
The Integrated Compliance Information System (ICIS) supports the information needs of the national enforcement and compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program.

Date of Government Version: 11/18/2016
Date Data Arrived at EDR: 11/23/2016
Date Made Active in Reports: 02/10/2017
Number of Days to Update: 79

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 09/30/2021
Next Scheduled EDR Contact: 01/17/2022
Data Release Frequency: Quarterly

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25

Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Telephone: 202-566-1667
Last EDR Contact: 08/18/2017
Next Scheduled EDR Contact: 12/04/2017
Data Release Frequency: No Update Planned

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
A listing of FIFRA/TSCA Tracking System (FTTS) inspections and enforcements.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25

Source: EPA
Telephone: 202-566-1667
Last EDR Contact: 08/18/2017
Next Scheduled EDR Contact: 12/04/2017
Data Release Frequency: No Update Planned

MLTS: Material Licensing Tracking System
MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 03/08/2021
Date Data Arrived at EDR: 03/11/2021
Date Made Active in Reports: 05/11/2021
Number of Days to Update: 61

Source: Nuclear Regulatory Commission
Telephone: 301-415-7169
Last EDR Contact: 10/18/2021
Next Scheduled EDR Contact: 01/31/2022
Data Release Frequency: Quarterly

DRAFT

COAL ASH DOE: Steam-Electric Plant Operation Data
A listing of power plants that store ash in surface ponds.

Date of Government Version: 12/31/2019
Date Data Arrived at EDR: 12/01/2020
Date Made Active in Reports: 02/09/2021
Number of Days to Update: 70
Source: Department of Energy
Telephone: 202-586-8719
Last EDR Contact: 09/03/2021
Next Scheduled EDR Contact: 12/13/2021
Data Release Frequency: Varies

COAL ASH EPA: Coal Combustion Residues Surface Impoundments List
A listing of coal combustion residues surface impoundments with high hazard potential ratings.

Date of Government Version: 01/12/2017
Date Data Arrived at EDR: 03/05/2019
Date Made Active in Reports: 11/11/2019
Number of Days to Update: 251
Source: Environmental Protection Agency
Telephone: N/A
Last EDR Contact: 08/31/2021
Next Scheduled EDR Contact: 12/13/2021
Data Release Frequency: Varies

PCB TRANSFORMER: PCB Transformer Registration Database
The database of PCB transformer registrations that includes all PCB registration submittals.

Date of Government Version: 09/13/2019
Date Data Arrived at EDR: 11/06/2019
Date Made Active in Reports: 02/10/2020
Number of Days to Update: 96
Source: Environmental Protection Agency
Telephone: 202-566-0517
Last EDR Contact: 08/06/2021
Next Scheduled EDR Contact: 11/15/2021
Data Release Frequency: Varies

RADINFO: Radiation Information Database
The Radiation Information Database (RADINFO) contains information about facilities that are regulated by U.S. Environmental Protection Agency (EPA) regulations for radiation and radioactivity.

Date of Government Version: 07/01/2019
Date Data Arrived at EDR: 07/01/2019
Date Made Active in Reports: 09/23/2019
Number of Days to Update: 84
Source: Environmental Protection Agency
Telephone: 202-343-9775
Last EDR Contact: 09/27/2021
Next Scheduled EDR Contact: 01/10/2022
Data Release Frequency: Quarterly

HIST FTTS: FIFRA/TSCA Tracking System Administrative Case Listing
A complete administrative case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40
Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2007
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

HIST FTTS INSP: FIFRA/TSCA Tracking System Inspection & Enforcement Case Listing
A complete inspection and enforcement case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

DRAFT

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2008
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

DOT OPS: Incident and Accident Data

Department of Transporation, Office of Pipeline Safety Incident and Accident data.

Date of Government Version: 01/02/2020
Date Data Arrived at EDR: 01/28/2020
Date Made Active in Reports: 04/17/2020
Number of Days to Update: 80

Source: Department of Transporation, Office of Pipeline Safety
Telephone: 202-366-4595
Last EDR Contact: 10/26/2021
Next Scheduled EDR Contact: 02/07/2022
Data Release Frequency: Quarterly

CONSENT: Superfund (CERCLA) Consent Decrees

Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: 06/30/2021
Date Data Arrived at EDR: 07/14/2021
Date Made Active in Reports: 07/16/2021
Number of Days to Update: 2

Source: Department of Justice, Consent Decree Library
Telephone: Varies
Last EDR Contact: 09/30/2021
Next Scheduled EDR Contact: 01/17/2022
Data Release Frequency: Varies

BRS: Biennial Reporting System

The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/2017
Date Data Arrived at EDR: 06/22/2020
Date Made Active in Reports: 11/20/2020
Number of Days to Update: 151

Source: EPA/NTIS
Telephone: 800-424-9346
Last EDR Contact: 09/15/2021
Next Scheduled EDR Contact: 01/03/2022
Data Release Frequency: Biennially

INDIAN RESERV: Indian Reservations

This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 07/14/2015
Date Made Active in Reports: 01/10/2017
Number of Days to Update: 546

Source: USGS
Telephone: 202-208-3710
Last EDR Contact: 10/05/2021
Next Scheduled EDR Contact: 01/17/2022
Data Release Frequency: Semi-Annually

FUSRAP: Formerly Utilized Sites Remedial Action Program

DOE established the Formerly Utilized Sites Remedial Action Program (FUSRAP) in 1974 to remediate sites where radioactive contamination remained from Manhattan Project and early U.S. Atomic Energy Commission (AEC) operations.

Date of Government Version: 07/26/2021
Date Data Arrived at EDR: 07/27/2021
Date Made Active in Reports: 10/22/2021
Number of Days to Update: 87

Source: Department of Energy
Telephone: 202-586-3559
Last EDR Contact: 11/01/2021
Next Scheduled EDR Contact: 02/14/2022
Data Release Frequency: Varies

UMTRA: Uranium Mill Tailings Sites

Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized.

DRAFT

Date of Government Version: 08/30/2019
Date Data Arrived at EDR: 11/15/2019
Date Made Active in Reports: 01/28/2020
Number of Days to Update: 74

Source: Department of Energy
Telephone: 505-845-0011
Last EDR Contact: 08/12/2021
Next Scheduled EDR Contact: 11/29/2021
Data Release Frequency: Varies

LEAD SMELTER 1: Lead Smelter Sites
A listing of former lead smelter site locations.

Date of Government Version: 07/29/2021
Date Data Arrived at EDR: 08/04/2021
Date Made Active in Reports: 08/31/2021
Number of Days to Update: 27

Source: Environmental Protection Agency
Telephone: 703-603-8787
Last EDR Contact: 10/01/2021
Next Scheduled EDR Contact: 01/10/2022
Data Release Frequency: Varies

LEAD SMELTER 2: Lead Smelter Sites
A list of several hundred sites in the U.S. where secondary lead smelting was done from 1931and 1964. These sites may pose a threat to public health through ingestion or inhalation of contaminated soil or dust

Date of Government Version: 04/05/2001
Date Data Arrived at EDR: 10/27/2010
Date Made Active in Reports: 12/02/2010
Number of Days to Update: 36

Source: American Journal of Public Health
Telephone: 703-305-6451
Last EDR Contact: 12/02/2009
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

US AIRS (AFS): Aerometric Information Retrieval System Facility Subsystem (AFS)
The database is a sub-system of Aerometric Information Retrieval System (AIRS). AFS contains compliance data on air pollution point sources regulated by the U.S. EPA and/or state and local air regulatory agencies. This information comes from source reports by various stationary sources of air pollution, such as electric power plants, steel mills, factories, and universities, and provides information about the air pollutants they produce. Action, air program, air program pollutant, and general level plant data. It is used to track emissions and compliance data from industrial plants.

Date of Government Version: 10/12/2016
Date Data Arrived at EDR: 10/26/2016
Date Made Active in Reports: 02/03/2017
Number of Days to Update: 100

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 09/26/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Annually

US AIRS MINOR: Air Facility System Data
A listing of minor source facilities.

Date of Government Version: 10/12/2016
Date Data Arrived at EDR: 10/26/2016
Date Made Active in Reports: 02/03/2017
Number of Days to Update: 100

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 09/26/2017
Next Scheduled EDR Contact: 01/08/2018
Data Release Frequency: Annually

US MINES: Mines Master Index File
Contains all mine identification numbers issued for mines active or opened since 1971. The data also includes violation information.

Date of Government Version: 05/03/2021
Date Data Arrived at EDR: 05/25/2021
Date Made Active in Reports: 08/11/2021
Number of Days to Update: 78

Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959
Last EDR Contact: 08/24/2021
Next Scheduled EDR Contact: 12/06/2021
Data Release Frequency: Semi-Annually

MINES VIOLATIONS: MSHA Violation Assessment Data
Mines violation and assessment information. Department of Labor, Mine Safety & Health Administration.

DRAFT

Date of Government Version: 06/30/2021
Date Data Arrived at EDR: 07/01/2021
Date Made Active in Reports: 09/28/2021
Number of Days to Update: 89

Source: DOL, Mine Safety & Health Admi
Telephone: 202-693-9424
Last EDR Contact: 09/09/2021
Next Scheduled EDR Contact: 12/13/2021
Data Release Frequency: Quarterly

US MINES 2: Ferrous and Nonferrous Metal Mines Database Listing

This map layer includes ferrous (ferrous metal mines are facilities that extract ferrous metals, such as iron ore or molybdenum) and nonferrous (Nonferrous metal mines are facilities that extract nonferrous metals, such as gold, silver, copper, zinc, and lead) metal mines in the United States.

Date of Government Version: 05/06/2020
Date Data Arrived at EDR: 05/27/2020
Date Made Active in Reports: 08/13/2020
Number of Days to Update: 78

Source: USGS
Telephone: 703-648-7709
Last EDR Contact: 08/26/2021
Next Scheduled EDR Contact: 12/06/2021
Data Release Frequency: Varies

US MINES 3: Active Mines & Mineral Plants Database Listing

Active Mines and Mineral Processing Plant operations for commodities monitored by the Minerals Information Team of the USGS.

Date of Government Version: 04/14/2011
Date Data Arrived at EDR: 06/08/2011
Date Made Active in Reports: 09/13/2011
Number of Days to Update: 97

Source: USGS
Telephone: 703-648-7709
Last EDR Contact: 08/26/2021
Next Scheduled EDR Contact: 12/06/2021
Data Release Frequency: Varies

ABANDONED MINES: Abandoned Mines

An inventory of land and water impacted by past mining (primarily coal mining) is maintained by OSMRE to provide information needed to implement the Surface Mining Control and Reclamation Act of 1977 (SMCRA). The inventory contains information on the location, type, and extent of AML impacts, as well as, information on the cost associated with the reclamation of those problems. The inventory is based upon field surveys by State, Tribal, and OSMRE program officials. It is dynamic to the extent that it is modified as new problems are identified and existing problems are reclaimed.

Date of Government Version: 06/15/2021
Date Data Arrived at EDR: 06/16/2021
Date Made Active in Reports: 08/17/2021
Number of Days to Update: 62

Source: Department of Interior
Telephone: 202-208-2609
Last EDR Contact: 09/14/2021
Next Scheduled EDR Contact: 12/20/2021
Data Release Frequency: Quarterly

FINDS: Facility Index System/Facility Registry System

Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 05/05/2021
Date Data Arrived at EDR: 05/18/2021
Date Made Active in Reports: 08/17/2021
Number of Days to Update: 91

Source: EPA
Telephone: (415) 947-8000
Last EDR Contact: 08/31/2021
Next Scheduled EDR Contact: 12/13/2021
Data Release Frequency: Quarterly

ECHO: Enforcement & Compliance History Information

ECHO provides integrated compliance and enforcement information for about 800,000 regulated facilities nationwide.

Date of Government Version: 06/26/2021
Date Data Arrived at EDR: 07/01/2021
Date Made Active in Reports: 09/28/2021
Number of Days to Update: 89

Source: Environmental Protection Agency
Telephone: 202-564-2280
Last EDR Contact: 10/05/2021
Next Scheduled EDR Contact: 01/17/2022
Data Release Frequency: Quarterly

DRAFT

DOCKET HWC: Hazardous Waste Compliance Docket Listing
A complete list of the Federal Agency Hazardous Waste Compliance Docket Facilities.

Date of Government Version: 05/06/2021
Date Data Arrived at EDR: 05/21/2021
Date Made Active in Reports: 08/11/2021
Number of Days to Update: 82
Source: Environmental Protection Agency
Telephone: 202-564-0527
Last EDR Contact: 08/26/2021
Next Scheduled EDR Contact: 12/06/2021
Data Release Frequency: Varies

UXO: Unexploded Ordnance Sites
A listing of unexploded ordnance site locations

Date of Government Version: 12/31/2018
Date Data Arrived at EDR: 07/02/2020
Date Made Active in Reports: 09/17/2020
Number of Days to Update: 77
Source: Department of Defense
Telephone: 703-704-1564
Last EDR Contact: 10/07/2021
Next Scheduled EDR Contact: 01/24/2022
Data Release Frequency: Varies

FUELS PROGRAM: EPA Fuels Program Registered Listing
This listing includes facilities that are registered under the Part 80 (Code of Federal Regulations) EPA Fuels Programs. All companies now are required to submit new and updated registrations.

Date of Government Version: 08/13/2021
Date Data Arrived at EDR: 08/13/2021
Date Made Active in Reports: 10/22/2021
Number of Days to Update: 70
Source: EPA
Telephone: 800-385-6164
Last EDR Contact: 08/13/2021
Next Scheduled EDR Contact: 11/29/2021
Data Release Frequency: Quarterly

CA BOND EXP. PLAN: Bond Expenditure Plan
Department of Health Services developed a site-specific expenditure plan as the basis for an appropriation of Hazardous Substance Cleanup Bond Act funds. It is not updated.

Date of Government Version: 01/01/1989
Date Data Arrived at EDR: 07/27/1994
Date Made Active in Reports: 08/02/1994
Number of Days to Update: 6
Source: Department of Health Services
Telephone: 916-255-2118
Last EDR Contact: 05/31/1994
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

CORTESE: "Cortese" Hazardous Waste & Substances Sites List
The sites for the list are designated by the State Water Resource Control Board (LUST), the Integrated Waste Board (SWF/LS), and the Department of Toxic Substances Control (Cal-Sites).

Date of Government Version: 06/17/2021
Date Data Arrived at EDR: 06/17/2021
Date Made Active in Reports: 09/14/2021
Number of Days to Update: 89
Source: CAL EPA/Office of Emergency Information
Telephone: 916-323-3400
Last EDR Contact: 09/21/2021
Next Scheduled EDR Contact: 01/03/2022
Data Release Frequency: Quarterly

CUPA LIVERMORE-PLEASANTON: CUPA Facility Listing
list of facilities associated with the various CUPA programs in Livermore-Pleasanton

Date of Government Version: 05/01/2019
Date Data Arrived at EDR: 05/14/2019
Date Made Active in Reports: 07/17/2019
Number of Days to Update: 64
Source: Livermore-Pleasanton Fire Department
Telephone: 925-454-2361
Last EDR Contact: 08/13/2021
Next Scheduled EDR Contact: 11/22/2021
Data Release Frequency: Varies

DRYCLEANERS: Cleaner Facilities
A list of drycleaner related facilities that have EPA ID numbers. These are facilities with certain SIC codes: power laundries, family and commercial; garment pressing and cleaner's agents; linen supply; coin-operated laundries and cleaning; drycleaning plants, except rugs; carpet and upholster cleaning; industrial launderers; laundry and garment services.

DRAFT

Date of Government Version: 05/25/2021
Date Data Arrived at EDR: 05/28/2021
Date Made Active in Reports: 08/20/2021
Number of Days to Update: 84

Source: Department of Toxic Substance Control
Telephone: 916-327-4498
Last EDR Contact: 08/24/2021
Next Scheduled EDR Contact: 12/13/2021
Data Release Frequency: Annually

DRYCLEAN AVAQMD: Antelope Valley Air Quality Management District Drycleaner Listing
A listing of dry cleaners in the Antelope Valley Air Quality Management District.

Date of Government Version: 05/25/2021
Date Data Arrived at EDR: 05/26/2021
Date Made Active in Reports: 08/18/2021
Number of Days to Update: 84

Source: Antelope Valley Air Quality Management District
Telephone: 661-723-8070
Last EDR Contact: 08/24/2021
Next Scheduled EDR Contact: 12/13/2021
Data Release Frequency: Varies

DRYCLEAN SOUTH COAST: South Coast Air Quality Management District Drycleaner Listing
A listing of dry cleaners in the South Coast Air Quality Management District

Date of Government Version: 05/18/2021
Date Data Arrived at EDR: 05/19/2021
Date Made Active in Reports: 08/05/2021
Number of Days to Update: 78

Source: South Coast Air Quality Management District
Telephone: 909-396-3211
Last EDR Contact: 08/17/2021
Next Scheduled EDR Contact: 12/06/2021
Data Release Frequency: Varies

EMI: Emissions Inventory Data
Toxics and criteria pollutant emissions data collected by the ARB and local air pollution agencies.

Date of Government Version: 12/31/2019
Date Data Arrived at EDR: 06/10/2021
Date Made Active in Reports: 08/27/2021
Number of Days to Update: 78

Source: California Air Resources Board
Telephone: 916-322-2990
Last EDR Contact: 09/17/2021
Next Scheduled EDR Contact: 12/27/2021
Data Release Frequency: Varies

ENF: Enforcement Action Listing
A listing of Water Board Enforcement Actions. Formal is everything except Oral/Verbal Communication, Notice of Violation, Expedited Payment Letter, and Staff Enforcement Letter.

Date of Government Version: 04/16/2021
Date Data Arrived at EDR: 04/20/2021
Date Made Active in Reports: 07/07/2021
Number of Days to Update: 78

Source: State Water Resoruces Control Board
Telephone: 916-445-9379
Last EDR Contact: 10/13/2021
Next Scheduled EDR Contact: 01/31/2022
Data Release Frequency: Varies

Financial Assurance 1: Financial Assurance Information Listing
Financial Assurance information

Date of Government Version: 04/14/2021
Date Data Arrived at EDR: 04/15/2021
Date Made Active in Reports: 07/06/2021
Number of Days to Update: 82

Source: Department of Toxic Substances Control
Telephone: 916-255-3628
Last EDR Contact: 10/05/2021
Next Scheduled EDR Contact: 01/31/2022
Data Release Frequency: Varies

Financial Assurance 2: Financial Assurance Information Listing
A listing of financial assurance information for solid waste facilities. Financial assurance is intended to ensure that resources are available to pay for the cost of closure, post-closure care, and corrective measures if the owner or operator of a regulated facility is unable or unwilling to pay.

Date of Government Version: 05/13/2021
Date Data Arrived at EDR: 05/13/2021
Date Made Active in Reports: 07/26/2021
Number of Days to Update: 74

Source: California Integrated Waste Management Board
Telephone: 916-341-6066
Last EDR Contact: 08/04/2021
Next Scheduled EDR Contact: 11/22/2021
Data Release Frequency: Varies

DRAFT

HAZNET: Facility and Manifest Data

Facility and Manifest Data. The data is extracted from the copies of hazardous waste manifests received each year by the DTSC. The annual volume of manifests is typically 700,000 - 1,000,000 annually, representing approximately 350,000 - 500,000 shipments. Data are from the manifests submitted without correction, and therefore many contain some invalid values for data elements such as generator ID, TSD ID, waste category, and disposal method. This database begins with calendar year 1993.

Date of Government Version: 12/31/2019
Date Data Arrived at EDR: 04/15/2020
Date Made Active in Reports: 07/02/2020
Number of Days to Update: 78

Source: California Environmental Protection Agency
Telephone: 916-255-1136
Last EDR Contact: 10/08/2021
Next Scheduled EDR Contact: 01/17/2022
Data Release Frequency: Annually

ICE: ICE

Contains data pertaining to the Permitted Facilities with Inspections / Enforcements sites tracked in Envirostor.

Date of Government Version: 05/14/2021
Date Data Arrived at EDR: 05/14/2021
Date Made Active in Reports: 07/27/2021
Number of Days to Update: 74

Source: Department of Toxic Subsances Control
Telephone: 877-786-9427
Last EDR Contact: 08/13/2021
Next Scheduled EDR Contact: 11/29/2021
Data Release Frequency: Quarterly

HIST CORTESE: Hazardous Waste & Substance Site List

The sites for the list are designated by the State Water Resource Control Board [LUST], the Integrated Waste Board [SWF/LS], and the Department of Toxic Substances Control [CALSITES]. This listing is no longer updated by the state agency.

Date of Government Version: 04/01/2001
Date Data Arrived at EDR: 01/22/2009
Date Made Active in Reports: 04/08/2009
Number of Days to Update: 76

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 01/22/2009
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

HWP: EnviroStor Permitted Facilities Listing

Detailed information on permitted hazardous waste facilities and corrective action ("cleanups") tracked in EnviroStor.

Date of Government Version: 05/14/2021
Date Data Arrived at EDR: 05/14/2021
Date Made Active in Reports: 07/27/2021
Number of Days to Update: 74

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 08/13/2021
Next Scheduled EDR Contact: 11/29/2021
Data Release Frequency: Quarterly

HWT: Registered Hazardous Waste Transporter Database

A listing of hazardous waste transporters. In California, unless specifically exempted, it is unlawful for any person to transport hazardous wastes unless the person holds a valid registration issued by DTSC. A hazardous waste transporter registration is valid for one year and is assigned a unique registration number.

Date of Government Version: 07/01/2021
Date Data Arrived at EDR: 07/01/2021
Date Made Active in Reports: 09/24/2021
Number of Days to Update: 85

Source: Department of Toxic Substances Control
Telephone: 916-440-7145
Last EDR Contact: 10/05/2021
Next Scheduled EDR Contact: 01/17/2022
Data Release Frequency: Quarterly

MINES: Mines Site Location Listing

A listing of mine site locations from the Office of Mine Reclamation.

Date of Government Version: 06/03/2021
Date Data Arrived at EDR: 06/03/2021
Date Made Active in Reports: 08/24/2021
Number of Days to Update: 82

Source: Department of Conservation
Telephone: 916-322-1080
Last EDR Contact: 09/07/2021
Next Scheduled EDR Contact: 12/20/2021
Data Release Frequency: Quarterly

DRAFT

MWMP: Medical Waste Management Program Listing

The Medical Waste Management Program (MWMP) ensures the proper handling and disposal of medical waste by permitting and inspecting medical waste Offsite Treatment Facilities (PDF) and Transfer Stations (PDF) throughout the state. MWMP also oversees all Medical Waste Transporters.

Date of Government Version: 05/06/2021
Date Data Arrived at EDR: 05/28/2021
Date Made Active in Reports: 08/20/2021
Number of Days to Update: 84

Source: Department of Public Health
Telephone: 916-558-1784
Last EDR Contact: 08/31/2021
Next Scheduled EDR Contact: 12/13/2021
Data Release Frequency: Varies

NPDES: NPDES Permits Listing

A listing of NPDES permits, including stormwater.

Date of Government Version: 05/10/2021
Date Data Arrived at EDR: 05/11/2021
Date Made Active in Reports: 07/27/2021
Number of Days to Update: 77

Source: State Water Resources Control Board
Telephone: 916-445-9379
Last EDR Contact: 08/13/2021
Next Scheduled EDR Contact: 11/22/2021
Data Release Frequency: Quarterly

PEST LIC: Pesticide Regulation Licenses Listing

A listing of licenses and certificates issued by the Department of Pesticide Regulation. The DPR issues licenses and/or certificates to: Persons and businesses that apply or sell pesticides; Pest control dealers and brokers; Persons who advise on agricultural pesticide applications.

Date of Government Version: 05/28/2021
Date Data Arrived at EDR: 05/28/2021
Date Made Active in Reports: 08/20/2021
Number of Days to Update: 84

Source: Department of Pesticide Regulation
Telephone: 916-445-4038
Last EDR Contact: 08/31/2021
Next Scheduled EDR Contact: 12/13/2021
Data Release Frequency: Quarterly

PROC: Certified Processors Database

A listing of certified processors.

Date of Government Version: 06/04/2021
Date Data Arrived at EDR: 06/04/2021
Date Made Active in Reports: 08/27/2021
Number of Days to Update: 84

Source: Department of Conservation
Telephone: 916-323-3836
Last EDR Contact: 09/08/2021
Next Scheduled EDR Contact: 12/20/2021
Data Release Frequency: Quarterly

NOTIFY 65: Proposition 65 Records

Listings of all Proposition 65 incidents reported to counties by the State Water Resources Control Board and the Regional Water Quality Control Board. This database is no longer updated by the reporting agency.

Date of Government Version: 03/12/2021
Date Data Arrived at EDR: 03/16/2021
Date Made Active in Reports: 06/01/2021
Number of Days to Update: 77

Source: State Water Resources Control Board
Telephone: 916-445-3846
Last EDR Contact: 08/26/2021
Next Scheduled EDR Contact: 12/27/2021
Data Release Frequency: No Update Planned

UIC: UIC Listing

A listing of wells identified as underground injection wells, in the California Oil and Gas Wells database.

Date of Government Version: 06/03/2021
Date Data Arrived at EDR: 06/03/2021
Date Made Active in Reports: 08/25/2021
Number of Days to Update: 83

Source: Deaprtment of Conservation
Telephone: 916-445-2408
Last EDR Contact: 09/07/2021
Next Scheduled EDR Contact: 12/20/2021
Data Release Frequency: Varies

DRAFT

UIC GEO: Underground Injection Control Sites (GEOTRACKER)
Underground control injection sites

Date of Government Version: 06/03/2021
Date Data Arrived at EDR: 06/03/2021
Date Made Active in Reports: 08/24/2021
Number of Days to Update: 82
Source: State Water Resource Control Board
Telephone: 866-480-1028
Last EDR Contact: 09/07/2021
Next Scheduled EDR Contact: 12/20/2021
Data Release Frequency: Varies

WASTEWATER PITS: Oil Wastewater Pits Listing
Water officials discovered that oil producers have been dumping chemical-laden wastewater into hundreds of unlined pits that are operating without proper permits. Inspections completed by the Central Valley Regional Water Quality Control Board revealed the existence of previously unidentified waste sites. The water boards review found that more than one-third of the region's active disposal pits are operating without permission.

Date of Government Version: 02/11/2021
Date Data Arrived at EDR: 07/01/2021
Date Made Active in Reports: 09/29/2021
Number of Days to Update: 90
Source: RWQCB, Central Valley Region
Telephone: 559-445-5577
Last EDR Contact: 10/08/2021
Next Scheduled EDR Contact: 01/17/2022
Data Release Frequency: Varies

WDS: Waste Discharge System
Sites which have been issued waste discharge requirements.

Date of Government Version: 06/19/2007
Date Data Arrived at EDR: 06/20/2007
Date Made Active in Reports: 06/29/2007
Number of Days to Update: 9
Source: State Water Resources Control Board
Telephone: 916-341-5227
Last EDR Contact: 08/10/2021
Next Scheduled EDR Contact: 11/29/2021
Data Release Frequency: No Update Planned

WIP: Well Investigation Program Case List
Well Investigation Program case in the San Gabriel and San Fernando Valley area.

Date of Government Version: 07/03/2009
Date Data Arrived at EDR: 07/21/2009
Date Made Active in Reports: 08/03/2009
Number of Days to Update: 13
Source: Los Angeles Water Quality Control Board
Telephone: 213-576-6726
Last EDR Contact: 09/14/2021
Next Scheduled EDR Contact: 01/03/2022
Data Release Frequency: No Update Planned

MILITARY PRIV SITES: Military Privatized Sites (GEOTRACKER)
Military privatized sites

Date of Government Version: 06/03/2021
Date Data Arrived at EDR: 06/03/2021
Date Made Active in Reports: 08/24/2021
Number of Days to Update: 82
Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 09/07/2021
Next Scheduled EDR Contact: 12/20/2021
Data Release Frequency: Varies

PROJECT: Project Sites (GEOTRACKER)
Projects sites

Date of Government Version: 06/03/2021
Date Data Arrived at EDR: 06/03/2021
Date Made Active in Reports: 08/24/2021
Number of Days to Update: 82
Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 09/07/2021
Next Scheduled EDR Contact: 12/20/2021
Data Release Frequency: Varies

WDR: Waste Discharge Requirements Listing
In general, the Waste Discharge Requirements (WDRs) Program (sometimes also referred to as the "Non Chapter 15 (Non 15) Program") regulates point discharges that are exempt pursuant to Subsection 20090 of Title 27 and not subject to the Federal Water Pollution Control Act. Exemptions from Title 27 may be granted for nine categories of discharges (e.g., sewage, wastewater, etc.) that meet, and continue to meet, the preconditions listed for each specific exemption. The scope of the WDRs Program also includes the discharge of wastes classified as inert, pursuant to section 20230 of Title 27.

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Date of Government Version: 06/07/2021
Date Data Arrived at EDR: 06/07/2021
Date Made Active in Reports: 08/27/2021
Number of Days to Update: 81
Source: State Water Resources Control Board
Telephone: 916-341-5810
Last EDR Contact: 09/08/2021
Next Scheduled EDR Contact: 12/20/2021
Data Release Frequency: Quarterly

CIWQS: California Integrated Water Quality System

The California Integrated Water Quality System (CIWQS) is a computer system used by the State and Regional Water Quality Control Boards to track information about places of environmental interest, manage permits and other orders, track inspections, and manage violations and enforcement activities.

Date of Government Version: 05/19/2021
Date Data Arrived at EDR: 05/19/2021
Date Made Active in Reports: 08/12/2021
Number of Days to Update: 85
Source: State Water Resources Control Board
Telephone: 866-794-4977
Last EDR Contact: 08/31/2021
Next Scheduled EDR Contact: 12/13/2021
Data Release Frequency: Varies

CERS: CalEPA Regulated Site Portal Data

The CalEPA Regulated Site Portal database combines data about environmentally regulated sites and facilities in California into a single database. It combines data from a variety of state and federal databases, and provides an overview of regulated activities across the spectrum of environmental programs for any given location in California. These activities include hazardous materials and waste, state and federal cleanups, impacted ground and surface waters, and toxic materials

Date of Government Version: 07/15/2021
Date Data Arrived at EDR: 07/15/2021
Date Made Active in Reports: 10/06/2021
Number of Days to Update: 83
Source: California Environmental Protection Agency
Telephone: 916-323-2514
Last EDR Contact: 10/19/2021
Next Scheduled EDR Contact: 01/31/2022
Data Release Frequency: Varies

NON-CASE INFO: Non-Case Information Sites (GEOTRACKER)

Non-Case Information sites

Date of Government Version: 06/03/2021
Date Data Arrived at EDR: 06/03/2021
Date Made Active in Reports: 08/24/2021
Number of Days to Update: 82
Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 09/07/2021
Next Scheduled EDR Contact: 12/20/2021
Data Release Frequency: Varies

OTHER OIL GAS: Other Oil & Gas Projects Sites (GEOTRACKER)

Other Oil & Gas Projects sites

Date of Government Version: 06/03/2021
Date Data Arrived at EDR: 06/03/2021
Date Made Active in Reports: 08/24/2021
Number of Days to Update: 82
Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 09/07/2021
Next Scheduled EDR Contact: 12/20/2021
Data Release Frequency: Varies

PROD WATER PONDS: Produced Water Ponds Sites (GEOTRACKER)

Produced water ponds sites

Date of Government Version: 06/03/2021
Date Data Arrived at EDR: 06/03/2021
Date Made Active in Reports: 08/24/2021
Number of Days to Update: 82
Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 09/07/2021
Next Scheduled EDR Contact: 12/20/2021
Data Release Frequency: Varies

SAMPLING POINT: Sampling Point ? Public Sites (GEOTRACKER)

Sampling point - public sites

DRAFT

Date of Government Version: 06/03/2021
Date Data Arrived at EDR: 06/03/2021
Date Made Active in Reports: 08/24/2021
Number of Days to Update: 82

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 09/07/2021
Next Scheduled EDR Contact: 12/20/2021
Data Release Frequency: Varies

WELL STIM PROJ: Well Stimulation Project (GEOTRACKER)

Includes areas of groundwater monitoring plans, a depiction of the monitoring network, and the facilities, boundaries, and subsurface characteristics of the oilfield and the features (oil and gas wells, produced water ponds, UIC wells, water supply wells, etc?) being monitored

Date of Government Version: 06/03/2021
Date Data Arrived at EDR: 06/03/2021
Date Made Active in Reports: 08/25/2021
Number of Days to Update: 83

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 09/07/2021
Next Scheduled EDR Contact: 12/20/2021
Data Release Frequency: Varies

HWTS: Hazardous Waste Tracking System

DTSC maintains the Hazardous Waste Tracking System that stores ID number information since the early 1980s and manifest data since 1993. The system collects both manifest copies from the generator and destination facility.

Date of Government Version: 07/13/2021
Date Data Arrived at EDR: 07/14/2021
Date Made Active in Reports: 10/06/2021
Number of Days to Update: 84

Source: Department of Toxic Substances Control
Telephone: 916-324-2444
Last EDR Contact: 09/30/2021
Next Scheduled EDR Contact: 01/17/2022
Data Release Frequency: Varies

PCS: Permit Compliance System

PCS is a computerized management information system that contains data on National Pollutant Discharge Elimination System (NPDES) permit holding facilities. PCS tracks the permit, compliance, and enforcement status of NPDES facilities.

Date of Government Version: 07/14/2011
Date Data Arrived at EDR: 08/05/2011
Date Made Active in Reports: 09/29/2011
Number of Days to Update: 55

Source: EPA, Office of Water
Telephone: 202-564-2496
Last EDR Contact: 09/30/2021
Next Scheduled EDR Contact: 01/17/2022
Data Release Frequency: Semi-Annually

PCS INACTIVE: Listing of Inactive PCS Permits

An inactive permit is a facility that has shut down or is no longer discharging.

Date of Government Version: 11/05/2014
Date Data Arrived at EDR: 01/06/2015
Date Made Active in Reports: 05/06/2015
Number of Days to Update: 120

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 09/30/2021
Next Scheduled EDR Contact: 01/17/2022
Data Release Frequency: Semi-Annually

MINES MRDS: Mineral Resources Data System

Mineral Resources Data System

Date of Government Version: 04/06/2018
Date Data Arrived at EDR: 10/21/2019
Date Made Active in Reports: 10/24/2019
Number of Days to Update: 3

Source: USGS
Telephone: 703-648-6533
Last EDR Contact: 08/26/2021
Next Scheduled EDR Contact: 12/06/2021
Data Release Frequency: Varies

PCS ENF: Enforcement data

No description is available for this data

DRAFT

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 02/05/2015
Date Made Active in Reports: 03/06/2015
Number of Days to Update: 29

Source: EPA
Telephone: 202-564-2497
Last EDR Contact: 09/30/2021
Next Scheduled EDR Contact: 01/17/2022
Data Release Frequency: Varies

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP: EDR Proprietary Manufactured Gas Plants

The EDR Proprietary Manufactured Gas Plant Database includes records of coal gas plants (manufactured gas plants) compiled by EDR's researchers. Manufactured gas sites were used in the United States from the 1800's to 1950's to produce a gas that could be distributed and used as fuel. These plants used whale oil, rosin, coal, or a mixture of coal, oil, and water that also produced a significant amount of waste. Many of the byproducts of the gas production, such as coal tar (oily waste containing volatile and non-volatile chemicals), sludges, oils and other compounds are potentially hazardous to human health and the environment. The byproduct from this process was frequently disposed of directly at the plant site and can remain or spread slowly, serving as a continuous source of soil and groundwater contamination.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

EDR Hist Auto: EDR Exclusive Historical Auto Stations

EDR has searched selected national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include gas station/filling station/service station establishments. The categories reviewed included, but were not limited to gas, gas station, gasoline station, filling station, auto, automobile repair, auto service station, service station, etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR Hist Cleaner: EDR Exclusive Historical Cleaners

EDR has searched selected national collections of business directories and has collected listings of potential dry cleaner sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include dry cleaning establishments. The categories reviewed included, but were not limited to dry cleaners, cleaners, laundry, laundromat, cleaning/laundry, wash & dry etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

DRAFT

RGA LF: Recovered Government Archive Solid Waste Facilities List
The EDR Recovered Government Archive Landfill database provides a list of landfills derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department of Resources Recycling and Recovery in California.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 01/13/2014
Number of Days to Update: 196
Source: Department of Resources Recycling and Recovery
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

RGA LUST: Recovered Government Archive Leaking Underground Storage Tank
The EDR Recovered Government Archive Leaking Underground Storage Tank database provides a list of LUST incidents derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the State Water Resources Control Board in California.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 12/30/2013
Number of Days to Update: 182
Source: State Water Resources Control Board
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

COUNTY RECORDS

ALAMEDA COUNTY:

CS ALAMEDA: Contaminated Sites
A listing of contaminated sites overseen by the Toxic Release Program (oil and groundwater contamination from chemical releases and spills) and the Leaking Underground Storage Tank Program (soil and ground water contamination from leaking petroleum USTs).

Date of Government Version: 01/09/2019
Date Data Arrived at EDR: 01/11/2019
Date Made Active in Reports: 03/05/2019
Number of Days to Update: 53
Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 09/30/2021
Next Scheduled EDR Contact: 01/17/2022
Data Release Frequency: Semi-Annually

UST ALAMEDA: Underground Tanks
Underground storage tank sites located in Alameda county.

Date of Government Version: 06/29/2021
Date Data Arrived at EDR: 06/30/2021
Date Made Active in Reports: 09/22/2021
Number of Days to Update: 84
Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 09/30/2021
Next Scheduled EDR Contact: 01/17/2022
Data Release Frequency: Semi-Annually

AMADOR COUNTY:

CUPA AMADOR: CUPA Facility List
Cupa Facility List

Date of Government Version: 08/05/2021
Date Data Arrived at EDR: 08/06/2021
Date Made Active in Reports: 09/17/2021
Number of Days to Update: 42
Source: Amador County Environmental Health
Telephone: 209-223-6439
Last EDR Contact: 10/29/2021
Next Scheduled EDR Contact: 02/14/2022
Data Release Frequency: Varies

BUTTE COUNTY:

DRAFT

CUPA BUTTE: CUPA Facility Listing
Cupa facility list.

Date of Government Version: 04/21/2017
Date Data Arrived at EDR: 04/25/2017
Date Made Active in Reports: 08/09/2017
Number of Days to Update: 106

Source: Public Health Department
Telephone: 530-538-7149
Last EDR Contact: 09/30/2021
Next Scheduled EDR Contact: 01/17/2022
Data Release Frequency: No Update Planned

CALVERAS COUNTY:

CUPA CALVERAS: CUPA Facility Listing
Cupa Facility Listing

Date of Government Version: 06/15/2021
Date Data Arrived at EDR: 06/16/2021
Date Made Active in Reports: 07/02/2021
Number of Days to Update: 16

Source: Calveras County Environmental Health
Telephone: 209-754-6399
Last EDR Contact: 09/14/2021
Next Scheduled EDR Contact: 01/03/2022
Data Release Frequency: Quarterly

COLUSA COUNTY:

CUPA COLUSA: CUPA Facility List
Cupa facility list.

Date of Government Version: 04/06/2020
Date Data Arrived at EDR: 04/23/2020
Date Made Active in Reports: 07/10/2020
Number of Days to Update: 78

Source: Health & Human Services
Telephone: 530-458-0396
Last EDR Contact: 10/29/2021
Next Scheduled EDR Contact: 02/14/2022
Data Release Frequency: Semi-Annually

CONTRA COSTA COUNTY:

SL CONTRA COSTA: Site List
List includes sites from the underground tank, hazardous waste generator and business plan/2185 programs.

Date of Government Version: 07/20/2021
Date Data Arrived at EDR: 07/20/2021
Date Made Active in Reports: 10/11/2021
Number of Days to Update: 83

Source: Contra Costa Health Services Department
Telephone: 925-646-2286
Last EDR Contact: 10/22/2021
Next Scheduled EDR Contact: 02/07/2022
Data Release Frequency: Semi-Annually

DEL NORTE COUNTY:

CUPA DEL NORTE: CUPA Facility List
Cupa Facility list

Date of Government Version: 06/29/2021
Date Data Arrived at EDR: 07/23/2021
Date Made Active in Reports: 10/08/2021
Number of Days to Update: 77

Source: Del Norte County Environmental Health Division
Telephone: 707-465-0426
Last EDR Contact: 10/29/2021
Next Scheduled EDR Contact: 02/07/2022
Data Release Frequency: Varies

EL DORADO COUNTY:

DRAFT

CUPA EL DORADO: CUPA Facility List
CUPA facility list.

Date of Government Version: 07/30/2021
Date Data Arrived at EDR: 08/03/2021
Date Made Active in Reports: 10/26/2021
Number of Days to Update: 84

Source: El Dorado County Environmental Management Department
Telephone: 530-621-6623
Last EDR Contact: 10/22/2021
Next Scheduled EDR Contact: 02/07/2022
Data Release Frequency: Varies

FRESNO COUNTY:

CUPA FRESNO: CUPA Resources List
Certified Unified Program Agency. CUPA's are responsible for implementing a unified hazardous materials and hazardous waste management regulatory program. The agency provides oversight of businesses that deal with hazardous materials, operate underground storage tanks or aboveground storage tanks.

Date of Government Version: 04/09/2021
Date Data Arrived at EDR: 06/23/2021
Date Made Active in Reports: 09/17/2021
Number of Days to Update: 86

Source: Dept. of Community Health
Telephone: 559-445-3271
Last EDR Contact: 10/01/2021
Next Scheduled EDR Contact: 01/10/2022
Data Release Frequency: Semi-Annually

GLENN COUNTY:

CUPA GLENN: CUPA Facility List
Cupa facility list

Date of Government Version: 01/22/2018
Date Data Arrived at EDR: 01/24/2018
Date Made Active in Reports: 03/14/2018
Number of Days to Update: 49

Source: Glenn County Air Pollution Control District
Telephone: 830-934-6500
Last EDR Contact: 07/13/2021
Next Scheduled EDR Contact: 11/01/2021
Data Release Frequency: No Update Planned

HUMBOLDT COUNTY:

CUPA HUMBOLDT: CUPA Facility List
CUPA facility list.

Date of Government Version: 05/17/2021
Date Data Arrived at EDR: 05/18/2021
Date Made Active in Reports: 05/20/2021
Number of Days to Update: 2

Source: Humboldt County Environmental Health
Telephone: N/A
Last EDR Contact: 08/10/2021
Next Scheduled EDR Contact: 11/29/2021
Data Release Frequency: Semi-Annually

IMPERIAL COUNTY:

CUPA IMPERIAL: CUPA Facility List
Cupa facility list.

Date of Government Version: 07/13/2021
Date Data Arrived at EDR: 07/15/2021
Date Made Active in Reports: 10/06/2021
Number of Days to Update: 83

Source: San Diego Border Field Office
Telephone: 760-339-2777
Last EDR Contact: 10/15/2021
Next Scheduled EDR Contact: 01/31/2022
Data Release Frequency: Varies

INYO COUNTY:

DRAFT

CUPA INYO: CUPA Facility List
Cupa facility list.

Date of Government Version: 04/02/2018
Date Data Arrived at EDR: 04/03/2018
Date Made Active in Reports: 06/14/2018
Number of Days to Update: 72

Source: Inyo County Environmental Health Services
Telephone: 760-878-0238
Last EDR Contact: 08/10/2021
Next Scheduled EDR Contact: 11/29/2021
Data Release Frequency: Varies

KERN COUNTY:

CUPA KERN: CUPA Facility List
A listing of sites included in the Kern County Hazardous Material Business Plan.

Date of Government Version: 07/06/2021
Date Data Arrived at EDR: 08/12/2021
Date Made Active in Reports: 10/07/2021
Number of Days to Update: 56

Source: Kern County Public Health
Telephone: 661-321-3000
Last EDR Contact: 10/29/2021
Next Scheduled EDR Contact: 02/14/2022
Data Release Frequency: Varies

UST KERN: Underground Storage Tank Sites & Tank Listing
Kern County Sites and Tanks Listing.

Date of Government Version: 07/06/2021
Date Data Arrived at EDR: 08/12/2021
Date Made Active in Reports: 08/18/2021
Number of Days to Update: 6

Source: Kern County Environment Health Services Department
Telephone: 661-862-8700
Last EDR Contact: 10/29/2021
Next Scheduled EDR Contact: 02/14/2022
Data Release Frequency: Quarterly

KINGS COUNTY:

CUPA KINGS: CUPA Facility List
A listing of sites included in the county's Certified Unified Program Agency database. California's Secretary for Environmental Protection established the unified hazardous materials and hazardous waste regulatory program as required by chapter 6.11 of the California Health and Safety Code. The Unified Program consolidates the administration, permits, inspections, and enforcement activities.

Date of Government Version: 12/03/2020
Date Data Arrived at EDR: 01/26/2021
Date Made Active in Reports: 04/14/2021
Number of Days to Update: 78

Source: Kings County Department of Public Health
Telephone: 559-584-1411
Last EDR Contact: 09/07/2021
Next Scheduled EDR Contact: 11/29/2021
Data Release Frequency: Varies

LAKE COUNTY:

CUPA LAKE: CUPA Facility List
Cupa facility list

Date of Government Version: 07/27/2021
Date Data Arrived at EDR: 07/28/2021
Date Made Active in Reports: 10/21/2021
Number of Days to Update: 85

Source: Lake County Environmental Health
Telephone: 707-263-1164
Last EDR Contact: 10/06/2021
Next Scheduled EDR Contact: 01/24/2022
Data Release Frequency: Varies

LASSEN COUNTY:

DRAFT

CUPA LASSEN: CUPA Facility List
Cupa facility list

Date of Government Version: 07/31/2020
Date Data Arrived at EDR: 08/21/2020
Date Made Active in Reports: 11/09/2020
Number of Days to Update: 80

Source: Lassen County Environmental Health
Telephone: 530-251-8528
Last EDR Contact: 10/15/2021
Next Scheduled EDR Contact: 01/31/2022
Data Release Frequency: Varies

LOS ANGELES COUNTY:

AOCONCERN: Key Areas of Concerns in Los Angeles County
San Gabriel Valley areas where VOC contamination is at or above the MCL as designated by region 9 EPA office. Date of Government Version: 3/30/2009 Exide Site area is a cleanup plan of lead-impacted soil surrounding the former Exide Facility as designated by the DTSC. Date of Government Version: 7/17/2017

Date of Government Version: 03/30/2009
Date Data Arrived at EDR: 03/31/2009
Date Made Active in Reports: 10/23/2009
Number of Days to Update: 206

Source: N/A
Telephone: N/A
Last EDR Contact: 09/09/2021
Next Scheduled EDR Contact: 12/27/2021
Data Release Frequency: No Update Planned

HMS LOS ANGELES: HMS: Street Number List
Industrial Waste and Underground Storage Tank Sites.

Date of Government Version: 07/08/2021
Date Data Arrived at EDR: 07/09/2021
Date Made Active in Reports: 09/29/2021
Number of Days to Update: 82

Source: Department of Public Works
Telephone: 626-458-3517
Last EDR Contact: 10/15/2021
Next Scheduled EDR Contact: 01/17/2022
Data Release Frequency: Semi-Annually

LF LOS ANGELES: List of Solid Waste Facilities
Solid Waste Facilities in Los Angeles County.

Date of Government Version: 07/09/2021
Date Data Arrived at EDR: 07/09/2021
Date Made Active in Reports: 09/29/2021
Number of Days to Update: 82

Source: La County Department of Public Works
Telephone: 818-458-5185
Last EDR Contact: 10/08/2021
Next Scheduled EDR Contact: 01/24/2022
Data Release Frequency: Varies

LF LOS ANGELES CITY: City of Los Angeles Landfills
Landfills owned and maintained by the City of Los Angeles.

Date of Government Version: 01/01/2021
Date Data Arrived at EDR: 02/18/2021
Date Made Active in Reports: 05/10/2021
Number of Days to Update: 81

Source: Engineering & Construction Division
Telephone: 213-473-7869
Last EDR Contact: 10/05/2021
Next Scheduled EDR Contact: 01/24/2022
Data Release Frequency: Varies

LOS ANGELES AST: Active & Inactive AST Inventory
A listing of active & inactive above ground petroleum storage tank site locations, located in the City of Los Angeles.

Date of Government Version: 06/01/2019
Date Data Arrived at EDR: 06/25/2019
Date Made Active in Reports: 08/22/2019
Number of Days to Update: 58

Source: Los Angeles Fire Department
Telephone: 213-978-3800
Last EDR Contact: 09/24/2021
Next Scheduled EDR Contact: 01/03/2022
Data Release Frequency: Varies

DRAFT

LOS ANGELES CO LF METHANE: Methane Producing Landfills

This data was created on April 30, 2012 to represent known disposal sites in Los Angeles County that may produce and emanate methane gas. The shapefile contains disposal sites within Los Angeles County that once accepted degradable refuse material. Information used to create this data was extracted from a landfill survey performed by County Engineers (Major Waste System Map, 1973) as well as historical records from CalRecycle, Regional Water Quality Control Board, and Los Angeles County Department of Public Health

Date of Government Version: 02/04/2021
Date Data Arrived at EDR: 04/16/2021
Date Made Active in Reports: 04/21/2021
Number of Days to Update: 5

Source: Los Angeles County Department of Public Works
Telephone: 626-458-6973
Last EDR Contact: 10/08/2021
Next Scheduled EDR Contact: 01/24/2022
Data Release Frequency: No Update Planned

LOS ANGELES HM: Active & Inactive Hazardous Materials Inventory

A listing of active & inactive hazardous materials facility locations, located in the City of Los Angeles.

Date of Government Version: 04/19/2021
Date Data Arrived at EDR: 06/17/2021
Date Made Active in Reports: 06/28/2021
Number of Days to Update: 11

Source: Los Angeles Fire Department
Telephone: 213-978-3800
Last EDR Contact: 09/24/2021
Next Scheduled EDR Contact: 01/03/2022
Data Release Frequency: Varies

LOS ANGELES UST: Active & Inactive UST Inventory

A listing of active & inactive underground storage tank site locations and underground storage tank historical sites, located in the City of Los Angeles.

Date of Government Version: 04/19/2021
Date Data Arrived at EDR: 06/17/2021
Date Made Active in Reports: 09/14/2021
Number of Days to Update: 89

Source: Los Angeles Fire Department
Telephone: 213-978-3800
Last EDR Contact: 09/24/2021
Next Scheduled EDR Contact: 01/03/2022
Data Release Frequency: Varies

SITE MIT LOS ANGELES: Site Mitigation List

Industrial sites that have had some sort of spill or complaint.

Date of Government Version: 05/26/2021
Date Data Arrived at EDR: 07/09/2021
Date Made Active in Reports: 09/29/2021
Number of Days to Update: 82

Source: Community Health Services
Telephone: 323-890-7806
Last EDR Contact: 10/15/2021
Next Scheduled EDR Contact: 01/24/2022
Data Release Frequency: Annually

UST EL SEGUNDO: City of El Segundo Underground Storage Tank

Underground storage tank sites located in El Segundo city.

Date of Government Version: 01/21/2017
Date Data Arrived at EDR: 04/19/2017
Date Made Active in Reports: 05/10/2017
Number of Days to Update: 21

Source: City of El Segundo Fire Department
Telephone: 310-524-2236
Last EDR Contact: 10/06/2021
Next Scheduled EDR Contact: 01/24/2022
Data Release Frequency: No Update Planned

UST LONG BEACH: City of Long Beach Underground Storage Tank

Underground storage tank sites located in the city of Long Beach.

Date of Government Version: 04/22/2019
Date Data Arrived at EDR: 04/23/2019
Date Made Active in Reports: 06/27/2019
Number of Days to Update: 65

Source: City of Long Beach Fire Department
Telephone: 562-570-2563
Last EDR Contact: 10/14/2021
Next Scheduled EDR Contact: 01/31/2022
Data Release Frequency: Varies

DRAFT

UST TORRANCE: City of Torrance Underground Storage Tank
Underground storage tank sites located in the city of Torrance.

Date of Government Version: 02/02/2021
Date Data Arrived at EDR: 04/28/2021
Date Made Active in Reports: 07/13/2021
Number of Days to Update: 76

Source: City of Torrance Fire Department
Telephone: 310-618-2973
Last EDR Contact: 10/15/2021
Next Scheduled EDR Contact: 01/31/2022
Data Release Frequency: Semi-Annually

MADERA COUNTY:

CUPA MADERA: CUPA Facility List
A listing of sites included in the county's Certified Unified Program Agency database. California's Secretary for Environmental Protection established the unified hazardous materials and hazardous waste regulatory program as required by chapter 6.11 of the California Health and Safety Code. The Unified Program consolidates the administration, permits, inspections, and enforcement activities.

Date of Government Version: 08/10/2020
Date Data Arrived at EDR: 08/12/2020
Date Made Active in Reports: 10/23/2020
Number of Days to Update: 72

Source: Madera County Environmental Health
Telephone: 559-675-7823
Last EDR Contact: 08/10/2021
Next Scheduled EDR Contact: 11/29/2021
Data Release Frequency: Varies

MARIN COUNTY:

UST MARIN: Underground Storage Tank Sites
Currently permitted USTs in Marin County.

Date of Government Version: 09/26/2018
Date Data Arrived at EDR: 10/04/2018
Date Made Active in Reports: 11/02/2018
Number of Days to Update: 29

Source: Public Works Department Waste Management
Telephone: 415-473-6647
Last EDR Contact: 09/23/2021
Next Scheduled EDR Contact: 01/10/2022
Data Release Frequency: Semi-Annually

MENDOCINO COUNTY:

UST MENDOCINO: Mendocino County UST Database
A listing of underground storage tank locations in Mendocino County.

Date of Government Version: 03/24/2021
Date Data Arrived at EDR: 04/07/2021
Date Made Active in Reports: 06/24/2021
Number of Days to Update: 78

Source: Department of Public Health
Telephone: 707-463-4466
Last EDR Contact: 08/17/2021
Next Scheduled EDR Contact: 12/06/2021
Data Release Frequency: Annually

MERCED COUNTY:

CUPA MERCED: CUPA Facility List
CUPA facility list.

Date of Government Version: 05/13/2021
Date Data Arrived at EDR: 05/14/2021
Date Made Active in Reports: 07/26/2021
Number of Days to Update: 73

Source: Merced County Environmental Health
Telephone: 209-381-1094
Last EDR Contact: 08/09/2021
Next Scheduled EDR Contact: 11/28/2021
Data Release Frequency: Varies

MONO COUNTY:

DRAFT

CUPA MONO: CUPA Facility List
CUPA Facility List

Date of Government Version: 02/22/2021
Date Data Arrived at EDR: 03/02/2021
Date Made Active in Reports: 05/19/2021
Number of Days to Update: 78

Source: Mono County Health Department
Telephone: 760-932-5580
Last EDR Contact: 08/31/2021
Next Scheduled EDR Contact: 12/06/3021
Data Release Frequency: Varies

MONTEREY COUNTY:

CUPA MONTEREY: CUPA Facility Listing
CUPA Program listing from the Environmental Health Division.

Date of Government Version: 06/23/2021
Date Data Arrived at EDR: 06/23/2021
Date Made Active in Reports: 06/24/2021
Number of Days to Update: 1

Source: Monterey County Health Department
Telephone: 831-796-1297
Last EDR Contact: 09/23/2021
Next Scheduled EDR Contact: 01/10/2022
Data Release Frequency: Varies

NAPA COUNTY:

LUST NAPA: Sites With Reported Contamination
A listing of leaking underground storage tank sites located in Napa county.

Date of Government Version: 01/09/2017
Date Data Arrived at EDR: 01/11/2017
Date Made Active in Reports: 03/02/2017
Number of Days to Update: 50

Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 08/17/2021
Next Scheduled EDR Contact: 12/06/2021
Data Release Frequency: No Update Planned

UST NAPA: Closed and Operating Underground Storage Tank Sites
Underground storage tank sites located in Napa county.

Date of Government Version: 09/05/2019
Date Data Arrived at EDR: 09/09/2019
Date Made Active in Reports: 10/31/2019
Number of Days to Update: 52

Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 08/17/2021
Next Scheduled EDR Contact: 12/06/2021
Data Release Frequency: No Update Planned

NEVADA COUNTY:

CUPA NEVADA: CUPA Facility List
CUPA facility list.

Date of Government Version: 07/28/2021
Date Data Arrived at EDR: 07/28/2021
Date Made Active in Reports: 10/21/2021
Number of Days to Update: 85

Source: Community Development Agency
Telephone: 530-265-1467
Last EDR Contact: 10/22/2021
Next Scheduled EDR Contact: 02/07/2022
Data Release Frequency: Varies

ORANGE COUNTY:

IND_SITE ORANGE: List of Industrial Site Cleanups
Petroleum and non-petroleum spills.

DRAFT

Date of Government Version: 07/09/2021
Date Data Arrived at EDR: 08/03/2021
Date Made Active in Reports: 10/26/2021
Number of Days to Update: 84

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 10/29/2021
Next Scheduled EDR Contact: 02/14/2022
Data Release Frequency: Annually

LUST ORANGE: List of Underground Storage Tank Cleanups
Orange County Underground Storage Tank Cleanups (LUST).

Date of Government Version: 07/09/2021
Date Data Arrived at EDR: 08/03/2021
Date Made Active in Reports: 10/26/2021
Number of Days to Update: 84

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 10/29/2021
Next Scheduled EDR Contact: 02/14/2022
Data Release Frequency: Quarterly

UST ORANGE: List of Underground Storage Tank Facilities
Orange County Underground Storage Tank Facilities (UST).

Date of Government Version: 07/09/2021
Date Data Arrived at EDR: 07/29/2021
Date Made Active in Reports: 10/19/2021
Number of Days to Update: 82

Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 10/29/2021
Next Scheduled EDR Contact: 02/14/2022
Data Release Frequency: Quarterly

PLACER COUNTY:

MS PLACER: Master List of Facilities
List includes aboveground tanks, underground tanks and cleanup sites.

Date of Government Version: 05/25/2021
Date Data Arrived at EDR: 05/26/2021
Date Made Active in Reports: 06/01/2021
Number of Days to Update: 6

Source: Placer County Health and Human Services
Telephone: 530-745-2363
Last EDR Contact: 08/24/2021
Next Scheduled EDR Contact: 12/13/2021
Data Release Frequency: Semi-Annually

PLUMAS COUNTY:

CUPA PLUMAS: CUPA Facility List
Plumas County CUPA Program facilities.

Date of Government Version: 03/31/2019
Date Data Arrived at EDR: 04/23/2019
Date Made Active in Reports: 06/26/2019
Number of Days to Update: 64

Source: Plumas County Environmental Health
Telephone: 530-283-6355
Last EDR Contact: 10/14/2021
Next Scheduled EDR Contact: 01/31/2022
Data Release Frequency: Varies

RIVERSIDE COUNTY:

LUST RIVERSIDE: Listing of Underground Tank Cleanup Sites
Riverside County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 06/29/2021
Date Data Arrived at EDR: 06/30/2021
Date Made Active in Reports: 07/14/2021
Number of Days to Update: 14

Source: Department of Environmental Health
Telephone: 951-358-5055
Last EDR Contact: 09/09/2021
Next Scheduled EDR Contact: 12/27/2021
Data Release Frequency: Quarterly

DRAFT

UST RIVERSIDE: Underground Storage Tank Tank List
Underground storage tank sites located in Riverside county.

Date of Government Version: 06/29/2021
Date Data Arrived at EDR: 06/30/2021
Date Made Active in Reports: 07/14/2021
Number of Days to Update: 14

Source: Department of Environmental Health
Telephone: 951-358-5055
Last EDR Contact: 09/09/2021
Next Scheduled EDR Contact: 12/27/2021
Data Release Frequency: Quarterly

SACRAMENTO COUNTY:

CS SACRAMENTO: Toxic Site Clean-Up List
List of sites where unauthorized releases of potentially hazardous materials have occurred.

Date of Government Version: 03/30/2021
Date Data Arrived at EDR: 04/01/2021
Date Made Active in Reports: 06/23/2021
Number of Days to Update: 83

Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 09/28/2021
Next Scheduled EDR Contact: 01/10/2022
Data Release Frequency: Quarterly

ML SACRAMENTO: Master Hazardous Materials Facility List
Any business that has hazardous materials on site - hazardous material storage sites, underground storage tanks, waste generators.

Date of Government Version: 08/02/2021
Date Data Arrived at EDR: 08/04/2021
Date Made Active in Reports: 11/02/2021
Number of Days to Update: 90

Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 10/01/2021
Next Scheduled EDR Contact: 01/10/2022
Data Release Frequency: Quarterly

SAN BENITO COUNTY:

CUPA SAN BENITO: CUPA Facility List
Cupa facility list

Date of Government Version: 07/27/2021
Date Data Arrived at EDR: 07/28/2021
Date Made Active in Reports: 10/21/2021
Number of Days to Update: 85

Source: San Benito County Environmental Health
Telephone: N/A
Last EDR Contact: 10/29/2021
Next Scheduled EDR Contact: 02/14/2022
Data Release Frequency: Varies

SAN BERNARDINO COUNTY:

PERMITS SAN BERNARDINO: Hazardous Material Permits
This listing includes underground storage tanks, medical waste handlers/generators, hazardous materials handlers, hazardous waste generators, and waste oil generators/handlers.

Date of Government Version: 05/19/2021
Date Data Arrived at EDR: 05/19/2021
Date Made Active in Reports: 06/07/2021
Number of Days to Update: 19

Source: San Bernardino County Fire Department Hazardous Materials Division
Telephone: 909-387-3041
Last EDR Contact: 11/01/2021
Next Scheduled EDR Contact: 02/14/2022
Data Release Frequency: Quarterly

SAN DIEGO COUNTY:

DRAFT

HMMD SAN DIEGO: Hazardous Materials Management Division Database

The database includes: HE58 - This report contains the business name, site address, business phone number, establishment 'H' permit number, type of permit, and the business status. HE17 - In addition to providing the same information provided in the HE58 listing, HE17 provides inspection dates, violations received by the establishment, hazardous waste generated, the quantity, method of storage, treatment/disposal of waste and the hauler, and information on underground storage tanks. Unauthorized Release List - Includes a summary of environmental contamination cases in San Diego County (underground tank cases, non-tank cases, groundwater contamination, and soil contamination are included.)

Date of Government Version: 05/28/2021
Date Data Arrived at EDR: 05/28/2021
Date Made Active in Reports: 08/20/2021
Number of Days to Update: 84

Source: Hazardous Materials Management Division
Telephone: 619-338-2268
Last EDR Contact: 08/31/2021
Next Scheduled EDR Contact: 12/13/2021
Data Release Frequency: Quarterly

LF SAN DIEGO: Solid Waste Facilities

San Diego County Solid Waste Facilities.

Date of Government Version: 10/01/2020
Date Data Arrived at EDR: 11/23/2020
Date Made Active in Reports: 02/08/2021
Number of Days to Update: 77

Source: Department of Health Services
Telephone: 619-338-2209
Last EDR Contact: 10/29/2021
Next Scheduled EDR Contact: 01/31/2022
Data Release Frequency: Varies

SAN DIEGO CO LOP: Local Oversight Program Listing

A listing of all LOP release sites that are or were under the County of San Diego's jurisdiction. Included are closed or transferred cases, open cases, and cases that did not have a case type indicated. The cases without a case type are mostly complaints; however, some of them could be LOP cases.

Date of Government Version: 07/14/2020
Date Data Arrived at EDR: 07/16/2020
Date Made Active in Reports: 09/29/2020
Number of Days to Update: 75

Source: Department of Environmental Health
Telephone: 858-505-6874
Last EDR Contact: 10/15/2021
Next Scheduled EDR Contact: 01/31/2022
Data Release Frequency: Varies

SAN DIEGO CO SAM: Environmental Case Listing

The listing contains all underground tank release cases and projects pertaining to properties contaminated with hazardous substances that are actively under review by the Site Assessment and Mitigation Program.

Date of Government Version: 03/23/2010
Date Data Arrived at EDR: 06/15/2010
Date Made Active in Reports: 07/09/2010
Number of Days to Update: 24

Source: San Diego County Department of Environmental Health
Telephone: 619-338-2371
Last EDR Contact: 08/24/2021
Next Scheduled EDR Contact: 12/13/2021
Data Release Frequency: No Update Planned

SAN FRANCISCO COUNTY:

CUPA SAN FRANCISCO CO: CUPA Facility Listing

Cupa facilities

Date of Government Version: 08/05/2021
Date Data Arrived at EDR: 08/05/2021
Date Made Active in Reports: 10/29/2021
Number of Days to Update: 85

Source: San Francisco County Department of Environmental Health
Telephone: 415-252-3896
Last EDR Contact: 10/29/2021
Next Scheduled EDR Contact: 02/14/2022
Data Release Frequency: Varies

LUST SAN FRANCISCO: Local Oversite Facilities

A listing of leaking underground storage tank sites located in San Francisco county.

DRAFT

Date of Government Version: 09/19/2008
Date Data Arrived at EDR: 09/19/2008
Date Made Active in Reports: 09/29/2008
Number of Days to Update: 10

Source: Department Of Public Health San Francisco County
Telephone: 415-252-3920
Last EDR Contact: 11/01/2021
Next Scheduled EDR Contact: 02/14/2022
Data Release Frequency: No Update Planned

UST SAN FRANCISCO: Underground Storage Tank Information
Underground storage tank sites located in San Francisco county.

Date of Government Version: 08/05/2021
Date Data Arrived at EDR: 08/05/2021
Date Made Active in Reports: 10/29/2021
Number of Days to Update: 85

Source: Department of Public Health
Telephone: 415-252-3920
Last EDR Contact: 10/31/2021
Next Scheduled EDR Contact: 02/13/2022
Data Release Frequency: Quarterly

SAN JOAQUIN COUNTY:

UST SAN JOAQUIN: San Joaquin Co. UST
A listing of underground storage tank locations in San Joaquin county.

Date of Government Version: 06/22/2018
Date Data Arrived at EDR: 06/26/2018
Date Made Active in Reports: 07/11/2018
Number of Days to Update: 15

Source: Environmental Health Department
Telephone: N/A
Last EDR Contact: 09/09/2021
Next Scheduled EDR Contact: 12/27/2021
Data Release Frequency: Semi-Annually

SAN LUIS OBISPO COUNTY:

CUPA SAN LUIS OBISPO: CUPA Facility List
Cupa Facility List.

Date of Government Version: 05/07/2021
Date Data Arrived at EDR: 05/11/2021
Date Made Active in Reports: 05/14/2021
Number of Days to Update: 3

Source: San Luis Obispo County Public Health Department
Telephone: 805-781-5596
Last EDR Contact: 08/10/2021
Next Scheduled EDR Contact: 11/29/2021
Data Release Frequency: Varies

SAN MATEO COUNTY:

BI SAN MATEO: Business Inventory
List includes Hazardous Materials Business Plan, hazardous waste generators, and underground storage tanks.

Date of Government Version: 02/20/2020
Date Data Arrived at EDR: 02/20/2020
Date Made Active in Reports: 04/24/2020
Number of Days to Update: 64

Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 09/10/2021
Next Scheduled EDR Contact: 12/20/2021
Data Release Frequency: Annually

LUST SAN MATEO: Fuel Leak List
A listing of leaking underground storage tank sites located in San Mateo county.

Date of Government Version: 03/29/2019
Date Data Arrived at EDR: 03/29/2019
Date Made Active in Reports: 05/29/2019
Number of Days to Update: 61

Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 08/31/2021
Next Scheduled EDR Contact: 12/20/2021
Data Release Frequency: Semi-Annually

SANTA BARBARA COUNTY:

DRAFT

CUPA SANTA BARBARA: CUPA Facility Listing
CUPA Program Listing from the Environmental Health Services division.

Date of Government Version: 09/08/2011
Date Data Arrived at EDR: 09/09/2011
Date Made Active in Reports: 10/07/2011
Number of Days to Update: 28

Source: Santa Barbara County Public Health Department
Telephone: 805-686-8167
Last EDR Contact: 08/10/2021
Next Scheduled EDR Contact: 11/29/2021
Data Release Frequency: No Update Planned

SANTA CLARA COUNTY:

CUPA SANTA CLARA: Cupa Facility List
Cupa facility list

Date of Government Version: 08/04/2021
Date Data Arrived at EDR: 08/05/2021
Date Made Active in Reports: 10/29/2021
Number of Days to Update: 85

Source: Department of Environmental Health
Telephone: 408-918-1973
Last EDR Contact: 08/04/2021
Next Scheduled EDR Contact: 11/29/2021
Data Release Frequency: Varies

HIST LUST SANTA CLARA: HIST LUST - Fuel Leak Site Activity Report
A listing of open and closed leaking underground storage tanks. This listing is no longer updated by the county. Leaking underground storage tanks are now handled by the Department of Environmental Health.

Date of Government Version: 03/29/2005
Date Data Arrived at EDR: 03/30/2005
Date Made Active in Reports: 04/21/2005
Number of Days to Update: 22

Source: Santa Clara Valley Water District
Telephone: 408-265-2600
Last EDR Contact: 03/23/2009
Next Scheduled EDR Contact: 06/22/2009
Data Release Frequency: No Update Planned

LUST SANTA CLARA: LOP Listing
A listing of leaking underground storage tanks located in Santa Clara county.

Date of Government Version: 03/03/2014
Date Data Arrived at EDR: 03/05/2014
Date Made Active in Reports: 03/18/2014
Number of Days to Update: 13

Source: Department of Environmental Health
Telephone: 408-918-3417
Last EDR Contact: 08/17/2021
Next Scheduled EDR Contact: 12/06/2021
Data Release Frequency: No Update Planned

SAN JOSE HAZMAT: Hazardous Material Facilities
Hazardous material facilities, including underground storage tank sites.

Date of Government Version: 11/03/2020
Date Data Arrived at EDR: 11/05/2020
Date Made Active in Reports: 01/26/2021
Number of Days to Update: 82

Source: City of San Jose Fire Department
Telephone: 408-535-7694
Last EDR Contact: 11/01/2021
Next Scheduled EDR Contact: 02/14/2022
Data Release Frequency: Annually

SANTA CRUZ COUNTY:

CUPA SANTA CRUZ: CUPA Facility List
CUPA facility listing.

Date of Government Version: 01/21/2017
Date Data Arrived at EDR: 02/22/2017
Date Made Active in Reports: 05/23/2017
Number of Days to Update: 90

Source: Santa Cruz County Environmental Health
Telephone: 831-464-2761
Last EDR Contact: 08/10/2021
Next Scheduled EDR Contact: 11/29/2021
Data Release Frequency: Varies

SHASTA COUNTY:

DRAFT

CUPA SHASTA: CUPA Facility List
Cupa Facility List.

Date of Government Version: 06/15/2017
Date Data Arrived at EDR: 06/19/2017
Date Made Active in Reports: 08/09/2017
Number of Days to Update: 51

Source: Shasta County Department of Resource Management
Telephone: 530-225-5789
Last EDR Contact: 08/10/2021
Next Scheduled EDR Contact: 11/29/2021
Data Release Frequency: Varies

SOLANO COUNTY:

LUST SOLANO: Leaking Underground Storage Tanks
A listing of leaking underground storage tank sites located in Solano county.

Date of Government Version: 06/04/2019
Date Data Arrived at EDR: 06/06/2019
Date Made Active in Reports: 08/13/2019
Number of Days to Update: 68

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 08/24/2021
Next Scheduled EDR Contact: 12/13/2021
Data Release Frequency: Quarterly

UST SOLANO: Underground Storage Tanks
Underground storage tank sites located in Solano county.

Date of Government Version: 06/22/2021
Date Data Arrived at EDR: 06/23/2021
Date Made Active in Reports: 09/17/2021
Number of Days to Update: 86

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 09/09/2021
Next Scheduled EDR Contact: 12/12/2021
Data Release Frequency: Quarterly

SONOMA COUNTY:

CUPA SONOMA: Cupa Facility List
Cupa Facility list

Date of Government Version: 07/02/2021
Date Data Arrived at EDR: 07/06/2021
Date Made Active in Reports: 07/14/2021
Number of Days to Update: 8

Source: County of Sonoma Fire & Emergency Services Department
Telephone: 707-565-1174
Last EDR Contact: 09/14/2021
Next Scheduled EDR Contact: 01/03/2022
Data Release Frequency: Varies

LUST SONOMA: Leaking Underground Storage Tank Sites
A listing of leaking underground storage tank sites located in Sonoma county.

Date of Government Version: 06/30/2021
Date Data Arrived at EDR: 06/30/2021
Date Made Active in Reports: 09/24/2021
Number of Days to Update: 86

Source: Department of Health Services
Telephone: 707-565-6565
Last EDR Contact: 09/14/2021
Next Scheduled EDR Contact: 01/03/2022
Data Release Frequency: Quarterly

STANISLAUS COUNTY:

CUPA STANISLAUS: CUPA Facility List
Cupa facility list

Date of Government Version: 05/14/2021
Date Data Arrived at EDR: 05/17/2021
Date Made Active in Reports: 08/03/2021
Number of Days to Update: 78

Source: Stanislaus County Department of Ennvironmental Protection
Telephone: 209-525-6751
Last EDR Contact: 10/06/2021
Next Scheduled EDR Contact: 01/24/2022
Data Release Frequency: Varies

SUTTER COUNTY:

DRAFT

UST SUTTER: Underground Storage Tanks
Underground storage tank sites located in Sutter county.

Date of Government Version: 05/25/2021
Date Data Arrived at EDR: 05/26/2021
Date Made Active in Reports: 08/18/2021
Number of Days to Update: 84

Source: Sutter County Environmental Health Services
Telephone: 530-822-7500
Last EDR Contact: 08/24/2021
Next Scheduled EDR Contact: 12/13/2021
Data Release Frequency: Semi-Annually

TEHAMA COUNTY:

CUPA TEHAMA: CUPA Facility List
Cupa facilities

Date of Government Version: 01/13/2021
Date Data Arrived at EDR: 01/14/2021
Date Made Active in Reports: 04/06/2021
Number of Days to Update: 82

Source: Tehama County Department of Environmental Health
Telephone: 530-527-8020
Last EDR Contact: 11/01/2021
Next Scheduled EDR Contact: 02/14/2022
Data Release Frequency: Varies

TRINITY COUNTY:

CUPA TRINITY: CUPA Facility List
Cupa facility list

Date of Government Version: 07/14/2021
Date Data Arrived at EDR: 07/15/2021
Date Made Active in Reports: 10/06/2021
Number of Days to Update: 83

Source: Department of Toxic Substances Control
Telephone: 760-352-0381
Last EDR Contact: 10/15/2021
Next Scheduled EDR Contact: 01/31/2022
Data Release Frequency: Varies

TULARE COUNTY:

CUPA TULARE: CUPA Facility List
Cupa program facilities

Date of Government Version: 04/26/2021
Date Data Arrived at EDR: 04/28/2021
Date Made Active in Reports: 07/13/2021
Number of Days to Update: 76

Source: Tulare County Environmental Health Services Division
Telephone: 559-624-7400
Last EDR Contact: 11/01/2021
Next Scheduled EDR Contact: 02/14/2022
Data Release Frequency: Varies

TUOLUMNE COUNTY:

CUPA TUOLUMNE: CUPA Facility List
Cupa facility list

Date of Government Version: 04/23/2018
Date Data Arrived at EDR: 04/25/2018
Date Made Active in Reports: 06/25/2018
Number of Days to Update: 61

Source: Divison of Environmental Health
Telephone: 209-533-5633
Last EDR Contact: 10/14/2021
Next Scheduled EDR Contact: 01/31/2022
Data Release Frequency: Varies

VENTURA COUNTY:

DRAFT

BWT VENTURA: Business Plan, Hazardous Waste Producers, and Operating Underground Tanks
The BWT list indicates by site address whether the Environmental Health Division has Business Plan (B), Waste Producer (W), and/or Underground Tank (T) information.

Date of Government Version: 05/26/2021
Date Data Arrived at EDR: 07/19/2021
Date Made Active in Reports: 10/08/2021
Number of Days to Update: 81
Source: Ventura County Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 10/18/2021
Next Scheduled EDR Contact: 01/31/2022
Data Release Frequency: Quarterly

LF VENTURA: Inventory of Illegal Abandoned and Inactive Sites
Ventura County Inventory of Closed, Illegal Abandoned, and Inactive Sites.

Date of Government Version: 12/01/2011
Date Data Arrived at EDR: 12/01/2011
Date Made Active in Reports: 01/19/2012
Number of Days to Update: 49
Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 09/23/2021
Next Scheduled EDR Contact: 01/10/2022
Data Release Frequency: No Update Planned

LUST VENTURA: Listing of Underground Tank Cleanup Sites
Ventura County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 05/29/2008
Date Data Arrived at EDR: 06/24/2008
Date Made Active in Reports: 07/31/2008
Number of Days to Update: 37
Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 08/04/2021
Next Scheduled EDR Contact: 11/22/2021
Data Release Frequency: No Update Planned

MED WASTE VENTURA: Medical Waste Program List
To protect public health and safety and the environment from potential exposure to disease causing agents, the Environmental Health Division Medical Waste Program regulates the generation, handling, storage, treatment and disposal of medical waste throughout the County.

Date of Government Version: 05/26/2021
Date Data Arrived at EDR: 07/19/2021
Date Made Active in Reports: 10/07/2021
Number of Days to Update: 80
Source: Ventura County Resource Management Agency
Telephone: 805-654-2813
Last EDR Contact: 10/18/2021
Next Scheduled EDR Contact: 01/31/2022
Data Release Frequency: Quarterly

UST VENTURA: Underground Tank Closed Sites List
Ventura County Operating Underground Storage Tank Sites (UST)/Underground Tank Closed Sites List.

Date of Government Version: 05/26/2021
Date Data Arrived at EDR: 06/04/2021
Date Made Active in Reports: 08/27/2021
Number of Days to Update: 84
Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 09/08/2021
Next Scheduled EDR Contact: 12/20/2021
Data Release Frequency: Quarterly

YOLO COUNTY:

UST YOLO: Underground Storage Tank Comprehensive Facility Report
Underground storage tank sites located in Yolo county.

Date of Government Version: 06/22/2021
Date Data Arrived at EDR: 06/28/2021
Date Made Active in Reports: 09/21/2021
Number of Days to Update: 85
Source: Yolo County Department of Health
Telephone: 530-666-8646
Last EDR Contact: 09/23/2021
Next Scheduled EDR Contact: 01/10/2022
Data Release Frequency: Annually

YUBA COUNTY:

DRAFT

CUPA YUBA: CUPA Facility List
CUPA facility listing for Yuba County.

Date of Government Version: 07/20/2021
Date Data Arrived at EDR: 07/20/2021
Date Made Active in Reports: 10/08/2021
Number of Days to Update: 80

Source: Yuba County Environmental Health Department
Telephone: 530-749-7523
Last EDR Contact: 10/22/2021
Next Scheduled EDR Contact: 02/07/2022
Data Release Frequency: Varies

OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

CT MANIFEST: Hazardous Waste Manifest Data
Facility and manifest data. Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a tsd facility.

Date of Government Version: 03/24/2021
Date Data Arrived at EDR: 05/11/2021
Date Made Active in Reports: 07/28/2021
Number of Days to Update: 78

Source: Department of Energy & Environmental Protection
Telephone: 860-424-3375
Last EDR Contact: 08/10/2021
Next Scheduled EDR Contact: 11/22/2021
Data Release Frequency: No Update Planned

NJ MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2018
Date Data Arrived at EDR: 04/10/2019
Date Made Active in Reports: 05/16/2019
Number of Days to Update: 36

Source: Department of Environmental Protection
Telephone: N/A
Last EDR Contact: 10/05/2021
Next Scheduled EDR Contact: 01/17/2022
Data Release Frequency: Annually

NY MANIFEST: Facility and Manifest Data
Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a TSD facility.

Date of Government Version: 01/01/2019
Date Data Arrived at EDR: 04/29/2020
Date Made Active in Reports: 07/10/2020
Number of Days to Update: 72

Source: Department of Environmental Conservation
Telephone: 518-402-8651
Last EDR Contact: 10/29/2021
Next Scheduled EDR Contact: 02/07/2022
Data Release Frequency: Quarterly

PA MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 06/30/2018
Date Data Arrived at EDR: 07/19/2019
Date Made Active in Reports: 09/10/2019
Number of Days to Update: 53

Source: Department of Environmental Protection
Telephone: 717-783-8990
Last EDR Contact: 10/07/2021
Next Scheduled EDR Contact: 01/24/2022
Data Release Frequency: Annually

RI MANIFEST: Manifest information
Hazardous waste manifest information

Date of Government Version: 12/31/2019
Date Data Arrived at EDR: 02/11/2021
Date Made Active in Reports: 02/24/2021
Number of Days to Update: 13

Source: Department of Environmental Management
Telephone: 401-222-2797
Last EDR Contact: 08/11/2021
Next Scheduled EDR Contact: 11/29/2021
Data Release Frequency: Annually

DRAFT

WI MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 05/31/2018
Date Data Arrived at EDR: 06/19/2019
Date Made Active in Reports: 09/03/2019
Number of Days to Update: 76

Source: Department of Natural Resources
Telephone: N/A
Last EDR Contact: 09/01/2021
Next Scheduled EDR Contact: 12/20/2021
Data Release Frequency: Annually

Oil/Gas Pipelines
Source: Endeavor Business Media
Petroleum Bundle (Crude Oil, Refined Products, Petrochemicals, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)) N = Natural Gas Bundle (Natural Gas, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)). This map includes information copyrighted by Endeavor Business Media. This information is provided on a best effort basis and Endeavor Business Media does not guarantee its accuracy nor warrant its fitness for any particular purpose. Such information has been reprinted with the permission of Endeavor Business Media.

Electric Power Transmission Line Data
Source: Endeavor Business Media
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Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

AHA Hospitals:
Source: American Hospital Association, Inc.
Telephone: 312-280-5991
The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

Medical Centers: Provider of Services Listing
Source: Centers for Medicare & Medicaid Services
Telephone: 410-786-3000
A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services, a federal agency within the U.S. Department of Health and Human Services.

Nursing Homes
Source: National Institutes of Health
Telephone: 301-594-6248
Information on Medicare and Medicaid certified nursing homes in the United States.

Public Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.

Private Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on private school locations in the United States.

Daycare Centers: Licensed Facilities
Source: Department of Social Services
Telephone: 916-657-4041

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.
Source: FEMA
Telephone: 877-336-2627
Date of Government Version: 2003, 2015

DRAFT

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetland Inventory
Source: Department of Fish and Wildlife
Telephone: 916-445-0411

Current USGS 7.5 Minute Topographic Map
Source: U.S. Geological Survey

STREET AND ADDRESS INFORMATION

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DRAFT

GEOCHECK ®- PHYSICAL SETTING SOURCE ADDENDUM

TARGET PROPERTY ADDRESS

450104
19439 BEAR VALLEY ROAD
APPLE VALLEY, CA 92308

TARGET PROPERTY COORDINATES

Latitude (North):	34.470641 - 34° 28' 14.31''
Longitude (West):	117.239164 - 117° 14' 20.99''
Universal Tranverse Mercator:	Zone 11
UTM X (Meters):	478035.8
UTM Y (Meters):	3814171.8
Elevation:	2867 ft. above sea level

USGS TOPOGRAPHIC MAP

Target Property Map:	5619094 APPLE VALLEY SOUTH, CA
Version Date:	2012
Southwest Map:	5620406 HESPERIA, CA
Version Date:	2012

DRAFT

EDR's GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

Assessment of the impact of contaminant migration generally has two principle investigative components:

1. Groundwater flow direction, and
2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW DIRECTION INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

TOPOGRAPHIC INFORMATION

Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

TARGET PROPERTY TOPOGRAPHY

General Topographic Gradient: General WNW

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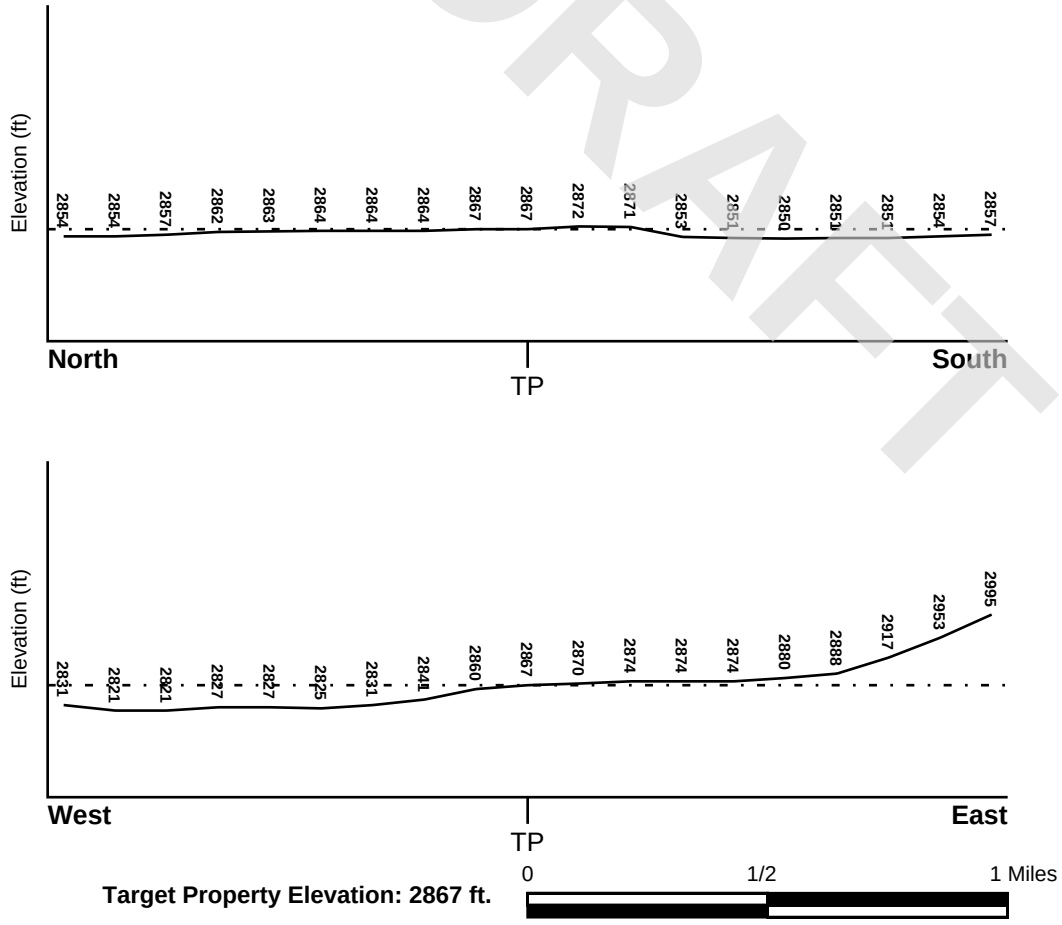
SURROUNDING TOPOGRAPHY: ELEVATION PROFILES



Source: Topography has been determined from the USGS 7.5' Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

HYDROLOGIC INFORMATION

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

FEMA FLOOD ZONE

Flood Plain Panel at Target Property	FEMA Source Type
06071C6505H	FEMA FIRM Flood data

Additional Panels in search area:	FEMA Source Type
06071C6485H	FEMA FIRM Flood data

NATIONAL WETLAND INVENTORY

NWI Quad at Target Property	NWI Electronic Data Coverage
APPLE VALLEY SOUTH	YES - refer to the Overview Map and Detail Map

HYDROGEOLOGIC INFORMATION

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Site-Specific Hydrogeological Data*:

Search Radius:	1.25 miles
Status:	Not found

AQUIFLOW®

Search Radius: 1.000 Mile.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

MAP ID	LOCATION FROM TP	GENERAL DIRECTION GROUNDWATER FLOW
Not Reported		

DRAFT

* ©1996 Site−specific hydrogeological data gathered by CERCLIS Alerts, Inc., Bainbridge Island, WA. All rights reserved. All of the information and opinions presented are those of the cited EPA report(s), which were completed under a Comprehensive Environmental Response Compensation and Liability Information System (CERCLIS) investigation.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW VELOCITY INFORMATION

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

ROCK STRATIGRAPHIC UNIT

Era:	Cenozoic
System:	Quaternary
Series:	Quaternary
Code:	Q *(decoded above as Era, System & Series)*

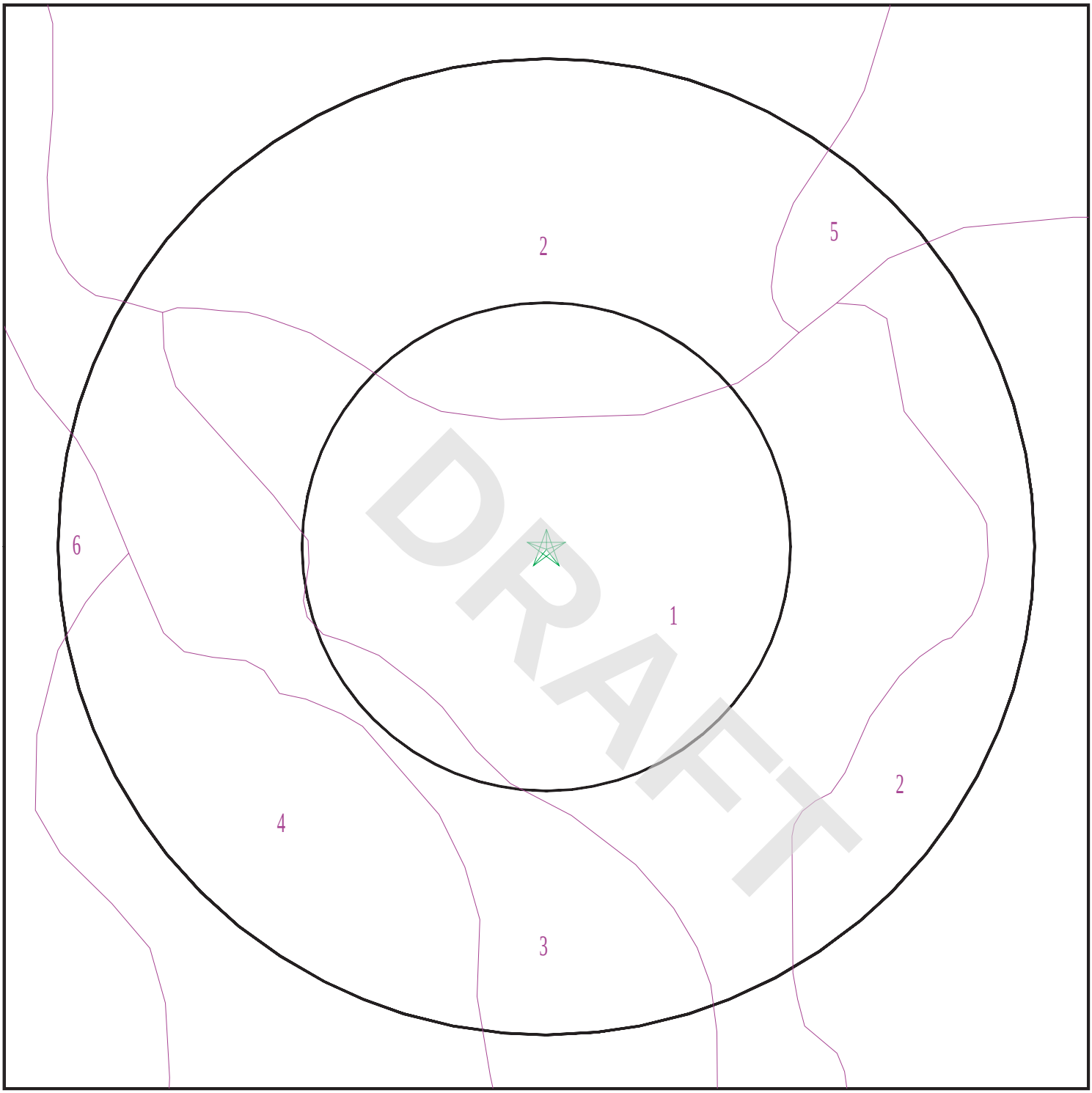
GEOLOGIC AGE IDENTIFICATION

Category: Stratifed Sequence

Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

DRAFT

SSURGO SOIL MAP - 6733055.2s



Target Property
SSURGO Soil
Water

0 1/16 1/8 1/4 Miles

N

SITE NAME:	450104	CLIENT:	AEI Consultants
ADDRESS:	19439 Bear Valley Road Apple Valley CA 92308	CONTACT:	Rocio Romero
LAT/LONG:	34.470641 / 117.239164	INQUIRY #:	6733055.2s
		DATE:	November 03, 2021 1:33 pm

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GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. The following information is based on Soil Conservation Service SSURGO data.

Soil Map ID: 1

Soil Component Name: BRYMAN

Soil Surface Texture:
Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	9 inches		Not reported	Not reported	Max: 141 Min: 42	Max: 8.4 Min: 7.4
2	9 inches	11 inches		Not reported	Not reported	Max: 141 Min: 42	Max: 8.4 Min: 7.4
3	11 inches	31 inches		Not reported	Not reported	Max: 141 Min: 42	Max: 8.4 Min: 7.4
4	31 inches	46 inches		Not reported	Not reported	Max: 141 Min: 42	Max: 8.4 Min: 7.4
5	46 inches	98 inches		Not reported	Not reported	Max: 141 Min: 42	Max: 8.4 Min: 7.4

Soil Map ID: 2

Soil Component Name: BRYMAN

Soil Surface Texture:
Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained

DRAFT

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	9 inches		Not reported	Not reported	Max: 42 Min: 14	Max: 8.4 Min: 7.4
2	9 inches	42 inches		Not reported	Not reported	Max: 42 Min: 14	Max: 8.4 Min: 7.4
3	42 inches	59 inches		Not reported	Not reported	Max: 42 Min: 14	Max: 8.4 Min: 7.4

Soil Map ID: 3

Soil Component Name: BRYMAN

Soil Surface Texture:

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	9 inches		Not reported	Not reported	Max: 141 Min: 42	Max: 8.4 Min: 7.4
2	9 inches	38 inches		Not reported	Not reported	Max: 141 Min: 42	Max: 8.4 Min: 7.4

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Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
3	38 inches	59 inches		Not reported	Not reported	Max: 141 Min: 42	Max: 8.4 Min: 7.4

Soil Map ID: 4

Soil Component Name: VICTORVILLE

Soil Surface Texture:
Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Moderately well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	16 inches		Not reported	Not reported	Max: 4 Min: 1.4	Max: 8.4 Min: 6.6
2	16 inches	35 inches		Not reported	Not reported	Max: 4 Min: 1.4	Max: 8.4 Min: 6.6
3	35 inches	48 inches		Not reported	Not reported	Max: 4 Min: 1.4	Max: 8.4 Min: 6.6
4	48 inches	59 inches		Not reported	Not reported	Max: 4 Min: 1.4	Max: 8.4 Min: 6.6

Soil Map ID: 5

Soil Component Name: KIMBERLINA

Soil Surface Texture:
Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Well drained

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Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 0 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	7 inches		Not reported	Not reported	Max: 14 Min: 4	Max: 8.4 Min: 7.9
2	7 inches	51 inches		Not reported	Not reported	Max: 14 Min: 4	Max: 8.4 Min: 7.9
3	51 inches	59 inches		Not reported	Not reported	Max: 14 Min: 4	Max: 8.4 Min: 7.9

Soil Map ID: 6

Soil Component Name: VILLA

Soil Surface Texture:

Hydrologic Group: Class B - Moderate infiltration rates. Deep and moderately deep, moderately well and well drained soils with moderately coarse textures.

Soil Drainage Class: Moderately well drained

Hydric Status: Not hydric

Corrosion Potential - Uncoated Steel: High

Depth to Bedrock Min: > 0 inches

Depth to Watertable Min: > 137 inches

Soil Layer Information							
	Boundary			Classification		Saturated hydraulic conductivity micro m/sec	Soil Reaction (pH)
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil		
1	0 inches	7 inches		Not reported	Not reported	Max: 42 Min: 14	Max: 8.4 Min: 7.4
2	7 inches	59 inches		Not reported	Not reported	Max: 42 Min: 14	Max: 8.4 Min: 7.4

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GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

LOCAL / REGIONAL WATER AGENCY RECORDS

EDR Local/Regional Water Agency records provide water well information to assist the environmental professional in assessing sources that may impact ground water flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

WELL SEARCH DISTANCE INFORMATION

DATABASE	SEARCH DISTANCE (miles)
Federal USGS	1.000
Federal FRDS PWS	Nearest PWS within 1 mile
State Database	1.000

FEDERAL USGS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
A2	USGS40000145791	0 - 1/8 Mile SSE
A7	USGS40000145779	0 - 1/8 Mile SSE
C11	USGS40000145756	1/8 - 1/4 Mile SSE
B15	USGS40000145797	1/8 - 1/4 Mile West
C19	USGS40000145728	1/8 - 1/4 Mile South
D20	USGS40000145798	1/8 - 1/4 Mile WSW
E27	USGS40000145767	1/4 - 1/2 Mile ESE
F30	USGS40000145662	1/4 - 1/2 Mile South
32	USGS40000145917	1/4 - 1/2 Mile NNE
G35	USGS40000145764	1/2 - 1 Mile ESE
G36	USGS40000145765	1/2 - 1 Mile ESE
G37	USGS40000145766	1/2 - 1 Mile ESE
G38	USGS40000145763	1/2 - 1 Mile ESE
H40	USGS40000145660	1/2 - 1 Mile SE
H41	USGS40000145661	1/2 - 1 Mile SE
J43	USGS40000145822	1/2 - 1 Mile West
K47	USGS40000145885	1/2 - 1 Mile WNW
J50	USGS40000145814	1/2 - 1 Mile West
I51	USGS40000145805	1/2 - 1 Mile East
J53	USGS40000145815	1/2 - 1 Mile West
J54	USGS40000145816	1/2 - 1 Mile West
L55	USGS40000145579	1/2 - 1 Mile SSE
L56	USGS40000145580	1/2 - 1 Mile SSE
L57	USGS40000145581	1/2 - 1 Mile SSE
O61	USGS40000145965	1/2 - 1 Mile NNW
P70	USGS40000145806	1/2 - 1 Mile West
P71	USGS40000145807	1/2 - 1 Mile West
P72	USGS40000145809	1/2 - 1 Mile West
P73	USGS40000145808	1/2 - 1 Mile West
N74	USGS40000145903	1/2 - 1 Mile ENE
M81	USGS40000145761	1/2 - 1 Mile ESE
M82	USGS40000145762	1/2 - 1 Mile ESE
Q84	USGS40000145902	1/2 - 1 Mile ENE
86	USGS40000145918	1/2 - 1 Mile WNW
Q87	USGS40000145895	1/2 - 1 Mile ENE
88	USGS40000145780	1/2 - 1 Mile West

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GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

FEDERAL USGS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
90	USGS40000145578	1/2 - 1 Mile SE
S93	USGS40000146006	1/2 - 1 Mile NNE
R96	USGS40000145659	1/2 - 1 Mile ESE
T98	USGS40000145966	1/2 - 1 Mile NW
U102	USGS40000146013	1/2 - 1 Mile NNE
S103	USGS40000146017	1/2 - 1 Mile NNE
W105	USGS40000145455	1/2 - 1 Mile South
W106	USGS40000145456	1/2 - 1 Mile South
X109	USGS40000146024	1/2 - 1 Mile North
X110	USGS40000146025	1/2 - 1 Mile North
U112	USGS40000146022	1/2 - 1 Mile NNE
Y113	USGS40000145855	1/2 - 1 Mile West
X117	USGS40000146031	1/2 - 1 Mile North
Z119	USGS40000145452	1/2 - 1 Mile SSE
Z120	USGS40000145453	1/2 - 1 Mile SSE
Z121	USGS40000145454	1/2 - 1 Mile SSE
W124	USGS40000145433	1/2 - 1 Mile South
V133	USGS40000145472	1/2 - 1 Mile SSW

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
No PWS System Found		

Note: PWS System location is not always the same as well location.

STATE DATABASE WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
A1	CADWR0000006451	0 - 1/8 Mile SSE
A3	CADDW0000007683	0 - 1/8 Mile SW
A4	CADDW0000006445	0 - 1/8 Mile SW
A5	CADWR9000009561	0 - 1/8 Mile SW
A6	CADWR0000030975	0 - 1/8 Mile South
8	CADWR9000009555	0 - 1/8 Mile SSW
B9	4380	1/8 - 1/4 Mile West
C10	CADWR9000009538	1/8 - 1/4 Mile South
C12	CAUSGSN00009727	1/8 - 1/4 Mile SSE
B13	4396	1/8 - 1/4 Mile West
D14	CADDW0000004416	1/8 - 1/4 Mile WSW
C16	CADWR9000009521	1/8 - 1/4 Mile South
D17	CAUSGSN00011996	1/8 - 1/4 Mile WSW
C18	CADDW0000008506	1/8 - 1/4 Mile South
D21	CALLNL000000339	1/8 - 1/4 Mile WSW
22	4397	1/8 - 1/4 Mile WNW
E23	CADWR9000009547	1/8 - 1/4 Mile SE
24	CADDW0000016853	1/4 - 1/2 Mile North
E25	4381	1/4 - 1/2 Mile SE

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GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

STATE DATABASE WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
26	CADWR9000009564	1/4 - 1/2 Mile West
28	CADWR0000011318	1/4 - 1/2 Mile SSE
F29	4382	1/4 - 1/2 Mile South
F31	CADWR9000009488	1/4 - 1/2 Mile South
G33	CADWR9000009545	1/4 - 1/2 Mile ESE
G34	CADWR9000009546	1/4 - 1/2 Mile ESE
H39	CADWR9000009487	1/2 - 1 Mile SE
I42	4379	1/2 - 1 Mile East
K44	CADDW0000017049	1/2 - 1 Mile WNW
K45	CAUSGSN00011305	1/2 - 1 Mile WNW
K46	CAUSGS000000159	1/2 - 1 Mile WNW
L48	CADWR9000009463	1/2 - 1 Mile SSE
L49	CADWR9000009462	1/2 - 1 Mile SSE
I52	CAUSGSN00009613	1/2 - 1 Mile East
M58	CADWR9000009544	1/2 - 1 Mile ESE
M59	CADWR9000009543	1/2 - 1 Mile ESE
N60	CADWR9000009639	1/2 - 1 Mile ENE
J62	CADWR9000009567	1/2 - 1 Mile West
J63	CADWR9000009570	1/2 - 1 Mile West
J64	CADWR9000009569	1/2 - 1 Mile West
J65	CADWR9000009568	1/2 - 1 Mile West
J66	CADWR9000009573	1/2 - 1 Mile West
J67	CADWR9000009574	1/2 - 1 Mile West
J68	CADWR9000009575	1/2 - 1 Mile West
O69	CADWR9000009674	1/2 - 1 Mile NNW
P75	CAUSGSN00009150	1/2 - 1 Mile West
P76	CAUSGSN00009795	1/2 - 1 Mile West
P77	CAUSGSN00017725	1/2 - 1 Mile West
P78	CAUSGSN00003771	1/2 - 1 Mile West
N79	CADWR9000009635	1/2 - 1 Mile ENE
N80	CADWR9000009638	1/2 - 1 Mile ENE
83	CADDW0000016311	1/2 - 1 Mile North
R85	CADWR9000009486	1/2 - 1 Mile ESE
89	5546	1/2 - 1 Mile NW
S91	CADWR9000009704	1/2 - 1 Mile NNE
T92	CALLNL000001076	1/2 - 1 Mile NW
R94	CAUSGS000001092	1/2 - 1 Mile ESE
R95	CAUSGSN00019054	1/2 - 1 Mile ESE
T97	CAUSGSN00015113	1/2 - 1 Mile NW
T99	CADWR0000001905	1/2 - 1 Mile NW
S100	CADWR9000009714	1/2 - 1 Mile NNE
S101	CADWR9000009717	1/2 - 1 Mile NNE
V104	CADWR9000009392	1/2 - 1 Mile SSW
W107	CADWR9000009385	1/2 - 1 Mile South
108	CADWR9000009675	1/2 - 1 Mile NW
X111	CADWR9000009722	1/2 - 1 Mile North
U114	5498	1/2 - 1 Mile NNE
Z115	CADWR9000009384	1/2 - 1 Mile SSE
Z116	CADWR9000009383	1/2 - 1 Mile SSE
118	CADWR9000009725	1/2 - 1 Mile North
W122	CADWR9000009375	1/2 - 1 Mile South
W123	CALLNL000000485	1/2 - 1 Mile South

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GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

STATE DATABASE WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
AA125	CADWR9000009534	1/2 - 1 Mile ESE
AA126	CADWR9000009535	1/2 - 1 Mile ESE
AA127	CADWR9000009536	1/2 - 1 Mile ESE
W128	CAUSGSN00010705	1/2 - 1 Mile South
W129	CADDW0000005093	1/2 - 1 Mile South
130	4383	1/2 - 1 Mile South
AB131	CADWR9000009461	1/2 - 1 Mile SE
AB132	CADWR9000009460	1/2 - 1 Mile SE
Y134	CADWR9000009603	1/2 - 1 Mile West
AC135	CADWR9000009636	1/2 - 1 Mile ENE
AC136	CADWR9000009637	1/2 - 1 Mile ENE

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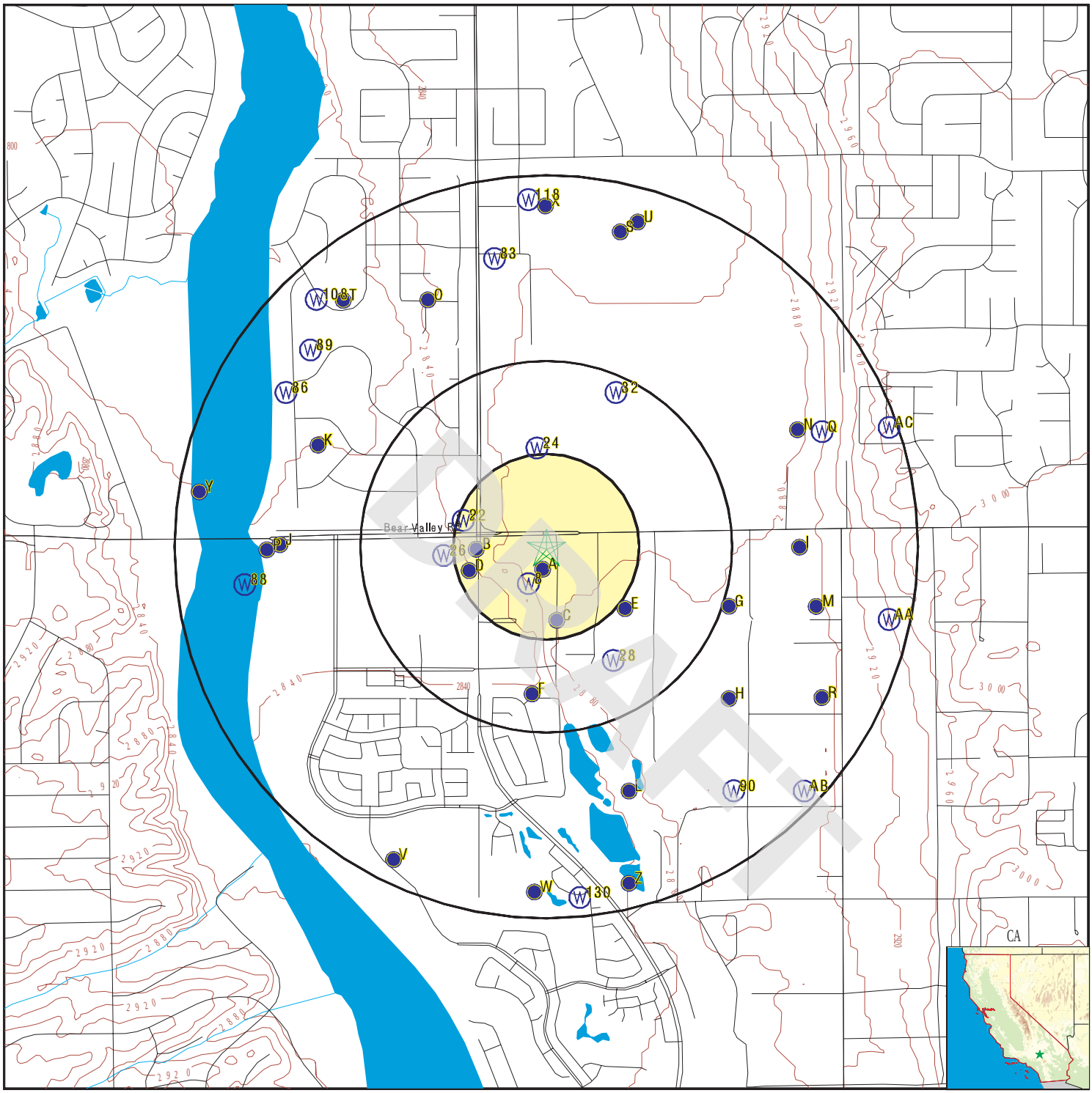
PHYSICAL SETTING SOURCE MAP - 6733055.2s



- County Boundary
- Major Roads
- Contour Lines
- Earthquake Fault Lines
- Earthquake epicenter, Richter 5 or greater
- Water Wells
- Public Water Supply Wells
- Cluster of Multiple Icons

- Groundwater Flow Direction
- GI Indeterminate Groundwater Flow at Location
- GV Groundwater Flow Varies at Location
- HD Closest Hydrogeological Data
- Oil, gas or related wells

SITE NAME:	450104	CLIENT:	AEI Consultants
ADDRESS:	19439 Bear Valley Road Apple Valley CA 92308	CONTACT:	Rocio Romero
		INQUIRY #:	6733055.2s
LAT/LONG:	34.470641 / 117.239164	DATE:	November 03, 2021 1:33 pm

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GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

A1
SSE
0 - 1/8 Mile
Higher | **CA WELLS** | **CADWR0000006451**

Well ID:	04N03W06D002S	Well Type:	UNK
Source:	Department of Water Resources		
Other Name:	04N03W06D002S	GAMA PFAS Testing:	Not Reported
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=DWR&samp_date=&global_id=&assigned_name=04N03W06D002S&store_num=		
GeoTracker Data:	Not Reported		

A2
SSE
0 - 1/8 Mile
Higher | **FED USGS** | **USGS40000145791**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	004N003W06D002S	Type:	Well
Description:	Not Reported	HUC:	18090208
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Basin and Range basin-fill aquifers		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	Not Reported	Well Depth:	100
Well Depth Units:	ft	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

Ground water levels,Number of Measurements:	111	Level reading date:	1974-06-12
Feet below surface:	70.7	Feet to sea level:	Not Reported
Note:	Not Reported		

Level reading date:	1974-05-01	Feet below surface:	74.6
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1974-04-03	Feet below surface:	73.2
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1974-01-09	Feet below surface:	74.5
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1973-12-07	Feet below surface:	74.5
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1973-11-02	Feet below surface:	71.6
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1973-10-04	Feet below surface:	72.5
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1973-09-13	Feet below surface:	67.8
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1973-08-07	Feet below surface:	67.4
Feet to sea level:	Not Reported	Note:	Not Reported

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Level reading date:	1973-07-10	Feet below surface:	68.9
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1973-06-06	Feet below surface:	68.3
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1973-05-04	Feet below surface:	72.1
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1973-04-06	Feet below surface:	68.1
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1973-02-06	Feet below surface:	71.0
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1973-01-04	Feet below surface:	70.9
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1972-10-30	Feet below surface:	71.7
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1972-09-29	Feet below surface:	71.8
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1972-09-06	Feet below surface:	72.0
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1972-05-04	Feet below surface:	69.9
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1972-04-07	Feet below surface:	70.0
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1972-01-05	Feet below surface:	70.8
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1971-11-17	Feet below surface:	71.0
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1971-10-08	Feet below surface:	70.7
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1971-09-14	Feet below surface:	70.3
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1971-08-03	Feet below surface:	70.1
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1971-07-08	Feet below surface:	70.1
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1971-06-09	Feet below surface:	70.5
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1971-05-05	Feet below surface:	69.5
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1971-04-07	Feet below surface:	68.1
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1971-03-05	Feet below surface:	67.0
Feet to sea level:	Not Reported	Note:	Not Reported

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Level reading date:	1971-02-03	Feet below surface:	66.8
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1971-01-08	Feet below surface:	68.1
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1970-11-12	Feet below surface:	68.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1970-10-07	Feet below surface:	68.7
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1970-08-04	Feet below surface:	68.5
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1970-07-08	Feet below surface:	66.5
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1970-05-26	Feet below surface:	66.3
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1970-04-15	Feet below surface:	64.9
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1970-02-11	Feet below surface:	63.6
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1970-01-08	Feet below surface:	63.2
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1969-12-03	Feet below surface:	64.7
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1969-10-22	Feet below surface:	66.7
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1969-09-08	Feet below surface:	63.3
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1969-08-09	Feet below surface:	62.4
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1969-07-16	Feet below surface:	62.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1969-05-09	Feet below surface:	62.7
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1969-04-16	Feet below surface:	62.7
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1969-02-05	Feet below surface:	71.0
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1968-11-21	Feet below surface:	70.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1968-10-03	Feet below surface:	69.7
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1968-09-05	Feet below surface:	69.1
Feet to sea level:	Not Reported	Note:	Not Reported

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Level reading date:	1968-08-08	Feet below surface:	68.8
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1968-06-13	Feet below surface:	66.8
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1968-04-26	Feet below surface:	66.6
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1968-03-13	Feet below surface:	65.3
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1968-02-07	Feet below surface:	65.3
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1968-01-08	Feet below surface:	65.5
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1967-12-06	Feet below surface:	66.2
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1967-10-04	Feet below surface:	67.0
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1967-09-13	Feet below surface:	66.7
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1967-08-01	Feet below surface:	66.0
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1967-07-07	Feet below surface:	65.5
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1967-06-08	Feet below surface:	65.6
Feet to sea level:	Not Reported	Note:	The site was being pumped.
Level reading date:	1967-05-04	Feet below surface:	66.7
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1967-04-04	Feet below surface:	69.1
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1967-03-02	Feet below surface:	69.4
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1967-01-05	Feet below surface:	69.4
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1966-11-17	Feet below surface:	71.8
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1966-09-29	Feet below surface:	73.2
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1966-08-30	Feet below surface:	72.8
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1960-03-21	Feet below surface:	64.46
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1959-11-09	Feet below surface:	66.82
Feet to sea level:	Not Reported	Note:	Not Reported

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Level reading date:	1959-05-11	Feet below surface:	65.28
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1958-11-26	Feet below surface:	66.11
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1958-03-24	Feet below surface:	65.22
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1957-11-20	Feet below surface:	68.33
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1957-04-30	Feet below surface:	65.66
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1956-12-02	Feet below surface:	66.29
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1955-12-09	Feet below surface:	65.82
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1955-04-12	Feet below surface:	62.03
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1954-11-16	Feet below surface:	62.80
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1954-05-12	Feet below surface:	70.70
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1954-03-29	Feet below surface:	61.40
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1953-04-13	Feet below surface:	59.16
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1953-03-16	Feet below surface:	58.30
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1953-02-16	Feet below surface:	58.65
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1953-01-15	Feet below surface:	58.05
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1952-09-15	Feet below surface:	61.85
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1952-08-19	Feet below surface:	60.3
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1952-07-14	Feet below surface:	60.58
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1952-06-11	Feet below surface:	59.14
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1951-08-13	Feet below surface:	62.91
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1951-04-17	Feet below surface:	60.1
Feet to sea level:	Not Reported	Note:	Not Reported

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Level reading date:	1951-03-19	Feet below surface:	59.1
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1951-02-13	Feet below surface:	59.3
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1951-01-15	Feet below surface:	59.5
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1950-12-15	Feet below surface:	60.2
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1950-10-16	Feet below surface:	61.1
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1950-09-13	Feet below surface:	61.0
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1950-08-14	Feet below surface:	60.53
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1950-07-14	Feet below surface:	60.2
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1950-06-14	Feet below surface:	59.8
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1950-04-18	Feet below surface:	58.2
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1950-03-14	Feet below surface:	56.2
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1950-02-15	Feet below surface:	57.6
Feet to sea level:	Not Reported	Note:	The site had been pumped recently.
Level reading date:	1950-01-23	Feet below surface:	58.0
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1949-12-13	Feet below surface:	58.8
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1949-10-18	Feet below surface:	59.7
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1949-09-14	Feet below surface:	59.5
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1949-07-13	Feet below surface:	58.1
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1949-06-16	Feet below surface:	58.6
Feet to sea level:	Not Reported	Note:	Not Reported

A3
SW
0 - 1/8 Mile
Lower

CA WELLS **CADDW0000007683**

Well ID:	3601035-001	Well Type:	MUNICIPAL
Source:	Department of Health Services		

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Other Name:	MAIN WELL	GAMA PFAS Testing:	Not Reported
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=DHS&samp_date=&global_id=&assigned_name=3601035-001&store_num=		
GeoTracker Data:	Not Reported		

A4
SW
0 - 1/8 Mile
Lower

CA WELLS **CADDW0000006445**

Well ID:	3601038-002	Well Type:	MUNICIPAL
Source:	Department of Health Services		
Other Name:	WELL AT BEAR VALLEY - INACTIVE		
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=DHS&samp_date=&global_id=&assigned_name=3601038-002&store_num=		
GeoTracker Data:	Not Reported		

A5
SW
0 - 1/8 Mile
Lower

CA WELLS **CADWR9000009561**

State Well #:	04N03W06D002S	Station ID:	27266
Well Name:	Not Reported	Basin Name:	Upper Mojave River Valley
Well Use:	Unknown	Well Type:	Unknown
Well Depth:	0	Well Completion Rpt #:	Not Reported

A6
South
0 - 1/8 Mile
Higher

CA WELLS **CADWR0000030975**

Well ID:	04N03W06D001S	Well Type:	UNK
Source:	Department of Water Resources		
Other Name:	04N03W06D001S	GAMA PFAS Testing:	Not Reported
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=DWR&samp_date=&global_id=&assigned_name=04N03W06D001S&store_num=		
GeoTracker Data:	Not Reported		

A7
SSE
0 - 1/8 Mile
Higher

FED USGS **USGS40000145779**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	004N003W06D001S	Type:	Well
Description:	Not Reported	HUC:	18090208
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Basin and Range basin-fill aquifers		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	Not Reported	Well Depth:	100

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Well Depth Units:	ft	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

Ground water levels,Number of Measurements:	95	Level reading date:	2002-04-01
Feet below surface:	96	Feet to sea level:	Not Reported
Note:	Not Reported		

Level reading date:	2002-03-01	Feet below surface:	94
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2002-02-01	Feet below surface:	93
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2002-01-01	Feet below surface:	92
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2000-04-01	Feet below surface:	87
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2000-03-01	Feet below surface:	94
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2000-02-01	Feet below surface:	84
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1964-10-28	Feet below surface:	77.15
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1964-01-14	Feet below surface:	70.35
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1963-10-31	Feet below surface:	74.15
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1963-02-05	Feet below surface:	68.45
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1962-11-13	Feet below surface:	70.15
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1962-02-01	Feet below surface:	70.25
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1961-11-01	Feet below surface:	69.95
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1961-02-02	Feet below surface:	66.35
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1960-11-03	Feet below surface:	67.72
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1960-10-28	Feet below surface:	77.15
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1960-02-01	Feet below surface:	64.50
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1959-11-03	Feet below surface:	66.73
Feet to sea level:	Not Reported	Note:	Not Reported

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Level reading date:	1959-04-02	Feet below surface:	64.72
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1958-11-26	Feet below surface:	64.93
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1958-08-06	Feet below surface:	64.19
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1958-03-24	Feet below surface:	65.01
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1958-01-08	Feet below surface:	66.57
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1957-06-03	Feet below surface:	67.38
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1957-04-30	Feet below surface:	66.48
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1957-02-06	Feet below surface:	65.96
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1956-12-05	Feet below surface:	67.10
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1956-04-05	Feet below surface:	66.62
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1956-03-29	Feet below surface:	64.65
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1955-04-12	Feet below surface:	62.8
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1954-11-21	Feet below surface:	51.06
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1954-11-16	Feet below surface:	65.40
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1954-04-26	Feet below surface:	50.26
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1954-03-29	Feet below surface:	62.80
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1953-11-09	Feet below surface:	61.37
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1953-05-26	Feet below surface:	61.38
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1953-04-13	Feet below surface:	59.55
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1953-03-16	Feet below surface:	58.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1953-02-16	Feet below surface:	58.93
Feet to sea level:	Not Reported	Note:	Not Reported

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Level reading date:	1953-01-15	Feet below surface:	58.63
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1952-11-24	Feet below surface:	59.67
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1951-11-26	Feet below surface:	60.83
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1951-05-03	Feet below surface:	60.46
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1950-11-08	Feet below surface:	60.9
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1950-05-05	Feet below surface:	58.67
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1949-11-14	Feet below surface:	59.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1949-05-10	Feet below surface:	57.20
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1948-12-01	Feet below surface:	56.35
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1948-05-27	Feet below surface:	54.73
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1948-04-28	Feet below surface:	54.13
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1948-03-25	Feet below surface:	53.62
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1947-11-12	Feet below surface:	53.98
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1947-05-15	Feet below surface:	53.12
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1947-01-06	Feet below surface:	52.5
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1946-04-24	Feet below surface:	51.77
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1945-11-21	Feet below surface:	52.06
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1945-04-26	Feet below surface:	51.26
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1944-12-14	Feet below surface:	51.84
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1944-01-07	Feet below surface:	52.54
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1943-05-12	Feet below surface:	51.70
Feet to sea level:	Not Reported	Note:	Not Reported

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Level reading date:	1942-11-20	Feet below surface:	53.85
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1942-05-07	Feet below surface:	53.68
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1941-11-12	Feet below surface:	53.69
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1941-06-17	Feet below surface:	52.18
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1940-11-20	Feet below surface:	55.14
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1940-05-08	Feet below surface:	54.41
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1939-11-25	Feet below surface:	53.69
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1939-06-08	Feet below surface:	53.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1938-10-29	Feet below surface:	52.92
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1938-06-03	Feet below surface:	52.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1937-11-16	Feet below surface:	53.30
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1937-06-29	Feet below surface:	53.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1936-12-14	Feet below surface:	55.30
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1936-03-19	Feet below surface:	55.54
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1935-11-05	Feet below surface:	55.19
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1935-05-22	Feet below surface:	54.54
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1935-05-08	Feet below surface:	54.68
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1935-01-16	Feet below surface:	56.35
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1934-05-17	Feet below surface:	56.60
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1933-12-21	Feet below surface:	55.30
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1932-11-03	Feet below surface:	54.80
Feet to sea level:	Not Reported	Note:	Not Reported

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Level reading date:	1932-10-08	Feet below surface:	55.20
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1932-09-13	Feet below surface:	55.30
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1932-07-20	Feet below surface:	55.20
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1932-04-27	Feet below surface:	55.30
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1932-01-07	Feet below surface:	56.30
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1931-11-18	Feet below surface:	56.70
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1931-07-28	Feet below surface:	58.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1931-05-07	Feet below surface:	55.80
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1931-02-17	Feet below surface:	55.10
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1931-01-26	Feet below surface:	55.20
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1930-02-19	Feet below surface:	55.90
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1930-01-25	Feet below surface:	55.30
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1917-02-24	Feet below surface:	50.50
Feet to sea level:	Not Reported	Note:	Not Reported

8
SSW
0 - 1/8 Mile
Lower

CA WELLS **CADWR9000009555**

State Well #:	04N03W06D001S	Station ID:	4510
Well Name:	Not Reported	Basin Name:	Upper Mojave River Valley
Well Use:	Unknown	Well Type:	Unknown
Well Depth:	0	Well Completion Rpt #:	Not Reported

B9
West
1/8 - 1/4 Mile
Lower

CA WELLS **4380**

Seq:	4380	Prim sta c:	04N/03W-06D05 S
Frds no:	3601035001	County:	36
District:	66	User id:	36C
System no:	3601035	Water type:	G
Source nam:	MAIN WELL	Station ty:	WELL/AMBNT/MUN/INTAKE

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Latitude:	342815.0	Longitude:	1171428.0
Precision:	2	Status:	AR
Comment 1:	Not Reported	Comment 2:	Not Reported
Comment 3:	Not Reported	Comment 4:	Not Reported
Comment 5:	Not Reported	Comment 6:	Not Reported
Comment 7:	Not Reported		

System no:	3601035	System nam:	Nikki'S Cafee Drive-Thru
Hqname:	Not Reported	Address:	Not Reported
City:	APPLE VALLEY	State:	CA
Zip:	92307	Zip ext:	Not Reported
Pop serv:	25	Connection:	1
Area serve:	Not Reported		

C10
South
1/8 - 1/4 Mile
Higher

CA WELLS **CADWR9000009538**

State Well #:	04N03W06D003S	Station ID:	4511
Well Name:	Not Reported	Basin Name:	Upper Mojave River Valley
Well Use:	Unknown	Well Type:	Unknown
Well Depth:	0	Well Completion Rpt #:	Not Reported

C11
SSE
1/8 - 1/4 Mile
Higher

FED USGS **USGS40000145756**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	004N003W06D003S	Type:	Well
Description:	Not Reported	HUC:	18090208
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Basin and Range basin-fill aquifers		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	Not Reported	Well Depth:	Not Reported
Well Depth Units:	Not Reported	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

Ground water levels,Number of Measurements:	1	Level reading date:	1994-03-10
Feet below surface:	80	Feet to sea level:	Not Reported
Note:	The site had been pumped recently.		

C12
SSE
1/8 - 1/4 Mile
Higher

CA WELLS **CAUSGSN00009727**

Well ID:	USGS-342805117141501	Well Type:	UNK
Source:	United States Geological Survey		
Other Name:	USGS-342805117141501	GAMA PFAS Testing:	Not Reported
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=USGSNEW&samp_date=&global_id=&assigned_name=USGS-342805117141501&store_num=		
GeoTracker Data:	Not Reported		

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GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

Database | EDR ID Number

B13
West
1/8 - 1/4 Mile
Lower

CA WELLS **4396**

Seq:	4396	Prim sta c:	04N/04W-01A02 S
Frds no:	3610003023	County:	36
District:	13	User id:	TAN
System no:	3610003	Water type:	G
Source nam:	MALL WELL	Station ty:	WELL/AMBNT
Latitude:	342814.0	Longitude:	1171430.0
Precision:	3	Status:	AR
Comment 1:	Not Reported	Comment 2:	Not Reported
Comment 3:	Not Reported	Comment 4:	Not Reported
Comment 5:	Not Reported	Comment 6:	Not Reported
Comment 7:	Not Reported		
System no:	3610003	System nam:	Apple Valley Ranchos Wc
Hqname:	Not Reported	Address:	21760 OTTAWA RD.
City:	APPLE VALLEY	State:	CA
Zip:	92307	Zip ext:	2619
Pop serv:	33236	Connection:	12173
Area serve:	APPLE VALLEY RANCHOS		

D14
WSW
1/8 - 1/4 Mile
Lower

CA WELLS **CADDW0000004416**

Well ID:	3610003-023	Well Type:	MUNICIPAL
Source:	Department of Health Services		
Other Name:	WELL 31 (MALL WELL) - ABANDONED		
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=DHS&samp_date=&global_id=&assigned_name=3610003-023&store_num=		
GeoTracker Data:	Not Reported		

B15
West
1/8 - 1/4 Mile
Lower

FED USGS **USGS40000145797**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	004N004W01A001S	Type:	Well
Description:	OLD WELL IN LOCKED PUMPHOUSE, PER CELAMB, JULY 94		
HUC:	18090208	Drainage Area:	Not Reported
Drainage Area Units:	Not Reported	Contrib Drainage Area:	Not Reported
Contrib Drainage Area Unts:	Not Reported	Aquifer:	Basin and Range basin-fill aquifers
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	194911	Well Depth:	Not Reported
Well Depth Units:	Not Reported	Well Hole Depth:	180
Well Hole Depth Units:	ft		
Ground water levels,Number of Measurements:	4	Level reading date:	1996-03-29
Feet below surface:	57.0	Feet to sea level:	Not Reported

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Note:	Not Reported		
Level reading date:	1995-11-06	Feet below surface:	57.0
Feet to sea level:	Not Reported	Note:	The site was being pumped.
Level reading date:	1995-03-22	Feet below surface:	32.61
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1956-06-07	Feet below surface:	21.05
Feet to sea level:	Not Reported	Note:	Not Reported

C16
South
1/8 - 1/4 Mile
Higher

CA WELLS **CADWR9000009521**

State Well #:	04N03W06E004S	Station ID:	25464
Well Name:	Not Reported	Basin Name:	Upper Mojave River Valley
Well Use:	Unknown	Well Type:	Unknown
Well Depth:	0	Well Completion Rpt #:	Not Reported

D17
WSW
1/8 - 1/4 Mile
Lower

CA WELLS **CAUSGSN00011996**

Well ID:	USGS-342813117143102	Well Type:	UNK
Source:	United States Geological Survey		
Other Name:	USGS-342813117143102	GAMA PFAS Testing:	Not Reported
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=USGSNEW&samp_date=&global_id=&assigned_name=USGS-342813117143102&store_num=		
GeoTracker Data:	Not Reported		

C18
South
1/8 - 1/4 Mile
Higher

CA WELLS **CADDW0000008506**

Well ID:	3610003-024	Well Type:	MUNICIPAL
Source:	Department of Health Services		
Other Name:	WELL 30 (HILLTOP WELL)	GAMA PFAS Testing:	Not Reported
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=DHS&samp_date=&global_id=&assigned_name=3610003-024&store_num=		
GeoTracker Data:	Not Reported		

C19
South
1/8 - 1/4 Mile
Higher

FED USGS **USGS40000145728**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	004N003W06E004S	Type:	Well
Description:	Not Reported	HUC:	Not Reported
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported

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Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Basin and Range basin-fill aquifers		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	Not Reported	Well Depth:	400
Well Depth Units:	ft	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

D20
WSW **FED USGS** **USGS40000145798**
1/8 - 1/4 Mile
Lower

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	004N004W01A002S	Type:	Well
Description:	Not Reported	HUC:	18090208
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Basin and Range basin-fill aquifers		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	19841011	Well Depth:	275
Well Depth Units:	ft	Well Hole Depth:	275
Well Hole Depth Units:	ft		

Ground water levels,Number of Measurements:	35	Level reading date:	2001-11-29
Feet below surface:	Not Reported	Feet to sea level:	Not Reported
Note:	The measurement was discontinued.		
Level reading date:	2000-03-24	Feet below surface:	256.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1999-10-13	Feet below surface:	252.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1999-03-22	Feet below surface:	249.0
Feet to sea level:	Not Reported	Note:	The site was being pumped.
Level reading date:	1998-10-07	Feet below surface:	256.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1998-04-07	Feet below surface:	40
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1997-10-10	Feet below surface:	Not Reported
Feet to sea level:	Not Reported	Note:	The site was being pumped.
Level reading date:	1997-03-19	Feet below surface:	Not Reported
Feet to sea level:	Not Reported	Note:	The site was being pumped.
Level reading date:	1996-10-10	Feet below surface:	57.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1996-03-29	Feet below surface:	Not Reported
Feet to sea level:	Not Reported	Note:	The site was being pumped.
Level reading date:	1996-03-12	Feet below surface:	Not Reported
Feet to sea level:	Not Reported	Note:	The measurement was discontinued.
Level reading date:	1995-11-06	Feet below surface:	Not Reported

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Feet to sea level:	Not Reported	Note:	The site was being pumped.
Level reading date:	1995-05-18	Feet below surface:	31.20
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1995-03-22	Feet below surface:	32.61
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1995-03-15	Feet below surface:	32.77
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1994-11-15	Feet below surface:	42.48
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1994-05-17	Feet below surface:	41.93
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1994-03-24	Feet below surface:	42.13
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1993-11-17	Feet below surface:	40.87
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1993-11-16	Feet below surface:	41.12
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1993-05-20	Feet below surface:	39.08
Feet to sea level:	Not Reported	Note:	The site had been pumped recently.
Level reading date:	1993-03-24	Feet below surface:	39.44
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1993-03-23	Feet below surface:	37.17
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1992-12-01	Feet below surface:	49.92
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1992-11-17	Feet below surface:	49.62
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1992-06-03	Feet below surface:	50.72
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1992-05-27	Feet below surface:	51.02
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1992-03-11	Feet below surface:	53.33
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1991-10-29	Feet below surface:	54.59
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1991-06-19	Feet below surface:	55.64
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1990-05-22	Feet below surface:	49.51
Feet to sea level:	Not Reported	Note:	The site had been pumped recently.
Level reading date:	1989-05-23	Feet below surface:	Not Reported
Feet to sea level:	Not Reported	Note:	The site was being pumped.

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Level reading date:	1988-10-25	Feet below surface:	45.49
Feet to sea level:	Not Reported	Note:	The site had been pumped recently.
Level reading date:	1988-05-27	Feet below surface:	Not Reported
Feet to sea level:	Not Reported	Note:	The site was being pumped.
Level reading date:	1984-10-11	Feet below surface:	44
Feet to sea level:	Not Reported	Note:	Not Reported

D21
WSW
1/8 - 1/4 Mile
Lower

CA WELLS **CALLNL000000339**

Well ID:	101366	Well Type:	MUNICIPAL
Source:	Lawrence Livermore National Laboratory		
Other Name:	04N/04W-01A02 S	GAMA PFAS Testing:	Not Reported
Groundwater Quality Data:	Not Reported		
GeoTracker Data:	Not Reported		
Chemical:	Neon	Results:	.000000283429
Units:	cm3STP/g	Date:	02/07/2003
Chemical:	Tritium (Hydrogen 3)	Results:	12.94
Units:	pCi/L	Date:	02/27/2003
Chemical:	Argon	Results:	.000398573
Units:	cm3STP/g	Date:	02/07/2003
Chemical:	Helium-4	Results:	.0000000715387
Units:	cm3STP/g	Date:	02/07/2003
Chemical:	Krypton	Results:	.000000083225
Units:	cm3STP/g	Date:	02/07/2003
Chemical:	Xenon	Results:	.0000000120333
Units:	cm3STP/g	Date:	02/07/2003
Chemical:	Helium-3/Helium-4	Results:	.00000159278
Units:	atom ratio	Date:	02/07/2003

22
WNW
1/8 - 1/4 Mile
Lower

CA WELLS **4397**

Seq:	4397	Prim sta c:	04N/04W-01A03 S
Frds no:	3601038002	County:	36
District:	66	User id:	36C
System no:	3601038	Water type:	G
Source nam:	WELL AT BEAR VALLEY	Station ty:	WELL/AMBNT/MUN/INTAKE
Latitude:	342818.0	Longitude:	1171432.0

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Precision:	2	Status:	AR
Comment 1:	Not Reported	Comment 2:	Not Reported
Comment 3:	Not Reported	Comment 4:	Not Reported
Comment 5:	Not Reported	Comment 6:	Not Reported
Comment 7:	Not Reported		
System no:	3601038	System nam:	Jess Ranch
Hqname:	Not Reported	Address:	Not Reported
City:	Not Reported	State:	Not Reported
Zip:	Not Reported	Zip ext:	Not Reported
Pop serv:	0	Connection:	0
Area serve:	Not Reported		

E23
SE
1/8 - 1/4 Mile
Higher

CA WELLS **CADWR9000009547**

State Well #:	04N03W06C001S	Station ID:	27265
Well Name:	Not Reported	Basin Name:	Upper Mojave River Valley
Well Use:	Unknown	Well Type:	Unknown
Well Depth:	0	Well Completion Rpt #:	Not Reported

24
North
1/4 - 1/2 Mile
Lower

CA WELLS **CADDW0000016853**

Well ID:	3610003-033	Well Type:	MUNICIPAL
Source:	Department of Health Services		
Other Name:	WELL 33	GAMA PFAS Testing:	Not Reported
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=DHS&samp_date=&global_id=&assigned_name=3610003-033&store_num=		
GeoTracker Data:	Not Reported		

E25
SE
1/4 - 1/2 Mile
Higher

CA WELLS **4381**

Seq:	4381	Prim sta c:	04N/03W-06E04 S
Frds no:	3610003024	County:	36
District:	13	User id:	TAN
System no:	3610003	Water type:	G
Source nam:	HILLTOP WELL	Station ty:	WELL/AMBNT
Latitude:	342805.0	Longitude:	1171405.0
Precision:	3	Status:	AR
Comment 1:	Not Reported	Comment 2:	Not Reported
Comment 3:	Not Reported	Comment 4:	Not Reported
Comment 5:	Not Reported	Comment 6:	Not Reported
Comment 7:	Not Reported		
System no:	3610003	System nam:	Apple Valley Ranchos Wc
Hqname:	Not Reported	Address:	21760 OTTAWA RD.
City:	APPLE VALLEY	State:	CA
Zip:	92307	Zip ext:	2619
Pop serv:	33236	Connection:	12173

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GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Area serve: APPLE VALLEY RANCHOS

Sample date:	06-JUL-17	Finding:	1.6
Chemical:	NITRATE (AS N)	Report units:	MG/L
Dlr:	0.4		
Sample date:	11-MAY-16	Finding:	130.
Chemical:	TOTAL DISSOLVED SOLIDS	Report units:	MG/L
Dlr:	0.		
Sample date:	11-MAY-16	Finding:	25.
Chemical:	BARIUM	Report units:	UG/L
Dlr:	100.		
Sample date:	11-MAY-16	Finding:	0.3
Chemical:	FLUORIDE (F) (NATURAL-SOURCE)	Report units:	MG/L
Dlr:	0.1		
Sample date:	11-MAY-16	Finding:	11.
Chemical:	SULFATE	Report units:	MG/L
Dlr:	0.5		
Sample date:	11-MAY-16	Finding:	10.
Chemical:	CHLORIDE	Report units:	MG/L
Dlr:	0.		
Sample date:	11-MAY-16	Finding:	1.3
Chemical:	POTASSIUM	Report units:	MG/L
Dlr:	0.		
Sample date:	11-MAY-16	Finding:	14.
Chemical:	SODIUM	Report units:	MG/L
Dlr:	0.		
Sample date:	11-MAY-16	Finding:	3.9
Chemical:	MAGNESIUM	Report units:	MG/L
Dlr:	0.		
Sample date:	11-MAY-16	Finding:	23.
Chemical:	CALCIUM	Report units:	MG/L
Dlr:	0.		
Sample date:	11-MAY-16	Finding:	72.
Chemical:	HARDNESS (TOTAL) AS CACO3	Report units:	MG/L
Dlr:	0.		
Sample date:	11-MAY-16	Finding:	1.4
Chemical:	NITRATE (AS N)	Report units:	MG/L
Dlr:	0.4		
Sample date:	11-MAY-16	Finding:	82.
Chemical:	BICARBONATE ALKALINITY	Report units:	MG/L
Dlr:	0.		
Sample date:	11-MAY-16	Finding:	67.
Chemical:	ALKALINITY (TOTAL) AS CACO3	Report units:	MG/L
Dlr:	0.		
Sample date:	11-MAY-16	Finding:	7.2
Chemical:	PH, LABORATORY	Report units:	Not Reported
Dlr:	0.		

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Sample date:	11-MAY-16	Finding:	240.
Chemical:	SPECIFIC CONDUCTANCE	Report units:	US
Dlr:	0.		
Sample date:	11-MAY-16	Finding:	10.8
Chemical:	AGGRSSIVE INDEX (CORROSIVITY)	Report units:	Not Reported
Dlr:	0.		
Sample date:	15-JUL-15	Finding:	6.3
Chemical:	NITRATE (AS NO3)	Report units:	MG/L
Dlr:	2.		
Sample date:	15-JUL-15	Finding:	6.3
Chemical:	NITRATE (AS NO3)	Report units:	MG/L
Dlr:	2.		
Sample date:	12-JUN-13	Finding:	5.4
Chemical:	NITRATE (AS NO3)	Report units:	MG/L
Dlr:	2.		
Sample date:	12-JUN-13	Finding:	11.2
Chemical:	AGGRSSIVE INDEX (CORROSIVITY)	Report units:	Not Reported
Dlr:	0.		
Sample date:	12-JUN-13	Finding:	0.5
Chemical:	FLUORIDE (F) (NATURAL-SOURCE)	Report units:	MG/L
Dlr:	0.1		
Sample date:	12-JUN-13	Finding:	13.
Chemical:	SULFATE	Report units:	MG/L
Dlr:	0.5		
Sample date:	12-JUN-13	Finding:	12.
Chemical:	CHLORIDE	Report units:	MG/L
Dlr:	0.		
Sample date:	12-JUN-13	Finding:	1.4
Chemical:	POTASSIUM	Report units:	MG/L
Dlr:	0.		
Sample date:	12-JUN-13	Finding:	14.
Chemical:	SODIUM	Report units:	MG/L
Dlr:	0.		
Sample date:	12-JUN-13	Finding:	4.1
Chemical:	MAGNESIUM	Report units:	MG/L
Dlr:	0.		
Sample date:	12-JUN-13	Finding:	24.
Chemical:	CALCIUM	Report units:	MG/L
Dlr:	0.		
Sample date:	12-JUN-13	Finding:	77.
Chemical:	HARDNESS (TOTAL) AS CACO3	Report units:	MG/L
Dlr:	0.		
Sample date:	12-JUN-13	Finding:	77.
Chemical:	BICARBONATE ALKALINITY	Report units:	MG/L
Dlr:	0.		
Sample date:	12-JUN-13	Finding:	63.
Chemical:	ALKALINITY (TOTAL) AS CACO3	Report units:	MG/L

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Dlr:	0.		
Sample date:	12-JUN-13	Finding:	7.6
Chemical:	PH, LABORATORY	Report units:	Not Reported
Dlr:	0.		
Sample date:	12-JUN-13	Finding:	230.
Chemical:	SPECIFIC CONDUCTANCE	Report units:	US
Dlr:	0.		
Sample date:	12-JUN-13	Finding:	140.
Chemical:	TOTAL DISSOLVED SOLIDS	Report units:	MG/L
Dlr:	0.		
Sample date:	18-JUL-12	Finding:	4.
Chemical:	NITRATE (AS NO3)	Report units:	MG/L
Dlr:	2.		
Sample date:	09-MAY-12	Finding:	3.9
Chemical:	VANADIUM	Report units:	UG/L
Dlr:	3.		

26
West
1/4 - 1/2 Mile
Lower

CA WELLS **CADWR9000009564**

State Well #:	04N04W01A001S	Station ID:	3323
Well Name:	Not Reported	Basin Name:	Upper Mojave River Valley
Well Use:	Unknown	Well Type:	Unknown
Well Depth:	0	Well Completion Rpt #:	Not Reported

E27
ESE
1/4 - 1/2 Mile
Higher

FED USGS **USGS40000145767**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	004N003W06C001S	Type:	Well
Description:	COMPUTER GENERATED LAT/LONG - ACCURATE +/- 500 FT		
HUC:	18090208	Drainage Area:	Not Reported
Drainage Area Units:	Not Reported	Contrib Drainage Area:	Not Reported
Contrib Drainage Area Unts:	Not Reported	Aquifer:	Basin and Range basin-fill aquifers
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	1956	Well Depth:	80
Well Depth Units:	ft	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

Ground water levels,Number of Measurements:	1	Level reading date:	1956-06-21
Feet below surface:	60.85	Feet to sea level:	Not Reported
Note:	Not Reported		

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GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

28
SSE
1/4 - 1/2 Mile
Higher

CA WELLS **CADWR0000011318**

Well ID:	04N03W06C002S	Well Type:	UNK
Source:	Department of Water Resources		
Other Name:	04N03W06C002S	GAMA PFAS Testing:	Not Reported
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=DWR&samp_date=&global_id=&assigned_name=04N03W06C002S&store_num=		
GeoTracker Data:	Not Reported		

F29
South
1/4 - 1/2 Mile
Lower

CA WELLS **4382**

Seq:	4382	Prim sta c:	04N/03W-06N03 S
Frds no:	3610003022	County:	36
District:	13	User id:	TAN
System no:	3610003	Water type:	G
Source nam:	DEL ORO Y CONEJOS WELL	Station ty:	WELL/AMBNT
Latitude:	342755.0	Longitude:	1171422.0
Precision:	3	Status:	AR
Comment 1:	Not Reported	Comment 2:	Not Reported
Comment 3:	Not Reported	Comment 4:	Not Reported
Comment 5:	Not Reported	Comment 6:	Not Reported
Comment 7:	Not Reported		

System no:	3610003	System nam:	Apple Valley Ranchos Wc
Hqname:	Not Reported	Address:	21760 OTTAWA RD.
City:	APPLE VALLEY	State:	CA
Zip:	92307	Zip ext:	2619
Pop serv:	33236	Connection:	12173
Area serve:	APPLE VALLEY RANCHOS		

F30
South
1/4 - 1/2 Mile
Lower

FED USGS **USGS40000145662**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	004N003W06E001S	Type:	Well
Description:	COMPUTER GENERATED LAT/LONG - ACCURATE +/- 500 FT		
HUC:	18090208	Drainage Area:	Not Reported
Drainage Area Units:	Not Reported	Contrib Drainage Area:	Not Reported
Contrib Drainage Area Unts:	Not Reported	Aquifer:	Basin and Range basin-fill aquifers
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	Not Reported	Well Depth:	150
Well Depth Units:	ft	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

Ground water levels,Number of Measurements:	1	Level reading date:	1917-02-24
Feet below surface:	11.8	Feet to sea level:	Not Reported
Note:	Not Reported		

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GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

F31
South
1/4 - 1/2 Mile
Lower | **CA WELLS** | **CADWR9000009488**

State Well #:	04N03W06E001S	Station ID:	27267
Well Name:	Not Reported	Basin Name:	Upper Mojave River Valley
Well Use:	Unknown	Well Type:	Unknown
Well Depth:	0	Well Completion Rpt #:	Not Reported

32
NNE
1/4 - 1/2 Mile
Lower | **FED USGS** | **USGS40000145917**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	005N003W31L001S	Type:	Well
Description:	COMPUTER GENERATED LAT/LONG-ACCURATE +/-500FT		
HUC:	18090208	Drainage Area:	Not Reported
Drainage Area Units:	Not Reported	Contrib Drainage Area:	Not Reported
Contrib Drainage Area Unts:	Not Reported	Aquifer:	Basin and Range basin-fill aquifers
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	1962	Well Depth:	445
Well Depth Units:	ft	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

G33
ESE
1/4 - 1/2 Mile
Higher | **CA WELLS** | **CADWR9000009545**

State Well #:	04N03W06B002S	Station ID:	4508
Well Name:	Not Reported	Basin Name:	Upper Mojave River Valley
Well Use:	Unknown	Well Type:	Unknown
Well Depth:	0	Well Completion Rpt #:	Not Reported

G34
ESE
1/4 - 1/2 Mile
Higher | **CA WELLS** | **CADWR9000009546**

State Well #:	04N03W06B003S	Station ID:	4509
Well Name:	Not Reported	Basin Name:	Upper Mojave River Valley
Well Use:	Unknown	Well Type:	Unknown
Well Depth:	0	Well Completion Rpt #:	Not Reported

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Map ID
Direction
Distance
Elevation | Database | EDR ID Number

G35
ESE
1/2 - 1 Mile
Higher

FED USGS **USGS40000145764**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	004N003W06B003S	Type:	Well
Description:	COMPUTER GENERATED LAT/LONG - ACCURATE +/- 500 FT		
HUC:	18090208	Drainage Area:	Not Reported
Drainage Area Units:	Not Reported	Contrib Drainage Area:	Not Reported
Contrib Drainage Area Unts:	Not Reported	Aquifer:	Basin and Range basin-fill aquifers
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	Not Reported	Well Depth:	Not Reported
Well Depth Units:	Not Reported	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

Ground water levels,Number of Measurements:	1	Level reading date:	1956-06-13
Feet below surface:	67.33	Feet to sea level:	Not Reported
Note:	Not Reported		

G36
ESE
1/2 - 1 Mile
Higher

FED USGS **USGS40000145765**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	004N003W06B004S	Type:	Well
Description:	COMPUTER GENERATED LAT/LONG - ACCURATE +/- 500 FT		
HUC:	18090208	Drainage Area:	Not Reported
Drainage Area Units:	Not Reported	Contrib Drainage Area:	Not Reported
Contrib Drainage Area Unts:	Not Reported	Aquifer:	Basin and Range basin-fill aquifers
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	Not Reported	Well Depth:	Not Reported
Well Depth Units:	Not Reported	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

Ground water levels,Number of Measurements:	1	Level reading date:	1956-06-13
Feet below surface:	68.42	Feet to sea level:	Not Reported
Note:	Not Reported		

G37
ESE
1/2 - 1 Mile
Higher

FED USGS **USGS40000145766**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	004N003W06B005S	Type:	Well
Description:	COMPUTER GENERATED LAT/LONG - ACCURATE +/- 500 FT		
HUC:	18090208	Drainage Area:	Not Reported
Drainage Area Units:	Not Reported	Contrib Drainage Area:	Not Reported
Contrib Drainage Area Unts:	Not Reported	Aquifer:	Basin and Range basin-fill aquifers
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	Not Reported	Well Depth:	93

DRAFT

Well Depth Units:	ft	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

Ground water levels,Number of Measurements:	1	Level reading date:	1956-06-13
Feet below surface:	69.76	Feet to sea level:	Not Reported
Note:	Not Reported		

G38
ESE
1/2 - 1 Mile
Higher

FED USGS **USGS40000145763**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	004N003W06B002S	Type:	Well
Description:	COMPUTER GENERATED LAT/LONG - ACCURATE +/- 500 FT		
HUC:	18090208	Drainage Area:	Not Reported
Drainage Area Units:	Not Reported	Contrib Drainage Area:	Not Reported
Contrib Drainage Area Unts:	Not Reported	Aquifer:	Basin and Range basin-fill aquifers
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	Not Reported	Well Depth:	80
Well Depth Units:	ft	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

Ground water levels,Number of Measurements:	1	Level reading date:	1956-06-13
Feet below surface:	66.31	Feet to sea level:	Not Reported
Note:	Not Reported		

H39
SE
1/2 - 1 Mile
Higher

CA WELLS **CADWR9000009487**

State Well #:	04N03W06G002S	Station ID:	4512
Well Name:	Not Reported	Basin Name:	Upper Mojave River Valley
Well Use:	Unknown	Well Type:	Unknown
Well Depth:	0	Well Completion Rpt #:	Not Reported

H40
SE
1/2 - 1 Mile
Higher

FED USGS **USGS40000145660**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	004N003W06G001S	Type:	Well
Description:	COMPUTER GENERATED LAT/LONG - ACCURATE +/- 500 FT		
HUC:	18090208	Drainage Area:	Not Reported
Drainage Area Units:	Not Reported	Contrib Drainage Area:	Not Reported
Contrib Drainage Area Unts:	Not Reported	Aquifer:	Basin and Range basin-fill aquifers
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	1955	Well Depth:	118
Well Depth Units:	ft	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

DRAFT

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

H41
SE
1/2 - 1 Mile
Higher

FED USGS **USGS40000145661**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	004N003W06G002S	Type:	Well
Description:	COMPUTER GENERATED LAT/LONG - ACCURATE +/- 500 FT		
HUC:	18090208	Drainage Area:	Not Reported
Drainage Area Units:	Not Reported	Contrib Drainage Area:	Not Reported
Contrib Drainage Area Unts:	Not Reported	Aquifer:	Basin and Range basin-fill aquifers
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	Not Reported	Well Depth:	93.7
Well Depth Units:	ft	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

Ground water levels,Number of Measurements:	2	Level reading date:	1956-06-13
Feet below surface:	70.55	Feet to sea level:	Not Reported
Note:	Not Reported		

Level reading date:	1917	Feet below surface:	50.0
Feet to sea level:	Not Reported	Note:	Not Reported

I42
East
1/2 - 1 Mile
Higher

CA WELLS **4379**

Seq:	4379	Prim sta c:	04N/03W-06A03 S
Frds no:	3601027001	County:	36
District:	66	User id:	36C
System no:	3601027	Water type:	G
Source nam:	WELL 01	Station ty:	WELL/AMBNT/MUN/INTAKE
Latitude:	342815.0	Longitude:	1171337.0
Precision:	2	Status:	AR
Comment 1:	Not Reported	Comment 2:	Not Reported
Comment 3:	Not Reported	Comment 4:	Not Reported
Comment 5:	Not Reported	Comment 6:	Not Reported
Comment 7:	Not Reported		

System no:	3601027	System nam:	Valley Christian Fellowship
Hqname:	Not Reported	Address:	19923 BEAR VALLEY RD
City:	APPLE VALLEY	State:	CA
Zip:	92308	Zip ext:	Not Reported
Pop serv:	400	Connection:	1
Area serve:	Not Reported		

J43
West
1/2 - 1 Mile
Lower

FED USGS **USGS40000145822**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	005N004W36Q001S	Type:	Well
Description:	COMPUTER GENERATED LAT/LONG ACCURATE +/- 500 FT		

DRAFT

HUC:	18090208	Drainage Area:	Not Reported
Drainage Area Units:	Not Reported	Contrib Drainage Area:	Not Reported
Contrib Drainage Area Unts:	Not Reported	Aquifer:	Basin and Range basin-fill aquifers
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	Not Reported	Well Depth:	Not Reported
Well Depth Units:	Not Reported	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

K44
WNW
1/2 - 1 Mile
Lower

CA WELLS **CADDW0000017049**

Well ID:	3610121-004	Well Type:	MUNICIPAL
Source:	Department of Health Services		
Other Name:	WELL 05	GAMA PFAS Testing:	Not Reported
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=DHS&samp_date=&global_id=&assigned_name=3610121-004&store_num=		
GeoTracker Data:	Not Reported		

K45
WNW
1/2 - 1 Mile
Lower

CA WELLS **CAUSGSN00011305**

Well ID:	USGS-342829117145901	Well Type:	UNK
Source:	United States Geological Survey		
Other Name:	USGS-342829117145901	GAMA PFAS Testing:	Not Reported
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=USGSNEW&samp_date=&global_id=&assigned_name=USGS-342829117145901&store_num=		
GeoTracker Data:	Not Reported		

K46
WNW
1/2 - 1 Mile
Lower

CA WELLS **CAUSGS000000159**

K47
WNW
1/2 - 1 Mile
Lower

FED USGS **USGS40000145885**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	005N004W36Q004S	Type:	Well
Description:	Not Reported	HUC:	Not Reported
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Basin and Range basin-fill aquifers		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	Not Reported	Well Depth:	Not Reported
Well Depth Units:	Not Reported	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

DRAFT

Ground water levels,Number of Measurements:	1	Level reading date:	2004-04-08
Feet below surface:	56.5	Feet to sea level:	Not Reported
Note:	Not Reported		

L48
SSE
1/2 - 1 Mile
Lower

CA WELLS **CADWR9000009463**

State Well #:	04N03W06L003S	Station ID:	4515
Well Name:	Not Reported	Basin Name:	Upper Mojave River Valley
Well Use:	Unknown	Well Type:	Unknown
Well Depth:	0	Well Completion Rpt #:	Not Reported

L49
SSE
1/2 - 1 Mile
Lower

CA WELLS **CADWR9000009462**

State Well #:	04N03W06L002S	Station ID:	27269
Well Name:	Not Reported	Basin Name:	Upper Mojave River Valley
Well Use:	Unknown	Well Type:	Unknown
Well Depth:	0	Well Completion Rpt #:	Not Reported

J50
West
1/2 - 1 Mile
Lower

FED USGS **USGS40000145814**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	005N004W36P001S	Type:	Well
Description:	COMPUTER GENERATED LAT/LONG ACCURATE +/- 500 FT		
HUC:	18090208	Drainage Area:	Not Reported
Drainage Area Units:	Not Reported	Contrib Drainage Area:	Not Reported
Contrib Drainage Area Unts:	Not Reported	Aquifer:	Basin and Range basin-fill aquifers
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	Not Reported	Well Depth:	Not Reported
Well Depth Units:	Not Reported	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

Ground water levels,Number of Measurements:	2	Level reading date:	1956-05-23
Feet below surface:	23.63	Feet to sea level:	Not Reported
Note:	The site was being pumped.		

Level reading date:	1917-03-05	Feet below surface:	12.8
Feet to sea level:	Not Reported	Note:	Not Reported

I51
East
1/2 - 1 Mile
Higher

FED USGS **USGS40000145805**

Organization ID:	USGS-CA
Organization Name:	USGS California Water Science Center

DRAFT

Monitor Location:	004N003W06A003S	Type:	Well
Description:	Not Reported	HUC:	18090208
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Basin and Range basin-fill aquifers		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	Not Reported	Well Depth:	Not Reported
Well Depth Units:	Not Reported	Well Hole Depth:	200
Well Hole Depth Units:	ft		

I52
East
1/2 - 1 Mile
Higher

CA WELLS **CAUSGSN00009613**

Well ID:	USGS-342814117133401	Well Type:	UNK
Source:	United States Geological Survey		
Other Name:	USGS-342814117133401	GAMA PFAS Testing:	Not Reported
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=USGSNEW&samp_date=&global_id=&assigned_name=USGS-342814117133401&store_num=		
GeoTracker Data:	Not Reported		

J53
West
1/2 - 1 Mile
Lower

FED USGS **USGS40000145815**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	005N004W36P002S	Type:	Well
Description:	COMPUTER GENERATED LAT/LONG ACCURATE +/- 500 FT		
HUC:	18090208	Drainage Area:	Not Reported
Drainage Area Units:	Not Reported	Contrib Drainage Area:	Not Reported
Contrib Drainage Area Unts:	Not Reported	Aquifer:	Basin and Range basin-fill aquifers
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	Not Reported	Well Depth:	Not Reported
Well Depth Units:	Not Reported	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

Ground water levels,Number of Measurements:	3	Level reading date:	1967-03-07
Feet below surface:	25.20	Feet to sea level:	Not Reported
Note:	Not Reported		

Level reading date:	1956-06	Feet below surface:	40.5
Feet to sea level:	Not Reported	Note:	The site was being pumped.

Level reading date:	1956-05-23	Feet below surface:	27.70
Feet to sea level:	Not Reported	Note:	Not Reported

J54
West
1/2 - 1 Mile
Lower

FED USGS **USGS40000145816**

Organization ID:	USGS-CA
Organization Name:	USGS California Water Science Center

DRAFT

Monitor Location:	005N004W36P003S	Type:	Well
Description:	COMPUTER GENERATED LAT/LONG ACCURATE +/- 500 FT		
HUC:	18090208	Drainage Area:	Not Reported
Drainage Area Units:	Not Reported	Contrib Drainage Area:	Not Reported
Contrib Drainage Area Unts:	Not Reported	Aquifer:	Basin and Range basin-fill aquifers
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	Not Reported	Well Depth:	Not Reported
Well Depth Units:	Not Reported	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

Ground water levels,Number of Measurements:	6	Level reading date:	1932-05-13
Feet below surface:	12.8	Feet to sea level:	Not Reported
Note:	Not Reported		
Level reading date:	1932-03-30	Feet below surface:	11.5
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1932-02-19	Feet below surface:	12.1
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1931-02-20	Feet below surface:	13.6
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1931-02-12	Feet below surface:	13.6
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1931-01-26	Feet below surface:	13.5
Feet to sea level:	Not Reported	Note:	Not Reported

L55
SSE **FED USGS** **USGS40000145579**
1/2 - 1 Mile
Higher

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	004N003W06L001S	Type:	Well
Description:	COMPUTER GENERATED LAT/LONG - ACCURATE +/- 500 FT		
HUC:	18090208	Drainage Area:	Not Reported
Drainage Area Units:	Not Reported	Contrib Drainage Area:	Not Reported
Contrib Drainage Area Unts:	Not Reported	Aquifer:	Basin and Range basin-fill aquifers
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	194907	Well Depth:	350
Well Depth Units:	ft	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

Ground water levels,Number of Measurements:	1	Level reading date:	1986-05-24
Feet below surface:	49.83	Feet to sea level:	Not Reported
Note:	Not Reported		

L56
SSE **FED USGS** **USGS40000145580**
1/2 - 1 Mile
Higher

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	004N003W06L002S	Type:	Well

DRAFT

Description:	COMPUTER GENERATED LAT/LONG - ACCURATE +/- 500 FT		
HUC:	18090208	Drainage Area:	Not Reported
Drainage Area Units:	Not Reported	Contrib Drainage Area:	Not Reported
Contrib Drainage Area Unts:	Not Reported	Aquifer:	Basin and Range basin-fill aquifers
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	195102	Well Depth:	450
Well Depth Units:	ft	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

Ground water levels,Number of Measurements:	1	Level reading date:	1956-05-24
Feet below surface:	52.56	Feet to sea level:	Not Reported
Note:	Not Reported		

L57
SSE
1/2 - 1 Mile
Higher

FED USGS **USGS40000145581**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	004N003W06L003S	Type:	Well
Description:	COMPUTER GENERATED LAT/LONG - ACCURATE +/- 500 FT		
HUC:	18090208	Drainage Area:	Not Reported
Drainage Area Units:	Not Reported	Contrib Drainage Area:	Not Reported
Contrib Drainage Area Unts:	Not Reported	Aquifer:	Basin and Range basin-fill aquifers
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	195402	Well Depth:	350
Well Depth Units:	ft	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

Ground water levels,Number of Measurements:	1	Level reading date:	1956-05-24
Feet below surface:	86.39	Feet to sea level:	Not Reported
Note:	Not Reported		

M58
ESE
1/2 - 1 Mile
Higher

CA WELLS **CADWR9000009544**

State Well #:	04N03W06A002S	Station ID:	27264
Well Name:	Not Reported	Basin Name:	Upper Mojave River Valley
Well Use:	Unknown	Well Type:	Unknown
Well Depth:	0	Well Completion Rpt #:	Not Reported

M59
ESE
1/2 - 1 Mile
Higher

CA WELLS **CADWR9000009543**

State Well #:	04N03W06A001S	Station ID:	4507
Well Name:	Not Reported	Basin Name:	Upper Mojave River Valley
Well Use:	Unknown	Well Type:	Unknown
Well Depth:	0	Well Completion Rpt #:	Not Reported

DRAFT

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

N60
ENE
1/2 - 1 Mile
Higher

CA WELLS **CADWR9000009639**

State Well #:	05N03W31Q003S	Station ID:	9264
Well Name:	Not Reported	Basin Name:	Upper Mojave River Valley
Well Use:	Unknown	Well Type:	Unknown
Well Depth:	0	Well Completion Rpt #:	Not Reported

O61
NNW
1/2 - 1 Mile
Lower

FED USGS **USGS40000145965**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	005N004W36H001S	Type:	Well
Description:	COMPUTER GENERATED LAT/LONG ACCURATE +/- 500 FT		
HUC:	18090208	Drainage Area:	Not Reported
Drainage Area Units:	Not Reported	Contrib Drainage Area:	Not Reported
Contrib Drainage Area Unts:	Not Reported	Aquifer:	Basin and Range basin-fill aquifers
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	1909	Well Depth:	100
Well Depth Units:	ft	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

Ground water levels,Number of Measurements:	8	Level reading date:	1967-03-08
Feet below surface:	22.50	Feet to sea level:	Not Reported
Note:	Not Reported		

Level reading date:	1960-11-21	Feet below surface:	18.0
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1957-12-09	Feet below surface:	18.2
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1957-02-01	Feet below surface:	14.78
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1956-05-13	Feet below surface:	20.5
Feet to sea level:	Not Reported	Note:	The site was being pumped.
Level reading date:	1954-02-03	Feet below surface:	14.5
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1948-08-31	Feet below surface:	14.2
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1917-02-17	Feet below surface:	7.0
Feet to sea level:	Not Reported	Note:	The site was being pumped.

DRAFT

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

J62
West
1/2 - 1 Mile
Lower

CA WELLS **CADWR9000009567**

State Well #:	04N04W01C002S	Station ID:	26836
Well Name:	Jess Ranch-1-a	Basin Name:	Upper Mojave River Valley
Well Use:	Observation		
Well Type:	Part of a nested/multi-completion well		
Well Depth:	620	Well Completion Rpt #:	Not Reported

J63
West
1/2 - 1 Mile
Lower

CA WELLS **CADWR9000009570**

State Well #:	04N04W01C005S	Station ID:	3325
Well Name:	Jess Ranch-1-d	Basin Name:	Upper Mojave River Valley
Well Use:	Observation		
Well Type:	Part of a nested/multi-completion well		
Well Depth:	80	Well Completion Rpt #:	Not Reported

J64
West
1/2 - 1 Mile
Lower

CA WELLS **CADWR9000009569**

State Well #:	04N04W01C004S	Station ID:	26837
Well Name:	Jess Ranch-1-c	Basin Name:	Upper Mojave River Valley
Well Use:	Observation		
Well Type:	Part of a nested/multi-completion well		
Well Depth:	190	Well Completion Rpt #:	Not Reported

J65
West
1/2 - 1 Mile
Lower

CA WELLS **CADWR9000009568**

State Well #:	04N04W01C003S	Station ID:	39785
Well Name:	Jess Ranch-1-b	Basin Name:	Upper Mojave River Valley
Well Use:	Observation		
Well Type:	Part of a nested/multi-completion well		
Well Depth:	330	Well Completion Rpt #:	Not Reported

J66
West
1/2 - 1 Mile
Lower

CA WELLS **CADWR9000009573**

State Well #:	05N04W36P001S	Station ID:	29484
Well Name:	Not Reported	Basin Name:	Upper Mojave River Valley
Well Use:	Unknown	Well Type:	Unknown

DRAFT

Well Depth:	0	Well Completion Rpt #:	Not Reported

J67
West
1/2 - 1 Mile
Lower

CA WELLS **CADWR9000009574**

State Well #:	05N04W36P002S	Station ID:	5547
Well Name:	Not Reported	Basin Name:	Upper Mojave River Valley
Well Use:	Unknown	Well Type:	Unknown
Well Depth:	0	Well Completion Rpt #:	Not Reported

J68
West
1/2 - 1 Mile
Lower

CA WELLS **CADWR9000009575**

State Well #:	05N04W36P003S	Station ID:	5548
Well Name:	Not Reported	Basin Name:	Upper Mojave River Valley
Well Use:	Unknown	Well Type:	Unknown
Well Depth:	0	Well Completion Rpt #:	Not Reported

O69
NNW
1/2 - 1 Mile
Lower

CA WELLS **CADWR9000009674**

State Well #:	05N04W36H001S	Station ID:	5544
Well Name:	Not Reported	Basin Name:	Upper Mojave River Valley
Well Use:	Unknown	Well Type:	Unknown
Well Depth:	0	Well Completion Rpt #:	Not Reported

P70
West
1/2 - 1 Mile
Lower

FED USGS **USGS40000145806**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	004N004W01C002S	Type:	Well
Description:	Depth measured by MWA 608.6 ft on 6/14/04		
HUC:	18090208	Drainage Area:	Not Reported
Drainage Area Units:	Not Reported	Contrib Drainage Area:	Not Reported
Contrib Drainage Area Unts:	Not Reported	Aquifer:	Basin and Range basin-fill aquifers
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	19920604	Well Depth:	608.6
Well Depth Units:	ft	Well Hole Depth:	620
Well Hole Depth Units:	ft		

Ground water levels,Number of Measurements:	140	Level reading date:	2004-11-03
Feet below surface:	42.46	Feet to sea level:	Not Reported
Note:	Not Reported		

DRAFT

Level reading date:	2004-10-18	Feet below surface:	44.11
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2004-08-30	Feet below surface:	42.20
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2004-08-03	Feet below surface:	41.48
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2004-07-14	Feet below surface:	40.82
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2004-06-14	Feet below surface:	38.85
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2004-05-19	Feet below surface:	39.11
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2004-04-29	Feet below surface:	38.65
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2004-02-23	Feet below surface:	3865
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2004-01-14	Feet below surface:	40.12
Feet to sea level:	Not Reported		
Note:	A nearby site that taps the same aquifer was flowing.		
Level reading date:	2003-11-20	Feet below surface:	42.02
Feet to sea level:	Not Reported		
Note:	A nearby site that taps the same aquifer was flowing.		
Level reading date:	2003-10-22	Feet below surface:	42.16
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2003-09-02	Feet below surface:	44.47
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2003-08-19	Feet below surface:	41.19
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2003-07-22	Feet below surface:	40.55
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2003-06-19	Feet below surface:	39.62
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2003-06-03	Feet below surface:	39.12
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2003-05-01	Feet below surface:	38.69
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2003-04-04	Feet below surface:	39.09
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2003-03-07	Feet below surface:	39.07
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2003-01-13	Feet below surface:	39.08
Feet to sea level:	Not Reported	Note:	Not Reported

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Level reading date:	2002-09-11	Feet below surface:	38.73
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2002-07-03	Feet below surface:	36.86
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2002-03-21	Feet below surface:	33.79
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2002-01-29	Feet below surface:	33.05
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2001-08-27	Feet below surface:	32.35
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2001-08-02	Feet below surface:	31.58
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2001-06-28	Feet below surface:	31.44
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2001-06-01	Feet below surface:	29.57
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2001-05-10	Feet below surface:	29.02
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2001-05-02	Feet below surface:	28.88
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2001-04-02	Feet below surface:	28.67
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2001-03-06	Feet below surface:	28.64
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2001-01-30	Feet below surface:	28.96
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2000-12-19	Feet below surface:	29.08
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2000-11-28	Feet below surface:	29.13
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2000-10-23	Feet below surface:	29.42
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2000-09-21	Feet below surface:	29.13
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2000-08-21	Feet below surface:	28.85
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2000-07-24	Feet below surface:	27.93
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2000-06-26	Feet below surface:	27.07
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2000-05-23	Feet below surface:	28.99
Feet to sea level:	Not Reported	Note:	Not Reported

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Level reading date:	2000-05-09	Feet below surface:	25.94
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2000-04-25	Feet below surface:	28.12
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2000-03-24	Feet below surface:	24.34
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2000-03-09	Feet below surface:	24.59
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2000-03-01	Feet below surface:	24.56
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2000-01-27	Feet below surface:	24.40
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1999-12-20	Feet below surface:	24.06
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1999-12-01	Feet below surface:	24.07
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1999-10-27	Feet below surface:	23.87
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1999-09-28	Feet below surface:	23.51
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1999-09-23	Feet below surface:	23.33
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1999-08-30	Feet below surface:	22.56
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1999-07-27	Feet below surface:	21.28
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1999-06-28	Feet below surface:	20.06
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1999-05-26	Feet below surface:	18.38
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1999-04-26	Feet below surface:	17.05
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1999-03-29	Feet below surface:	16.19
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1999-02-23	Feet below surface:	15.39
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1999-01-21	Feet below surface:	15.01
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1998-12-21	Feet below surface:	15.17
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1998-11-23	Feet below surface:	15.09
Feet to sea level:	Not Reported	Note:	Not Reported

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Level reading date:	1998-10-23	Feet below surface:	15.06
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1998-09-26	Feet below surface:	14.90
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1998-09-10	Feet below surface:	14.6
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1998-08-24	Feet below surface:	14.68
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1998-07-28	Feet below surface:	14.20
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1998-06-25	Feet below surface:	14.03
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1998-05-26	Feet below surface:	14.96
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1998-04-23	Feet below surface:	16.94
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1998-03-27	Feet below surface:	18.94
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1998-03-02	Feet below surface:	20.47
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1998-01-30	Feet below surface:	22.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1998-01-05	Feet below surface:	22.10
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1997-12-06	Feet below surface:	22.37
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1997-11-26	Feet below surface:	22.62
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1997-11-07	Feet below surface:	22.75
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1997-09-25	Feet below surface:	22.63
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1997-09-02	Feet below surface:	22.36
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1997-07-31	Feet below surface:	21.43
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1997-07-01	Feet below surface:	20.11
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1997-05-29	Feet below surface:	19.11
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1997-04-30	Feet below surface:	18.29
Feet to sea level:	Not Reported	Note:	Not Reported

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Level reading date:	1997-03-28	Feet below surface:	18.10
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1997-02-27	Feet below surface:	18.27
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1997-01-31	Feet below surface:	19.05
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1997-01-03	Feet below surface:	19.31
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1996-12-03	Feet below surface:	19.26
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1996-11-27	Feet below surface:	19.28
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1996-10-22	Feet below surface:	19.34
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1996-09-27	Feet below surface:	18.77
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1996-08-22	Feet below surface:	17.84
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1996-07-31	Feet below surface:	17.16
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1996-07-03	Feet below surface:	16.17
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1996-05-29	Feet below surface:	15.19
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1996-04-29	Feet below surface:	14.67
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1996-03-28	Feet below surface:	14.61
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1996-02-29	Feet below surface:	15.07
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1996-01-31	Feet below surface:	14.76
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1995-12-18	Feet below surface:	14.81
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1995-11-27	Feet below surface:	14.65
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1995-10-30	Feet below surface:	14.08
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1995-09-25	Feet below surface:	13.62
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1995-08-29	Feet below surface:	13.10
Feet to sea level:	Not Reported	Note:	Not Reported

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Level reading date:	1995-07-25	Feet below surface:	12.08
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1995-06-27	Feet below surface:	11.46
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1995-05-25	Feet below surface:	11.78
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1995-04-25	Feet below surface:	12.57
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1995-03-30	Feet below surface:	15.89
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1995-02-27	Feet below surface:	15.93
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1995-01-24	Feet below surface:	18.18
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1995-01-11	Feet below surface:	18.11
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1994-12-20	Feet below surface:	19.83
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1994-11-29	Feet below surface:	20.38
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1994-11-08	Feet below surface:	21.14
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1994-10-25	Feet below surface:	21.51
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1994-09-26	Feet below surface:	21.87
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1994-08-23	Feet below surface:	22.03
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1994-07-26	Feet below surface:	21.38
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1994-06-08	Feet below surface:	20.13
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1994-04-11	Feet below surface:	18.84
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1994-03-11	Feet below surface:	18.98
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1994-01-25	Feet below surface:	19.55
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1993-12-21	Feet below surface:	20.02
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1993-11-16	Feet below surface:	19.86
Feet to sea level:	Not Reported	Note:	Not Reported

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Level reading date:	1993-10-20	Feet below surface:	19.70
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1993-09-24	Feet below surface:	19.40
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1993-08-27	Feet below surface:	18.61
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1993-07-28	Feet below surface:	17.87
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1993-05-19	Feet below surface:	17.88
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1993-03-21	Feet below surface:	21.53
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1993-02-19	Feet below surface:	25.85
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1993-01-20	Feet below surface:	27.63
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1993-01-13	Feet below surface:	27.75
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1992-12-11	Feet below surface:	28.80
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1992-11-19	Feet below surface:	29.95
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1992-10-06	Feet below surface:	29.75
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1992-07-02	Feet below surface:	26.90
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1992-06-10	Feet below surface:	28.59
Feet to sea level:	Not Reported	Note:	Not Reported

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P71
West
1/2 - 1 Mile
Lower

FED USGS **USGS40000145807**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	004N004W01C003S	Type:	Well
Description:	Well depth 329.5 ft below lsd on 6/14/04		
HUC:	18090208	Drainage Area:	Not Reported
Drainage Area Units:	Not Reported	Contrib Drainage Area:	Not Reported
Contrib Drainage Area Unts:	Not Reported	Aquifer:	Basin and Range basin-fill aquifers
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	19920604	Well Depth:	329.5
Well Depth Units:	ft	Well Hole Depth:	620
Well Hole Depth Units:	ft		

Ground water levels,Number of Measurements:	138	Level reading date:	2004-11-03

Feet below surface:	62.08	Feet to sea level:	Not Reported
Note:	Not Reported		
Level reading date:	2004-10-18	Feet below surface:	65.93
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2004-08-30	Feet below surface:	67.11
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2004-08-03	Feet below surface:	67.06
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2004-07-14	Feet below surface:	66.29
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2004-06-14	Feet below surface:	64.88
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2004-05-19	Feet below surface:	64.03
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2004-04-29	Feet below surface:	62.29
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2004-02-23	Feet below surface:	56.98
Feet to sea level:	Not Reported		
Note:	A nearby site that taps the same aquifer was flowing.		
Level reading date:	2004-01-14	Feet below surface:	58.67
Feet to sea level:	Not Reported		
Note:	A nearby site that taps the same aquifer was flowing.		
Level reading date:	2003-11-20	Feet below surface:	60.66
Feet to sea level:	Not Reported		
Note:	A nearby site that taps the same aquifer was flowing.		
Level reading date:	2003-10-22	Feet below surface:	63.86
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2003-09-02	Feet below surface:	64.83
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2003-08-19	Feet below surface:	65.33
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2003-07-22	Feet below surface:	63.92
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2003-06-19	Feet below surface:	61.46
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2003-06-03	Feet below surface:	62.09
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2003-05-01	Feet below surface:	58.21
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2003-04-04	Feet below surface:	56.98
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2003-03-07	Feet below surface:	56.70
Feet to sea level:	Not Reported	Note:	Not Reported

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Level reading date:	2003-01-13	Feet below surface:	57.06
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2002-09-11	Feet below surface:	61.57
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2002-07-03	Feet below surface:	60.50
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2002-03-21	Feet below surface:	53.02
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2002-01-29	Feet below surface:	52.17
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2001-08-27	Feet below surface:	57.76
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2001-08-02	Feet below surface:	57.66
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2001-06-28	Feet below surface:	55.35
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2001-06-01	Feet below surface:	53.74
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2001-05-10	Feet below surface:	53.47
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2001-05-02	Feet below surface:	51.95
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2001-04-02	Feet below surface:	49.87
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2001-03-06	Feet below surface:	47.85
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2001-01-30	Feet below surface:	46.80
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2000-12-19	Feet below surface:	49.04
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2000-11-28	Feet below surface:	50.41
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2000-10-23	Feet below surface:	51.55
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2000-09-21	Feet below surface:	53.91
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2000-08-21	Feet below surface:	53.52
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2000-07-24	Feet below surface:	53.52
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2000-06-26	Feet below surface:	52.54
Feet to sea level:	Not Reported	Note:	Not Reported

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Level reading date:	2000-05-23	Feet below surface:	52.94
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2000-05-09	Feet below surface:	48.75
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2000-04-25	Feet below surface:	50.68
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2000-03-24	Feet below surface:	46.44
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2000-03-09	Feet below surface:	44.99
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2000-03-01	Feet below surface:	44.76
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2000-01-27	Feet below surface:	45.12
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1999-12-20	Feet below surface:	44.91
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1999-12-01	Feet below surface:	45.10
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1999-10-27	Feet below surface:	46.80
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1999-09-28	Feet below surface:	47.49
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1999-09-23	Feet below surface:	46.54
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1999-08-30	Feet below surface:	48.15
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1999-07-27	Feet below surface:	47.30
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1999-06-28	Feet below surface:	45.50
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1999-05-26	Feet below surface:	44.39
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1999-04-26	Feet below surface:	41.75
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1999-03-29	Feet below surface:	39.76
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1999-02-23	Feet below surface:	38.01
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1999-01-21	Feet below surface:	38.02
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1998-12-21	Feet below surface:	37.37
Feet to sea level:	Not Reported	Note:	Not Reported

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Level reading date:	1998-11-23	Feet below surface:	37.31
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1998-10-23	Feet below surface:	40.25
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1998-09-26	Feet below surface:	39.30
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1998-09-10	Feet below surface:	42.1
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1998-08-24	Feet below surface:	43.35
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1998-07-28	Feet below surface:	41.90
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1998-06-25	Feet below surface:	39.67
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1998-05-26	Feet below surface:	36.13
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1998-04-23	Feet below surface:	36.73
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1998-03-27	Feet below surface:	36.80
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1998-03-02	Feet below surface:	38.50
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1998-01-30	Feet below surface:	41.32
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1998-01-05	Feet below surface:	41.31
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1997-12-06	Feet below surface:	41.99
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1997-11-26	Feet below surface:	43.15
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1997-11-07	Feet below surface:	44.41
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1997-09-25	Feet below surface:	45.89
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1997-09-02	Feet below surface:	48.63
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1997-07-31	Feet below surface:	46.91
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1997-07-01	Feet below surface:	46.29
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1997-05-29	Feet below surface:	45.33
Feet to sea level:	Not Reported	Note:	Not Reported

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Level reading date:	1997-04-30	Feet below surface:	43.21
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1997-03-28	Feet below surface:	41.55
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1997-02-27	Feet below surface:	41.97
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1997-01-31	Feet below surface:	41.41
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1997-01-03	Feet below surface:	40.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1996-12-03	Feet below surface:	40.69
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1996-11-27	Feet below surface:	39.69
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1996-10-22	Feet below surface:	43.86
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1996-09-27	Feet below surface:	43.77
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1996-08-22	Feet below surface:	42.60
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1996-07-31	Feet below surface:	43.70
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1996-07-03	Feet below surface:	42.02
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1996-05-29	Feet below surface:	38.73
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1996-04-29	Feet below surface:	37.85
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1996-03-28	Feet below surface:	37.63
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1996-02-29	Feet below surface:	37.91
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1996-01-31	Feet below surface:	36.54
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1995-12-18	Feet below surface:	36.65
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1995-11-27	Feet below surface:	39.80
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1995-10-30	Feet below surface:	38.08
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1995-09-25	Feet below surface:	39.95
Feet to sea level:	Not Reported	Note:	Not Reported

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Level reading date:	1995-08-29	Feet below surface:	40.46
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1995-07-25	Feet below surface:	40.73
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1995-06-27	Feet below surface:	37.56
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1995-05-25	Feet below surface:	35.03
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1995-04-25	Feet below surface:	37.26
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1995-03-30	Feet below surface:	36.24
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1995-02-27	Feet below surface:	37.97
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1995-01-24	Feet below surface:	41.27
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1994-12-20	Feet below surface:	44.39
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1994-11-29	Feet below surface:	45.33
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1994-11-08	Feet below surface:	46.85
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1994-10-25	Feet below surface:	48.02
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1994-09-26	Feet below surface:	47.79
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1994-08-23	Feet below surface:	51.43
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1994-07-26	Feet below surface:	47.68
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1994-06-08	Feet below surface:	47.60
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1994-04-11	Feet below surface:	42.34
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1994-03-11	Feet below surface:	44.50
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1994-01-25	Feet below surface:	40.58
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1993-11-16	Feet below surface:	46.86
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1993-10-20	Feet below surface:	47.98
Feet to sea level:	Not Reported	Note:	Not Reported

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Level reading date:	1993-09-24	Feet below surface:	47.20
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1993-08-27	Feet below surface:	48.08
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1993-07-28	Feet below surface:	47.37
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1993-05-19	Feet below surface:	43.01
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1993-03-21	Feet below surface:	39.38
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1993-02-12	Feet below surface:	43.38
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1993-01-20	Feet below surface:	47.50
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1993-01-13	Feet below surface:	49.85
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1992-12-11	Feet below surface:	50.94
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1992-11-19	Feet below surface:	53.40
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1992-10-06	Feet below surface:	51.76
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1992-07-02	Feet below surface:	50.13
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1992-06-10	Feet below surface:	53.38
Feet to sea level:	Not Reported	Note:	Not Reported

P72
West
1/2 - 1 Mile
Lower

FED USGS **USGS40000145809**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	004N004W01C005S	Type:	Well
Description:	Well depth 81.8 ft below lsd on 6/14/04		
HUC:	18090208	Drainage Area:	Not Reported
Drainage Area Units:	Not Reported	Contrib Drainage Area:	Not Reported
Contrib Drainage Area Unts:	Not Reported	Aquifer:	Basin and Range basin-fill aquifers
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	19920604	Well Depth:	81.8
Well Depth Units:	ft	Well Hole Depth:	620
Well Hole Depth Units:	ft		

Ground water levels,Number of Measurements:	139	Level reading date:	2004-11-03
Feet below surface:	46.41	Feet to sea level:	Not Reported
Note:	Not Reported		

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Level reading date:	2004-10-18	Feet below surface:	53.13
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2004-08-30	Feet below surface:	52.54
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2004-08-03	Feet below surface:	51.95
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2004-07-14	Feet below surface:	51.19
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2004-06-14	Feet below surface:	50.08
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2004-05-19	Feet below surface:	49.28
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2004-04-29	Feet below surface:	48.71
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2004-02-23	Feet below surface:	47.83
Feet to sea level:	Not Reported		
Note:	A nearby site that taps the same aquifer was flowing.		
Level reading date:	2004-01-14	Feet below surface:	47.13
Feet to sea level:	Not Reported		
Note:	A nearby site that taps the same aquifer was flowing.		
Level reading date:	2003-11-20	Feet below surface:	49.77
Feet to sea level:	Not Reported		
Note:	A nearby site that taps the same aquifer was flowing.		
Level reading date:	2003-10-22	Feet below surface:	50.47
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2003-09-02	Feet below surface:	50.25
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2003-08-19	Feet below surface:	49.86
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2003-07-22	Feet below surface:	49.12
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2003-06-19	Feet below surface:	48.15
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2003-06-03	Feet below surface:	47.63
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2003-05-01	Feet below surface:	46.52
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2003-04-04	Feet below surface:	46.57
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2003-03-07	Feet below surface:	46.21
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2003-01-13	Feet below surface:	47.43
Feet to sea level:	Not Reported	Note:	Not Reported

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Level reading date:	2002-09-11	Feet below surface:	48.08
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2002-07-03	Feet below surface:	46.56
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2002-03-21	Feet below surface:	44.73
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2002-01-29	Feet below surface:	44.52
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2001-08-27	Feet below surface:	45.30
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2001-08-02	Feet below surface:	45.02
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2001-06-28	Feet below surface:	45.09
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2001-06-01	Feet below surface:	39.39
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2001-05-10	Feet below surface:	42.32
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2001-05-02	Feet below surface:	42.52
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2001-04-02	Feet below surface:	41.41
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2001-03-06	Feet below surface:	41.92
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2001-01-30	Feet below surface:	43.45
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2000-12-19	Feet below surface:	41.39
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2000-11-28	Feet below surface:	43.57
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2000-10-23	Feet below surface:	43.56
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2000-09-21	Feet below surface:	43.20
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2000-08-22	Feet below surface:	42.54
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2000-07-24	Feet below surface:	40.68
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2000-06-26	Feet below surface:	40.80
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2000-05-23	Feet below surface:	42.62
Feet to sea level:	Not Reported	Note:	Not Reported

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Level reading date:	2000-05-09	Feet below surface:	39.57
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2000-04-25	Feet below surface:	42.08
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2000-03-24	Feet below surface:	38.84
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2000-03-09	Feet below surface:	38.76
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2000-03-01	Feet below surface:	38.67
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2000-01-27	Feet below surface:	38.65
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1999-12-20	Feet below surface:	38.44
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1999-12-01	Feet below surface:	38.32
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1999-10-27	Feet below surface:	37.97
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1999-09-28	Feet below surface:	37.41
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1999-09-23	Feet below surface:	37.3
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1999-08-30	Feet below surface:	36.71
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1999-07-27	Feet below surface:	35.60
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1999-06-28	Feet below surface:	34.69
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1999-05-26	Feet below surface:	33.70
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1999-04-26	Feet below surface:	33.01
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1999-03-29	Feet below surface:	32.24
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1999-02-23	Feet below surface:	31.64
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1999-01-21	Feet below surface:	31.44
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1998-12-21	Feet below surface:	31.29
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1998-11-23	Feet below surface:	30.89
Feet to sea level:	Not Reported	Note:	Not Reported

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Level reading date:	1998-10-23	Feet below surface:	30.58
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1998-09-26	Feet below surface:	29.84
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1998-09-10	Feet below surface:	29.1
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1998-08-24	Feet below surface:	28.25
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1998-07-27	Feet below surface:	26.21
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1998-06-25	Feet below surface:	22.04
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1998-05-26	Feet below surface:	15.99
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1998-04-23	Feet below surface:	16.35
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1998-03-27	Feet below surface:	17.48
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1998-03-02	Feet below surface:	19.85
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1998-01-30	Feet below surface:	38.66
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1998-01-05	Feet below surface:	38.90
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1997-12-06	Feet below surface:	38.85
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1997-11-26	Feet below surface:	39.46
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1997-11-07	Feet below surface:	39.45
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1997-09-25	Feet below surface:	39.28
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1997-09-02	Feet below surface:	38.87
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1997-07-31	Feet below surface:	37.97
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1997-07-01	Feet below surface:	37.22
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1997-05-29	Feet below surface:	36.31
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1997-04-30	Feet below surface:	35.35
Feet to sea level:	Not Reported	Note:	Not Reported

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Level reading date:	1997-03-28	Feet below surface:	34.43
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1997-02-27	Feet below surface:	33.49
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1997-01-31	Feet below surface:	29.47
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1997-01-03	Feet below surface:	36.49
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1996-12-03	Feet below surface:	36.54
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1996-11-27	Feet below surface:	36.54
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1996-10-22	Feet below surface:	36.11
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1996-09-27	Feet below surface:	35.51
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1996-08-22	Feet below surface:	34.53
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1996-07-31	Feet below surface:	33.78
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1996-07-03	Feet below surface:	32.74
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1996-05-29	Feet below surface:	31.42
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1996-04-29	Feet below surface:	30.07
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1996-03-28	Feet below surface:	28.24
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1996-02-29	Feet below surface:	27.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1996-01-31	Feet below surface:	32.83
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1995-12-18	Feet below surface:	32.31
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1995-11-27	Feet below surface:	32.53
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1995-10-30	Feet below surface:	31.95
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1995-09-25	Feet below surface:	30.95
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1995-08-29	Feet below surface:	28.89
Feet to sea level:	Not Reported	Note:	Not Reported

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Level reading date:	1995-07-25	Feet below surface:	28.10
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1995-06-27	Feet below surface:	26.25
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1995-05-25	Feet below surface:	23.29
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1995-04-25	Feet below surface:	16.24
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1995-03-30	Feet below surface:	16.09
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1995-02-27	Feet below surface:	17.56
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1995-01-24	Feet below surface:	28.17
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1994-12-20	Feet below surface:	38.45
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1994-11-29	Feet below surface:	39.04
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1994-11-08	Feet below surface:	38.60
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1994-10-25	Feet below surface:	39.65
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1994-09-26	Feet below surface:	39.36
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1994-08-23	Feet below surface:	38.65
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1994-07-26	Feet below surface:	37.74
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1994-06-08	Feet below surface:	36.44
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1994-04-11	Feet below surface:	35.26
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1994-03-11	Feet below surface:	34.35
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1994-01-25	Feet below surface:	33.55
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1993-12-21	Feet below surface:	32.90
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1993-11-16	Feet below surface:	33.15
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1993-10-20	Feet below surface:	33.30
Feet to sea level:	Not Reported	Note:	Not Reported

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Level reading date:	1993-09-24	Feet below surface:	32.67
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1993-08-27	Feet below surface:	31.42
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1993-07-28	Feet below surface:	29.32
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1993-05-19	Feet below surface:	22.44
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1993-03-21	Feet below surface:	16.10
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1993-02-12	Feet below surface:	16.21
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1993-01-20	Feet below surface:	18.02
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1993-01-13	Feet below surface:	22.12
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1992-12-11	Feet below surface:	39.85
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1992-11-19	Feet below surface:	39.25
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1992-10-06	Feet below surface:	38.47
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1992-07-02	Feet below surface:	35.15
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1992-06-10	Feet below surface:	33.59
Feet to sea level:	Not Reported	Note:	Not Reported

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P73
West
1/2 - 1 Mile
Lower

FED USGS **USGS40000145808**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	004N004W01C004S	Type:	Well
Description:	Well depth 192.6 ft below lsd on 06/14/04		
HUC:	18090208	Drainage Area:	Not Reported
Drainage Area Units:	Not Reported	Contrib Drainage Area:	Not Reported
Contrib Drainage Area Unts:	Not Reported	Aquifer:	Basin and Range basin-fill aquifers
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	19920604	Well Depth:	192.6
Well Depth Units:	ft	Well Hole Depth:	620
Well Hole Depth Units:	ft		

Ground water levels,Number of Measurements:	142	Level reading date:	2004-11-03
Feet below surface:	60.36	Feet to sea level:	Not Reported
Note:	Not Reported		

Level reading date:	2004-10-18	Feet below surface:	64.31
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2004-08-30	Feet below surface:	64.94
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2004-08-03	Feet below surface:	64.67
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2004-07-14	Feet below surface:	63.87
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2004-06-14	Feet below surface:	62.46
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2004-05-19	Feet below surface:	61.70
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2004-04-29	Feet below surface:	60.31
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2004-02-23	Feet below surface:	56.21
Feet to sea level:	Not Reported		
Note:	A nearby site that taps the same aquifer was flowing.		
Level reading date:	2004-01-14	Feet below surface:	57.51
Feet to sea level:	Not Reported		
Note:	A nearby site that taps the same aquifer was flowing.		
Level reading date:	2003-11-20	Feet below surface:	59.62
Feet to sea level:	Not Reported		
Note:	A nearby site that taps the same aquifer was flowing.		
Level reading date:	2003-10-22	Feet below surface:	62.05
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2003-09-02	Feet below surface:	62.60
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2003-08-19	Feet below surface:	62.84
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2003-07-22	Feet below surface:	61.66
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2003-06-19	Feet below surface:	59.68
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2003-06-03	Feet below surface:	59.88
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2003-05-01	Feet below surface:	56.74
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2003-04-04	Feet below surface:	55.70
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2003-03-07	Feet below surface:	55.68
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2003-01-13	Feet below surface:	56.31
Feet to sea level:	Not Reported	Note:	Not Reported

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Level reading date:	2002-09-11	Feet below surface:	57.49
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2002-07-03	Feet below surface:	58.20
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2002-03-21	Feet below surface:	52.87
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2002-01-29	Feet below surface:	51.35
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2001-08-27	Feet below surface:	55.97
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2001-08-02	Feet below surface:	55.32
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2001-06-28	Feet below surface:	53.62
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2001-06-01	Feet below surface:	52.22
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2001-05-10	Feet below surface:	51.73
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2001-05-02	Feet below surface:	50.50
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2001-04-02	Feet below surface:	48.88
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2001-03-06	Feet below surface:	47.29
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2001-01-30	Feet below surface:	47.15
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2000-12-19	Feet below surface:	48.32
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2000-11-28	Feet below surface:	49.54
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2000-10-23	Feet below surface:	50.54
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2000-09-21	Feet below surface:	52.51
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2000-08-22	Feet below surface:	51.96
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2000-07-24	Feet below surface:	53.54
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2000-06-26	Feet below surface:	50.57
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2000-05-23	Feet below surface:	50.94
Feet to sea level:	Not Reported	Note:	Not Reported

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Level reading date:	2000-05-09	Feet below surface:	47.77
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2000-03-25	Feet below surface:	49.41
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2000-03-24	Feet below surface:	45.20
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2000-03-09	Feet below surface:	43.99
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2000-03-01	Feet below surface:	43.83
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2000-01-27	Feet below surface:	44.04
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1999-12-20	Feet below surface:	44.06
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1999-12-01	Feet below surface:	44.26
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1999-10-27	Feet below surface:	45.45
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1999-09-28	Feet below surface:	46.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1999-09-23	Feet below surface:	48.27
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1999-08-30	Feet below surface:	46.41
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1999-07-27	Feet below surface:	45.30
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1999-06-28	Feet below surface:	43.92
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1999-05-26	Feet below surface:	42.72
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1999-04-26	Feet below surface:	40.46
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1999-03-29	Feet below surface:	38.88
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1999-02-23	Feet below surface:	37.17
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1999-01-21	Feet below surface:	37.14
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1998-12-21	Feet below surface:	36.53
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1998-11-23	Feet below surface:	36.49
Feet to sea level:	Not Reported	Note:	Not Reported

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Level reading date:	1998-10-23	Feet below surface:	38.80
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1998-09-26	Feet below surface:	38.11
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1998-09-10	Feet below surface:	40.3
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1998-08-24	Feet below surface:	41.08
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1998-07-27	Feet below surface:	39.44
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1998-06-25	Feet below surface:	37.23
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1998-05-26	Feet below surface:	33.66
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1998-04-23	Feet below surface:	35.04
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1998-03-27	Feet below surface:	35.12
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1998-03-23	Feet below surface:	17.76
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1998-03-18	Feet below surface:	18.16
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1998-03-13	Feet below surface:	18.06
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1998-03-10	Feet below surface:	19.32
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1998-03-02	Feet below surface:	37.50
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1998-01-30	Feet below surface:	41.28
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1998-01-05	Feet below surface:	41.21
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1997-12-06	Feet below surface:	44.87
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1997-11-26	Feet below surface:	42.66
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1997-11-07	Feet below surface:	44.15
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1997-09-25	Feet below surface:	44.87
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1997-09-02	Feet below surface:	47.00
Feet to sea level:	Not Reported	Note:	Not Reported

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Level reading date:	1997-07-31	Feet below surface:	45.50
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1997-07-01	Feet below surface:	44.38
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1997-05-29	Feet below surface:	43.62
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1997-04-30	Feet below surface:	41.61
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1997-03-28	Feet below surface:	40.23
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1997-02-27	Feet below surface:	40.10
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1997-01-31	Feet below surface:	39.63
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1997-01-03	Feet below surface:	39.43
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1996-12-03	Feet below surface:	40.01
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1996-11-27	Feet below surface:	39.40
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1996-10-22	Feet below surface:	42.19
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1996-09-27	Feet below surface:	42.33
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1996-08-22	Feet below surface:	41.21
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1996-07-31	Feet below surface:	41.73
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1996-07-03	Feet below surface:	40.39
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1996-05-29	Feet below surface:	37.68
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1996-04-29	Feet below surface:	36.65
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1996-03-28	Feet below surface:	35.95
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1996-02-29	Feet below surface:	35.41
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1996-01-31	Feet below surface:	34.34
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1995-12-18	Feet below surface:	36.03
Feet to sea level:	Not Reported	Note:	Not Reported

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Level reading date:	1995-11-27	Feet below surface:	38.34
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1995-10-30	Feet below surface:	37.15
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1995-09-25	Feet below surface:	38.28
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1995-08-29	Feet below surface:	38.47
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1995-07-25	Feet below surface:	38.11
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1995-06-27	Feet below surface:	35.42
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1995-05-25	Feet below surface:	33.05
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1995-04-25	Feet below surface:	34.12
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1995-03-30	Feet below surface:	33.52
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1995-02-27	Feet below surface:	35.56
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1995-01-24	Feet below surface:	39.37
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1994-12-20	Feet below surface:	42.93
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1994-11-29	Feet below surface:	45.88
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1994-10-25	Feet below surface:	46.17
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1994-09-26	Feet below surface:	45.95
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1994-08-23	Feet below surface:	48.67
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1994-07-26	Feet below surface:	45.52
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1994-06-08	Feet below surface:	45.07
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1994-04-11	Feet below surface:	40.68
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1994-03-11	Feet below surface:	41.84
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1994-01-25	Feet below surface:	39.22
Feet to sea level:	Not Reported	Note:	Not Reported

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Level reading date:	1993-12-21	Feet below surface:	44.53
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1993-11-16	Feet below surface:	43.93
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1993-10-20	Feet below surface:	44.75
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1993-09-24	Feet below surface:	44.15
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1993-08-27	Feet below surface:	44.49
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1993-07-28	Feet below surface:	43.57
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1993-05-19	Feet below surface:	39.33
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1993-03-21	Feet below surface:	36.42
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1993-02-12	Feet below surface:	40.55
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1993-01-20	Feet below surface:	44.29
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1993-01-13	Feet below surface:	45.94
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1992-12-11	Feet below surface:	53.60
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1992-11-19	Feet below surface:	55.90
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1992-10-06	Feet below surface:	55.13
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1992-07-02	Feet below surface:	54.20
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1992-06-10	Feet below surface:	50.02
Feet to sea level:	Not Reported	Note:	Not Reported

N74
ENE
1/2 - 1 Mile
Higher

FED USGS **USGS40000145903**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	005N003W31Q003S	Type:	Well
Description:	COMPUTER GENERATED LAT/LONG-ACCURATE +/-500FT		
HUC:	18090208	Drainage Area:	Not Reported
Drainage Area Units:	Not Reported	Contrib Drainage Area:	Not Reported
Contrib Drainage Area Unts:	Not Reported	Aquifer:	Basin and Range basin-fill aquifers
Formation Type:	Not Reported	Aquifer Type:	Not Reported

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Construction Date:	19570208	Well Depth:	92.5
Well Depth Units:	ft	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

Ground water levels,Number of Measurements:	1	Level reading date:	1957-02-09
Feet below surface:	62.0	Feet to sea level:	Not Reported
Note:	Not Reported		

P75
West
1/2 - 1 Mile
Lower

CA WELLS **CAUSGSN00009150**

Well ID:	USGS-342814117150503	Well Type:	UNK
Source:	United States Geological Survey		
Other Name:	USGS-342814117150503	GAMA PFAS Testing:	Not Reported
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=USGSNEW&samp_date=&global_id=&assigned_name=USGS-342814117150503&store_num=		
GeoTracker Data:	Not Reported		

P76
West
1/2 - 1 Mile
Lower

CA WELLS **CAUSGSN00009795**

Well ID:	USGS-342814117150501	Well Type:	UNK
Source:	United States Geological Survey		
Other Name:	USGS-342814117150501	GAMA PFAS Testing:	Not Reported
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=USGSNEW&samp_date=&global_id=&assigned_name=USGS-342814117150501&store_num=		
GeoTracker Data:	Not Reported		

P77
West
1/2 - 1 Mile
Lower

CA WELLS **CAUSGSN00017725**

Well ID:	USGS-342814117150504	Well Type:	UNK
Source:	United States Geological Survey		
Other Name:	USGS-342814117150504	GAMA PFAS Testing:	Not Reported
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=USGSNEW&samp_date=&global_id=&assigned_name=USGS-342814117150504&store_num=		
GeoTracker Data:	Not Reported		

P78
West
1/2 - 1 Mile
Lower

CA WELLS **CAUSGSN00003771**

Well ID:	USGS-342814117150502	Well Type:	UNK
Source:	United States Geological Survey		
Other Name:	USGS-342814117150502	GAMA PFAS Testing:	Not Reported
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=USGSNEW&samp_date=&global_id=&assigned_name=USGS-342814117150502&store_num=		

DRAFT

GeoTracker Data: Not Reported

N79
ENE
1/2 - 1 Mile
Higher

CA WELLS **CADWR9000009635**

State Well #:	05N03W31Q002S	Station ID:	30660
Well Name:	Not Reported	Basin Name:	Upper Mojave River Valley
Well Use:	Unknown	Well Type:	Unknown
Well Depth:	0	Well Completion Rpt #:	Not Reported

N80
ENE
1/2 - 1 Mile
Higher

CA WELLS **CADWR9000009638**

State Well #:	05N03W31Q001S	Station ID:	9263
Well Name:	Not Reported	Basin Name:	Upper Mojave River Valley
Well Use:	Unknown	Well Type:	Unknown
Well Depth:	0	Well Completion Rpt #:	Not Reported

M81
ESE
1/2 - 1 Mile
Higher

FED USGS **USGS40000145761**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	004N003W06A001S	Type:	Well
Description:	COMPUTER GENERATED LAT/LONG - ACCURATE +/- 500 FT		
HUC:	18090208	Drainage Area:	Not Reported
Drainage Area Units:	Not Reported	Contrib Drainage Area:	Not Reported
Contrib Drainage Area Unts:	Not Reported	Aquifer:	Basin and Range basin-fill aquifers
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	19221024	Well Depth:	99
Well Depth Units:	ft	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

Ground water levels,Number of Measurements:	52	Level reading date:	1956-06-13
Feet below surface:	70.92	Feet to sea level:	Not Reported
Note:	Not Reported		
Level reading date:	1954-11-16	Feet below surface:	66.30
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1954-05-12	Feet below surface:	67.50
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1953-11-09	Feet below surface:	67.52
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1953-05-26	Feet below surface:	61.49
Feet to sea level:	Not Reported	Note:	Not Reported

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Level reading date:	1952-11-24	Feet below surface:	59.47
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1951-11-26	Feet below surface:	61.77
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1951-05-03	Feet below surface:	60.49
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1950-11-07	Feet below surface:	60.73
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1950-05-05	Feet below surface:	58.33
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1949-11-14	Feet below surface:	58.08
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1949-05-10	Feet below surface:	57.04
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1948-12-01	Feet below surface:	55.60
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1948-05-27	Feet below surface:	54.02
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1948-04-28	Feet below surface:	53.80
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1948-03-25	Feet below surface:	52.24
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1947-11-12	Feet below surface:	52.8
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1947-05-15	Feet below surface:	51.4
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1947-01-06	Feet below surface:	50.9
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1946-04-24	Feet below surface:	51.33
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1945-11-21	Feet below surface:	50.78
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1945-04-26	Feet below surface:	50.91
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1944-12-14	Feet below surface:	50.80
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1944-04-20	Feet below surface:	51.29
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1944-01-07	Feet below surface:	51.34
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1943-05-12	Feet below surface:	Not Reported
Feet to sea level:	Not Reported	Note:	The site was being pumped.

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Level reading date:	1942-11-20	Feet below surface:	53.46
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1942-05-07	Feet below surface:	52.59
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1941-11-12	Feet below surface:	50.79
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1941-06-17	Feet below surface:	51.50
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1940-05-08	Feet below surface:	52.59
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1939-11-24	Feet below surface:	51.57
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1938-10-29	Feet below surface:	53.34
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1938-06-03	Feet below surface:	51.55
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1937-11-16	Feet below surface:	51.92
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1937-06-29	Feet below surface:	52.60
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1936-12-14	Feet below surface:	54.11
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1936-06-03	Feet below surface:	54.80
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1936-03-18	Feet below surface:	53.68
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1935-05-22	Feet below surface:	54.50
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1934-05-17	Feet below surface:	55.0
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1932-11-03	Feet below surface:	53.3
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1932-09-13	Feet below surface:	54.0
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1932-05-27	Feet below surface:	53.6
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1932-03-24	Feet below surface:	53.9
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1932-02-19	Feet below surface:	54.7
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1932-01-07	Feet below surface:	54.9
Feet to sea level:	Not Reported	Note:	Not Reported

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Level reading date:	1931-11-18	Feet below surface:	55.2
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1931-08-04	Feet below surface:	56.1
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1931-05-07	Feet below surface:	54.7
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1931-02-17	Feet below surface:	53.7
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1931-01-26	Feet below surface:	53.7
Feet to sea level:	Not Reported	Note:	Not Reported

M82
ESE
1/2 - 1 Mile
Higher

FED USGS **USGS40000145762**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	004N003W06A002S	Type:	Well
Description:	COMPUTER GENERATED LAT/LONG - ACCURATE +/- 500 FT		
HUC:	18090208	Drainage Area:	Not Reported
Drainage Area Units:	Not Reported	Contrib Drainage Area:	Not Reported
Contrib Drainage Area Unts:	Not Reported	Aquifer:	Basin and Range basin-fill aquifers
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	Not Reported	Well Depth:	119
Well Depth Units:	ft	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

Ground water levels,Number of Measurements:	5	Level reading date:	1957-04-30
Feet below surface:	70.79	Feet to sea level:	Not Reported
Note:	Not Reported		
Level reading date:	1956-12-18	Feet below surface:	70.71
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1956-04-05	Feet below surface:	70.0
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1955-12-09	Feet below surface:	68.57
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1955-04-12	Feet below surface:	71.89
Feet to sea level:	Not Reported	Note:	Not Reported

83
North
1/2 - 1 Mile
Lower

CA WELLS **CADDW0000016311**

Well ID:	3610003-038	Well Type:	MUNICIPAL
Source:	Department of Health Services		
Other Name:	WELL 35	GAMA PFAS Testing:	Not Reported
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=DHS&samp_date=&global_id=&assigned_name=3610003-038&store_num=		
GeoTracker Data:	Not Reported		

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GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

Q84
ENE
1/2 - 1 Mile
Higher

FED USGS **USGS40000145902**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	005N003W31Q001S	Type:	Well
Description:	COMPUTER GENERATED LAT/LONG-ACCURATE +/-500FT		
HUC:	18090208	Drainage Area:	Not Reported
Drainage Area Units:	Not Reported	Contrib Drainage Area:	Not Reported
Contrib Drainage Area Unts:	Not Reported	Aquifer:	Basin and Range basin-fill aquifers
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	Not Reported	Well Depth:	Not Reported
Well Depth Units:	Not Reported	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

Ground water levels,Number of Measurements:	1	Level reading date:	1956-06-20
Feet below surface:	64.51	Feet to sea level:	Not Reported
Note:	Not Reported		

R85
ESE
1/2 - 1 Mile
Higher

CA WELLS **CADWR9000009486**

State Well #:	04N03W06H001S	Station ID:	4513
Well Name:	Not Reported	Basin Name:	Upper Mojave River Valley
Well Use:	Unknown	Well Type:	Unknown
Well Depth:	0	Well Completion Rpt #:	Not Reported

86
WNW
1/2 - 1 Mile
Lower

FED USGS **USGS40000145918**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	005N004W36Q003S	Type:	Well
Description:	COMPUTER GENERATED LAT/LONG ACCURATE +/- 500 FT		
HUC:	18090208	Drainage Area:	Not Reported
Drainage Area Units:	Not Reported	Contrib Drainage Area:	Not Reported
Contrib Drainage Area Unts:	Not Reported	Aquifer:	Basin and Range basin-fill aquifers
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	1962	Well Depth:	253
Well Depth Units:	ft	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

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Map ID
Direction
Distance
Elevation | Database | EDR ID Number

Q87
ENE
1/2 - 1 Mile
Higher

FED USGS **USGS40000145895**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	005N003W31Q002S	Type:	Well
Description:	COMPUTER GENERATED LAT/LONG-ACCURATE +/-500FT		
HUC:	18090208	Drainage Area:	Not Reported
Drainage Area Units:	Not Reported	Contrib Drainage Area:	Not Reported
Contrib Drainage Area Unts:	Not Reported	Aquifer:	Basin and Range basin-fill aquifers
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	Not Reported	Well Depth:	118
Well Depth Units:	ft	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		
Ground water levels,Number of Measurements:	1	Level reading date:	1956-06-20
Feet below surface:	72.02	Feet to sea level:	Not Reported
Note:	Not Reported		

88
West
1/2 - 1 Mile
Lower

FED USGS **USGS40000145780**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	004N004W01C001S	Type:	Well
Description:	COMPUTER GENERATED LAT/LONG - ACCURATE +/- 500 FT		
HUC:	18090208	Drainage Area:	Not Reported
Drainage Area Units:	Not Reported	Contrib Drainage Area:	Not Reported
Contrib Drainage Area Unts:	Not Reported	Aquifer:	Basin and Range basin-fill aquifers
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	Not Reported	Well Depth:	30
Well Depth Units:	ft	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

89
NW
1/2 - 1 Mile
Lower

CA WELLS **5546**

Seq:	5546	Prim sta c:	05N/04W-36K01 S
Frds no:	3610121002	County:	36
District:	13	User id:	TAN
System no:	3610121	Water type:	G
Source nam:	WELL 03	Station ty:	WELL/AMBNT
Latitude:	342842.0	Longitude:	1171458.0
Precision:	3	Status:	AR
Comment 1:	Not Reported	Comment 2:	Not Reported
Comment 3:	Not Reported	Comment 4:	Not Reported
Comment 5:	Not Reported	Comment 6:	Not Reported
Comment 7:	Not Reported		
System no:	3610121	System nam:	Sbdno County Service Area 64

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GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Hqname:	SAN BERNARDINO CSA #64	Address:	P.O. BOX 1658
City:	VICTORVILLE	State:	CA
Zip:	92393	Zip ext:	Not Reported
Pop serv:	7734	Connection:	2762
Area serve:	SPRING VALLEY LAKE		

Sample date:	07-MAR-17	Finding:	1.5
Chemical:	NITRATE (AS N)	Report units:	MG/L
Dlr:	0.4		

Sample date:	03-OCT-16	Finding:	30.
Chemical:	CALCIUM	Report units:	MG/L
Dlr:	0.		

Sample date:	03-OCT-16	Finding:	80.
Chemical:	ALKALINITY (TOTAL) AS CACO3	Report units:	MG/L
Dlr:	0.		

Sample date:	03-OCT-16	Finding:	320.
Chemical:	SPECIFIC CONDUCTANCE	Report units:	US
Dlr:	0.		

Sample date:	03-OCT-16	Finding:	7.6
Chemical:	PH, LABORATORY	Report units:	Not Reported
Dlr:	0.		

Sample date:	02-MAR-16	Finding:	1.8
Chemical:	NITRATE (AS N)	Report units:	MG/L
Dlr:	0.4		

Sample date:	04-JAN-16	Finding:	180.
Chemical:	TOTAL DISSOLVED SOLIDS	Report units:	MG/L
Dlr:	0.		

Sample date:	04-JAN-16	Finding:	0.32
Chemical:	FLUORIDE (F) (NATURAL-SOURCE)	Report units:	MG/L
Dlr:	0.1		

Sample date:	04-JAN-16	Finding:	36.
Chemical:	SULFATE	Report units:	MG/L
Dlr:	0.5		

Sample date:	04-JAN-16	Finding:	18.
Chemical:	CHLORIDE	Report units:	MG/L
Dlr:	0.		

Sample date:	04-JAN-16	Finding:	1.6
Chemical:	POTASSIUM	Report units:	MG/L
Dlr:	0.		

Sample date:	04-JAN-16	Finding:	19.
Chemical:	SODIUM	Report units:	MG/L
Dlr:	0.		

Sample date:	04-JAN-16	Finding:	6.9
Chemical:	MAGNESIUM	Report units:	MG/L
Dlr:	0.		

Sample date:	04-JAN-16	Finding:	33.
Chemical:	CALCIUM	Report units:	MG/L
Dlr:	0.		

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GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Sample date:	04-JAN-16	Finding:	110.
Chemical:	HARDNESS (TOTAL) AS CACO3	Report units:	MG/L
Dlr:	0.		
Sample date:	04-JAN-16	Finding:	1.9
Chemical:	NITRATE (AS N)	Report units:	MG/L
Dlr:	0.4		
Sample date:	04-JAN-16	Finding:	98.
Chemical:	BICARBONATE ALKALINITY	Report units:	MG/L
Dlr:	0.		
Sample date:	04-JAN-16	Finding:	80.
Chemical:	ALKALINITY (TOTAL) AS CACO3	Report units:	MG/L
Dlr:	0.		
Sample date:	04-JAN-16	Finding:	6.9
Chemical:	PH, LABORATORY	Report units:	Not Reported
Dlr:	0.		
Sample date:	04-JAN-16	Finding:	310.
Chemical:	SPECIFIC CONDUCTANCE	Report units:	US
Dlr:	0.		
Sample date:	04-JAN-16	Finding:	20.
Chemical:	SOURCE TEMPERATURE C	Report units:	C
Dlr:	0.		
Sample date:	04-JAN-16	Finding:	1.9
Chemical:	NITRATE + NITRITE (AS N)	Report units:	MG/L
Dlr:	0.4		
Sample date:	04-JAN-16	Finding:	10.71
Chemical:	AGGRSSIVE INDEX (CORROSIVITY)	Report units:	Not Reported
Dlr:	0.		
Sample date:	02-MAR-15	Finding:	7.
Chemical:	NITRATE (AS NO3)	Report units:	MG/L
Dlr:	2.		
Sample date:	05-JAN-15	Finding:	0.63
Chemical:	GROSS ALPHA MDA95	Report units:	PCI/L
Dlr:	0.		
Sample date:	05-JAN-15	Finding:	0.83
Chemical:	GROSS ALPHA COUNTING ERROR	Report units:	PCI/L
Dlr:	0.		
Sample date:	01-OCT-14	Finding:	1.1
Chemical:	GROSS ALPHA COUNTING ERROR	Report units:	PCI/L
Dlr:	0.		
Sample date:	01-OCT-14	Finding:	0.92
Chemical:	GROSS ALPHA MDA95	Report units:	PCI/L
Dlr:	0.		
Sample date:	01-JUL-14	Finding:	8.6
Chemical:	NITRATE (AS NO3)	Report units:	MG/L
Dlr:	2.		
Sample date:	01-JUL-14	Finding:	0.91
Chemical:	GROSS ALPHA COUNTING ERROR	Report units:	PCI/L

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Dlr:	0.		
Sample date:	01-JUL-14	Finding:	0.68
Chemical:	GROSS ALPHA MDA95	Report units:	PCI/L
Dlr:	0.		
Sample date:	01-APR-14	Finding:	0.76
Chemical:	GROSS ALPHA MDA95	Report units:	PCI/L
Dlr:	0.		
Sample date:	01-APR-14	Finding:	0.76
Chemical:	GROSS ALPHA COUNTING ERROR	Report units:	PCI/L
Dlr:	0.		
Sample date:	09-JAN-14	Finding:	0.81
Chemical:	GROSS ALPHA COUNTING ERROR	Report units:	PCI/L
Dlr:	0.		
Sample date:	09-JAN-14	Finding:	0.58
Chemical:	GROSS ALPHA MDA95	Report units:	PCI/L
Dlr:	0.		
Sample date:	12-JUL-13	Finding:	9.1
Chemical:	NITRATE (AS NO3)	Report units:	MG/L
Dlr:	2.		
Sample date:	03-JAN-13	Finding:	17.
Chemical:	CHLORIDE	Report units:	MG/L
Dlr:	0.		
Sample date:	03-JAN-13	Finding:	1.3
Chemical:	POTASSIUM	Report units:	MG/L
Dlr:	0.		
Sample date:	03-JAN-13	Finding:	16.
Chemical:	SODIUM	Report units:	MG/L
Dlr:	0.		
Sample date:	03-JAN-13	Finding:	5.6
Chemical:	MAGNESIUM	Report units:	MG/L
Dlr:	0.		
Sample date:	03-JAN-13	Finding:	25.
Chemical:	CALCIUM	Report units:	MG/L
Dlr:	0.		
Sample date:	03-JAN-13	Finding:	84.
Chemical:	BICARBONATE ALKALINITY	Report units:	MG/L
Dlr:	0.		
Sample date:	03-JAN-13	Finding:	69.
Chemical:	ALKALINITY (TOTAL) AS CACO3	Report units:	MG/L
Dlr:	0.		
Sample date:	03-JAN-13	Finding:	7.6
Chemical:	PH, LABORATORY	Report units:	Not Reported
Dlr:	0.		
Sample date:	03-JAN-13	Finding:	260.
Chemical:	SPECIFIC CONDUCTANCE	Report units:	US
Dlr:	0.		

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GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Sample date:	03-JAN-13	Finding:	14.7
Chemical:	SOURCE TEMPERATURE C	Report units:	C
Dlr:	0.		
Sample date:	03-JAN-13	Finding:	25.
Chemical:	SULFATE	Report units:	MG/L
Dlr:	0.5		
Sample date:	03-JAN-13	Finding:	0.46
Chemical:	FLUORIDE (F) (NATURAL-SOURCE)	Report units:	MG/L
Dlr:	0.1		
Sample date:	03-JAN-13	Finding:	160.
Chemical:	TOTAL DISSOLVED SOLIDS	Report units:	MG/L
Dlr:	0.		
Sample date:	03-JAN-13	Finding:	8.
Chemical:	NITRATE (AS NO3)	Report units:	MG/L
Dlr:	2.		
Sample date:	03-JAN-13	Finding:	1800.
Chemical:	NITRATE + NITRITE (AS N)	Report units:	MG/L
Dlr:	0.4		
Sample date:	03-JAN-13	Finding:	85.
Chemical:	HARDNESS (TOTAL) AS CACO3	Report units:	MG/L
Dlr:	0.		
Sample date:	18-OCT-12	Finding:	26.
Chemical:	CALCIUM	Report units:	MG/L
Dlr:	0.		
Sample date:	18-OCT-12	Finding:	72.
Chemical:	ALKALINITY (TOTAL) AS CACO3	Report units:	MG/L
Dlr:	0.		
Sample date:	18-OCT-12	Finding:	6.6
Chemical:	PH, LABORATORY	Report units:	Not Reported
Dlr:	0.		
Sample date:	18-OCT-12	Finding:	260.
Chemical:	SPECIFIC CONDUCTANCE	Report units:	US
Dlr:	0.		
Sample date:	18-OCT-12	Finding:	20.
Chemical:	SOURCE TEMPERATURE C	Report units:	C
Dlr:	0.		
Sample date:	18-OCT-12	Finding:	10.27
Chemical:	AGGRSSIVE INDEX (CORROSIVITY)	Report units:	Not Reported
Dlr:	0.		
Sample date:	05-JUL-12	Finding:	7.4
Chemical:	NITRATE (AS NO3)	Report units:	MG/L
Dlr:	2.		

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GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

90
SE
1/2 - 1 Mile
Higher

FED USGS **USGS40000145578**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	004N003W06K002S	Type:	Well
Description:	COMPUTER GENERATED LAT/LONG - ACCURATE +/- 500 FT		
HUC:	18090208	Drainage Area:	Not Reported
Drainage Area Units:	Not Reported	Contrib Drainage Area:	Not Reported
Contrib Drainage Area Unts:	Not Reported	Aquifer:	Basin and Range basin-fill aquifers
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	19510320	Well Depth:	91
Well Depth Units:	ft	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

S91
NNE
1/2 - 1 Mile
Lower

CA WELLS **CADWR9000009704**

State Well #:	05N03W31E001S	Station ID:	9261
Well Name:	Not Reported	Basin Name:	Upper Mojave River Valley
Well Use:	Unknown	Well Type:	Unknown
Well Depth:	0	Well Completion Rpt #:	Not Reported

T92
NW
1/2 - 1 Mile
Lower

CA WELLS **CALLNL000001076**

Well ID:	101379	Well Type:	MUNICIPAL
Source:	Lawrence Livermore National Laboratory		
Other Name:	05N/04W-36G01 S	GAMA PFAS Testing:	Not Reported
Groundwater Quality Data:	Not Reported		
GeoTracker Data:	Not Reported		
Chemical:	Argon	Results:	.000421967
Units:	cm3STP/g	Date:	02/11/2003
Chemical:	Neon	Results:	.000000292203
Units:	cm3STP/g	Date:	02/11/2003
Chemical:	Helium-3/Helium-4	Results:	.00000141816
Units:	atom ratio	Date:	02/11/2003
Chemical:	Krypton	Results:	.0000000940806
Units:	cm3STP/g	Date:	02/11/2003
Chemical:	Tritium (Hydrogen 3)	Results:	10.1

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Units:	pCi/L	Date:	02/25/2003
Chemical:	Helium-4	Results:	.0000000667001
Units:	cm3STP/g	Date:	02/11/2003
Chemical:	Xenon	Results:	.0000000126649
Units:	cm3STP/g	Date:	02/11/2003

S93
NNE **FED USGS** **USGS40000146006**
1/2 - 1 Mile
Lower

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	005N003W31E001S	Type:	Well
Description:	COMPUTER GENERATED LAT/LONG-ACCURATE +/-500FT		
HUC:	18090208	Drainage Area:	Not Reported
Drainage Area Units:	Not Reported	Contrib Drainage Area:	Not Reported
Contrib Drainage Area Unts:	Not Reported	Aquifer:	Basin and Range basin-fill aquifers
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	Not Reported	Well Depth:	Not Reported
Well Depth Units:	Not Reported	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		
Ground water levels,Number of Measurements:	1	Level reading date:	1956-06-21
Feet below surface:	60.98	Feet to sea level:	Not Reported
Note:	Not Reported		

R94
ESE **CA WELLS** **CAUSGS000001092**
1/2 - 1 Mile
Higher

R95
ESE **CA WELLS** **CAUSGSN00019054**
1/2 - 1 Mile
Higher

Well ID:	USGS-342754117133301	Well Type:	UNK
Source:	United States Geological Survey		
Other Name:	USGS-342754117133301	GAMA PFAS Testing:	Not Reported
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=USGSNEW&samp_date=&global_id=&assigned_name=USGS-342754117133301&store_num=		
GeoTracker Data:	Not Reported		

R96
ESE **FED USGS** **USGS40000145659**
1/2 - 1 Mile
Higher

Organization ID:	USGS-CA
Organization Name:	USGS California Water Science Center

DRAFT

Monitor Location:	004N003W06H001S	Type:	Well
Description:	COMPUTER GENERATED LAT/LONG - ACCURATE +/- 500 FT		
HUC:	18090208	Drainage Area:	Not Reported
Drainage Area Units:	Not Reported	Contrib Drainage Area:	Not Reported
Contrib Drainage Area Unts:	Not Reported	Aquifer:	Basin and Range basin-fill aquifers
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	19561027	Well Depth:	99
Well Depth Units:	ft	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

Ground water levels,Number of Measurements:	1	Level reading date:	1957-02-05
Feet below surface:	67.14	Feet to sea level:	Not Reported
Note:	Not Reported		

T97
NW
1/2 - 1 Mile
Lower

CA WELLS **CAUSGSN00015113**

Well ID:	USGS-342849117145301	Well Type:	UNK
Source:	United States Geological Survey		
Other Name:	USGS-342849117145301	GAMA PFAS Testing:	Not Reported
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=USGSNEW&samp_date=&global_id=&assigned_name=USGS-342849117145301&store_num=		
GeoTracker Data:	Not Reported		

T98
NW
1/2 - 1 Mile
Lower

FED USGS **USGS40000145966**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	005N004W36G001S	Type:	Well
Description:	COMPUTER GENERATED LAT/LONG ACCURATE +/- 500 FT		
HUC:	18090208	Drainage Area:	Not Reported
Drainage Area Units:	Not Reported	Contrib Drainage Area:	Not Reported
Contrib Drainage Area Unts:	Not Reported	Aquifer:	Basin and Range basin-fill aquifers
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	19520513	Well Depth:	286
Well Depth Units:	ft	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

Ground water levels,Number of Measurements:	2	Level reading date:	2004-04-08
Feet below surface:	42.2	Feet to sea level:	Not Reported
Note:	Not Reported		

Level reading date:	1956-05-23	Feet below surface:	13.50
Feet to sea level:	Not Reported	Note:	Not Reported

DRAFT

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

T99
NW
1/2 - 1 Mile
Lower

CA WELLS **CADWR0000001905**

Well ID:	05N04W36G001S	Well Type:	UNK
Source:	Department of Water Resources		
Other Name:	05N04W36G001S	GAMA PFAS Testing:	Not Reported
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=DWR&samp_date=&global_id=&assigned_name=05N04W36G001S&store_num=		
GeoTracker Data:	Not Reported		

S100
NNE
1/2 - 1 Mile
Lower

CA WELLS **CADWR9000009714**

State Well #:	05N03W31E002S	Station ID:	30659
Well Name:	Not Reported	Basin Name:	Upper Mojave River Valley
Well Use:	Unknown	Well Type:	Unknown
Well Depth:	0	Well Completion Rpt #:	Not Reported

S101
NNE
1/2 - 1 Mile
Lower

CA WELLS **CADWR9000009717**

State Well #:	05N03W31E003S	Station ID:	9262
Well Name:	Not Reported	Basin Name:	Upper Mojave River Valley
Well Use:	Unknown	Well Type:	Unknown
Well Depth:	0	Well Completion Rpt #:	Not Reported

U102
NNE
1/2 - 1 Mile
Lower

FED USGS **USGS40000146013**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	005N003W31E002S	Type:	Well
Description:	COMPUTER GENERATED LAT/LONG-ACCURATE +/-500FT		
HUC:	18090208	Drainage Area:	Not Reported
Drainage Area Units:	Not Reported	Contrib Drainage Area:	Not Reported
Contrib Drainage Area Unts:	Not Reported	Aquifer:	Basin and Range basin-fill aquifers
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	1942	Well Depth:	96
Well Depth Units:	ft	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

Ground water levels,Number of Measurements:	1	Level reading date:	1956-06-21
Feet below surface:	69.18	Feet to sea level:	Not Reported
Note:	Not Reported		

DRAFT

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

S103
NNE
1/2 - 1 Mile
Lower

FED USGS **USGS40000146017**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	005N003W31E003S	Type:	Well
Description:	COMPUTER GENERATED LAT/LONG-ACCURATE +/-500FT		
HUC:	18090208	Drainage Area:	Not Reported
Drainage Area Units:	Not Reported	Contrib Drainage Area:	Not Reported
Contrib Drainage Area Unts:	Not Reported	Aquifer:	Basin and Range basin-fill aquifers
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	1956	Well Depth:	80
Well Depth Units:	ft	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

Ground water levels,Number of Measurements:	1	Level reading date:	1956-06-21
Feet below surface:	59.06	Feet to sea level:	Not Reported
Note:	Not Reported		

V104
SSW
1/2 - 1 Mile
Lower

CA WELLS **CADWR9000009392**

State Well #:	04N04W01R001S	Station ID:	38018
Well Name:	Jess Ranch Water Company WEST SCALE CORRAL		
Basin Name:	Upper Mojave River Valley	Well Use:	Irrigation
Well Type:	Single Well	Well Depth:	130
Well Completion Rpt #:	Not Reported		

W105
South
1/2 - 1 Mile
Lower

FED USGS **USGS40000145455**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	004N003W06N001S	Type:	Well
Description:	COMPUTER GENERATED LAT/LONG - ACCURATE +/- 500FT		
HUC:	18090208	Drainage Area:	Not Reported
Drainage Area Units:	Not Reported	Contrib Drainage Area:	Not Reported
Contrib Drainage Area Unts:	Not Reported	Aquifer:	Basin and Range basin-fill aquifers
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	Not Reported	Well Depth:	100
Well Depth Units:	ft	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

Ground water levels,Number of Measurements:	15	Level reading date:	1956-05-24
Feet below surface:	Not Reported	Feet to sea level:	Not Reported
Note:	The site was being pumped.		
Level reading date:	1932-07-20	Feet below surface:	17.0
Feet to sea level:	Not Reported	Note:	Not Reported

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Level reading date:	1932-05-13	Feet below surface:	15.4
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1932-03-24	Feet below surface:	16.4
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1932-02-19	Feet below surface:	18.5
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1932-01-15	Feet below surface:	20.7
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1931-10-08	Feet below surface:	21.4
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1931-07-28	Feet below surface:	21.3
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1931-05-02	Feet below surface:	20.1
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1931-02-20	Feet below surface:	19.4
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1931-02-14	Feet below surface:	19.4
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1931-01-28	Feet below surface:	19.4
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1930-01-23	Feet below surface:	19.7
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1907-03-04	Feet below surface:	21.1
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1906-10-27	Feet below surface:	24.9
Feet to sea level:	Not Reported	Note:	Not Reported

W106
South
1/2 - 1 Mile
Lower

FED USGS **USGS40000145456**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	004N003W06N002S	Type:	Well
Description:	COMPUTER GENERATED LAT/LONG - ACCURATE +/- 500 FT		
HUC:	18090208	Drainage Area:	Not Reported
Drainage Area Units:	Not Reported	Contrib Drainage Area:	Not Reported
Contrib Drainage Area Unts:	Not Reported	Aquifer:	Basin and Range basin-fill aquifers
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	Not Reported	Well Depth:	100
Well Depth Units:	ft	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

DRAFT

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

W107
South
1/2 - 1 Mile
Lower

CA WELLS **CADWR9000009385**

State Well #:	04N03W06N001S	Station ID:	4516
Well Name:	Not Reported	Basin Name:	Upper Mojave River Valley
Well Use:	Unknown	Well Type:	Unknown
Well Depth:	0	Well Completion Rpt #:	Not Reported

108
NW
1/2 - 1 Mile
Lower

CA WELLS **CADWR9000009675**

State Well #:	05N04W36G001S	Station ID:	5543
Well Name:	Not Reported	Basin Name:	Upper Mojave River Valley
Well Use:	Unknown	Well Type:	Unknown
Well Depth:	0	Well Completion Rpt #:	Not Reported

X109
North
1/2 - 1 Mile
Lower

FED USGS **USGS40000146024**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	005N003W30N003S	Type:	Well
Description:	COMPUTER GENERATED LAT/LONG-ACCURATE +/-500FT		
HUC:	18090208	Drainage Area:	Not Reported
Drainage Area Units:	Not Reported	Contrib Drainage Area:	Not Reported
Contrib Drainage Area Unts:	Not Reported	Aquifer:	Basin and Range basin-fill aquifers
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	Not Reported	Well Depth:	100
Well Depth Units:	ft	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

Ground water levels,Number of Measurements:	2	Level reading date:	1932-06-02
Feet below surface:	49.0	Feet to sea level:	Not Reported
Note:	Not Reported		

Level reading date:	1917-02-24	Feet below surface:	55.3
Feet to sea level:	Not Reported	Note:	Not Reported

X110
North
1/2 - 1 Mile
Lower

FED USGS **USGS40000146025**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	005N003W30N004S	Type:	Well
Description:	COMPUTER GENERATED LAT/LONG-ACCURATE +/-500FT		
HUC:	18090208	Drainage Area:	Not Reported

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Drainage Area Units:	Not Reported	Contrib Drainage Area:	Not Reported
Contrib Drainage Area Unts:	Not Reported	Aquifer:	Basin and Range basin-fill aquifers
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	1964	Well Depth:	480
Well Depth Units:	ft	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

X111
North
1/2 - 1 Mile
Lower

CA WELLS **CADWR9000009722**

State Well #:	05N03W30N003S	Station ID:	30657
Well Name:	Not Reported	Basin Name:	Upper Mojave River Valley
Well Use:	Unknown	Well Type:	Unknown
Well Depth:	0	Well Completion Rpt #:	Not Reported

U112
NNE
1/2 - 1 Mile
Lower

FED USGS **USGS40000146022**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	005N003W31E004S	Type:	Well
Description:	COMPUTER GENERATED LAT/LONG-ACCURATE +/-500FT		
HUC:	18090208	Drainage Area:	Not Reported
Drainage Area Units:	Not Reported	Contrib Drainage Area:	Not Reported
Contrib Drainage Area Unts:	Not Reported	Aquifer:	Basin and Range basin-fill aquifers
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	1951	Well Depth:	79
Well Depth Units:	ft	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

Y113
West
1/2 - 1 Mile
Lower

FED USGS **USGS40000145855**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	005N004W36N003S	Type:	Well
Description:	COMPUTER GENERATED LAT/LONG ACCURATE +/- 500 FT		
HUC:	18090208	Drainage Area:	Not Reported
Drainage Area Units:	Not Reported	Contrib Drainage Area:	Not Reported
Contrib Drainage Area Unts:	Not Reported	Aquifer:	Basin and Range basin-fill aquifers
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	Not Reported	Well Depth:	19.5
Well Depth Units:	ft	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

Ground water levels,Number of Measurements:	1	Level reading date:	1956-05-23
Feet below surface:	10.15	Feet to sea level:	Not Reported
Note:	Not Reported		

DRAFT

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

Database: CA WELLS
EDR ID Number: 5498

U114
NNE
1/2 - 1 Mile
Lower

Seq:	5498	Prim sta c:	05N/03W-30Q01 S
Frds no:	3610003011	County:	36
District:	13	User id:	TAN
System no:	3610003	Water type:	G
Source nam:	WELL 16	Station ty:	WELL/AMBNT/MUN/INTAKE/SUPPLY
Latitude:	342900.0	Longitude:	1171400.0
Precision:	5	Status:	AR
Comment 1:	Not Reported	Comment 2:	Not Reported
Comment 3:	Not Reported	Comment 4:	Not Reported
Comment 5:	Not Reported	Comment 6:	Not Reported
Comment 7:	Not Reported		

System no:	3610003	System nam:	Apple Valley Ranchos Wc
Hqname:	Not Reported	Address:	21760 OTTAWA RD.
City:	APPLE VALLEY	State:	CA
Zip:	92307	Zip ext:	2619
Pop serv:	33236	Connection:	12173
Area serve:	APPLE VALLEY RANCHOS		

Sample date:	06-JUL-17	Finding:	2.
Chemical:	NITRATE (AS N)	Report units:	MG/L
Dlr:	0.4		

Sample date:	24-MAY-17	Finding:	2.7
Chemical:	CHROMIUM (TOTAL)	Report units:	UG/L
Dlr:	10.		

Sample date:	24-MAY-17	Finding:	2.5
Chemical:	CHROMIUM, HEXAVALENT	Report units:	UG/L
Dlr:	1.		

Sample date:	24-MAY-17	Finding:	46.
Chemical:	BARIUM	Report units:	UG/L
Dlr:	100.		

Sample date:	24-MAY-17	Finding:	0.4
Chemical:	FLUORIDE (F) (NATURAL-SOURCE)	Report units:	MG/L
Dlr:	0.1		

Sample date:	24-MAY-17	Finding:	70.
Chemical:	SULFATE	Report units:	MG/L
Dlr:	0.5		

Sample date:	24-MAY-17	Finding:	19.
Chemical:	CHLORIDE	Report units:	MG/L
Dlr:	0.		

Sample date:	24-MAY-17	Finding:	2.7
Chemical:	POTASSIUM	Report units:	MG/L
Dlr:	0.		

Sample date:	24-MAY-17	Finding:	35.
Chemical:	SODIUM	Report units:	MG/L
Dlr:	0.		

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Sample date:	24-MAY-17	Finding:	8.8
Chemical:	MAGNESIUM	Report units:	MG/L
Dlr:	0.		
Sample date:	24-MAY-17	Finding:	39.
Chemical:	CALCIUM	Report units:	MG/L
Dlr:	0.		
Sample date:	24-MAY-17	Finding:	130.
Chemical:	HARDNESS (TOTAL) AS CACO3	Report units:	MG/L
Dlr:	0.		
Sample date:	24-MAY-17	Finding:	2.4
Chemical:	NITRATE (AS N)	Report units:	MG/L
Dlr:	0.4		
Sample date:	24-MAY-17	Finding:	93.
Chemical:	BICARBONATE ALKALINITY	Report units:	MG/L
Dlr:	0.		
Sample date:	24-MAY-17	Finding:	93.
Chemical:	ALKALINITY (TOTAL) AS CACO3	Report units:	MG/L
Dlr:	0.		
Sample date:	24-MAY-17	Finding:	8.1
Chemical:	PH, LABORATORY	Report units:	Not Reported
Dlr:	0.		
Sample date:	24-MAY-17	Finding:	430.
Chemical:	SPECIFIC CONDUCTANCE	Report units:	US
Dlr:	0.		
Sample date:	24-MAY-17	Finding:	0.36
Chemical:	LANGELIER INDEX AT SOURCE TEMP.	Report units:	Not Reported
Dlr:	0.		
Sample date:	24-MAY-17	Finding:	300.
Chemical:	TOTAL DISSOLVED SOLIDS	Report units:	MG/L
Dlr:	0.		
Sample date:	21-JUL-16	Finding:	2.9
Chemical:	NITRATE (AS N)	Report units:	MG/L
Dlr:	0.4		
Sample date:	02-SEP-15	Finding:	1.8
Chemical:	CHROMIUM, HEXAVALENT	Report units:	UG/L
Dlr:	1.		
Sample date:	24-JUN-15	Finding:	1.7
Chemical:	CHROMIUM, HEXAVALENT	Report units:	UG/L
Dlr:	1.		
Sample date:	10-MAR-15	Finding:	2.
Chemical:	CHROMIUM, HEXAVALENT	Report units:	UG/L
Dlr:	1.		
Sample date:	17-DEC-14	Finding:	2.
Chemical:	CHROMIUM, HEXAVALENT	Report units:	UG/L
Dlr:	1.		
Sample date:	29-MAY-14	Finding:	11.9
Chemical:	AGGRSSIVE INDEX (CORROSIVITY)	Report units:	Not Reported

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Dlr:	0.		
Sample date:	29-MAY-14	Finding:	230.
Chemical:	TOTAL DISSOLVED SOLIDS	Report units:	MG/L
Dlr:	0.		
Sample date:	29-MAY-14	Finding:	0.4
Chemical:	FLUORIDE (F) (NATURAL-SOURCE)	Report units:	MG/L
Dlr:	0.1		
Sample date:	29-MAY-14	Finding:	38.
Chemical:	SULFATE	Report units:	MG/L
Dlr:	0.5		
Sample date:	29-MAY-14	Finding:	17.
Chemical:	CHLORIDE	Report units:	MG/L
Dlr:	0.		
Sample date:	29-MAY-14	Finding:	1.7
Chemical:	POTASSIUM	Report units:	MG/L
Dlr:	0.		
Sample date:	29-MAY-14	Finding:	26.
Chemical:	SODIUM	Report units:	MG/L
Dlr:	0.		
Sample date:	29-MAY-14	Finding:	7.5
Chemical:	MAGNESIUM	Report units:	MG/L
Dlr:	0.		
Sample date:	29-MAY-14	Finding:	34.
Chemical:	CALCIUM	Report units:	MG/L
Dlr:	0.		
Sample date:	29-MAY-14	Finding:	120.
Chemical:	HARDNESS (TOTAL) AS CACO3	Report units:	MG/L
Dlr:	0.		
Sample date:	29-MAY-14	Finding:	110.
Chemical:	BICARBONATE ALKALINITY	Report units:	MG/L
Dlr:	0.		
Sample date:	29-MAY-14	Finding:	93.
Chemical:	ALKALINITY (TOTAL) AS CACO3	Report units:	MG/L
Dlr:	0.		
Sample date:	29-MAY-14	Finding:	7.8
Chemical:	PH, LABORATORY	Report units:	Not Reported
Dlr:	0.		
Sample date:	29-MAY-14	Finding:	360.
Chemical:	SPECIFIC CONDUCTANCE	Report units:	US
Dlr:	0.		
Sample date:	29-MAY-14	Finding:	0.18
Chemical:	LANGELIER INDEX AT SOURCE TEMP.	Report units:	Not Reported
Dlr:	0.		

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GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

Z115
SSE
1/2 - 1 Mile
Lower

CA WELLS **CADWR9000009384**

State Well #:	04N03W06P002S	Station ID:	4517
Well Name:	Not Reported	Basin Name:	Upper Mojave River Valley
Well Use:	Unknown	Well Type:	Unknown
Well Depth:	0	Well Completion Rpt #:	Not Reported

Z116
SSE
1/2 - 1 Mile
Lower

CA WELLS **CADWR9000009383**

State Well #:	04N03W06P001S	Station ID:	27270
Well Name:	Not Reported	Basin Name:	Upper Mojave River Valley
Well Use:	Unknown	Well Type:	Unknown
Well Depth:	0	Well Completion Rpt #:	Not Reported

X117
North
1/2 - 1 Mile
Lower

FED USGS **USGS40000146031**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	005N003W30N001S	Type:	Well
Description:	COMPUTER GENERATED LAT/LONG-ACCURATE +/-500FT		
HUC:	18090208	Drainage Area:	Not Reported
Drainage Area Units:	Not Reported	Contrib Drainage Area:	Not Reported
Contrib Drainage Area Unts:	Not Reported	Aquifer:	Basin and Range basin-fill aquifers
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	19510507	Well Depth:	93
Well Depth Units:	ft	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

Ground water levels,Number of Measurements:	1	Level reading date:	1951-05-10
Feet below surface:	54.0	Feet to sea level:	Not Reported
Note:	Not Reported		

118
North
1/2 - 1 Mile
Lower

CA WELLS **CADWR9000009725**

State Well #:	05N03W30N001S	Station ID:	30656
Well Name:	Not Reported	Basin Name:	Upper Mojave River Valley
Well Use:	Unknown	Well Type:	Unknown
Well Depth:	0	Well Completion Rpt #:	Not Reported

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GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

Z119
SSE
1/2 - 1 Mile
Lower

FED USGS **USGS40000145452**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	004N003W06P001S	Type:	Well
Description:	COMPUTER GENERATED LAT/LONG - ACCURATE +/- 500 FT		
HUC:	18090208	Drainage Area:	Not Reported
Drainage Area Units:	Not Reported	Contrib Drainage Area:	Not Reported
Contrib Drainage Area Unts:	Not Reported	Aquifer:	Basin and Range basin-fill aquifers
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	194909	Well Depth:	200
Well Depth Units:	ft	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

Ground water levels,Number of Measurements:	1	Level reading date:	1956-05-24
Feet below surface:	58.47	Feet to sea level:	Not Reported
Note:	Not Reported		

Z120
SSE
1/2 - 1 Mile
Lower

FED USGS **USGS40000145453**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	004N003W06P002S	Type:	Well
Description:	COMPUTER GENERATED LAT/LONG - ACCURATE +/- 500 FT		
HUC:	18090208	Drainage Area:	Not Reported
Drainage Area Units:	Not Reported	Contrib Drainage Area:	Not Reported
Contrib Drainage Area Unts:	Not Reported	Aquifer:	Basin and Range basin-fill aquifers
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	194807	Well Depth:	216
Well Depth Units:	ft	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

Ground water levels,Number of Measurements:	1	Level reading date:	1956-06-07
Feet below surface:	49.91	Feet to sea level:	Not Reported
Note:	Not Reported		

Z121
SSE
1/2 - 1 Mile
Lower

FED USGS **USGS40000145454**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	004N003W06P003S	Type:	Well
Description:	COMPUTER GENERATED LAT/LONG - ACCURATE +/- 500 FT		
HUC:	18090208	Drainage Area:	Not Reported
Drainage Area Units:	Not Reported	Contrib Drainage Area:	Not Reported
Contrib Drainage Area Unts:	Not Reported	Aquifer:	Basin and Range basin-fill aquifers
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	19510212	Well Depth:	96

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Well Depth Units:	ft	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

W122
South
1/2 - 1 Mile
Lower

CA WELLS **CADWR9000009375**

State Well #:	04N03W06N003S	Station ID:	38247
Well Name:	Not Reported	Basin Name:	Upper Mojave River Valley
Well Use:	Unknown	Well Type:	Unknown
Well Depth:	0	Well Completion Rpt #:	Not Reported

W123
South
1/2 - 1 Mile
Lower

CA WELLS **CALLNL000000485**

Well ID:	101373	Well Type:	MUNICIPAL
Source:	Lawrence Livermore National Laboratory		
Other Name:	05N/03W-06N03 S	GAMA PFAS Testing:	Not Reported
Groundwater Quality Data:	Not Reported		
GeoTracker Data:	Not Reported		

Chemical:	Argon	Results:	.000469762
Units:	cm3STP/g	Date:	02/07/2003
Chemical:	Neon	Results:	.000000372149
Units:	cm3STP/g	Date:	02/07/2003
Chemical:	Helium-3/Helium-4	Results:	.00000146223
Units:	atom ratio	Date:	02/07/2003
Chemical:	Krypton	Results:	.0000000956809
Units:	cm3STP/g	Date:	02/07/2003
Chemical:	Tritium (Hydrogen 3)	Results:	.19
Units:	pCi/L	Date:	02/27/2003
Chemical:	Xenon	Results:	.0000000132348
Units:	cm3STP/g	Date:	02/07/2003
Chemical:	Helium-4	Results:	.0000000884487
Units:	cm3STP/g	Date:	02/07/2003

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GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

	Database	EDR ID Number
W124 **South** **1/2 - 1 Mile** **Lower**	**FED USGS**	**USGS40000145433**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	004N003W06N003S	Type:	Well
Description:	Not Reported	HUC:	Not Reported
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Basin and Range basin-fill aquifers		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	Not Reported	Well Depth:	Not Reported
Well Depth Units:	Not Reported	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

	Database	EDR ID Number
AA125 **ESE** **1/2 - 1 Mile** **Higher**	**CA WELLS**	**CADWR9000009534**

State Well #:	04N03W05D001S	Station ID:	4498
Well Name:	Not Reported	Basin Name:	Upper Mojave River Valley
Well Use:	Unknown	Well Type:	Unknown
Well Depth:	0	Well Completion Rpt #:	Not Reported

	Database	EDR ID Number
AA126 **ESE** **1/2 - 1 Mile** **Higher**	**CA WELLS**	**CADWR9000009535**

State Well #:	04N03W05D002S	Station ID:	4499
Well Name:	Not Reported	Basin Name:	Upper Mojave River Valley
Well Use:	Unknown	Well Type:	Unknown
Well Depth:	0	Well Completion Rpt #:	Not Reported

	Database	EDR ID Number
AA127 **ESE** **1/2 - 1 Mile** **Higher**	**CA WELLS**	**CADWR9000009536**

State Well #:	04N03W05D003S	Station ID:	4500
Well Name:	Not Reported	Basin Name:	Upper Mojave River Valley
Well Use:	Unknown	Well Type:	Unknown
Well Depth:	0	Well Completion Rpt #:	Not Reported

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GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation

	Database	EDR ID Number
W128 **South** **1/2 - 1 Mile** **Lower**	**CA WELLS**	**CAUSGSN00010705**

Well ID:	USGS-342725117142301	Well Type:	UNK
Source:	United States Geological Survey		
Other Name:	USGS-342725117142301	GAMA PFAS Testing:	Not Reported
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=USGSNEW&samp_date=&global_id=&assigned_name=USGS-342725117142301&store_num=		
GeoTracker Data:	Not Reported		

	Database	EDR ID Number
W129 **South** **1/2 - 1 Mile** **Lower**	**CA WELLS**	**CADDW0000005093**

Well ID:	3610003-022	Well Type:	MUNICIPAL
Source:	Department of Health Services		
Other Name:	WELL 32 (DEL ORO WELL) - DESTROYED		
GAMA PFAS Testing:	Not Reported		
Groundwater Quality Data:	https://gamagroundwater.waterboards.ca.gov/gama/gamamap/public/GamaDataDisplay.asp?dataset=DHS&samp_date=&global_id=&assigned_name=3610003-022&store_num=		
GeoTracker Data:	Not Reported		

	Database	EDR ID Number
130 **South** **1/2 - 1 Mile** **Lower**	**CA WELLS**	**4383**

Seq:	4383	Prim sta c:	04N/03W-06P04 S
Frds no:	3601038001	County:	36
District:	66	User id:	36C
System no:	3601038	Water type:	G
Source nam:	DEL ORO WELL	Station ty:	WELL/AMBNT/MUN/INTAKE
Latitude:	342725.0	Longitude:	1171412.0
Precision:	2	Status:	AR
Comment 1:	Not Reported	Comment 2:	Not Reported
Comment 3:	Not Reported	Comment 4:	Not Reported
Comment 5:	Not Reported	Comment 6:	Not Reported
Comment 7:	Not Reported		

System no:	3601038	System nam:	Jess Ranch
Hqname:	Not Reported	Address:	Not Reported
City:	Not Reported	State:	Not Reported
Zip:	Not Reported	Zip ext:	Not Reported
Pop serv:	0	Connection:	0
Area serve:	Not Reported		

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GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

AB131
SE
1/2 - 1 Mile
Higher

CA WELLS **CADWR9000009461**

State Well #:	04N03W06J002S	Station ID:	4514
Well Name:	Not Reported	Basin Name:	Upper Mojave River Valley
Well Use:	Unknown	Well Type:	Unknown
Well Depth:	0	Well Completion Rpt #:	Not Reported

AB132
SE
1/2 - 1 Mile
Higher

CA WELLS **CADWR9000009460**

State Well #:	04N03W06J001S	Station ID:	27268
Well Name:	Not Reported	Basin Name:	Upper Mojave River Valley
Well Use:	Unknown	Well Type:	Unknown
Well Depth:	0	Well Completion Rpt #:	Not Reported

V133
SSW
1/2 - 1 Mile
Lower

FED USGS **USGS40000145472**

Organization ID:	USGS-CA		
Organization Name:	USGS California Water Science Center		
Monitor Location:	004N004W01R001S	Type:	Well
Description:	Not Reported	HUC:	18090208
Drainage Area:	Not Reported	Drainage Area Units:	Not Reported
Contrib Drainage Area:	Not Reported	Contrib Drainage Area Unts:	Not Reported
Aquifer:	Basin and Range basin-fill aquifers		
Formation Type:	Not Reported	Aquifer Type:	Not Reported
Construction Date:	Not Reported	Well Depth:	130
Well Depth Units:	ft	Well Hole Depth:	Not Reported
Well Hole Depth Units:	Not Reported		

Ground water levels,Number of Measurements:	36	Level reading date:	2004-03-11
Feet below surface:	Not Reported	Feet to sea level:	Not Reported
Note:	An obstruction was encountered in the well above the water surface (no water level recorded).		
Level reading date:	2002-12-05	Feet below surface:	Not Reported
Feet to sea level:	Not Reported		
Note:	An obstruction was encountered in the well above the water surface (no water level recorded).		
Level reading date:	2002-04-24	Feet below surface:	Not Reported
Feet to sea level:	Not Reported		
Note:	An obstruction was encountered in the well above the water surface (no water level recorded).		
Level reading date:	2001-11-25	Feet below surface:	Not Reported
Feet to sea level:	Not Reported		
Note:	An obstruction was encountered in the well above the water surface (no water level recorded).		
Level reading date:	2001-03-23	Feet below surface:	56.12
Feet to sea level:	Not Reported	Note:	Not Reported

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Level reading date:	2000-10-15	Feet below surface:	55.50
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	2000-03-24	Feet below surface:	51.05
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1999-10-13	Feet below surface:	48.97
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1999-03-22	Feet below surface:	43.22
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1998-10-07	Feet below surface:	39.77
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1998-04-07	Feet below surface:	32.94
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1997-03-19	Feet below surface:	44.66
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1996-10-10	Feet below surface:	46.00
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1996-03-28	Feet below surface:	37.44
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1995-11-09	Feet below surface:	41.31
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1995-03-22	Feet below surface:	29.94
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1994-11-15	Feet below surface:	50.30
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1994-03-24	Feet below surface:	46.23
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1993-11-16	Feet below surface:	44.89
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1993-03-24	Feet below surface:	44.76
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1992-11-19	Feet below surface:	50.52
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1992-07-02	Feet below surface:	49.09
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1992-06-03	Feet below surface:	48.90
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1992-03-10	Feet below surface:	54.40
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1991-11-16	Feet below surface:	57.93
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1956-05-24	Feet below surface:	30.31
Feet to sea level:	Not Reported	Note:	Not Reported

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Level reading date:	1933-12-21	Feet below surface:	19.1
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1932-11-03	Feet below surface:	17.3
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1932-03-25	Feet below surface:	16.0
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1932-02-19	Feet below surface:	16.6
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1932-01-15	Feet below surface:	19.7
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1931-11-18	Feet below surface:	20.2
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1931-02-20	Feet below surface:	19.1
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1931-02-14	Feet below surface:	19.1
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1931-01-28	Feet below surface:	19.1
Feet to sea level:	Not Reported	Note:	Not Reported
Level reading date:	1930-01-23	Feet below surface:	18.6
Feet to sea level:	Not Reported	Note:	Not Reported

Y134
West
1/2 - 1 Mile
Lower

CA WELLS **CADWR9000009603**

State Well #:	05N04W36N003S	Station ID:	29483
Well Name:	Not Reported	Basin Name:	Upper Mojave River Valley
Well Use:	Unknown	Well Type:	Unknown
Well Depth:	0	Well Completion Rpt #:	Not Reported

AC135
ENE
1/2 - 1 Mile
Higher

CA WELLS **CADWR9000009636**

State Well #:	05N03W31R001S	Station ID:	30661
Well Name:	Not Reported	Basin Name:	Upper Mojave River Valley
Well Use:	Unknown	Well Type:	Unknown
Well Depth:	0	Well Completion Rpt #:	Not Reported

AC136
ENE
1/2 - 1 Mile
Higher

CA WELLS **CADWR9000009637**

State Well #:	05N03W31R002S	Station ID:	30951
Well Name:	Not Reported	Basin Name:	Upper Mojave River Valley

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Well Use:	Unknown	Well Type:	Unknown
Well Depth:	0	Well Completion Rpt #:	Not Reported

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GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS
RADON

AREA RADON INFORMATION

State Database: CA Radon

Radon Test Results

Zipcode	Num Tests	> 4 pCi/L
92308	8	0

Federal EPA Radon Zone for SAN BERNARDINO County: 2

Note: Zone 1 indoor average level > 4 pCi/L.
: Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.
: Zone 3 indoor average level < 2 pCi/L.

Federal Area Radon Information for SAN BERNARDINO COUNTY, CA

Number of sites tested: 18

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor	0.678 pCi/L	100%	0%	0%
Living Area - 2nd Floor	Not Reported	Not Reported	Not Reported	Not Reported
Basement	Not Reported	Not Reported	Not Reported	Not Reported

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PHYSICAL SETTING SOURCE RECORDS SEARCHED

TOPOGRAPHIC INFORMATION

USGS 7.5' Digital Elevation Model (DEM)
Source: United States Geologic Survey
EDR acquired the USGS 7.5' Digital Elevation Model in 2002 and updated it in 2006. The 7.5 minute DEM corresponds to the USGS 1:24,000- and 1:25,000-scale topographic quadrangle maps. The DEM provides elevation data with consistent elevation units and projection.

Current USGS 7.5 Minute Topographic Map
Source: U.S. Geological Survey

HYDROLOGIC INFORMATION

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.
Source: FEMA
Telephone: 877-336-2627
Date of Government Version: 2003, 2015

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetland Inventory
Source: Department of Fish and Wildlife
Telephone: 916-445-0411

HYDROGEOLOGIC INFORMATION

AQUIFLOW^{R} Information System
Source: EDR proprietary database of groundwater flow information
EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

GEOLOGIC INFORMATION

Geologic Age and Rock Stratigraphic Unit
Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

STATSGO: State Soil Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)
The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) leads the national Conservation Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

SSURGO: Soil Survey Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)
Telephone: 800-672-5559
SSURGO is the most detailed level of mapping done by the Natural Resources Conservation Service, mapping scales generally range from 1:12,000 to 1:63,360. Field mapping methods using national standards are used to construct the soil maps in the Soil Survey Geographic (SSURGO) database. SSURGO digitizing duplicates the original soil survey maps. This level of mapping is designed for use by landowners, townships and county natural resource planning and management.

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PHYSICAL SETTING SOURCE RECORDS SEARCHED

LOCAL / REGIONAL WATER AGENCY RECORDS

FEDERAL WATER WELLS

PWS: Public Water Systems
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

USGS Water Wells: USGS National Water Inventory System (NWIS)
This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on wells, springs, and other sources of groundwater.

OTHER STATE DATABASE INFORMATION

Groundwater Ambient Monitoring & Assessment Program
State Water Resources Control Board
Telephone: 916-341-5577
The GAMA Program is Californias comprehensive groundwater quality monitoring program. GAMA collects data by testing the untreated, raw water in different types of wells for naturally-occurring and man-made chemicals. The GAMA data includes Domestic, Monitoring and Municipal well types from the following sources, Department of Water Resources, Department of Heath Services, EDF, Agricultural Lands, Lawrence Livermore National Laboratory, Department of Pesticide Regulation, United States Geological Survey, Groundwater Ambient Monitoring and Assessment Program and Local Groundwater Projects.

Water Well Database
Source: Department of Water Resources
Telephone: 916-651-9648

California Drinking Water Quality Database
Source: Department of Public Health
Telephone: 916-324-2319
The database includes all drinking water compliance and special studies monitoring for the state of California since 1984. It consists of over 3,200,000 individual analyses along with well and water system information.

California Oil and Gas Well Locations
Source: Dept of Conservation, Geologic Energy Management Division
Telephone: 916-323-1779
Oil and Gas well locations in the state.

California Earthquake Fault Lines
Source: California Division of Mines and Geology
The fault lines displayed on EDR's Topographic map are digitized quaternary fault lines prepared in 1975 by the United State Geological Survey. Additional information (also from 1975) regarding activity at specific fault lines comes from California's Preliminary Fault Activity Map prepared by the California Division of Mines and Geology.

RADON

State Database: CA Radon
Source: Department of Public Health
Telephone: 916-210-8558
Radon Database for California

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PHYSICAL SETTING SOURCE RECORDS SEARCHED

Area Radon Information
Source: USGS
Telephone: 703-356-4020
The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

EPA Radon Zones
Source: EPA
Telephone: 703-356-4020
Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

OTHER

Airport Landing Facilities: Private and public use landing facilities
Source: Federal Aviation Administration, 800-457-6656

Epicenters: World earthquake epicenters, Richter 5 or greater
Source: Department of Commerce, National Oceanic and Atmospheric Administration

California Earthquake Fault Lines: The fault lines displayed on EDR's Topographic map are digitized quaternary fault lines, prepared in 1975 by the United State Geological Survey. Additional information (also from 1975) regarding activity at specific fault lines comes from California's Preliminary Fault Activity Map prepared by the California Division of Mines and Geology.

STREET AND ADDRESS INFORMATION

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APPENDIX D

HISTORICAL SOURCES

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0 Feet 500 1000 2000

N

AERIAL PHOTOGRAPH - 1959

19439 Bear Valley Road, Apple Valley, CA 92308

Project Number: 450104

AEI Consultants

0 Feet 500 1000 2000

N

AERIAL PHOTOGRAPH - 1953

19439 Bear Valley Road, Apple Valley, CA 92308

Project Number: 450104

AEI Consultants

450104

19439 Bear Valley Road

Apple Valley, CA 92308

Inquiry Number: 6733055.5

November 03, 2021

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The EDR Aerial Photo Decade Package

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

EDR Aerial Photo Decade Package

11/03/21

Site Name:

450104
19439 Bear Valley Road
Apple Valley, CA 92308
EDR Inquiry # 6733055.5

Client Name:

AEI Consultants
2500 Camino Diablo
Walnut Creek, CA 94597
Contact: Rocio Romero

Environmental Data Resources, Inc. (EDR) Aerial Photo Decade Package is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's professional researchers provide digitally reproduced historical aerial photographs, and when available, provide one photo per decade.

Search Results:

Year	Scale	Details	Source
2016	1"=500'	Flight Year: 2016	USDA/NAIP
2012	1"=500'	Flight Year: 2012	USDA/NAIP
2009	1"=500'	Flight Year: 2009	USDA/NAIP
2005	1"=500'	Flight Year: 2005	USDA/NAIP
1994	1"=500'	Acquisition Date: May 29, 1994	USGS/DOQQ
1984	1"=500'	Flight Date: October 07, 1984	USDA
1975	1"=500'	Flight Date: August 01, 1975	USGS
1968	1"=500'	Flight Date: May 28, 1968	USDA
1959	1"=500'	Flight Date: June 22, 1959	USDA
1953	1"=500'	Flight Date: January 21, 1953	USDA

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0 Feet 500 1000 2000

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AERIAL PHOTOGRAPH - 2016

19439 Bear Valley Road, Apple Valley, CA 92308

Project Number: 450104

AEI Consultants

0 Feet 500 1000 2000

N

AERIAL PHOTOGRAPH - 2012

19439 Bear Valley Road, Apple Valley, CA 92308

Project Number: 450104

AEI Consultants

N

AERIAL PHOTOGRAPH - 2009

19439 Bear Valley Road, Apple Valley, CA 92308

Project Number: 450104

AEI Consultants

0 Feet 500 1000 2000

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AERIAL PHOTOGRAPH - 2005

19439 Bear Valley Road, Apple Valley, CA 92308

Project Number: 450104

AEI Consultants

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AERIAL PHOTOGRAPH - 1994

19439 Bear Valley Road, Apple Valley, CA 92308

Project Number: 450104

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AERIAL PHOTOGRAPH - 1984

19439 Bear Valley Road, Apple Valley, CA 92308

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AERIAL PHOTOGRAPH - 1975

19439 Bear Valley Road, Apple Valley, CA 92308

Project Number: 450104

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AERIAL PHOTOGRAPH - 1968

19439 Bear Valley Road, Apple Valley, CA 92308

Project Number: 450104

AEI Consultants

450104

19439 Bear Valley Road

Apple Valley, CA 92308

Inquiry Number: 6733055.3

November 03, 2021

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Certified Sanborn® Map Report

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

Certified Sanborn® Map Report

11/03/21

Site Name:

450104
19439 Bear Valley Road
Apple Valley, CA 92308
EDR Inquiry # 6733055.3

Client Name:

AEI Consultants
2500 Camino Diablo
Walnut Creek, CA 94597
Contact: Rocio Romero

The Sanborn Library has been searched by EDR and maps covering the target property location as provided by AEI Consultants were identified for the years listed below. The Sanborn Library is the largest, most complete collection of fire insurance maps. The collection includes maps from Sanborn, Bromley, Perris & Browne, Hopkins, Barlow, and others. Only Environmental Data Resources Inc. (EDR) is authorized to grant rights for commercial reproduction of maps by the Sanborn Library LLC, the copyright holder for the collection. Results can be authenticated by visiting www.edrnet.com/sanborn.

The Sanborn Library is continually enhanced with newly identified map archives. This report accesses all maps in the collection as of the day this report was generated.

Certified Sanborn Results:

Certification # FC82-47CA-AC7C

PO # 281523

Project 450104

UNMAPPED PROPERTY

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Sanborn® Library search results

Certification #: FC82-47CA-AC7C

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- ✓ Library of Congress
- ✓ University Publications of America
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450104
19439 Bear Valley Road
Apple Valley, CA 92308

Inquiry Number: 6733055.6
November 05, 2021

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The EDR-City Directory Image Report

EDR® Environmental Data Resources Inc

6 Armstrong Road
Shelton, CT 06484
800.352.0050
www.edrnet.com

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City Directory Images

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with any questions or comments.

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EXECUTIVE SUMMARY

DESCRIPTION

Environmental Data Resources, Inc.'s (EDR) City Directory Report is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's City Directory Report includes a search of available city directory data at 5 year intervals.

RECORD SOURCES

EDR's Digital Archive combines historical directory listings from sources such as Cole Information and Dun & Bradstreet. These standard sources of property information complement and enhance each other to provide a more comprehensive report.

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RESEARCH SUMMARY

The following research sources were consulted in the preparation of this report. A check mark indicates where information was identified in the source and provided in this report.

Year	Target Street	Cross Street	Source
2017	☑	☐	EDR Digital Archive
2014	☑	☐	EDR Digital Archive
2010	☑	☐	EDR Digital Archive
2005	☑	☐	EDR Digital Archive
2000	☑	☐	EDR Digital Archive
1995	☑	☐	EDR Digital Archive
1992	☑	☐	EDR Digital Archive
1986	☑	☐	Haines Criss-Cross Directory
1980	☑	☐	Haines Criss-Cross Directory
1976	☑	☐	Haines Criss-Cross Directory
1971	☑	☐	Haines Criss-Cross Directory
1964	☑	☐	Luskey Brothers & Co. Publications

FINDINGS

TARGET PROPERTY STREET

19439 Bear Valley Road
Apple Valley, CA 92308

Year	*CD Image*	*Source*

BEAR VALLEY RD

2017	pg A1	EDR Digital Archive
2014	pg A2	EDR Digital Archive
2010	pg A3	EDR Digital Archive
2005	pg A4	EDR Digital Archive
2000	pg A5	EDR Digital Archive
1995	pg A6	EDR Digital Archive
1992	pg A7	EDR Digital Archive
1986	pg A8	Haines Criss-Cross Directory
1980	pg A9	Haines Criss-Cross Directory
1976	pg A10	Haines Criss-Cross Directory
1971	pg A11	Haines Criss-Cross Directory
1971	pg A12	Haines Criss-Cross Directory
1964	pg A13	Luskey Brothers & Co. Publications
1964	pg A14	Luskey Brothers & Co. Publications

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FINDINGS

CROSS STREETS

No Cross Streets Identified

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City Directory Images

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Target Street	Cross Street	Source
✓	-	EDR Digital Archive

BEAR VALLEY RD 2017

19331	ST JOSEPH HEALTH
19333	INFINITY MED SPA
	INFINITY PEDIATRICS
	MOSES MUKAI DO
	SPA INFINITY DENTAL
	ST JOSEPHS HERITAGE HLTHCR
	ST MARYS SENIOR SELECT OFFICE
19341	ATTITUDES SALON
	HIGH DESERT UNDERGROUND INC
	JONATHANS PHARMACY
	KATHY D HOPKINS INSURANCE AGENCY
	LABCORP
	THE WINE SELLER
19380	EL POLLO LOCO
19398	SONIC
19439	YOUNG, MARY B
19575	STEIN, BARBARA B

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Target Street	Cross Street	Source
✓	-	EDR Digital Archive

BEAR VALLEY RD 2014

19333	INFINITY MED SPA
	INFINITY PEDIATRICS
	MUKAI MOSES DO
	SPA INFINITY DENTAL
	ST JOSEPHS HERITAGE HLTHCR
	ST MARY SPECIALTY CLINICIC
	ST MARYS SENIOR SELECT OFFICE
19341	ATTITUDES SALON
	HIGH DESERT PLASTIC SURGERY
	HIGH DESERT UNDERGROUND INC
	JONATHANS PHARMACY
	LABWEST LAB
	THE WINE SELLER
19380	EL POLLO LOCO
19398	SONIC
19439	YOUNG, HEATHER
19575	BRUNEAU, PAUL B

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Target Street	Cross Street	Source
✓	-	EDR Digital Archive

BEAR VALLEY RD 2010

19311	NIKKIS CAFE
19333	INFINITY MED SPA
	ST MARYS SENIOR SELECT OFFICE
19341	A NEW U WIG BOUTIQUE
	CHUNG NATHAN MD
	HIGH DESERT PLASTIC SURG ASSOC
	WESTCLIFF MEDICAL LABS
	WINE SELLER
19380	EL POLLO LOCO
	OCCUPANT UNKNOWN,
19439	YOUNG, WILLIAM R
19575	BRUNEAU, PAUL B
	INFINITI PRODUCTS

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Target Street	Cross Street	Source
✓	-	EDR Digital Archive

BEAR VALLEY RD 2005

19311	NIKKIS CAFE
19330	CHICAGO TITLE CO
19333	BARRETT, VICKIE
19439	YOUNG, WILLIAM R
19575	DOGS DAY INN
	INFINITI PRODUCTS
	SHEAR DELIGHT INC

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Target Street	Cross Street	Source
✓	-	EDR Digital Archive

BEAR VALLEY RD 2000

19311	CAFE NIKKIS
19333	CONWAY, KEVIN
19341	ON THE GO AUDIO INCORPORATED
19439	OCCUPANT UNKNOWN,
19575	BOYCE, WILLA M

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Target Street	Cross Street	Source
✓	-	EDR Digital Archive

BEAR VALLEY RD 1995

19311	ANGELOPOULOS, TASO
	NIKKIS RESTAURANT
19333	TATRO, KENNETH
19341	APPLE VALLEY AUTO & TRANS
19439	OCCUPANT UNKNOWNN
19575	BOYCE, KENNETH

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Target Street	Cross Street	Source
✓	-	EDR Digital Archive

BEAR VALLEY RD 1992

19311 OLYMPIC FLAME HMBRG
19333 TATRO, KENNETH
19341 APPLE VLY ATMTV
19575 BOYCE, KENNETH

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Target Street	Cross Street	Source
✓	-	Haines Criss-Cross Directory

BEAR VALLEY RD 1986

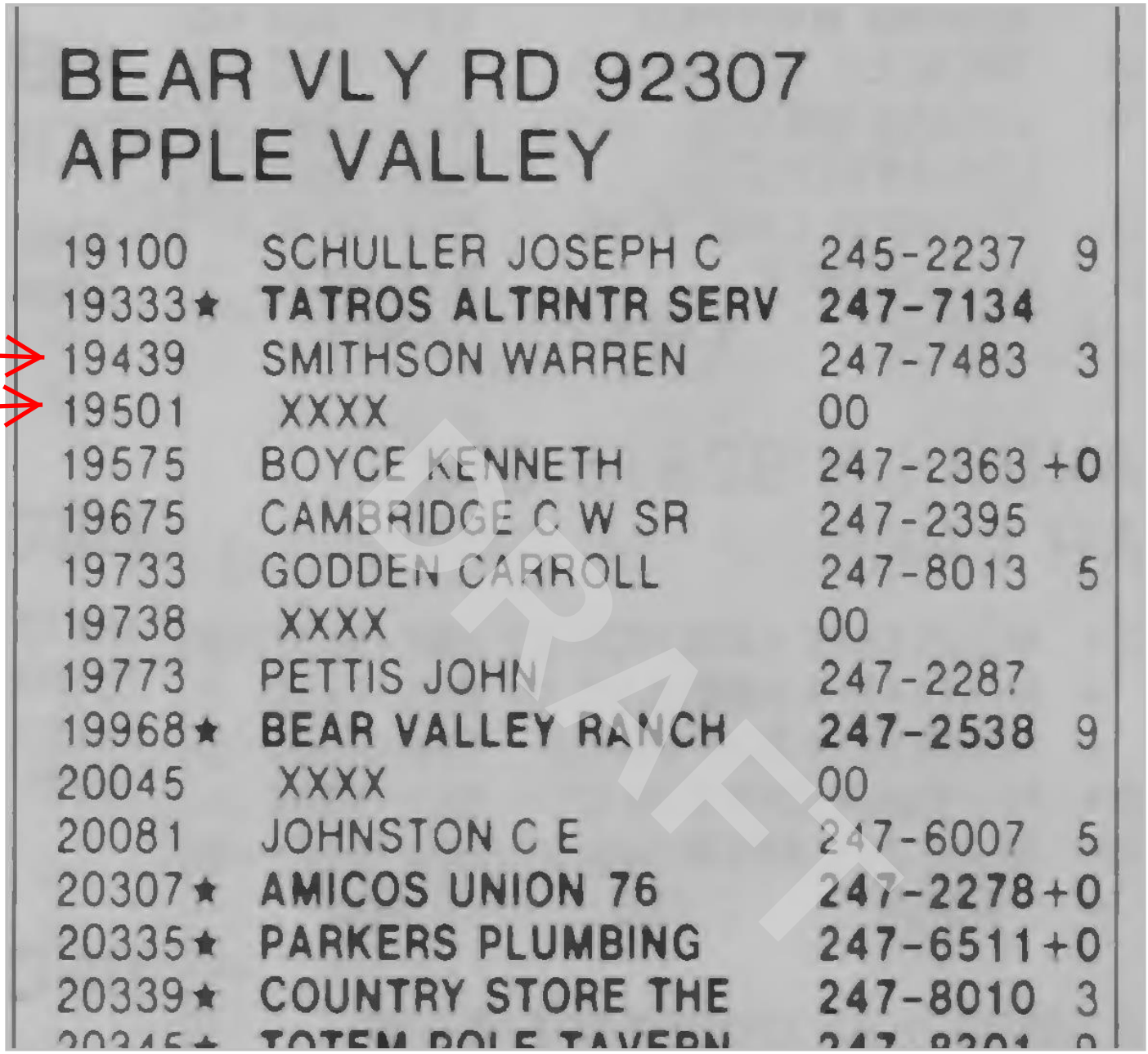
BEAR VLY RD 92308
APPLE VALLEY

18970	XXXX	00	
19060	MERRILL MARVIN	240-2928	+6
19080	MURILLO TONY	240-2027	+6
18100	XXXX	00	
18311	OLYMPIC FLAME HAMBRO	247-3666	+6
19333	TATRO KENNETH	247-2161	1
18341	APPLE VLY ATMTY	247-6837	6
	APPLE VLY TRADING	247-9837	
	TRANSMISSION&ATMTV	247-9464	+6
19439	YOUNG WILLIAM R	247-7137	4
19501	XXXX	00	
19676	BOYCE KENNETH	247-2383	0
18876	K&R VALLEY SERVICE	247-6761	4
19728	LOW RANCH RTL FEED	240-2321	+6
19733	GODDEN CARROLL	247-6013	
18738	XXXX	00	
19773	PETTIS JOHN	247-2287	
19923	VALLEY CHRISTIAN	247-2933	6
19968	PEREZ BARTOLO	247-6123	6
	VIKING RANCH	247-5896	+6
20046	XXXX	00	
20081	JOHNSON C E	247-6007	
	TROST J J	247-5063	4
20307	NULLCREST UM 76	247-6868	6
20336	ACTION TAX SERVICE	247-4601	3
20339	COUNTRY STORE THE	247-6010	
20339½	MARTINEZ CARLOS	247-7922	1

AY NOT BE KEYPUNCHED, ENTERED INTO A COMPUT

Target Street	Cross Street	Source
✓	-	Haines Criss-Cross Directory

BEAR VALLEY RD 1980

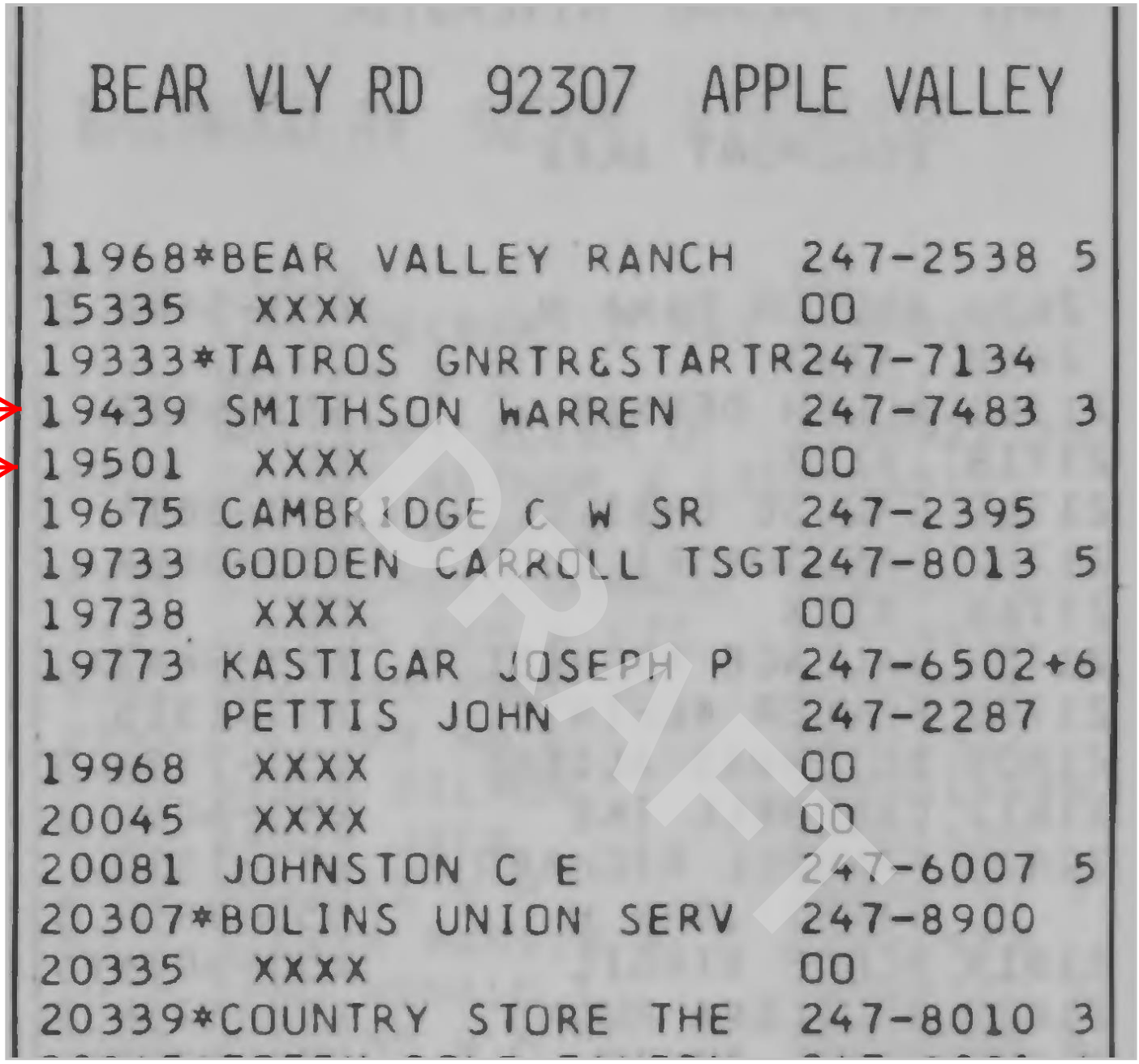


BEAR VLY RD 92307
APPLE VALLEY

19100	SCHULLER JOSEPH C	245-2237	9
19333★	**TATROS ALTRNTR SERV**	**247-7134**	
19439	SMITHSON WARREN	247-7483	3
19501	XXXX	00	
19575	BOYCE KENNETH	247-2363	+0
19675	CAMBRIDGE C W SR	247-2395	
19733	GODDEN CARROLL	247-8013	5
19738	XXXX	00	
19773	PETTIS JOHN	247-2287	
19968★	**BEAR VALLEY RANCH**	**247-2538**	9
20045	XXXX	00	
20081	JOHNSTON C E	247-6007	5
20307★	**AMICOS UNION 76**	**247-2278**	+0
20335★	**PARKERS PLUMBING**	**247-6511**	+0
20339★	**COUNTRY STORE THE**	**247-8010**	3

Target Street	Cross Street	Source
✓	-	Haines Criss-Cross Directory

BEAR VALLEY RD 1976



BEAR VLY RD 92307 APPLE VALLEY

```
11968*BEAR VALLEY RANCH      247-2538 5
15335   XXXX                 OO
19333*TATROS GNRTR&STARTR    247-7134
19439  SMITHSON WARREN       247-7483 3
19501   XXXX                 OO
19675  CAMBRIDGE C W SR      247-2395
19733  GODDEN CARROLL TSGT   247-8013 5
19738   XXXX                 OO
19773  KASTIGAR JOSEPH P     247-6502+6
       PETTIS JOHN           247-2287
19968   XXXX                 OO
20045   XXXX                 OO
20081  JOHNSTON C E          247-6007 5
20307*BOLINS UNION SERV       247-8900
20335   XXXX                 OO
20339*COUNTRY STORE THE       247-8010 3
```

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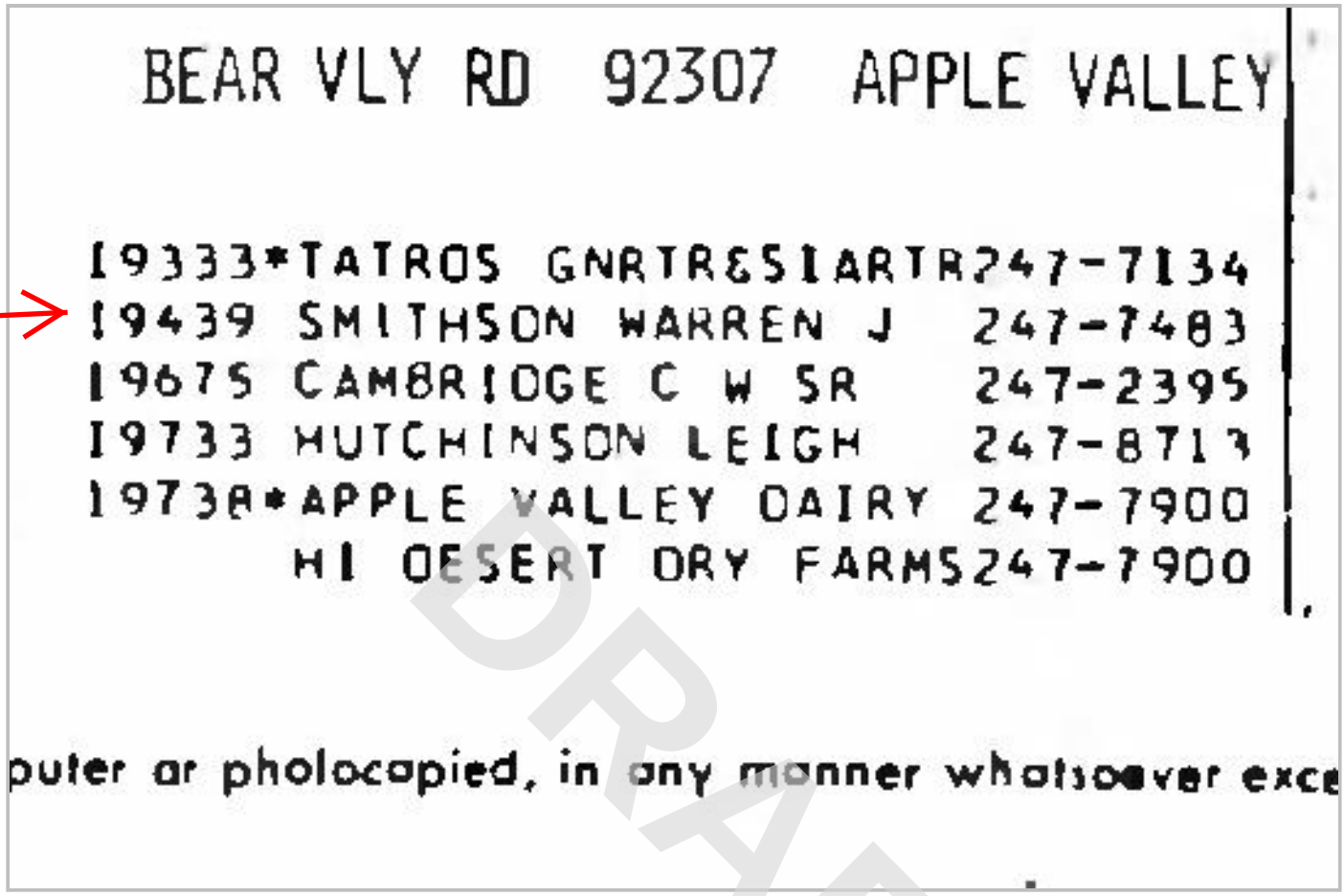
Target Street	Cross Street	Source
✓	-	Haines Criss-Cross Directory

BEAR VALLEY RD 1971



BEAR VLY RD 92307 APPLE VALLEY

19333	* TATROS GNRTR&SI ARTR		247-7134
19439	SMITHSON WARREN J		247-7483
19675	CAMBRIDGE C W SR		247-2395
19733	HUTCHINSON LEIGH		247-8713
19738	* APPLE VALLEY DAIRY		247-7900
	HI DESERT DRY FARMS		247-7900

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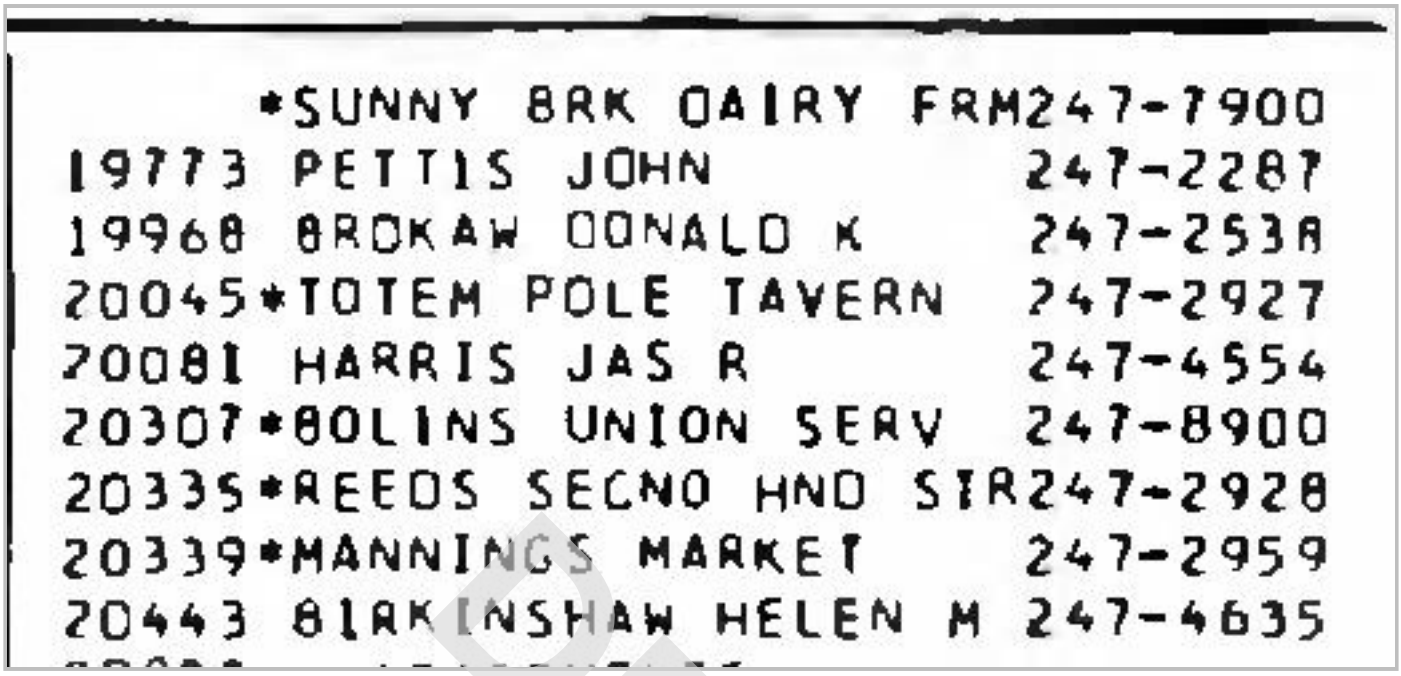
Target Street	Cross Street	Source
✓	-	Haines Criss-Cross Directory

BEAR VALLEY RD 1971



```
      *SUNNY BRK DAIRY FRM247-7900
19773 PETTIS JOHN         247-2287
19968 BROKAW DONALD K     247-253A
20045*TOTEM POLE TAVERN   247-2927
20081 HARRIS JAS R        247-4554
20307*BOLINS UNION SERV   247-8900
20335*REEDS SECND HND STR247-2928
20339*MANNINGS MARKET      247-2959
20443 BLAKINSHAW HELEN M  247-4635
```

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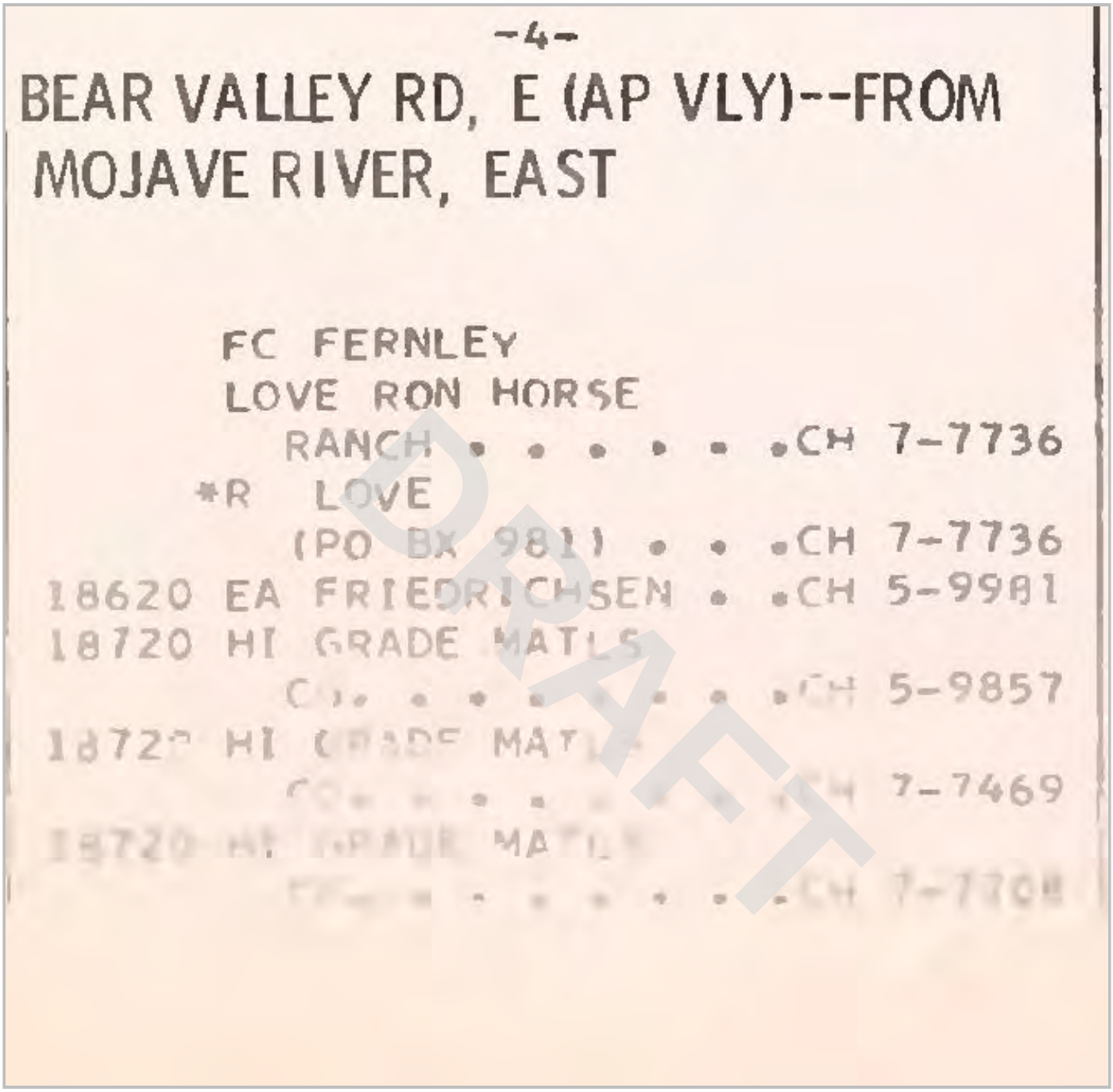
Target Street	Cross Street	Source
✓	-	Luskey Brothers & Co.

BEAR VALLEY RD 1964



-4-

BEAR VALLEY RD, E (AP VLY)--FROM MOJAVE RIVER, EAST

FC FERNLEY
LOVE RON HORSE
RANCH . . . . . .CH 7-7736
*R LOVE
(PO BX 981) . . .CH 7-7736
18620 EA FRIEDRICHSEN . .CH 5-9981
18720 HI GRADE MATLS
CO. . . . . .CH 5-9857
1872? HI GRADE MATLS
CO. . . . . .CH 7-7469
18720 HI GRADE MATLS
[illegible] . . . . . .CH 7-7708

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Target Street	Cross Street	Source
✓	-	Luskey Brothers & Co.

BEAR VALLEY RD 1964

ADDRESS DIRECTORY

18720 HOVE V C/SONS-
CONCRETE CONTRG .CH 5-9857
18720 HOVE V C/SONS-
CONCRETE CONTRG .CH 7-7469
19333 TATROS GENERATOR
/STARTER SERV . .CH 7-7134
19333 TATROS HDW/PNTS . .CH 7-7134
19675 AP VLY MUSEUM . . .CH 7-2395
19675*CW CAMBRIDGE. . . .CH 7-2395
19738 AP VLY DAIRY
. . . . . .CH 7-7900
19773*JJ PETTIS . . . . .CH 7-2287

-5-

19800 KO MORRISON
19952 GP DYKSTRA
19958 KO MORRISON
19968*DK BROKAW . . . . .CH 7-2538
19968 DD PUCKET
APT 1
19968 VACANT APT 2
19968 JA MAYFIELD
APT 3
20081*AJ LINTNER. . . . .CH 7-2098
20307 BRADLEYS UNION
SERV SERV STA . .CH 7-7897
20307*OM BRADLEY
20335 SAVAGES DISCOUNT
HSE . . . . . .CH 7-7596
20339 SAVAGES MKT . . . .CH 7-7596
20345 JR DIXON. . . . . .CH 0-1218

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APPENDIX E

REGULATORY AGENCY RECORDS

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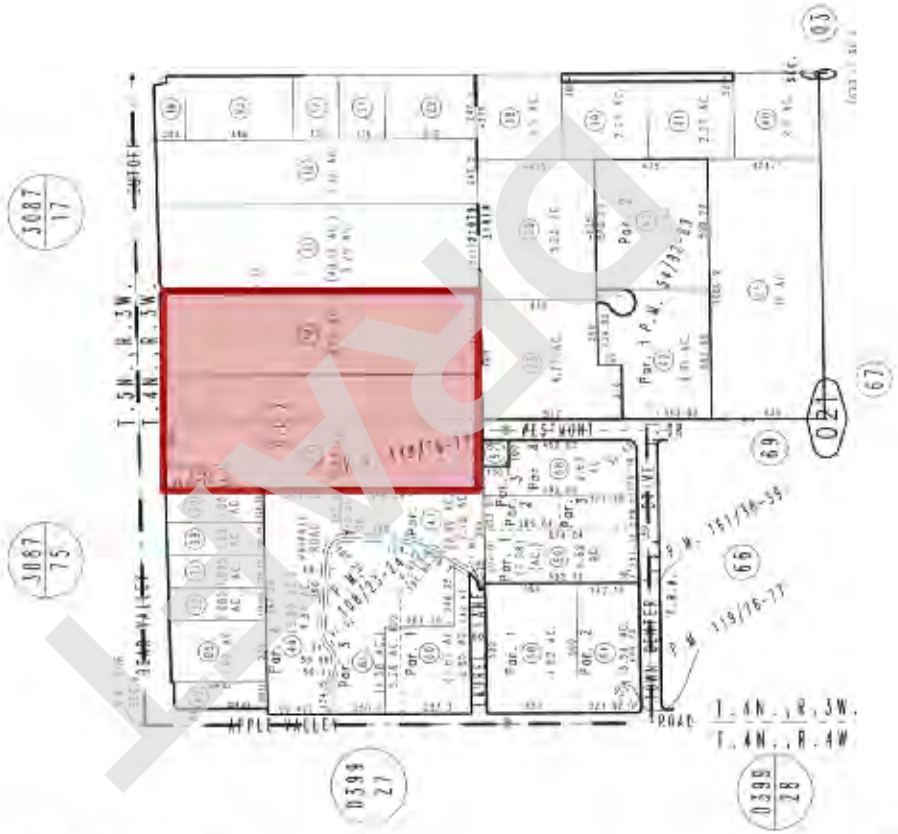
THIS MAP IS FOR THE PURPOSE OF AD VALOREM TAXATION ONLY

W.1/2 Fractional Sec.6, T.4N.,R.3W., S.B.B.&M.

Town of Apple Valley 0434-02
Tax Rate Area
21019,21079



Parcel Map No. 11161 P.M. 181/58-59
Pkg. Parcel Map No. 0715, P.M. 119/76-77
Parcel Map No. 9871 P.M. 108/23-24
Parcel Map No. 5615 P.M. 54/97-23

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Assessor's Map
Book 0434 Page 02
San Bernardino County

REVISED
08/11/19 KA
08/17/19 KA
09/11/19 KA

Property Information Management System

San Bernardino County

Office of the Assessor

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CHARACTERISTICS REPORT FOR PARCEL 0434-021-35-0000

Parcel	0434021350000
Parcel Status	ACTIVE
Parcel Type	REAL PROPERTY
Property ID	
Tax Status	ASSESSED BY COUNTY
Use Code	RES ON COM
Land Access	PUBLIC PAVED
Size	7,200 TO 10,499 SQ. FEET
Land Type	COMMERCIAL
District	HESPERIA
Resp Group	REAL PROPERTY
Resp Unit	COMMERCIAL ZONE OR USE

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Characteristics

Land Characteristics

Effective Dates: 03/24/1981 - present

Zoning	C-G	**Access**	PUBLIC PAVED
Lot Width	93.30	**Offsite Improvements**	PARTIAL
Lot Depth	253.00	**Encroachment/Easement**	NONE
Footage	23605	**Dock Rights**	NONE
Gross Acre	0.542	**Lease Exp**	
Net Acre	0.000		

Slope		Utilities	
Direction	NONE	**Sewer**	NONE
Degree	LEVEL	**Water**	PUBLIC
		Electricity	OVERHEAD
		Gas	PUBLIC

Nuisance Code	Special Influence	View	
NONE	NONE	**Quality**	NONE
NONE	NONE	**Type**	NONE

SFR Characteristics

Effective Dates: 03/24/1981 - present

Sequence	1	**AC RCN**	1650
Construction Type	D	**Heating**	WALL/FLOOR
Quality	FRAME 050 B	**Cooling**	NONE
Shape	B	**Fireplace RCN**	1340
Cost Table	CONVENTIONAL	**Number of Fireplaces**	1
MH Make/Model		**Yard Improvement RCN**	550
Size	1307	**Misc. RCN**	850
Construction Year	1965	**Pool RCN**	0
Effective Year	1965	**Pool Type**	NONE
Number of Baths	1.00	**Special Improvement RCN**	
Number of Bedrooms	2	**Special Improvement 1**	00
Family Room/Den	1	**Special Improvement 2**	00
Total Room	6	**Special Improvement 3**	00
Roof Type	BUILT UP, ROCK	**MH Siding**	
Landscape Quality	POOR	**MH Foundation LF**	0
Functional Obsolesence	NONE	**MH Foundation Type**	
Time Share Season		**MH Skirt LF**	0
Cost Modifier	100	**MH Skirt Type**	
Funct. Obsolesence %	0		
Economic Obsolesence %	0		
Deferred Maintenance	0		

	Size	Factor	Stall	Class
Floor 1	1272	N/A	N/A	N/A
Floor 2	0	0	N/A	N/A
Floor 3	0	0	N/A	N/A
Basement 1	0	0	N/A	N/A
Basement 2	0	0	N/A	N/A
Addition 1	35	100	N/A	N/A
Addition 2	0	0	N/A	N/A
Addition 3	0	0	N/A	N/A

	Size	Factor	Stall	Class
Porch 1	216	25	N/A	N/A
Porch 2	0	0	N/A	N/A
Porch 3	0	0	N/A	N/A
Deck	0	0	0	N/A
Port	0	0	0	N/A
Garage	0	N/A	0	

Other Characteristics

DRAFT

No Other Characteristics

DRAFT

Property Information Management System

San Bernardino County

Office of the Assessor

DRAFT

CHARACTERISTICS REPORT FOR PARCEL 0434-021-30-0000

Parcel	0434021300000
Parcel Status	ACTIVE
Parcel Type	REAL PROPERTY
Property ID	
Tax Status	ASSESSED BY COUNTY
Use Code	VACANT
Land Access	PUBLIC PAVED
Size	20,000 SQ. FEET TO 1.500 ACRES
Land Type	COMMERCIAL
District	HESPERIA
Resp Group	REAL PROPERTY
Resp Unit	COMMERCIAL ZONE OR USE

DRAFT

Characteristics

Land Characteristics

Effective Dates: 08/21/1989 - present

Zoning	CG	**Access**	PUBLIC PAVED
Lot Width	0.00	**Offsite Improvements**	NONE
Lot Depth	0.00	**Encroachment/Easement**	NONE
Footage	47045	**Dock Rights**	NONE
Gross Acre	1.080	**Lease Exp**	
Net Acre	1.080		

Slope		Utilities	
Direction	NONE	**Sewer**	NONE
Degree	LEVEL	**Water**	PUBLIC
		Electricity	UNDERGROUND
		Gas	PUBLIC

Nuisance Code	Special Influence	View	
NONE	NONE	**Quality**	NONE
NONE	NONE	**Type**	NONE

SFR Characteristics

No SFR Characteristics

Other Characteristics

No Other Characteristics

DRAFT

Property Information Management System

San Bernardino County

Office of the Assessor

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CHARACTERISTICS REPORT FOR PARCEL 0434-021-10-0000

Parcel	0434021100000
Parcel Status	ACTIVE
Parcel Type	REAL PROPERTY
Property ID	
Tax Status	ASSESSED BY COUNTY
Use Code	VACANT
Land Access	PUBLIC PAVED
Size	7.001 TO 14.000 ACRES
Land Type	COMMERCIAL
District	HESPERIA
Resp Group	REAL PROPERTY
Resp Unit	COMMERCIAL ZONE OR USE

Characteristics

DRAFT

Land Characteristics

Effective Dates: 12/18/2008 - present

Zoning	C-G	**Access**	PUBLIC PAVED
Lot Width	0.00	**Offsite Improvements**	NONE
Lot Depth	0.00	**Encroachment/Easement**	NONE
Footage	401623	**Dock Rights**	NONE
Gross Acre	9.220	**Lease Exp**	
Net Acre	0.000		

Slope		Utilities	
Direction	NONE	**Sewer**	NONE
Degree	LEVEL	**Water**	PUBLIC
		Electricity	OVERHEAD
		Gas	PUBLIC

Nuisance Code	Special Influence	View	
NONE	NONE	**Quality**	AVERAGE
NONE	NONE	**Type**	DESERT

Land Characteristics

Effective Dates: 05/31/1995 - 12/17/2008

Zoning	R-A	**Access**	PUBLIC PAVED
Lot Width	0.00	**Offsite Improvements**	NONE
Lot Depth	0.00	**Encroachment/Easement**	NONE
Footage	401623	**Dock Rights**	NONE
Gross Acre	9.220	**Lease Exp**	
Net Acre	0.000		

Slope		Utilities	
Direction	NONE	**Sewer**	NONE
Degree	LEVEL	**Water**	PUBLIC
		Electricity	OVERHEAD
		Gas	PUBLIC

Nuisance Code	Special Influence	View	
NONE	NONE	**Quality**	AVERAGE
NONE	NONE	**Type**	DESERT

SFR Characteristics

DRAFT

No SFR Characteristics

Other Characteristics

No Other Characteristics

DRAFT

Request No._____

Received by: _____
Date: _____ Time: _____

TOWN OF APPLE VALLEY
REQUEST FOR COPIES OF PUBLIC RECORDS

"Except with respect to public records exempt from disclosure by express provisions of law, each state or local agency, upon a request for a copy of records that reasonably describes an identifiable record or records, shall make the records promptly available to any person upon payment of fees covering direct costs of duplication, or a statutory fee if applicable." (G.C. §6253(b)).

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NOTE: This form is not required for requests for copies of Statements of Economic Interest (G.C. §91008) or Campaign Statements.

Form may be faxed to: 760-961-6241; emailed to: records@applevalley.org; or mailed to:
Town of Apple Valley, Town Clerk's Office 14955 Dale Evans Parkway, Apple Valley CA 92307

Request for a copy of public records as thoroughly identified below:

Health/ Environmental Department:

•Records regarding hazardous materials usage/storage/incidents or known environmental concerns/contamination which may have affected the property,

•Records regarding aboveground or underground storage tank (UST) systems, which are currently or historically located at the property,

•Record of septic systems installation and repairs at the subject property, and/or records of wells in connection with the subject property.

Date: 11/9/2021
Name: Breezy Carreno
Address: 668 Sequoia St
San Bernardino, CA 92407
Phone: (909)240-5609
Email: bcarreno@aeiconsultants.com

Copying Fees:
(Per Resolution Number 2013-29

1) Copying from 8 1/2" x 11 or 8 1/2" x 14"
Each Page..... $0.20 (B/W)
Each Page..... $0.30 (Color)
Copying from 11" x 17"..... $0.50

2) Copying to USB Drive..... $6.00

( ) Copies to be mailed to requestor
( ) Copies to be picked up by requestor
( ) Copies to be emailed to requestor*

MAKE CHECKS PAYABLE TO "*TOWN OF APPLE VALLEY*"

To be completed by Town Clerk's Office:

Number and size of copies and/or media: _____

Deposit/Fee Received: _____ *Actual Cost:* _____
(Account Code 1001-0000-6112-0000)

Balance Due/Refund: $_____

_____ _____ *or* _____
Mailed by/Date: *Picked up by/Date:*

***Due to size, email may not be available. Requestor will be contacted.**

DRAFT

385 N Arrowhead Ave, 2nd Floor, San Bernardino, CA 92415 | Phone: 800.442.2283 • Fax: 909.387.4323
www.SBCounty.gov
www.SBCounty.gov/dph/dehs

SAN BERNARDINO COUNTY

Public Health
Environmental Health Services

REQUEST TO INSPECT/REPRODUCE PUBLIC RECORDS

Return to any of the following offices:
385 N. Arrowhead Ave. 2nd Floor, San Bernardino 92415-0160
15900 Smoke Tree St., Ste. 131, Hesperia 92345
8575 Haven Ave., Ste. 130, Rancho Cucamonga 91730

TO BE COMPLETED BY REQUESTER

INFORMATION FOR RECORDS REQUESTED

Facility Name: (Business or Apartment Complex name) Vacant land			
Location Address: 19439 Bear Valley Road	**City:** Apple Valley	**State:** CA	**Zip:** 92307
Case/File Number: (If known)	**Inspector:** (If known)		

Indicate time frame of information requested: (month/year or date of inspection)

From: **To:** **From:** **To:** **From:** **To:**

Specific information requested:
(File, inspection report, complaint, etc.)

• Records regarding hazardous materials usage/storage/incidents or known environmental concerns/contamination which may have affected the property.
• Records regarding aboveground or underground storage tank (UST) systems, which are currently or historically located at the property.
• Record of septic systems installation and repairs at the subject property.
• Records of wells in connection with the subject property.

NOTE: EACH REQUESTER AND/OR FILE MUST HAVE A SEPARATE FORM COMPLETED. FOR A LIST REQUEST, PLEASE CALL (800) 442-2283.

FEES

Copy Fee: $.10 Per Page

Certified Copies: Additional $.22 Per Page

REQUESTER INFORMATION

Requester Name: Breezy Carreno (Include affiliation, i.e. business name, law office, owner, private citizen, employee, etc.)			
Requester Address: 668 Sequoia St	**City:** San Bernardino	**State:** CA	**Zip:** 92407
E-mail Address: (Preferred method of delivery) bcarreno@aeiconsultants.com			
Phone Number: (To notify when copies/files are ready) (909)240-5609			

OFFICE USE ONLY

PROGRAM	**DATE**
PAID $	**# PGS**
RECEIPT #	**REC'D BY**

DRAFT

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SAN BERNARDINO COUNTY

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TO BE COMPLETED BY REQUESTER

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Location Address: 19501 Bear Valley Road	**City:** Apple Valley	**State:** CA	**Zip:** 92307
Case/File Number: (If known)	**Inspector:** (If known)		

Indicate time frame of information requested: (month/year or date of inspection)

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Request for a copy of public records as thoroughly identified below:

Fire Department:

•Records regarding hazardous materials usage/storage/incidents or known environmental concerns/contamination which may have affected the property.

•Records regarding aboveground or underground storage tank (UST) systems, which are currently or historically located at the property.

•Records of fire inspections at the subject property.

Date: 11/9/2021
Name: Breezy Carreno
Address: 668 Sequoia St
San Bernardino, CA 92407
Phone: (909)240-5609
Email: bcarreno@aeiconsultants.com

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_____ _____ *or* _____
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***Due to size, email may not be available. Requestor will be contacted.**

DRAFT

CUPA
San Bernardino County Fire Protection District • Hazardous Materials Division
620 S. E St., San Bernardino, CA 92415-0153 • (909) 386-8468 FAX (909) 386-8460

REQUEST FOR A CERTIFIED HAZARDOUS MATERIALS RECORDS SEARCH FINDING REPORT

The main focus of a REQUEST FOR A CERTIFIED HAZARDOUS MATERIALS RECORDS SEARCH FINDING REPORT is to determine whether there exists in San Bernardino County Fire Protection District (SBCFPD) any record relating to contamination or reports of spills at a particular site. A Certified Hazardous Materials Records Search Finding Report should reveal whether there are any facilities at the site that are subject to current or past regulatory activity by SBCFPD, such as underground storage tanks, hazardous material handlers, hazardous waste generators, and CalARP facilities, as well as any reports of spills, incidents, complaints, or cleanup activity, which can be a useful tool in providing a history of compliance or non-compliance.

Once SBCFPD has completed its records search, a Certified Hazardous Materials Records Search Finding Report will be prepared and issued. Such report will detail all SBCFPD records associated with a particular site by type, date, location, and status (where applicable). All files identified in a Certified Hazardous Materials Records Search Finding Report can be made available for copies and/or review upon request.

If the completed records search reveals no SBCFPD record of hazardous material activity at the site, a Certified Hazardous Materials Records Search Finding Report will be issued, noting that "no records" were identified.

Please provide a specific site address or location description. If a situs address does not exist or cannot be found, list another type of location identifier such as Assessor Parcel Number (preferable), cross streets or intersections (e.g., NWC 5th Ave. & Main St.), and/or legal description. If possible, please attach a map to this request form.

SITE INFORMATION		
Property Owner or Business Name	Location (Site Address and/or Assessor Parcel No.)	City/Community
Vacant land	19439 Bear Valley Road	Apple Valley

Please provide your name, the company you represent, and contact information below.

REQUESTOR INFORMATION				
NAME	TITLE (*If individual, leave blank*)	COMPANY (*If individual, leave blank*)		
Breezy Carreno	Project Manager	AEI Consultants		
MAILING ADDRESS	CITY		STATE	ZIP CODE
668 Sequoia St	San Bernardino		CA	92407
TELEPHONE	FAX	EMAIL ADDRESS		
(909)240-5609		bcarreno@aeiconsultants.com		

So that we may provide better service, please check one or more of the boxes below which best describe how the findings of the Certified Hazardous Materials Records Search will be used and/or your relationship to the property in question.

PURPOSE OR RELATIONSHIP TO PROPERTY

- ☑ 1. Phase I site assessment or due diligence **AT THE SITE**
- ☐ 2. Environmental professional involved with remediation **AT THE SITE**
- ☐ 3. Phase I site assessment or due diligence **NEARBY**
- ☐ 4. Environmental professional involved with remediation **NEARBY**
- ☐ 5. Proposed School Site (1/4 mi. search for AHM)
- ☐ 6. Proposed Drinking Water Well
- ☐ 7. Owner or operator of the facility or property
- ☐ 8. Potential buyer
- ☐ 9. Real Estate Agent, Lender, Appraiser
- ☐ 10. Pending escrow
- ☐ 11. Proposed redevelopment
- ☐ 12. Legal or other reason: _____

AGENCY USE	
Certified Record Search Finding Report issued: ___/___/___	Reference No:
Certified "No Record" Finding Report issued: ___/___/___	Amount Paid:
	Receipt No.:
	Date:

DRAFT

** IMPORTANT –THIS PAGE MUST BE SIGNED PRIOR TO SUBMITTAL **

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RELEASE AND INDEMNIFICATION: In consideration for the issuance of a Certified Hazardous Materials Records Search Finding Report, I hereby release and forever discharge SBCFPD, its officers, employees, agents and volunteers from any and all claims, actions, losses, damages and/or liability in connection with SBCFPD's issuance of a Certified Hazardous Materials Records Search Finding Report, including, but not limited to, claims that may arise due to the active or passive negligence of SBCFPD, its officers, employees, agents and volunteers.

I am familiar with the provisions of California Civil Code Section 1542, which provides as follows:

"A general release does not extend to claims which the creditor does not know or suspect to exist in his or her favor at the time of executing the release, which if known by him or her must have materially affected his or her settlement with the debtor."

I hereby expressly waive any and all rights that I may have there under. I understand and acknowledge the significance and consequence of this specific waiver of California Civil Code Section 1542 and assume full responsibility for any injuries, damages, losses or liabilities that I may hereafter discover as possibly resulting from SBCFPD's issuance of a Certified Hazardous Materials Records Search Finding Report.

In further consideration for SBCFPD's issuance of a Certified Hazardous Materials Records Search Finding Report, I hereby agree, for myself, my heirs, administrators, executors and assigns, that I shall indemnify, defend (with counsel approved by County) and hold harmless SBCFPD, its officers, employees, agents and volunteers from any and all claims, demands, actions or suits arising out of or in connection with SBCFPD's issuance of a Certified Hazardous Materials Records Search Finding Report brought by any third party.

* * *

I have read the above terms and conditions, including the paragraphs entitled "DISCLAIMER" and "RELEASE AND INDEMNIFICATION", and by my signature below, I affirm that I understand these terms and conditions and accept them as part of my REQUEST FOR A CERTIFIED HAZARDOUS MATERIALS RECORDS SEARCH FINDING REPORT.

I hereby request a Certified Hazardous Materials Records Search Finding Report for the location described on Page 1 of this application.

- ☐ **I am including payment of the initial fee of $136.00, for the first hour of research, by check or money order, payable to San Bernardino County Fire Protection District, or by credit card payment taken over the phone. I understand that research exceeding one hour will be billed at the rate of $136.00 for each additional hour spent by SBCFPD in completing this request.**
- ☑ **I have faxed or emailed this request and will forward payment along with the original request form within 48 hours.**

REQUESTOR'S SIGNATURE	
SIGNATURE OF REQUESTOR Breezy Carreno	DATE November 9, 2021

Rev. 07/09/2018

CUPA
San Bernardino County Fire Protection District • Hazardous Materials Division
620 S. E St., San Bernardino, CA 92415-0153 • (909) 386-8468 FAX (909) 386-8460

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Property Owner or Business Name	Location (Site Address and/or Assessor Parcel No.)	City/Community
Vacant land	19501 Bear Valley Road	Apple Valley

Please provide your name, the company you represent, and contact information below.

REQUESTOR INFORMATION				
NAME	TITLE (*If individual, leave blank*)	COMPANY (*If individual, leave blank*)		
Breezy Carreno	Project Manager	AEI Consultants		
MAILING ADDRESS	CITY		STATE	ZIP CODE
668 Sequoia St	San Bernardino		CA	92407
TELEPHONE	FAX	EMAIL ADDRESS		
(909)240-5609		bcarreno@aeiconsultants.com		

So that we may provide better service, please check one or more of the boxes below which best describe how the findings of the Certified Hazardous Materials Records Search will be used and/or your relationship to the property in question.

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- ☑ 1. Phase I site assessment or due diligence **AT THE SITE**
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AGENCY USE	
Certified Record Search Finding Report issued: ___/___/___	Reference No:
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DRAFT

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I hereby expressly waive any and all rights that I may have there under. I understand and acknowledge the significance and consequence of this specific waiver of California Civil Code Section 1542 and assume full responsibility for any injuries, damages, losses or liabilities that I may hereafter discover as possibly resulting from SBCFPD's issuance of a Certified Hazardous Materials Records Search Finding Report.

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* * *

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SIGNATURE OF REQUESTOR Breezy Carreno	DATE November 9, 2021

Rev. 07/09/2018

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Town of Apple Valley, Town Clerk's Office 14955 Dale Evans Parkway, Apple Valley CA 92307

Request for a copy of public records as thoroughly identified below:

Building Department:

Permit summary (date, type of permit, applicant/tenant) or available permits from construction to present. Upon review of a permit summary we may request review of individual permits. Construction date (current building, previous buildings if applicable) List of tenants which have occupied the subject property. Permits of environmental concern (petroleum storage tanks, septic systems, oil/water separators) Oldest and most recent site layout plan from the above mentioned property if available. Erosion control plans on record for the subject property. Record violations or complaints registered against the subject property

Date: 11/9/2021
Name: Breezy Carreno
Address: 668 Sequoia St
San Bernardino, CA 92407
Phone: (909)240-5609
Email: bcarreno@aeiconsultants.com

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Copying from 11" x 17"..... $0.50

2) Copying to USB Drive..... $6.00

( ) Copies to be mailed to requestor
( ) Copies to be picked up by requestor
( ) Copies to be emailed to requestor*

MAKE CHECKS PAYABLE TO "*TOWN OF APPLE VALLEY*"

To be completed by Town Clerk's Office:

Number and size of copies and/or media: _____

Deposit/Fee Received: _____ *Actual Cost:* _____
(Account Code 1001-0000-6112-0000)

Balance Due/Refund: $_____

_____ _____ *or* _____
Mailed by/Date: *Picked up by/Date:*

***Due to size, email may not be available. Requestor will be contacted.**

DRAFT

Contact LUS

In order to serve you quickly, please provide the following information. If you already have a project number, please provide it. Questions on existing projects are usually answered within 24 hours. General questions are usually answered within 48 hours, but depending on the number of inquiries, it could take longer. The red fields are required, in order to submit the form.

We respond to questions in the order they are received. You may be contacted by phone or e-mail. If needed, staff can set up a virtual meeting.

Please select a topic *

- ○ Planning
- ○ Land Development
- ○ EZOP Support
- ○ Fire Hazard Abatement
- ○ Permit Research
- ◉ Building and Safety
- ○ Mining
- ○ Code Enfrocement
- ○ Building Permit Inspection
- ○ Short Term Rental

DRAFT

Requestor Information

Name *

Breezy (First) Carreno (Last)

Phone Number *

909 – 240 – 5609

(### ### ####)

Email *

bcarreno@aeiconsultants.com

Property Information

Project Location/ Address (If known)

19439 Bear Valley Road,
Apple Valley, CA 92307
United States

Parcel Number (If known)

0434-021-35, 0434-021-37, 0434-021-10

Project Number or Name (If Any)

450104

Please describe your request. *

- Permit summary (date, type of permit, applicant/tenant) or available permits from construction to present. Upon review of a permit summary we may request review of individual permits.
- Construction date (current building, previous buildings if applicable)
- List of tenants which have occupied the subject property
- Permits of environmental concern (petroleum storage tanks, septic systems, oil/water separators)
- Oldest and most recent site layout plan from the above mentioned property if available
- Erosion control plans on record for the subject property

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Contact LUS

In order to serve you quickly, please provide the following information. If you already have a project number, please provide it. Questions on existing projects are usually answered within 24 hours. General questions are usually answered within 48 hours, but depending on the number of inquiries, it could take longer. The red fields are required, in order to submit the form.

We respond to questions in the order they are received. You may be contacted by phone or e-mail. If needed, staff can set up a virtual meeting.

Please select a topic *

- (•) Planning
- ( ) Land Development
- ( ) EZOP Support
- ( ) Fire Hazard Abatement
- ( ) Permit Research
- ( ) Building and Safety
- ( ) Mining
- ( ) Code Enfrocement
- ( ) Building Permit Inspection
- ( ) Short Term Rental

DRAFT

Requestor Information

Name *

Breezy (First) Carreno (Last)

Phone Number *

909 – 240 – 5609
(### ### ####)

Email *

bcarreno@aeiconsultants.com

Property Information

Project Location/ Address (If known)

19439 Bear Valley Road,
Apple Valley, CA 92307
United States

Parcel Number (If known)

0434-021-35, 0434-021-37, 0434-021-10

Project Number or Name (If Any)

450104

Please describe your request. *

- Record of any Activity Use Limitations (AULs) in connection with the property. AULs are typically in place at sites which would prevent future uses of a property.
- Subject property zoning and any current zoning violations.

DRAFT

Request No._____

Received by: _____
Date: _____ Time: _____

TOWN OF APPLE VALLEY
REQUEST FOR COPIES OF PUBLIC RECORDS

"Except with respect to public records exempt from disclosure by express provisions of law, each state or local agency, upon a request for a copy of records that reasonably describes an identifiable record or records, shall make the records promptly available to any person upon payment of fees covering direct costs of duplication, or a statutory fee if applicable." (G.C. §6253(b)).

"Each agency, upon a request for a copy of records, shall, within 10 days from receipt of the request, determine whether the request, in whole or in part, seeks copies of disclosable public records in the possession of the agency and shall promptly notify the person making the request of the determination and the reasons therefor." (G.C. §6253(c)).

NOTE: This form is not required for requests for copies of Statements of Economic Interest (G.C. §91008) or Campaign Statements.

Form may be faxed to: 760-961-6241; emailed to: records@applevalley.org; or mailed to:
Town of Apple Valley, Town Clerk's Office 14955 Dale Evans Parkway, Apple Valley CA 92307

Request for a copy of public records as thoroughly identified below:

Planning Department:

•Record of any Activity Use Limitations (AULs) in connection with the property. AULs are typically in place at sites which would prevent future uses of a property.

•Subject property zoning and any current zoning violations.

Date: 11/9/2021
Name: Breezy Carreno
Address: 668 Sequoia St
San Bernardino, CA 92407
Phone: (909)240-5609
Email: bcarreno@aeiconsultants.com

Copying Fees:
(Per Resolution Number 2013-29

1) Copying from 8 1/2" x 11 or 8 1/2" x 14"
Each Page..... $0.20 (B/W)
Each Page..... $0.30 (Color)
Copying from 11" x 17"..... $0.50

2) Copying to USB Drive..... $6.00

( ) Copies to be mailed to requestor
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(Account Code 1001-0000-6112-0000)

Balance Due/Refund: $_____

_____ _____ *or* _____
Mailed by/Date: *Picked up by/Date:*

***Due to size, email may not be available. Requestor will be contacted.**

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9.35.030 - Permitted Uses (Amended Ord. 289, 309, 316, 347, 383, 425, 440, 450, 461, 465)

If a proposed use is not listed in this Section, the Director shall, upon written request and in accordance with Section 9.05.070, *Similar Uses,* of this Code, review the proposed unlisted use. Based on the characteristics of the proposed use, the "Standard Industrial Classification Manual" and other available resource material, the Director may determine that the proposed unlisted use is equivalent in nature and intensity to a listed use. The proposed use shall then be treated in the same manner as the equivalent listed use in determining where it can be located, what permits are required and what standards affect its establishment if the findings required in Section 9.05.070, *Similar Uses,* of this Code, can be made.

ABBREVIATIONS

O-P	Office Professional
C-G	General Commercial
C-S	Service Commercial
C-R	Regional Commercial
C-V	Village Commercial
M-U	Mixed Use
The uses listed in Table 9.35.030-A shall be allowed in the Commercial, Office and Mixed Use districts as indicated in the column beneath each district and as defined below and explained in Section 9.11.020, Table 9.11.020-A.	
CUP:	Conditional uses, subject to Conditional Use Permit process, Planning Commission review.
SUP:	Special Use Permit required.

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P:	Permitted uses
"-":	Denotes those uses that are prohibited

The Conditional Use Permit process is detailed in Chapter 9.16 and the Development Permit process is detailed in Chapter 9.17 of this Code.

The uses listed in Table 9.35.030-A of this Chapter, below, apply to applications for expansion, tenant improvements, change of occupancy, or new development.

Table 9.35.030-A Permitted Uses

(See Chapter 9.36 for applicable Specific Use Standards)

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TYPE OF USE (1)	DISTRICT (1)					
	O-P	C-G	C-S	C-R	C-V	M-U
A. Residential Uses						
1. Caretakers residence	SUP	SUP	SUP	SUP	SUP	SUP
2. Congregate care facilities	CUP	CUP	CUP	CUP	CUP	CUP
3. Emergency shelters/transitional housing (2)	-	-	SUP	-	SUP	-
4. Multi-family housing	-	-	-	-	-	P
5. Small family day care homes (8 or fewer children)	-	-	-	-	-	P
6. Large family day care homes (9 to 14 children)	-	-	-	-	-	-

B. Office and Related Uses						
1. Administration and professional office	P	P	P	P	P	P
2. Administration and professional office within a shopping center:						
a. More than ten (10) percent of the overall gfa of the ground floor of the shopping center	-	SUP	SUP	SUP	SUP	SUP
b. Located on the second floor of the shopping center	-	P	P	P	P	P
C. Alcoholic Beverage Sales and/or Production (Applicable ABC License Types)						
1. Liquor stores, no on-site consumption (20,21)	-	P	P	P	P	CUP
2. Convenience stores, no on-site consumption (20,21)	SUP	P	P	P	P	CUP
3. Grocery Stores, no on-site consumption (20,21,86)	-	P	P	P	P	P
4. Retail sales with on-site consumption beer and wine only (40,42,86) (25% or more of floor area dedicated to off-sale retail)	-	SUP	SUP	SUP	SUP	SUP
5. Commercial Recreational Facilities (41,47)	-	P	P	P	P	P
6. Restaurants, on-site consumption (41,47)	SUP	P	P	P	P	P

DRAFT

7. Taverns, bars, on-site consumption beer or wine only [40,42]	-	SUP	SUP	SUP	SUP	SUP
8. Tavern, Bar, Nightclub on-site consumption [48]	-	CUP	CUP	CUP	CUP	CUP
9. Small Beer Manufacturer [23,77]	-	-	SUP	-	-	-
10. Micro-brewery/Brewpub including food or beverage service [23,75,77]		SUP	SUP	-	SUP	-
11. Craft Distillery [6,74]	-	-	CUP	-	-	-
12. Craft Distillery with Restaurant [6,20,74]	-	CUP	CUP	-	CUP	-
13. Large Beer Manufacturer [1]			P			
D. Assembly Uses						
1. Convention and Event Centers	-	CUP	CUP	CUP	CUP	CUP
2. Private and public clubs and lodges, including YMCA, YWCA and similar youth groups	CUP	-	-	-	-	CUP
3. Recreational Assembly (Theaters, auditoriums)	-	P	P	P	P	P
4. Religious institutions [4]	CUP	-	-	-	-	CUP
5. Places of assembly as a temporary use	TUP	TUP	TUP	TUP	TUP	TUP

DRAFT

6. Places of assembly as an ancillary use (subject to Chapter 9.36 of this Code)	SUP	SUP	SUP	SUP	SUP	SUP
E. Commercial Uses						
1. Commercial retail	-	P	P	P	P	P
2. Adult businesses	-	CUP	-	-	-	-
3. Animal care facility, including animal hospital veterinarian, commercial kennel, grooming						
a. Excluding exterior kennel, pens or runs	-	P	P	-	P	P
b. Including exterior kennel, pens or runs	-	CUP	CUP	CUP	CUP	-
4. Auction House - Indoor	-	P	P	-	P	-
5. Billboards (See Section 9.74.187)	-	-	-	CUP	-	-
6. Carpenter or cabinet shop	-	-	P	-	P	CUP
7. Catering establishments	-	P	P	P	P	P
8. Commissary for caterers, mobile food facilities and the like	-	-	SUP	-	SUP	-
9. Communications and cable television facilities.	CUP	CUP	CUP	-	CUP	CUP

DRAFT

10. Concessionaire, small kiosks not located in a parking lot.	-	P	-	P	P	P
11. Convenience stores	SUP	P	P	P	P	P
12. Drive-thru/drive up	SUP	SUP	SUP	SUP	SUP	SUP
13. Farmers Market - Open Air	-	CUP	CUP	-	CUP	CUP
14. Feed and tack, including the incidental exterior storage of hay, packaged feed and related bulk feed products on site [3]	-	P	P	P	P	SUP
15. Hookah Bar/Lounge [14]	-	SUP	SUP	SUP	SUP	SUP
16. Hotels and motels	-	P	P	P	P	P
17. Kiosks for key shops, film drops in parking lots	SUP	SUP	SUP	SUP	SUP	SUP
18. Nurseries	-	P	P	P	P	P
19. Parking lots/structures	P	P	P	P	P	P
20. Pawn shops	-	P	P	-	P	-
21. Recycling facilities for reusable domestic materials						
a. Reverse vending machines	-	P	P	P	P	P

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b. Small Collection Facility - Recycling Collection Point less than 500 sq ft	-	SUP	SUP	SUP	SUP	SUP
c. Large Collection Facility - Recycling Collection Point over 500 sq ft	-	-	CUP	-	CUP	-
d. Recycling Center	-	-	CUP	-	-	-
22. Registered vehicle sales/rental including boats, trailers and Campers	-	CUP	CUP	CUP	CUP	CUP
23. Registered vehicle sales, no outdoor display	-	P	P	P	P	-
24. Restaurants (not drive thru or drive in)	P	P	P	P	P	P
a. Including Outdoor Seating	P	P	P	P	P	P
b. Including Outdoor cooking	-	SUP	SUP	SUP	SUP	-
25. Including Drive-Through Drive In	SUP	SUP	SUP	SUP	SUP	SUP
26. Storage yard/facilities, including, not limited to, boats, RV's, trucks, mini storage and equipment/supplies	-	CUP	CUP	-	CUP	CUP
27. Studios, such as photo, art, music, dance, gymnastics, martial arts etc.	P	P	P	P	P	P
28. Television/Radio broadcasting studio			P		P	

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29. Swap Meets Indoor- Outdoor-	- -	P CUP	P CUP	- -	P CUP	P -
30. Thrift or secondhand stores	-	P	P	-	P	P
31. Transportation facilities, train, bus and taxi depots, not including office only uses	-	CUP	CUP	CUP	CUP	SUP
32. Trucking facilities such as:						
a. Truck terminals	-	-	CUP	CUP	-	-
b. Truck yards	-	-	CUP	-	-	-
c. Truck repair	-	-	CUP	-	-	-
33. Outdoor sale/rental of farm and large construction equipment and small equipment	-	SUP	SUP	SUP	SUP	SUP
34. New construction of outdoor storage.	-	SUP	SUP	SUP	SUP	SUP
35. Street Vendors (Subject to Chapter 6.2 (commencing with Section 51036) to Part 1 of Division 1 of Title 5 of the Government Code)	P	P	P	P	P	P
F. Recreational Uses						
1. Health clubs/Fitness Centers	SUP	P	P	P	P	P

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2. Indoor uses such as bowling, billiards, or skating rinks	-	P	P	P	P	P
3. Outdoor uses such as golf, tennis, basketball, baseball, family amusement centers,	-	CUP	CUP	CUP	CUP	CUP
4. Arcades	-	SUP	SUP	SUP	SUP	SUP
5. Internet Cafe	-	SUP	SUP	SUP	SUP	SUP
G. Services						
1. Automotive services, including motorcycles, boats, motorhomes, trailers, and campers						
a. Gasoline stations and/or Carwash [5]	-	SUP	SUP	SUP	SUP	SUP
b. Major repairs, including engine work, painting, body work, and upholstery	-	-	CUP	-	CUP	-
c. Minor repairs including such as smog check, tune-ups, tires, brakes, batteries, mufflers	-	SUP	SUP	SUP	SUP	SUP
d. Vehicle charging Stations	-	P	P	P	P	P
2. Banks/financial institution	P	P	P	P	P	P
3. Check Cashing Service	P	P	P	P	P	P
4. Day care center Child or Senior	SUP	SUP	SUP	SUP	SUP	SUP

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5. Day Spas	P	P	P	P	P	P
6. Dry Cleaners	P	P	P	P	P	P
7. Hair/Nail Salons/Barber Shops	P	P	P	P	P	P
8. Laundromat	P	P	P	P	P	P
9. Medical/Health Related Services						
10. Medical/Dental Offices	P	P	P	P	P	P
11. Acupuncture/Acupressure, Chiropractic	P	P	P	P	P	P
12. Aromatherapy (CAMTC Certification Required)	P	P	P	P	P	P
13. Massage, Therapeutic (CAMTC Certification Required)	P	P	P	P	P	P
14. Mortuary	-	CUP	CUP	-	CUP	CUP
15. Cremation service	-	CUP	CUP	-	CUP	-
16. Repair of appliances, computers, TVS, and the like.	-	P	P	-	P	-
17. Spiritualist readings or astrological forecasting	-	P	P	-	P	P
H. Public and Semi-Public Uses						
1. Educational institutions						

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a. Private Schools	SUP	SUP	SUP	SUP	SUP	SUP
b. Vocational and business trade schools	P	P	P	P	P	P
c. Vocational school industrial/shop related	-	-	SUP	-	-	-
2. Government Facilities	CUP	P	CUP	CUP	CUP	CUP
3. Hospitals and Convalescent facilities	SUP	SUP	SUP	SUP	SUP	SUP
4. Hospitals and Convalescent facilities Over 20 acres which may include a helipad	CUP	CUP	CUP	CUP	CUP	CUP
5. Libraries and museums, public or private	P	P	P	P	P	P
6. Public utility installations, including offices	CUP	CUP	CUP	CUP	CUP	CUP
I. Accessory Uses						
1. Antennas (Telecommunications facilities shall be subject to Chapter 9.77 of this Code.)						
a. Commercial Antennas	CUP	CUP	CUP	CUP	CUP	CUP
b. Non-Commercial Antennas under 35' in height	P	P	P	P	P	P

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c. Non-Commercial Antennas over 35' in height	SUP	SUP	SUP	SUP	SUP	SUP
d. Ham radio	P	P	P	P	P	P
2. Water Storage tanks less than 5,000 gallons	P	P	P	P	P	P
more than 5,000 gallons	SUP	SUP	SUP	SUP	SUP	-
3. Liquid, petroleum or Gas (LPG) Tanks not exceeding 200 gallons	P	P	P	P	P	P
4. Liquid, petroleum or Gas (LPG) Tanks greater than 200 gallons or flammable tanks up to 2,500 gallons	SUP	SUP	SUP	SUP	SUP	SUP
5. Overnight commercial vehicle parking for vehicles not related to the on-site use and which does not reduce available parking spaces during business hours	-	-	SUP	-	-	-
6. Helipads	CUP	CUP	CUP	CUP	CUP	CUP
J. Manufacturing/Production/Wholesale Uses						
1. All uses in Table 9.45.030-A (Sections A-G) where conducted within a completely enclosed building, except for accessory outdoor storage. (6)	-	CUP	P	-	-	-

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2. Assembly of Products, as an ancillary use to any approved commercial use described above in Table 9.35.030.A, that is conducted within a completely enclosed building.	P	P	P	P	P	P
3. Artisan Beverage Makers						
a. Non-alcoholic - production only	-	-	P	-	-	-
b. Non-alcoholic with food or beverage service	-	P	P	-	P	P
c. Small Beer Manufacturer	-	-	SUP	-	-	-
d. Micro-brewery/Brewpub including food or beverage service	-	SUP	SUP	-	SUP	—
e. Craft Distillery	-	-	CUP	-	-	-
f. Craft Distillery with Restaurant	-	CUP	CUP	-	CUP	-
4. Upholstery conducted within a completely enclosed building		P	P	P	P	

(1)	All uses shall be conducted within a completely enclosed building unless the use is specifically permitted in this Chapter as an outdoor use or the outdoor use is specifically approved through a Conditional Use Permit or Special Use Permit.

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	CUP:	Conditional Use Permit
	P:	Permitted Uses
	SUP:	Special Use Permit
	"-"	Denotes uses are prohibited
(2)	Fees Waived	
(3)	The incidental exterior storage of hay, packaged feed and related bulk feed products when associated with a Feed and Tack business is permitted and may be located anywhere on site to the rear of the leading edge of the building on said site or behind the required street side-yard setback area. Said stored hay, packaged feed and related bulk feed products need not be screened from view and may be stacked to a height not to exceed ten (10) feet.	
(4)	Regulations for Churches and Places of Assembly in Subsection 9.29.050 shall apply.	
(5)	Refer to Section 9.36.190.C.1, for location restrictions for gasoline/service stations.	
(6)	Only includes existing vacant buildings greater than 40,000 square feet in floor area and would be subject to the TUP regulations identified in Chapter 9.23 "Temporary Use Permits."	
(14)	A Belly Dancer entertainer is permitted to perform on a 100 square-foot dance area.	

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(Ord. No. 517, §§ 4, 5, 10-8-2019 ; Ord. No. 519, § 4, 10-22-2019 ; Ord. No. 520, § 3, 11-12-2019 ; Ord. No. 535, § 4, 9-8-2020 ; Ord. No. 541, § 5, 1-12-2021)

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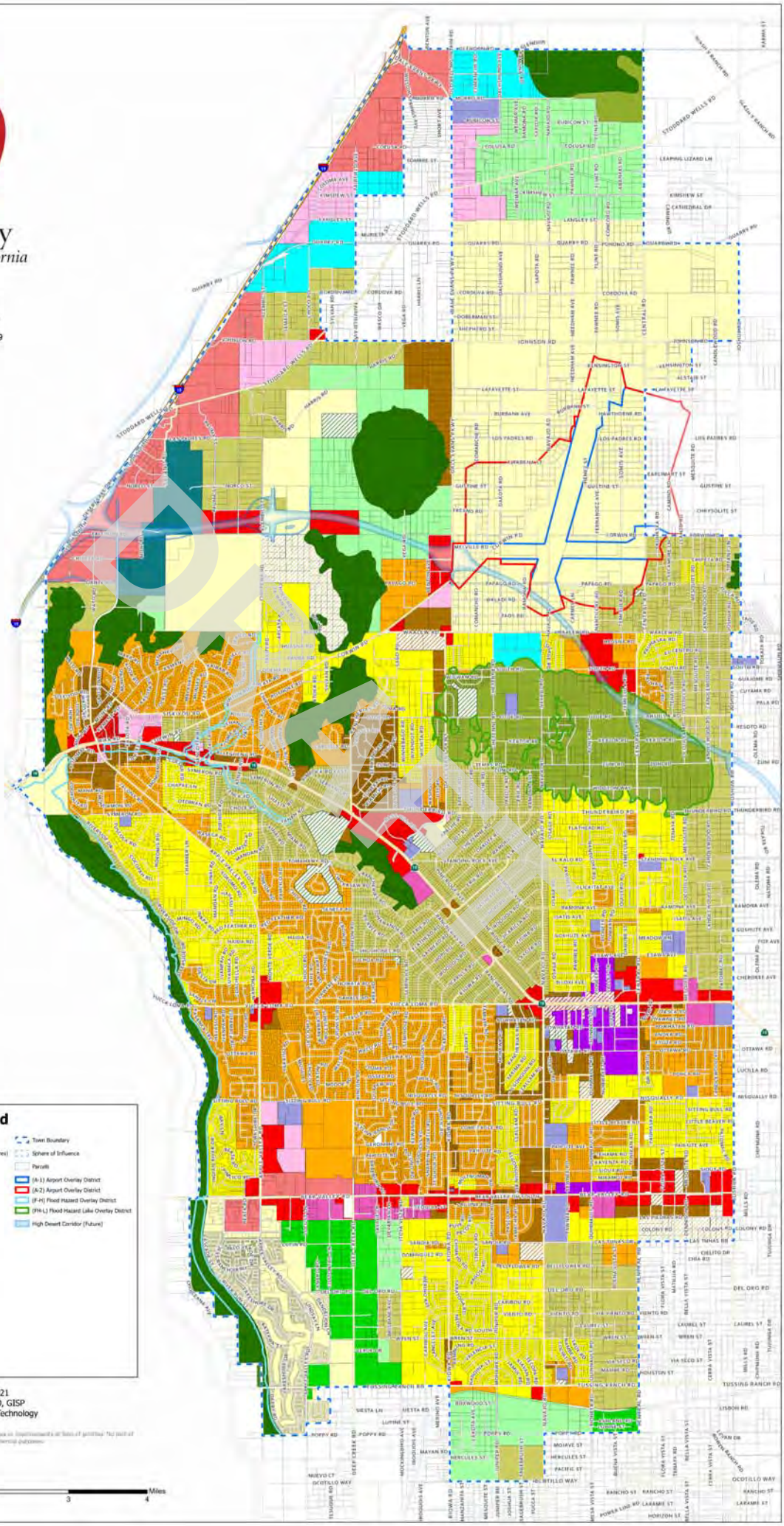
Town of
Apple Valley
California

Zoning Map

Planning Department

Last Amended: September 24, 2019



Legend

Zoning

- (R-VLD) Very Low Density Residential (1du/5 or more gross acres)
- (R-A) Residential Agriculture (1du/2.5 gross acres)
- (R-LD) Low Density Residential (1 du/2.5 to 5 gross acres)
- (R-E) Estate Residential (1 du/1 to 2.5 gross acres)
- (RE-3/4) Estate Residential 3/4 (1 du/0.75 net acre)
- (R-EQ) Equestrian Residential (1 du/0.4 to 0.9 net acre)
- (R-SF) Single Family Residential (1du/0.4 to 0.9 net acre)
- (R-M) Multi-Family Residential (2 to 20 du/net acre)
- (MHP) Mobile Home Park
- (PRD) Planned Residential Development
- (C-G) General Commercial
- (C-V) Village Commercial
- (C-S) Service Commercial
- (O-P) Office Professional
- (C-R) Regional Commercial
- (I-P) Planned Industrial
- (I-RE) Resource Extraction
- (P-F) Public Facilities
- (OS-C) Open Space Conservation
- (OS-R) Open Space Recreation
- (MI-U) Mixed Use
- (SP) Specific Plan

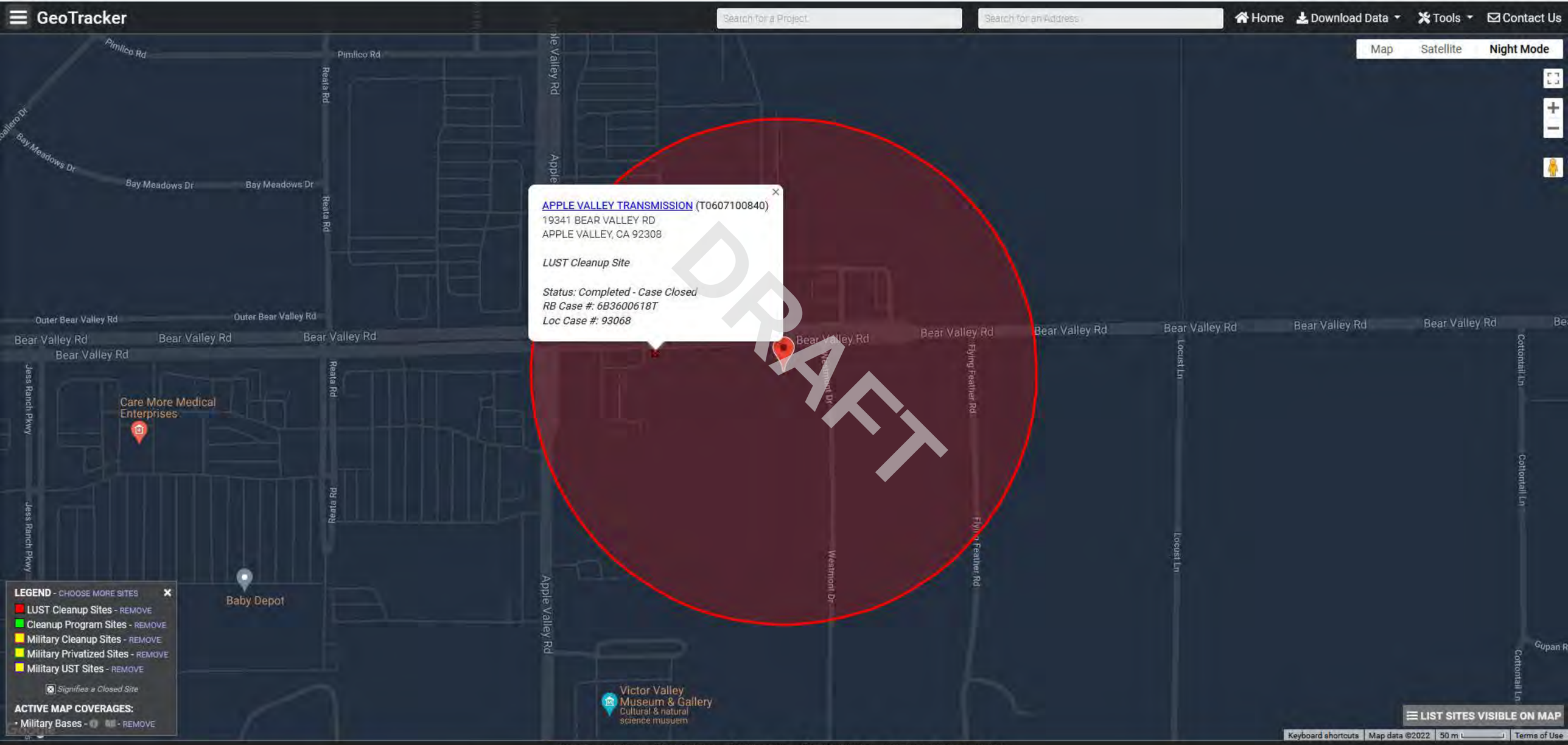
- Town Boundary
- Sphere of Influence
- Parcels
- (A-1) Airport Overlay District
- (A-2) Airport Overlay District
- (F-H) Flood Hazard Overlay District
- (FH-L) Flood Hazard Lake Overlay District
- High Desert Corridor (Future)

Printed: 12/17/2021
Brandon Cales, CGCIO, GISP
Dept. of Innovation and Technology

This map is for general reference only and may not reflect recent changes or improvements or lots of parcels. No part of this map shall be reproduced for commercial purposes.

N

0 0.5 1 2 3 4 Miles


GeoTracker
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Tools
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Map
Satellite
Night Mode
APPLE VALLEY TRANSMISSION (T0607100840)
19341 BEAR VALLEY RD
APPLE VALLEY, CA 92308
LUST Cleanup Site
Status: Completed - Case Closed
RB Case #: 6B3600618T
Loc Case #: 93068
DRAFT
Pimlico Rd
Bay Meadows Dr
Outer Bear Valley Rd
Bear Valley Rd
Reata Rd
Apple Valley Rd
Jess Ranch Pkwy
Westmont Dr
Flying Feather Rd
Locust Ln
Cottontail Ln
Care More Medical Enterprises
Baby Depot
Victor Valley Museum & Gallery
Cultural & natural science museum
LEGEND - CHOOSE MORE SITES
LUST Cleanup Sites - REMOVE
Cleanup Program Sites - REMOVE
Military Cleanup Sites - REMOVE
Military Privatized Sites - REMOVE
Military UST Sites - REMOVE
Signifies a Closed Site
ACTIVE MAP COVERAGES:
Military Bases - REMOVE
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STATE WATER RESOURCES CONTROL BOARD

GEOTRACKER

HISTORICAL HAZARDOUS SUBSTANCE STORAGE INFORMATION - INFO

BACK TO SEARCH FORM

49 RECORDS FOUND

BUSINESS NAME	ADDRESS	CITY	ZIP	COUNTY	FILE
7-ELEVEN STORE 2131/25984		APPLE VALLEY	92307	San Bernardino	0002a7ba.pdf
7-ELEVEN STORE 23008 (2131)		APPLE VALLEY	92307	San Bernardino	0002a7a2.pdf
90575		APPLE VALLEY	92307	San Bernardino	00029b86.pdf
ALEXANDER CONST		APPLE VALLEY	92307	San Bernardino	000298be.pdf
APPLE VALLEY		APPLE VALLEY	92307	San Bernardino	00029d32.pdf
APPLE VALLEY AIRPORT		APPLE VALLEY	92307	San Bernardino	00029cf9.pdf
APPLE VALLEY CENTRAL OFFICE		APPLE VALLEY	92307	San Bernardino	00029cea.pdf
APPLE VALLEY FIRE STATION 1		APPLE VALLEY	92307	San Bernardino	000298fd.pdf
APPLE VALLEY PUMP STATION		APPLE VALLEY	92307	San Bernardino	0002a9d9.pdf
APPLE VALLEY RANCHOS WATER CO		APPLE VALLEY	92307	San Bernardino	00029901.pdf
APPLE VALLEY ROAD YARD		APPLE VALLEY	92307	San Bernardino	00029d38.pdf
APPLE VALLEY ROADYARD		APPLE VALLEY	92307	San Bernardino	00029d06.pdf
APPLE VALLEY SCHOOL DISTRICT		APPLE VALLEY	92307	San Bernardino	00029903.pdf
APPLE VALLEY SEPTIC SYSTEMS I		APPLE VALLEY	92307	San Bernardino	00029905.pdf
APPLE VALLEY TRACTOR INC		APPLE VALLEY	92307	San Bernardino	00029907.pdf
ATONIO DELL ACQUA		APPLE VALLEY	92307	San Bernardino	000298fa.pdf
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DE ROSA RESTAURANT		APPLE VALLEY	92307	San Bernardino	0002a5da.pdf
DESERT KNOLLS TEXACO		APPLE VALLEY	92307	San Bernardino	0002a05f.pdf

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BUSINESS NAME	ADDRESS	CITY	ZIP	COUNTY	FILE
F D KELLEYS BACKHOE SERVICE		APPLE VALLEY	92307	San Bernardino	00029e6a.pdf
GARY A OSBORNE		APPLE VALLEY	92307	San Bernardino	00029ef7.pdf
GILCREST UNION		APPLE VALLEY	92307	San Bernardino	00029ea4.pdf
HARTLINE AND NEVILLE INC RANCH		APPLE VALLEY	92307	San Bernardino	00029f96.pdf
HILLCREST UNION 76		APPLE VALLEY	92307	San Bernardino	00029ea3.pdf
HOMESTEAD LUMBER COMPANY		APPLE VALLEY	92307	San Bernardino	00029f9c.pdf
JACK F COLLINGSWORTH		APPLE VALLEY	92307	San Bernardino	0002990d.pdf
JESS RANCH CORPORATION		APPLE VALLEY	92307	San Bernardino	0002a05d.pdf
JP DEXTER		APPLE VALLEY	92307	San Bernardino	0002a017.pdf
LARRY AND CARLEAN JOHNSON		APPLE VALLEY	92307	San Bernardino	0002a14b.pdf
LARRY L PIERCE		APPLE VALLEY	92307	San Bernardino	0002a173.pdf
PAUL JOHNSON FARMING		APPLE VALLEY	92307	San Bernardino	00029d59.pdf
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VICTORVILLE SERVICE CENTER		APPLE VALLEY	92307	San Bernardino	0002a6b1.pdf
VIKING RANCH		APPLE VALLEY	92307	San Bernardino	0002a9ff.pdf

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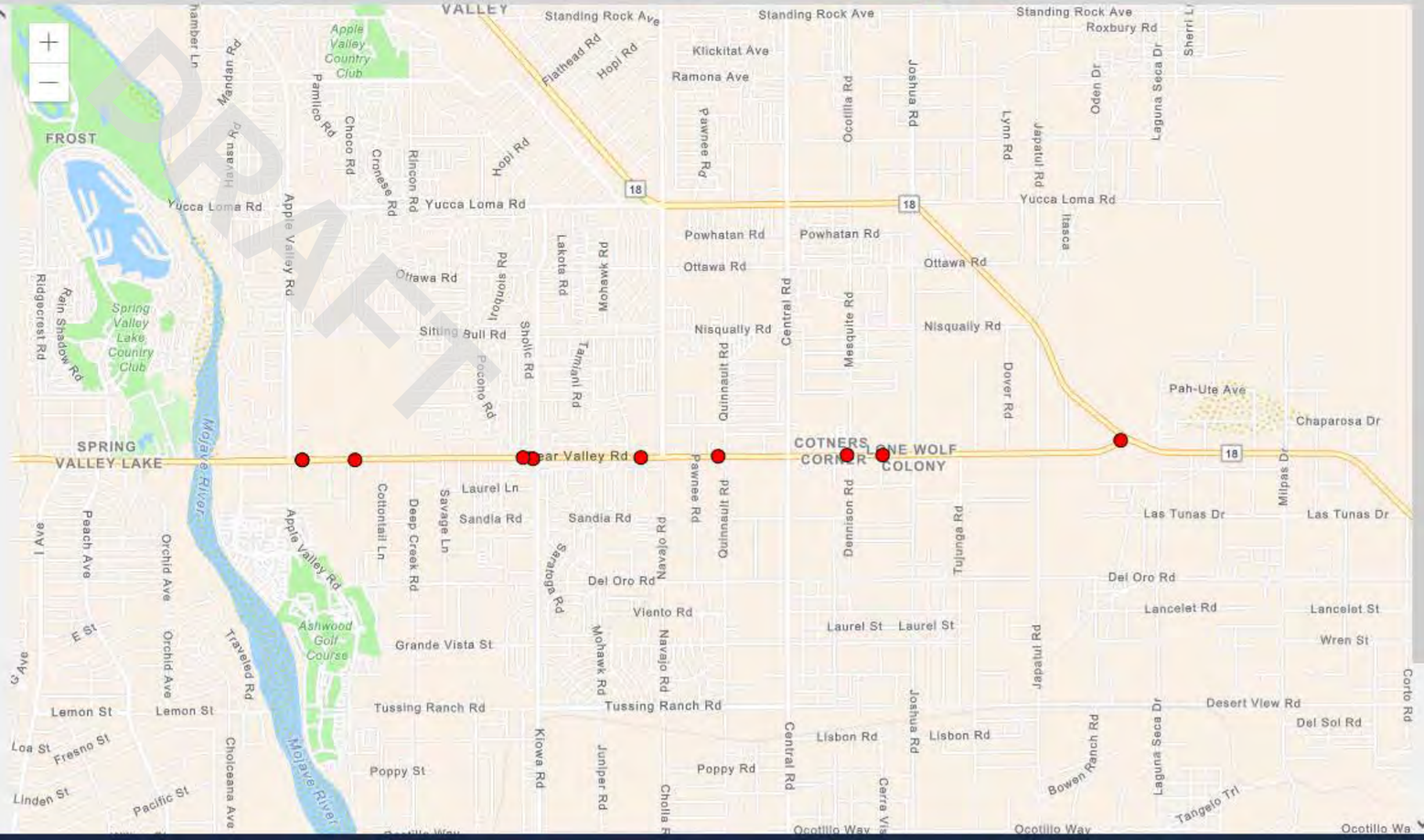

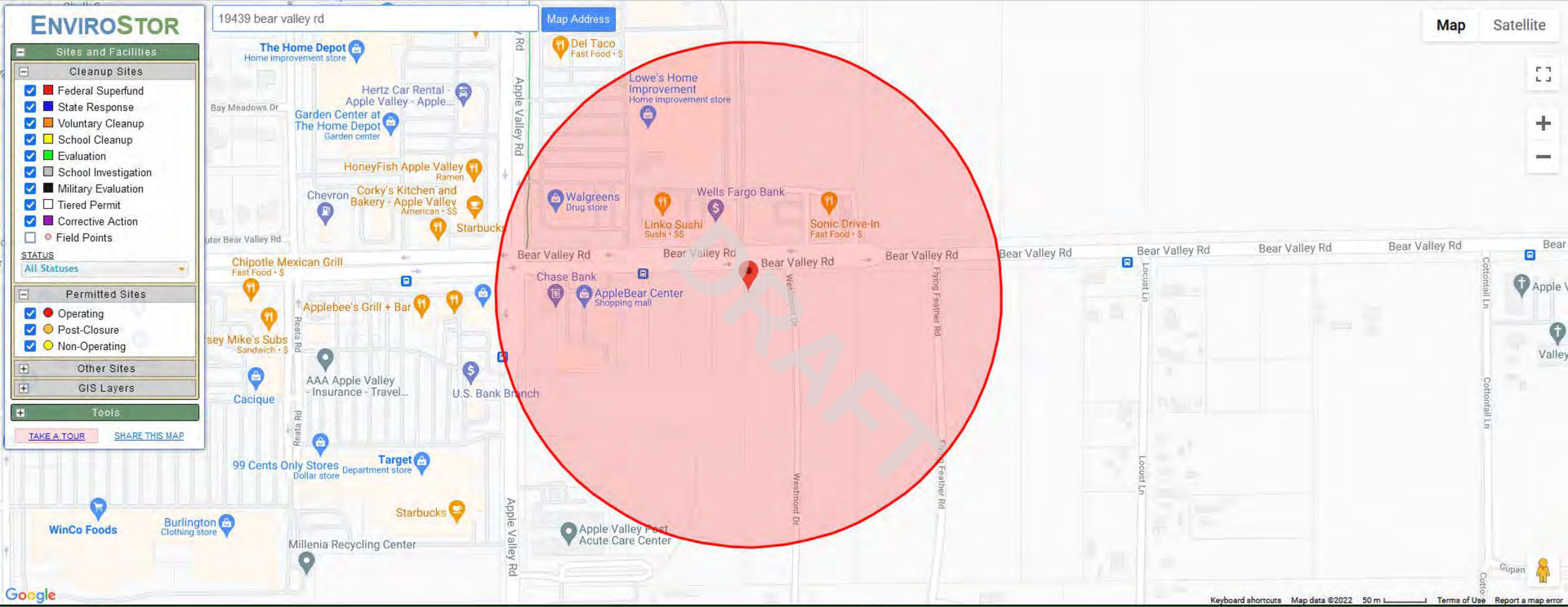

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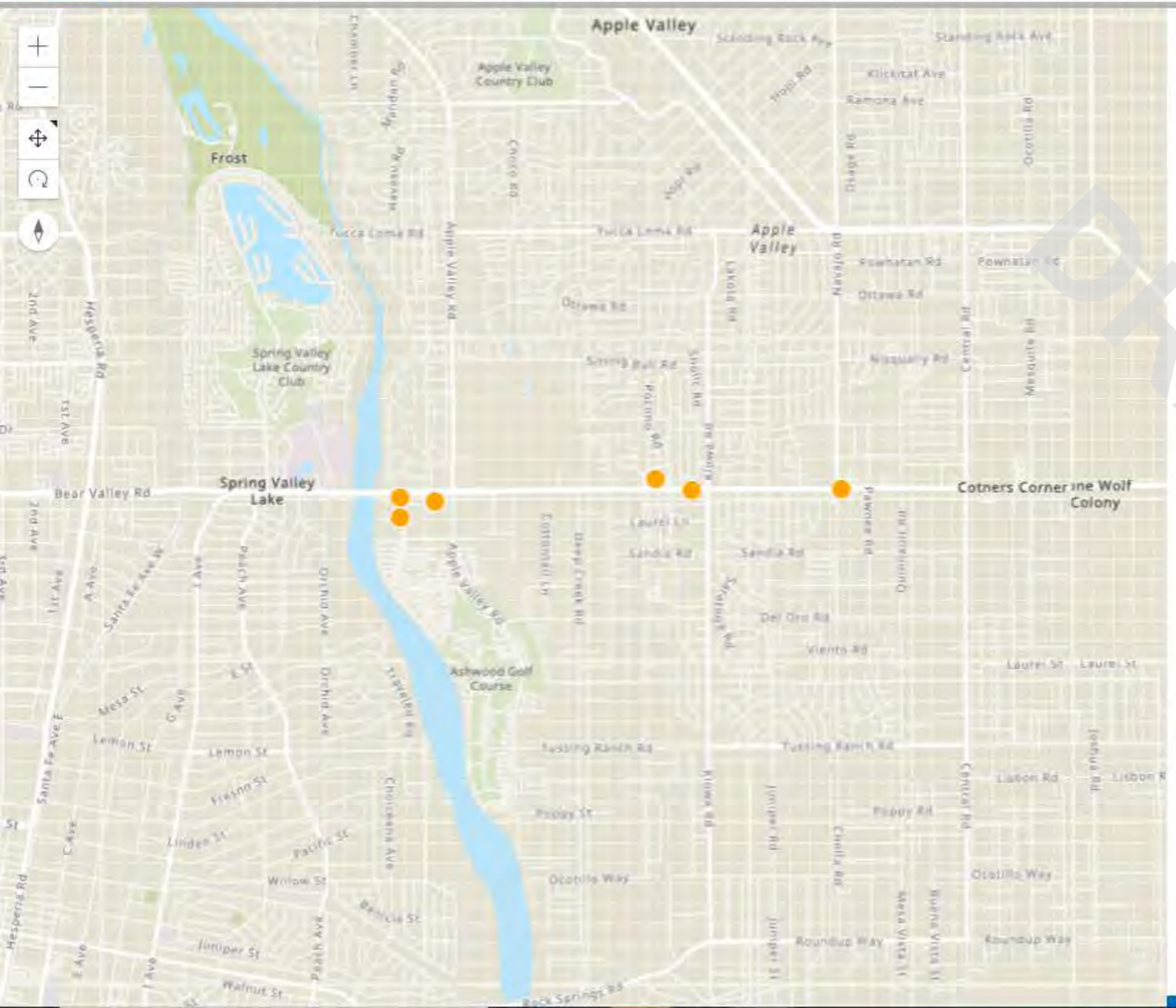

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Facility Address: 18999 BEAR VALLEY RD, APPLE VALLEY, CA 92308
Status: ACTIVE

156818
Facility Name APPLE SOCAL, LLC
Facility Address: 1920 BEAR VALLEY RD, APPLE VALLEY, CA 92308
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154870
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Facility Address: 19201 BEAR VALLEY RD, APPLE VALLEY, CA 92308
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146798
Facility Name APPLE VALLEY RETIREMENT RESIDENCE
Facility Address: 20594 BEAR VALLEY RD, APPLE VALLEY, CA 92308
Status: ACTIVE

147259
Facility Name FOOD 4 LESS NO 782
Facility Address: 20801 BEAR VALLEY RD, APPLE VALLEY, CA 92308
Status: ACTIVE

38982
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Facility Address: 21718 BEAR VALLEY, APPLE VALLEY, CA

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Facility Address: 19201 BEAR VALLEY RD, APPLE VALLEY, CA 92308

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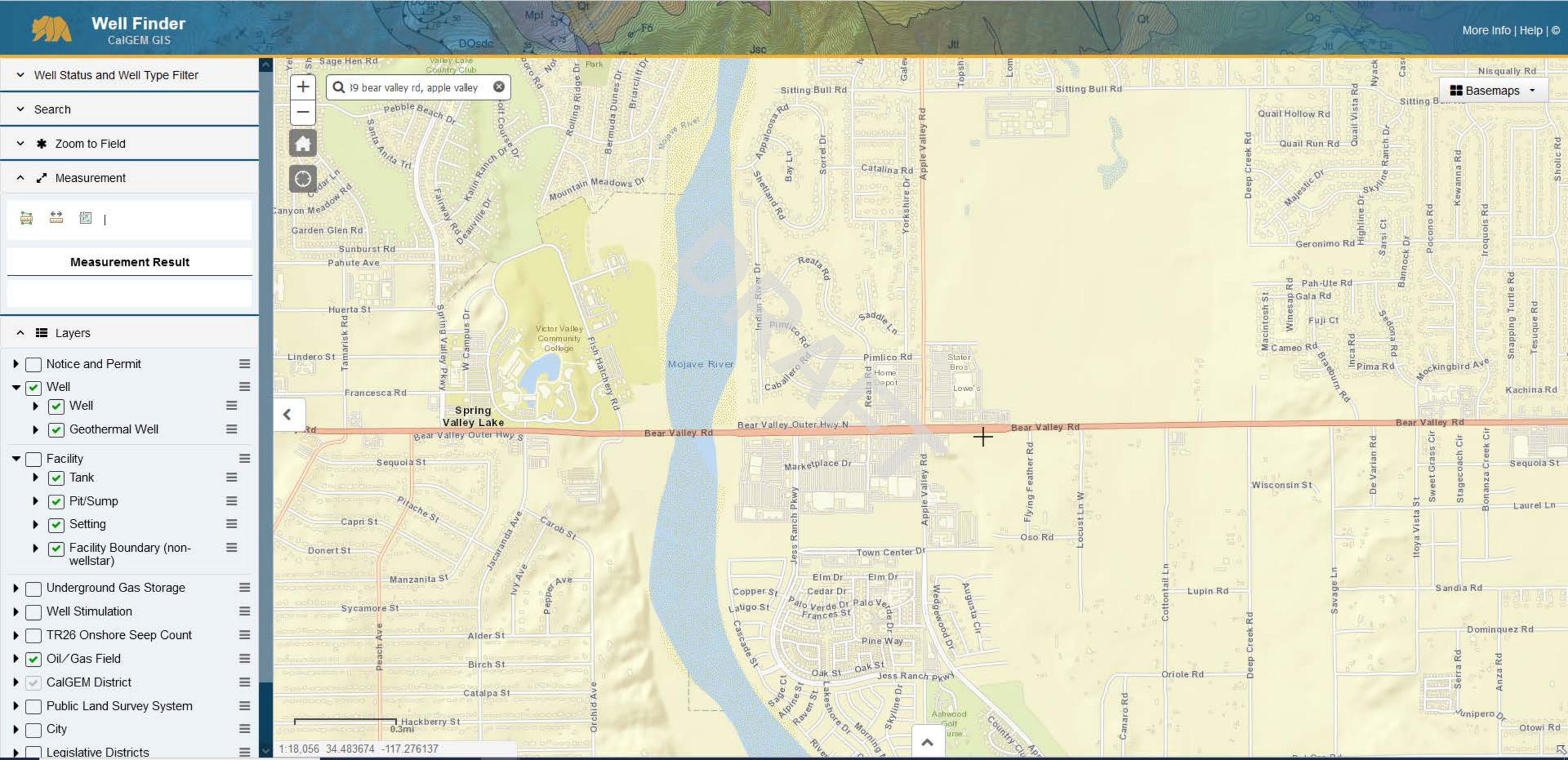
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Facility Boundary (non-wellstar)
Underground Gas Storage
Well Stimulation
TR26 Onshore Seep Count
Oil/Gas Field
CalGEM District
Public Land Survey System
City
Legislative Districts
39 bear valley rd, apple valley
Basemaps
Spring Valley Lake
Victor Valley Community College
Mojave River
Bear Valley Rd
Bear Valley Outer Hwy S
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Apple Valley Rd
Pimlico Rd
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Catalina Rd
Mountain Meadows Dr
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Wisconsin St
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Sandia Rd
Dominquez Rd
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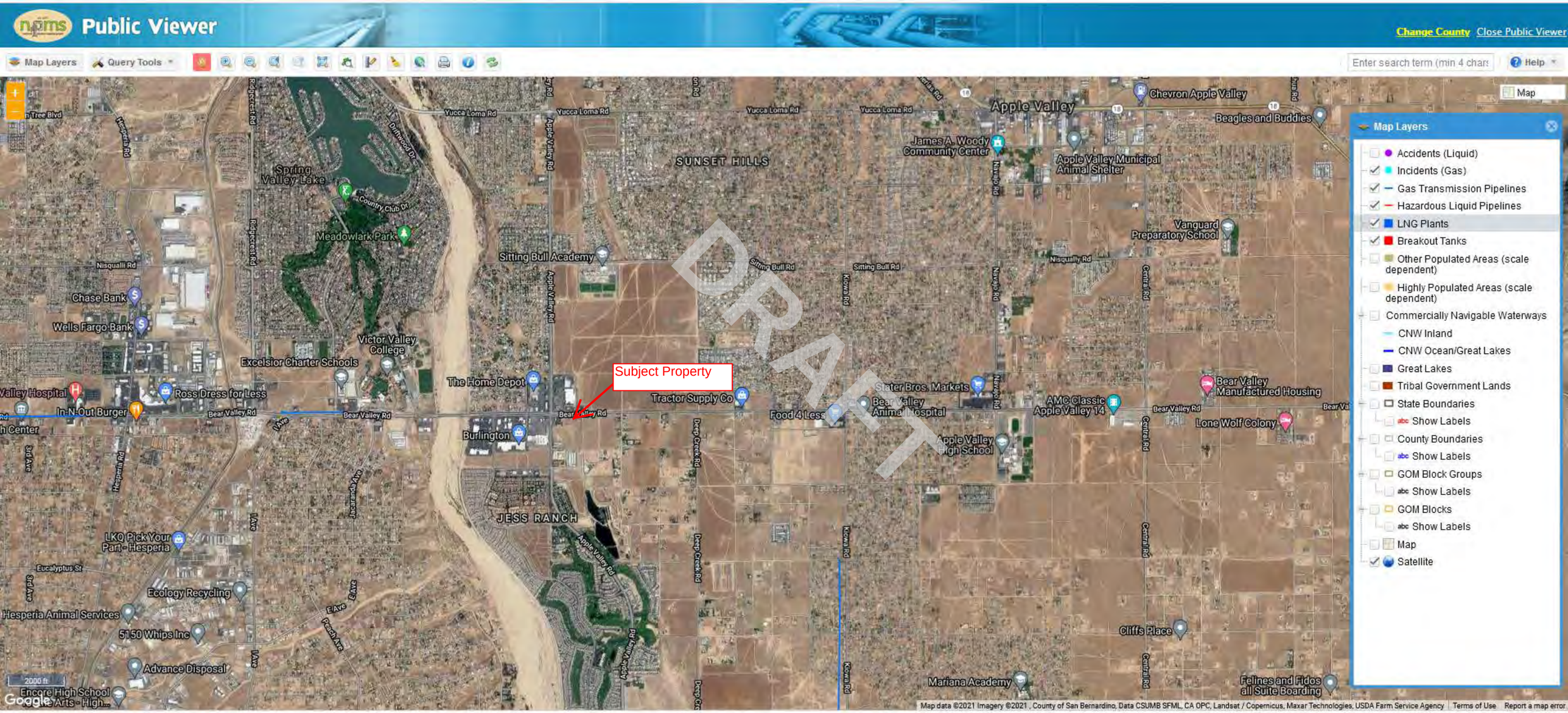
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Incidents (Gas)
Gas Transmission Pipelines
Hazardous Liquid Pipelines
LNG Plants
Breakout Tanks
Other Populated Areas (scale dependent)
Highly Populated Areas (scale dependent)
Commercially Navigable Waterways
CNW Inland
CNW Ocean/Great Lakes
Great Lakes
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GOM Block Groups
Show Labels
GOM Blocks
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Map
Satellite
Subject Property
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SUNSET HILLS
JESS RANCH
Spring Valley Lake
Meadowlark Park
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Excelsior Charter Schools
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Tractor Supply Co
Burlington
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In-N-Out Burger
Valley Hospital
Sitting Bull Academy
James A. Woody Community Center
Apple Valley Municipal Animal Shelter
Chevron Apple Valley
Beagles and Buddies
Vanguard Preparatory School
Stater Bros. Markets
Food 4 Less
Bear Valley Animal Hospital
AMC Classic Apple Valley 14
Bear Valley Manufactured Housing
Lone Wolf Colony
Apple Valley High School
Cliffs Place
Mariana Academy
Felines and Fidos all Suite Boarding
LKQ Pick Your Part - Hesperia
Ecology Recycling
Hesperia Animal Services
5150 Whips Inc
Advance Disposal
Encore High School
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Bear Valley Rd
Apple Valley Rd
Ridgecrest Rd
Hesperia Rd
Nisqualli Rd
Sitting Bull Rd
Navajo Rd
Kiowa Rd
Central Rd
Deep Creek Rd
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E Ave
I Ave
Pebble Ave
Jacaranda Ave
2000 ft
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Ready
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Closest Zoom for Pipelines
(lat,long): 34.503202, -117.306946
Map Showing Pipelines in: San Bernardino, CA

Zip Code	Number of Tests Reported to CDPH	Number of Tests at or ≥ 4pCi/L	Percent of Tests ≥ 4pCi/L	Max. Result (pCi/L)
92305	4	2	50.0%	7.8
92307	33	2	6.1%	10.2
92308	10	0		2.4
92310	22	0		2
92311	45	2	4.4%	5.3
92312	2	0		1.2
92313	6	0		3.7
92314	11	1	9.1%	8
92315	10	2	20.0%	6.4
92316	2	0		0.6
92317	4	3	75.0%	12.4
92320	4	0		1.2
92321	1	0		2.6
92322	2	1	50.0%	4.3
92324	12	0		1
92325	22	12	54.5%	31.6
92326	1	0		0.9
92328	1	0		1.1

APPENDIX F

OTHER SUPPORTING DOCUMENTATION

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Environmental Site Characterization
and
Low-Threat Underground Storage Tank
Case Closure Request

Former J&M Automotive
20307 Bear Valley Road
Apple Valley, California 92308
Case No. 6B3600779T

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Prepared for:

Ms. Deana Herold
60420 Woodside Road
Bend, Oregon 97702

Prepared by:

BROADBENT & ASSOCIATES, INC.
8 West Pacific Avenue
Henderson, Nevada 89015
(702) 563-0600

May 25, 2016

Project No. 07-01-175-101

BROADBENT

BROADBENT
8 West Pacific Ave., Henderson, NV 89015
[T] 702-563-0600 [F] 702-563-0610
broadbentinc.com

May 25, 2016 Project No. 07-01-175-101

Ms. Deana Herold
60420 Woodside Road
Bend, Oregon 97702

Re: Environmental Site Characterization and Low-Threat Underground Storage Tank Case Closure Request, Former J&M Automotive, 20307 Bear Valley Road, Apple Valley, California 92308. Case No. 6B3600779T

Dear Ms. Herold:

Presented herein is the Broadbent and Associates, Inc. document entitled *Environmental Site Characterization and Low-Threat Underground Storage Tank Case Closure Request, Former J&M Automotive, 20307 Bear Valley Road, Apple Valley, California 92308. Case No. 6B3600779T*. If you have any questions regarding the work performed or results obtained, please do not hesitate to contact us.

Sincerely,
BROADBENT & ASSOCIATES, INC.

Stephanie Holst
Project Scientist

Reviewed and Approved by:

PROFESSIONAL GEOLOGIST
No. 7366
MARK E. KAZELSKIS
CERTIFIED HYDROGEOLOGIST
HG788
STATE OF CALIFORNIA

Mark E. Kazelskis, PG No.7366 (expires 12/31/16)
Principal Geologist

Enclosure: Low-Threat Underground Storage Tank Case Closure Request

cc: Mr. Brian Grey, California Regional Water Quality Control Board, 2501 Lake Tahoe Boulevard, South Lake Tahoe, CA 96150

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Appendix B: Laboratory Reports, QA/QC Data, and Chain-of-Custody Documentation

1.0 INTRODUCTION

This report presents the results of environmental site characterization at the former J&M Automotive Facility located at 20307 Bear Valley Road, Apple Valley, California 92308 (Property). Environmental activities were performed under Broadbent's *Work Plan for Low-Threat Underground Storage Tank Case Closure Request* dated December 9, 2015 (Work Plan), approved by Mr. Brian Grey with the Lahontan Regional Water Quality Control Board in email correspondence dated January 19, 2016. Figure 1, attached, depicts the location of the Property within Apple Valley.

In accordance with Broadbent's approved Work Plan, this report provides information regarding (1) the installation of two soil borings to evaluate the effectiveness of the vapor extraction (VE) system in reducing the petroleum hydrocarbon contamination in shallow soil on the Property, and (2) the installation and sampling of two soil vapor sampling points to evaluate the potential for petroleum vapor intrusion to indoor air on the Property. Results of the work detailed herein demonstrate that the Property meets the criteria of the Low-Threat UST Case Closure Policy.

2.0 PREVIOUS INVESTIGATIONS & REMEDIATION

In September 1996, two underground storage tanks (USTs) were removed from the Property. During the UST closure activities, elevated concentrations of gasoline-range petroleum hydrocarbons were reported in confirmation soil samples collected from the excavation. No other UST systems have operated at the Property since 1996.

In June and July 2000, Kendall/Adams Group, Inc. conducted a subsurface investigation at the Property that included the advancement and sampling of seven soil borings (B-1 through B-7) to delineate the vertical and lateral extent of the petroleum hydrocarbon impact on the Property. As reported by Kendall/Adams (September 2000), elevated concentrations of petroleum hydrocarbons were detected at depths of up to 55 feet below ground surface (bgs). Total Petroleum Hydrocarbons (TPH) were detected at a maximum concentration of 23,000 mg/kg, benzene was detected at concentrations up to 82 mg/kg and methyl tert-butyl ether (MTBE) was detected at concentrations up to 122 mg/kg.

In October 2001, a soil vapor extraction (SVE) system was installed at the Property by BIOTREATMENTS, INC. and operated until approximately April 2003. In April 2003, BIOTREATMENTS, INC. drilled and sampled three 50- to 55-foot deep confirmatory soil borings (C-1, C-2 and C-3) on the Property to evaluate the effectiveness of the SVE system. Resulting soil samples had reported concentrations of TPH up to 10,000 mg/kg, benzene up to 51 mg/kg and MTBE up to 8.2 mg/kg.

As a result of the persistent elevated levels of petroleum hydrocarbons in the soils at the Property, San Bernardino County Fire Department, Hazardous Materials Division (County) denied closure on the Property in a June 30, 2003 letter to the Property owner. In the letter, the County recommended that: (1) the lateral extent of petroleum hydrocarbons in soils at the Property be further delineated; (2) additional SVE wells be installed at the Property; (3) a pilot test be conducted at the Property, and; (4) a more efficient SVE system be installed on the Property.

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In March and April 2004, Broadbent & Associates, Inc. (Broadbent) completed additional site characterization and remediation feasibility testing at the Property. This work included: the abandonment of the two extraction wells and six injection wells that were part of BIOTREATMENTS, INC.'s SVE system; the advancement and sampling of six soil borings (SVE-1 through SVE-6) to a depth of 55 feet bgs; subsequent completion of the soil borings as two-inch diameter dual-nested SVE wells; and the performance of remediation feasibility testing including four SVE pilot step tests and one SVE pilot continuous test. Resulting soil samples had reported elevated concentrations of TPH, benzene and MTBE in SVE-2, SVE-3, SVE-5 and SVE-6. The highest concentrations of TPH (up to 17,000 mg/kg) and benzene (up to 30,000 mg/kg) were detected in the 30- to 50-foot sampling intervals in SVE-5. The highest concentrations of MTBE (up to 2,100 mg/kg) were detected at the 45-foot sampling interval in SVE-2. Figure 2 depicts the locations of borings/wells SVE-1 through SVE-6 on the Property. Table 1, attached, presents analytical results from soil samples collected from SVE-1 through SVE-6. The pilot tests determined the subsurface lithology to be conducive to SVE technology, with an estimated effective radius of influence greater than 30 feet.

An SVE remediation system was constructed in accordance with Broadbent's Remedial Action Plan (February 2005). The SVE network of twelve (12) extraction zones consists of six dual-nested SVE wells (SVE-1 through SVE-6), with each well including a shallow well screened from 15 to 30 feet bgs and a deeper well screened from 35 to 55 feet bgs. The SVE wells were connected directly to remediation system machinery in an enclosed compound, located on the southeast portion of the Property, via underground piping. Figure 2 depicts the SVE remediation system infrastructure layout.

The SVE remediation system was started in August 2005 and operated until March 2008, at which time it was shut down due to decreased concentrations of volatile fuel hydrocarbons (VFHs) in air samples collected during monitoring events. During the operational time period of the SVE system, influent (into the system) VFH vapor concentrations decreased from a high of 1,900 parts per million by volume (ppmv) (April 2006) to as low as 24 ppmv (June 2007). At the time the SVE system was shut down in March 2008, influent VFH concentrations were reported at 760 ppmv. Historical VFH data is presented in Table 2, attached. The cumulative mass of VHFs extracted from the subsurface was calculated at 5,909 tons and the cumulative mass of VHFs destroyed by the SVE system was calculated at 5,713 tons. This data is presented in Table 3, attached. No active remediation has been performed on the Property since 2008.

3.0 SITE GEOLOGY and HYDROGEOLOGY

3.1 Regional Conditions

The Property is located in Apple Valley, California in southwest San Bernardino County within the Mojave Desert Province; The Mojave Desert Province is bordered to the southwest by the San Andreas Fault and the Transverse Ranges and to the north and northeast by the Garlock Fault and Tehachapi Mountains. The Nevada state line and the Colorado River form the eastern boundary. The San Bernardino-Riverside county line is designated as the southern boundary. The Mojave Province is characterized as a broad interior region of isolated mountain ranges separated by expanses of desert plains. It has an interior enclosed drainage and many playas.

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As depicted in the *Geologic Map of California*, the area is composed of Quaternary alluvial deposits. Isolated rock outcrops are located to the north, south and east of the Property. The rock outcrops are composed of undated granitic rocks. On the *Geologic Map of California*, multiple faults are depicted to the east of the Property. The faults appear to run northwest to southeast.

The elevation of the region ranges from approximately 2,800 feet above mean sea level (AMSL) to over 4,800 feet AMSL in the nearby hills. The surface elevation of the Property is approximately 2,999 feet above mean sea level (AMSL). The United States Geological Survey (USGS) California Water Science Center on line database lists recent groundwater elevation data for wells. Data collected in 2014 for the eight closest wells in proximity to the Property indicates an average depth of water of approximately 200 feet.

3.2 Local Conditions

The Property elevation is approximately 2,990 feet AMSL. The site lithology primarily consists of well to poorly graded gravelly sand mixtures to approximately 50 feet below ground surface (bgs). Intermittent layers of silty sand and silty clay were observed in various locations. A five-foot layer of sandy clay was observed from 50 feet bgs to total depth encountered during previous drilling investigations. Fine to course-grained sand and clay were encountered during this investigation. The depth to groundwater on the Property is estimated to be greater than 120 feet bgs.

During drilling documented herein, soil cuttings were described using the Unified Soil Classification System (USCS). Descriptions are presented on lithologic logs provided in Appendix A. Generally, lithology encountered within the soil borings advanced during this assessment consisted of fine- to course-grained sand and clay and trace gravel.

4.0 ENVIRONMENTAL SITE CHARACTERIZATION

Soil samples were collected in the shallow subsurface near the former UST system piping and dispensers to determine if petroleum constituents are currently present at levels indicative of posing a threat to human health. Broadbent was onsite to oversee the advancement of two soil borings at the Property by National Exploration and Wells, a drilling contractor licensed in the State of California. The soil borings (SB-1 and SB-2) were advanced to a total depth of 10 feet below ground surface (bgs). The locations of the two soil borings are depicted on Figure 3. Groundwater was not encountered during drilling.

Direct measurement of soil gas concentrations in the vicinity of the existing building on the Property was performed to demonstrate the vapor intrusion to indoor air criteria is met so the Property can be considered for low-threat UST case closure. Soil gas sampling was performed in accordance with ASTM D7663-12.

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4.1 Soil Boring Advancement & Soil Sampling Activities

In accordance with applicable Broadbent subsurface disturbance safety polices, prior to the advancement of the borings using the direct push drill rig, the soil boring locations were air knifed to approximately 6.5 feet bls on March 22, 2016. Soil samples were collected at 5 feet and 10 feet bgs in each boring. Utility clearance activities using the air knife were terminated approximately one foot above the 5 foot sample location. A hand auger was then used to advance the boring to 5 feet bgs prior to collection of the 5-foot soil sample. The hand auger was used to collect the sample which was placed into an 8 ounce jar. Upon completing the collection of the 5-foot sample, air knife activities resumed to 6.5 feet. During boring advancement, the soil was logged using the Unified Soil Classification System. Lithologic logs are attached in Appendix A.

Field activities resumed on March 25, 2016 and the soil borings were further advanced to the terminal depth of 10 feet bls using a direct push drill rig. Soil samples were collected from SB-1 and SB-2 at 10 feet bls using a split-barrel sampler lined with brass sleeves, with the sleeve serving as sample container. Between each borehole, the equipment was cleaned in a solution of Alconox, rinsed with tap water, then rinsed with distilled water and allowed to air dry.

Soil samples were submitted chilled, and under chain-of-custody procedures, to California accredited ESC Lab Sciences in Mt. Juliet, Tennessee. Soil samples were analyzed for total petroleum hydrocarbons (TPH) by Environmental Protection Agency (EPA) Method 8015 and for a full range of volatile organic compounds (VOCs) by EPA Method 8260.

Subsequent to the completion of the drilling and sampling activities, the soil borings were abandoned by the drilling contractor. The borings were abandoned with drill cuttings from the vertical extent of the boring to three feet bgs. Hydrated bentonite was used to seal the soil boring from 3.0 feet bgs to approximately 0.5 feet bgs. The surface of each soil boring was finished with a gravel pack, flush to grade, to complete the abandonment.

4.2 Soil Vapor Point Installation & Soil Gas Sampling Activities

In accordance with the Low-Threat UST Case Closure Policy, two vapor points were installed adjacent to the existing building approximately 5 feet below the building's foundation on March 22, 2016. The vapor points were air knifed in accordance with applicable Broadbent subsurface disturbance safety polices. A ¼-inch gas vapor implant was placed at the base of each vapor point and the boring was filled from 5 feet to 2 feet bls with sand followed by bentonite to 1 foot bls. The approximate locations of the two soil vapor points (VP-1 and VP-2) are depicted on Figure 3.

On March 25, 2016, after adequate time had passed to allow for soil vapor conditions to stabilize after the vapor point installation, Broadbent personnel returned to the site to collect soil vapor samples. A 1-liter Summa canister was utilized to collect a soil gas sample from each sample point. The initial canisters vacuums were measured between 28 and 29 inches of Hg prior to sample collection. Each Summa canister was connected to the three-way valve of each individual soil vapor point via disposable 1/4-inch Teflon sample tubing. Swagelok fittings were used to connect canisters to the tubing. The Summa canister flow control/sample trains were checked for

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leaks by applying a vacuum for 10 minutes and the fittings were determined to be tight. A small, diaphragm purge pump was attached to the three-way valve of each soil vapor point and utilized to purge at least three air volumes. Subsequent to purging, two soil vapor samples were collected. The samples were collected until the pressure in the canisters reached 5 inches of Hg. Soil vapor samples were submitted, under chain-of-custody procedures, to California accredited ESC Lab Sciences in Mt. Juliet, Tennessee. Soil vapor samples were analyzed for a full scan of VOCs by TO-15.

Following sample collection, gas vapor implants were removed and the soil vapor points were abandoned by the drilling contractor. The surface of each soil vapor point was finished with concrete, flush to grade.

4.3 Soil and Soil Gas Sample Analytical Results

The soil samples collected during this assessment were analyzed for TPH by EPA Method 8015 and for a full range of VOCs by EPA Method 8260. No TPH or VOCs were detected above laboratory detection limits in the soil samples collected from SB-1 and SB-2. Reported results for TPH, benzene, ethylbenzene, and naphthalene are listed in the table below. Laboratory analytical reports and chain-of-custody documentation for soil samples are attached in Appendix B.

Soil Sample Analytical Data:

Soil Sample ID	Date	TPH (mg/Kg)	Benzene (mg/Kg)	Ethylbenzene (mg/Kg)	Naphthalene (mg/Kg)
SB-1 5FT	3/22/15	<0.500	<0.00500	<0.00500	<0.0250
SB-1 10FT	3/25/16	<0.519	<0.00519	<0.00519	<0.00519
SB-2 5FT	3/22/16	<0.500	<0.00500	<0.00500	<0.0250
SB-2 10FT	3/25/16	<0.524	<0.00524	<0.00524	<0.02620

The soil gas samples collected during this assessment were analyzed for a full range of VOCs by TO-15. Reported results for TPH, benzene, ethylbenzene, and naphthalene are listed in the table below. Detected benzene and ethylbenzene concentrations are well below the soil gas criteria for residential (as reported in Appendix 4 of the *Low-Threat UST Case Closure Policy*: benzene <85 µg/ m^3 and ethylbenzene <1,100 µg/ m^3). Trace amounts of additional VOCs were detected, see attached laboratory analytical report. Laboratory analytical reports and chain-of-custody documentation for soil gas samples are attached in Appendix B.

Soil Gas Sample Analytical Data:

Soil Gas Sample ID	Date	Benzene (µg/ m^3)	Ethylbenzene (µg/ m^3)	Naphthalene (µg/ m^3)
VP-1	3/25/16	<1.28	2.84	<6.60
VP-2	3/25/16	1.32	1.88	<6.60

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5.0 DISCUSSION & REQUEST FOR CLOSURE

The environmental activities described were performed to establish closure criteria for a low-threat UST site. In accordance with the Lahontan Regional Water Quality Control Board approved Work Plan, two soil borings (SB-1 and SB-2) were installed to further evaluate the effectiveness of the VE system in reducing the petroleum hydrocarbon contamination on the Property in the vicinity of the former UST system. Both soil borings were successfully advanced to a depth of 10 feet bls. During the advancement of the boreholes, a total of two soil samples from each borehole were collected and submitted for laboratory analysis. TPH, benzene, ethylbenzene, and naphthalene concentrations were not detected above laboratory detection limits in any of the soil samples collected.

Additionally, two soil vapor points were installed adjacent to the existing building on the Property to demonstrate the vapor intrusion to indoor air criteria is met. Soil gas samples were collected from each point and a trace amount of benzene and ethylbenzene were detected in the samples. These concentrations are well below the residential soil gas criteria set forth in Appendix 4 of the *Low-Threat UST Case Closure Policy*.

Based on previous environmental characterization work (2004) at the Property, the deepest detected TPH concentration in the subsurface at that time was at a depth of 55 feet below ground surface (VE-5-55'; 2.6 mg/kg, Table 1). Since nearest groundwater has been estimated to be approximately 200 feet below land surface, there is an approximate 145-foot separation between groundwater and the deepest soil exhibiting TPH concentrations. Based on this and the fact that the deepest detected TPH concentration was minor (2.6 mg/kg), it does not appear that TPH in the subsurface poses a significant risk to groundwater beneath the Property.

Based on the results of the work detailed herein, Broadbent & Associates, Inc., on behalf of the Property owner, Ms. Deana Herold, request the Lahontan Regional Water Quality Control Board grant closure for the case and issue a Uniform Closure Letter consistent with Health and Safety Code section 25296.10. Once closure has been granted, all wells will be abandoned and remediation system and infrastructure will be removed from the site.

6.0 CLOSURE

This report has been prepared for the exclusive use of Ms. Deana Herold, Property Owner. The findings presented in this report are based upon observations of our field personnel, points of investigation, results of laboratory tests performed by ESC Lab Sciences, and drilling work performed by National Exploration. Our services were performed in accordance with the generally accepted standard of practice at the time this report was written. No warranty, expressed or implied, is intended. It is possible that variations in the groundwater conditions could exist beyond the points explored in this investigation. Also, changes in site conditions could occur at some time in the future due to variations in rainfall, temperature, regional water usage, or other factors.

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7.0 REFERENCES

Broadbent and Associates, Inc. (2004, June 23). On-Site Characterization & Remedial Feasibility Testing Report, KNR Automotive, 20307 Bear Valley Road, Apple Valley, California 92308-5107, Site No. 96049.

Broadbent and Associates, Inc. (2015, December 9). Work Plan for Low-Threat Underground Storage Tank Case Closure Request, Former J&M Automotive, 20307 Bear Valley Road, Apple Valley, California 92308-5107, Case No. 6B3600779T.

California EPA, State Water Resources Control Board (Date Not Provided). Low-Threat Underground Storage Tank Case Closure Policy. Retrieved from: http://www.waterboards.ca.gov/board_decisions/adopted_orders/resolutions/2012/rs2012_0016atta.pdf.

U.S. Geological Survey, California Water Science Center (2014). Groundwater Data. Retrieved from: http://ca.water.usgs.gov/mojave/mojave-water-data.html

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FIGURES

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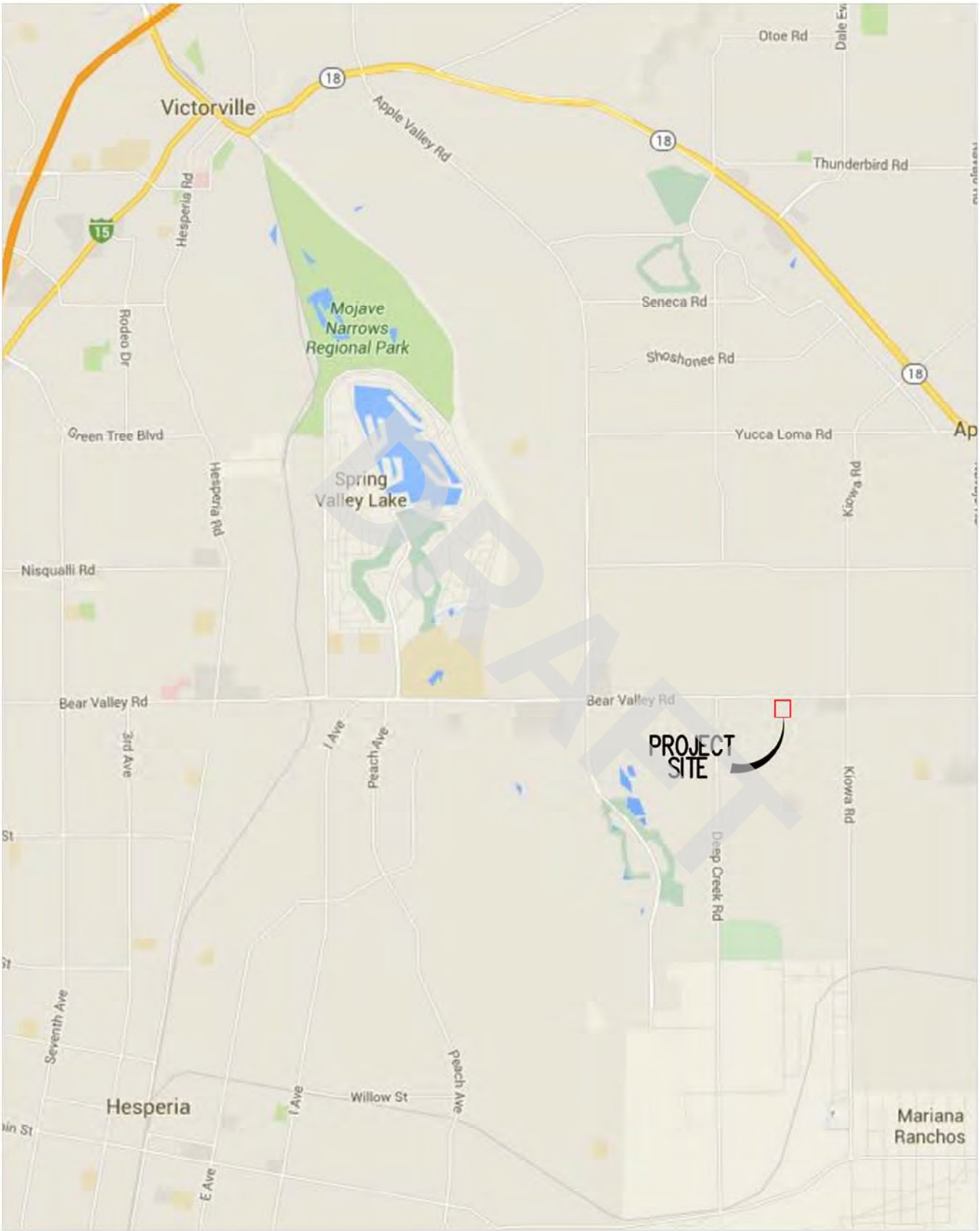


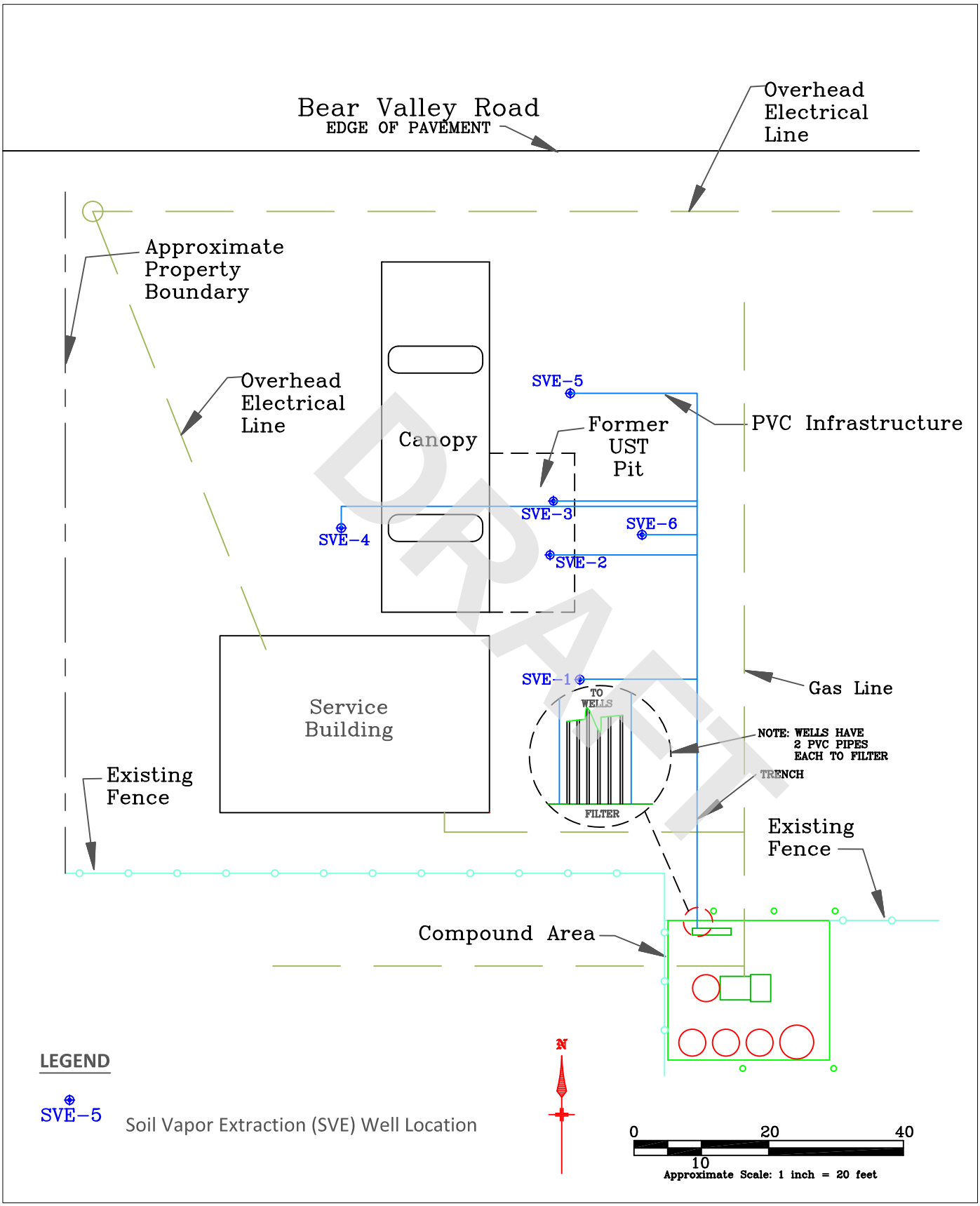
Site Location Map
Former J&M Automotive
20307 Bear Valley Road
Apple Valley, CA

Figure No. 1

Project No. 07-01-175-101

Prepared by: SLH Date: 6/25/13

BROADBENT



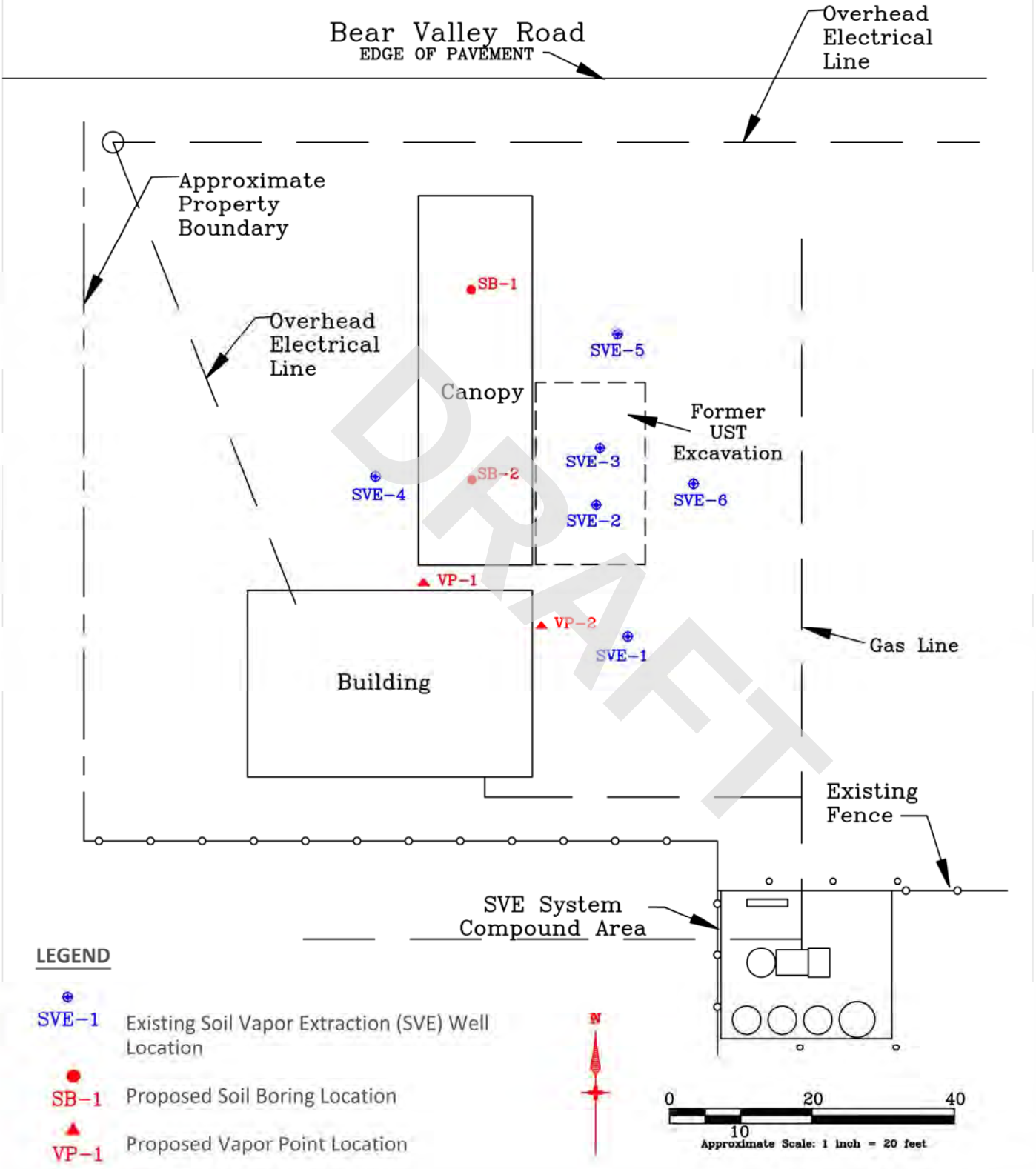
Site Map with SVE Well Locations and Infrastructure Layout
Former J& M Automotive
20307 Bear Valley Road
Apple Valley, CA

Figure No. 2

Project No. 07-01-175-101

Prepared by: SLH Date: 11/16/15

BROADBENT



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Site Map with Soil Boring and Soil Vapor Sampling Locations
and Boring Locations
Former J&M Automotive
20307 Bear Valley Road
Apple Valley, CA

Figure No. 3

Project No. 07-01-175-101

Prepared by: SLH Date: 11/12/15

BROADBENT

TABLES

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Table 1
Summary of Soil Analytical Results
Former J&M Automotive, Apple Valley, CA

Well Boring	Sample Date	Benzene (µg/kg)	Toluene (µg/kg)	Ethylbenzene (µg/kg)	Xylenes (µg/kg)	TPH (mg/kg)	MTBE (µg/kg)	F.O. (µg/kg)
VE-1-20'	03/17/04	ND	ND	ND	ND	ND	ND	ND
VE-1-30'	03/17/04	ND	ND	ND	ND	ND	ND	ND
VE-1-35'	03/17/04	ND	ND	ND	ND	ND	ND	ND
VE-1-45'	03/17/04	ND	ND	ND	ND	ND	ND	ND
VE-1-50'	03/17/04	ND	ND	ND	ND	ND	ND	ND
VE-1-55'	03/17/04	ND	ND	ND	ND	ND	ND	ND
VE-2-25'	03/18/04	ND	ND	ND	150,000	670	ND	ND
VE-2-30'	03/18/04	ND	ND	180	18,000	950	ND	ND
VE-2-35'	03/18/04	ND	19,000	34,000	550,000	390	ND	ND
VE-2-45'	03/18/04	440	18,000	9,100	80,000	55	2,100	ND
VE-2-50'	03/18/04	ND	510	280	2,500	3.1	580	ND
VE-2-55'	03/18/04	ND	ND	ND	ND	ND	260	ND
VE-3-30'	03/18/04	ND	ND	ND	1,100	71	ND	ND
VE-3-35'	03/18/04	ND	47,000	62,000	550,000	5,500	ND	ND
VE-3-40'	03/18/04	140	51,000	27,000	210,000	66	ND	ND
VE-3-45'	03/18/04	810	31,000	15,000	94,000	17	1,700	ND
VE-3-50'	03/18/04	11,000	220,000	70,000	360,000	2.9	ND	ND
VE-3-55'	03/18/04	ND	ND	ND	ND	ND	ND	ND
VE-4-30'	03/17/04	ND	ND	ND	ND	ND	ND	ND
VE-4-50'	03/17/04	ND	ND	ND	ND	ND	ND	ND
VE-5-30'	03/18/04	580	66,000	71,000	550,000	2,400	ND	ND
VE-5-35'	03/18/04	6,000	400,000	140,000	840,000	2,800	ND	ND
VE-5-40'	03/18/04	85	18,000	19,000	290,000	520	ND	ND
VE-5-45'	03/18/04	6,200	94,000	27,000	150,000	310	ND	ND
VE-5-50'	03/18/04	30,000	460,000	120,000	720,000	17,000	ND	ND
VE-5-55'	03/18/04	140	270	ND	270	2.6	ND	ND
VE-6-30'	03/18/04	ND	ND	ND	ND	ND	ND	ND
VE-6-35'	03/18/04	ND	ND	130	1,500	3.6	ND	ND
VE-6-40'	03/18/04	ND	3,500	3,400	22,000	1,300	ND	ND
VE-6-45'	03/18/04	ND	240	ND	520	3.0	ND	ND
VE-6-50'	03/18/04	ND	ND	ND	210	ND	ND	ND
VE-6-55'	03/18/04	ND	260	ND	410	ND	ND	ND

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ND= Not Detected at Method Detection Limits

Table 2
Vapor Analytical Results
Former J&M Automotive, Apple Valley, CA

Sample Date	Carbon Inlet or Outlet	Zone Sampled	Benzene (ppmv)	Toluene (ppmv)	Ethylbenzene (ppmv)	Total Xylenes (ppmv)	VFH C6-C12 (ppmv)
9/13/2005	Inlet	Shallow	3.7	15	3.3	33	260
	Outlet	Shallow	ND	ND	ND	ND	19
10/18/2005	Inlet	Shallow	ND	5.9	1.2	17	180
	Outlet	Shallow	8.4	ND	ND	ND	130
11/29/2005	Inlet	Deep	15	75	18	130	1,400
	Outlet	Deep	ND	ND	ND	ND	9
12/16/2005	Inlet	Shallow	ND	5.8	1.2	26	110
	Outlet	Shallow	ND	ND	ND	ND	3.5
1/25/2006	Inlet	Deep	22	85	28	240	1,400
	Outlet	Deep	ND	ND	ND	ND	11
2/24/2006	Inlet	Deep	7	52	13	130	1,200
	Outlet	Deep	1.8	26	ND	ND	170
System shut down in March 2006							
4/20/2006	Inlet	Deep	6.9	66	19	370	1,900
	Outlet	Deep	ND	ND	ND	ND	2.7
5/26/2006	Inlet	Deep	20	62	21	300	1,700
	Outlet	Deep	ND	ND	ND	ND	ND
6/21/2006	Inlet	Deep	13	38	12	170	1,100
	Outlet	Deep	ND	ND	ND	ND	4.3
7/6/2006	Inlet	Deep	6	29	8.9	100	650
	Outlet	Deep	ND	ND	ND	ND	ND
8/24/2006	Inlet	Deep	4.1	20	4.8	74	600
	Outlet	Deep	ND	ND	ND	ND	78
9/7/2006	Inlet	Deep	5.2	20	7	110	880
	Outlet	Deep	ND	ND	ND	ND	ND
10/17/2006	Inlet	Deep	ND	4	ND	17	140
	Outlet	Deep	ND	ND	ND	ND	36
10/31/2006	Inlet	Deep	ND	4.8	ND	18	160
	Outlet	Deep	ND	ND	ND	ND	3.5
11/14/2006	Inlet	Deep	2.7	27	7	83	800
	Outlet	Deep	ND	ND	ND	ND	22
11/30/2006	Inlet	Deep	4	18	5.4	82	910
	Outlet	Deep	ND	ND	ND	ND	24
12/13/2006	Inlet	Deep	2.5	22	5.7	77	800
	Outlet	Deep	ND	ND	ND	ND	25

DRAFT

ND=Not Detected at Method Detection Limits

Carbon Tank changed out September 2005,
November 2005, April 2006, October 2006,
April 2007, and November 2007.

Table 2 Vapor Analytical Results Former J&M Automotive, Apple Valley, CA							
Sample Date	Carbon Inlet or Outlet	Zone Sampled	Benzene (ppmv)	Toluene (ppmv)	Ethylbenzene (ppmv)	Total Xylenes (ppmv)	VFH C6-C12 (ppmv)
1/16/2007	Inlet	Deep	2.1	11	2.6	60	720
	Outlet	Deep	ND	ND	ND	ND	37
System shut down February 2007 - May 2007							
6/27/2007	Inlet	Shallow	0.022	1.1	0.19	3.5	24
	Outlet	Shallow	ND	ND	ND	ND	ND
7/26/2007	Inlet	Shallow	ND	ND	1.8	6.4	42
	Outlet	Shallow	ND	ND	ND	ND	3.5
8/24/2007	Inlet	Deep	ND	3.2	17	78	480
	Outlet	Deep	ND	ND	ND	ND	ND
9/27/2007	Inlet	Deep	ND	1.6	9.6	39	250
	Outlet	Deep	ND	ND	ND	ND	2.7
10/30/2007	Inlet	Deep	ND	5.1	ND	30	190
	Outlet	Deep	ND	ND	ND	ND	ND
11/27/2007	Inlet	Deep	ND	2.1	ND	10	76
	Outlet	Deep	ND	ND	ND	ND	ND
12/26/2007	Inlet	Deep	ND	ND	ND	6.9	56
	Outlet	Deep	ND	ND	ND	ND	ND
System shut down January 2008							
2/27/2008	Inlet	Deep	ND	5.8	1.2	37	280
	Outlet	Deep	ND	ND	ND	ND	ND
3/27/2008	Inlet	Deep	ND	11	ND	89	760
	Outlet	Deep	ND	ND	ND	ND	ND

DRAFT

ND=Not Detected at Method Detection Limits

Carbon Tank changed out September 2005,
November 2005, April 2006, October 2006,
April 2007, and November 2007.

Table 3
Volatile Fuel Hydrocarbons (VFH) Emission Summary
Former J&M Automotive, Apple Valley, California

Reporting Period	Influent VFH (mg/m^3)	Effluent VFH (mg/m^3)	Flow CFM	Influent tons/day*	Effluent tons/day*	Operational days/period	Influent tons/period	Effluent tons/period	Cumulative Influent Tons Extracted	Cumulative Effluent Tons Emmitted	Cumulative Destruction Tons Destroyed	Processed Flow Per Period (ft^3)	Total Processed Flow (ft^3)
8/24/05-9/13/05	1,063	78	NM	NM	NM	20	NM	NM	NM	NM	NM	NM	NM
9/14/05-10/18/05	736	532	NM	NM	NM	34	NM	NM	NM	NM	NM	NM	NM
10/18/05-11/29/05	5,726	37	82	0.021	0.000	29	0.611	0.004	0.611	0.004	0.607	3,424,320	3,424,320
11/29/05-12/16/05	450	14	82	0.002	0.000	18	0.030	0.001	0.641	0.005	0.636	2,125,440	5,549,760
12/17/05-1/25/06	5,726	45	79	0.020	0.000	39	0.792	0.006	1.433	0.011	1.422	4,436,640	9,986,400
1/26/06-2/24/06	4,908	695	82	0.018	0.003	29	0.524	0.074	1.957	0.085	1.871	3,424,320	13,410,720
System off March 2006													
4/1/06-4/20/06	7,771	11	82	0.029	0.000	20	0.572	0.001	2.529	0.086	2.443	2,361,600	15,772,320
4/21/06-5/26/06	6,800	0	62	0.019	0.000	35	0.662	0.000	3.192	0.086	3.105	3,124,800	18,897,120
5/27/06-6/21/06	4,700	18	82	0.017	0.000	25	0.433	0.002	3.624	0.088	3.536	2,952,000	21,849,120
6/22/06-7/6/06	2,600	0	73	0.009	0.000	14	0.119	0.000	3.743	0.088	3.656	1,471,680	23,320,800
7/7/2006-8/24/06	2,500	319	76	0.009	0.001	48	0.409	0.052	4.153	0.140	4.013	5,253,120	28,573,920
8/25/06-9/7/06	3,600	0	66	0.011	0.000	13	0.139	0.000	4.292	0.140	4.152	1,235,520	29,809,440
9/8/06-10/17/06	550	147	73	0.002	0.000	40	0.072	0.019	4.364	0.159	4.204	4,204,800	34,014,240
10/18/06-10/31/06	640	14	64	0.002	0.000	13	0.024	0.001	4.388	0.160	4.228	1,198,080	35,212,320
11/1/06-11/14/06	3,300	90	73	0.011	0.000	14	0.151	0.004	4.539	0.164	4.375	1,471,680	36,684,000
11/15/06-11/30/06	3,700	98	60	0.010	0.000	15	0.150	0.004	4.689	0.168	4.521	1,296,000	37,980,000
12/1/06-12/13/06	3,300	102	75	0.011	0.000	13	0.144	0.004	4.833	0.172	4.660	1,404,000	39,384,000
12/14/06-1/16/07	3,000	151	89	0.012	0.001	33	0.396	0.020	5.229	0.192	5.036	4,229,280	43,613,280
System off February-April 2007													
5/30/07-6/27/07	96	0	89	0.000	0.000	29	0.011	0.000	5.240	0.192	5.047	3,716,640	47,329,920
6/28/07-7/26/07	170	14	90	0.001	0.000	29	0.020	0.002	5.260	0.194	5.065	3,758,400	51,088,320
7/27/07-8/24/07	1,900	0	90	0.008	0.000	28	0.215	0.000	5.475	0.194	5.280	3,628,800	54,717,120
8/25/07-9/27/07	1,000	11	90	0.004	0.000	33	0.133	0.001	5.608	0.196	5.412	4,276,800	58,993,920
9/28/07-10/30/07	790	0	90	0.003	0.000	33	0.105	0.000	5.713	0.196	5.518	4,276,800	63,270,720
10/31/07-11/27/07	310	0	85	0.001	0.000	33	0.039	0.000	5.752	0.196	5.557	4,039,200	67,309,920
11/28/07-12/26/07	230	0	130	0.001	0.000	33	0.044	0.000	5.797	0.196	5.601	6,177,600	73,487,520
Sytem off January 2008													
1/30/08-2/27/08	280	0	79	0.001	0.000	29	0.029	0.000	5.825	0.196	5.630	3,299,040	76,786,560
2/28/08-3/27/08	760	0	84	0.003	0.000	29	0.083	0.000	5.909	0.196	5.713	3,507,840	80,294,400

*** Formula used to calculate mass of contaminant emitted:**

(vapor concentration) mg/m^3 * 0.02831 m^3/ft^3 * **(flow rate) cfm** * 1440 minute/day * 1lb./ 454,000 mg = lbs./day

1640 gallons at 6.84 pounds per gallon.

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APPENDIX A

Lithologic Logs
and
Key to the Unified Soil Classification System

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BROADBENT & ASSOCIATES, INC.
ENGINEERING, WATER RESOURCES & ENVIRONMENTAL
8 West Pacific Avenue
Henderson, NV 89015

FIELD BOREHOLE LOG

MONITORING WELL.: **SB-1**

TOTAL DEPTH: **10 feet**

PROJECT INFORMATION

PROJECT:	**KNR Automotive**
SITE LOCATION:	**20307 Bear Valley Road**
JOB NO.:	**07-01-175**
LOGGED BY:	**Carlos Cobos**
PROJECT MANAGER:	**Stephanie Holst**
DATE DRILLED:	**3-25-2016**

DRILLING INFORMATION

DRILLING CO.:	**National EWP**
DRILLING METHOD:	**Air Knife, Direct Push**
START TIME:	**1100**
STOP TIME:	**1145**

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DEPTH	SOIL SYMB.	USCS	SOIL DESCRIPTION	Moisture	Odor	PID (ppm)	Benzene (mg/Kg)	E-benzene (mg/Kg)	Naphthalene (mg/Kg)
0		SW	Brown fine sand.	None	None	0.0			
		SW	Brown coarse sand with clay.	Moist	None	0.0	<0.005	<0.005	<0.025
-5		CL	Brown clay.	None	None	0.3			
		CL	Brown clay with silt.						
		SW	Brown fine sand.	None	None	2.4	<0.00519	<0.00519	<0.0259
-10									

NOTES: < Not detected above laboratory detection limits

BROADBENT & ASSOCIATES, INC.
ENGINEERING, WATER RESOURCES & ENVIRONMENTAL
8 West Pacific Avenue
Henderson, NV 89015

FIELD BOREHOLE LOG

MONITORING WELL.: **SB-2**

TOTAL DEPTH: **10 feet**

PROJECT INFORMATION

PROJECT:	**KNR Automotive**
SITE LOCATION:	**20307 Bear Valley Road**
JOB NO.:	**07-01-175**
LOGGED BY:	**Carlos Cobos**
PROJECT MANAGER:	**Stephanie Holst**
DATE DRILLED:	**3-25-2016**

DRILLING INFORMATION

DRILLING CO.:	**National EWP**
DRILLING METHOD:	**Air Knife,**
START TIME:	**1000**
STOP TIME:	**1050**

DRAFT

DEPTH	SOIL SYMB.	USCS	SOIL DESCRIPTION	Moisture	Odor	PID (ppm)	Benzene (mg/Kg)	E-benzene (mg/Kg)	Naphthalene (mg/Kg)
0			Brown coarse sand.	None	None	0.0			
				None	None	0.0			
-5		SW	Brown fine sand.	None	None	0.3	<0.005	<0.005	<0.00524
				None	None	0.0			
-10				None	None	0.5	<0.00524	<0.025	<0.0262

NOTES: < Not detected above laboratory detection limits

BROADBENT & ASSOCIATES, INC.
ENGINEERING, WATER RESOURCES & ENVIRONMENTAL
8 West Pacific Avenue
Henderson, NV 89015

FIELD BOREHOLE LOG

MONITORING WELL.: **VP-1**

TOTAL DEPTH: **5 feet**

PROJECT INFORMATION

PROJECT:	**KNR Automotive**
SITE LOCATION:	**20307 Bear Valley Road**
JOB NO.:	**07-01-175**
LOGGED BY:	**Carlos Cobos**
PROJECT MANAGER:	**Stephanie Holst**
DATE DRILLED:	**3-22-2016**

DRILLING INFORMATION

DRILLING CO.:	**National EWP**
DRILLING METHOD:	**Air Knife, Safe Dig**
START TIME:	**1210**
STOP TIME:	**1245**

DEPTH	SOIL SYMB.	USCS	SOIL DESCRIPTION	Moisture	Odor	PID (ppm)	Benzene (mg/Kg)	E-benzene (mg/Kg)	Naphthalene (mg/Kg)
0		SW	Brown fine sand.	None	None	0.0			
			Brown coarse sand with trace gravel.	None	None	0.0	<0.00128	0.00284	<0.0066
-5									

DRAFT

NOTES: < Not detected above laboratory detection limits

BROADBENT & ASSOCIATES, INC.
ENGINEERING, WATER RESOURCES & ENVIRONMENTAL
8 West Pacific Avenue
Henderson, NV 89015

FIELD BOREHOLE LOG

MONITORING WELL.: **VP-2**

TOTAL DEPTH: **5 feet**

PROJECT INFORMATION

PROJECT:	**KNR Automotive**
SITE LOCATION:	**20307 Bear Valley Road**
JOB NO.:	**07-01-175**
LOGGED BY:	**Carlos Cobos**
PROJECT MANAGER:	**Stephanie Holst**
DATE DRILLED:	**3-22-2016**

DRILLING INFORMATION

DRILLING CO.:	**National EWP**
DRILLING METHOD:	**Air Knife, Safe Dig**
START TIME:	**1300**
STOP TIME:	**1350**

DEPTH	SOIL SYMB.	USCS	SOIL DESCRIPTION	Moisture	Odor	PID (ppm)	Benzene (mg/Kg)	E-benzene (mg/Kg)	Naphthalene (mg/Kg)
0		SW	Brown coarse sand.	None	None	0.0			
			Browns coarse sand with trace gravel.	None	None	0.0	0.00132	0.00188	<0.0066
-5									

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NOTES: < Not detected above laboratory detection limits

APPENDIX B

Laboratory Reports, QA/QC Data, and Chain-of-Custody Documentation

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ANALYTICAL REPORT

March 31, 2016

Broadbent Associates

Sample Delivery Group:	L825474
Samples Received:	03/24/2016
Project Number:	07-01-175
Description:	KNR Automotive
Site:	KNR
Report To:	Stephanie Holst 8 West Pacific Henderson, NV 89015

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Entire Report Reviewed By: Daphne R Richards

Daphne Richards
Technical Service Representative

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.

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DRAFT

SB-1 5FT L825474-01 Solid

Collected by: Carlos Cobas
Collected date/time: 03/22/16 13:30
Received date/time: 03/24/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Semi-Volatile Organic Compounds (GC) by Method 8015	WG859979	1	03/29/16 14:05	03/30/16 11:57	JM
Total Solids by Method 2540 G-2011	WG860093	1	03/30/16 14:51	03/30/16 15:00	KDW
Volatile Organic Compounds (GC) by Method 8015	WG860584	5	03/30/16 14:18	03/30/16 16:11	DAH
Volatile Organic Compounds (GC/MS) by Method 8260B	WG859776	5	03/28/16 20:43	03/30/16 00:31	BMB

SB-2 5FT L825474-02 Solid

Collected by: Carlos Cobas
Collected date/time: 03/22/16 10:30
Received date/time: 03/24/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Semi-Volatile Organic Compounds (GC) by Method 8015	WG859979	1	03/29/16 14:05	03/29/16 23:19	JM
Total Solids by Method 2540 G-2011	WG860093	1	03/30/16 14:51	03/30/16 15:00	KDW
Volatile Organic Compounds (GC) by Method 8015	WG859740	5	03/30/16 00:09	03/30/16 04:07	JHH
Volatile Organic Compounds (GC/MS) by Method 8260B	WG859776	5	03/28/16 20:43	03/30/16 00:52	BMB

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All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times. All MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Daphne R Richards

Daphne Richards
Technical Service Representative

DRAFT

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	82.1		1	03/30/2016 15:00	WG860093

Volatile Organic Compounds (GC) by Method 8015

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
TPHG C5 - C12	ND		0.500	5	03/30/2016 16:11	WG860584
(S) a,a,a-Trifluorotoluene(FID)	*93.2*		*59.0-128*		*03/30/2016 16:11*	WG860584

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Acetone	ND		0.250	5	03/30/2016 00:31	WG859776
Acrylonitrile	ND		0.0500	5	03/30/2016 00:31	WG859776
Benzene	ND		0.00500	5	03/30/2016 00:31	WG859776
Bromobenzene	ND		0.00500	5	03/30/2016 00:31	WG859776
Bromodichloromethane	ND		0.00500	5	03/30/2016 00:31	WG859776
Bromoform	ND		0.00500	5	03/30/2016 00:31	WG859776
Bromomethane	ND		0.0250	5	03/30/2016 00:31	WG859776
n-Butylbenzene	ND		0.00500	5	03/30/2016 00:31	WG859776
sec-Butylbenzene	ND		0.00500	5	03/30/2016 00:31	WG859776
tert-Butylbenzene	ND		0.00500	5	03/30/2016 00:31	WG859776
Carbon tetrachloride	ND		0.00500	5	03/30/2016 00:31	WG859776
Chlorobenzene	ND		0.00500	5	03/30/2016 00:31	WG859776
Chlorodibromomethane	ND		0.00500	5	03/30/2016 00:31	WG859776
Chloroethane	ND		0.0250	5	03/30/2016 00:31	WG859776
2-Chloroethyl vinyl ether	ND		0.250	5	03/30/2016 00:31	WG859776
Chloroform	ND		0.0250	5	03/30/2016 00:31	WG859776
Chloromethane	ND		0.0125	5	03/30/2016 00:31	WG859776
2-Chlorotoluene	ND		0.00500	5	03/30/2016 00:31	WG859776
4-Chlorotoluene	ND		0.00500	5	03/30/2016 00:31	WG859776
1,2-Dibromo-3-Chloropropane	ND		0.0250	5	03/30/2016 00:31	WG859776
1,2-Dibromoethane	ND		0.00500	5	03/30/2016 00:31	WG859776
Dibromomethane	ND		0.00500	5	03/30/2016 00:31	WG859776
1,2-Dichlorobenzene	ND		0.00500	5	03/30/2016 00:31	WG859776
1,3-Dichlorobenzene	ND		0.00500	5	03/30/2016 00:31	WG859776
1,4-Dichlorobenzene	ND		0.00500	5	03/30/2016 00:31	WG859776
Dichlorodifluoromethane	ND		0.0250	5	03/30/2016 00:31	WG859776
1,1-Dichloroethane	ND		0.00500	5	03/30/2016 00:31	WG859776
1,2-Dichloroethane	ND		0.00500	5	03/30/2016 00:31	WG859776
1,1-Dichloroethene	ND		0.00500	5	03/30/2016 00:31	WG859776
cis-1,2-Dichloroethene	ND		0.00500	5	03/30/2016 00:31	WG859776
trans-1,2-Dichloroethene	ND		0.00500	5	03/30/2016 00:31	WG859776
1,2-Dichloropropane	ND		0.00500	5	03/30/2016 00:31	WG859776
1,1-Dichloropropene	ND		0.00500	5	03/30/2016 00:31	WG859776
1,3-Dichloropropane	ND		0.00500	5	03/30/2016 00:31	WG859776
cis-1,3-Dichloropropene	ND		0.00500	5	03/30/2016 00:31	WG859776
trans-1,3-Dichloropropene	ND		0.00500	5	03/30/2016 00:31	WG859776
2,2-Dichloropropane	ND		0.00500	5	03/30/2016 00:31	WG859776
Di-isopropyl ether	ND		0.00500	5	03/30/2016 00:31	WG859776
Ethylbenzene	ND		0.00500	5	03/30/2016 00:31	WG859776
Hexachloro-1,3-butadiene	ND		0.00500	5	03/30/2016 00:31	WG859776
Isopropylbenzene	ND		0.00500	5	03/30/2016 00:31	WG859776
p-Isopropyltoluene	ND		0.00500	5	03/30/2016 00:31	WG859776
2-Butanone (MEK)	ND		0.0500	5	03/30/2016 00:31	WG859776
Methylene Chloride	ND		0.0250	5	03/30/2016 00:31	WG859776

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Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
4-Methyl-2-pentanone (MIBK)	ND		0.0500	5	03/30/2016 00:31	WG859776
Methyl tert-butyl ether	ND		0.00500	5	03/30/2016 00:31	WG859776
Naphthalene	ND		0.0250	5	03/30/2016 00:31	WG859776
n-Propylbenzene	ND		0.00500	5	03/30/2016 00:31	WG859776
Styrene	ND		0.00500	5	03/30/2016 00:31	WG859776
1,1,1,2-Tetrachloroethane	ND		0.00500	5	03/30/2016 00:31	WG859776
1,1,2,2-Tetrachloroethane	ND		0.00500	5	03/30/2016 00:31	WG859776
1,1,2-Trichlorotrifluoroethane	ND		0.00500	5	03/30/2016 00:31	WG859776
Tetrachloroethene	ND		0.00500	5	03/30/2016 00:31	WG859776
Toluene	ND		0.0250	5	03/30/2016 00:31	WG859776
1,2,3-Trichlorobenzene	ND		0.00500	5	03/30/2016 00:31	WG859776
1,2,4-Trichlorobenzene	ND		0.00500	5	03/30/2016 00:31	WG859776
1,1,1-Trichloroethane	ND		0.00500	5	03/30/2016 00:31	WG859776
1,1,2-Trichloroethane	ND		0.00500	5	03/30/2016 00:31	WG859776
Trichloroethene	ND		0.00500	5	03/30/2016 00:31	WG859776
Trichlorofluoromethane	ND		0.0250	5	03/30/2016 00:31	WG859776
1,2,3-Trichloropropane	ND		0.0125	5	03/30/2016 00:31	WG859776
1,2,4-Trimethylbenzene	ND		0.00500	5	03/30/2016 00:31	WG859776
1,2,3-Trimethylbenzene	ND		0.00500	5	03/30/2016 00:31	WG859776
Vinyl chloride	ND		0.00500	5	03/30/2016 00:31	WG859776
1,3,5-Trimethylbenzene	ND		0.00500	5	03/30/2016 00:31	WG859776
Xylenes, Total	ND		0.0150	5	03/30/2016 00:31	WG859776
(S) Toluene-d8	*101*		*88.7-115*		*03/30/2016 00:31*	WG859776
(S) Dibromofluoromethane	*99.3*		*76.3-123*		*03/30/2016 00:31*	WG859776
(S) 4-Bromofluorobenzene	*87.9*		*69.7-129*		*03/30/2016 00:31*	WG859776

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
C12-C22 Hydrocarbons	ND		4.00	1	03/30/2016 11:57	WG859979
(S) o-Terphenyl	*55.3*		*50.0-150*		*03/30/2016 11:57*	WG859979

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Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	94.9		1	03/30/2016 15:00	WG860093

Volatile Organic Compounds (GC) by Method 8015

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
TPHG C5 - C12	ND		0.500	5	03/30/2016 04:07	WG859740
(S) a,a,a-Trifluorotoluene(FID)	*114*		*59.0-128*		*03/30/2016 04:07*	WG859740

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	RDL	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Acetone	ND		0.250	5	03/30/2016 00:52	WG859776
Acrylonitrile	ND		0.0500	5	03/30/2016 00:52	WG859776
Benzene	ND		0.00500	5	03/30/2016 00:52	WG859776
Bromobenzene	ND		0.00500	5	03/30/2016 00:52	WG859776
Bromodichloromethane	ND		0.00500	5	03/30/2016 00:52	WG859776
Bromoform	ND		0.00500	5	03/30/2016 00:52	WG859776
Bromomethane	ND		0.0250	5	03/30/2016 00:52	WG859776
n-Butylbenzene	ND		0.00500	5	03/30/2016 00:52	WG859776
sec-Butylbenzene	ND		0.00500	5	03/30/2016 00:52	WG859776
tert-Butylbenzene	ND		0.00500	5	03/30/2016 00:52	WG859776
Carbon tetrachloride	ND		0.00500	5	03/30/2016 00:52	WG859776
Chlorobenzene	ND		0.00500	5	03/30/2016 00:52	WG859776
Chlorodibromomethane	ND		0.00500	5	03/30/2016 00:52	WG859776
Chloroethane	ND		0.0250	5	03/30/2016 00:52	WG859776
2-Chloroethyl vinyl ether	ND		0.250	5	03/30/2016 00:52	WG859776
Chloroform	ND		0.0250	5	03/30/2016 00:52	WG859776
Chloromethane	ND		0.0125	5	03/30/2016 00:52	WG859776
2-Chlorotoluene	ND		0.00500	5	03/30/2016 00:52	WG859776
4-Chlorotoluene	ND		0.00500	5	03/30/2016 00:52	WG859776
1,2-Dibromo-3-Chloropropane	ND		0.0250	5	03/30/2016 00:52	WG859776
1,2-Dibromoethane	ND		0.00500	5	03/30/2016 00:52	WG859776
Dibromomethane	ND		0.00500	5	03/30/2016 00:52	WG859776
1,2-Dichlorobenzene	ND		0.00500	5	03/30/2016 00:52	WG859776
1,3-Dichlorobenzene	ND		0.00500	5	03/30/2016 00:52	WG859776
1,4-Dichlorobenzene	ND		0.00500	5	03/30/2016 00:52	WG859776
Dichlorodifluoromethane	ND		0.0250	5	03/30/2016 00:52	WG859776
1,1-Dichloroethane	ND		0.00500	5	03/30/2016 00:52	WG859776
1,2-Dichloroethane	ND		0.00500	5	03/30/2016 00:52	WG859776
1,1-Dichloroethene	ND		0.00500	5	03/30/2016 00:52	WG859776
cis-1,2-Dichloroethene	ND		0.00500	5	03/30/2016 00:52	WG859776
trans-1,2-Dichloroethene	ND		0.00500	5	03/30/2016 00:52	WG859776
1,2-Dichloropropane	ND		0.00500	5	03/30/2016 00:52	WG859776
1,1-Dichloropropene	ND		0.00500	5	03/30/2016 00:52	WG859776
1,3-Dichloropropane	ND		0.00500	5	03/30/2016 00:52	WG859776
cis-1,3-Dichloropropene	ND		0.00500	5	03/30/2016 00:52	WG859776
trans-1,3-Dichloropropene	ND		0.00500	5	03/30/2016 00:52	WG859776
2,2-Dichloropropane	ND		0.00500	5	03/30/2016 00:52	WG859776
Di-isopropyl ether	ND		0.00500	5	03/30/2016 00:52	WG859776
Ethylbenzene	ND		0.00500	5	03/30/2016 00:52	WG859776
Hexachloro-1,3-butadiene	ND		0.00500	5	03/30/2016 00:52	WG859776
Isopropylbenzene	ND		0.00500	5	03/30/2016 00:52	WG859776
p-Isopropyltoluene	ND		0.00500	5	03/30/2016 00:52	WG859776
2-Butanone (MEK)	ND		0.0500	5	03/30/2016 00:52	WG859776
Methylene Chloride	ND		0.0250	5	03/30/2016 00:52	WG859776

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Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
4-Methyl-2-pentanone (MIBK)	ND		0.0500	5	03/30/2016 00:52	WG859776
Methyl tert-butyl ether	ND		0.00500	5	03/30/2016 00:52	WG859776
Naphthalene	ND		0.0250	5	03/30/2016 00:52	WG859776
n-Propylbenzene	ND		0.00500	5	03/30/2016 00:52	WG859776
Styrene	ND		0.00500	5	03/30/2016 00:52	WG859776
1,1,1,2-Tetrachloroethane	ND		0.00500	5	03/30/2016 00:52	WG859776
1,1,2,2-Tetrachloroethane	ND		0.00500	5	03/30/2016 00:52	WG859776
1,1,2-Trichlorotrifluoroethane	ND		0.00500	5	03/30/2016 00:52	WG859776
Tetrachloroethene	ND		0.00500	5	03/30/2016 00:52	WG859776
Toluene	ND		0.0250	5	03/30/2016 00:52	WG859776
1,2,3-Trichlorobenzene	ND		0.00500	5	03/30/2016 00:52	WG859776
1,2,4-Trichlorobenzene	ND		0.00500	5	03/30/2016 00:52	WG859776
1,1,1-Trichloroethane	ND		0.00500	5	03/30/2016 00:52	WG859776
1,1,2-Trichloroethane	ND		0.00500	5	03/30/2016 00:52	WG859776
Trichloroethene	ND		0.00500	5	03/30/2016 00:52	WG859776
Trichlorofluoromethane	ND		0.0250	5	03/30/2016 00:52	WG859776
1,2,3-Trichloropropane	ND		0.0125	5	03/30/2016 00:52	WG859776
1,2,4-Trimethylbenzene	ND		0.00500	5	03/30/2016 00:52	WG859776
1,2,3-Trimethylbenzene	ND		0.00500	5	03/30/2016 00:52	WG859776
Vinyl chloride	ND		0.00500	5	03/30/2016 00:52	WG859776
1,3,5-Trimethylbenzene	ND		0.00500	5	03/30/2016 00:52	WG859776
Xylenes, Total	ND		0.0150	5	03/30/2016 00:52	WG859776
(S) Toluene-d8	*103*		*88.7-115*		*03/30/2016 00:52*	WG859776
(S) Dibromofluoromethane	*104*		*76.3-123*		*03/30/2016 00:52*	WG859776
(S) 4-Bromofluorobenzene	*87.9*		*69.7-129*		*03/30/2016 00:52*	WG859776

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result mg/kg	Qualifier	RDL mg/kg	Dilution	Analysis date / time	Batch
C12-C22 Hydrocarbons	ND		4.00	1	03/29/2016 23:19	WG859979
(S) o-Terphenyl	*74.5*		*50.0-150*		*03/29/2016 23:19*	WG859979

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Method Blank (MB)

(MB) R3125121-1 03/30/16 15:00

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	%		%	%
Total Solids	0.000500			

Original Sample (OS) • Duplicate (DUP)

(OS) L825458-11 03/30/16 15:00 • (DUP) R3125121-3 03/30/16 15:00

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	%	%		%		%
Total Solids	77.9	78.1	1	0.260		5

Laboratory Control Sample (LCS)

(LCS) R3125121-2 03/30/16 15:00

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	%	%	%	%	
Total Solids	50.0	50.0	100	85.0-115	

DRAFT

Method Blank (MB)

(MB) R3124970-3 03/30/16 01:33

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPHG C5 - C12	0.0351		0.0332	0.100
(S) a,a,a-Trifluorotoluene(FID)	*114*			*59.0-128*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3124970-1 03/30/16 00:22 • (LCSD) R3124970-2 03/30/16 00:45

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
TPHG C5 - C12	5.50	6.00	6.39	109	116	60.0-130			6.29	20
(S) a,a,a-Trifluorotoluene(FID)				*114*	*115*	*59.0-128*				

Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L825474-02 03/30/16 04:07 • (MS) R3124970-4 03/30/16 02:55 • (MSD) R3124970-5 03/30/16 03:19

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
TPHG C5 - C12	5.50	0.109	30.3	26.7	110	96.7	5	21.6-134			12.7	23.9
(S) a,a,a-Trifluorotoluene(FID)					*114*	*114*		*59.0-128*				

DRAFT

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Method Blank (MB)

(MB) R3125210-5 03/30/16 13:05

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	mg/kg		mg/kg	mg/kg
TPHG C5 - C12	U		0.0332	0.100
(S) a,a,a-Trifluorotoluene(FID)	*94.8*			*59.0-128*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3125210-1 03/30/16 10:33 • (LCSD) R3125210-2 03/30/16 11:26

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	mg/kg	mg/kg	mg/kg	%	%	%			%	%
TPHG C5 - C12	5.50	6.70	7.09	122	129	60.0-130			5.59	20
(S) a,a,a-Trifluorotoluene(FID)				*103*	*107*	*59.0-128*				

Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L826221-01 03/30/16 19:04 • (MS) R3125210-8 03/30/16 17:25 • (MSD) R3125210-9 03/30/16 17:50

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits
	mg/kg	mg/kg	mg/kg	mg/kg	%	%		%			%	%
TPHG C5 - C12	5.50	0.198	24.3	23.3	87.8	83.9	5	21.6-134			4.43	23.9
(S) a,a,a-Trifluorotoluene(FID)					*96.3*	*97.1*		*59.0-128*				

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Method Blank (MB)

(MB) R3124689-3 03/29/16 12:40

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Acetone	U		0.0100	0.0500
Acrylonitrile	U		0.00179	0.0100
Benzene	U		0.000270	0.00100
Bromobenzene	U		0.000284	0.00100
Bromodichloromethane	U		0.000254	0.00100
Bromoform	U		0.000424	0.00100
Bromomethane	U		0.00134	0.00500
n-Butylbenzene	U		0.000258	0.00100
sec-Butylbenzene	U		0.000201	0.00100
tert-Butylbenzene	U		0.000206	0.00100
Carbon tetrachloride	U		0.000328	0.00100
Chlorobenzene	U		0.000212	0.00100
Chlorodibromomethane	U		0.000373	0.00100
Chloroethane	U		0.000946	0.00500
2-Chloroethyl vinyl ether	U		0.00234	0.0500
Chloroform	U		0.000229	0.00500
Chloromethane	U		0.000375	0.00250
2-Chlorotoluene	U		0.000301	0.00100
4-Chlorotoluene	U		0.000240	0.00100
1,2-Dibromo-3-Chloropropane	U		0.00105	0.00500
1,2-Dibromoethane	U		0.000343	0.00100
Dibromomethane	U		0.000382	0.00100
1,2-Dichlorobenzene	U		0.000305	0.00100
1,3-Dichlorobenzene	U		0.000239	0.00100
1,4-Dichlorobenzene	U		0.000226	0.00100
Dichlorodifluoromethane	U		0.000713	0.00500
1,1-Dichloroethane	U		0.000199	0.00100
1,2-Dichloroethane	U		0.000265	0.00100
1,1-Dichloroethene	U		0.000303	0.00100
cis-1,2-Dichloroethene	U		0.000235	0.00100
trans-1,2-Dichloroethene	U		0.000264	0.00100
1,2-Dichloropropane	U		0.000358	0.00100
1,1-Dichloropropene	U		0.000317	0.00100
1,3-Dichloropropane	U		0.000207	0.00100
cis-1,3-Dichloropropene	U		0.000262	0.00100
trans-1,3-Dichloropropene	U		0.000267	0.00100

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Method Blank (MB)

(MB) R3124689-3 03/29/16 12:40

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
2,2-Dichloropropane	U		0.000279	0.00100
Di-isopropyl ether	U		0.000248	0.00100
Ethylbenzene	U		0.000297	0.00100
Hexachloro-1,3-butadiene	U		0.000342	0.00100
Isopropylbenzene	U		0.000243	0.00100
p-Isopropyltoluene	U		0.000204	0.00100
2-Butanone (MEK)	U		0.00468	0.0100
Methylene Chloride	U		0.00100	0.00500
4-Methyl-2-pentanone (MIBK)	U		0.00188	0.0100
Methyl tert-butyl ether	U		0.000212	0.00100
Naphthalene	U		0.00100	0.00500
n-Propylbenzene	U		0.000206	0.00100
Styrene	U		0.000234	0.00100
1,1,1,2-Tetrachloroethane	U		0.000264	0.00100
1,1,2,2-Tetrachloroethane	U		0.000365	0.00100
Tetrachloroethene	U		0.000276	0.00100
Toluene	U		0.000434	0.00500
1,1,2-Trichlorotrifluoroethane	U		0.000365	0.00100
1,2,3-Trichlorobenzene	U		0.000306	0.00100
1,2,4-Trichlorobenzene	U		0.000388	0.00100
1,1,1-Trichloroethane	U		0.000286	0.00100
1,1,2-Trichloroethane	U		0.000277	0.00100
Trichloroethene	U		0.000279	0.00100
Trichlorofluoromethane	U		0.000382	0.00500
1,2,3-Trichloropropane	U		0.000741	0.00250
1,2,3-Trimethylbenzene	U		0.000287	0.00100
1,2,4-Trimethylbenzene	U		0.000211	0.00100
1,3,5-Trimethylbenzene	U		0.000266	0.00100
Vinyl chloride	U		0.000291	0.00100
Xylenes, Total	U		0.000698	0.00300
(S) Toluene-d8	*102*			*88.7-115*
(S) Dibromofluoromethane	*104*			*76.3-123*
(S) 4-Bromofluorobenzene	*88.2*			*69.7-129*

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Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3124689-1 03/29/16 11:13 • (LCSD) R3124689-2 03/29/16 11:36

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Acetone	0.125	0.132	0.137	106	109	25.3-178			3.33	22.9
Acrylonitrile	0.125	0.145	0.149	116	119	57.8-143			2.23	20
Benzene	0.0250	0.0277	0.0271	111	108	72.6-120			2.14	20
Bromobenzene	0.0250	0.0229	0.0230	91.5	92.1	80.3-115			0.680	20
Bromodichloromethane	0.0250	0.0234	0.0239	93.5	95.6	75.3-119			2.21	20
Bromoform	0.0250	0.0226	0.0224	90.5	89.8	69.1-135			0.800	20
Bromomethane	0.0250	0.0323	0.0319	129	127	23.0-191			1.41	20
n-Butylbenzene	0.0250	0.0247	0.0247	98.6	98.7	74.2-134			0.0800	20
sec-Butylbenzene	0.0250	0.0223	0.0221	89.3	88.3	77.8-129			1.14	20
tert-Butylbenzene	0.0250	0.0222	0.0219	88.7	87.6	77.2-129			1.16	20
Carbon tetrachloride	0.0250	0.0239	0.0231	95.7	92.5	69.4-129			3.40	20
Chlorobenzene	0.0250	0.0239	0.0239	95.6	95.5	78.9-122			0.140	20
Chlorodibromomethane	0.0250	0.0228	0.0232	91.1	92.9	76.4-126			1.98	20
Chloroethane	0.0250	0.0317	0.0320	127	128	47.2-147			0.890	20
2-Chloroethyl vinyl ether	0.125	0.186	0.203	149	162	16.7-162		E	8.96	23.7
Chloroform	0.0250	0.0260	0.0256	104	102	73.3-122			1.62	20
Chloromethane	0.0250	0.0319	0.0322	128	129	53.1-135			1.11	20
2-Chlorotoluene	0.0250	0.0226	0.0231	90.5	92.5	74.6-127			2.12	20
4-Chlorotoluene	0.0250	0.0227	0.0226	90.9	90.4	79.5-123			0.490	20
1,2-Dibromo-3-Chloropropane	0.0250	0.0222	0.0229	88.8	91.5	64.9-131			3.00	20
1,2-Dibromoethane	0.0250	0.0231	0.0236	92.4	94.2	78.7-123			1.94	20
Dibromomethane	0.0250	0.0237	0.0241	94.9	96.5	78.5-117			1.61	20
1,2-Dichlorobenzene	0.0250	0.0242	0.0242	96.8	96.9	83.6-119			0.110	20
1,3-Dichlorobenzene	0.0250	0.0228	0.0224	91.1	89.5	75.9-129			1.72	20
1,4-Dichlorobenzene	0.0250	0.0240	0.0240	96.1	96.0	81.0-115			0.0600	20
Dichlorodifluoromethane	0.0250	0.0288	0.0289	115	115	50.9-139			0.300	20
1,1-Dichloroethane	0.0250	0.0285	0.0287	114	115	71.7-125			0.920	20
1,2-Dichloroethane	0.0250	0.0259	0.0251	104	100	67.2-121			3.24	20
1,1-Dichloroethene	0.0250	0.0283	0.0289	113	116	60.6-133			1.94	20
cis-1,2-Dichloroethene	0.0250	0.0264	0.0265	105	106	76.1-121			0.550	20
trans-1,2-Dichloroethene	0.0250	0.0259	0.0259	104	104	70.7-124			0.130	20
1,2-Dichloropropane	0.0250	0.0259	0.0263	104	105	76.9-123			1.48	20
1,1-Dichloropropene	0.0250	0.0264	0.0260	106	104	71.2-126			1.66	20
1,3-Dichloropropane	0.0250	0.0250	0.0252	99.9	101	80.3-114			0.740	20
cis-1,3-Dichloropropene	0.0250	0.0242	0.0256	96.6	102	77.3-123			5.68	20
trans-1,3-Dichloropropene	0.0250	0.0245	0.0255	98.0	102	73.0-127			4.03	20

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Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3124689-1 03/29/16 11:13 • (LCSD) R3124689-2 03/29/16 11:36

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
2,2-Dichloropropane	0.0250	0.0238	0.0229	95.4	91.7	61.9-132			3.92	20
Di-isopropyl ether	0.0250	0.0311	0.0317	124	127	67.2-131			1.86	20
Ethylbenzene	0.0250	0.0235	0.0233	93.8	93.0	78.6-124			0.850	20
Hexachloro-1,3-butadiene	0.0250	0.0231	0.0220	92.3	88.1	69.2-136			4.62	20
Isopropylbenzene	0.0250	0.0215	0.0214	86.1	85.6	79.4-126			0.540	20
p-Isopropyltoluene	0.0250	0.0219	0.0217	87.5	86.8	75.4-132			0.770	20
2-Butanone (MEK)	0.125	0.129	0.130	103	104	44.5-154			0.410	21.3
Methylene Chloride	0.0250	0.0278	0.0292	111	117	68.2-119			4.92	20
4-Methyl-2-pentanone (MIBK)	0.125	0.121	0.131	97.1	105	61.1-138			7.86	20
Methyl tert-butyl ether	0.0250	0.0275	0.0283	110	113	70.2-122			2.90	20
Naphthalene	0.0250	0.0220	0.0228	87.9	91.4	69.9-132			3.86	20
n-Propylbenzene	0.0250	0.0220	0.0221	88.1	88.4	80.2-124			0.320	20
Styrene	0.0250	0.0240	0.0235	95.9	94.1	79.4-124			1.88	20
1,1,1,2-Tetrachloroethane	0.0250	0.0229	0.0231	91.6	92.5	76.7-127			1.02	20
1,1,2,2-Tetrachloroethane	0.0250	0.0228	0.0238	91.0	95.1	78.8-124			4.35	20
Tetrachloroethene	0.0250	0.0228	0.0224	91.1	89.5	71.1-133			1.77	20
Toluene	0.0250	0.0235	0.0244	93.8	97.5	76.7-116			3.88	20
1,1,2-Trichlorotrifluoroethane	0.0250	0.0269	0.0269	107	107	62.6-138			0.000	20
1,2,3-Trichlorobenzene	0.0250	0.0231	0.0234	92.5	93.4	72.5-137			1.01	20
1,2,4-Trichlorobenzene	0.0250	0.0227	0.0227	90.9	90.8	74.0-137			0.150	20
1,1,1-Trichloroethane	0.0250	0.0247	0.0243	98.6	97.1	69.9-127			1.60	20
1,1,2-Trichloroethane	0.0250	0.0235	0.0242	93.8	96.8	81.9-119			3.11	20
Trichloroethene	0.0250	0.0236	0.0247	94.5	98.8	77.2-122			4.50	20
Trichlorofluoromethane	0.0250	0.0245	0.0241	98.2	96.3	51.5-151			1.92	20
1,2,3-Trichloropropane	0.0250	0.0209	0.0214	83.8	85.8	74.0-124			2.39	20
1,2,3-Trimethylbenzene	0.0250	0.0237	0.0240	94.9	95.8	79.4-118			1.01	20
1,2,4-Trimethylbenzene	0.0250	0.0215	0.0216	85.9	86.2	77.1-124			0.380	20
1,3,5-Trimethylbenzene	0.0250	0.0217	0.0220	86.8	88.2	79.0-125			1.55	20
Vinyl chloride	0.0250	0.0310	0.0309	124	124	58.4-134			0.290	20
Xylenes, Total	0.0750	0.0697	0.0695	92.9	92.7	78.1-123			0.190	20
(S) Toluene-d8				*97.2*	*102*	*88.7-115*				
(S) Dibromofluoromethane				*106*	*104*	*76.3-123*				
(S) 4-Bromofluorobenzene				*89.5*	*89.2*	*69.7-129*				

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Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L825446-06 03/29/16 18:11 • (MS) R3124689-4 03/29/16 17:07 • (MSD) R3124689-5 03/29/16 17:29

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Acetone	0.125	ND	0.0788	0.0803	63.0	64.2	1	10.0-130			1.92	31.5
Acrylonitrile	0.125	ND	0.118	0.121	94.1	96.9	1	39.3-152			2.88	27.2
Benzene	0.0250	0.00431	0.0193	0.0201	60.0	63.1	1	47.8-131			3.89	22.8
Bromobenzene	0.0250	ND	0.0119	0.0148	47.5	59.2	1	40.0-130			21.9	27.4
Bromodichloromethane	0.0250	ND	0.0181	0.0190	72.2	75.9	1	50.6-128			4.99	22.8
Bromoform	0.0250	ND	0.0149	0.0173	59.5	69.1	1	43.3-139			15.1	25.9
Bromomethane	0.0250	ND	0.0232	0.0249	92.6	99.5	1	5.00-189			7.21	26.7
n-Butylbenzene	0.0250	0.000142	0.00762	0.0109	29.9	43.1	1	23.6-146			35.6	39.2
sec-Butylbenzene	0.0250	ND	0.00837	0.0123	33.5	49.2	1	31.0-142		J3	38.1	34.7
tert-Butylbenzene	0.0250	ND	0.0101	0.0138	40.4	55.0	1	36.9-142			30.7	31.7
Carbon tetrachloride	0.0250	ND	0.0156	0.0169	62.4	67.7	1	46.0-140			8.16	27.2
Chlorobenzene	0.0250	ND	0.0139	0.0164	55.5	65.6	1	44.1-134			16.6	25.7
Chlorodibromomethane	0.0250	ND	0.0161	0.0185	64.5	74.0	1	49.7-134			13.7	24
Chloroethane	0.0250	ND	0.0232	0.0248	92.6	99.4	1	5.00-164			7.00	28.4
2-Chloroethyl vinyl ether	0.125	ND	0.275	0.268	220	215	1	5.00-159	J5	J5	2.39	40
Chloroform	0.0250	ND	0.0188	0.0194	75.4	77.6	1	51.2-133			2.88	22.8
Chloromethane	0.0250	ND	0.0218	0.0226	87.2	90.6	1	31.4-141			3.81	24.6
2-Chlorotoluene	0.0250	ND	0.0107	0.0140	42.9	56.1	1	36.1-137			26.7	28.9
4-Chlorotoluene	0.0250	ND	0.0101	0.0134	40.6	53.4	1	35.4-137			27.4	29.8
1,2-Dibromo-3-Chloropropane	0.0250	ND	0.0136	0.0165	54.3	65.8	1	40.4-138			19.2	30.8
1,2-Dibromoethane	0.0250	ND	0.0168	0.0186	67.3	74.5	1	50.2-133			10.2	23.6
Dibromomethane	0.0250	ND	0.0184	0.0194	73.6	77.4	1	52.4-128			5.07	23
1,2-Dichlorobenzene	0.0250	ND	0.00990	0.0132	39.6	52.9	1	34.6-139			28.9	29.9
1,3-Dichlorobenzene	0.0250	ND	0.00869	0.0122	34.8	48.7	1	28.4-142		J3	33.3	31.2
1,4-Dichlorobenzene	0.0250	ND	0.00983	0.0131	39.3	52.3	1	35.0-133			28.4	31.1
Dichlorodifluoromethane	0.0250	ND	0.0206	0.0214	82.3	85.7	1	31.2-144			4.01	30.2
1,1-Dichloroethane	0.0250	ND	0.0201	0.0213	80.6	85.0	1	49.1-136			5.36	22.9
1,2-Dichloroethane	0.0250	ND	0.0190	0.0194	75.8	77.6	1	47.1-129			2.29	22.7
1,1-Dichloroethene	0.0250	ND	0.0219	0.0221	87.5	88.5	1	36.1-142			1.13	25.6
cis-1,2-Dichloroethene	0.0250	ND	0.0188	0.0198	75.3	79.1	1	50.6-133			4.80	23
trans-1,2-Dichloroethene	0.0250	ND	0.0188	0.0189	75.1	75.6	1	43.8-135			0.730	24.8
1,2-Dichloropropane	0.0250	ND	0.0203	0.0213	81.1	85.3	1	50.3-134			4.94	22.7
1,1-Dichloropropene	0.0250	ND	0.0156	0.0171	62.5	68.4	1	43.0-137			8.98	26.4
1,3-Dichloropropane	0.0250	ND	0.0183	0.0201	73.2	80.4	1	51.4-127			9.34	23.1
cis-1,3-Dichloropropene	0.0250	ND	0.0181	0.0201	72.3	80.5	1	48.4-134			10.8	23.6
trans-1,3-Dichloropropene	0.0250	ND	0.0179	0.0202	71.6	80.8	1	46.6-135			12.0	25.3

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Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L825446-06 03/29/16 18:11 • (MS) R3124689-4 03/29/16 17:07 • (MSD) R3124689-5 03/29/16 17:29

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
2,2-Dichloropropane	0.0250	ND	0.0170	0.0182	68.1	72.6	1	45.2-141			6.41	26.6
Di-isopropyl ether	0.0250	ND	0.0237	0.0240	94.7	96.1	1	46.7-140			1.55	23.5
Ethylbenzene	0.0250	0.00218	0.0134	0.0161	44.9	55.8	1	44.8-135			18.3	26.9
Hexachloro-1,3-butadiene	0.0250	ND	0.00546	0.00774	21.8	30.9	1	10.0-149			34.5	40
Isopropylbenzene	0.0250	0.000237	0.0109	0.0138	42.6	54.2	1	41.9-139			23.7	29.3
p-Isopropyltoluene	0.0250	ND	0.00806	0.0116	32.3	46.5	1	27.3-146		J3	36.1	35.1
2-Butanone (MEK)	0.125	ND	0.0871	0.0914	69.7	73.1	1	23.9-170			4.79	28.3
Methylene Chloride	0.0250	ND	0.0234	0.0225	93.7	89.9	1	46.7-125			4.14	22.2
4-Methyl-2-pentanone (MIBK)	0.125	ND	0.112	0.120	89.9	95.9	1	42.4-146			6.40	26.7
Methyl tert-butyl ether	0.0250	ND	0.0223	0.0228	89.3	91.2	1	50.4-131			2.14	24.8
Naphthalene	0.0250	0.000258	0.00813	0.0117	31.5	45.8	1	18.4-145		J3	36.2	34
n-Propylbenzene	0.0250	0.000398	0.00974	0.0127	37.4	49.4	1	35.2-139			26.8	31.9
Styrene	0.0250	ND	0.0130	0.0157	52.1	62.8	1	39.7-137			18.6	28.2
1,1,1,2-Tetrachloroethane	0.0250	ND	0.0152	0.0177	60.6	70.8	1	48.8-136			15.4	25.5
1,1,2,2-Tetrachloroethane	0.0250	ND	0.0155	0.0180	61.8	72.1	1	45.7-140			15.4	26.4
Tetrachloroethene	0.0250	ND	0.0120	0.0145	48.0	57.9	1	37.7-140			18.6	29.2
Toluene	0.0250	0.00911	0.0167	0.0183	30.4	36.6	1	47.8-127	J6	J6	8.91	24.3
1,1,2-Trichlorotrifluoroethane	0.0250	ND	0.0190	0.0205	76.0	81.8	1	35.7-146			7.36	28.8
1,2,3-Trichlorobenzene	0.0250	ND	0.00524	0.00812	20.9	32.5	1	10.0-150		J3	43.2	38.5
1,2,4-Trichlorobenzene	0.0250	ND	0.00534	0.00778	21.4	31.1	1	10.0-153			37.2	39.3
1,1,1-Trichloroethane	0.0250	ND	0.0176	0.0187	70.3	74.9	1	49.0-138			6.28	25.3
1,1,2-Trichloroethane	0.0250	ND	0.0182	0.0201	72.9	80.2	1	52.3-132			9.61	23.4
Trichloroethene	0.0250	ND	0.0162	0.0181	64.7	72.4	1	48.0-132			11.2	24.8
Trichlorofluoromethane	0.0250	ND	0.0175	0.0187	70.1	74.8	1	12.8-169			6.55	29.7
1,2,3-Trichloropropane	0.0250	ND	0.0153	0.0176	61.1	70.3	1	44.4-138			14.1	26.3
1,2,3-Trimethylbenzene	0.0250	0.000544	0.0115	0.0149	43.6	57.3	1	41.0-133			26.0	27.6
1,2,4-Trimethylbenzene	0.0250	0.00128	0.00961	0.0129	33.3	46.6	1	32.9-139			29.4	30.6
1,3,5-Trimethylbenzene	0.0250	0.000434	0.00995	0.0129	38.1	49.9	1	37.1-138			25.9	30.6
Vinyl chloride	0.0250	ND	0.0232	0.0234	92.7	93.6	1	32.0-146			0.940	26.3
Xylenes, Total	0.0750	0.00458	0.0393	0.0469	46.3	56.5	1	42.7-135			17.7	26.6
(S) Toluene-d8					*102*	*103*		*88.7-115*				
(S) Dibromofluoromethane					*101*	*101*		*76.3-123*				
(S) 4-Bromofluorobenzene					*89.0*	*92.6*		*69.7-129*				

DRAFT

Method Blank (MB)

(MB) R3124871-1 03/29/16 20:07

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
C12-C22 Hydrocarbons	U		0.733	4.00
(S) o-Terphenyl	*77.8*			*50.0-150*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3124871-2 03/29/16 20:19 • (LCSD) R3124871-3 03/29/16 20:30

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
C12-C22 Hydrocarbons	60.0	50.3	47.5	83.9	79.2	50.0-150			5.78	20
(S) o-Terphenyl				*88.3*	*83.6*	*50.0-150*				

DRAFT

Abbreviations and Definitions

SDG	Sample Delivery Group.
MDL	Method Detection Limit.
RDL	Reported Detection Limit.
ND,U	Not detected at the Reporting Limit (or MDL where applicable).
RPD	Relative Percent Difference.
(dry)	Results are reported based on the dry weight of the sample. [this will only be present on a dry report basis for soils].
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
Rec.	Recovery.
SDL	Sample Detection Limit.
MQL	Method Quantitation Limit.
Unadj. MQL	Unadjusted Method Quantitation Limit.

Qualifier	Description
E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL).
J3	The associated batch QC was outside the established quality control range for precision.
J5	The sample matrix interfered with the ability to make any accurate determination; spike value is high.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.

DRAFT

ESC Lab Sciences is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our "one location" design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be **YOUR LAB OF CHOICE.**
* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

State Accreditations

Alabama	40660	Nevada	TN-03-2002-34
Alaska	UST-080	New Hampshire	2975
Arizona	AZ0612	New Jersey–NELAP	TN002
Arkansas	88-0469	New Mexico	TN00003
California	01157CA	New York	11742
Colorado	TN00003	North Carolina	Env375
Conneticut	PH-0197	North Carolina [1]	DW21704
Florida	E87487	North Carolina [2]	41
Georgia	NELAP	North Dakota	R-140
Georgia [1]	923	Ohio–VAP	CL0069
Idaho	TN00003	Oklahoma	9915
Illinois	200008	Oregon	TN200002
Indiana	C-TN-01	Pennsylvania	68-02979
Iowa	364	Rhode Island	221
Kansas	E-10277	South Carolina	84004
Kentucky [1]	90010	South Dakota	n/a
Kentucky [2]	16	Tennessee [1 4]	2006
Louisiana	AI30792	Texas	T 104704245-07-TX
Maine	TN0002	Texas [5]	LAB0152
Maryland	324	Utah	6157585858
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	109
Minnesota	047-999-395	Washington	C1915
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA
Nebraska	NE-OS-15-05		

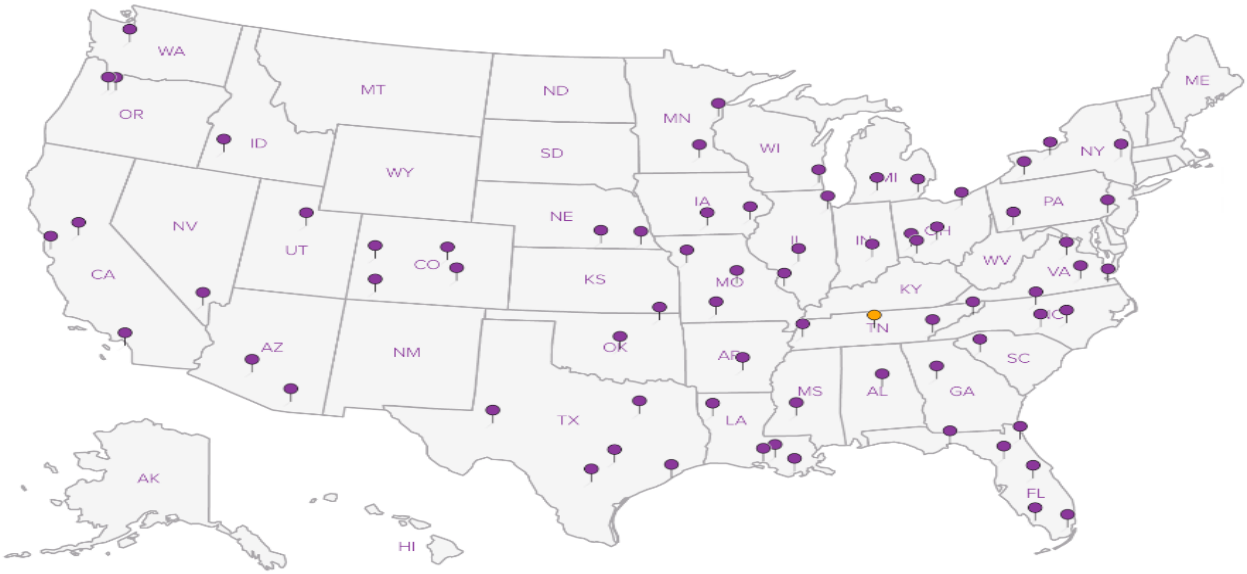
Third Party & Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	S-67674
EPA–Crypto	TN00003		

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [n/a] Accreditation not applicable

Our Locations

ESC Lab Sciences has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. **ESC Lab Sciences performs all testing at our central laboratory.**



DRAFT

Company Name/Address:
Broadbent Associates
8 West Pacific
Henderson, NV 89015

Billing Information:

Report to: Stephanie Holst

Email To: sholste broadbentinc.com

Project Description: KNR Automotive

City/State Collected: Apple Valley, CA

Phone: 702-563-0600

Client Project # 07-01-175

Lab Project #

Fax:

Collected by (print): Carlos Lobos

Site/Facility ID # KNR

P.O. # 07-01-175

Collected by (signature):

Immediately Packed on Ice N ___ Y X

Rush? (Lab MUST Be Notified)
___ Same Day 200%
___ Next Day 100%
___ Two Day 50%
___ Three Day 25%

Date Results Needed

Email? ___No X Yes

FAX? ___No ___Yes

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	TPH 8015	VOCs 8260	Rem./Contaminant	Sample # (lab only)
SB-1 @ 5'	GRAB	SS	5'	3-22-16	1330	2	X	X		-01
SB-2 @ 5'	"	"	"	"	1030	"	"	"		-02

* Matrix: **SS** - Soil **GW** - Groundwater **WW** - WasteWater **DW** - Drinking Water **OT** - Other_____

Remarks:

pH _____ Temp _____

Flow _____ Other _____

6645 0391 2178

Hold #

Condition: (lab use only) JW

COC Seal Intact: ✓ Y ___N ___NA

pH Checked: NCF:

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	3-23-16	1500	FEDEX
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)
			No Jones

Samples returned via: ☐ UPS ☒ FedEx ☐ Courier ☐ _____

Temp: 3.1 °C Bottles Received: 4

Date: 3-24-16 Time: 9:10

Chain of Custody Page ___ of ___

ESC LABORATORY SCIENCES
YOUR LAB OF CHOICE
12065 Lebanon Rd
Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

L# L825474

I137

Acctnum: BROASOHNV

Template:

Prelogin:

TSR:

Cooler:

Shipped Via:

ESC Lab Sciences
Non-Conformance Form

Login #: L825474	Client: BROASOHNV	Date: 3/24/16	Evaluated by: Troy Dunlap

Non-Conformance (check applicable items)

	Sample Integrity		Chain of Custody Clarification		
	Parameter(s) past holding time	X	Login Clarification Needed		**If Broken Container:**
	Improper temperature		Chain of custody is incomplete		Insufficient packing material around container
	Improper container type		Please specify Metals requested.		Insufficient packing material inside cooler
	Improper preservation		Please specify TCLP requested.		Improper handling by carrier (FedEx / UPS / Courie
	Insufficient sample volume.		Received additional samples not listed on coc.		Sample was frozen
	Sample is biphasic.		Sample ids on containers do not match ids on coc		Container lid not intact
	Vials received with headspace.		Trip Blank not received.		**If no Chain of Custody:**
	Broken container		Client did not "X" analysis.		Received by:
	Broken container:		Chain of Custody is missing		Date/Time:
	Sufficient sample remains				Temp./Cont. Rec./pH:
					Carrier:
					Tracking#

Login Comments: What TPH?

Client informed by:		Call	X	Email		Voice Mail		Date: 3/25	Time: 12:08
TSR Initials:DR	Client Contact: SH								

Login Instructions:

GROCA, DROCA

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ANALYTICAL REPORT

April 06, 2016

Broadbent Associates

Sample Delivery Group:	L825935
Samples Received:	03/26/2016
Project Number:	07-01-175
Description:	KNR Automotive

Report To: Stephanie Holst
8 West Pacific
Henderson, NV 89015

DRAFT

Entire Report Reviewed By: Daphne R Richards

Daphne Richards
Technical Service Representative

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.

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DRAFT

SB-1 10 FT L825935-01 Solid

Collected by: Carlos Cobos
Collected date/time: 03/25/16 08:40
Received date/time: 03/26/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Semi-Volatile Organic Compounds (GC) by Method 8015	WG861317	1	04/01/16 01:41	04/01/16 23:47	KLM
Total Solids by Method 2540 G-2011	WG862025	1	04/05/16 14:35	04/05/16 14:43	MEL
Volatile Organic Compounds (GC) by Method 8015	WG861915	5	04/05/16 09:15	04/05/16 15:41	JHH
Volatile Organic Compounds (GC/MS) by Method 8260B	WG860340	5	03/30/16 02:27	03/30/16 14:13	BMB

SB-2 10 FT L825935-02 Solid

Collected by: Carlos Cobos
Collected date/time: 03/25/16 08:55
Received date/time: 03/26/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Semi-Volatile Organic Compounds (GC) by Method 8015	WG861317	1	04/01/16 01:41	04/01/16 23:36	KLM
Total Solids by Method 2540 G-2011	WG862025	1	04/05/16 14:35	04/05/16 14:43	MEL
Volatile Organic Compounds (GC) by Method 8015	WG859743	5	04/01/16 00:23	04/01/16 18:43	DWR
Volatile Organic Compounds (GC/MS) by Method 8260B	WG860340	5	03/30/16 02:27	03/30/16 14:33	BMB

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All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times. All MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Daphne R Richards

Daphne Richards
Technical Service Representative

DRAFT

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	96.4		1	04/05/2016 14:43	WG862025

Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
TPHG C5 - C12	ND		0.519	5	04/05/2016 15:41	WG861915
(S) a,a,a-Trifluorotoluene(FID)	*98.7*		*59.0-128*		*04/05/2016 15:41*	WG861915

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Acetone	ND		0.259	5	03/30/2016 14:13	WG860340
Acrylonitrile	ND		0.0519	5	03/30/2016 14:13	WG860340
Benzene	ND		0.00519	5	03/30/2016 14:13	WG860340
Bromobenzene	ND		0.00519	5	03/30/2016 14:13	WG860340
Bromodichloromethane	ND		0.00519	5	03/30/2016 14:13	WG860340
Bromoform	ND		0.00519	5	03/30/2016 14:13	WG860340
Bromomethane	ND		0.0259	5	03/30/2016 14:13	WG860340
n-Butylbenzene	ND		0.00519	5	03/30/2016 14:13	WG860340
sec-Butylbenzene	ND		0.00519	5	03/30/2016 14:13	WG860340
tert-Butylbenzene	ND		0.00519	5	03/30/2016 14:13	WG860340
Carbon tetrachloride	ND		0.00519	5	03/30/2016 14:13	WG860340
Chlorobenzene	ND		0.00519	5	03/30/2016 14:13	WG860340
Chlorodibromomethane	ND		0.00519	5	03/30/2016 14:13	WG860340
Chloroethane	ND		0.0259	5	03/30/2016 14:13	WG860340
2-Chloroethyl vinyl ether	ND		0.259	5	03/30/2016 14:13	WG860340
Chloroform	ND		0.0259	5	03/30/2016 14:13	WG860340
Chloromethane	ND		0.0130	5	03/30/2016 14:13	WG860340
2-Chlorotoluene	ND		0.00519	5	03/30/2016 14:13	WG860340
4-Chlorotoluene	ND		0.00519	5	03/30/2016 14:13	WG860340
1,2-Dibromo-3-Chloropropane	ND		0.0259	5	03/30/2016 14:13	WG860340
1,2-Dibromoethane	ND		0.00519	5	03/30/2016 14:13	WG860340
Dibromomethane	ND		0.00519	5	03/30/2016 14:13	WG860340
1,2-Dichlorobenzene	ND		0.00519	5	03/30/2016 14:13	WG860340
1,3-Dichlorobenzene	ND		0.00519	5	03/30/2016 14:13	WG860340
1,4-Dichlorobenzene	ND		0.00519	5	03/30/2016 14:13	WG860340
Dichlorodifluoromethane	ND		0.0259	5	03/30/2016 14:13	WG860340
1,1-Dichloroethane	ND		0.00519	5	03/30/2016 14:13	WG860340
1,2-Dichloroethane	ND		0.00519	5	03/30/2016 14:13	WG860340
1,1-Dichloroethene	ND		0.00519	5	03/30/2016 14:13	WG860340
cis-1,2-Dichloroethene	ND		0.00519	5	03/30/2016 14:13	WG860340
trans-1,2-Dichloroethene	ND		0.00519	5	03/30/2016 14:13	WG860340
1,2-Dichloropropane	ND		0.00519	5	03/30/2016 14:13	WG860340
1,1-Dichloropropene	ND		0.00519	5	03/30/2016 14:13	WG860340
1,3-Dichloropropane	ND		0.00519	5	03/30/2016 14:13	WG860340
cis-1,3-Dichloropropene	ND		0.00519	5	03/30/2016 14:13	WG860340
trans-1,3-Dichloropropene	ND		0.00519	5	03/30/2016 14:13	WG860340
2,2-Dichloropropane	ND		0.00519	5	03/30/2016 14:13	WG860340
Di-isopropyl ether	ND		0.00519	5	03/30/2016 14:13	WG860340
Ethylbenzene	ND		0.00519	5	03/30/2016 14:13	WG860340
Hexachloro-1,3-butadiene	ND		0.00519	5	03/30/2016 14:13	WG860340
Isopropylbenzene	ND		0.00519	5	03/30/2016 14:13	WG860340
p-Isopropyltoluene	ND		0.00519	5	03/30/2016 14:13	WG860340
2-Butanone (MEK)	ND		0.0519	5	03/30/2016 14:13	WG860340
Methylene Chloride	ND		0.0259	5	03/30/2016 14:13	WG860340

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Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
4-Methyl-2-pentanone (MIBK)	ND		0.0519	5	03/30/2016 14:13	WG860340
Methyl tert-butyl ether	ND		0.00519	5	03/30/2016 14:13	WG860340
Naphthalene	ND		0.0259	5	03/30/2016 14:13	WG860340
n-Propylbenzene	ND		0.00519	5	03/30/2016 14:13	WG860340
Styrene	ND		0.00519	5	03/30/2016 14:13	WG860340
1,1,1,2-Tetrachloroethane	ND		0.00519	5	03/30/2016 14:13	WG860340
1,1,2,2-Tetrachloroethane	ND		0.00519	5	03/30/2016 14:13	WG860340
1,1,2-Trichlorotrifluoroethane	ND		0.00519	5	03/30/2016 14:13	WG860340
Tetrachloroethene	ND		0.00519	5	03/30/2016 14:13	WG860340
Toluene	ND		0.0259	5	03/30/2016 14:13	WG860340
1,2,3-Trichlorobenzene	ND		0.00519	5	03/30/2016 14:13	WG860340
1,2,4-Trichlorobenzene	ND		0.00519	5	03/30/2016 14:13	WG860340
1,1,1-Trichloroethane	ND		0.00519	5	03/30/2016 14:13	WG860340
1,1,2-Trichloroethane	ND		0.00519	5	03/30/2016 14:13	WG860340
Trichloroethene	ND		0.00519	5	03/30/2016 14:13	WG860340
Trichlorofluoromethane	ND		0.0259	5	03/30/2016 14:13	WG860340
1,2,3-Trichloropropane	ND		0.0130	5	03/30/2016 14:13	WG860340
1,2,4-Trimethylbenzene	ND		0.00519	5	03/30/2016 14:13	WG860340
1,2,3-Trimethylbenzene	ND		0.00519	5	03/30/2016 14:13	WG860340
Vinyl chloride	ND		0.00519	5	03/30/2016 14:13	WG860340
1,3,5-Trimethylbenzene	ND		0.00519	5	03/30/2016 14:13	WG860340
Xylenes, Total	ND		0.0156	5	03/30/2016 14:13	WG860340
(S) Toluene-d8	*101*		*88.7-115*		*03/30/2016 14:13*	WG860340
(S) Dibromofluoromethane	*101*		*76.3-123*		*03/30/2016 14:13*	WG860340
(S) 4-Bromofluorobenzene	*101*		*69.7-129*		*03/30/2016 14:13*	WG860340

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
C12-C22 Hydrocarbons	28.4		4.15	1	04/01/2016 23:47	WG861317
(S) o-Terphenyl	*75.3*		*50.0-150*		*04/01/2016 23:47*	WG861317

DRAFT

Total Solids by Method 2540 G-2011

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	%			date / time	
Total Solids	95.5		1	04/05/2016 14:43	WG862025

Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
TPHG C5 - C12	ND		0.524	5	04/01/2016 18:43	WG859743
(S) a,a,a-Trifluorotoluene(FID)	*123*		*59.0-128*		*04/01/2016 18:43*	WG859743

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result (dry)	Qualifier	RDL (dry)	Dilution	Analysis	Batch
	mg/kg		mg/kg		date / time	
Acetone	ND		0.262	5	03/30/2016 14:33	WG860340
Acrylonitrile	ND		0.0524	5	03/30/2016 14:33	WG860340
Benzene	ND		0.00524	5	03/30/2016 14:33	WG860340
Bromobenzene	ND		0.00524	5	03/30/2016 14:33	WG860340
Bromodichloromethane	ND		0.00524	5	03/30/2016 14:33	WG860340
Bromoform	ND		0.00524	5	03/30/2016 14:33	WG860340
Bromomethane	ND		0.0262	5	03/30/2016 14:33	WG860340
n-Butylbenzene	ND		0.00524	5	03/30/2016 14:33	WG860340
sec-Butylbenzene	ND		0.00524	5	03/30/2016 14:33	WG860340
tert-Butylbenzene	ND		0.00524	5	03/30/2016 14:33	WG860340
Carbon tetrachloride	ND		0.00524	5	03/30/2016 14:33	WG860340
Chlorobenzene	ND		0.00524	5	03/30/2016 14:33	WG860340
Chlorodibromomethane	ND		0.00524	5	03/30/2016 14:33	WG860340
Chloroethane	ND		0.0262	5	03/30/2016 14:33	WG860340
2-Chloroethyl vinyl ether	ND		0.262	5	03/30/2016 14:33	WG860340
Chloroform	ND		0.0262	5	03/30/2016 14:33	WG860340
Chloromethane	ND		0.0131	5	03/30/2016 14:33	WG860340
2-Chlorotoluene	ND		0.00524	5	03/30/2016 14:33	WG860340
4-Chlorotoluene	ND		0.00524	5	03/30/2016 14:33	WG860340
1,2-Dibromo-3-Chloropropane	ND		0.0262	5	03/30/2016 14:33	WG860340
1,2-Dibromoethane	ND		0.00524	5	03/30/2016 14:33	WG860340
Dibromomethane	ND		0.00524	5	03/30/2016 14:33	WG860340
1,2-Dichlorobenzene	ND		0.00524	5	03/30/2016 14:33	WG860340
1,3-Dichlorobenzene	ND		0.00524	5	03/30/2016 14:33	WG860340
1,4-Dichlorobenzene	ND		0.00524	5	03/30/2016 14:33	WG860340
Dichlorodifluoromethane	ND		0.0262	5	03/30/2016 14:33	WG860340
1,1-Dichloroethane	ND		0.00524	5	03/30/2016 14:33	WG860340
1,2-Dichloroethane	ND		0.00524	5	03/30/2016 14:33	WG860340
1,1-Dichloroethene	ND		0.00524	5	03/30/2016 14:33	WG860340
cis-1,2-Dichloroethene	ND		0.00524	5	03/30/2016 14:33	WG860340
trans-1,2-Dichloroethene	ND		0.00524	5	03/30/2016 14:33	WG860340
1,2-Dichloropropane	ND		0.00524	5	03/30/2016 14:33	WG860340
1,1-Dichloropropene	ND		0.00524	5	03/30/2016 14:33	WG860340
1,3-Dichloropropane	ND		0.00524	5	03/30/2016 14:33	WG860340
cis-1,3-Dichloropropene	ND		0.00524	5	03/30/2016 14:33	WG860340
trans-1,3-Dichloropropene	ND		0.00524	5	03/30/2016 14:33	WG860340
2,2-Dichloropropane	ND		0.00524	5	03/30/2016 14:33	WG860340
Di-isopropyl ether	ND		0.00524	5	03/30/2016 14:33	WG860340
Ethylbenzene	ND		0.00524	5	03/30/2016 14:33	WG860340
Hexachloro-1,3-butadiene	ND		0.00524	5	03/30/2016 14:33	WG860340
Isopropylbenzene	ND		0.00524	5	03/30/2016 14:33	WG860340
p-Isopropyltoluene	ND		0.00524	5	03/30/2016 14:33	WG860340
2-Butanone (MEK)	ND		0.0524	5	03/30/2016 14:33	WG860340
Methylene Chloride	ND		0.0262	5	03/30/2016 14:33	WG860340

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Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
4-Methyl-2-pentanone (MIBK)	ND		0.0524	5	03/30/2016 14:33	WG860340
Methyl tert-butyl ether	ND		0.00524	5	03/30/2016 14:33	WG860340
Naphthalene	ND		0.0262	5	03/30/2016 14:33	WG860340
n-Propylbenzene	ND		0.00524	5	03/30/2016 14:33	WG860340
Styrene	ND		0.00524	5	03/30/2016 14:33	WG860340
1,1,1,2-Tetrachloroethane	ND		0.00524	5	03/30/2016 14:33	WG860340
1,1,2,2-Tetrachloroethane	ND		0.00524	5	03/30/2016 14:33	WG860340
1,1,2-Trichlorotrifluoroethane	ND		0.00524	5	03/30/2016 14:33	WG860340
Tetrachloroethene	ND		0.00524	5	03/30/2016 14:33	WG860340
Toluene	ND		0.0262	5	03/30/2016 14:33	WG860340
1,2,3-Trichlorobenzene	ND		0.00524	5	03/30/2016 14:33	WG860340
1,2,4-Trichlorobenzene	ND		0.00524	5	03/30/2016 14:33	WG860340
1,1,1-Trichloroethane	ND		0.00524	5	03/30/2016 14:33	WG860340
1,1,2-Trichloroethane	ND		0.00524	5	03/30/2016 14:33	WG860340
Trichloroethene	ND		0.00524	5	03/30/2016 14:33	WG860340
Trichlorofluoromethane	ND		0.0262	5	03/30/2016 14:33	WG860340
1,2,3-Trichloropropane	ND		0.0131	5	03/30/2016 14:33	WG860340
1,2,4-Trimethylbenzene	ND		0.00524	5	03/30/2016 14:33	WG860340
1,2,3-Trimethylbenzene	ND		0.00524	5	03/30/2016 14:33	WG860340
Vinyl chloride	ND		0.00524	5	03/30/2016 14:33	WG860340
1,3,5-Trimethylbenzene	ND		0.00524	5	03/30/2016 14:33	WG860340
Xylenes, Total	ND		0.0157	5	03/30/2016 14:33	WG860340
(S) Toluene-d8	*101*		*88.7-115*		*03/30/2016 14:33*	WG860340
(S) Dibromofluoromethane	*101*		*76.3-123*		*03/30/2016 14:33*	WG860340
(S) 4-Bromofluorobenzene	*101*		*69.7-129*		*03/30/2016 14:33*	WG860340

Semi-Volatile Organic Compounds (GC) by Method 8015

Analyte	Result (dry) mg/kg	Qualifier	RDL (dry) mg/kg	Dilution	Analysis date / time	Batch
C12-C22 Hydrocarbons	ND		4.19	1	04/01/2016 23:36	WG861317
(S) o-Terphenyl	*82.5*		*50.0-150*		*04/01/2016 23:36*	WG861317

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Method Blank (MB)

(MB) R3126527-1 04/05/16 14:43

Analyte	MB Result %	MB Qualifier	MB MDL %	MB RDL %
Total Solids	0.000200			

Original Sample (OS) • Duplicate (DUP)

(OS) L827457-34 04/05/16 14:43 • (DUP) R3126527-3 04/05/16 14:43

Analyte	Original Result %	DUP Result %	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Total Solids	82.3	79.2	1	3.84		5

Laboratory Control Sample (LCS)

(LCS) R3126527-2 04/05/16 14:43

Analyte	Spike Amount %	LCS Result %	LCS Rec. %	Rec. Limits %	LCS Qualifier
Total Solids	50.0	50.0	100	85.0-115	

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Method Blank (MB)

(MB) R3125641-3 04/01/16 10:05

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPHG C5 - C12	U		0.0332	0.100
(S) a,a,a-Trifluorotoluene(FID)	*122*			*59.0-128*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3125641-1 04/01/16 08:52 • (LCSD) R3125641-2 04/01/16 09:16

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
TPHG C5 - C12	5.50	5.80	6.01	105	109	60.0-130			3.59	20
(S) a,a,a-Trifluorotoluene(FID)				*119*	*122*	*59.0-128*				

Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L825953-05 04/01/16 15:10 • (MS) R3125641-4 04/01/16 14:00 • (MSD) R3125641-5 04/01/16 14:23

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
TPHG C5 - C12	5.50	0.152	27.6	27.8	100	101	5	21.6-134			0.530	23.9
(S) a,a,a-Trifluorotoluene(FID)					*121*	*122*		*59.0-128*				

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Method Blank (MB)

(MB) R3126422-5 04/05/16 04:05

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
TPHG C5 - C12	U		0.0332	0.100
(S) a,a,a-Trifluorotoluene(FID)	*98.6*			*59.0-128*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3126422-3 04/05/16 02:58 • (LCSD) R3126422-4 04/05/16 03:20

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
TPHG C5 - C12	5.50	5.93	6.03	108	110	60.0-130			1.52	20
(S) a,a,a-Trifluorotoluene(FID)				*105*	*105*	*59.0-128*				

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Method Blank (MB)

(MB) R3124916-3 03/30/16 04:47

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
Acetone	U		0.0100	0.0500
Acrylonitrile	U		0.00179	0.0100
Benzene	U		0.000270	0.00100
Bromobenzene	U		0.000284	0.00100
Bromodichloromethane	U		0.000254	0.00100
Bromoform	U		0.000424	0.00100
Bromomethane	U		0.00134	0.00500
n-Butylbenzene	U		0.000258	0.00100
sec-Butylbenzene	U		0.000201	0.00100
tert-Butylbenzene	U		0.000206	0.00100
Carbon tetrachloride	U		0.000328	0.00100
Chlorobenzene	U		0.000212	0.00100
Chlorodibromomethane	U		0.000373	0.00100
Chloroethane	U		0.000946	0.00500
2-Chloroethyl vinyl ether	U		0.00234	0.0500
Chloroform	U		0.000229	0.00500
Chloromethane	U		0.000375	0.00250
2-Chlorotoluene	U		0.000301	0.00100
4-Chlorotoluene	U		0.000240	0.00100
1,2-Dibromo-3-Chloropropane	U		0.00105	0.00500
1,2-Dibromoethane	U		0.000343	0.00100
Dibromomethane	U		0.000382	0.00100
1,2-Dichlorobenzene	U		0.000305	0.00100
1,3-Dichlorobenzene	U		0.000239	0.00100
1,4-Dichlorobenzene	U		0.000226	0.00100
Dichlorodifluoromethane	U		0.000713	0.00500
1,1-Dichloroethane	U		0.000199	0.00100
1,2-Dichloroethane	U		0.000265	0.00100
1,1-Dichloroethene	U		0.000303	0.00100
cis-1,2-Dichloroethene	U		0.000235	0.00100
trans-1,2-Dichloroethene	U		0.000264	0.00100
1,2-Dichloropropane	U		0.000358	0.00100
1,1-Dichloropropene	U		0.000317	0.00100
1,3-Dichloropropane	U		0.000207	0.00100
cis-1,3-Dichloropropene	U		0.000262	0.00100
trans-1,3-Dichloropropene	U		0.000267	0.00100

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Method Blank (MB)

(MB) R3124916-3 03/30/16 04:47

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
2,2-Dichloropropane	U		0.000279	0.00100
Di-isopropyl ether	U		0.000248	0.00100
Ethylbenzene	U		0.000297	0.00100
Hexachloro-1,3-butadiene	U		0.000342	0.00100
Isopropylbenzene	U		0.000243	0.00100
p-Isopropyltoluene	U		0.000204	0.00100
2-Butanone (MEK)	U		0.00468	0.0100
Methylene Chloride	U		0.00100	0.00500
4-Methyl-2-pentanone (MIBK)	U		0.00188	0.0100
Methyl tert-butyl ether	U		0.000212	0.00100
Naphthalene	U		0.00100	0.00500
n-Propylbenzene	U		0.000206	0.00100
Styrene	U		0.000234	0.00100
1,1,1,2-Tetrachloroethane	U		0.000264	0.00100
1,1,2,2-Tetrachloroethane	U		0.000365	0.00100
Tetrachloroethene	U		0.000276	0.00100
Toluene	U		0.000434	0.00500
1,1,2-Trichlorotrifluoroethane	U		0.000365	0.00100
1,2,3-Trichlorobenzene	U		0.000306	0.00100
1,2,4-Trichlorobenzene	U		0.000388	0.00100
1,1,1-Trichloroethane	U		0.000286	0.00100
1,1,2-Trichloroethane	U		0.000277	0.00100
Trichloroethene	U		0.000279	0.00100
Trichlorofluoromethane	U		0.000382	0.00500
1,2,3-Trichloropropane	U		0.000741	0.00250
1,2,3-Trimethylbenzene	U		0.000287	0.00100
1,2,4-Trimethylbenzene	U		0.000211	0.00100
1,3,5-Trimethylbenzene	U		0.000266	0.00100
Vinyl chloride	U		0.000291	0.00100
Xylenes, Total	U		0.000698	0.00300
(S) Toluene-d8	*99.8*			*88.7-115*
(S) Dibromofluoromethane	*98.5*			*76.3-123*
(S) 4-Bromofluorobenzene	*102*			*69.7-129*

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Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3124916-1 03/30/16 03:29 • (LCSD) R3124916-2 03/30/16 03:48

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Acetone	0.125	0.106	0.107	85.0	86.0	25.3-178			1.13	22.9
Acrylonitrile	0.125	0.120	0.123	96.4	98.0	57.8-143			1.72	20
Benzene	0.0250	0.0239	0.0244	95.6	97.7	72.6-120			2.18	20
Bromobenzene	0.0250	0.0250	0.0250	100	100	80.3-115			0.0900	20
Bromodichloromethane	0.0250	0.0248	0.0251	99.1	100	75.3-119			1.15	20
Bromoform	0.0250	0.0300	0.0298	120	119	69.1-135			0.720	20
Bromomethane	0.0250	0.0229	0.0231	91.7	92.6	23.0-191			0.930	20
n-Butylbenzene	0.0250	0.0267	0.0270	107	108	74.2-134			1.17	20
sec-Butylbenzene	0.0250	0.0280	0.0282	112	113	77.8-129			0.660	20
tert-Butylbenzene	0.0250	0.0273	0.0277	109	111	77.2-129			1.40	20
Carbon tetrachloride	0.0250	0.0237	0.0247	94.8	98.9	69.4-129			4.23	20
Chlorobenzene	0.0250	0.0264	0.0261	106	104	78.9-122			1.25	20
Chlorodibromomethane	0.0250	0.0263	0.0262	105	105	76.4-126			0.330	20
Chloroethane	0.0250	0.0229	0.0230	91.5	91.9	47.2-147			0.470	20
2-Chloroethyl vinyl ether	0.125	0.124	0.127	99.5	101	16.7-162			1.97	23.7
Chloroform	0.0250	0.0237	0.0241	94.9	96.5	73.3-122			1.64	20
Chloromethane	0.0250	0.0238	0.0239	95.0	95.7	53.1-135			0.750	20
2-Chlorotoluene	0.0250	0.0273	0.0269	109	108	74.6-127			1.46	20
4-Chlorotoluene	0.0250	0.0262	0.0258	105	103	79.5-123			1.46	20
1,2-Dibromo-3-Chloropropane	0.0250	0.0272	0.0280	109	112	64.9-131			2.61	20
1,2-Dibromoethane	0.0250	0.0264	0.0264	106	106	78.7-123			0.0200	20
Dibromomethane	0.0250	0.0249	0.0248	99.7	99.1	78.5-117			0.620	20
1,2-Dichlorobenzene	0.0250	0.0262	0.0263	105	105	83.6-119			0.530	20
1,3-Dichlorobenzene	0.0250	0.0291	0.0291	116	116	75.9-129			0.0100	20
1,4-Dichlorobenzene	0.0250	0.0262	0.0264	105	106	81.0-115			0.660	20
Dichlorodifluoromethane	0.0250	0.0292	0.0290	117	116	50.9-139			0.600	20
1,1-Dichloroethane	0.0250	0.0237	0.0240	94.8	96.1	71.7-125			1.39	20
1,2-Dichloroethane	0.0250	0.0226	0.0231	90.4	92.5	67.2-121			2.26	20
1,1-Dichloroethene	0.0250	0.0238	0.0241	95.1	96.5	60.6-133			1.40	20
cis-1,2-Dichloroethene	0.0250	0.0239	0.0247	95.7	98.7	76.1-121			3.07	20
trans-1,2-Dichloroethene	0.0250	0.0243	0.0245	97.0	98.0	70.7-124			1.06	20
1,2-Dichloropropane	0.0250	0.0244	0.0247	97.7	98.9	76.9-123			1.22	20
1,1-Dichloropropene	0.0250	0.0227	0.0231	90.9	92.3	71.2-126			1.56	20
1,3-Dichloropropane	0.0250	0.0252	0.0252	101	101	80.3-114			0.0100	20
cis-1,3-Dichloropropene	0.0250	0.0250	0.0254	99.8	102	77.3-123			1.72	20
trans-1,3-Dichloropropene	0.0250	0.0230	0.0230	91.8	92.0	73.0-127			0.120	20

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Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3124916-1 03/30/16 03:29 • (LCSD) R3124916-2 03/30/16 03:48

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
2,2-Dichloropropane	0.0250	0.0255	0.0266	102	107	61.9-132			4.54	20
Di-isopropyl ether	0.0250	0.0242	0.0250	96.6	99.8	67.2-131			3.27	20
Ethylbenzene	0.0250	0.0266	0.0265	107	106	78.6-124			0.650	20
Hexachloro-1,3-butadiene	0.0250	0.0279	0.0287	112	115	69.2-136			2.72	20
Isopropylbenzene	0.0250	0.0276	0.0277	110	111	79.4-126			0.440	20
p-Isopropyltoluene	0.0250	0.0280	0.0280	112	112	75.4-132			0.0200	20
2-Butanone (MEK)	0.125	0.130	0.134	104	107	44.5-154			2.67	21.3
Methylene Chloride	0.0250	0.0246	0.0250	98.3	100	68.2-119			1.82	20
4-Methyl-2-pentanone (MIBK)	0.125	0.133	0.137	106	110	61.1-138			2.99	20
Methyl tert-butyl ether	0.0250	0.0255	0.0264	102	106	70.2-122			3.44	20
Naphthalene	0.0250	0.0248	0.0259	99.3	103	69.9-132			4.07	20
n-Propylbenzene	0.0250	0.0262	0.0262	105	105	80.2-124			0.0200	20
Styrene	0.0250	0.0274	0.0274	110	110	79.4-124			0.240	20
1,1,1,2-Tetrachloroethane	0.0250	0.0272	0.0275	109	110	76.7-127			1.04	20
1,1,2,2-Tetrachloroethane	0.0250	0.0290	0.0288	116	115	78.8-124			0.520	20
Tetrachloroethene	0.0250	0.0270	0.0269	108	108	71.1-133			0.390	20
Toluene	0.0250	0.0248	0.0249	99.2	99.5	76.7-116			0.250	20
1,1,2-Trichlorotrifluoroethane	0.0250	0.0252	0.0251	101	100	62.6-138			0.230	20
1,2,3-Trichlorobenzene	0.0250	0.0268	0.0277	107	111	72.5-137			3.24	20
1,2,4-Trichlorobenzene	0.0250	0.0279	0.0286	112	115	74.0-137			2.47	20
1,1,1-Trichloroethane	0.0250	0.0248	0.0254	99.1	102	69.9-127			2.66	20
1,1,2-Trichloroethane	0.0250	0.0261	0.0261	104	104	81.9-119			0.170	20
Trichloroethene	0.0250	0.0251	0.0256	100	102	77.2-122			1.89	20
Trichlorofluoromethane	0.0250	0.0221	0.0226	88.3	90.4	51.5-151			2.31	20
1,2,3-Trichloropropane	0.0250	0.0267	0.0271	107	109	74.0-124			1.57	20
1,2,3-Trimethylbenzene	0.0250	0.0248	0.0255	99.1	102	79.4-118			2.83	20
1,2,4-Trimethylbenzene	0.0250	0.0267	0.0267	107	107	77.1-124			0.0500	20
1,3,5-Trimethylbenzene	0.0250	0.0273	0.0273	109	109	79.0-125			0.110	20
Vinyl chloride	0.0250	0.0230	0.0233	92.2	93.1	58.4-134			0.950	20
Xylenes, Total	0.0750	0.0795	0.0801	106	107	78.1-123			0.670	20
(S) Toluene-d8				*99.5*	*100*	*88.7-115*				
(S) Dibromofluoromethane				*98.4*	*99.8*	*76.3-123*				
(S) 4-Bromofluorobenzene				*102*	*102*	*69.7-129*				

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Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L825385-01 03/30/16 08:39 • (MS) R3124916-4 03/30/16 07:40 • (MSD) R3124916-5 03/30/16 08:00

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Acetone	0.125	0.0242	0.525	0.551	80.1	84.4	5	10.0-130			4.91	31.5
Acrylonitrile	0.125	ND	0.548	0.584	87.6	93.5	5	39.3-152			6.44	27.2
Benzene	0.0250	ND	0.110	0.119	88.0	94.8	5	47.8-131			7.49	22.8
Bromobenzene	0.0250	ND	0.107	0.114	85.8	91.2	5	40.0-130			6.09	27.4
Bromodichloromethane	0.0250	ND	0.112	0.119	89.7	95.3	5	50.6-128			5.99	22.8
Bromoform	0.0250	ND	0.128	0.138	102	110	5	43.3-139			7.43	25.9
Bromomethane	0.0250	ND	0.106	0.116	85.2	93.1	5	5.00-189			8.81	26.7
n-Butylbenzene	0.0250	0.000289	0.113	0.120	89.8	96.0	5	23.6-146			6.61	39.2
sec-Butylbenzene	0.0250	0.000217	0.123	0.132	98.1	105	5	31.0-142			7.19	34.7
tert-Butylbenzene	0.0250	0.000168	0.122	0.131	97.6	105	5	36.9-142			6.87	31.7
Carbon tetrachloride	0.0250	ND	0.111	0.123	88.8	98.1	5	46.0-140			10.0	27.2
Chlorobenzene	0.0250	ND	0.116	0.123	93.1	98.6	5	44.1-134			5.69	25.7
Chlorodibromomethane	0.0250	ND	0.115	0.122	91.9	97.9	5	49.7-134			6.38	24
Chloroethane	0.0250	ND	0.104	0.116	83.2	93.0	5	5.00-164			11.1	28.4
2-Chloroethyl vinyl ether	0.125	ND	0.569	0.590	91.0	94.4	5	5.00-159			3.65	40
Chloroform	0.0250	ND	0.108	0.117	86.6	93.7	5	51.2-133			7.87	22.8
Chloromethane	0.0250	ND	0.109	0.117	87.3	93.7	5	31.4-141			6.99	24.6
2-Chlorotoluene	0.0250	ND	0.117	0.126	93.6	101	5	36.1-137			7.38	28.9
4-Chlorotoluene	0.0250	0.000147	0.110	0.116	87.8	92.6	5	35.4-137			5.33	29.8
1,2-Dibromo-3-Chloropropane	0.0250	ND	0.120	0.130	96.3	104	5	40.4-138			8.06	30.8
1,2-Dibromoethane	0.0250	ND	0.117	0.122	94.0	97.6	5	50.2-133			3.80	23.6
Dibromomethane	0.0250	ND	0.111	0.118	89.2	94.3	5	52.4-128			5.54	23
1,2-Dichlorobenzene	0.0250	ND	0.113	0.121	90.2	96.8	5	34.6-139			7.11	29.9
1,3-Dichlorobenzene	0.0250	0.000185	0.122	0.127	97.4	101	5	28.4-142			4.00	31.2
1,4-Dichlorobenzene	0.0250	ND	0.111	0.118	88.8	94.5	5	35.0-133			6.20	31.1
Dichlorodifluoromethane	0.0250	ND	0.132	0.142	105	114	5	31.2-144			7.62	30.2
1,1-Dichloroethane	0.0250	ND	0.109	0.117	87.1	93.6	5	49.1-136			7.12	22.9
1,2-Dichloroethane	0.0250	ND	0.103	0.108	82.3	86.6	5	47.1-129			5.11	22.7
1,1-Dichloroethene	0.0250	ND	0.109	0.119	87.0	95.3	5	36.1-142			9.16	25.6
cis-1,2-Dichloroethene	0.0250	ND	0.110	0.118	87.7	94.6	5	50.6-133			7.56	23
trans-1,2-Dichloroethene	0.0250	ND	0.110	0.120	88.3	96.4	5	43.8-135			8.79	24.8
1,2-Dichloropropane	0.0250	ND	0.113	0.119	90.4	95.5	5	50.3-134			5.48	22.7
1,1-Dichloropropene	0.0250	ND	0.104	0.113	83.6	90.2	5	43.0-137			7.68	26.4
1,3-Dichloropropane	0.0250	ND	0.113	0.117	90.3	93.6	5	51.4-127			3.55	23.1
cis-1,3-Dichloropropene	0.0250	ND	0.111	0.119	89.1	95.2	5	48.4-134			6.63	23.6
trans-1,3-Dichloropropene	0.0250	ND	0.102	0.108	81.6	86.7	5	46.6-135			6.05	25.3

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Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L825385-01 03/30/16 08:39 • (MS) R3124916-4 03/30/16 07:40 • (MSD) R3124916-5 03/30/16 08:00

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
2,2-Dichloropropane	0.0250	ND	0.124	0.135	99.4	108	5	45.2-141			8.35	26.6
Di-isopropyl ether	0.0250	ND	0.111	0.120	88.8	96.1	5	46.7-140			7.92	23.5
Ethylbenzene	0.0250	ND	0.118	0.125	94.6	100	5	44.8-135			5.85	26.9
Hexachloro-1,3-butadiene	0.0250	ND	0.118	0.124	94.3	99.0	5	10.0-149			4.89	40
Isopropylbenzene	0.0250	0.000138	0.123	0.132	97.9	105	5	41.9-139			7.27	29.3
p-Isopropyltoluene	0.0250	0.000244	0.120	0.129	96.0	103	5	27.3-146			6.76	35.1
2-Butanone (MEK)	0.125	ND	0.607	0.640	97.1	102	5	23.9-170			5.32	28.3
Methylene Chloride	0.0250	0.00277	0.112	0.120	87.3	93.8	5	46.7-125			7.04	22.2
4-Methyl-2-pentanone (MIBK)	0.125	ND	0.602	0.643	96.4	103	5	42.4-146			6.57	26.7
Methyl tert-butyl ether	0.0250	ND	0.117	0.127	93.4	101	5	50.4-131			8.11	24.8
Naphthalene	0.0250	0.000917	0.105	0.112	83.2	88.8	5	18.4-145			6.37	34
n-Propylbenzene	0.0250	0.000188	0.113	0.120	90.3	96.2	5	35.2-139			6.27	31.9
Styrene	0.0250	ND	0.119	0.126	95.1	101	5	39.7-137			5.65	28.2
1,1,1,2-Tetrachloroethane	0.0250	ND	0.121	0.130	96.7	104	5	48.8-136			7.60	25.5
1,1,2,2-Tetrachloroethane	0.0250	ND	0.126	0.133	101	106	5	45.7-140			5.31	26.4
Tetrachloroethene	0.0250	ND	0.121	0.125	96.6	100	5	37.7-140			3.87	29.2
Toluene	0.0250	0.000396	0.113	0.120	89.7	95.8	5	47.8-127			6.50	24.3
1,1,2-Trichlorotrifluoroethane	0.0250	ND	0.116	0.125	93.0	99.9	5	35.7-146			7.18	28.8
1,2,3-Trichlorobenzene	0.0250	0.000500	0.108	0.113	86.2	90.3	5	10.0-150			4.68	38.5
1,2,4-Trichlorobenzene	0.0250	0.000465	0.113	0.115	89.8	91.4	5	10.0-153			1.74	39.3
1,1,1-Trichloroethane	0.0250	ND	0.114	0.127	91.6	102	5	49.0-138			10.8	25.3
1,1,2-Trichloroethane	0.0250	ND	0.118	0.121	94.2	97.1	5	52.3-132			3.01	23.4
Trichloroethene	0.0250	ND	0.115	0.123	91.9	98.2	5	48.0-132			6.61	24.8
Trichlorofluoromethane	0.0250	ND	0.100	0.111	80.2	89.1	5	12.8-169			10.5	29.7
1,2,3-Trichloropropane	0.0250	ND	0.115	0.125	92.4	99.9	5	44.4-138			7.84	26.3
1,2,3-Trimethylbenzene	0.0250	0.000231	0.110	0.120	87.5	96.0	5	41.0-133			9.28	27.6
1,2,4-Trimethylbenzene	0.0250	0.000354	0.115	0.123	91.5	98.3	5	32.9-139			7.11	30.6
1,3,5-Trimethylbenzene	0.0250	0.000228	0.119	0.127	95.2	102	5	37.1-138			6.44	30.6
Vinyl chloride	0.0250	ND	0.105	0.117	84.4	93.7	5	32.0-146			10.5	26.3
Xylenes, Total	0.0750	0.000790	0.353	0.375	93.9	99.9	5	42.7-135			6.15	26.6
(S) Toluene-d8					*101*	*101*		*88.7-115*				
(S) Dibromofluoromethane					*98.8*	*100*		*76.3-123*				
(S) 4-Bromofluorobenzene					*99.7*	*99.6*		*69.7-129*				

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Method Blank (MB)

(MB) R3125784-1 04/01/16 23:02

Analyte	MB Result mg/kg	MB Qualifier	MB MDL mg/kg	MB RDL mg/kg
C12-C22 Hydrocarbons	U		0.733	4.00
(S) o-Terphenyl	*66.4*			*50.0-150*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3125784-2 04/01/16 23:14 • (LCSD) R3125784-3 04/01/16 23:25

Analyte	Spike Amount mg/kg	LCS Result mg/kg	LCSD Result mg/kg	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
C12-C22 Hydrocarbons	60.0	44.3	43.1	73.9	71.8	50.0-150			2.76	20
(S) o-Terphenyl				*82.0*	*80.9*	*50.0-150*				

Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L825935-01 04/01/16 23:47 • (MS) R3125784-4 04/01/16 23:59 • (MSD) R3125784-5 04/02/16 00:10

Analyte	Spike Amount mg/kg	Original Result mg/kg	MS Result mg/kg	MSD Result mg/kg	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
C12-C22 Hydrocarbons	60.0	27.3	79.1	69.6	86.3	70.5	1	50.0-150			12.8	20
(S) o-Terphenyl					*93.0*	*81.0*		*50.0-150*				

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Abbreviations and Definitions

SDG	Sample Delivery Group.
MDL	Method Detection Limit.
RDL	Reported Detection Limit.
ND,U	Not detected at the Reporting Limit (or MDL where applicable).
RPD	Relative Percent Difference.
(dry)	Results are reported based on the dry weight of the sample. [this will only be present on a dry report basis for soils].
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
Rec.	Recovery.
SDL	Sample Detection Limit.
MQL	Method Quantitation Limit.
Unadj. MQL	Unadjusted Method Quantitation Limit.

Qualifier	Description
	The remainder of this page intentionally left blank, there are no qualifiers applied to this SDG.

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ESC Lab Sciences is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our "one location" design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be **YOUR LAB OF CHOICE.**

***** Not all certifications held by the laboratory are applicable to the results reported in the attached report.

State Accreditations

Alabama	40660	Nevada	TN-03-2002-34
Alaska	UST-080	New Hampshire	2975
Arizona	AZ0612	New Jersey–NELAP	TN002
Arkansas	88-0469	New Mexico	TN00003
California	01157CA	New York	11742
Colorado	TN00003	North Carolina	Env375
Conneticut	PH-0197	North Carolina [1]	DW21704
Florida	E87487	North Carolina [2]	41
Georgia	NELAP	North Dakota	R-140
Georgia [1]	923	Ohio–VAP	CL0069
Idaho	TN00003	Oklahoma	9915
Illinois	200008	Oregon	TN200002
Indiana	C-TN-01	Pennsylvania	68-02979
Iowa	364	Rhode Island	221
Kansas	E-10277	South Carolina	84004
Kentucky [1]	90010	South Dakota	n/a
Kentucky [2]	16	Tennessee [1 4]	2006
Louisiana	AI30792	Texas	T 104704245-07-TX
Maine	TN0002	Texas [5]	LAB0152
Maryland	324	Utah	6157585858
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	109
Minnesota	047-999-395	Washington	C1915
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA
Nebraska	NE-OS-15-05		

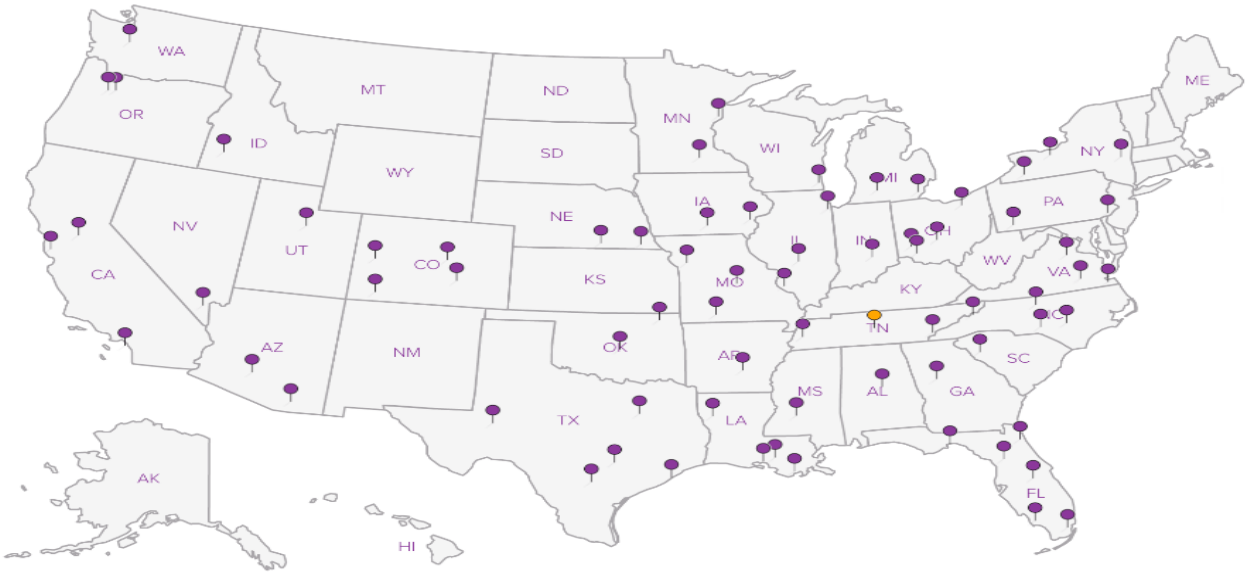
Third Party & Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	S-67674
EPA–Crypto	TN00003		

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [n/a] Accreditation not applicable

Our Locations

ESC Lab Sciences has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. **ESC Lab Sciences performs all testing at our central laboratory.**



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CHAIN OF CUSTODY RECORD

BROADBENT

LAS VEGAS • RENO • VACAVILLE • CHICO • SAN ANTONIO
www.broadbentinc.com

Project No./Name: 07-01-175 / KNR

Project Manager: Stephanie Holst

Sampler Name: Carlos Cobos

Laboratory Name: ESC

Page 1 of 1

Sample I.D.	Collection: Date	Collection: Time	Collection: No. of Containers	Matrix: Soil/Solid	Matrix: Water/Liquid	Matrix: Air/Vapor	Preservation: Unpreserved	Preservation: H_2SO_4	Preservation: HNO_3	Preservation: HCL	Preservation: Other	Requested Analyses: DRO/GRO by CA TPH 8015	Requested Analyses: VOCs 8260	Requested Analyses	Requested Analyses	Requested Analyses	Requested Analyses	Lab. No.	Comments
SB-1 @ 10'	3-25-16	0840	2	X			X					X	X						825935-01
SB-2 @ 10'	"	0855	"	"			"					"	"						"

I183

Bill To: Broadbent & Associates, Inc.

Relinquished by Sampler:	Date:	Time:	Received by:	Date:	Time:
	3-25-16	1530	FEDEX		
Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Relinquished by:	Date:	Time:	Received for Laboratory by:	Date:	Time:
			Nora Lerma	3-26-16	9:00

White Copy - Laboratory. Yellow Copy - Consultant.

Turnaround Time
- 24 hours ☐
- 48 hours ☐
- 5 days ☐
- Standard ☒

Use California Detection Limits ☐

Submit/Fax Results to:
- ☐ Broadbent & Associates, Inc.
  8 West Pacific Avenue
  Henderson, NV 89015
  Phone (702) 563-0600
- ☐ Fax (702) 563-0610
- ☐ Other:

6645 0387 6945 Total = 4

Loc 57 MP 3.2

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ANALYTICAL REPORT

March 29, 2016

Broadbent Associates

Sample Delivery Group:	L825917
Samples Received:	03/26/2016
Project Number:	07-01-175
Description:	KNR Automotive
Site:	KNR
Report To:	Stephanie Holst 8 West Pacific Henderson, NV 89015

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Entire Report Reviewed By: Daphne R Richards

Daphne Richards
Technical Service Representative

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.

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VP-1 PROBE FROM SOIL BORING L825917-01 Air

Collected by: Carlos Cabos
Collected date/time: 03/25/16 09:15
Received date/time: 03/26/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (MS) by Method TO-15	WG859796	2	03/29/16 02:34	03/29/16 02:34	MBF

VP-2 PROBE FROM SOIL BORING L825917-02 Air

Collected by: Carlos Cabos
Collected date/time: 03/25/16 09:00
Received date/time: 03/26/16 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst
Volatile Organic Compounds (MS) by Method TO-15	WG859796	2	03/29/16 03:20	03/29/16 03:20	MBF

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All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times. All MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Daphne R Richards

Daphne Richards
Technical Service Representative

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Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
Acetone	67-64-1	58.10	2.50	5.94	4.79	11.4		2	WG859796
Allyl chloride	107-05-1	76.53	0.400	1.25	ND	ND		2	WG859796
Benzene	71-43-2	78.10	0.400	1.28	ND	ND		2	WG859796
Benzyl Chloride	100-44-7	127	0.400	2.08	ND	ND		2	WG859796
Bromodichloromethane	75-27-4	164	0.400	2.68	ND	ND		2	WG859796
Bromoform	75-25-2	253	1.20	12.4	ND	ND		2	WG859796
Bromomethane	74-83-9	94.90	0.400	1.55	ND	ND		2	WG859796
1,3-Butadiene	106-99-0	54.10	4.00	8.85	ND	ND		2	WG859796
Carbon disulfide	75-15-0	76.10	0.400	1.24	ND	ND		2	WG859796
Carbon tetrachloride	56-23-5	154	0.400	2.52	ND	ND		2	WG859796
Chlorobenzene	108-90-7	113	0.400	1.85	ND	ND		2	WG859796
Chloroethane	75-00-3	64.50	0.400	1.06	ND	ND		2	WG859796
Chloroform	67-66-3	119	0.400	1.95	2.57	12.5		2	WG859796
Chloromethane	74-87-3	50.50	0.400	0.826	ND	ND		2	WG859796
2-Chlorotoluene	95-49-8	126	0.400	2.06	ND	ND		2	WG859796
Cyclohexane	110-82-7	84.20	0.400	1.38	0.706	2.43		2	WG859796
Dibromochloromethane	124-48-1	208	0.400	3.40	ND	ND		2	WG859796
1,2-Dibromoethane	106-93-4	188	0.400	3.08	ND	ND		2	WG859796
1,2-Dichlorobenzene	95-50-1	147	0.400	2.40	ND	ND		2	WG859796
1,3-Dichlorobenzene	541-73-1	147	0.400	2.40	ND	ND		2	WG859796
1,4-Dichlorobenzene	106-46-7	147	0.400	2.40	ND	ND		2	WG859796
1,2-Dichloroethane	107-06-2	99	0.400	1.62	ND	ND		2	WG859796
1,1-Dichloroethane	75-34-3	98	0.400	1.60	ND	ND		2	WG859796
1,1-Dichloroethene	75-35-4	96.90	0.400	1.59	ND	ND		2	WG859796
cis-1,2-Dichloroethene	156-59-2	96.90	0.400	1.59	ND	ND		2	WG859796
trans-1,2-Dichloroethene	156-60-5	96.90	0.400	1.59	ND	ND		2	WG859796
1,2-Dichloropropane	78-87-5	113	0.400	1.85	ND	ND		2	WG859796
cis-1,3-Dichloropropene	10061-01-5	111	0.400	1.82	ND	ND		2	WG859796
trans-1,3-Dichloropropene	10061-02-6	111	0.400	1.82	ND	ND		2	WG859796
1,4-Dioxane	123-91-1	88.10	0.400	1.44	ND	ND		2	WG859796
Ethanol	64-17-5	46.10	1.26	2.38	10.9	20.6		2	WG859796
Ethylbenzene	100-41-4	106	0.400	1.73	0.654	2.84		2	WG859796
4-Ethyltoluene	622-96-8	120	0.400	1.96	ND	ND		2	WG859796
Trichlorofluoromethane	75-69-4	137.40	0.400	2.25	ND	ND		2	WG859796
Dichlorodifluoromethane	75-71-8	120.92	0.400	1.98	ND	ND		2	WG859796
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.400	3.07	ND	ND		2	WG859796
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.400	2.80	ND	ND		2	WG859796
Heptane	142-82-5	100	0.400	1.64	0.423	1.73		2	WG859796
Hexachloro-1,3-butadiene	87-68-3	261	1.26	13.5	ND	ND		2	WG859796
n-Hexane	110-54-3	86.20	0.400	1.41	0.655	2.31		2	WG859796
Isopropylbenzene	98-82-8	120.20	0.400	1.97	ND	ND		2	WG859796
Methylene Chloride	75-09-2	84.90	0.400	1.39	ND	ND		2	WG859796
Methyl Butyl Ketone	591-78-6	100	2.50	10.2	ND	ND		2	WG859796
2-Butanone (MEK)	78-93-3	72.10	2.50	7.37	ND	ND		2	WG859796
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	2.50	10.2	ND	ND		2	WG859796
Methyl methacrylate	80-62-6	100.12	0.400	1.64	ND	ND		2	WG859796
MTBE	1634-04-4	88.10	0.400	1.44	ND	ND		2	WG859796
Naphthalene	91-20-3	128	1.26	6.60	ND	ND		2	WG859796
2-Propanol	67-63-0	60.10	2.50	6.15	ND	ND		2	WG859796
Propene	115-07-1	42.10	0.800	1.38	ND	ND		2	WG859796
Styrene	100-42-5	104	0.400	1.70	ND	ND		2	WG859796
1,1,2,2-Tetrachloroethane	79-34-5	168	0.400	2.75	ND	ND		2	WG859796
Tetrachloroethylene	127-18-4	166	0.400	2.72	1.01	6.85		2	WG859796
Tetrahydrofuran	109-99-9	72.10	0.400	1.18	1.22	3.60		2	WG859796
Toluene	108-88-3	92.10	0.400	1.51	1.46	5.48		2	WG859796
1,2,4-Trichlorobenzene	120-82-1	181	1.26	9.33	ND	ND		2	WG859796

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Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
1,1,1-Trichloroethane	71-55-6	133	0.400	2.18	ND	ND		2	WG859796
1,1,2-Trichloroethane	79-00-5	133	0.400	2.18	ND	ND		2	WG859796
Trichloroethylene	79-01-6	131	0.400	2.14	ND	ND		2	WG859796
1,2,4-Trimethylbenzene	95-63-6	120	0.400	1.96	1.66	8.16		2	WG859796
1,3,5-Trimethylbenzene	108-67-8	120	0.400	1.96	0.479	2.35		2	WG859796
2,2,4-Trimethylpentane	540-84-1	114.22	0.400	1.87	0.445	2.08		2	WG859796
Vinyl chloride	75-01-4	62.50	0.400	1.02	ND	ND		2	WG859796
Vinyl Bromide	593-60-2	106.95	0.400	1.75	ND	ND		2	WG859796
Vinyl acetate	108-05-4	86.10	0.400	1.41	ND	ND		2	WG859796
m&p-Xylene	1330-20-7	106	0.800	3.47	2.94	12.7		2	WG859796
o-Xylene	95-47-6	106	0.400	1.73	1.26	5.45		2	WG859796
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*101*				WG859796

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Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
Acetone	67-64-1	58.10	2.50	5.94	7.54	17.9		2	WG859796
Allyl chloride	107-05-1	76.53	0.400	1.25	ND	ND		2	WG859796
Benzene	71-43-2	78.10	0.400	1.28	0.412	1.32		2	WG859796
Benzyl Chloride	100-44-7	127	0.400	2.08	ND	ND		2	WG859796
Bromodichloromethane	75-27-4	164	0.400	2.68	ND	ND		2	WG859796
Bromoform	75-25-2	253	1.20	12.4	ND	ND		2	WG859796
Bromomethane	74-83-9	94.90	0.400	1.55	ND	ND		2	WG859796
1,3-Butadiene	106-99-0	54.10	4.00	8.85	ND	ND		2	WG859796
Carbon disulfide	75-15-0	76.10	0.400	1.24	ND	ND		2	WG859796
Carbon tetrachloride	56-23-5	154	0.400	2.52	ND	ND		2	WG859796
Chlorobenzene	108-90-7	113	0.400	1.85	ND	ND		2	WG859796
Chloroethane	75-00-3	64.50	0.400	1.06	ND	ND		2	WG859796
Chloroform	67-66-3	119	0.400	1.95	ND	ND		2	WG859796
Chloromethane	74-87-3	50.50	0.400	0.826	ND	ND		2	WG859796
2-Chlorotoluene	95-49-8	126	0.400	2.06	ND	ND		2	WG859796
Cyclohexane	110-82-7	84.20	0.400	1.38	0.765	2.63		2	WG859796
Dibromochloromethane	124-48-1	208	0.400	3.40	ND	ND		2	WG859796
1,2-Dibromoethane	106-93-4	188	0.400	3.08	ND	ND		2	WG859796
1,2-Dichlorobenzene	95-50-1	147	0.400	2.40	ND	ND		2	WG859796
1,3-Dichlorobenzene	541-73-1	147	0.400	2.40	ND	ND		2	WG859796
1,4-Dichlorobenzene	106-46-7	147	0.400	2.40	ND	ND		2	WG859796
1,2-Dichloroethane	107-06-2	99	0.400	1.62	ND	ND		2	WG859796
1,1-Dichloroethane	75-34-3	98	0.400	1.60	ND	ND		2	WG859796
1,1-Dichloroethene	75-35-4	96.90	0.400	1.59	ND	ND		2	WG859796
cis-1,2-Dichloroethene	156-59-2	96.90	0.400	1.59	ND	ND		2	WG859796
trans-1,2-Dichloroethene	156-60-5	96.90	0.400	1.59	ND	ND		2	WG859796
1,2-Dichloropropane	78-87-5	113	0.400	1.85	ND	ND		2	WG859796
cis-1,3-Dichloropropene	10061-01-5	111	0.400	1.82	ND	ND		2	WG859796
trans-1,3-Dichloropropene	10061-02-6	111	0.400	1.82	ND	ND		2	WG859796
1,4-Dioxane	123-91-1	88.10	0.400	1.44	ND	ND		2	WG859796
Ethanol	64-17-5	46.10	1.26	2.38	15.3	28.8		2	WG859796
Ethylbenzene	100-41-4	106	0.400	1.73	0.434	1.88		2	WG859796
4-Ethyltoluene	622-96-8	120	0.400	1.96	ND	ND		2	WG859796
Trichlorofluoromethane	75-69-4	137.40	0.400	2.25	ND	ND		2	WG859796
Dichlorodifluoromethane	75-71-8	120.92	0.400	1.98	ND	ND		2	WG859796
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.400	3.07	ND	ND		2	WG859796
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.400	2.80	ND	ND		2	WG859796
Heptane	142-82-5	100	0.400	1.64	ND	ND		2	WG859796
Hexachloro-1,3-butadiene	87-68-3	261	1.26	13.5	ND	ND		2	WG859796
n-Hexane	110-54-3	86.20	0.400	1.41	0.466	1.64		2	WG859796
Isopropylbenzene	98-82-8	120.20	0.400	1.97	ND	ND		2	WG859796
Methylene Chloride	75-09-2	84.90	0.400	1.39	ND	ND		2	WG859796
Methyl Butyl Ketone	591-78-6	100	2.50	10.2	ND	ND		2	WG859796
2-Butanone (MEK)	78-93-3	72.10	2.50	7.37	ND	ND		2	WG859796
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	2.50	10.2	ND	ND		2	WG859796
Methyl methacrylate	80-62-6	100.12	0.400	1.64	ND	ND		2	WG859796
MTBE	1634-04-4	88.10	0.400	1.44	ND	ND		2	WG859796
Naphthalene	91-20-3	128	1.26	6.60	ND	ND		2	WG859796
2-Propanol	67-63-0	60.10	2.50	6.15	ND	ND		2	WG859796
Propene	115-07-1	42.10	0.800	1.38	1.22	2.09		2	WG859796
Styrene	100-42-5	104	0.400	1.70	ND	ND		2	WG859796
1,1,2,2-Tetrachloroethane	79-34-5	168	0.400	2.75	ND	ND		2	WG859796
Tetrachloroethylene	127-18-4	166	0.400	2.72	0.505	3.43		2	WG859796
Tetrahydrofuran	109-99-9	72.10	0.400	1.18	1.05	3.09		2	WG859796
Toluene	108-88-3	92.10	0.400	1.51	0.952	3.58		2	WG859796
1,2,4-Trichlorobenzene	120-82-1	181	1.26	9.33	ND	ND		2	WG859796

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Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
1,1,1-Trichloroethane	71-55-6	133	0.400	2.18	ND	ND		2	WG859796
1,1,2-Trichloroethane	79-00-5	133	0.400	2.18	ND	ND		2	WG859796
Trichloroethylene	79-01-6	131	0.400	2.14	1.39	7.47		2	WG859796
1,2,4-Trimethylbenzene	95-63-6	120	0.400	1.96	1.38	6.75		2	WG859796
1,3,5-Trimethylbenzene	108-67-8	120	0.400	1.96	ND	ND		2	WG859796
2,2,4-Trimethylpentane	540-84-1	114.22	0.400	1.87	ND	ND		2	WG859796
Vinyl chloride	75-01-4	62.50	0.400	1.02	ND	ND		2	WG859796
Vinyl Bromide	593-60-2	106.95	0.400	1.75	ND	ND		2	WG859796
Vinyl acetate	108-05-4	86.10	0.400	1.41	ND	ND		2	WG859796
m&p-Xylene	1330-20-7	106	0.800	3.47	1.80	7.82		2	WG859796
o-Xylene	95-47-6	106	0.400	1.73	0.772	3.35		2	WG859796
(S) 1,4-Bromofluorobenzene	*460-00-4*	*175*	*60.0-140*		*101*				WG859796

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Method Blank (MB)

(MB) R3124528-2 03/28/16 10:20

Analyte	MB Result ppbv	MB Qualifier	MB MDL ppbv	MB RDL ppbv
Acetone	0.106		0.0569	1.25
Allyl Chloride	U		0.0546	0.200
Benzene	U		0.0460	0.200
Benzyl Chloride	U		0.0598	0.200
Bromodichloromethane	U		0.0436	0.200
Bromoform	U		0.0786	0.600
Bromomethane	U		0.0609	0.200
1,3-Butadiene	U		0.0563	2.00
Carbon disulfide	U		0.0544	0.200
Carbon tetrachloride	U		0.0585	0.200
Chlorobenzene	U		0.0601	0.200
Chloroethane	U		0.0489	0.200
Chloroform	U		0.0574	0.200
Chloromethane	U		0.0544	0.200
2-Chlorotoluene	U		0.0605	0.200
Cyclohexane	U		0.0534	0.200
Dibromochloromethane	U		0.0494	0.200
1,2-Dibromoethane	U		0.0185	0.200
1,2-Dichlorobenzene	U		0.0603	0.200
1,3-Dichlorobenzene	U		0.0597	0.200
1,4-Dichlorobenzene	U		0.0557	0.200
1,2-Dichloroethane	U		0.0616	0.200
1,1-Dichloroethane	U		0.0514	0.200
1,1-Dichloroethene	U		0.0490	0.200
cis-1,2-Dichloroethene	U		0.0389	0.200
trans-1,2-Dichloroethene	U		0.0464	0.200
1,2-Dichloropropane	U		0.0599	0.200
cis-1,3-Dichloropropene	U		0.0588	0.200
trans-1,3-Dichloropropene	U		0.0435	0.200
1,4-Dioxane	U		0.0554	0.200
Ethylbenzene	U		0.0506	0.200
4-Ethyltoluene	U		0.0666	0.200
Trichlorofluoromethane	U		0.0673	0.200
Dichlorodifluoromethane	U		0.0601	0.200
1,1,2-Trichlorotrifluoroethane	U		0.0687	0.200
1,2-Dichlorotetrafluoroethane	U		0.0458	0.200

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Method Blank (MB)

(MB) R3124528-2 03/28/16 10:20

Analyte	MB Result ppbv	MB Qualifier	MB MDL ppbv	MB RDL ppbv
Heptane	U		0.0626	0.200
Hexachloro-1,3-butadiene	U		0.0656	0.630
n-Hexane	U		0.0457	0.200
Isopropylbenzene	U		0.0563	0.200
Methylene Chloride	U		0.0465	0.200
Methyl Butyl Ketone	U		0.0682	1.25
2-Butanone (MEK)	U		0.0493	1.25
4-Methyl-2-pentanone (MIBK)	U		0.0650	1.25
Methyl Methacrylate	U		0.0773	0.200
MTBE	U		0.0505	0.200
Naphthalene	0.155		0.154	0.630
2-Propanol	0.110		0.0882	1.25
Propene	U		0.0932	0.400
Styrene	U		0.0465	0.200
1,1,2,2-Tetrachloroethane	U		0.0576	0.200
Tetrachloroethylene	U		0.0497	0.200
Tetrahydrofuran	U		0.0508	0.200
Toluene	U		0.0499	0.200
1,2,4-Trichlorobenzene	U		0.148	0.630
1,1,1-Trichloroethane	U		0.0665	0.200
1,1,2-Trichloroethane	U		0.0287	0.200
Trichloroethylene	U		0.0545	0.200
1,2,4-Trimethylbenzene	U		0.0483	0.200
1,3,5-Trimethylbenzene	U		0.0631	0.200
2,2,4-Trimethylpentane	U		0.0456	0.200
Vinyl chloride	U		0.0457	0.200
Vinyl Bromide	U		0.0727	0.200
Vinyl acetate	U		0.0639	0.200
m&p-Xylene	U		0.0946	0.400
o-Xylene	U		0.0633	0.200
Ethanol	U		0.0832	0.630
(S) 1,4-Bromofluorobenzene	*94.7*			*60.0-140*

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1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3124528-1 03/28/16 09:34 • (LCSD) R3124528-3 03/28/16 11:26

Analyte	Spike Amount ppbv	LCS Result ppbv	LCSD Result ppbv	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Ethanol	3.75	3.92	3.94	105	105	34.3-167			0.510	25
Propene	3.75	3.93	4.00	105	107	53.9-143			1.80	25
Dichlorodifluoromethane	3.75	3.51	3.38	93.5	90.1	56.7-140			3.74	25
1,2-Dichlorotetrafluoroethane	3.75	3.95	4.01	105	107	70.0-130			1.41	25
Chloromethane	3.75	3.87	3.96	103	106	70.0-130			2.28	25
Vinyl chloride	3.75	3.87	3.93	103	105	70.0-130			1.64	25
1,3-Butadiene	3.75	4.02	4.04	107	108	70.0-130			0.490	25
Bromomethane	3.75	3.79	3.87	101	103	70.0-130			2.30	25
Chloroethane	3.75	3.94	3.92	105	104	70.0-130			0.530	25
Trichlorofluoromethane	3.75	3.84	3.85	102	103	70.0-130			0.210	25
1,1,2-Trichlorotrifluoroethane	3.75	3.92	3.85	104	103	70.0-130			1.73	25
1,1-Dichloroethene	3.75	3.99	3.91	106	104	70.0-130			1.92	25
1,1-Dichloroethane	3.75	3.90	3.90	104	104	70.0-130			0.110	25
Acetone	3.75	4.27	4.21	114	112	70.0-130			1.38	25
2-Propanol	3.75	4.40	4.38	117	117	50.4-152			0.380	25
Carbon disulfide	3.75	3.97	3.91	106	104	70.0-130			1.36	25
Methylene Chloride	3.75	3.75	3.65	99.9	97.4	70.0-130			2.58	25
MTBE	3.75	3.98	3.96	106	106	70.0-130			0.530	25
trans-1,2-Dichloroethene	3.75	3.91	3.89	104	104	70.0-130			0.410	25
n-Hexane	3.75	3.99	3.98	106	106	70.0-130			0.170	25
Vinyl acetate	3.75	3.91	3.96	104	106	70.0-130			1.28	25
Methyl Ethyl Ketone	3.75	4.13	4.06	110	108	70.0-130			1.62	25
cis-1,2-Dichloroethene	3.75	4.48	4.44	120	118	70.0-130			1.09	25
Chloroform	3.75	3.84	3.83	102	102	70.0-130			0.410	25
Cyclohexane	3.75	3.92	3.86	104	103	70.0-130			1.51	25
1,1,1-Trichloroethane	3.75	3.82	3.82	102	102	70.0-130			0.100	25
Carbon tetrachloride	3.75	3.80	3.81	101	102	70.0-130			0.470	25
Benzene	3.75	3.93	3.92	105	104	70.0-130			0.410	25
1,2-Dichloroethane	3.75	3.90	3.90	104	104	70.0-130			0.000	25
Heptane	3.75	4.07	4.00	109	107	70.0-130			1.70	25
Trichloroethylene	3.75	3.94	3.92	105	105	70.0-130			0.320	25
1,2-Dichloropropane	3.75	3.95	3.91	105	104	70.0-130			1.04	25
1,4-Dioxane	3.75	3.71	3.79	98.8	101	48.0-156			2.22	25
Bromodichloromethane	3.75	3.93	3.93	105	105	70.0-130			0.0100	25
cis-1,3-Dichloropropene	3.75	3.99	4.00	106	107	70.0-130			0.330	25
4-Methyl-2-pentanone (MIBK)	3.75	4.09	4.05	109	108	55.3-154			0.950	25

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Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3124528-1 03/28/16 09:34 • (LCSD) R3124528-3 03/28/16 11:26

Analyte	Spike Amount ppbv	LCS Result ppbv	LCSD Result ppbv	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Toluene	3.75	3.97	3.96	106	105	70.0-130			0.400	25
trans-1,3-Dichloropropene	3.75	4.01	4.06	107	108	70.0-130			1.25	25
1,1,2-Trichloroethane	3.75	3.91	3.97	104	106	70.0-130			1.41	25
Tetrachloroethylene	3.75	3.82	3.87	102	103	70.0-130			1.26	25
Methyl Butyl Ketone	3.75	4.13	4.00	110	107	47.9-165			2.96	25
Dibromochloromethane	3.75	3.94	3.99	105	106	70.0-130			1.21	25
1,2-Dibromoethane	3.75	3.97	4.02	106	107	70.0-130			1.23	25
Chlorobenzene	3.75	3.89	3.89	104	104	70.0-130			0.0100	25
Ethylbenzene	3.75	3.97	3.93	106	105	70.0-130			1.08	25
m&p-Xylene	7.50	7.82	7.66	104	102	70.0-130			2.01	25
o-Xylene	3.75	3.97	3.89	106	104	70.0-130			2.08	25
Styrene	3.75	4.10	4.03	109	108	70.0-130			1.63	25
Bromoform	3.75	4.02	3.96	107	106	70.0-130			1.42	25
1,1,2,2-Tetrachloroethane	3.75	4.02	3.96	107	106	70.0-130			1.62	25
4-Ethyltoluene	3.75	4.10	4.04	109	108	70.0-130			1.59	25
1,3,5-Trimethylbenzene	3.75	3.95	3.88	105	103	70.0-130			1.83	25
1,2,4-Trimethylbenzene	3.75	4.00	3.92	107	105	70.0-130			2.00	25
1,3-Dichlorobenzene	3.75	4.25	4.18	113	112	70.0-130			1.55	25
1,4-Dichlorobenzene	3.75	4.36	4.25	116	113	70.0-130			2.54	25
Benzyl Chloride	3.75	4.32	4.25	115	113	55.6-160			1.48	25
1,2-Dichlorobenzene	3.75	4.09	4.06	109	108	70.0-130			0.610	25
1,2,4-Trichlorobenzene	3.75	4.21	3.84	112	102	53.6-154			9.14	25
Hexachloro-1,3-butadiene	3.75	3.83	3.56	102	95.0	62.1-143			7.30	25
Naphthalene	3.75	4.27	3.78	114	101	52.0-158			12.3	25
Allyl Chloride	3.75	4.20	4.07	112	108	70.0-130			3.27	25
2-Chlorotoluene	3.75	3.96	3.89	106	104	70.0-130			1.74	25
Methyl Methacrylate	3.75	3.97	3.95	106	105	70.0-130			0.550	25
Tetrahydrofuran	3.75	4.07	4.08	109	109	65.0-140			0.190	25
2,2,4-Trimethylpentane	3.75	4.04	3.98	108	106	70.0-130			1.42	25
Vinyl Bromide	3.75	3.91	3.89	104	104	70.0-130			0.460	25
Isopropylbenzene	3.75	3.95	3.89	105	104	70.0-130			1.73	25
(S) 1,4-Bromofluorobenzene				*102*	*101*	*60.0-140*				

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Abbreviations and Definitions

SDG	Sample Delivery Group.
MDL	Method Detection Limit.
RDL	Reported Detection Limit.
ND,U	Not detected at the Reporting Limit (or MDL where applicable).
RPD	Relative Percent Difference.
(dry)	Results are reported based on the dry weight of the sample. [this will only be present on a dry report basis for soils].
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
Rec.	Recovery.
SDL	Sample Detection Limit.
MQL	Method Quantitation Limit.
Unadj. MQL	Unadjusted Method Quantitation Limit.

Qualifier	Description
	The remainder of this page intentionally left blank, there are no qualifiers applied to this SDG.

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ESC Lab Sciences is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our "one location" design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be **YOUR LAB OF CHOICE.**
* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

State Accreditations

Alabama	40660	Nevada	TN-03-2002-34
Alaska	UST-080	New Hampshire	2975
Arizona	AZ0612	New Jersey–NELAP	TN002
Arkansas	88-0469	New Mexico	TN00003
California	01157CA	New York	11742
Colorado	TN00003	North Carolina	Env375
Conneticut	PH-0197	North Carolina [1]	DW21704
Florida	E87487	North Carolina [2]	41
Georgia	NELAP	North Dakota	R-140
Georgia [1]	923	Ohio–VAP	CL0069
Idaho	TN00003	Oklahoma	9915
Illinois	200008	Oregon	TN200002
Indiana	C-TN-01	Pennsylvania	68-02979
Iowa	364	Rhode Island	221
Kansas	E-10277	South Carolina	84004
Kentucky [1]	90010	South Dakota	n/a
Kentucky [2]	16	Tennessee [14]	2006
Louisiana	AI30792	Texas	T 104704245-07-TX
Maine	TN0002	Texas [5]	LAB0152
Maryland	324	Utah	6157585858
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	109
Minnesota	047-999-395	Washington	C1915
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA
Nebraska	NE-OS-15-05		

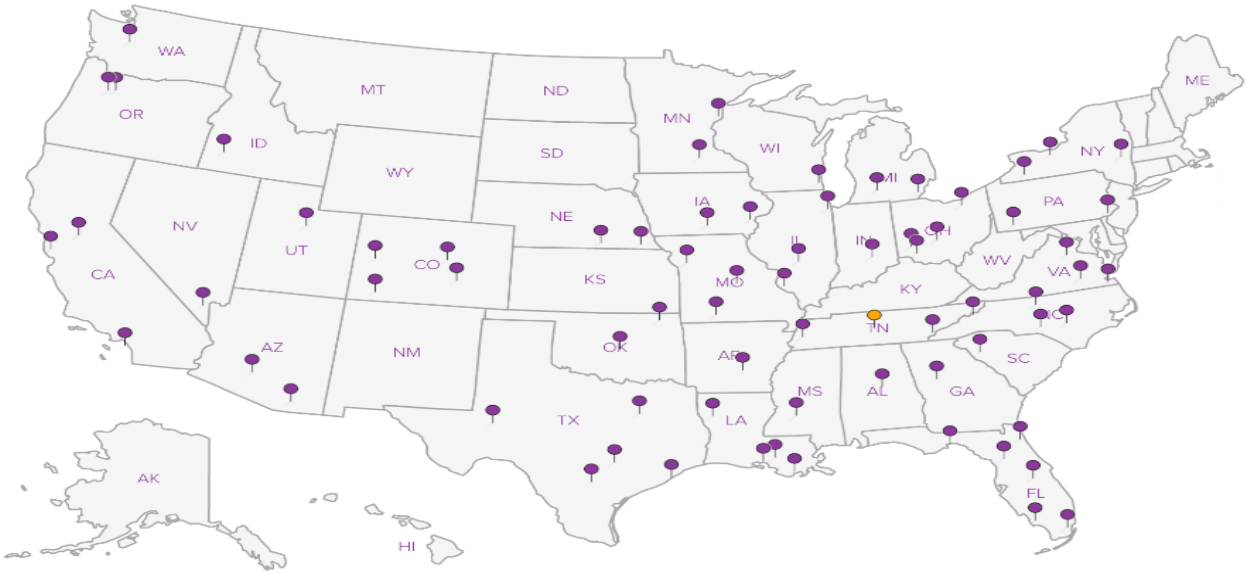
Third Party & Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	S-67674
EPA–Crypto	TN00003		

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [n/a] Accreditation not applicable

Our Locations

ESC Lab Sciences has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. **ESC Lab Sciences performs all testing at our central laboratory.**



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Company Name/Address:	Billing Information:	Analysis
Broadbent Associates **8 West Pacific Ave** **Henderson, NV 89015**		TO-15 Full VOCs
Report to: Stephanie Holst	Email To: sholst@broadbentinc.com	
Project Description: KNR Automotive	City/State Collected: Apple Valley, CA	
Phone: 702-563-0600 Fax:	Client Project # 07-01-175	Lab Project #
Collected by (print): Carlos Cobos	Site/Facility ID # KNR	P.O. # 07-01-175
Collected by (signature):	***Rush?*** (Lab MUST Be Notified) ___ Same Day .....200% ___ Next Day .....100% ___ Two Day .....50% ___ Three Day 25%	Date Results Needed Email? ___No ___Yes FAX? ___No ___Yes Canister Pressure/Vacuum

Chain of Custody Page ___ of ___

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Mount Juliet, TN 37122
Phone: 615-758-5858
Phone: 800-767-5859
Fax: 615-758-5859

L# 825917

Table F121

Acctnum: BROASOHNV
Template:
Prelogin:
TSR:
PB:
Shipped Via:

Sample ID	Sample Description	Can #	Date	Time	Initial	Final	Rem./Contaminant	Sample # (lab only)
VP-1	Probe From Soil Boring	A9519	3-25-16	0915	29	5	X	01
VP-2	⊥	2661	⊥	0900	28	5	⊥	02

Remarks: 66AS 0387 6934

Hold #

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Samples returned via: ☐ UPS ☒ FedEx ☐ Courier ☐ ____	Condition: (lab use only)
	3-25-16	1530	FEDEX		NB10 STR2 V
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: 2.4 °C Bottles Received: 2	COC Seal intact: ✓ Y ___N ___NA
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 3/26/16 Time: 0900	pH Checked: NCF:

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APPENDIX G

QUALIFICATIONS

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Breezy Carreno – Project Manager, Due Diligence

B.S. – Environmental Science, Conservation Biology, University of California, Los Angeles

Ms. Carreno provides expertise in environmental project management, consulting, and due diligence services to ensure ASTM compliance and satisfaction of client requirements for Phase I Environmental Site Assessments, Environmental Transaction Screens, Regulatory Database and Historical Records Reviews for large- and small-scale industrial, commercial, multi-tenant residential, and rural properties.

Project experience for Ms. Carreno includes:

- Phase I Environmental Site Assessments (PHI ESAs)
- Limited Environmental Site Assessments (LESAs)
- Environmental Transaction Screens (ETSs)
- Records Research with Risk Assessments (RSRAs)
- Regulatory Database Reviews
- Historical Records Reviews

As a Due Diligence Project Manager, Ms. Carreno provides project management and technical expertise to ensure ASTM compliance and satisfaction of client requirements in the Southern California areas.

In addition, prior to joining the environmental consulting industry, Ms. Carreno spent four years studying a diverse range of environmental disciplines including: environmental health, wildlife ecology and conservation, environmental statistics, ecology, conservation biology, environmental law and policy, and science communications.

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Edna M. Picciolini – National Client Manager

B.A. – Environmental Sciences, Northwestern University, 1995

Illinois Department of Public Health Asbestos Inspector
USEPA Accredited Asbestos Building Inspector

Ms. Picciolini has served as a National Client Manager, Senior Project Manager and Group Leader, overseeing all aspects of Environmental Due Diligence, including Phase I Environmental Site Assessments (ESAs), Phase II ESAs, and Regulatory Compliance Audits. Ms. Picciolini has 22 years of environmental consulting experience. Her responsibilities have included coordinating Phase I Environmental Site Assessments (ESA) and Industrial Hygiene operations and managing national client accounts for sites throughout the United States, Canada and Mexico. Ms. Picciolini has produced several national client report formats for Phase I ESAs, as well as NEPA reports. She has prepared a Quality Assurance/Quality Control (QA/QC) database to track the report writing performance of internal staff. Her experience includes writing proposals, overseeing project budgets, invoicing, and reviewing Health and Safety Plans, Phase I ESAs, Asbestos and Lead Survey Reports, reviewing and writing Federal Communications (FCC) NEPA Compliance Checklists and FCC Environmental Assessments (EAs), and performing Phase I ESAs, asbestos surveys, mold inspections, hazardous materials surveys and compliance audits. She has been responsible for overall QA/QC of Phase I ESAs, Phase II ESAs, and Asbestos Surveys for multiple clients and portfolios. Ms. Picciolini has performed and managed Phase I ESAs on varied property types including retail shopping centers, commercial office buildings, high-rise structures, medical clinics, medical office buildings, manufacturing sites, industrial/warehouse structures, gas stations, automotive service stations, marinas, retail strip malls, multi-family residential buildings, railroad yards, airports, bulk oil storage terminals, cemeteries, funeral homes, and vacant parcels.

Ms. Picciolini's experience also includes FESOP and Title V air permitting, air emissions inventories, and a thorough knowledge of Comprehensive Environmental Response, Compensation, and Liability Act issues and reform options; Illinois Responsible Property Transfer Act (IRPTA) applicability; Risk Management Planning (RMP); Resource Conservation and Recovery Act (RCRA); Emergency Prevention and Community Right-To-Know Act (EPCRA) regulations; asbestos surveys; mold surveys; hazardous materials surveys, and project management.

Ms. Picciolini has a thorough knowledge of health and safety issues and regulations. She has provided Occupational Safety and Health Administration (OSHA) Asbestos Awareness Training to clients and in-house personnel, and has provided mentoring and training to junior staff. She has successfully managed and/or completed numerous multi-site portfolios within project budgets and under strict deadlines.

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Project experience for Ms. Picciolini includes:

- **GMAC Commercial Mortgage Corporation -** Managed many multi-site portfolios of Phase I ESAs including healthcare, and emissions testing facilities throughout the State of Illinois. These projects were performed for re-financing purposes and identified recognized environmental conditions (RECs) associated with these sites. Provided client consultation regarding next steps for Phase II ESAs.
- **Confidential Client -** Managed major telecommunications account that involved over 1,300 projects, including FCC Checklist reports, FCC EAs, Phase I ESAs, and Phase II investigations, including asbestos surveys.
- **GuernseyBel** - Conducted air emissions inventory and completed the Illinois Environmental Protection Agency annual emissions summary report for a regional food topping manufacturer.
- **Confidential Client - Completed desktop reviews of prior environmental reports, historical record reviews and database reports for 950 properties. Risk analysis of each property was performed, with information summarized in an access database. Calculated worst case environmental liability loss.**
- **Confidential Client** - Maintained monthly reporting requirements for an active site remediation system. Activities include submitting wastewater effluent reports in connection with the industrial waste permit for an on-site remediation system.
- **Confidential Client** - Performed compliance reviews for a national drugstore's distribution warehouse facilities and an equipment rental company in Illinois, Wisconsin, and Indiana. Responsibilities included determination of compliance status and developing company-wide compliance manual.
- **Confidential Client** - Prepared EAs pertaining to flood plain, wetland, archaeological, and historical issues. Acted as liaison between local telecommunications clients and United States Army Corps of Engineers, Natural Resources Conservation Service, State Historic Preservation Agency, and local agencies.
- **LaSalle Investment Management**: Managed multiple Phase I ESAs, Asbestos and Lead Surveys, and Phase II ESAs for various properties throughout the United States and Canada for purchase and sale. Inspections were performed to current ASTM Standards.
- **Military Housing** - Conducted Mold Surveys in the southeast to support the privatization of base housing.
- **Client Management: Various** - Managed multiple portfolios of Phase I ESAs, Asbestos and Lead Surveys, and Phase II ESAs for various properties throughout the United States, Mexico and Canada for purchase, sale and refinances. Inspections were performed to current ASTM Standards. Performed staff training, prepared report formats, project management, staff assignments, report reviews, and client communications throughout the projects. Ensured projects

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were performed within budget and timelines. Communicated updates to the client and provided consultation regarding next steps. Oversaw Phase II proposals and completion of Phase II ESAs. Analyzed subsurface data to determine if a reported release had occurred and next steps. Prepared or reviewed Health and Safety Plans for each project determining whether various safety issues were adequately addressed for on-site staff performing assessments.

- **Walgreen Co.** – Oversaw Due Diligence Services for a National Retail Drug Chain Account. Duties included training staff, overseeing all reporting, tracking, maintaining, developing, and providing training to the account. Oversaw project proposals, budgets, client contacts and updates, as well as made sure client performance standards were met. Sites were located throughout the United States and Puerto Rico.
- **Confidential Client** - Performed a Visual Survey for suspect microbial growth on drywall, which included cuts to drywall throughout the structure. The Survey was performed for an insurance carrier to determine if the moisture infiltration was occurring in several areas, or was isolated to one portion of the building.
- **Equity** - Prepared an Asbestos and Hazardous Material Survey for a defunct power plant. Oversaw basement dewatering, hazardous material identification removal, and asbestos abatement contractors throughout the project, which spanned over one year and was valued at over $3 million in total cost. Oversaw obtaining de-watering permits from the local municipalities, as well as compliance with local, state and federal regulations throughout the project.
- **Lillibridge Healthcare Services, Inc**.- Provided OSHA Asbestos Awareness Training to maintenance personnel and established a Corporate Asbestos Management Plan for a healthcare property management company.
- **Albertson's** - Performed an Asbestos and Hazardous Material Survey for a defunct bakery building slated for demolition. Provided detailed reporting and drawings for asbestos removal cost estimates.

SPECIALIZED EDUCATION

Site Remediation 40 Hour HAZWOPER Training

Construction Safety 10 Hour OSHA Training

Confined Space Training

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APPENDIX H

LIST OF COMMONLY USED ABBREVIATIONS

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UNITS

µg/L	Micrograms per Liter	**pCi/L**	PicoCuries per Liter
mg/kg	Milligrams per Kilogram	**ppb**	Parts per Billion
mg/L	Milligrams per Liter	**ppm**	Parts per Million

ABBREVIATIONS AND ACRONYMS

ACM	Asbestos-Containing Material	**NESHAP**	National Emission Standards for Hazardous Air Pollutants
ADJ	Adjacent site	**NFA**	No Further Action
AEI	AEI Consultants	**NFRAP**	No Further Remedial Action Planned
AHERA	Asbestos Hazard Emergency Response Act	**NLR**	No Longer Reporting
APN	Assessor's Parcel Number	**NOV**	Notice of Violation
AST	Aboveground Storage Tank	**NPL**	National Priorities List
AUL	Activity and Use Limitation	**O&M**	Operations and Maintenance
bgs	Below Ground Surface	**OEC**	Other Environmental Considerations
BTEX	Benzene, Toluene, Ethylbenzene, and Xylenes	**OSHA**	Occupational Safety and Health Administration
CERCLA	Comprehensive Environmental Response Compensation and Liability Act	**PCB**	Polychlorinated Biphenyl
CERCLIS	Comprehensive Environmental Response Compensation and Liability Information System	**PCE, PERC**	Perchloroethylene, Tetrachloroethylene, Tetrachloroethene
CESQGs	Conditionally Exempt Small Quantity Generators	**RCRA**	Resource Conservation and Recovery Act
COC	Contaminant of Concern	**REC**	Recognized Environmental Condition
CREC	Controlled Recognized Environmental Condition	**RP**	Responsible Party
EC	Engineering Controls	**SDS**	Safety Data Sheet
EDR	Environmental Data Resources, Inc.	**SEMS**	Superfund Enterprise Management System
EPA	Environmental Protection Agency	**SF**	Square Footage/Square Feet
ERIS	Environmental Risk Information Services	**SP**	Subject Property
ERNS	Emergency Response Notification System	**SQG**	Small Quantity Generator
ESA	Environmental Site Assessment	**SWLF**	Solid Waste Landfill
GPR	Ground-Penetrating Radar	**SVOC**	Semi-Volatile Organic Compound
HREC	Historical Recognized Environmental Condition	**TCE**	Trichloroethylene, Trichloroethene
HVAC	Heating, Ventilation and Air Conditioning	**TPH**	Total Petroleum Hydrocarbons
HWS	Hazardous Waste Site	**TPHd**	Total Petroleum Hydrocarbons (diesel range)
IC	Institutional Controls	**TPHg**	Total Petroleum Hydrocarbons (gasoline range)
LBP	Lead-Based Paint	**TPHo**	Total Petroleum Hydrocarbons (oil range)
LCP	Lead-Containing Paint	**TRPH**	Total Recoverable Petroleum Hydrocarbons
LLP	Landowner Liability Protection	**TSDF**	Treatment, Storage, and Disposal Facility
LQG	Large Quantity Generator	**USDA**	United States Department of Agriculture
LUST	Leaking Underground Storage Tank	**USGS**	United States Geological Survey
MCL	Maximum Contaminant Level	**UST**	Underground Storage Tank
MTBE	Methyl Tertiary Butyl Ether	**VCP**	Voluntary Cleanup Program
ND	None Detected	**VOC**	Volatile Organic Compound

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Priority Project

Preliminary Water Quality Management Plan

For:

Apple Bear Retail Site

Prepared for:

Apple Bear Investors, LLC

2950 Airway Avenue, Suite A-9

Costa Mesa, CA 92626

(657) 247-2600 x306

Prepared by:

Tait & Associates

701 N Parkcenter Drive

Santa Ana, CA 92705

(714) 560-8661

Submittal Date: September 12, 2022

Final Approval Date:_____

Project Owner's Certification

This Town of Apple Valley Water Quality Management Plan (WQMP) has been prepared for Wood Investments Companies by Tait & Associates. The WQMP is intended to comply with the requirements of the Town of Apple Valley and the Phase II Small MS4 General Permit for the Mojave River Watershed. The undersigned, while it owns the subject property, is responsible for the implementation of the provisions of this plan and will ensure that this plan is amended as appropriate to reflect up-to-date conditions on the site consistent with the Phase II Small MS4 Permit and the intent of the Town of Apple Valley's compliance efforts. Once the undersigned transfers its interest in the property, its successors in interest and the Town of Apple Valley shall be notified of the transfer. The new owner will be informed of its responsibility under this WQMP. A copy of the approved WQMP shall be available on the subject site in perpetuity.

"I certify under a penalty of law that the provisions (implementation, operation, maintenance, and funding) of the WQMP have been accepted and that the plan will be transferred to future successors."

Project Data			
Permit/Application Number(s):		Grading Permit Number(s):	
Tract/Parcel Map Number(s):		Building Permit Number(s):	
CUP, SUP, and/or APN (Specify Lot Numbers if Portions of Tract):			

Owner's Signature			
Owner Name: Matt Bush			
Title	**Owner**		
Company	Apple Bear Investors, LLC		
Address	2950 Airway Ave., Unit A-9		
Email	matt@woodinvco.com		
Telephone #	657-247-2600 ext. 306		
Signature		Date	

Preparer's Certification

Project Data			
Permit/Application Number(s):		Grading Permit Number(s):	
Tract/Parcel Map Number(s):		Building Permit Number(s):	
CUP, SUP, and/or APN (Specify Lot Numbers if Portions of Tract):			

"The selection, sizing and design of stormwater treatment and other stormwater quality and quantity control measures in this plan were prepared under my oversight and meet the requirements of State of California Water Resources Control Board Order No. 2013-0001-DWQ.

Engineer: Jacob VanderVis		PE Stamp Below
Title	Chief Operating Officer	
Company	Tait & Associates	
Address	701 N Parkcenter Dr.	
Email	jacobv@tait.com	
Telephone #	714-560-8677	
Signature		
Date		

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APPENDICES:

- **Vicinity Map**
- **Geotechnical Report**
- **Stormwater Runoff Analysis**
- **Preliminary WQMP Map**

Section I – Introduction

This WQMP template has been prepared specifically for the Phase II Small MS4 General Permit in the Mojave River Watershed. This location is within the jurisdiction of the Lahontan Regional Water Quality Control Board (LRWQCB) only. This document should not be confused with the WQMP template for the Santa Ana Phase I area of San Bernardino County.

WQMP preparers must refer to the MS4 Permit for the Mojave Watershed WQMP template and Technical Guidance (TGD) document found at: http://cms.sbcounty.gov/dpw/Land/NPDES.aspx to find pertinent arid region and Mojave River Watershed specific references and requirements.

Section 1 Discretionary Permit(s)

Form 1-1 Project Information					
Project Name	Apple Bear Retail Site				
Project Owner Contact Name:	Matt Bush				
Mailing Address:	2950 Airway Ave., Unit A-9	E-mail Address:	matt@woodinvco.com	Telephone:	657-247-2600 ext. 306
Permit/Application Number(s):		Tract/Parcel Map Number(s):			
Additional Information/ Comments:					
Description of Project:	Development of a retail center with drive-thru restaurants, shops, Drive-thrus, driving lanes				
Provide summary of Conceptual WQMP conditions (if previously submitted and approved). Attach complete copy.	N/A. No previous submission.				

Section 2 Project Description

2.1 Project Information

This project proposes the construction of a mixed-use commercial development including retail shopping, drive-thru restaurants, dining, site drive aisles and parking infrastructure. Pollutants of concern are listed hereon based on the Technical Guidance Document (TGD) for Water Quality Management Plans (WQMP).

This project intends to retain all stormwater on site by using underground proprietary infiltration facilities. This study examines the project as though it were one large shed, which is actually composed of 24 sub-sheds that flow into the on-site stormwater drainage system prior to discharging into the underground stormwater facility. The longest path of overland flow was used to determine time of concentration for this site. All water stored by this facility will ultimately infiltrate through the soils into the groundwater.

2.1.1 Project Sizing Categorization

Form 2.1-1 Description of Proposed Project

1 Regulated Development Project Category (Select all that apply):

☒ #1 New development involving the creation of 5,000 ft^2 or more of impervious surface collectively over entire site	☐ #2 Significant re-development involving the addition or replacement of 5,000 ft^2 or more of impervious surface on an already developed site	☐ #3 Road Project – any road, sidewalk, or bicycle lane project that creates greater than 5,000 square feet of contiguous impervious surface	☐ #4 LUPs – linear underground/overhead projects that has a discrete location with 5,000 sq. ft. or more new constructed impervious surface

☐ Site Design Only (Project Total Square Feet > 2,500 but < 5,000 sq.ft) *Will require source control Site Design LID BMPs and other LIP requirements. See section 4. (Please go to Forms 4.1-3 and 4.3-2)*

2 Project Area (ft2):	390,110	**3** Number of Dwelling Units:	0	**4** SIC Code:	

5 Is Project going to be phased? Yes ☐ No ☒ *If yes, ensure that the WQMP evaluates each phase as a distinct DA, requiring LID BMPs to address runoff at time of completion.*

2.2 Property Ownership/Management

The property owner shall provide maintenance for the stormwater drainage and water quality facilities. The Final WQMP shall provide detailed maintenance agreements and covenants.

Form 2.2-1 Property Ownership/Management

Describe property ownership/management responsible for long-term maintenance of WQMP stormwater facilities:
Property owner to determine long-term maintenance of WQMP stormwater facilities during the construction document development phase.

2.3 Potential Stormwater Pollutants

Expected pollutants of concern were determined based on land uses and site activities, per Table 3-2 in the TGD for WQMP.

Form 2.3-1 Pollutants of Concern

Pollutant	Please check: E=Expected, N=Not Expected		Additional Information and Comments
Pathogens (Bacterial / Virus)	E ☒	N ☐	
Nutrients - Phosphorous	E ☒	N ☐	
Nutrients - Nitrogen	E ☒	N ☐	
Noxious Aquatic Plants	E ☒	N ☐	
Sediment	E ☒	N ☐	
Metals	E ☒	N ☐	
Oil and Grease	E ☒	N ☐	
Trash/Debris	E ☒	N ☐	
Pesticides / Herbicides	E ☒	N ☐	
Organic Compounds	E ☒	N ☐	
Other:	E ☐	N ☐	
Other:	E ☐	N ☐	
Other:	E ☐	N ☐	

Section 3 Site and Watershed Description

Due to the density of this development and the proximity to public stormwater conveyance systems, the project intends to utilize underground stormwater infiltration devices to infiltrate stormwater runoff into the groundwater. Soils testing was performed and based on the infiltration rate of 1.42 in/hr.; therefore,

retaining water on site is appropriate. See attached Preliminary SQMP Map. See Forms 3-1 through 3-3 for site location, hydrologic features and watershed information.

Form 3-1 Site Location and Hydrologic Features

Site coordinates *take GPS measurement at approximate center of site*	Latitude 34° 28' 12"	Longitude 117° 15' 17"	Thomas Bros Map page
1 San Bernardino County climatic region: ☒ Desert			
2 Does the site have more than one drainage area (DA): Yes☐ No☒ *If no, proceed to Form 3-2. If yes, then use this form to show a conceptual schematic describing DMAs and hydrologic feature connecting DMAs to the site outlet(s). An example is provided below that can be modified for proposed project or a drawing clearly showing DMA and flow routing may be attached*			

Conveyance	All water flows view storm drain pipes from catch basins to the underground stormwater facility.
DMA A to Outlet 1	n/a – All water is retained on site.

Form 3-2 Existing Hydrologic Characteristics for Drainage Area 1

For Drainage Area 1's sub-watershed DMA, provide the following characteristics	DMA A	DMA B	DMA C	DMA D
1 DMA drainage area (ft^2)	390,110			
2 Existing site impervious area (ft^2)	390,110			
3 Antecedent moisture condition *For desert areas, use http://www.sbcounty.gov/dpw/floodcontrol/pdf/20100412_map.pdf*	AMC I - Dry			
4 Hydrologic soil group *Refer to County Hydrology Manual Addendum for Arid Regions – http://www.sbcounty.gov/dpw/floodcontrol/pdf/20100412_addendum.pdf*	C			
5 Longest flowpath length (ft)	580			
6 Longest flowpath slope (ft/ft)	0.011			
7 Current land cover type(s) *Select from Fig C-3 of Hydrology Manual*	Open Brush			
8 Pre-developed pervious area condition: *Based on the extent of wet season vegetated cover good >75%; Fair 50-75%; Poor <50% Attach photos of site to support rating*	Poor			

Form 3-3 Watershed Description for Drainage Area

Receiving waters Refer to CWRCB site: http://www.waterboards.ca.gov/water_issues/programs/tmdl/integrated2010.shtml	Mojave River (Mojave Forks Reservoir outlet to Upper Narrows)
Applicable TMDLs *http://www.waterboards.ca.gov/water_issues/programs/tmdl/integrated2010.shtml*	5A
303(d) listed impairments *http://www.waterboards.ca.gov/water_issues/programs/tmdl/integrated2010.shtml*	Fluoride
Environmentally Sensitive Areas (ESA) *Refer to Watershed Mapping Tool –* *http://sbcounty.permitrack.com/WAP*	N/A
Hydromodification Assessment	☒ Yes *Complete Hydromodification Assessment. Include Forms 4.2-2 through Form 4.2-5 and Hydromodification BMP Form 4.3-9 in submittal* ☐ No

Section 4 Best Management Practices (BMP)

4.1 Source Control and Site Design BMPs

4.1.1 Source Control BMPs

Non-structural and structural source control BMPs are required to be incorporated into all new development and significant redevelopment projects. Form 4.1-1 and 4.1-2 are used to describe specific source control BMPs used in the WQMP or to explain why a certain BMP is not applicable. Table 7-3 of the TGD for WQMP provides a list of applicable source control BMP for projects with specific types of potential pollutant sources or activities. The source control BMP in this table must be implemented for projects with these specific types of potential pollutant sources or activities.

The preparers of this WQMP have reviewed the source control BMP requirements for new development and significant redevelopment projects. The preparers have also reviewed the specific BMP required for project as specified in Forms 4.1-1 and 4.1-2. All applicable non-structural and structural source control BMP shall be implemented in the project.

The identified list of source control BMPs correspond to the CASQA Stormwater BMP Handbook for New Development and Redevelopment.

Form 4.1-1 Non-Structural Source Control BMPs

Identifier	Name	Check One		Describe BMP Implementation OR, if not applicable, state reason
		Included	Not Applicable	
N1	Education of Property Owners, Tenants and Occupants on Stormwater BMPs	☒	☐	
N2	Activity Restrictions	☒	☐	
N3	Landscape Management BMPs	☒	☐	
N4	BMP Maintenance	☒	☐	
N5	Title 22 CCR Compliance (How development will comply)	☐	☒	Not applicable, per TGD for WQMP.
N6	Local Water Quality Ordinances	☒	☐	
N7	Spill Contingency Plan	☒	☐	
N8	Underground Storage Tank Compliance	☒	☐	
N9	Hazardous Materials Disclosure Compliance	☒	☐	

Form 4.1-1 Non-Structural Source Control BMPs

Identifier	Name	Check One		Describe BMP Implementation OR, if not applicable, state reason
		Included	Not Applicable	
N10	Uniform Fire Code Implementation	☒	☐	
N11	Litter/Debris Control Program	☒	☐	
N12	Employee Training	☒	☐	
N13	Housekeeping of Loading Docks	☒	☐	
N14	Catch Basin Inspection Program	☒	☐	
N15	Vacuum Sweeping of Private Streets and Parking Lots	☒	☐	
N16	Other Non-structural Measures for Public Agency Projects	☐	☒	Not a public project.
N17	Comply with all other applicable NPDES permits	☒	☐	

Form 4.1-2 Structural Source Control BMPs

Identifier	Name	Check One		Describe BMP Implementation OR, If not applicable, state reason
		Included	Not Applicable	
S1	Provide storm drain system stencilling and signage (CASQA New Development BMP Handbook SD-13)	☒	☐	
S2	Design and construct outdoor material storage areas to reduce pollution introduction (CASQA New Development BMP Handbook SD-34)	☒	☐	
S3	Design and construct trash and waste storage areas to reduce pollution introduction (CASQA New Development BMP Handbook SD-32)	☒	☐	
S4	Use efficient irrigation systems & landscape design, water conservation, smart controllers, and source control (Statewide Model Landscape Ordinance; CASQA New Development BMP Handbook SD-12)	☒	☐	
S5	Finish grade of landscaped areas at a minimum of 1-2 inches below top of curb, sidewalk, or pavement	☒	☐	
S6	Protect slopes and channels and provide energy dissipation (CASQA New Development BMP Handbook SD-10)	☒	☐	
S7	Covered dock areas (CASQA New Development BMP Handbook SD-31)	☒	☐	
S8	Covered maintenance bays with spill containment plans (CASQA New Development BMP Handbook SD-31)	☒	☐	
S9	Vehicle wash areas with spill containment plans (CASQA New Development BMP Handbook SD-33)	☒	☐	
S10	Covered outdoor processing areas (CASQA New Development BMP Handbook SD-36)	☒	☐	

Form 4.1-2 Structural Source Control BMPs

Identifier	Name	Check One		Describe BMP Implementation OR, If not applicable, state reason
		Included	Not Applicable	
S11	Equipment wash areas with spill containment plans (CASQA New Development BMP Handbook SD-33)	☒	☐	
S12	Fueling areas (CASQA New Development BMP Handbook SD-30)	☐	☒	No fueling facilities proposed as part of project.
S13	Hillside landscaping (CASQA New Development BMP Handbook SD-10)	☒	☐	
S14	Wash water control for food preparation areas	☒	☐	
S15	Community car wash racks (CASQA New Development BMP Handbook SD-33)	☒	☐	

4.1.2 Site Design BMPs

The site is designed to have all stormwater enter the private stormwater drainage system via catch basins. Once stormwater enters the drainage system, the water will flow through CDS units to provide trash capture requirements prior to entering the underground stormwater infiltration facility. See attached WQMP Site Plan and CDS details for location and sizes of the stormwater devices.

Refer to Section 5.2 of the TGD for WQMP for more details.

Form 4.1-3 Site Design Practices Checklist
Site Design Practices *If yes, explain how preventative site design practice is addressed in project site plan. If no, other LID BMPs must be selected to meet targets*
Minimize impervious areas: Yes ☒ No ☐ Explanation: Utilize landscaping to create buffers between drive thrus and drive aisles.
Maximize natural infiltration capacity; Including improvement and maintenance of soil: Yes ☒ No ☐ Explanation: Use of Underground infiltration to retain water onsite.
Preserve existing drainage patterns and time of concentration: Yes ☐ No ☒ Explanation: Current site is vacant, untreated and runs off site. Water will now be retained via underground storage system.
Disconnect impervious areas. Including rerouting of rooftop drainage pipes to drain stormwater to storage or infiltration BMPs instead of to storm drain: Yes ☒ No ☐ Explanation:
Use of Porous Pavement: Yes ☐ No ☒ Explanation: Water is to be retained on site using underground infiltration systems.
Protect existing vegetation and sensitive areas: Yes ☐ No ☒ Explanation: N/A
Re-vegetate disturbed areas. Including planting and preservation of drought tolerant vegetation: Yes ☒ No ☐ Explanation:
Minimize unnecessary compaction in stormwater retention/infiltration basin/trench areas: Yes ☒ No ☐ Explanation: Compaction to take place on the top of underground storage.
Utilize naturalized/rock-lined drainage swales in place of underground piping or imperviously lined swales: Yes ☐ No ☒ Explanation:
Stake off areas that will be used for landscaping to minimize compaction during construction: Yes ☒ No ☐ Explanation:

Use of Rain Barrels and Cisterns, Including the use of on-site water collection systems: Yes ☐ No ☒ Explanation:
Stream Setbacks. Includes a specified distance from an adjacent steam: Yes ☐ No ☒ Explanation:

Typical landscaping recommendations are found in following local references:

San Bernardino County Special Districts:

Guide to High Desert Landscaping -
http://www.specialdistricts.org/Modules/ShowDocument.aspx?documentid=795

Recommended High-Desert Plants -
http://www.specialdistricts.org/modules/showdocument.aspx?documentid=553

Mojave Water Agency:

Desert Ranch: http://www.mojavewater.org/files/desertranchgardenprototype.pdf

Summertree: http://www.mojavewater.org/files/Summertree-Native-Plant-Brochure.pdf

Thornless Garden: http://www.mojavewater.org/files/thornlessgardenprototype.pdf

Mediterranean Garden: http://www.mojavewater.org/files/mediterraneangardenprototype.pdf

Lush and Efficient Garden: http://www.mojavewater.org/files/lushandefficientgardenprototype.pdf

Alliance for Water Awareness and Conservation (AWAC) outdoor tips – http://hdawac.org/save-outdoors.html

4.2 Treatment BMPs

See forms below for sizing the treatment volume of the underground stormwater infiltration facility. Hydromodification sizing procedures are not utilized for this project. See attached hydrology report sizing the 100-year storm event. This project shall utilize and underground infiltration system capable of retaining the 100-year storm event, so analyzing a lesser event is unnecessary.

4.2.1 Project Specific Hydrology Characterization

The purpose of this section of the Project WQMP is to establish targets for post-development hydrology based on performance criteria specified in the Phase II Small MS4 Permit. These targets include runoff volume for water quality control (referred to as LID design capture volume), and runoff volume, time of concentration, and peak runoff for protection from hydromodification.

Methods applied in the following forms include:

- For LID BMP Design Capture Volume (DCV), San Bernardino County requires use of the P_6 method (Form 4.2-1) For pre- and post-development hydrologic calculation, San Bernardino County requires the use of the Rational Method (San Bernardino County Hydrology Manual Section D). Forms 4.2-2 through Form 4.2-5 calculate hydrologic variables including runoff volume, time of concentration, and peak runoff from the project site pre- and post-development using the Hydrology Manual Rational Method approach. For projects greater than 640 acres (1.0 mi^2), the Rational Method and these forms should not be used. For such projects, the Unit Hydrograph Method (San Bernardino County Hydrology Manual Section E) shall be applied for hydrologic calculations for hydromodification performance criteria.

<table>
<tr><th colspan="3">Form 4.2-1 LID BMP Performance Criteria for Design Capture Volume
(DA 1)</th></tr>
<tr><td>[1] Project area DA 1 (ft^2):
390,110</td><td>[2] Imperviousness after applying preventative site design practices (Imp%): 85</td><td>[3] Runoff Coefficient (Rc): 0.66
$R_c = 0.858(Imp\%)^{\wedge 3}-0.78(Imp\%)^{\wedge 2}+0.774(Imp\%)+0.04$</td></tr>
<tr><td colspan="3">[4] Determine 1-hour rainfall depth for a 2-year return period $P_{2yr\text{-}1hr}$ (in): 0.33 http://hdsc.nws.noaa.gov/hdsc/pfds/sa/sca_pfds.html</td></tr>
<tr><td colspan="3">[5] Compute P_6, Mean 6-hr Precipitation (inches): 0.408
P_6 = Item 4 *C_1, where C_1 is a function of site climatic region specified in Form 3-1 Item 1 (Desert = 1.2371)</td></tr>
<tr><td colspan="2">[6] Drawdown Rate
Use 48 hours as the default condition. Selection and use of the 24 hour drawdown time condition is subject to approval by the local jurisdiction. The necessary BMP footprint is a function of drawdown time. While shorter drawdown times reduce the performance criteria for LID BMP design capture volume, the depth of water that can be stored is also reduced.</td><td>24-hrs ☐
48-hrs ☒</td></tr>
<tr><td colspan="3">[7] Compute design capture volume, DCV (ft^3): 17,184
DCV = 1/12 * [Item 1* Item 3 *Item 5 * C_2], where C_2 is a function of drawdown rate (24-hr = 1.582; 48-hr = 1.963)
Compute separate DCV for each outlet from the project site per schematic drawn in Form 3-1 Item 2</td></tr>
</table>

Form 4.2-2 Summary of Hydromodification Assessment (DA 1)

Is the change in post- and pre- condition flows captured on-site? : Yes ☒ No ☐

If "Yes", then complete Hydromodification assessment of site hydrology for 10yr storm event using Forms 4.2-3 through 4.2-5 and insert results below *(Forms 4.2-3 through 4.2-5 may be replaced by computer software analysis based on the San Bernardino County Hydrology Manual- Addendum 1)*

If "No," then proceed to Section 4.3 BMP Selection and Sizing

Condition	Runoff Volume (ft^3)	Time of Concentration (min)	Peak Runoff (cfs)
Pre-developed	**1** 21,780 *Form 4.2-3 Item 12*	**2** 10 *Form 4.2-4 Item 13*	**3** 5.53 *Form 4.2-5 Item 10*
Post-developed	**4** 26,136 *Form 4.2-3 Item 13*	**5** 10 *Form 4.2-4 Item 14*	**6** 7.23 *Form 4.2-5 Item 14*
Difference	**7** *4356* *Item 4 – Item 1*	**8** *0* *Item 2 – Item 5*	**9** *1.70* *Item 6 – Item 3*
Difference (as % of pre-developed)	**10** *20%* *Item 7 / Item 1*	**11** *0%* *Item 8 / Item 2*	**12** *0.31%* *Item 9 / Item 3*

Form 4.2-3 Hydromodification Assessment for Runoff Volume (DA 1)

Weighted Curve Number Determination for: Pre-developed DA	DMA A	DMA B	DMA C	DMA D	DMA E	DMA F	DMA G	DMA H
1a Land Cover type	Open Brush							
2a Hydrologic Soil Group (HSG)	C							
3a DMA Area, ft^2 *sum of areas of DMA should equal area of DA*	390,155							
4a Curve Number (CN) *use Items 1 and 2 to select the appropriate CN from Appendix C-2 of the TGD for WQMP*	74							
Weighted Curve Number Determination for: Post-developed DA	DMA A	DMA B	DMA C	DMA D	DMA E	DMA F	DMA G	DMA H
1b Land Cover type	Commercial							
2b Hydrologic Soil Group (HSG)	C							
3b DMA Area, ft^2 *sum of areas of DMA should equal area of DA*	390,155							
4b Curve Number (CN) *use Items 5 and 6 to select the appropriate CN from Appendix C-2 of the TGD for WQMP*	94							

5 Pre-Developed area-weighted CN: 74	**7** Pre-developed soil storage capacity, S (in): 3.51 *S = (1000 / Item 5) - 10*	**9** Initial abstraction, I_a (in): .70 *I_a = 0.2 * Item 7*
6 Post-Developed area-weighted CN: 94	**8** Post-developed soil storage capacity, S (in): 0.64 *S = (1000 / Item 6) - 10*	**10** Initial abstraction, I_a (in): .13 *I_a = 0.2 * Item 8*

11 Precipitation for 10 yr, 24 hr storm (in): 2.1
Go to: http://hdsc.nws.noaa.gov/hdsc/pfds/sa/sca_pfds.html

12 Pre-developed Volume (ft^3): 12,924
*V_{pre} =(1 / 12) * (Item sum of Item 3) * [(Item 11 – Item 9)^2 / ((Item 11 – Item 9 + Item 7)*

13 Post-developed Volume (ft^3): 48,441
*V_{pre} =(1 / 12) * (Item sum of Item 3) * [(Item 11 – Item 10)^2 / ((Item 11 – Item 10 + Item 8)*

14 Volume Reduction needed to meet hydromodification requirement, (ft^3): 35,516
*Vhydro = (Item 13 * 0.95) – Item 12*

4.3.1 Exceptions to Requirements for Bioretention Facilities

Form 4.3-1 Infiltration BMP Feasibility (DA 1)
Feasibility Criterion – Complete evaluation for each DA on the Project Site
[1] Would infiltration BMP pose significant risk for groundwater related concerns? Yes ☐ No ☒ *Refer to Section 5.3.2.1 of the TGD for WQMP*
If Yes, Provide basis: (attach)
[2] Would installation of infiltration BMP significantly increase the risk of geotechnical hazards? Yes ☐ No ☒ (Yes, if the answer to any of the following questions is yes, as established by a geotechnical expert): • The location is less than 50 feet away from slopes steeper than 15 percent • The location is less than ten feet from building foundations or an alternative setback. • A study certified by a geotechnical professional or an available watershed study determines that stormwater infiltration would result in significantly increased risks of geotechnical hazards.
If Yes, Provide basis: (attach)
[3] Would infiltration of runoff on a Project site violate downstream water rights? Yes ☐ No ☒
If Yes, Provide basis: (attach)
[4] Is proposed infiltration facility located on hydrologic soil group (HSG) D soils or does the site geotechnical investigation indicate presence of soil characteristics, which support categorization as D soils? Yes ☐ No ☒
If Yes, Provide basis: (attach)
[5] Is the design infiltration rate, after accounting for safety factor of 2.0, below proposed facility less than 0.3 in/hr (accounting for soil amendments)? Yes ☐ No ☒
If Yes, Provide basis: (attach)
[6] Would on-site infiltration or reduction of runoff over pre-developed conditions be partially or fully inconsistent with watershed management strategies as defined in the WAP, or impair beneficial uses? Yes ☐ No ☒ *See Section 3.5 of the TGD for WQMP and WAP*
If Yes, Provide basis: (attach)
[7] Any answer from Item 1 through Item 3 is "Yes": Yes ☐ No ☒ *If yes, infiltration of any volume is not feasible onsite. Proceed to Form 4.3-4, Selection and Evaluation of Biotreatment BMP BMP. If no, then proceed to Item 8 below.* [8] Any answer from Item 4 through Item 6 is "Yes": Yes ☐ No ☒ *If yes, infiltration is permissible but is not required to be considered. Proceed to Form 4.3-2, Site Design BMP. If no, then proceed to Item 9, below.* [9] All answers to Item 1 through Item 6 are "No": *Infiltration of the full DCV is potentially feasible, LID infiltration BMP must be designed to infiltrate the full DCV to the MEP. Proceed to Form 4.3-2, Site Design BMPs.*

4.3.2 Site Design BMP

Section E.12.e. of the Small Phase II MS4 Permit emphasizes the use of LID preventative measures; and the use of Site Design BMPs reduces the portion of the DCV that must be addressed in downstream BMPs. Therefore, all applicable Site Design shall be provided except where they are mutually exclusive with each

other, or with other BMPs. Mutual exclusivity does not apply to this site. See forms below for Site Design BMP data.

Form 4.3-2 Site Design BMPs (DA 1)

1 Implementation of Impervious Area Dispersion BMP (i.e. routing runoff from impervious to pervious areas), excluding impervious areas planned for routing to on-lot infiltration BMP: Yes ☒ No ☐ *If yes, complete Items 2-5; If no, proceed to Item 6*	DMA A BMP Type	DA DMA BMP Type	DA DMA BMP Type *(Use additional forms for more BMPs)*
2 Total impervious area draining to pervious area (ft^2)	331,593		
3 Ratio of pervious area receiving runoff to impervious area	0.15		
4 Retention volume achieved from impervious area dispersion (ft^3) *V = Item2 * Item 3 * (0.5/12), assuming retention of 0.5 inches of runoff*	2,072		
5 Sum of retention volume achieved from impervious area dispersion (ft^3): 1,885 *$V_{retention}$ =Sum of Item 4 for all BMPs*			
6 Implementation of Localized On-lot Infiltration BMPs (e.g. on-lot rain gardens): Yes ☐ No ☒ *If yes, complete Items 7-13 for aggregate of all on-lot infiltration BMP in each DA; If no, proceed to Item 14*	DA DMA BMP Type	DA DMA BMP Type	DA DMA BMP Type *(Use additional forms for more BMPs)*
7 Ponding surface area (ft^2)			
8 Ponding depth (ft) (min. 0.5 ft.)			
9 Surface area of amended soil/gravel (ft^2)			
10 Average depth of amended soil/gravel (ft) (min. 1 ft.)			
11 Average porosity of amended soil/gravel			
12 Retention volume achieved from on-lot infiltration (ft^3) *$V_{retention}$ = (Item 7 *Item 8) + (Item 9 * Item 10 * Item 11)*			

Form 4.3-2 cont. Site Design BMPs (DA 1)			
13 Runoff volume retention from on-lot infiltration (ft^3): *$V_{retention}$ =Sum of Item 12 for all BMPs*			
14 Implementation of Street Trees: Yes ☐ No ☒ *If yes, complete Items 14-18. If no, proceed to Item 19*	DA DMA BMP Type	DA DMA BMP Type	DA DMA BMP Type *(Use additional forms for more BMPs)*
15 Number of Street Trees			
16 Average canopy cover over impervious area (ft^2)			
17 Runoff volume retention from street trees (ft^3) *$V_{retention}$ = Item 15 * Item 16 * (0.05/12) assume runoff retention of 0.05 inches*			
18 Runoff volume retention from street tree BMPs (ft^3): *$V_{retention}$ = Sum of Item 17 for all BMPs*			
19 Total Retention Volume from Site Design BMPs: 2,072 CF *Sum of Items 5, 13 and 18*			

4.3.3 Infiltration BMPs

See Form 4.3-3 below to see the computations of the on-site retention of runoff from the proposed Underground infiltration BMP.

.

Form 4.3-3 Infiltration LID BMP - including underground BMPs (DA 1)

1 Remaining LID DCV not met by site design BMP (ft^3): *V_{unmet} = Form 4.2-1 Item 7 - Form 4.3-2 Item19*			
BMP Type *Use columns to the right to compute runoff volume retention from proposed infiltration BMP (select BMP from Table 5-4 in TGD for WQMP) - Use additional forms for more BMPs*	DA DMA BMP Type	DA DMA BMP Type	DA DMA BMP Type *(Use additional forms for more BMPs)*
2 Infiltration rate of underlying soils (in/hr) *See Section 5.4.2 and Appendix D of the TGD for WQMP for minimum requirements for assessment methods*	1.42		
3 Infiltration safety factor *See TGD Section 5.4.2 and Appendix D*	2		
4 Design percolation rate (in/hr) *P_{design} = Item 2 / Item 3*	0.71		
5 Ponded water drawdown time (hr) *Copy Item 6 in Form 4.2-1*			
6 Maximum ponding depth (ft) *BMP specific, see Table 5-4 of the TGD for WQMP for BMP design details*			
7 Ponding Depth (ft) *d_{BMP} = Minimum of (1/12*Item 4*Item 5) or Item 6*			
8 Infiltrating surface area, SA_{BMP} (ft^2) *the lesser of the area needed for infiltration of full DCV or minimum space requirements from Table 5.7 of the TGD for WQMP*			
9 Amended soil depth, d_{media} (ft) *Only included in certain BMP types, see Table 5-4 in the TGD for WQMP for reference to BMP design details*			
10 Amended soil porosity			
11 Gravel depth, d_{media} (ft) *Only included in certain BMP types, see Table 5-4 of the TGD for WQMP for BMP design details*			
12 Gravel porosity			
13 Duration of storm as basin is filling (hrs) *Typical ~ 3hrs*			
14 Above Ground Retention Volume (ft^3) *$V_{retention}$ = Item 8 * [Item7 + (Item 9 * Item 10) + (Item 11 * Item 12) + (Item 13 * (Item 4 / 12))]*			
15 Underground Retention Volume (ft^3) *Volume determined using manufacturer's specifications and calculations*	96,270		
16 Total Retention Volume from LID Infiltration BMPs: 96,270 *(Sum of Items 14 and 15 for all infiltration BMP included in plan)*			
17 Fraction of DCV achieved with infiltration BMP: 100% *Retention% = Item 16 / Form 4.2-1 Item 7*			
18 Is full LID DCV retained onsite with combination of hydrologic source control and LID retention/infiltration BMPs? Yes ☒ No ☐ *If yes, demonstrate conformance using Form 4.3-10; If no, then reduce Item 3, Factor of Safety to 2.0 and increase Item 8, Infiltrating Surface Area, such that the portion of the site area used for retention and infiltration BMPs equals or exceeds the minimum effective area thresholds (Table 5-7 of the TGD for WQMP) for the applicable category of development and repeat all above calculations.*			

4.3.4 Biotreatment BMP

Biotreatment BMPs are not utilized as part of this project.

4.3.5 Conformance Summary

See Form 4.3-8 to see the compliance with retention requirements.

Form 4.3-8 Conformance Summary and Alternative Compliance Volume Estimate (DA 1)

1 Total LID DCV for the Project DA-1 (ft^3): 17,184 *Copy Item 7 in Form 4.2-1*

2 On-site retention with site design BMP (ft^3): *Copy Item18 in Form 4.3-2*

3 On-site retention with LID infiltration BMP (ft^3): 96,270 *Copy Item 16 in Form 4.3-3*

4 On-site biotreatment with volume based biotreatment BMP (ft^3): *Copy Item 3 in Form 4.3-4*

5 Flow capacity provided by flow based biotreatment BMP (cfs): *Copy Item 6 in Form 4.3-4*

6 LID BMP performance criteria are achieved if answer to any of the following is "Yes":

- Full retention of LID DCV with site design or infiltration BMP: Yes ☒ No ☐
  If yes, sum of Items 2, 3, and 4 is greater than Item 1
- Combination of on-site retention BMPs for a portion of the LID DCV and volume-based biotreatment BMP that address all pollutants of concern for the remaining LID DCV: Yes ☒ No ☐
  If yes, a) sum of Items 2, 3, 4, and 5 is greater than Item 1, and Items 2, 3 and 4 are maximized; or b) Item 6 is greater than Form 4.3--5 Item 6 and Items 2, 3 and 4 are maximized
- On-site retention and infiltration is determined to be infeasible; therefore biotreatment BMP provides biotreatment for all pollutants of concern for full LID DCV: Yes ☐ No ☒
  If yes, Form 4.3-1 Items 7 and 8 were both checked yes

7 If the LID DCV is not achieved by any of these means, then the project may be allowed to develop an alternative compliance plan. Check box that describes the scenario which caused the need for alternative compliance:

- Combination of Site Design, retention and infiltration, , and biotreatment BMPs provide less than full LID DCV capture: ☐
  Checked yes if Form 4.3-4 Item 7is checked yes, Form 4.3-4 Item 6 is zero, and sum of Items 2, 3, 4, and 5 is less than Item 1. If so, apply water quality credits and calculate volume for alternative compliance, V_{alt} *= (Item 1 – Item 2 – Item 3 – Item 4 – Item 5) * (100 - Form 2.4-1 Item 2)%*

- Facilities, or a combination of facilities, of a different design than in Section E.12.e.(ii)(f) may be permitted if all of the following Phase II Small MS4 General Permit 2013-0001-DWQ 55 February 5, 2013 measures of equivalent effectiveness are demonstrated:
  1) Equal or greater amount of runoff infiltrated or evapotranspired; ☒
  2) Equal or lower pollutant concentrations in runoff that is discharged after biotreatment; ☒
  3) Equal or greater protection against shock loadings and spills; ☒
  4) Equal or greater accessibility and ease of inspection and maintenance. ☒

4.3.6 Hydromodification Control BMP

Hydromodification was not considered for this project, since the underground infiltration system is sized to retain the 100-year event.

Section 5 Inspection and Maintenance Responsibility for Post Construction BMP

Form 5-1 BMP Inspection and Maintenance (use additional forms as necessary)			
BMP	Reponsible Party(s)	Inspection/ Maintenance Activities Required	Minimum Frequency of Activities
Underground Infiltration Facility	Owner	To be determined with final WQMP.	
CDS	Owner	To be determined with final WQMP.	

Section 6 WQMP Attachments

6.1. Site Plan and Drainage Plan

Include a site plan and drainage plan sheet set containing the following minimum information:

- Project location
- Site boundary
- Land uses and land covers, as applicable
- Suitability/feasibility constraints
- Structural Source Control BMP locations
- Site Design Hydrologic Source Control BMP locations
- LID BMP details
- Drainage delineations and flow information
- Drainage connections

6.2 Electronic Data Submittal

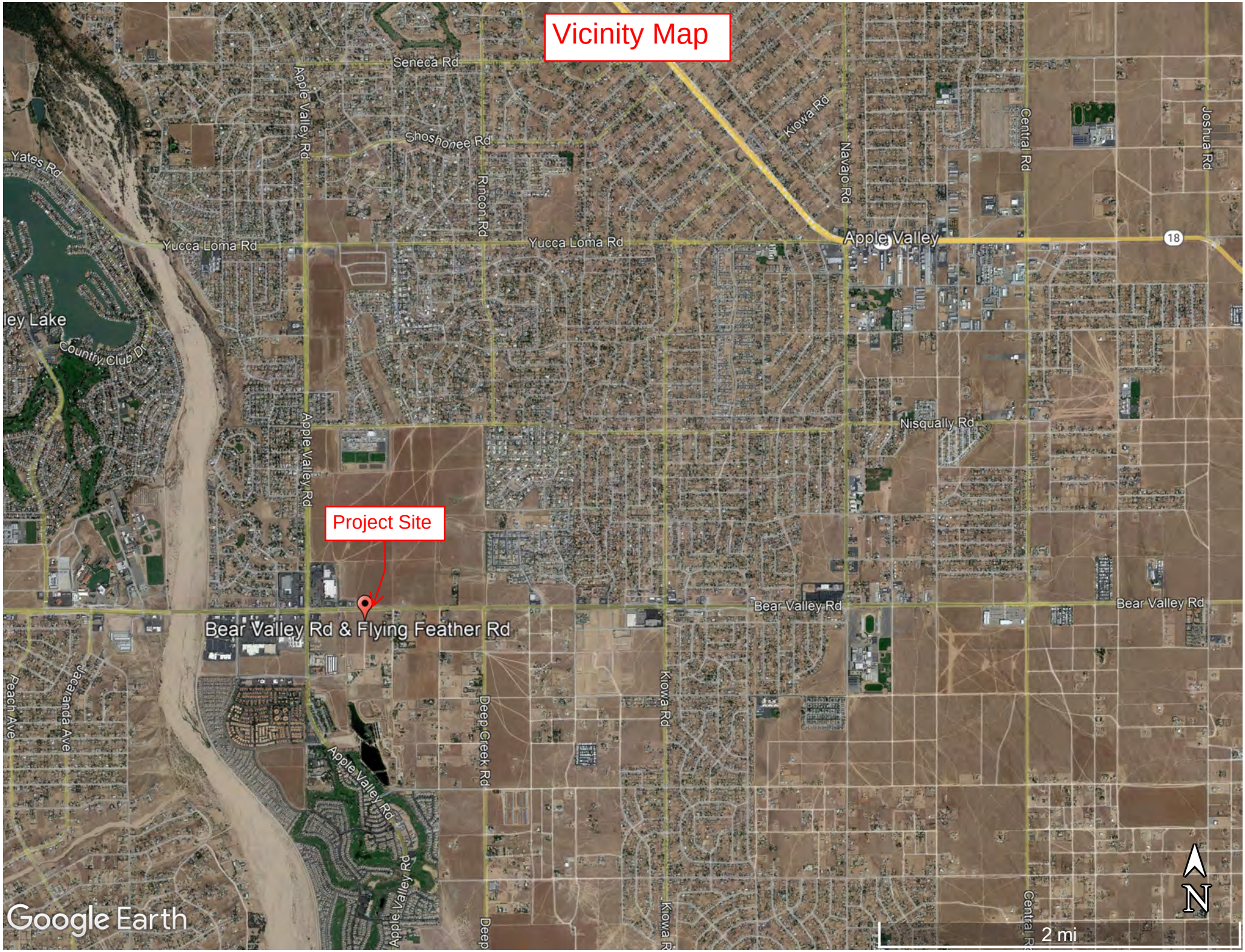
Minimum requirements include submittal of PDF exhibits in addition to hard copies. Format must not require specialized software to open. If the local jurisdiction requires specialized electronic document formats (as described in their local Local Implementation Plan), this section will describe the contents (e.g., layering, nomenclature, geo-referencing, etc.) of these documents so that they may be interpreted efficiently and accurately.

6.3 Post Construction

Attach all O&M Plans and Maintenance Covenant for BMP to the WQMP. See following page for Maintenance Covenant Template

6.4 Other Supporting Documentation

- BMP Educational Materials
- Activity Restriction-C, C&R's & Lease Agreements


Vicinity Map
Project Site
Bear Valley Rd & Flying Feather Rd
Seneca Rd
Shoshonee Rd
Yucca Loma Rd
Yucca Loma Rd
Apple Valley
Apple Valley Rd
Apple Valley Rd
Apple Valley Rd
Apple Valley Rd
Rincon Rd
Kiowa Rd
Navajo Rd
Central Rd
Joshua Rd
Yates Rd
Country Club Dr
Nisqually Rd
Bear Valley Rd
Bear Valley Rd
Deep Creek Rd
Kiowa Rd
Kiowa Rd
Central Rd
Peach Ave
Jacaranda Ave
18
2 mi
N
Google Earth

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                      SMALL AREA UNIT HYDROGRAPH MODEL
 ========================================================================
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             Ver. 23.0  Release Date: 07/01/2016  License ID 1334

                             Analysis prepared by:




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  Problem Descriptions:
   SP8979 – Apple Valley
   EXISTING CONDITION - 2 YEAR ON-SITE HYDROGRAPH
-------------------------------------------------------------------------


    RATIONAL METHOD CALIBRATION COEFFICIENT = 0.90
    TOTAL CATCHMENT AREA(ACRES) =    8.96
    SOIL-LOSS RATE, Fm,(INCH/HR) =  0.248
    LOW LOSS FRACTION = 0.450
    TIME OF CONCENTRATION(MIN.) = 10.00
    SMALL AREA PEAK Q COMPUTED USING PEAK FLOW RATE FORMULA
    USER SPECIFIED RAINFALL VALUES ARE USED
    RETURN FREQUENCY(YEARS) =   2
       5-MINUTE POINT RAINFALL VALUE(INCHES) =  0.11
      30-MINUTE POINT RAINFALL VALUE(INCHES) =  0.27
       1-HOUR   POINT RAINFALL VALUE(INCHES) =  0.33
       3-HOUR   POINT RAINFALL VALUE(INCHES) =  0.54
       6-HOUR   POINT RAINFALL VALUE(INCHES) =  0.74
      24-HOUR   POINT RAINFALL VALUE(INCHES) =  1.30

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    TOTAL CATCHMENT   RUNOFF  VOLUME(ACRE-FEET) =     0.50
    TOTAL CATCHMENT SOIL-LOSS VOLUME(ACRE-FEET) =     0.48

 ************************************************************************
  TIME     VOLUME       Q    0.        2.5       5.0       7.5      10.0
 (HOURS)    (AF)      (CFS)
 -------------------------------------------------------------------------
  0.17      0.0007      0.10  Q         .         .         .         .
  0.33      0.0020      0.10  Q         .         .         .         .
  0.50      0.0034      0.10  Q         .         .         .         .
  0.67      0.0048      0.10  Q         .         .         .         .
  0.83      0.0061      0.10  Q         .         .         .         .
  1.00      0.0075      0.10  Q         .         .         .         .
  1.17      0.0089      0.10  Q         .         .         .         .
  1.33      0.0103      0.10  Q         .         .         .         .
  1.50      0.0117      0.10  Q         .         .         .         .
  1.67      0.0131      0.10  Q         .         .         .         .
  1.83      0.0146      0.10  Q         .         .         .         .
  2.00      0.0160      0.10  Q         .         .         .         .
  2.17      0.0175      0.11  Q         .         .         .         .
  2.33      0.0189      0.11  Q         .         .         .         .
  2.50      0.0204      0.11  Q         .         .         .         .
  2.67      0.0219      0.11  Q         .         .         .         .
  2.83      0.0234      0.11  Q         .         .         .         .
  3.00      0.0249      0.11  Q         .         .         .         .
  3.17      0.0264      0.11  Q         .         .         .         .
  3.33      0.0279      0.11  Q         .         .         .         .
  3.50      0.0295      0.11  Q         .         .         .         .
  3.67      0.0310      0.11  Q         .         .         .         .
  3.83      0.0326      0.11  Q         .         .         .         .
  4.00      0.0342      0.11  Q         .         .         .         .
  4.17      0.0358      0.12  Q         .         .         .         .
  4.33      0.0374      0.12  Q         .         .         .         .
  4.50      0.0390      0.12  Q         .         .         .         .
  4.67      0.0406      0.12  Q         .         .         .         .
  4.83      0.0423      0.12  Q         .         .         .         .
  5.00      0.0439      0.12  Q         .         .         .         .
  5.17      0.0456      0.12  Q         .         .         .         .
  5.33      0.0473      0.12  Q         .         .         .         .
  5.50      0.0490      0.12  Q         .         .         .         .
  5.67      0.0507      0.13  Q         .         .         .         .
  5.83      0.0525      0.13  Q         .         .         .         .
  6.00      0.0542      0.13  Q         .         .         .         .
  6.17      0.0560      0.13  Q         .         .         .         .
  6.33      0.0578      0.13  Q         .         .         .         .
  6.50      0.0596      0.13  Q         .         .         .         .
  6.67      0.0614      0.13  Q         .         .         .         .
  6.83      0.0633      0.13  Q         .         .         .         .
  7.00      0.0651      0.14  Q         .         .         .         .
  7.17      0.0670      0.14  Q         .         .         .         .
  7.33      0.0689      0.14  Q         .         .         .         .
  7.50      0.0708      0.14  Q         .         .         .         .
  7.67      0.0728      0.14  Q         .         .         .         .
  7.83      0.0748      0.14  Q         .         .         .         .
  8.00      0.0768      0.15  Q         .         .         .         .
  8.17      0.0788      0.15  Q         .         .         .         .
  8.33      0.0808      0.15  Q         .         .         .         .
  8.50      0.0829      0.15  Q         .         .         .         .
  8.67      0.0850      0.15  Q         .         .         .         .
  8.83      0.0871      0.16  Q         .         .         .         .
  9.00      0.0893      0.16  Q         .         .         .         .
  9.17      0.0915      0.16  Q         .         .         .         .
  9.33      0.0937      0.16  Q         .         .         .         .
  9.50      0.0959      0.17  Q         .         .         .         .
```

9.67	0.0982	0.17	Q	.	.	.	.
9.83	0.1006	0.17	Q	.	.	.	.
10.00	0.1029	0.17	Q	.	.	.	.
10.17	0.1053	0.18	Q	.	.	.	.
10.33	0.1077	0.18	Q	.	.	.	.
10.50	0.1102	0.18	Q	.	.	.	.
10.67	0.1127	0.18	Q	.	.	.	.
10.83	0.1153	0.19	Q	.	.	.	.
11.00	0.1179	0.19	Q	.	.	.	.
11.17	0.1206	0.20	Q	.	.	.	.
11.33	0.1233	0.20	Q	.	.	.	.
11.50	0.1261	0.20	Q	.	.	.	.
11.67	0.1289	0.21	Q	.	.	.	.
11.83	0.1318	0.21	Q	.	.	.	.
12.00	0.1348	0.22	Q	.	.	.	.
12.17	0.1380	0.25	.Q	.	.	.	.
12.33	0.1415	0.25	.Q	.	.	.	.
12.50	0.1450	0.26	.Q	.	.	.	.
12.67	0.1487	0.27	.Q	.	.	.	.
12.83	0.1524	0.28	.Q	.	.	.	.
13.00	0.1563	0.28	.Q	.	.	.	.
13.17	0.1603	0.29	.Q	.	.	.	.
13.33	0.1644	0.30	.Q	.	.	.	.
13.50	0.1686	0.31	.Q	.	.	.	.
13.67	0.1730	0.32	.Q	.	.	.	.
13.83	0.1775	0.34	.Q	.	.	.	.
14.00	0.1822	0.35	.Q	.	.	.	.
14.17	0.1871	0.36	.Q	.	.	.	.
14.33	0.1922	0.38	.Q	.	.	.	.
14.50	0.1976	0.40	.Q	.	.	.	.
14.67	0.2032	0.42	.Q	.	.	.	.
14.83	0.2093	0.46	.Q	.	.	.	.
15.00	0.2158	0.48	.Q	.	.	.	.
15.17	0.2228	0.54	. Q	.	.	.	.
15.33	0.2305	0.58	. Q	.	.	.	.
15.50	0.2376	0.45	.Q	.	.	.	.
15.67	0.2443	0.52	. Q	.	.	.	.
15.83	0.2570	1.32	. Q	.	.	.	.
16.00	0.2780	1.72	. Q	.	.	.	.
16.17	0.3279	5.53	.	.	. Q	.	.
16.33	0.3703	0.62	. Q	.	.	.	.
16.50	0.3790	0.63	. Q	.	.	.	.
16.67	0.3868	0.51	. Q	.	.	.	.
16.83	0.3933	0.44	.Q	.	.	.	.
17.00	0.3990	0.39	.Q	.	.	.	.
17.17	0.4042	0.36	.Q	.	.	.	.
17.33	0.4089	0.33	.Q	.	.	.	.
17.50	0.4133	0.31	.Q	.	.	.	.
17.67	0.4174	0.29	.Q	.	.	.	.
17.83	0.4212	0.27	.Q	.	.	.	.
18.00	0.4249	0.26	.Q	.	.	.	.
18.17	0.4282	0.22	Q	.	.	.	.
18.33	0.4311	0.21	Q	.	.	.	.
18.50	0.4340	0.20	Q	.	.	.	.
18.67	0.4367	0.19	Q	.	.	.	.
18.83	0.4393	0.19	Q	.	.	.	.
19.00	0.4418	0.18	Q	.	.	.	.
19.17	0.4443	0.17	Q	.	.	.	.
19.33	0.4466	0.17	Q	.	.	.	.
19.50	0.4489	0.16	Q	.	.	.	.
19.67	0.4511	0.16	Q	.	.	.	.
19.83	0.4533	0.15	Q	.	.	.	.
20.00	0.4554	0.15	Q	.	.	.	.
20.17	0.4574	0.15	Q	.	.	.	.
20.33	0.4594	0.14	Q	.	.	.	.
20.50	0.4614	0.14	Q	.	.	.	.
20.67	0.4633	0.14	Q	.	.	.	.
20.83	0.4652	0.13	Q	.	.	.	.
21.00	0.4670	0.13	Q	.	.	.	.
21.17	0.4688	0.13	Q	.	.	.	.
21.33	0.4705	0.13	Q	.	.	.	.
21.50	0.4723	0.12	Q	.	.	.	.
21.67	0.4739	0.12	Q	.	.	.	.
21.83	0.4756	0.12	Q	.	.	.	.
22.00	0.4772	0.12	Q	.	.	.	.
22.17	0.4788	0.12	Q	.	.	.	.
22.33	0.4804	0.11	Q	.	.	.	.
22.50	0.4820	0.11	Q	.	.	.	.
22.67	0.4835	0.11	Q	.	.	.	.
22.83	0.4850	0.11	Q	.	.	.	.
23.00	0.4865	0.11	Q	.	.	.	.
23.17	0.4880	0.11	Q	.	.	.	.
23.33	0.4894	0.10	Q	.	.	.	.
23.50	0.4908	0.10	Q	.	.	.	.
23.67	0.4922	0.10	Q	.	.	.	.
23.83	0.4936	0.10	Q	.	.	.	.
24.00	0.4950	0.10	Q	.	.	.	.
24.17	0.4957	0.00	Q	.	.	.	.

TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:
(Note: 100% of Peak Flow Rate estimate assumed to have
an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
0%	1440.0
10%	60.0
20%	30.0
30%	20.0
40%	10.0
50%	10.0
60%	10.0

70%	10.0
80%	10.0
90%	10.0

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                      SMALL AREA UNIT HYDROGRAPH MODEL
 ========================================================================
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             Ver. 23.0  Release Date: 07/01/2016  License ID 1334

                             Analysis prepared by:




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  Problem Descriptions:
   SP8979 – Apple Valley
   PROPOSED CONDITION - 2 YEAR ON-SITE HYDROGRAPH
-------------------------------------------------------------------------


    RATIONAL METHOD CALIBRATION COEFFICIENT = 0.90
    TOTAL CATCHMENT AREA(ACRES) =    8.96
    SOIL-LOSS RATE, Fm,(INCH/HR) =  0.038
    LOW LOSS FRACTION = 0.380
    TIME OF CONCENTRATION(MIN.) = 10.00
    SMALL AREA PEAK Q COMPUTED USING PEAK FLOW RATE FORMULA
    USER SPECIFIED RAINFALL VALUES ARE USED
    RETURN FREQUENCY(YEARS) =   2
       5-MINUTE POINT RAINFALL VALUE(INCHES) =  0.11
      30-MINUTE POINT RAINFALL VALUE(INCHES) =  0.27
       1-HOUR   POINT RAINFALL VALUE(INCHES) =  0.33
       3-HOUR   POINT RAINFALL VALUE(INCHES) =  0.54
       6-HOUR   POINT RAINFALL VALUE(INCHES) =  0.74
      24-HOUR   POINT RAINFALL VALUE(INCHES) =  1.30

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    TOTAL CATCHMENT   RUNOFF  VOLUME(ACRE-FEET) =     0.60
    TOTAL CATCHMENT SOIL-LOSS VOLUME(ACRE-FEET) =     0.37

 ************************************************************************
  TIME     VOLUME       Q    0.        2.5       5.0       7.5      10.0
 (HOURS)    (AF)      (CFS)
 ------------------------------------------------------------------------
  0.17      0.0008      0.11  Q         .         .         .         .
  0.33      0.0023      0.11  Q         .         .         .         .
  0.50      0.0038      0.11  Q         .         .         .         .
  0.67      0.0054      0.11  Q         .         .         .         .
  0.83      0.0069      0.11  Q         .         .         .         .
  1.00      0.0085      0.11  Q         .         .         .         .
  1.17      0.0100      0.11  Q         .         .         .         .
  1.33      0.0116      0.12  Q         .         .         .         .
  1.50      0.0132      0.12  Q         .         .         .         .
  1.67      0.0148      0.12  Q         .         .         .         .
  1.83      0.0164      0.12  Q         .         .         .         .
  2.00      0.0181      0.12  Q         .         .         .         .
  2.17      0.0197      0.12  Q         .         .         .         .
  2.33      0.0213      0.12  Q         .         .         .         .
  2.50      0.0230      0.12  Q         .         .         .         .
  2.67      0.0247      0.12  Q         .         .         .         .
  2.83      0.0264      0.12  Q         .         .         .         .
  3.00      0.0281      0.12  Q         .         .         .         .
  3.17      0.0298      0.12  Q         .         .         .         .
  3.33      0.0315      0.13  Q         .         .         .         .
  3.50      0.0332      0.13  Q         .         .         .         .
  3.67      0.0350      0.13  Q         .         .         .         .
  3.83      0.0368      0.13  Q         .         .         .         .
  4.00      0.0385      0.13  Q         .         .         .         .
  4.17      0.0403      0.13  Q         .         .         .         .
  4.33      0.0421      0.13  Q         .         .         .         .
  4.50      0.0440      0.13  Q         .         .         .         .
  4.67      0.0458      0.13  Q         .         .         .         .
  4.83      0.0477      0.14  Q         .         .         .         .
  5.00      0.0495      0.14  Q         .         .         .         .
  5.17      0.0514      0.14  Q         .         .         .         .
  5.33      0.0533      0.14  Q         .         .         .         .
  5.50      0.0552      0.14  Q         .         .         .         .
  5.67      0.0572      0.14  Q         .         .         .         .
  5.83      0.0591      0.14  Q         .         .         .         .
  6.00      0.0611      0.14  Q         .         .         .         .
  6.17      0.0631      0.15  Q         .         .         .         .
  6.33      0.0651      0.15  Q         .         .         .         .
  6.50      0.0672      0.15  Q         .         .         .         .
  6.67      0.0692      0.15  Q         .         .         .         .
  6.83      0.0713      0.15  Q         .         .         .         .
  7.00      0.0734      0.15  Q         .         .         .         .
  7.17      0.0755      0.16  Q         .         .         .         .
  7.33      0.0777      0.16  Q         .         .         .         .
  7.50      0.0799      0.16  Q         .         .         .         .
  7.67      0.0821      0.16  Q         .         .         .         .
  7.83      0.0843      0.16  Q         .         .         .         .
  8.00      0.0865      0.16  Q         .         .         .         .
  8.17      0.0888      0.17  Q         .         .         .         .
  8.33      0.0911      0.17  Q         .         .         .         .
  8.50      0.0935      0.17  Q         .         .         .         .
  8.67      0.0958      0.17  Q         .         .         .         .
  8.83      0.0982      0.18  Q         .         .         .         .
  9.00      0.1007      0.18  Q         .         .         .         .
  9.17      0.1031      0.18  Q         .         .         .         .
  9.33      0.1056      0.18  Q         .         .         .         .
  9.50      0.1082      0.19  Q         .         .         .         .
```

9.67	0.1107	0.19	Q	.	.	.	.	
9.83	0.1133	0.19	Q	.	.	.	.	
10.00	0.1160	0.19	Q	.	.	.	.	
10.17	0.1187	0.20	Q	.	.	.	.	
10.33	0.1214	0.20	Q	.	.	.	.	
10.50	0.1242	0.21	Q	.	.	.	.	
10.67	0.1271	0.21	Q	.	.	.	.	
10.83	0.1300	0.21	Q	.	.	.	.	
11.00	0.1329	0.22	Q	.	.	.	.	
11.17	0.1359	0.22	Q	.	.	.	.	
11.33	0.1390	0.22	Q	.	.	.	.	
11.50	0.1421	0.23	Q	.	.	.	.	
11.67	0.1453	0.23	Q	.	.	.	.	
11.83	0.1486	0.24	Q	.	.	.	.	
12.00	0.1519	0.24	Q	.	.	.	.	
12.17	0.1556	0.28	.Q	.	.	.	.	
12.33	0.1595	0.29	.Q	.	.	.	.	
12.50	0.1635	0.30	.Q	.	.	.	.	
12.67	0.1676	0.30	.Q	.	.	.	.	
12.83	0.1718	0.31	.Q	.	.	.	.	
13.00	0.1762	0.32	.Q	.	.	.	.	
13.17	0.1807	0.33	.Q	.	.	.	.	
13.33	0.1853	0.34	.Q	.	.	.	.	
13.50	0.1900	0.35	.Q	.	.	.	.	
13.67	0.1950	0.36	.Q	.	.	.	.	
13.83	0.2001	0.38	.Q	.	.	.	.	
14.00	0.2054	0.39	.Q	.	.	.	.	
14.17	0.2109	0.41	.Q	.	.	.	.	
14.33	0.2167	0.42	.Q	.	.	.	.	
14.50	0.2227	0.45	.Q	.	.	.	.	
14.67	0.2291	0.47	.Q	.	.	.	.	
14.83	0.2360	0.53	. Q	.	.	.	.	
15.00	0.2435	0.57	. Q	.	.	.	.	
15.17	0.2521	0.68	. Q	.	.	.	.	
15.33	0.2620	0.75	. Q	.	.	.	.	
15.50	0.2707	0.51	. Q	.	.	.	.	
15.67	0.2786	0.64	. Q	.	.	.	.	
15.83	0.2975	2.10	.	Q .	.	.	.	
16.00	0.3313	2.82	.	.Q	.	.	.	
16.17	0.4006	7.23	.	.	.	Q .	.	
16.33	0.4560	0.83	. Q	.	.	.	.	
16.50	0.4675	0.84	. Q	.	.	.	.	
16.67	0.4775	0.62	. Q	.	.	.	.	
16.83	0.4852	0.49	.Q	.	.	.	.	
17.00	0.4916	0.44	.Q	.	.	.	.	
17.17	0.4974	0.40	.Q	.	.	.	.	
17.33	0.5027	0.37	.Q	.	.	.	.	
17.50	0.5077	0.35	.Q	.	.	.	.	
17.67	0.5123	0.32	.Q	.	.	.	.	
17.83	0.5166	0.31	.Q	.	.	.	.	
18.00	0.5207	0.29	.Q	.	.	.	.	
18.17	0.5245	0.25	Q	.	.	.	.	
18.33	0.5278	0.24	Q	.	.	.	.	
18.50	0.5310	0.23	Q	.	.	.	.	
18.67	0.5341	0.22	Q	.	.	.	.	
18.83	0.5370	0.21	Q	.	.	.	.	
19.00	0.5399	0.20	Q	.	.	.	.	
19.17	0.5426	0.20	Q	.	.	.	.	
19.33	0.5453	0.19	Q	.	.	.	.	
19.50	0.5478	0.18	Q	.	.	.	.	
19.67	0.5503	0.18	Q	.	.	.	.	
19.83	0.5528	0.17	Q	.	.	.	.	
20.00	0.5551	0.17	Q	.	.	.	.	
20.17	0.5575	0.17	Q	.	.	.	.	
20.33	0.5597	0.16	Q	.	.	.	.	
20.50	0.5619	0.16	Q	.	.	.	.	
20.67	0.5641	0.15	Q	.	.	.	.	
20.83	0.5662	0.15	Q	.	.	.	.	
21.00	0.5682	0.15	Q	.	.	.	.	
21.17	0.5702	0.15	Q	.	.	.	.	
21.33	0.5722	0.14	Q	.	.	.	.	
21.50	0.5742	0.14	Q	.	.	.	.	
21.67	0.5761	0.14	Q	.	.	.	.	
21.83	0.5779	0.13	Q	.	.	.	.	
22.00	0.5798	0.13	Q	.	.	.	.	
22.17	0.5816	0.13	Q	.	.	.	.	
22.33	0.5834	0.13	Q	.	.	.	.	
22.50	0.5851	0.13	Q	.	.	.	.	
22.67	0.5868	0.12	Q	.	.	.	.	
22.83	0.5885	0.12	Q	.	.	.	.	
23.00	0.5902	0.12	Q	.	.	.	.	
23.17	0.5919	0.12	Q	.	.	.	.	
23.33	0.5935	0.12	Q	.	.	.	.	
23.50	0.5951	0.12	Q	.	.	.	.	
23.67	0.5967	0.11	Q	.	.	.	.	
23.83	0.5982	0.11	Q	.	.	.	.	
24.00	0.5998	0.11	Q	.	.	.	.	
24.17	0.6005	0.00	Q	.	.	.	.	

TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:
(Note: 100% of Peak Flow Rate estimate assumed to have
an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
0%	1440.0
10%	60.0
20%	30.0
30%	20.0
40%	10.0
50%	10.0
60%	10.0

70%	10.0
80%	10.0
90%	10.0

GEOTECHNICAL ENGINEERING INVESTIGATION
PROPOSED APPLE BEAR RETAIL CENTER
19439 BEAR VALLEY ROAD
APPLE VALLEY, CALIFORNIA

PROJECT NO. 112-21076
SEPTEMBER 9, 2021

Prepared for:

MR. MATTHEW BUSH
WOOD INVESTMENTS COMPANIES
2950 AIRWAY AVENUE, UNIT A-9
COSTA MESA, CALIFORNIA 92626

PREPARED BY:

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Krazan & ASSOCIATES, INC.

GEOTECHNICAL ENGINEERING • ENVIRONMENTAL ENGINEERING
CONSTRUCTION TESTING & INSPECTION

September 9, 2021

KA Project No. 112-21076

Mr. Matthew Bush
Wood Investments Companies
2950 Airway Avenue, Unit A-9
Costa Mesa, California 92626

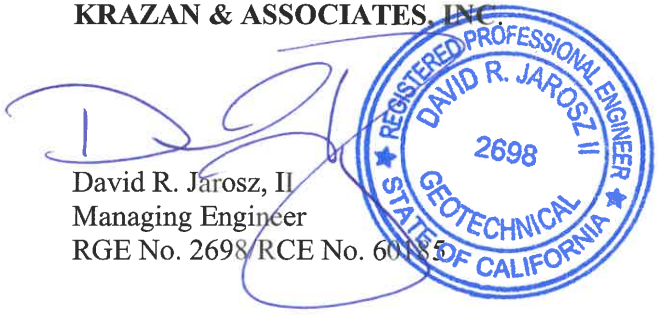
RE: Geotechnical Engineering Investigation
Proposed Apple Bear Retail Center
19439 Bear Valley Road
Apple Valley, California

Dear Mr. Bush:

In accordance with your request, we have completed a Geotechnical Engineering Investigation for the above-referenced site. The results of our investigation are presented in the attached report.

If you have any questions, or if we may be of further assistance, please do not hesitate to contact our office at (951) 273-1011.

Respectfully submitted,
KRAZAN & ASSOCIATES, INC.



David R. Jarosz, II
Managing Engineer
RGE No. 2698 RCE No. 60185

DRJ:ht

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September 9, 2021 Project No. 112-21016

GEOTECHNICAL ENGINEERING INVESTIGATION
PROPOSED APPLE BEAR RETAIL CENTER
19439 BEAR VALLEY ROAD
APPLE VALLEY, CALIFORNIA

INTRODUCTION

This report presents the results of our Geotechnical Engineering Investigation for the proposed Apple Bear Retail Center, to be located at 19439 Bear Valley Road in Apple Valley, California. Discussions regarding site conditions are presented herein, together with conclusions and recommendations pertaining to site preparation, Engineered Fill, utility trench backfill, drainage and landscaping, foundations, concrete floor slabs and exterior flatwork, retaining walls, excavation stability, soil cement reactivity, and pavement design.

A site plan showing the approximate boring locations is presented following the text of this report. A description of the field investigation, boring logs, and the boring log legend are presented in Appendix A. Appendix A contains a description of the laboratory testing phase of this study along with the laboratory test results. Appendices B and C contain guides to earthwork and pavement specifications. When conflicts in the text of the report occur with the general specifications in the appendices, the recommendations in the text of the report have precedence.

PURPOSE AND SCOPE

This investigation was conducted to evaluate the soil and groundwater conditions at the site, to make geotechnical engineering recommendations for use in design of specific construction elements, and to provide criteria for site preparation and Engineered Fill construction.

Our scope of services was outlined in our proposal dated July 14, 2021 (KA Proposal No. G21094CAC) and included the following:

- A site reconnaissance by a member of our engineering staff to evaluate the surface conditions at the project site.
- A field investigation consisting of drilling 24 borings to depths ranging from approximately 10 to 50 feet and conducting 4 percolation tests at depths of 6 to 8 feet for evaluation of the subsurface conditions at the project site.
- Performing laboratory tests on representative soil samples obtained from the borings to evaluate the physical and index properties of the subsurface soils.

- Evaluation of the data obtained from the investigation and an engineering analysis to provide recommendations for use in the project design and preparation of construction specifications.

- Preparation of this report summarizing the results, conclusions, recommendations, and findings of our investigation.

PROPOSED CONSTRUCTION

We understand that design of the proposed development is currently underway; structural load information and other final details pertaining to the structures are unavailable. On a preliminary basis, it is understood the development will include the construction of a new retail center. The development is understood to include eight (8) retail building pads intended for single story retail buildings. The proposed structures are anticipated to be single-story, wood or metal framed buildings supported on shallow foundation systems. Underground utility connections, flexible and rigid asphalt pavements, trash enclosures and localized landscaped areas are anticipated as part of the proposed development.

In the event these structural or grading details are inconsistent with the final design criteria, the Soils Engineer should be notified so that we may update this writing as applicable.

SITE LOCATION, SITE HISTORY AND SITE DESCRIPTION

The property site is rectangular in shape and encompasses approximately 10.32 acres. The project site is located on the south side of Bear Valley Road, approximately 0.2 miles east of Apple Valley Road in Apple Valley, California. The site is surrounded by vacant land, commercial developments, and rural residences.

Presently, the site consists of a rural residence and vacant land. The house and associated structures are located in the northwest corner of the site. An unpaved access road and overhead electrical line and power poles trend north-south through the middle of the site. The site is surrounded by vacant land to the west, south and east, and a commercial development and vacant land to the north. The site is bordered by Bear Valley Road and overhead electrical lines to the north, and Flying Feather Road to the east. Buried utility lines associated with the existing and surrounding developments may be located within and along the edges of the project site. The surface soils have a loose consistency. The site is relatively level with no major changes in grade.

GEOLOGIC SETTING

The subject site is located in Victor Valley, which is situated in the southwestern portion of the Mojave Desert Geomorphic Province. The Mojave Desert is bound by the Tehachapi Mountains of the Sierra Nevada Geomorphic Province to the northwest and the San Gabriel and San Bernardino Mountains of the Transverse Range Geomorphic Province to the south and southwest. A major portion of the Mojave Desert is underlain by Mesozoic granitic rocks. Quaternary alluvium covers a majority of the Victor Valley floor.

Groundwater is reported to occur at an elevation of approximately 80 to 100 feet below existing ground surface. No known regional groundwater impairments were reported within the subject site vicinity.

Both the Tehachapi and the San Gabriel mountain ranges are geologically young mountain ranges and possess active and potentially active fault zones. Numerous moderate to large earthquakes have affected the area of the subject site within historic time. Based on the proximity of several dominant active faults and seismogenic structures, as well as the historic seismic record, the area of the subject site is considered subject to relatively high seismicity. The site under consideration is located in a seismically active area of Southern California. The nearest significant active fault is the North Frontal Fault Zone, which is approximately 8.5 miles southwest of the project site. The Helendale – So Lockhart and San Andreas Fault Zones are located approximately 17.8 and 29.5 miles from the site, respectively. The area in consideration shows no mapped faults on-site according to maps prepared by the California Geologic Survey and published by the International Conference of Building Officials (ICBO). No evidence of surface faulting was observed on the property during our reconnaissance. The project site is not located within an Earthquake Fault Zone.

FAULT RUPTURE HAZARD ZONES

The Alquist-Priolo Geologic Hazards Zones Act went into effect in March, 1973. Since that time, the Act has been amended 11 times (Hart, 2007). The purpose of the Act, as provided in California Geologic Survey (CGS) Special Publication 42 (SP 42), is to prohibit the location of most structures for human occupancy across the traces of active faults and to mitigate thereby the hazard of fault-rupture." The Act was renamed the Alquist-Priolo Earthquake Fault Zoning Act in 1994, and at that time, the originally designated "Special Studies Zones" was renamed the "Earthquake Fault Zones."

The subject site is located in the State of California, Earthquake Fault Zones Map for the Apple Valley South Quadrangle dated March 1, 1988. The site is not located in a Fault Zone area. The nearest zoned fault is North Frontal Fault Zone, located approximately 8.5 miles from the subject site.

SEISMIC HAZARDS ZONES

In 1990, the California State Legislature passed the Seismic Hazard Mapping Act to protect public safety from the effects of strong shaking, liquefaction, landslides, or other ground failure, and other hazards caused by earthquakes. The Act requires that the State Geologist delineate various seismic hazards zones on Seismic Hazards Zones Maps. Specifically, the maps identify areas where soil liquefaction and earthquake-induced landslides are most likely to occur. A site-specific geotechnical evaluation is required prior to permitting most urban developments within the mapped zones. The Act also requires sellers of real property within the zones to disclose this fact to potential buyers. The subject site is located in the State of California, Earthquake Fault Zones Map for the Apple Valley South Quadrangle dated March 1, 1988. The area of the subject is not located in an area designated as a seismic hazard zone. According to the San Bernardino County Geologic Hazard Overlay Map FH07C dated May 30, 2007, the site is not located in an area of liquefaction susceptibility.

OTHER HAZARDS

Rockfall, Landslide, Slope Instability, Debris Flow: The subject site is relatively flat and level. It is our understanding that there are no significant slopes proposed as part of the proposed development. Provided the recommendations presented in this report are implemented into the design and construction of the anticipated development, rockfalls, landslides, slope instability, and debris flows are not anticipated to pose a hazard to the subject site.

Seiches: Seiches are large waves generated within enclosed bodies of water. The site is not located in close proximity to any lakes or reservoirs. As such, seiches are not anticipated to pose a hazard to the subject site.

Hydroconsolidation: The near surface soils encountered at the subject site were found to be medium dense to very dense. Provided remedial grading recommendations presented in this report are incorporated in the design and construction, hydroconsolidation is not anticipated to be a significant concern for the subject site.

FIELD AND LABORATORY INVESTIGATIONS

Subsurface soil conditions were explored by drilling 24 borings to depths ranging from approximately 10 to 50 feet below existing site grade, using a truck-mounted drill rig. In addition, a bulk subgrade sample was obtained from the site for laboratory R-value testing. In addition, 4 percolation tests were performed within the site at depths of 5 to 8 feet to evaluate the soils absorption characteristics. The approximate boring, bulk sample, and percolation locations are shown on the site plan. During drilling operations, penetration tests were performed at regular intervals to evaluate the soil consistency and to obtain information regarding the engineering properties of the subsoils. Soil samples were retained for laboratory testing. The soils encountered were continuously examined and visually classified in accordance with the Unified Soil Classification System. A more detailed description of the field investigation is presented in Appendix A.

Laboratory tests were performed on selected soil samples to evaluate their physical characteristics and engineering properties. The laboratory testing program was formulated with emphasis on the evaluation of natural moisture, density, gradation, shear strength, consolidation potential, R-value, and moisture-density relationships of the materials encountered. In addition, chemical tests were performed to evaluate the soil-cement reactivity. Details of the laboratory test program and results of the laboratory tests are summarized in Appendix A. This information, along with the field observations, was used to prepare the final boring logs in Appendix A.

SOIL PROFILE AND SUBSURFACE CONDITIONS

Based on our findings, the subsurface conditions encountered appear typical of those found in the geologic region of the site. In general, the upper soils predominately consisted of approximately 6 to 12 inches of very loose silty sand or sand. These soils are disturbed, have moderate strength characteristics, and are slightly compressible when saturated.

Beneath the loose surface soils, approximately 3 to 4 feet of medium dense to very dense silty sand or sand was encountered. Field and laboratory tests suggest that these soils are moderately strong and moderately compressible. Penetration resistance ranged from 25 blows per foot to over 50 blows per 6 inches. Dry densities ranged from 103 to 116 pcf. Representative soil samples consolidated approximately 5 to 8½ percent under a 2 ksf load when saturated. Representative soil samples had angles of internal friction of 31 and 33 degrees.

Below 4 to 5 feet, predominately medium dense to very dense silty sand, silty sand/sand, sand and sandy silt were encountered. Penetration resistance ranged from 10 blows per foot to greater than 50 blows per 6 inches. Dry densities ranged from 90 to 117 pcf. These soils had slightly stronger strength characteristics than the upper soils and extended to the termination depth of our boring.

For additional information about the soils encountered, please refer to the boring log in Appendix A.

PERCOLATION TESTING

As requested, four percolation tests were performed within the site to evaluate the soils absorption characteristics. The percolation tests were performed at a depth of 6 to 8 feet below existing site grade. The tests were conducted in general accordance with the criteria set in the "Manual of Septic Tank Practice" published by the Department of Health, Education, and Welfare. The test results were converted to infiltration rate utilizing the Porchet Method. Results of the tests are as follows:

Test No.	Depth (feet)	Infiltration Rate (in/hr)	Soil Type
1	8	1.42	Silty Sand (SM)
2	8	1.20	Silty Sand (SM)
3	6	1.33	Silty Sand (SM)
4	6	1.73	Silty Sand (SM)

The test results indicate that the soils tested at depths of 6 to 8 feet have fair absorption characteristics. The test results do not include a factor of safety.

GROUNDWATER

Test boring locations were checked for the presence of groundwater during and immediately following the drilling operations. Groundwater was not encountered in any of the borings drilled as part of our subsurface investigation. Information obtained from the Department of Water Resources indicated that water wells had historic groundwater elevations as shallow as 12 feet below existing site grade within the project site vicinity.

It should be recognized that water table elevations may fluctuate with time, being dependent upon seasonal precipitation, irrigation, land use, and climatic conditions, as well as other factors. Therefore, water level observations at the time of the field investigation may vary from those encountered during the construction phase of the project. The evaluation of such factors is beyond the scope of this report.

SEISMIC CONSIDERATIONS

Although ground rupture is not considered to be a major concern at the subject site, the site will likely be subject to at least one moderate to severe earthquake and associated seismic shaking during its lifetime, as well as periodic slight to moderate earthquakes. Some degree of structural damage due to stronger seismic shaking should be expected at the site, but the risk can be reduced through adherence to seismic design codes.

SOIL LIQUEFACTION

Seismicity is a general term relating to the abrupt release of accumulated strain energy in the rock materials of the earth's crust in a given geographical area. The recurrence of accumulation and subsequent release of strain have resulted in faults and fault systems. Fault patterns and density reflect relative degrees of regional stress through time, but do not necessarily indicate recent seismic activity; therefore, the degree of seismic risk must be determined or estimated by the seismic record in any given region.

Soil liquefaction is a state of soil particle suspension caused by a complete loss of strength when the effective stress drops to zero. Liquefaction normally occurs under saturated conditions in soils such as sand in which the strength is purely frictional. However, liquefaction has occurred in soils other than clean sand. Liquefaction usually occurs under vibratory conditions such as those induced by seismic events. To evaluate the liquefaction potential of the site, the following items were evaluated:

1) Soil type

2) Groundwater depth

3) Relative density

4) Initial confining pressure

5) Intensity and duration of ground shaking

The soil beneath the site consists of medium to very dense silty sands, silty sands/sands, and sands. Groundwater was not encountered at any of the boring locations during the site visit. However, historic groundwater elevations as shallow as 12 feet below existing site grade within the project site vicinity.

The potential for soil liquefaction during a seismic event was evaluated using the LIQUEFYPRO computer program (version 5.9d) developed by CivilTech Software. For the analysis, a maximum earthquake magnitude of 7.9 was used. A peak horizontal ground surface acceleration of 0.573g was considered conservative and appropriate for the liquefaction analysis. An estimated high groundwater depth of 12 feet was used for our analysis. The computer analysis indicates that soils above a depth of 12 feet are non-liquefiable due to the absence of groundwater. The soils below a depth of 12 feet have a slight to moderate potential for liquefaction under seismic shaking.

The analysis indicates that the estimated total seismic induced settlement is less than ¼ inch. Differential settlement caused by a seismic event is estimated to be less than ¼ inch. The anticipated differential settlement is estimated over a horizontal distance of 100 feet.

CONCLUSIONS AND RECOMMENDATIONS

Based on the findings of our field and laboratory investigations, along with previous geotechnical experience in the project area, the following is a summary of our evaluations, conclusions, and recommendations.

Administrative Summary

In brief, the subject site and soil conditions, with the exception of the loose surface soils, and existing and surrounding developments, appear to be conducive to the development of the project. The surface soils have a loose consistency. These soils are disturbed, have low strength characteristics and are highly compressible when saturated. Accordingly, it is recommended that the surface soils be recompacted. This compaction effort should stabilize the surface soils and locate any unsuitable or pliant areas not found during our field investigation.

Fill material was not encountered in our borings. However, fill may be located between or beyond our borings. It is anticipated fill soils will consist of silty sands and sands. The thickness and extent of fill material was determined based on limited test borings and visual observation. Verification of the extent of fill should be determined during site grading. It is recommended that fill soils that have not been properly compacted and certified be excavated and recompacted. Prior to backfilling, the bottom of the excavation should be observed by Krazan & Associates, Inc. to verify no additional removal is required.

Trees are located within the project site vicinity. Tree or root removal operations should include roots greater than 1 inch in diameter. The resulting excavations should be backfilled with Engineered Fill compacted to a minimum of 95 percent of maximum density based on ASTM Test Method D1557.

Presently, the site consists of a rural residence, vacant land, and power poles with overhead electrical lines. Associated with these developments may be buried structures, such as utility lines and irrigation lines that may extend into the project site. Demolition activities should include proper removal of any buried structures or loosely backfilled excavations encountered. The resulting excavations should be backfilled with Engineered Fill. It is suspected that demolition activities of the existing structures will disturb the upper soils. After demolition activities, it is recommended that these disturbed soils be removed and/or recompacted. This compaction effort should stabilize the upper soils and locate any unsuitable or pliant areas not found during our field investigation.

In order to provide uniform foundation support, it is recommended that following stripping, fill removal operations and demolition activities, the upper four (4) feet of native soil below existing site grade or two (2) foot below the bottom of proposed foundations, whichever is deeper, should be excavated, moisture-conditioned to near optimum moisture content, and recompacted to a minimum of 95 percent of the maximum dry density based on ASTM Test Method D1557. Fill soils should be moisture conditions to at least optimum moisture content prior to compaction. Excavation should extend to a

minimum of 5 feet beyond structural elements. The on-site, native soils will be suitable for reuse as Engineered Fill, provided they are cleansed of excessive organics, debris, and fragments larger than 4 inches in maximum dimension. Prior to backfilling, the bottom of the excavation should be proof-rolled and observed by Krazan and Associates, Inc. to verify stability. This compaction effort should stabilize the surface soils and locate any unsuitable or pliant areas not found during our field investigation. The bottom of the of the excavation as well as all fill material should be moisture conditioned to at least optimum moisture content and compacted to a minimum of 95 percent of maximum density based on ASTM Test Method D1557.

Relatively clean sands were encountered at various locations throughout the site. The possibility exists that site grading operations could expose these soils in areas of proposed buildings, pavements, and/or retaining walls. The Contractor should note that these soils lack the cohesion necessary to stand vertically, even in shallow excavations such as footing trenches. If these conditions are encountered, it will be necessary to over-excavate the affected area(s) to a minimum of 12 inches below the proposed bearing surface. These areas may be backfilled using a mix of the silty sand and sand soils that contains at least 20 percent fines and meeting the requirements for Engineered Fill. This material may be obtained from elsewhere at the site, imported to the site from an approved off-site source, or manufactured through blending of the excavated clean sand with other suitable material containing a higher percentage of fines to result in material meeting the requirements for Engineered Fill.

In pavement and exterior flatwork areas, the upper 12 inches of native soils should be excavated, moisture-conditioned to near optimum moisture content, and recompacted to a minimum of 95 percent of the maximum dry density based on ASTM Test Method D1557. Excavation should extend to a minimum of 3 feet beyond the edge of pavements or back of curbs. The on-site native soils will be suitable for reuse as Engineered Fill, provided they are cleansed of excessive organics, debris, and fragments larger than 4 inches in maximum dimension. Prior to backfilling, the bottom of the excavation should be proof-rolled and observed by Krazan and Associates, Inc. to verify stability. This compaction effort should stabilize the surface soils and locate any unsuitable or pliant areas not found during our field investigation. Fill material should be compacted to a minimum of 95 percent of maximum dry density based on ASTM Test Method D1557.

Sandy soil conditions were encountered at the site. These cohesionless soils have a tendency to cave in trench wall excavation. Shoring or sloping back trench sidewalls may be required within these sandy soils.

After completion of the recommended site preparation, the site should be suitable for shallow footing support. The proposed structure footings may be designed utilizing an allowable bearing pressure of 2,600 psf for dead-plus-live loads. Footings should have a minimum embedment of 12 inches.

Groundwater Influence on Structures/Construction

Based on our findings and historical records, it is not anticipated that groundwater will rise within the zone of structural influence or affect the construction of foundations and pavements for the project. Groundwater was not encountered in any of the borings drilled as part of our subsurface investigation.

However, information obtained from the Department of Water Resources indicated that water wells had historic groundwater elevations as shallow as 12 feet below existing site grade within the project site vicinity.

If earthwork is performed during or soon after periods of precipitation, the subgrade soils may become saturated, "pump," or not respond to densification techniques. Typical remedial measures include: discing and aerating the soil during dry weather; mixing the soil with dryer materials; removing and replacing the soil with an approved fill material; or mixing the soil with an approved lime or cement product. Our firm should be consulted prior to implementing remedial measures to observe the unstable subgrade conditions and provide appropriate recommendations.

Site Preparation

General site clearing should include removal of concrete; vegetation and existing utilities; and structures; including foundations; basement walls and floors; existing stockpiled soil; trees and associated root systems; rubble; rubbish; and any loose and/or saturated materials. Site stripping should extend to a minimum depth of 2 to 4 inches, or until all organics in excess of 3 percent by volume are removed. Deeper stripping may be required in localized areas. These materials will not be suitable for reuse as Engineered Fill. However, stripped topsoil may be stockpiled and reused in landscape or non-structural areas.

Fill material was not encountered in our borings. However, fill may be located between or beyond our borings. It is anticipated fill soils will consist of silty sands and sands. The thickness and extent of fill material was determined based on limited test borings and visual observation. Verification of the extent of fill should be determined during site grading. It is recommended that fill soils that have not been properly compacted and certified be excavated and recompacted. Prior to backfilling, the bottom of the excavation should be observed by Krazan & Associates, Inc. to verify no additional removal is required.

Presently, the site consists of a rural residence, vacant land, and power poles with overhead electrical lines. Associated with these developments may be buried structures, such as utility lines, irrigation lines, septic systems, and water wells. Demolition activities should include proper removal of any buried structures. Any buried structures or loosely backfilled excavations encountered during construction should be properly removed and the resulting excavations backfilled. Excavations, depressions, or soft and pliant areas extending below planned finish subgrade level should be cleaned to firm undisturbed soil, and backfilled with Engineered Fill. In general, any septic tanks, debris pits, cesspools, or similar structures should be entirely removed. Concrete footings should be removed to an equivalent depth of at least 3 feet below proposed footing elevations or as recommended by the Soils Engineer. Water wells should be abandoned in accordance with county standards. Any other buried structures should be removed in accordance with the recommendations of the Soils Engineer. Resulting excavations should be backfilled with Engineered Fill.

Trees are located within the project site vicinity. Tree or root removal operations should include roots greater than 1 inch in diameter. The resulting excavations should be backfilled with Engineered Fill compacted to a minimum of 95 percent of maximum density based on ASTM Test Method D1557.

In order to provide uniform foundation support, it is recommended that following stripping, fill removal operations and demolition activities, the upper four (4) feet of native soil below existing site grade or two (2) foot below the bottom of proposed foundations, whichever is deeper, should be excavated, moisture-conditioned to near optimum moisture content, and recompacted to a minimum of 95 percent of the maximum dry density based on ASTM Test Method D1557. Fill soils should be moisture conditions to at least optimum moisture content prior to compaction. Excavation should extend to a minimum of 5 feet beyond structural elements. The on-site native soils will be suitable for reuse as Engineered Fill, provided they are cleansed of excessive organics, debris, and fragments larger than 4 inches in maximum dimension. Prior to backfilling, the bottom of the excavation should be proof-rolled and observed by Krazan and Associates, Inc. to verify stability. This compaction effort should stabilize the surface soils and locate any unsuitable or pliant areas not found during our field investigation. The bottom of the of the excavation as well as all fill material should be moisture conditioned to at least optimum moisture content and compacted to a minimum of 95 percent of maximum density based on ASTM Test Method D1557.

In pavement and exterior flatwork areas, the upper 12 inches of native soils should be excavated, moisture-conditioned to near optimum moisture content, and recompacted to a minimum of 95 percent of the maximum dry density based on ASTM Test Method D1557. Excavation should extend to a minimum of 3 feet beyond the edge of pavements or back of curbs. The on-site native soils will be suitable for reuse as Engineered Fill, provided they are cleansed of excessive organics, debris, and fragments larger than 4 inches in maximum dimension. Prior to backfilling, the bottom of the excavation should be proof-rolled and observed by Krazan and Associates, Inc. to verify stability. This compaction effort should stabilize the surface soils and locate any unsuitable or pliant areas not found during our field investigation. Fill material should be compacted to a minimum of 95 percent of maximum dry density based on ASTM Test Method D1557.

The upper soils, during wet winter months, become very moist due to the absorptive characteristics of the soil. Earthwork operations performed during winter months may encounter very moist unstable soils, which may require removal to grade a stable building foundation. Project site winterization consisting of placement of aggregate base and protecting exposed soils during the construction phase should be performed.

A representative of our firm should be present during all site clearing and grading operations to test and observe earthwork construction. This testing and observation is an integral part of our service as acceptance of earthwork construction is dependent upon compaction of the material and the stability of the material. The Soils Engineer may reject any material that does not meet compaction and stability requirements. Further recommendations of this report are predicated upon the assumption that earthwork construction will conform to recommendations set forth in this section and the Engineered Fill section.

Engineered Fill

The on-site, native soils are predominately silty sands, silty sands/sands, and sands. These soils will be suitable for reuse as Engineered Fill, provided they are cleansed of excessive organics, debris, and fragments larger than 4 inches in maximum dimension.

Relatively clean sands were encountered at various locations throughout the site. The possibility exists that site grading operations could expose these soils in areas of proposed buildings, pavements, and/or retaining walls. The Contractor should note that these soils lack the cohesion necessary to stand vertically, even in shallow excavations such as footing trenches. If these conditions are encountered, it will be necessary to over-excavate the affected area(s) to a minimum of 12 inches below the proposed bearing surface. These areas may be backfilled using a mix of the silty sand and sand soils that contains at least 20 percent fines and meeting the requirements for Engineered Fill. This material may be obtained from elsewhere at the site, imported to the site from an approved off-site source, or manufactured through blending of the excavated clean sand with other suitable material containing a higher percentage of fines to result in material meeting the requirements for Engineered Fill.

The preferred materials specified for Engineered Fill are suitable for most applications with the exception of exposure to erosion. Project site winterization and protection of exposed soils during the construction phase should be the sole responsibility of the Contractor, since he has complete control of the project site at that time.

Imported Fill material should be predominately granular material with between 20 and 50 percent passing the No. 200 sieve, a plasticity index less than 10 and an expansion index less than 15. Imported Fill should be free from rocks and clods greater than 4 inches in diameter. All Imported Fill material should be submitted to the Soils Engineer for approval at least 48 hours prior to delivery at the site.

Fill soils should be placed in lifts approximately 6 inches thick, moisture-conditioned as necessary, and compacted to achieve at least 95 percent maximum density as based on ASTM Test Method D1557. Additional lifts should not be placed if the previous lift did not meet the required dry density or if soil conditions are not stable.

Drainage and Landscaping

The ground surface should slope away from building pad and pavement areas toward appropriate drop inlets or other surface drainage devices. In accordance with Section 1804 of the 2019 California Building Code, it is recommended that the ground surface adjacent to foundations be sloped a minimum of 5 percent for a minimum distance of 10 feet away from structures, or to an approved alternative means of drainage conveyance. Swales used for conveyance of drainage and located within 10 feet of foundations should be sloped a minimum of 2 percent. Impervious surfaces, such as pavement and exterior concrete flatwork, within 10 feet of building foundations should be sloped a minimum of 1 percent away from the structure. Drainage gradients should be maintained to carry all surface water to collection facilities and off-site. These grades should be maintained for the life of the project.

Utility Trench Backfill

Utility trenches should be excavated according to accepted engineering practices following OSHA (Occupational Safety and Health Administration) standards by a Contractor experienced in such work. The responsibility for the safety of open trenches should be borne by the Contractor. Traffic and vibration adjacent to trench walls should be reduced and cyclic wetting and drying of excavation side slopes should be avoided. Depending upon the location and depth of some utility trenches, groundwater flow into open excavations could be experienced, especially during or shortly following periods of precipitation.

Sandy soil conditions were encountered at the site. These cohesionless soils have a tendency to cave in trench wall excavation. Shoring or sloping back trench sidewalls may be required within these sandy soils.

Utility trench backfill placed in or adjacent to buildings and exterior slabs should be compacted to at least 95 percent of maximum density based on ASTM Test Method D1557. Utility trench backfill placed in pavement areas should be compacted to at least 95 percent of maximum density based on ASTM Test Method D1557. Pipe bedding should be in accordance with pipe manufacturer's recommendations.

The Contractor is responsible for removing all water sensitive soil from the trench regardless of the backfill location and compaction requirements. The Contractor should use appropriate equipment and methods to avoid damage to the utilities and/or structures during fill placement and compaction.

Foundations

After completion of the recommended site preparation, the site should be suitable for shallow footing support. The proposed structures may be supported on a shallow foundation system bearing on a minimum of 2 feet of Engineered Fill. Spread and continuous footings can be designed for the following maximum allowable soil bearing pressures:

Load	Allowable Loading
Dead Load Only	1,950 psf
Dead-Plus-Live Load	2,600 psf
Total Load, including wind or seismic loads	3,450 psf

The footings should have a minimum depth of 12 inches below pad subgrade (soil grade) or adjacent exterior grade, whichever is lower. Footings should have a minimum width of 12 inches, regardless of load.

The total settlement is not expected to exceed 1 inch. Differential settlement should be less than ½ inch across 30 feet. Most of the settlement is expected to occur during construction as the loads are applied. However, additional post-construction soil movement may occur if the foundation soils are flooded or

saturated. Based on the soil liquefaction analysis performed within the site, the estimated total seismic-induced settlement is less than ¼ inch. Differential settlement caused by a seismic event is estimated to be less than ¼ inch. The anticipated differential settlement is estimated over a horizontal distance of 100 feet.

Resistance to lateral footing displacement can be computed using an allowable friction factor of 0.4 acting between the base of foundations and the supporting subgrade. Lateral resistance for footings can alternatively be developed using an allowable equivalent fluid passive pressure of 325 pounds per cubic foot acting against the appropriate vertical footing faces. The frictional and passive resistance of the soil may be combined without reduction in determining the total lateral resistance. A ⅓ increase in the above value may be used for short duration, wind, or seismic loads.

Floor Slabs and Exterior Flatwork

In areas where moisture-sensitive floor coverings will be included or where moisture-sensitive materials will be stored, concrete slab-on-grade floors should be underlain by a water vapor retarder. The water vapor retarder should be installed in accordance with accepted engineering practice.

The exterior floors should be poured separately in order to act independently of the walls and foundation system. All fills required to bring the building pads to grade should be Engineered Fills.

Moisture within the structure may be derived from water vapors, which were transformed from the moisture within the soils. This moisture vapor can travel through the vapor membrane and penetrate the slab-on-grade. This moisture vapor penetration can affect floor coverings and produce mold and mildew in the structure. To reduce moisture vapor intrusion, it is recommended that a vapor retarder be installed. It is recommended that the utility trenches within the structure be compacted, as specified in our report, to reduce the transmission of moisture through the utility trench backfill. Special attention to the immediate drainage and irrigation around the building is recommended. Positive drainage should be established away from the structure and should be maintained throughout the life of the structure. Ponding of water should not be allowed adjacent to the structure. Over-irrigation within landscaped areas adjacent to the structure should not be performed. In addition, ventilation of the structure (i.e. ventilation fans) is recommended to reduce the accumulation of interior moisture.

Lateral Earth Pressures and Retaining Walls

Walls retaining horizontal backfill and capable of deflecting a minimum of 0.1 percent of its height at the top may be designed using an equivalent fluid active pressure of 31 pounds per square foot per foot of depth. Walls that are incapable of this deflection or are fully constrained against deflection may be designed for an equivalent fluid at-rest pressure of 52 pounds per square foot per foot of depth. Expansive soils should not be used for backfill against walls. The wedge of non-expansive backfill material should extend from the bottom of each retaining wall outward and upward at a slope of 2:1 (horizontal to vertical) or flatter. The stated lateral earth pressures do not include the effects of hydrostatic water pressures generated by infiltrating surface water that may accumulate behind the retaining walls; or loads imposed by construction equipment, foundations, or roadways.

Retaining and/or below grade walls should be drained with either perforated pipe encased in free-draining gravel or a prefabricated drainage system. The gravel zone should have a minimum width of 12 inches and should extend upward to within 12 inches of the top of the wall. The upper 12 inches of backfill should consist of native soils, concrete, asphaltic concrete, or other suitable backfill to reduce surface drainage into the wall drain system. The aggregate should conform to Class 2 permeable materials graded in accordance with CalTrans Standard Specifications (2018). Prefabricated drainage systems, such as Miradrain®, Enkadrain®, or an equivalent substitute, are acceptable alternatives in lieu of gravel provided they are installed in accordance with the manufacturer's recommendations. If a prefabricated drainage system is proposed, our firm should review the system for final acceptance prior to installation.

Drainage pipes should be placed with perforations down and should discharge in a non-erosive manner away from foundations and other improvements. The pipes should be placed no higher than 6 inches above the heel of the wall, in the center line of the drainage blanket and should have a minimum diameter of four inches. Collector pipes may be either slotted or perforated. Slots should be no wider than ⅛ inch in diameter, while perforations should be no more than ¼ inch in diameter. If retaining walls are less than 6 feet in height, the perforated pipe may be omitted in lieu of weep holes on 4 feet maximum spacing. The weep holes should consist of 4-inch diameter holes (concrete walls) or unmortared head joints (masonry walls) and not be higher than 18 inches above the lowest adjacent grade. Two 8-inch square overlapping patches of geotextile fabric (conforming to CalTrans Standard Specifications for "edge drains") should be affixed to the rear wall opening of each weep hole to retard soil piping.

During grading and backfill operations adjacent to any walls, heavy equipment should not be allowed to operate within a lateral distance of 5 feet from the wall, or within a lateral distance equal to the wall height, whichever is greater, to avoid developing excessive lateral pressures. Within this zone, only hand-operated equipment ("whackers," vibratory plates, or pneumatic compactors) should be used to compact the backfill soils.

Seismic Parameters – 2019 California Building Code

The Site Class per Section 1613 of the 2019 California Building Code (2019 CBC) and ASCE 7-16, Chapter 20 is based upon the site soil conditions. It is our opinion that a Site Class D is most consistent with the subject site soil conditions. For seismic design of the structures based on the seismic provisions of the 2019 CBC, we recommend the following parameters:

Seismic Item	Value*	CBC Reference
Site Class	D	Section 1613.2.2
Site Coefficient F_a	1.015	Table 1613.2.3 (1)
S_s	1.213	Section 1613.2.1
S_{MS}	1.231	Section 1613.2.3
S_{DS}	0.821	Section 1613.2.4
Site Coefficient F_v	1.836	Table 1613.2.3 (2)

S_1	0.464	Section 1613.2.1
S_{M1}	0.852	Section 1613.2.3
S_{D1}	0.568	Section 1613.2.4
T_S	0.692	Section 1613.2

* Based on Equivalent Lateral Force (ELF) Design Procedure being used.

Soil Cement Reactivity

Excessive sulfate in either the soil or native water may result in an adverse reaction between the cement in concrete (or stucco) and the soil. HUD/FHA and CBC have developed criteria for evaluation of sulfate levels and how they relate to cement reactivity with soil and/or water.

Soil samples were obtained from the site and tested in accordance with State of California Materials Manual Test Designation 417. The sulfate concentrations detected from these soil samples were greater than 1000 ppm (2,057 ppm) and are greater than the maximum allowable values established by HUD/FHA and CBC. Therefore, it is recommended that a Type V cement be used within the concrete to compensate for sulfate reactivity with the cement.

Compacted Material Acceptance

Compaction specifications are not the only criteria for acceptance of the site grading or other such activities. However, the compaction test is the most universally recognized test method for assessing the performance of the Grading Contractor. The numerical test results from the compaction test cannot be used to predict the engineering performance of the compacted material. Therefore, the acceptance of compacted materials will also be dependent on the stability of that material. The Soils Engineer has the option of rejecting any compacted material regardless of the degree of compaction if that material is considered to be unstable or if future instability is suspected. A specific example of rejection of fill material passing the required percent compaction is a fill which has been compacted with an in-situ moisture content significantly less than optimum moisture. This type of dry fill (brittle fill) is susceptible to future settlement if it becomes saturated or flooded.

Testing and Inspection

A representative of Krazan & Associates, Inc. should be present at the site during the earthwork activities to confirm that actual subsurface conditions are consistent with the exploratory fieldwork. This activity is an integral part of our service, as acceptance of earthwork construction is dependent upon compaction testing and stability of the material. This representative can also verify that the intent of these recommendations is incorporated into the project design and construction. Krazan & Associates, Inc. will not be responsible for grades or staking, since this is the responsibility of the Prime Contractor.

LIMITATIONS

Soils Engineering is one of the newest divisions of Civil Engineering. This branch of Civil Engineering is constantly improving as new technologies and understanding of earth sciences advance. Although your site was analyzed using the most appropriate and most current techniques and methods, undoubtedly there will be substantial future improvements in this branch of engineering. In addition to advancements in the field of Soils Engineering, physical changes in the site, either due to excavation or fill placement, new agency regulations, or possible changes in the proposed structure after the soils report is completed may require the soils report to be professionally reviewed. In light of this, the Owner should be aware that there is a practical limit to the usefulness of this report without critical review. Although the time limit for this review is strictly arbitrary, it is suggested that 2 years be considered a reasonable time for the usefulness of this report.

Foundation and earthwork construction is characterized by the presence of a calculated risk that soil and groundwater conditions have been fully revealed by the original foundation investigation. This risk is derived from the practical necessity of basing interpretations and design conclusions on limited sampling of the earth. The recommendations made in this report are based on the assumption that soil conditions do not vary significantly from those disclosed during our field investigation. If any variations or undesirable conditions are encountered during construction, the Soils Engineer should be notified so that supplemental recommendations may be made.

The conclusions of this report are based on the information provided regarding the proposed construction. If the proposed construction is relocated or redesigned, the conclusions in this report may not be valid. The Soils Engineer should be notified of any changes so the recommendations may be reviewed and re-evaluated.

This report is a Geotechnical Engineering Investigation with the purpose of evaluating the soil conditions in terms of foundation design. The scope of our services did not include any Environmental Site Assessment for the presence or absence of hazardous and/or toxic materials in the soil, groundwater, or atmosphere; or the presence of wetlands. Any statements, or absence of statements, in this report or on any boring log regarding odors, unusual or suspicious items, or conditions observed, are strictly for descriptive purposes and are not intended to convey engineering judgment regarding potential hazardous and/or toxic assessment.

The geotechnical engineering information presented herein is based upon professional interpretation utilizing standard engineering practices and a degree of conservatism deemed proper for this project. It is not warranted that such information and interpretation cannot be superseded by future geotechnical engineering developments. We emphasize that this report is valid for the project outlined above and should not be used for any other sites.

If you have any questions or if we may be of further assistance, please do not hesitate to contact our office at (951) 273-1011.

Respectfully submitted,
KRAZAN & ASSOCIATES, INC.

Madison K. Weber, P.E.
Project Engineer
RCE No. 81935

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Managing Engineer
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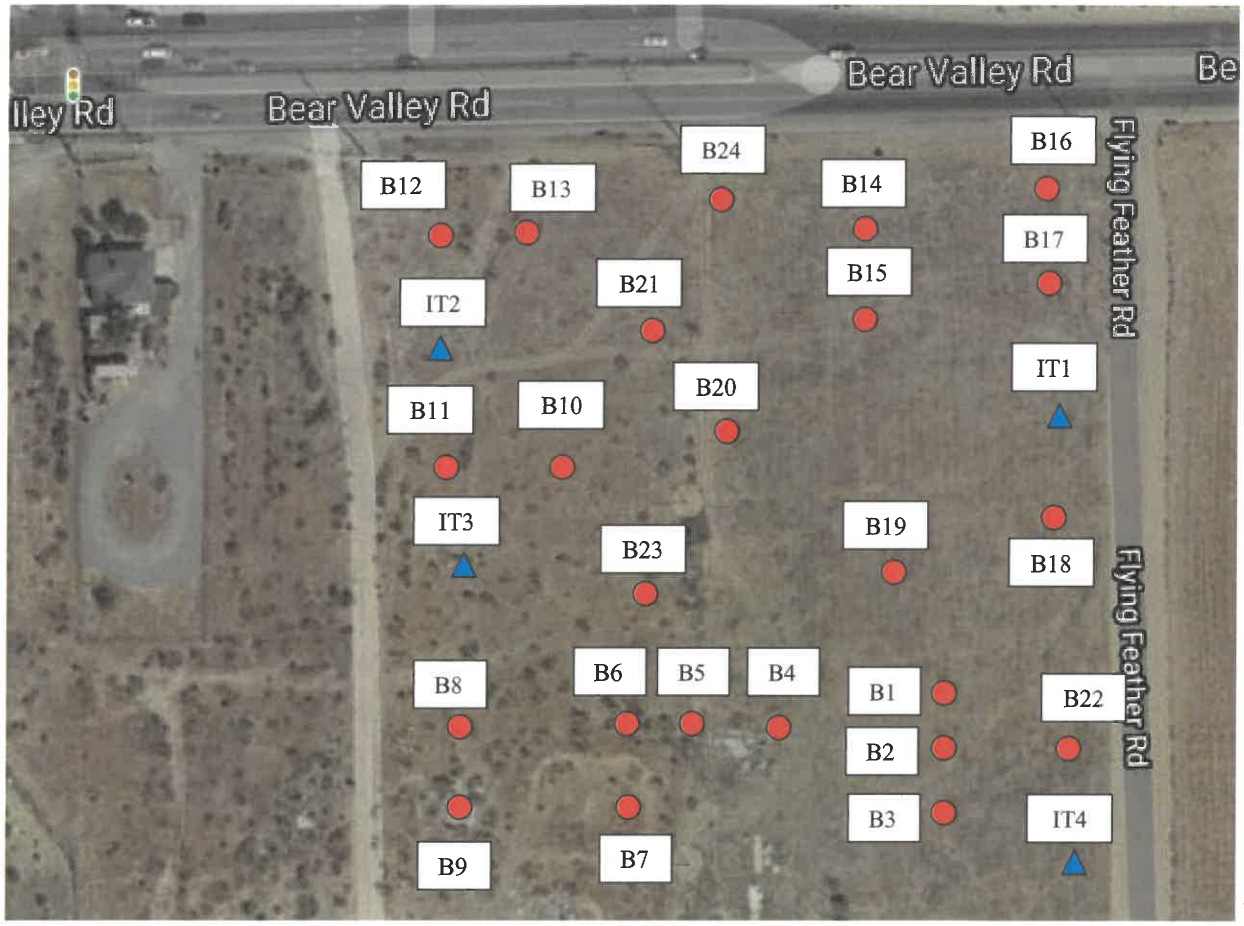
MKW/DRJ:ht



APPROXIMATE BORING LOCATION

APPROXIMATE PERCOLATION/INFILTRATION TEST LOCATION

N
W
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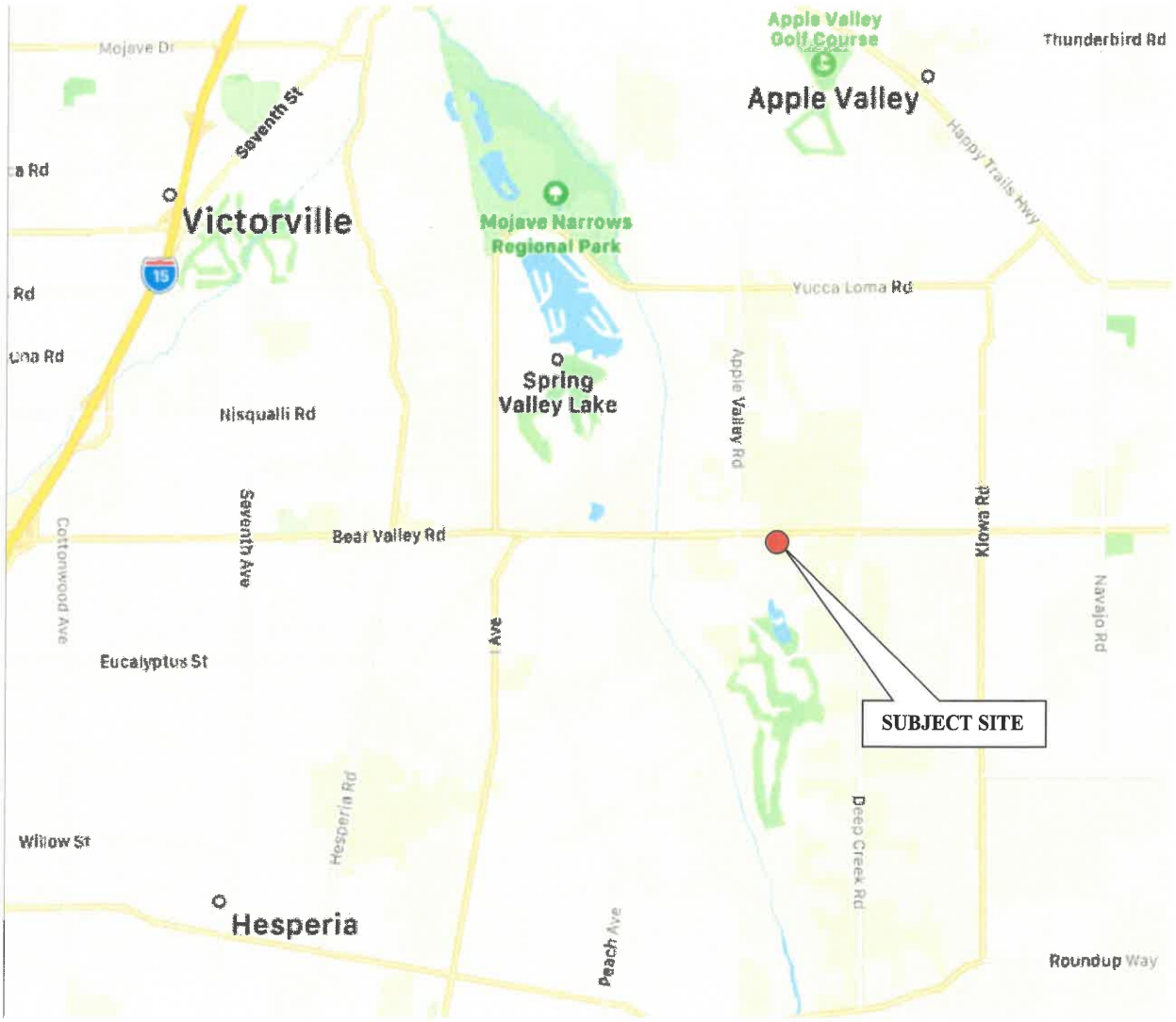
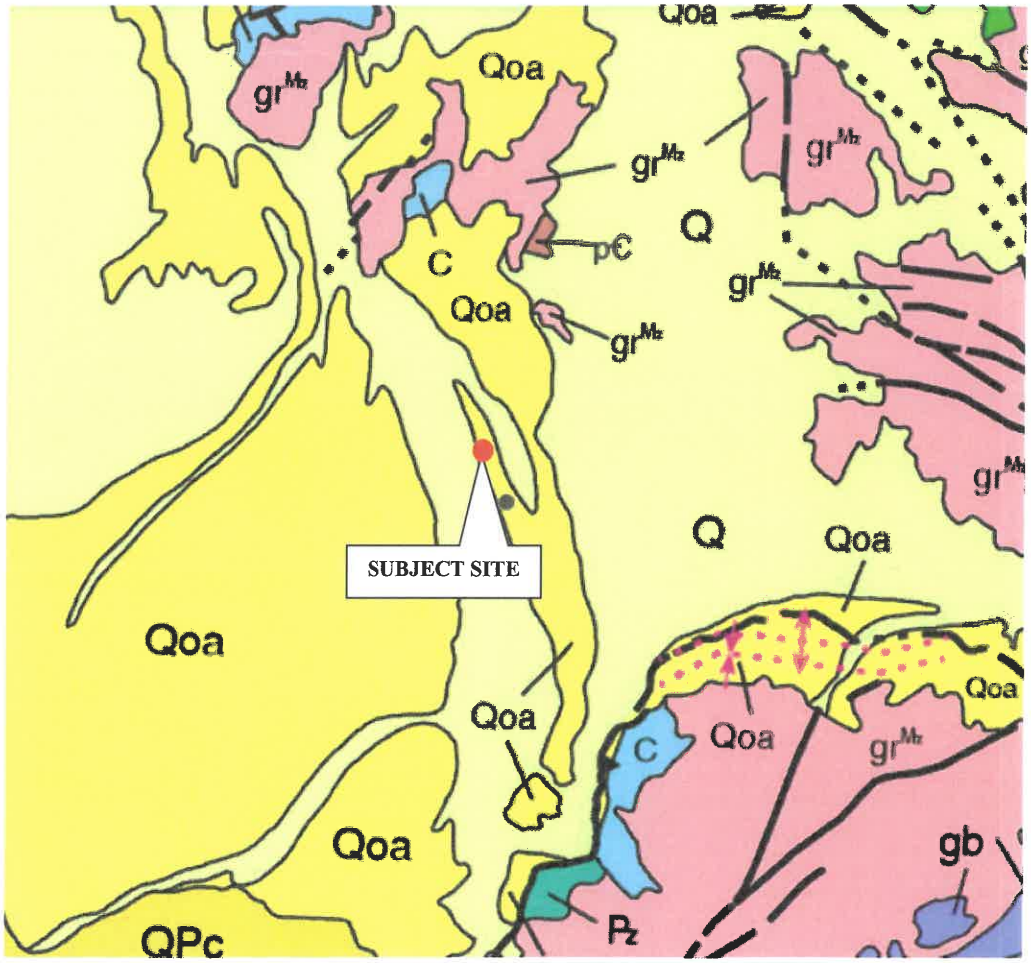
SITE MAP	Scale: Not to Scale	Date: Sept. 2021	Krazan GEOTECHNICAL ENGINEERING
PROPOSED APPLE BEAR RETAIL CENTER 19439 BEAR VALLEY ROAD APPLE VALLEY, CALIFORNIA	Drawn by: AM	Approved by: MW	
	Project No. 112-21076	Figure No. 2	



VICINITY MAP	Scale: Not to Scale	Date: Sept. 2021	Krazan GEOTECHNICAL ENGINEERING
PROPOSED APPLE BEAR RETAIL CENTER 19439 BEAR VALLEY ROAD APPLE VALLEY, CALIFORNIA	Drawn by: MW	Approved by: DJ	
	Project No. 112-21076	Figure No. 1	



DESCRIPTION OF MAP UNITS

QUATERNARY DEPOSITS

- Qs — Extensive marine and nonmarine sand deposits, generally near the coast or desert playas
- Q — Alluvium, lake, playa, and terrace deposits; unconsolidated and semi-consolidated
- Qls — Selected large landslides
- Qg — Glacial till and moraines. Found at high elevations mostl in the Sierra Nevada and Klamath Mountains
- Qoa — Older alluvium, lake, playa, and terrace deposits
- QPc — Pleistocene and/or Pliocene sandstone, shale, and gravels deposits; mostly loosely consolidated

QUATERNARY VOLCANIC ROCKS

- Qrv — Recent (Holocene) volcanic flow rocks; minor pyroclastic deposits
- Qrvp — Recent (Holocene) pyroclastic and volcanic mudflow deposits
- Qv — Quaternary volcanic flow rocks; minor pyroclastic deposits
- Qvp — Quaternary pyroclastic and volcanic mudflow deposits

MESOZOIC PLUTONIC ROCKS

- gr^Mz — Mesozoic granite, quartz monzonite, granodiorite, and quartz diorite
- um — Ultramafic rocks, mostly serpentine. Minor peridotite, gabbro, and diabase, chiefly Mesozoic
- gb — Gabbro and dark dioritic rocks, chiefly Mesozoic
- gr — Undated granitic rocks

PALEOZOIC SEDIMENTARY AND METASEDIMENTARY ROCKS

- Pz — Undivided Paleozoic metasedimentary rocks. Includes slate, sandstone, shale, chert, conglomerate, limestone, dolomite, marble, phyllite, schist, hornfels, and quartzite
- Pm — Permian shale, conglomerate, limestone, dolomite, sandstone, slate, hornfels, and quartzite; minor pyroclastic rocks
- C — Carboniferous shale, sandstone, conglomerate, limestone, dolomite, chert, hornfels, marble, and quartzite; in part pyroclastic rocks
- D — Devonian limestone, dolomite, sandstone, and shale; in part tuffaceous
- SO — Silurian to Ordovician sandstone, shale, conglomerate, chert, slate, quartzite, hornfels, marble, dolomite, and phyllite; some greenstone
- C — Cambrian sandstone, shale, limestone, dolomite, chert, quartzite, and phyllite; includes some rocks that are possibly Precambrian

SYMBOL EXPLANATION

Contact between geologic units - approximately located

Fault traces - solid where well located, dashed where approximately located or inferred, dotted where concealed, and queried where continuation or existence is uncertain. Ball and bar on downthrown side (relative or apparent) Arrows indicate direction of lateral movement (relative or apparent)

Thrust fault (barbs on upper plate)

Regional strike and dip of stratified rocks

Regional strike and dip of stratified rocks (overturned)

Anticlinal fold

Synclinal fold

Monoclinal fold

Source: Department of Conservation: Geologic Map of California, 2010

GEOLOGIC MAP	Scale: Not to Scale	Date: Sept. 2021	Krazan GEOTECHNICAL ENGINEERING
PROPOSED APPLE BEAR RETAIL CENTER 19439 BEAR VALLEY ROAD APPLE VALLEY, CALIFORNIA	Drawn by: MW	Approved by: DJ	
	Project No. 112-21076	Figure No. 3	

APPENDIX A

FIELD AND LABORATORY INVESTIGATIONS

Field Investigation

The field investigation consisted of a surface reconnaissance and a subsurface exploratory program. Twenty-four 5½-inch diameter exploratory borings were advanced. The boring locations are shown on the site plan.

The soils encountered were logged in the field during the exploration and, with supplementary laboratory test data, are described in accordance with the Unified Soil Classification System.

Modified standard penetration tests and standard penetration tests were performed at selected depths. These tests represent the resistance to driving a 2½-inch and 1½-inch diameter split barrel sampler, respectively. The driving energy was provided by a hammer weighing 140 pounds falling 30 inches. Relatively undisturbed soil samples were obtained while performing this test. Bag samples of the disturbed soil were obtained from the auger cuttings. The modified standard penetration tests are identified in the sample type on the boring logs with a full shaded in block. The standard penetration tests are identified in the sample type on the boring logs with half of the block shaded. All samples were returned to our Clovis laboratory for evaluation.

Laboratory Investigation

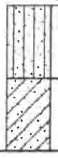
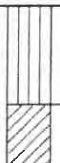
The laboratory investigation was programmed to determine the physical and mechanical properties of the foundation soil underlying the site. Test results were used as criteria for determining the engineering suitability of the surface and subsurface materials encountered.

In-situ moisture content, dry density, consolidation, direct shear, and sieve analysis tests were completed for the undisturbed samples representative of the subsurface material. R-value tests were completed for select bag samples obtained from the auger cuttings. These tests, supplemented by visual observation, comprised the basis for our evaluation of the site material.

The logs of the exploratory borings and laboratory determinations are presented in this Appendix.

UNIFIED SOIL CLASSIFICATION SYSTEM

UNIFIED SOIL CLASSIFICATION AND SYMBOL CHART

COARSE-GRAINED SOILS (more than 50% of material is larger than No. 200 sieve size.)			
GRAVELS More than 50% of coarse fraction larger than No. 4 sieve size	Clean Gravels (Less than 5% fines)		
		GW	Well-graded gravels, gravel-sand mixtures, little or no fines
		GP	Poorly-graded gravels, gravel-sand mixtures, little or no fines
	Gravels with fines (More than 12% fines)		
		GM	Silty gravels, gravel-sand-silt mixtures
		GC	Clayey gravels, gravel-sand-clay mixtures
SANDS 50% or more of coarse fraction smaller than No. 4 sieve size	Clean Sands (Less than 5% fines)		
		SW	Well-graded sands, gravelly sands, little or no fines
		SP	Poorly graded sands, gravelly sands, little or no fines
	Sands with fines (More than 12% fines)		
		SM	Silty sands, sand-silt mixtures
		SC	Clayey sands, sand-clay mixtures
FINE-GRAINED SOILS (50% or more of material is smaller than No. 200 sieve size.)			
SILTS AND CLAYS Liquid limit less than 50%		ML	Inorganic silts and very fine sands, rock flour, silty of clayey fine sands or clayey silts with slight plasticity
		CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays
		OL	Organic silts and organic silty clays of low plasticity
SILTS AND CLAYS Liquid limit 50% or greater		MH	Inorganic silts, micaceous or diatomaceous fine sandy or silty soils, elastic silts
		CH	Inorganic clays of high plasticity, fat clays
		OH	Organic clays of medium to high plasticity, organic silts
HIGHLY ORGANIC SOILS		PT	Peat and other highly organic soils

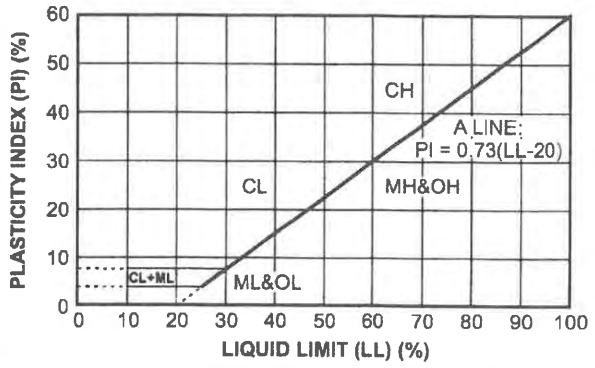
CONSISTENCY CLASSIFICATION

Description	Blows per Foot
Granular Soils	
Very Loose	< 5
Loose	5 – 15
Medium Dense	16 – 40
Dense	41 – 65
Very Dense	> 65
Cohesive Soils	
Very Soft	< 3
Soft	3 – 5
Firm	6 – 10
Stiff	11 – 20
Very Stiff	21 – 40
Hard	> 40

GRAIN SIZE CLASSIFICATION

Grain Type	*Standard Sieve Size*	*Grain Size in Millimeters*
Boulders	Above 12 inches	Above 305
Cobbles	12 to 13 inches	305 to 76.2
Gravel	3 inches to No. 4	76.2 to 4.76
Coarse-grained	3 to ¾ inches	76.2 to 19.1
Fine-grained	¾ inches to No. 4	19.1 to 4.76
Sand	No. 4 to No. 200	4.76 to 0.074
Coarse-grained	No. 4 to No. 10	4.76 to 2.00
Medium-grained	No. 10 to No. 40	2.00 to 0.042
Fine-grained	No. 40 to No. 200	0.042 to 0.074
Silt and Clay	Below No. 200	Below 0.074

PLASTICITY CHART



Log of Boring B1

Project: Retail Center

Project No: 112-21076

Client: Wood Investments

Figure No.: A-1

Location: 19439 Bear Valley Road, Apple Valley, California

Logged By: Angel Menchaca

Depth to Water> Not Encountered **Initial:** N/A **At Completion:** N/A

Depth (ft)	Symbol	Description	Dry Density (pcf)	Moisture (%)	Type	Blows/ft.
0		Ground Surface				
0		***SAND (SP)*** Very loose, fine- to medium-grained; brown, damp, drills easily Medium dense below 12 inches				
2			115.9	2.6		39
4						
6		***SILTY SAND (SM)*** Very dense, fine- to medium-grained; brown, damp, drills firmly	106.1	3.7		50+
8						
10		Dense below 10 feet				56
12						
14						
16		***SILTY SAND/SAND (SM/SP)*** Medium dense, fine- to medium-grained; brown, damp, drills easily		2.5		26
18						
20						

Penetration Test blows/ft: 20 40 60

Water Content (%): 10 20 30 40

Drill Method: Hollow Stem

Drill Date: 7-29-21

Drill Rig: CME 75

Krazan and Associates

Hole Size: 5½ Inches

Driller: Whitcomb Drilling, Inc.

Elevation: 50 Feet

Log of Boring B1

Project: Retail Center

Project No: 112-21076

Client: Wood Investments

Figure No.: A-1

Location: 19439 Bear Valley Road, Apple Valley, California

Logged By: Angel Menchaca

Depth to Water> Not Encountered **Initial:** N/A **At Completion:** N/A

Depth (ft)	Symbol	Description	Dry Density (pcf)	Moisture (%)	Type	Blows/ft.
22		***SILTY SAND (SM)*** Medium dense, fine- to medium-grained; brown, damp, drills easily		1.2		28
24						
26				3.9		29
28						
30		***SILTY SAND/SAND (SM/SP)*** Medium dense, fine- to medium-grained; brown, damp, drills easily		2.6		17
32						
34						
36		***SILTY SAND (SM)*** Medium dense, fine- to medium-grained; brown, damp, drills easily		5.4		18
38						
40		Dense and drills firmly below 40 feet				

Penetration Test blows/ft: 20 40 60

Water Content (%): 10 20 30 40

Drill Method: Hollow Stem

Drill Date: 7-29-21

Drill Rig: CME 75

Krazan and Associates

Hole Size: 5½ Inches

Driller: Whitcomb Drilling, Inc.

Elevation: 50 Feet

Log of Boring B1

Project: Retail Center

Project No: 112-21076

Client: Wood Investments

Figure No.: A-1

Location: 19439 Bear Valley Road, Apple Valley, California

Logged By: Angel Menchaca

Depth to Water> Not Encountered **Initial:** N/A **At Completion:** N/A

Depth (ft)	Symbol	Description	Dry Density (pcf)	Moisture (%)	Type	Blows/ft.
				12.6		34
42						
44						
46		***SILTY SAND/SAND (SM/SP)*** Dense, fine- to medium-grained; brown, damp, drills firmly		2.1		30
48						
50		***SILTY SAND (SM)*** Very dense, fine- to medium-grained; brown, damp, drills firmly		5.5		54
		End of Borehole				
52						
54		Water not encountered Boring backfilled with soil cuttings				
56						
58						
60						

Penetration Test blows/ft: 20, 40, 60

Water Content (%): 10, 20, 30, 40

Drill Method: Hollow Stem

Drill Date: 7-29-21

Drill Rig: CME 75

Krazan and Associates

Hole Size: 5½ Inches

Driller: Whitcomb Drilling, Inc.

Elevation: 50 Feet

Log of Boring B2

Project: Retail Center

Project No: 112-21076

Client: Wood Investments

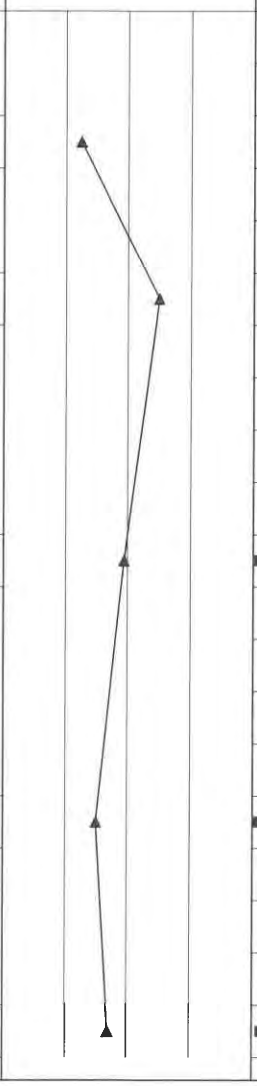
Figure No.: A-2

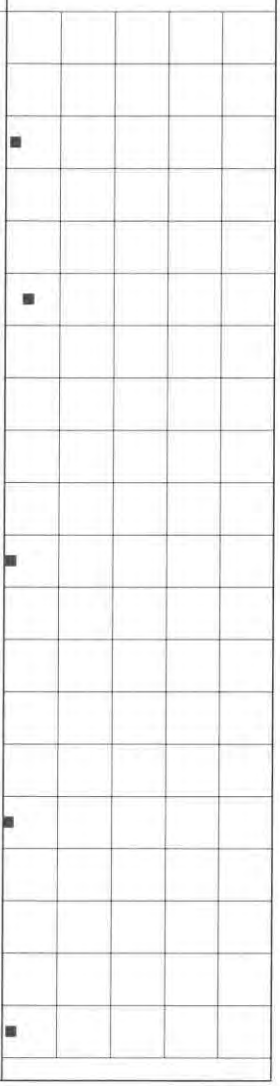
Location: 19439 Bear Valley Road, Apple Valley, California

Logged By: Angel Menchaca

Depth to Water> Not Encountered **Initial:** N/A **At Completion:** N/A

Depth (ft)	Symbol	Description	Dry Density (pcf)	Moisture (%)	Type	Blows/ft.
0		Ground Surface				
0		***SILTY SAND (SM)*** Very loose, fine- to medium-grained; brown, damp, drills easily Medium dense below 12 inches				
2			112.6	1.8		25
4						
6		Very dense below 5½ feet	108.4	4.3		50+
8						
10		***SAND (SP)*** Medium dense, fine- to coarse-grained; brown, damp, drills easily	103.1	1.3		39
12						
14		Dense below 15 feet		1.0		30
16						
18		Water not encountered Boring backfilled with soil cuttings		1.7		34
20						





Drill Method: Hollow Stem

Drill Date: 7-29-21

Drill Rig: CME 75

Krazan and Associates

Hole Size: 5½ Inches

Driller: Whitcomb Drilling, Inc.

Elevation: 20 Feet

Sheet: 1 of 1

Log of Boring B3

Project: Retail Center

Project No: 112-21076

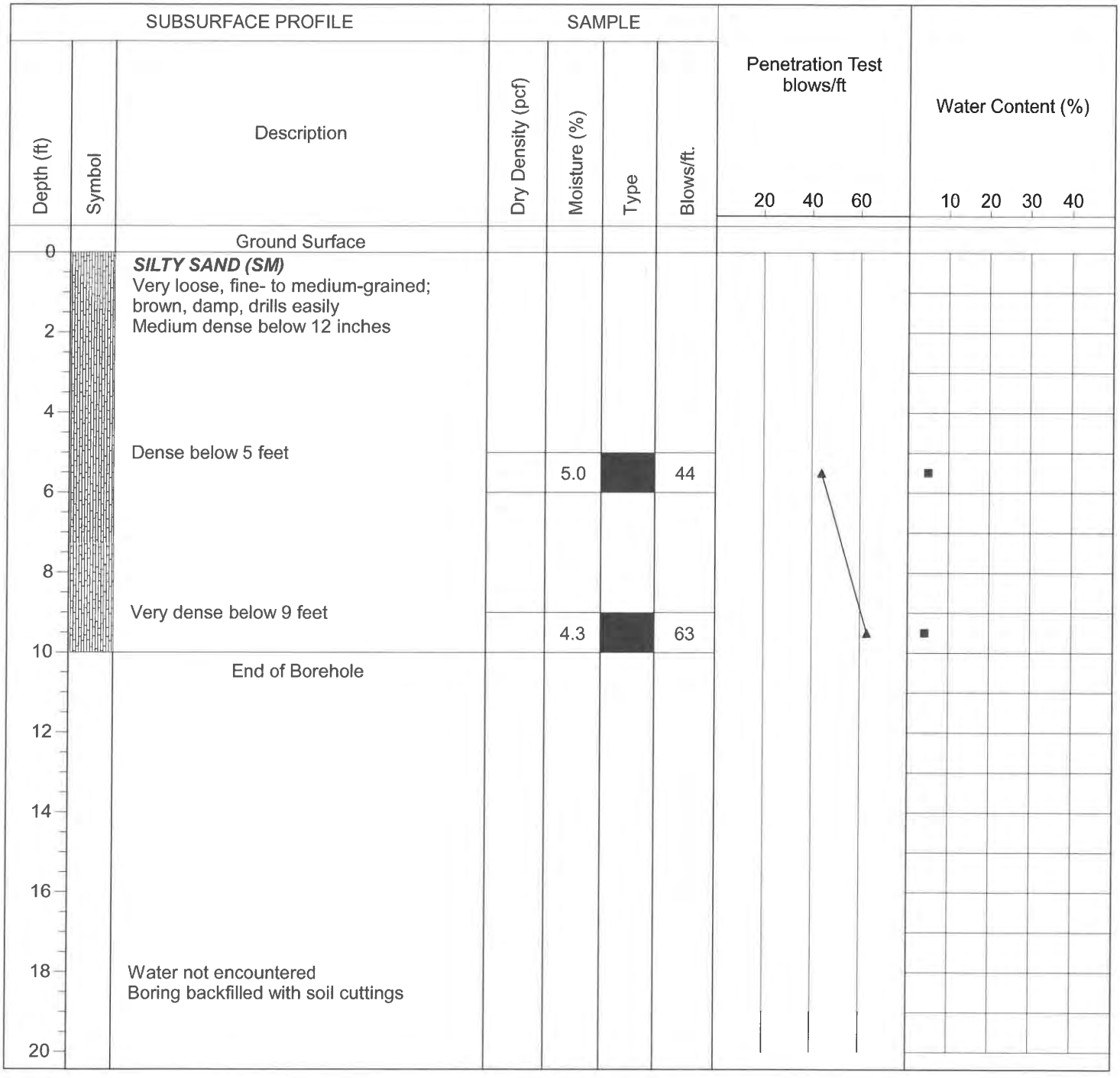
Client: Wood Investments

Figure No.: A-3

Location: 19439 Bear Valley Road, Apple Valley, California

Logged By: Angel Menchaca

Depth to Water> Not Encountered **Initial:** N/A **At Completion:** N/A



Drill Method: Hollow Stem

Drill Date: 7-29-21

Drill Rig: CME 75

Krazan and Associates

Hole Size: 5½ Inches

Driller: Whitcomb Drilling, Inc.

Elevation: 10 Feet

Sheet: 1 of 1

Log of Boring B4

Project: Retail Center

Project No: 112-21076

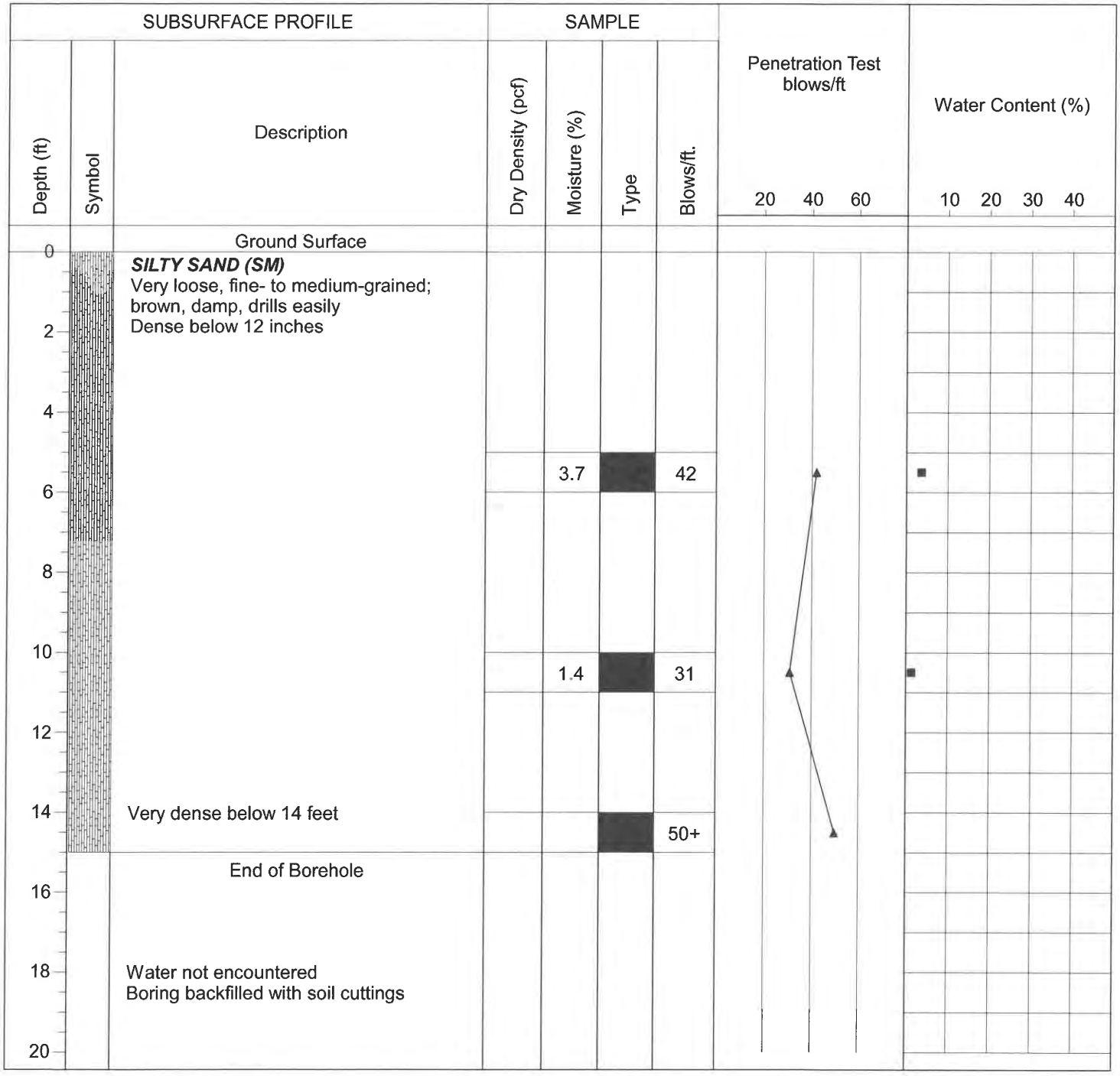
Client: Wood Investments

Figure No.: A-4

Location: 19439 Bear Valley Road, Apple Valley, California

Logged By: Angel Menchaca

Depth to Water> Not Encountered **Initial:** N/A **At Completion:** N/A



Drill Method: Hollow Stem

Drill Date: 7-29-21

Drill Rig: CME 75

Krazan and Associates

Hole Size: 5½ Inches

Driller: Whitcomb Drilling, Inc.

Elevation: 15 Feet

Sheet: 1 of 1

Log of Boring B5

Project: Retail Center

Project No: 112-21076

Client: Wood Investments

Figure No.: A-5

Location: 19439 Bear Valley Road, Apple Valley, California

Logged By: Angel Menchaca

Depth to Water> Not Encountered **Initial:** N/A **At Completion:** N/A

SUBSURFACE PROFILE			SAMPLE				Penetration Test blows/ft	Water Content (%)
Depth (ft)	Symbol	Description	Dry Density (pcf)	Moisture (%)	Type	Blows/ft.	20 40 60	10 20 30 40
0		Ground Surface						
0		***SILTY SAND (SM)*** Very loose, fine- to medium-grained; brown, damp, drills easily Very dense below 12 inches						
2			113.9	6.5		50+		
4		Medium dense below 5 feet						
6			109.6	3.3		30		
8								
10		Very dense below 10 feet	101.6	2.4		50+		
12								
14		Dense below 15 feet		0.9		34		
16								
18								
20		Medium dense below 20 feet						

Drill Method: Hollow Stem

Drill Date: 7-29-21

Drill Rig: CME 75

Krazan and Associates

Hole Size: 5½ Inches

Driller: Whitcomb Drilling, Inc.

Elevation: 25 Feet

Log of Boring B5

Project: Retail Center

Project No: 112-21076

Client: Wood Investments

Figure No.: A-5

Location: 19439 Bear Valley Road, Apple Valley, California

Logged By: Angel Menchaca

Depth to Water> Not Encountered **Initial:** N/A **At Completion:** N/A

SUBSURFACE PROFILE			SAMPLE				Penetration Test blows/ft	Water Content (%)
Depth (ft)	Symbol	Description	Dry Density (pcf)	Moisture (%)	Type	Blows/ft.	20 40 60	10 20 30 40
				14.3		14		
22								
24				12.6		17		
		End of Borehole						
26								
28								
30								
32								
34								
		Water not encountered Boring backfilled with soil cuttings						
36								
38								
40								

Drill Method: Hollow Stem

Drill Date: 7-29-21

Drill Rig: CME 75

Krazan and Associates

Hole Size: 5½ Inches

Driller: Whitcomb Drilling, Inc.

Elevation: 25 Feet

Sheet: 2 of 2

Log of Boring B6

Project: Retail Center

Project No: 112-21076

Client: Wood Investments

Figure No.: A-6

Location: 19439 Bear Valley Road, Apple Valley, California

Logged By: Angel Menchaca

Depth to Water> Not Encountered **Initial:** N/A **At Completion:** N/A

SUBSURFACE PROFILE			SAMPLE				Penetration Test blows/ft	Water Content (%)
Depth (ft)	Symbol	Description	Dry Density (pcf)	Moisture (%)	Type	Blows/ft.	20 40 60	10 20 30 40
0		Ground Surface						
0		***SILTY SAND (SM)*** Very loose, fine- to medium-grained; brown, damp, drills easily						
2		Dense below 12 inches						
		Very dense below 2½ feet		15.4		50+		
4								
		Dense below 5 feet		2.5		60		
6								
8								
10				1.4		63		
12								
14								
16		***SAND (SP)*** Medium dense, fine- to coarse-grained; brown, damp, drills easily		1.5		24		
18								
20								

Drill Method: Hollow Stem

Drill Date: 7-29-21

Drill Rig: CME 75

Krazan and Associates

Hole Size: 5½ Inches

Driller: Whitcomb Drilling, Inc.

Elevation: 25 Feet

Log of Boring B6

Project: Retail Center

Project No: 112-21076

Client: Wood Investments

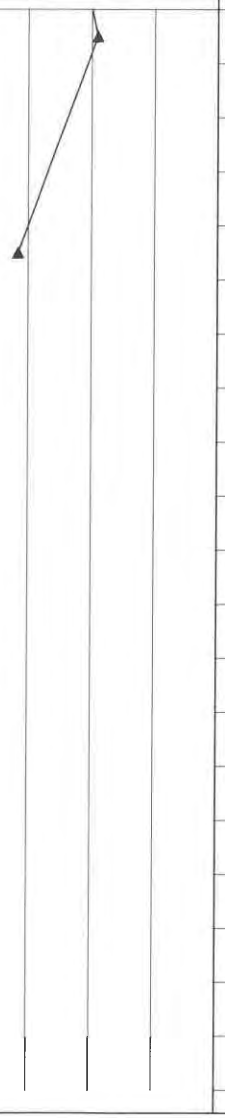
Figure No.: A-6

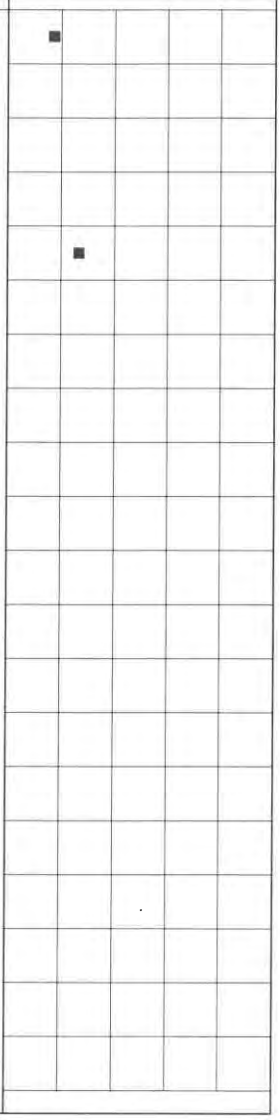
Location: 19439 Bear Valley Road, Apple Valley, California

Logged By: Angel Menchaca

Depth to Water> Not Encountered **Initial:** N/A **At Completion:** N/A

Depth (ft)	Symbol	Description	Dry Density (pcf)	Moisture (%)	Type	Blows/ft.
		SILTY SAND (SM) Dense, fine- to medium-grained; brown, damp, drills firmly		8.7		42
22						
24		Medium dense below 24 feet		13.4		17
		End of Borehole				
26						
28						
30						
32						
34						
		Water not encountered Boring backfilled with soil cuttings				
36						
38						
40						





Drill Method: Hollow Stem

Drill Date: 7-29-21

Drill Rig: CME 75

Krazan and Associates

Hole Size: 5½ Inches

Driller: Whitcomb Drilling, Inc.

Elevation: 25 Feet

Log of Boring B7

Project: Retail Center

Project No: 112-21076

Client: Wood Investments

Figure No.: A-7

Location: 19439 Bear Valley Road, Apple Valley, California

Logged By: Angel Menchaca

Depth to Water> Not Encountered **Initial:** N/A **At Completion:** N/A

Depth (ft)	Symbol	Description	Dry Density (pcf)	Moisture (%)	Type	Blows/ft.
		SUBSURFACE PROFILE	SAMPLE			
0		Ground Surface				
0		***SILTY SAND (SM)*** Very loose, fine- to medium-grained; brown, damp, drills easily Medium dense below 12 inches				
6		Dense below 5 feet		3.0		37
10		***SAND (SP)*** Medium dense, fine- to coarse-grained; brown, damp, drills easily		1.0		26
14		***SILTY SAND (SM)*** Medium dense, fine- to medium-grained; brown, damp, drills easily		3.7		23
15		End of Borehole				
18		Water not encountered Boring backfilled with soil cuttings				

Penetration Test blows/ft: 20 40 60

Water Content (%): 10 20 30 40

Drill Method: Hollow Stem

Drill Date: 7-29-21

Drill Rig: CME 75

Krazan and Associates

Hole Size: 5½ Inches

Driller: Whitcomb Drilling, Inc.

Elevation: 15 Feet

Sheet: 1 of 1

Log of Boring B8

Project: Retail Center

Project No: 112-21076

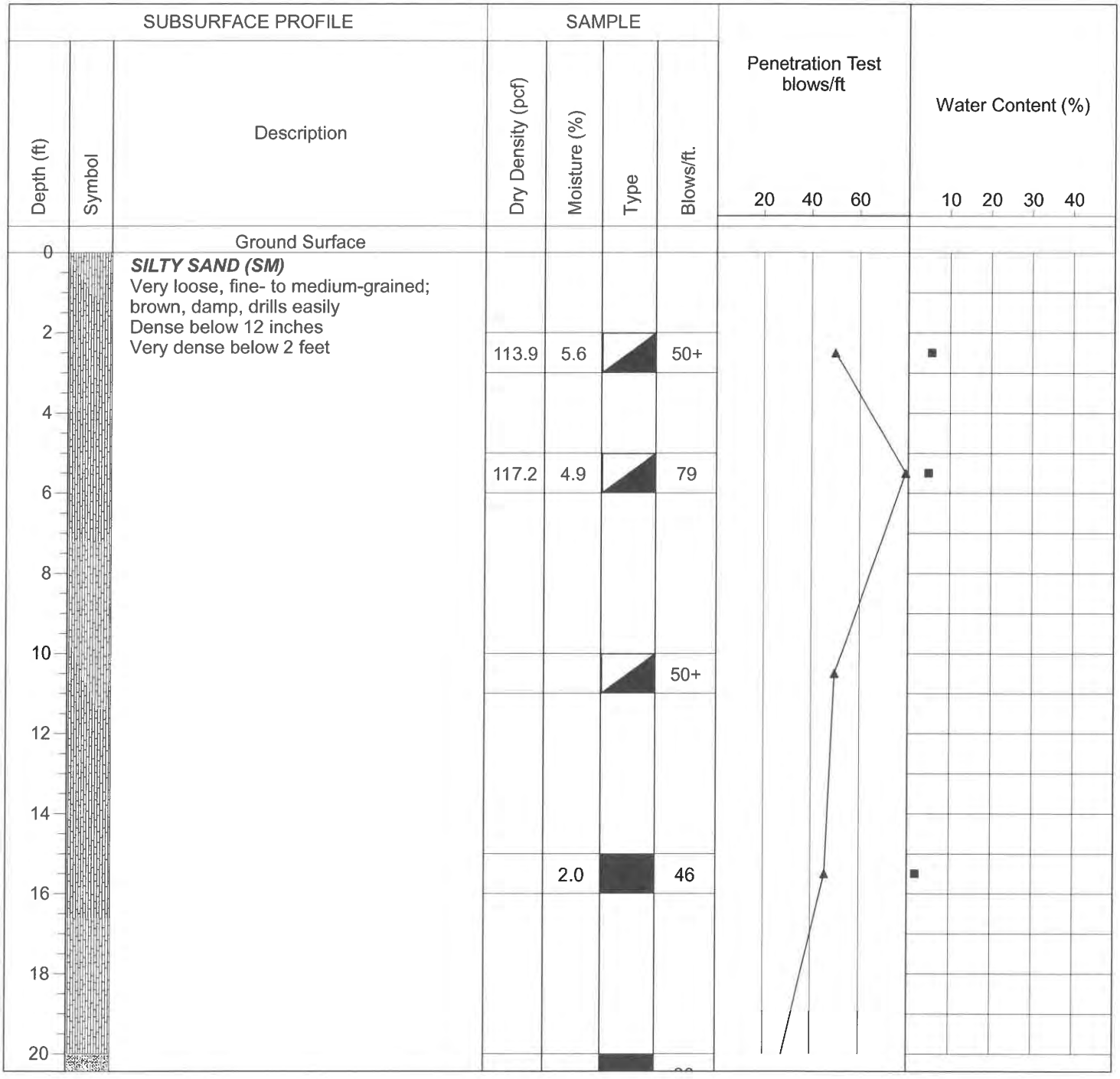
Client: Wood Investments

Figure No.: A-8

Location: 19439 Bear Valley Road, Apple Valley, California

Logged By: Angel Menchaca

Depth to Water> Not Encountered **Initial:** N/A **At Completion:** N/A



Drill Method: Hollow Stem

Drill Date: 7-29-21

Drill Rig: CME 75

Krazan and Associates

Hole Size: 5½ Inches

Driller: Whitcomb Drilling, Inc.

Elevation: 25 Feet

Log of Boring B8

Project: Retail Center

Project No: 112-21076

Client: Wood Investments

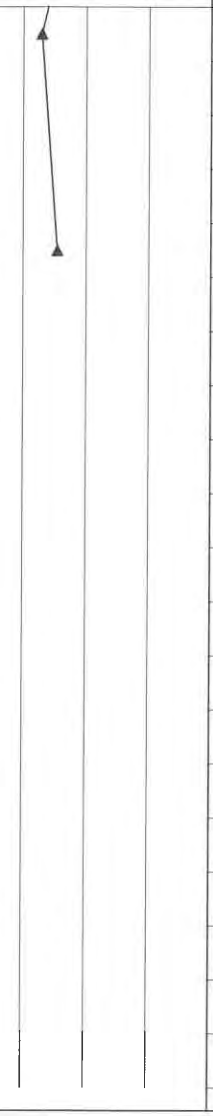
Figure No.: A-8

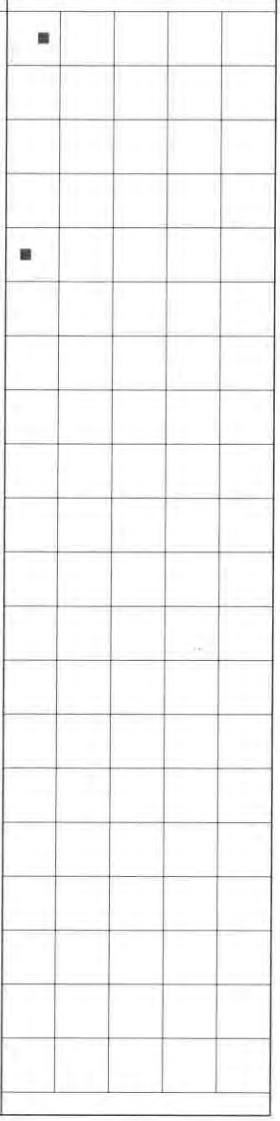
Location: 19439 Bear Valley Road, Apple Valley, California

Logged By: Angel Menchaca

Depth to Water> Not Encountered **Initial:** N/A **At Completion:** N/A

Depth (ft)	Symbol	Description	Dry Density (pcf)	Moisture (%)	Type	Blows/ft.
		SAND (SP) Medium dense, fine- to coarse-grained; brown, damp, drills easily		7.0		26
22						
24		Dense below 24 feet		3.8		31
		End of Borehole				
26						
28						
30						
32						
34						
		Water not encountered Boring backfilled with soil cuttings				
36						
38						
40						





Drill Method: Hollow Stem

Drill Date: 7-29-21

Drill Rig: CME 75

Krazan and Associates

Hole Size: 5½ Inches

Driller: Whitcomb Drilling, Inc.

Elevation: 25 Feet

Log of Boring B9

Project: Retail Center

Project No: 112-21076

Client: Wood Investments

Figure No.: A-9

Location: 19439 Bear Valley Road, Apple Valley, California

Logged By: Angel Menchaca

Depth to Water> Not Encountered **Initial:** N/A **At Completion:** N/A

Depth (ft)	Symbol	Description	Dry Density (pcf)	Moisture (%)	Type	Blows/ft.
0		Ground Surface				
0		***SILTY SAND (SM)*** Very loose, fine- to medium-grained; brown, damp, drills easily Medium dense below 12 inches				
6				8.3		20
10		***SAND (SP)*** Medium dense, fine- to coarse-grained; brown, damp, drills easily		1.5		20
14		Dense below 14 feet		1.0		32
15		End of Borehole				
18		Water not encountered Boring backfilled with soil cuttings				

Penetration Test blows/ft: 20 40 60

Water Content (%): 10 20 30 40

Drill Method: Hollow Stem

Drill Date: 7-29-21

Drill Rig: CME 75

Krazan and Associates

Hole Size: 5½ Inches

Driller: Whitcomb Drilling, Inc.

Elevation: 15 Feet

Log of Boring B10

Project: Retail Center

Project No: 112-21076

Client: Wood Investments

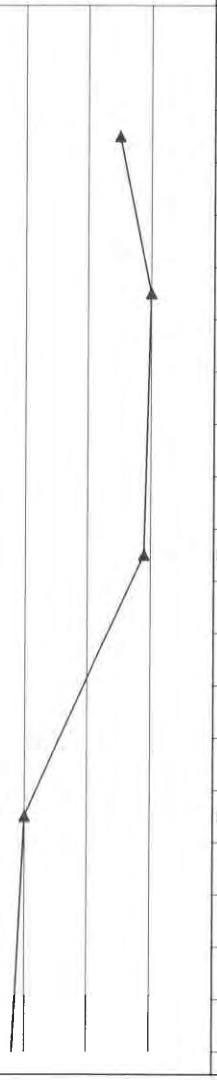
Figure No.: A-10

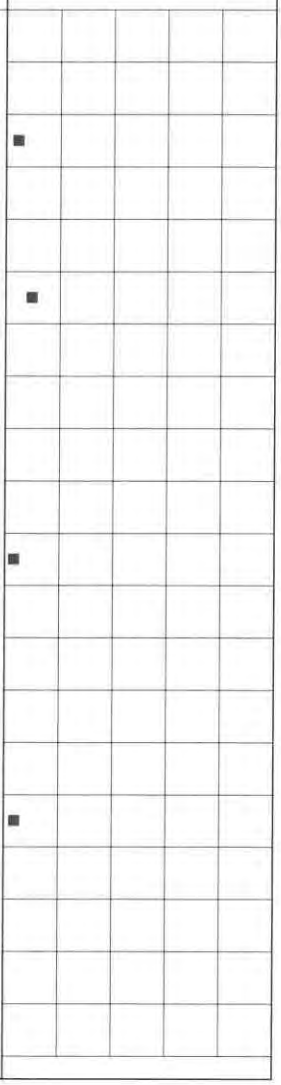
Location: 19439 Bear Valley Road, Apple Valley, California

Logged By: Angel Menchaca

Depth to Water> Not Encountered **Initial:** N/A **At Completion:** N/A

Depth (ft)	Symbol	Description	Dry Density (pcf)	Moisture (%)	Type	Blows/ft.
0		Ground Surface				
0		***SILTY SAND (SM)*** Very loose, fine- to medium-grained; brown, damp, drills easily Dense below 12 inches Very dense below 2 feet				
2			110.4	2.3		50+
4		Dense below 5 feet				
6			113.3	4.9		60
8						
10		***SAND (SP)*** Dense, fine- to coarse-grained; brown/light red, damp, drills firmly	100.0	1.7		58
12						
14		Medium dense below 15 feet				
16				2.0		20
18						
20						





Drill Method: Hollow Stem

Drill Date: 7-29-21

Drill Rig: CME 75

Krazan and Associates

Hole Size: 5½ Inches

Driller: Whitcomb Drilling, Inc.

Elevation: 25 Feet

Log of Boring B10

Project: Retail Center

Project No: 112-21076

Client: Wood Investments

Figure No.: A-10

Location: 19439 Bear Valley Road, Apple Valley, California

Logged By: Angel Menchaca

Depth to Water> Not Encountered **Initial:** N/A **At Completion:** N/A

Depth (ft)	Symbol	Description	Dry Density (pcf)	Moisture (%)	Type	Blows/ft.	Penetration Test blows/ft (20 40 60)	Water Content (%) (10 20 30 40)
22		***SILTY SAND (SM)*** Medium dense, fine- to medium-grained; brown, damp, drills easily		15.4		16		
24				16.0		10		
26		End of Borehole						
28								
30								
32								
34		Water not encountered Boring backfilled with soil cuttings						
36								
38								
40								

Drill Method: Hollow Stem

Drill Date: 7-29-21

Drill Rig: CME 75

Krazan and Associates

Hole Size: 5½ Inches

Driller: Whitcomb Drilling, Inc.

Elevation: 25 Feet

Log of Boring B11

Project: Retail Center

Project No: 112-21076

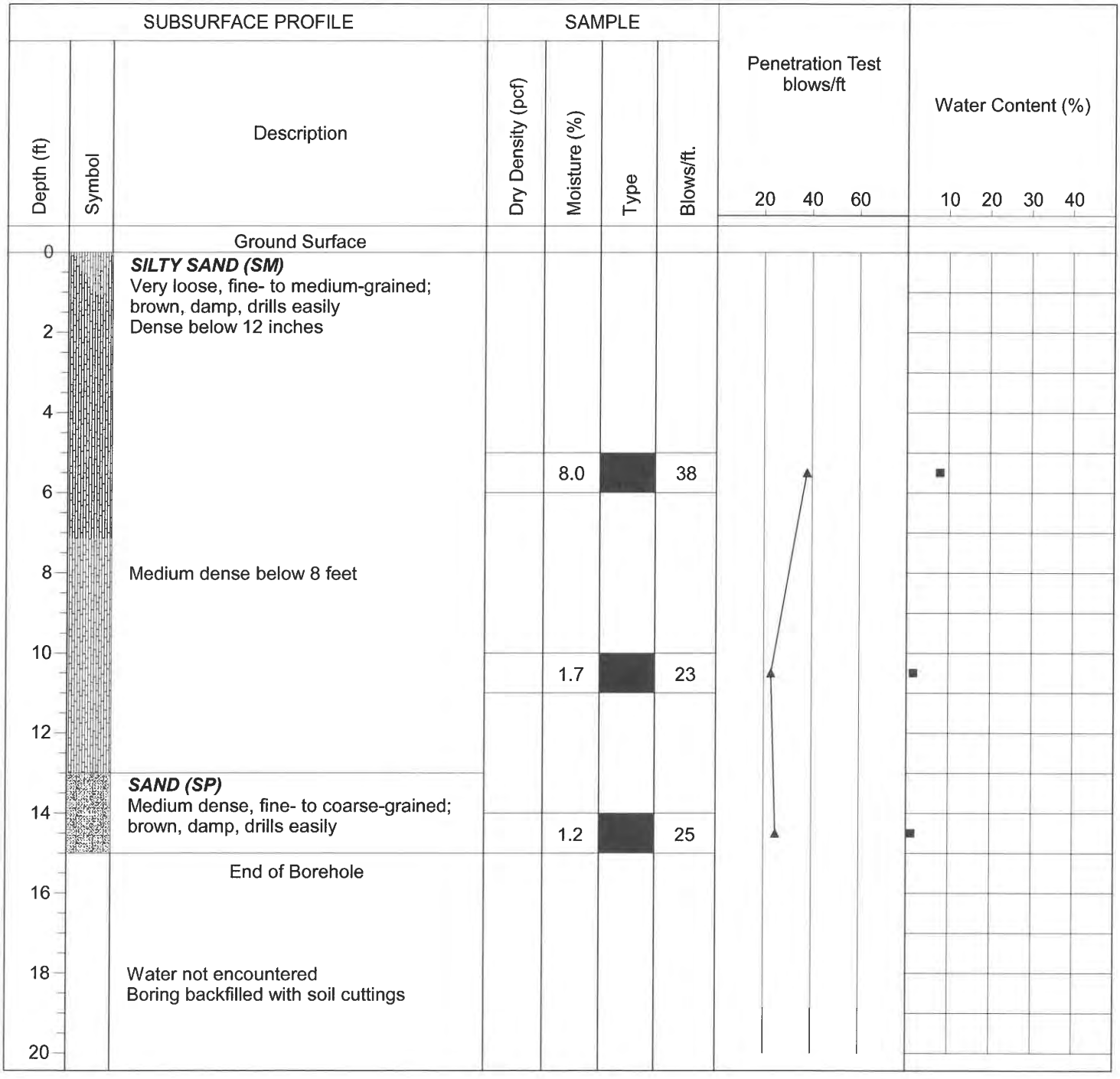
Client: Wood Investments

Figure No.: A-11

Location: 19439 Bear Valley Road, Apple Valley, California

Logged By: Angel Menchaca

Depth to Water> Not Encountered **Initial:** N/A **At Completion:** N/A



Drill Method: Hollow Stem

Drill Date: 7-29-21

Drill Rig: CME 75

Krazan and Associates

Hole Size: 5½ Inches

Driller: Whitcomb Drilling, Inc.

Elevation: 15 Feet

Sheet: 1 of 1

Log of Boring B12

Project: Retail Center

Project No: 112-21076

Client: Wood Investments

Figure No.: A-12

Location: 19439 Bear Valley Road, Apple Valley, California

Logged By: Angel Menchaca

Depth to Water> Not Encountered **Initial:** N/A **At Completion:** N/A

Depth (ft)	Symbol	Description	Dry Density (pcf)	Moisture (%)	Type	Blows/ft.
0		Ground Surface				
0		***SILTY SAND (SM)*** Very loose, fine- to medium-grained; brown, damp, drills easily Medium dense below 12 inches				
2			103.5	5.0		28
4						
6		Very dense below 5½ feet	94.9	12.0		50+
8						
10		***SAND (SP)*** Dense, fine- to coarse-grained; brown, damp, drills easily	99.4	7.9		42
12						
14		Medium dense below 15 feet		1.1		25
16						
18						
20						

Penetration Test blows/ft: 20 40 60

Water Content (%): 10 20 30 40

Drill Method: Hollow Stem

Drill Date: 7-29-21

Drill Rig: CME 75

Krazan and Associates

Hole Size: 5½ Inches

Driller: Whitcomb Drilling, Inc.

Elevation: 25 Feet

Log of Boring B12

Project: Retail Center

Project No: 112-21076

Client: Wood Investments

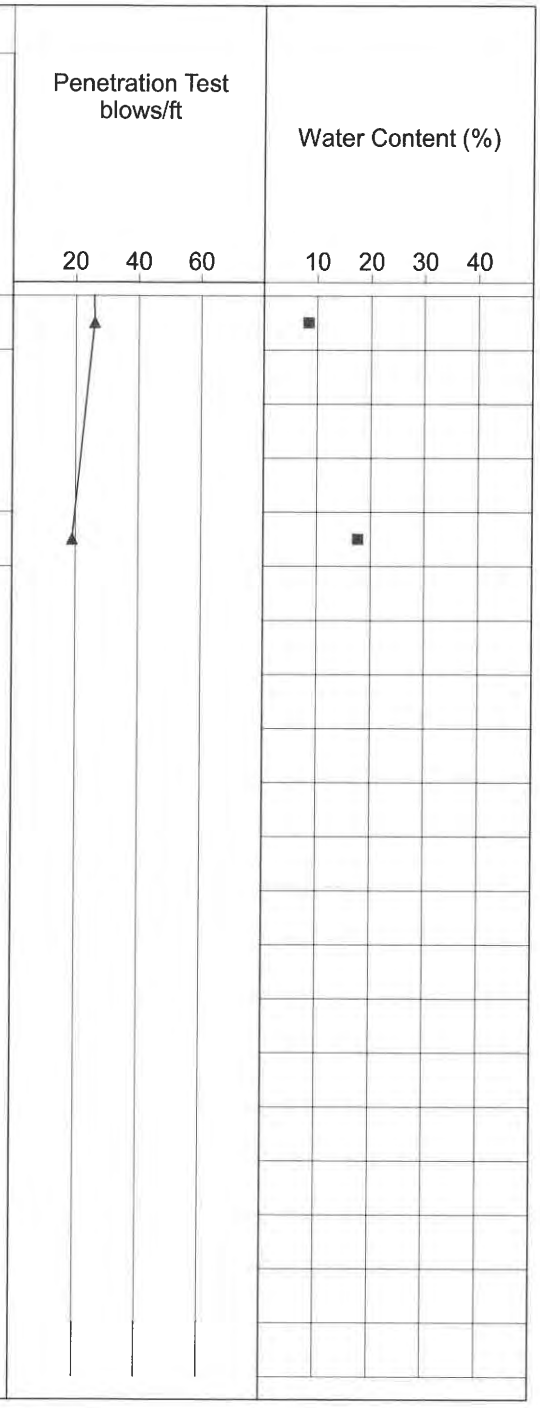
Figure No.: A-12

Location: 19439 Bear Valley Road, Apple Valley, California

Logged By: Angel Menchaca

Depth to Water> Not Encountered **Initial:** N/A **At Completion:** N/A

Depth (ft)	Symbol	Description	Dry Density (pcf)	Moisture (%)	Type	Blows/ft.
22		***SILTY SAND (SM)*** Medium dense, fine- to medium-grained; brown, damp, drills easily		8.5		26
24				17.7		19
26		End of Borehole				
28						
30						
32						
34		Water not encountered Boring backfilled with soil cuttings				
36						
38						
40						



Drill Method: Hollow Stem

Drill Date: 7-29-21

Drill Rig: CME 75

Krazan and Associates

Hole Size: 5½ Inches

Driller: Whitcomb Drilling, Inc.

Elevation: 25 Feet

Log of Boring B13

Project: Retail Center

Project No: 112-21076

Client: Wood Investments

Figure No.: A-13

Location: 19439 Bear Valley Road, Apple Valley, California

Logged By: Angel Menchaca

Depth to Water> Not Encountered **Initial:** N/A **At Completion:** N/A

Depth (ft)	Symbol	Description	Dry Density (pcf)	Moisture (%)	Type	Blows/ft.
0		Ground Surface				
0		***SILTY SAND (SM)*** Very loose, fine- to medium-grained; brown, damp, drills easily Medium dense below 12 inches				
6				8.4		21
10		***SAND (SP)*** Medium dense, fine- to coarse-grained; brown, damp, drills easily		1.5		26
14				1.2		24
16		End of Borehole				
18		Water not encountered Boring backfilled with soil cuttings				

Penetration Test blows/ft: 20 40 60

Water Content (%): 10 20 30 40

Drill Method: Hollow Stem

Drill Date: 7-29-21

Drill Rig: CME 75

Krazan and Associates

Hole Size: 5½ Inches

Driller: Whitcomb Drilling, Inc.

Elevation: 15 Feet

Sheet: 1 of 1

Log of Boring B14

Project: Retail Center

Project No: 112-21076

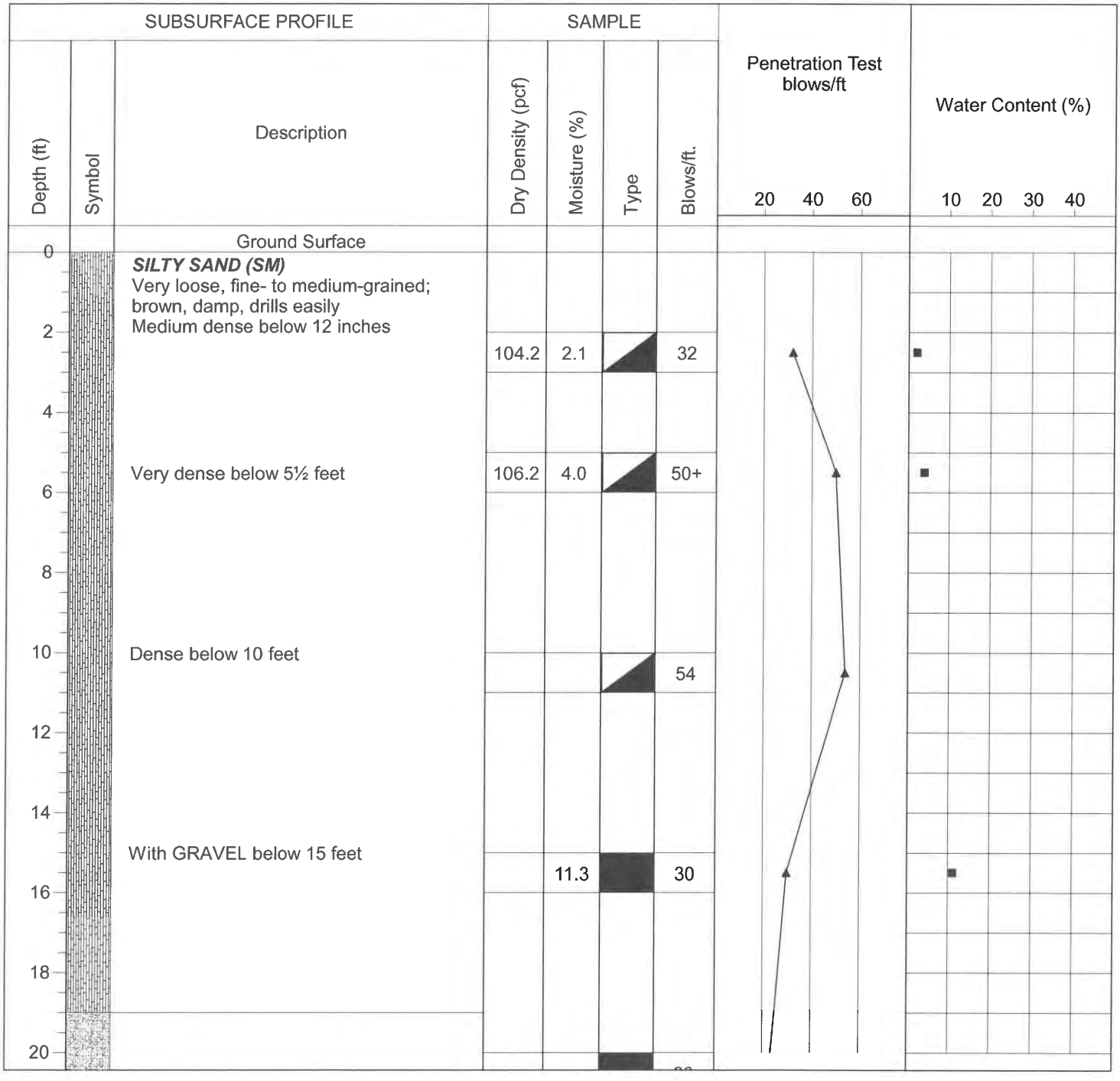
Client: Wood Investments

Figure No.: A-14

Location: 19439 Bear Valley Road, Apple Valley, California

Logged By: Angel Menchaca

Depth to Water> Not Encountered **Initial:** N/A **At Completion:** N/A



Drill Method: Hollow Stem

Drill Date: 7-29-21

Drill Rig: CME 75

Krazan and Associates

Hole Size: 5½ Inches

Driller: Whitcomb Drilling, Inc.

Elevation: 25 Feet

Log of Boring B14

Project: Retail Center

Project No: 112-21076

Client: Wood Investments

Figure No.: A-14

Location: 19439 Bear Valley Road, Apple Valley, California

Logged By: Angel Menchaca

Depth to Water> Not Encountered **Initial:** N/A **At Completion:** N/A

Depth (ft)	Symbol	Description	Dry Density (pcf)	Moisture (%)	Type	Blows/ft.
22		***SAND (SP)*** Medium dense, fine- to coarse-grained; brown, damp, drills easily		15.7		23
24		***SILTY SAND (SM)*** Medium dense, fine- to medium-grained; brown, damp, drills easily		3.0		17
26		End of Borehole				
28						
30						
32						
34						
36		Water not encountered Boring backfilled with soil cuttings				
38						
40						

Penetration Test blows/ft: 20, 40, 60

Water Content (%): 10, 20, 30, 40

Drill Method: Hollow Stem

Drill Date: 7-29-21

Drill Rig: CME 75

Krazan and Associates

Hole Size: 5½ Inches

Driller: Whitcomb Drilling, Inc.

Elevation: 25 Feet

Log of Boring B15

Project: Retail Center

Project No: 112-21076

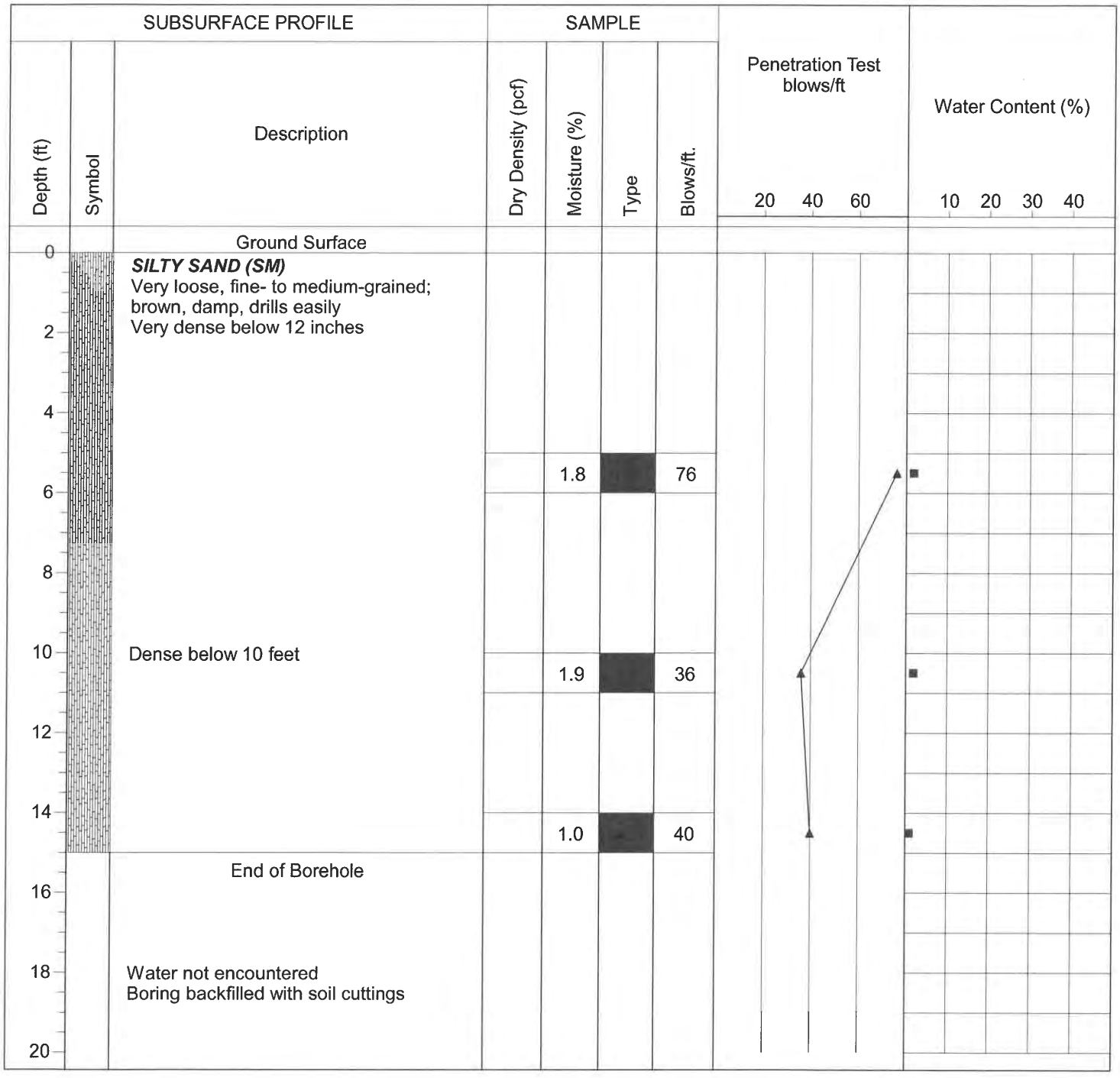
Client: Wood Investments

Figure No.: A-15

Location: 19439 Bear Valley Road, Apple Valley, California

Logged By: Angel Menchaca

Depth to Water> Not Encountered **Initial:** N/A **At Completion:** N/A



Drill Method: Hollow Stem

Drill Date: 7-29-21

Drill Rig: CME 75

Krazan and Associates

Hole Size: 5½ Inches

Driller: Whitcomb Drilling, Inc.

Elevation: 15 Feet

Sheet: 1 of 1

Log of Boring B16

Project: Retail Center

Project No: 112-21076

Client: Wood Investments

Figure No.: A-16

Location: 19439 Bear Valley Road, Apple Valley, California

Logged By: Angel Menchaca

Depth to Water> Not Encountered **Initial:** N/A **At Completion:** N/A

Depth (ft)	Symbol	Description	Dry Density (pcf)	Moisture (%)	Type	Blows/ft.
0		Ground Surface				
0		***SILTY SAND (SM)*** Very loose, fine- to medium-grained; brown, damp, drills easily Dense below 12 inches				
2			105.1	1.9		46
4						
6		Very dense below 5½ feet	90.7	2.2		50+
8						
10		Dense below 10 feet				48
12						
14						
16		***SANDY SILT (ML)*** Medium dense, fine- to medium-grained; brown, damp, drills easily		18.6		20
18						
20						

Penetration Test blows/ft: 20 40 60

Water Content (%): 10 20 30 40

Drill Method: Hollow Stem

Drill Date: 7-29-21

Drill Rig: CME 75

Krazan and Associates

Hole Size: 5½ Inches

Driller: Whitcomb Drilling, Inc.

Elevation: 25 Feet

Log of Boring B16

Project: Retail Center

Project No: 112-21076

Client: Wood Investments

Figure No.: A-16

Location: 19439 Bear Valley Road, Apple Valley, California

Logged By: Angel Menchaca

Depth to Water> Not Encountered **Initial:** N/A **At Completion:** N/A

Depth (ft)	Symbol	Description	Dry Density (pcf)	Moisture (%)	Type	Blows/ft.
				1.9		15
22						
		SAND (SP) Medium dense, fine- to coarse-grained; brown, damp, drills easily		11.2		17
24						
		End of Borehole				
26						
28						
30						
32						
34						
		Water not encountered Boring backfilled with soil cuttings				
36						
38						
40						

Penetration Test blows/ft: 20, 40, 60

Water Content (%): 10, 20, 30, 40

Drill Method: Hollow Stem

Drill Date: 7-29-21

Drill Rig: CME 75

Krazan and Associates

Hole Size: 5½ Inches

Driller: Whitcomb Drilling, Inc.

Elevation: 25 Feet

Log of Boring B17

Project: Retail Center

Project No: 112-21076

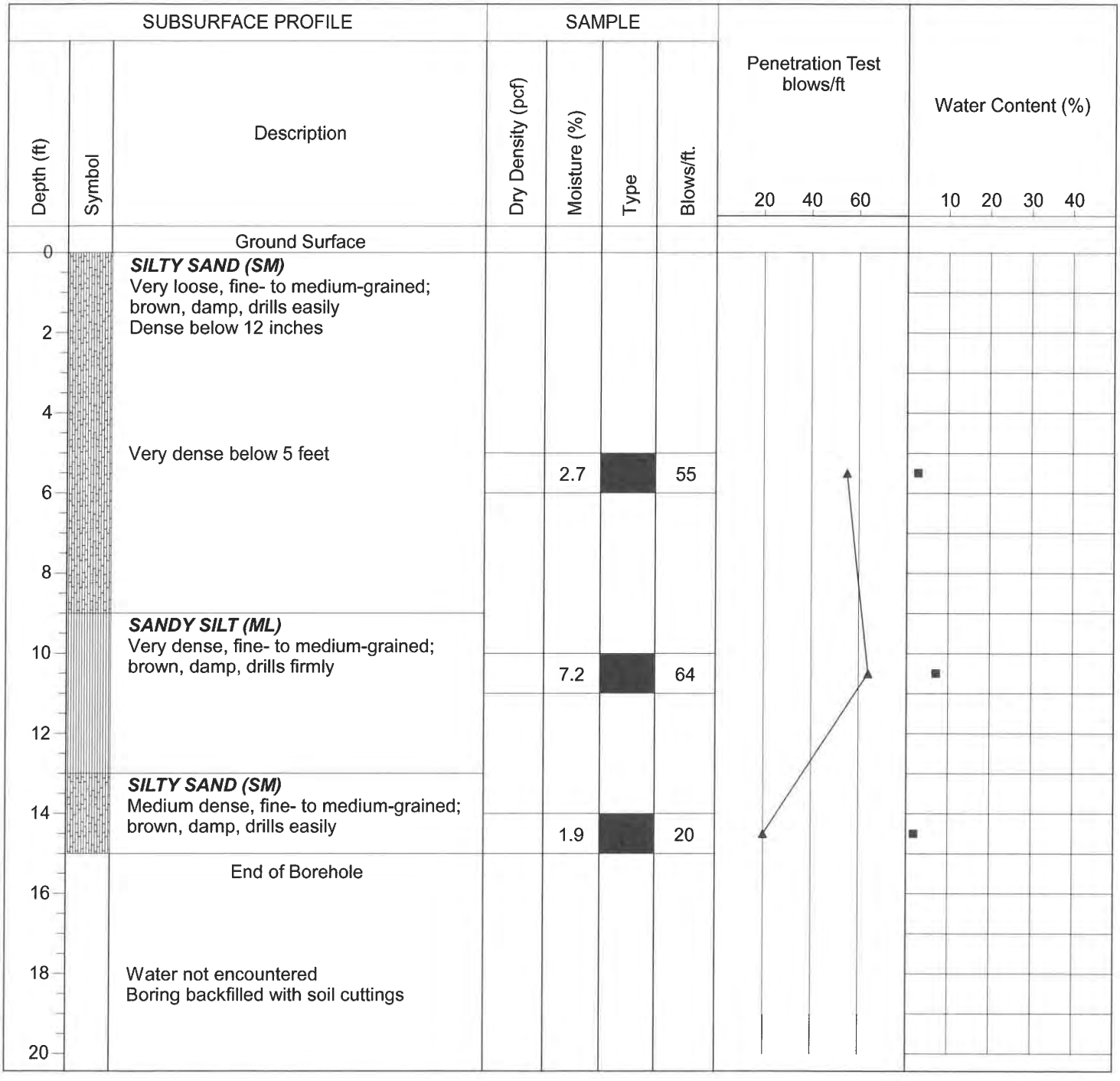
Client: Wood Investments

Figure No.: A-17

Location: 19439 Bear Valley Road, Apple Valley, California

Logged By: Angel Menchaca

Depth to Water> Not Encountered **Initial:** N/A **At Completion:** N/A



Drill Method: Hollow Stem

Drill Date: 7-29-21

Drill Rig: CME 75

Krazan and Associates

Hole Size: 5½ Inches

Driller: Whitcomb Drilling, Inc.

Elevation: 15 Feet

Sheet: 1 of 1

Log of Boring B18

Project: Retail Center

Project No: 112-21076

Client: Wood Investments

Figure No.: A-18

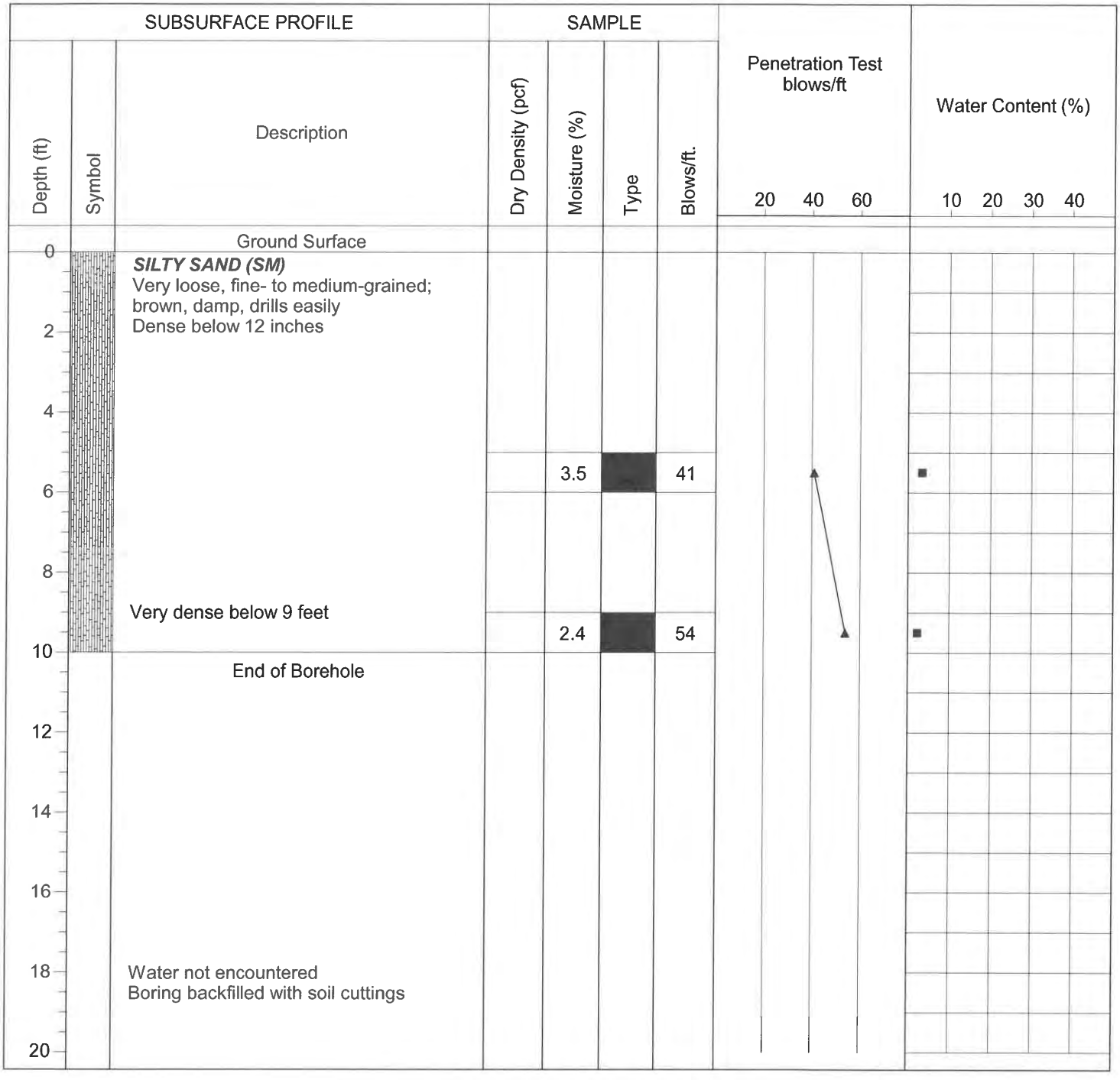
Location: 19439 Bear Valley Road, Apple Valley, California

Logged By: Angel Menchaca

Depth to Water> Not Encountered

Initial: N/A

At Completion: N/A



Drill Method: Hollow Stem

Drill Date: 7-29-21

Drill Rig: CME 75

Krazan and Associates

Hole Size: 5½ Inches

Driller: Whitcomb Drilling, Inc.

Elevation: 10 Feet

Sheet: 1 of 1

Log of Boring B19

Project: Retail Center

Project No: 112-21076

Client: Wood Investments

Figure No.: A-19

Location: 19439 Bear Valley Road, Apple Valley, California

Logged By: Angel Menchaca

Depth to Water> Not Encountered

Initial: N/A

At Completion: N/A

Depth (ft)	Symbol	Description	Dry Density (pcf)	Moisture (%)	Type	Blows/ft.	Penetration Test blows/ft (20 40 60)	Water Content (%) (10 20 30 40)
0		Ground Surface						
0		***SILTY SAND (SM)*** Very loose, fine- to medium-grained; brown, damp, drills easily						
2		Medium dense below 12 inches						
4								
6				4.0		22		■
8								
9		Very dense below 9 feet		4.3		46		■
10		End of Borehole						
12								
14								
16								
18		Water not encountered Boring backfilled with soil cuttings						
20								

Drill Method: Hollow Stem

Drill Date: 7-29-21

Drill Rig: CME 75

Krazan and Associates

Hole Size: 5½ Inches

Driller: Whitcomb Drilling, Inc.

Elevation: 10 Feet

Sheet: 1 of 1

Log of Boring B20

Project: Retail Center

Project No: 112-21076

Client: Wood Investments

Figure No.: A-20

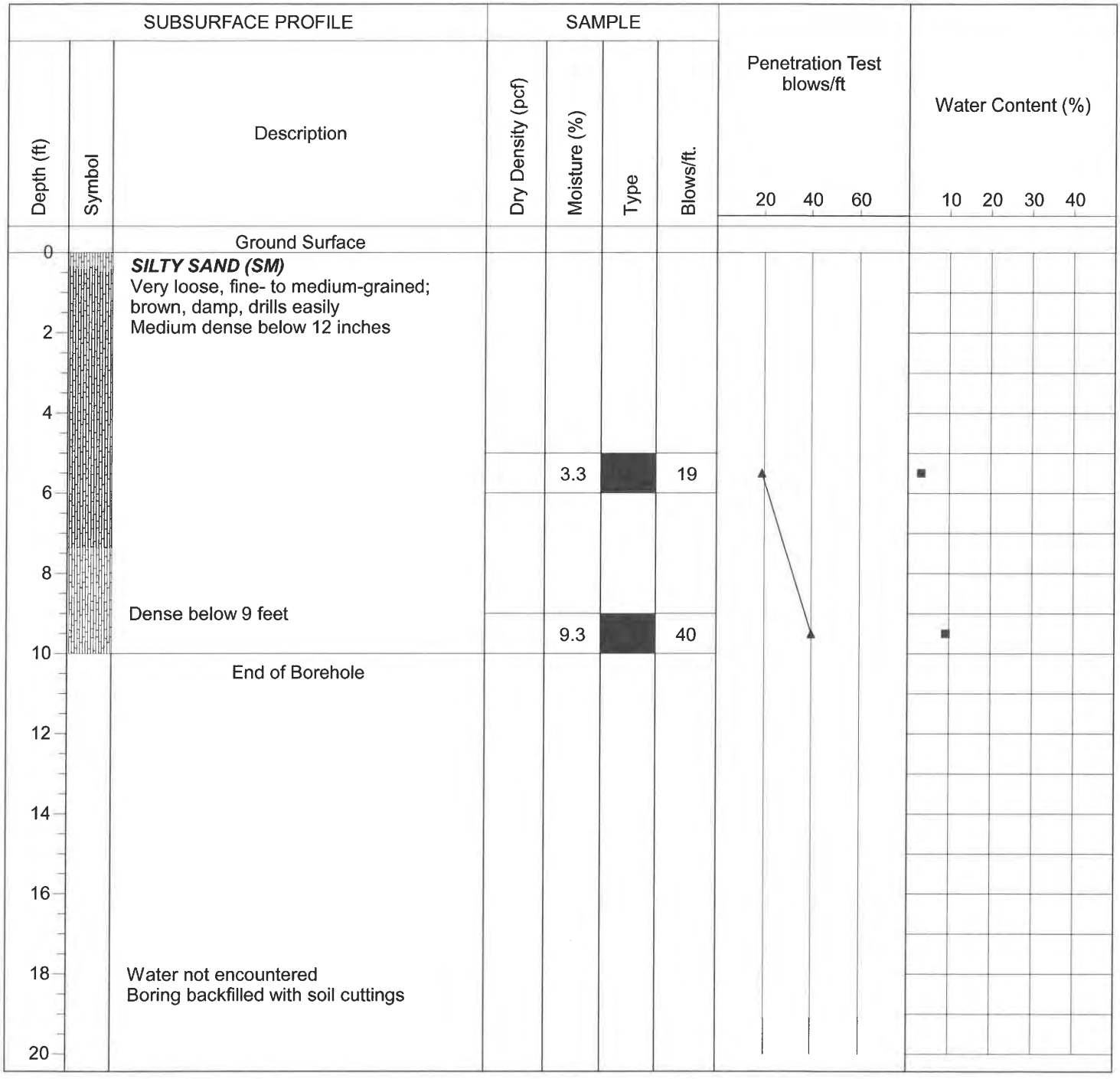
Location: 19439 Bear Valley Road, Apple Valley, California

Logged By: Angel Menchaca

Depth to Water> Not Encountered

Initial: N/A

At Completion: N/A



Drill Method: Hollow Stem

Drill Date: 7-29-21

Drill Rig: CME 75

Krazan and Associates

Hole Size: 5½ Inches

Driller: Whitcomb Drilling, Inc.

Elevation: 10 Feet

Log of Boring B21

Project: Retail Center

Project No: 112-21076

Client: Wood Investments

Figure No.: A-21

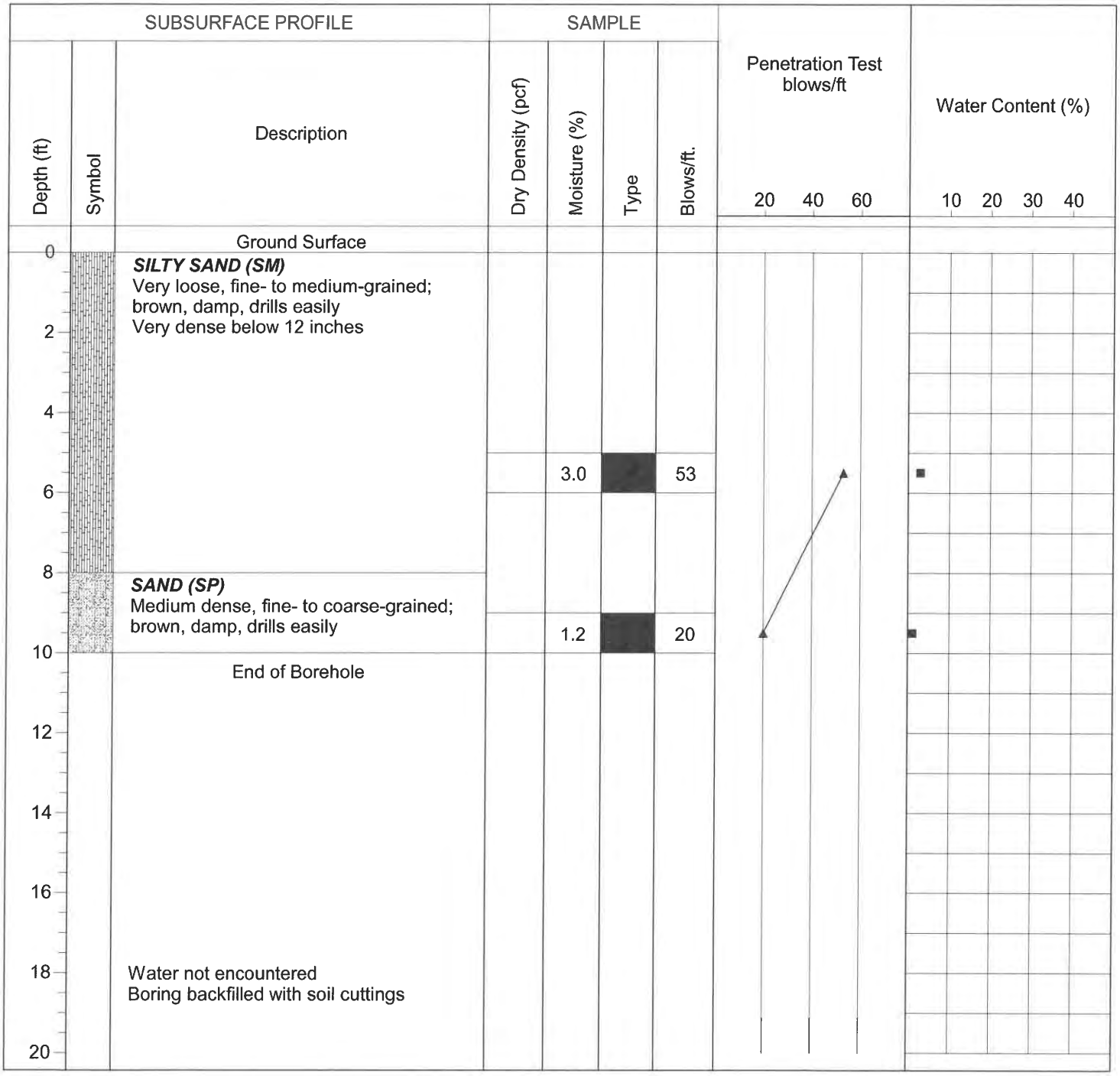
Location: 19439 Bear Valley Road, Apple Valley, California

Logged By: Angel Menchaca

Depth to Water> Not Encountered

Initial: N/A

At Completion: N/A



Drill Method: Hollow Stem

Drill Date: 7-29-21

Drill Rig: CME 75

Krazan and Associates

Hole Size: 5½ Inches

Driller: Whitcomb Drilling, Inc.

Elevation: 10 Feet

Sheet: 1 of 1

Log of Boring B22

Project: Retail Center

Project No: 112-21076

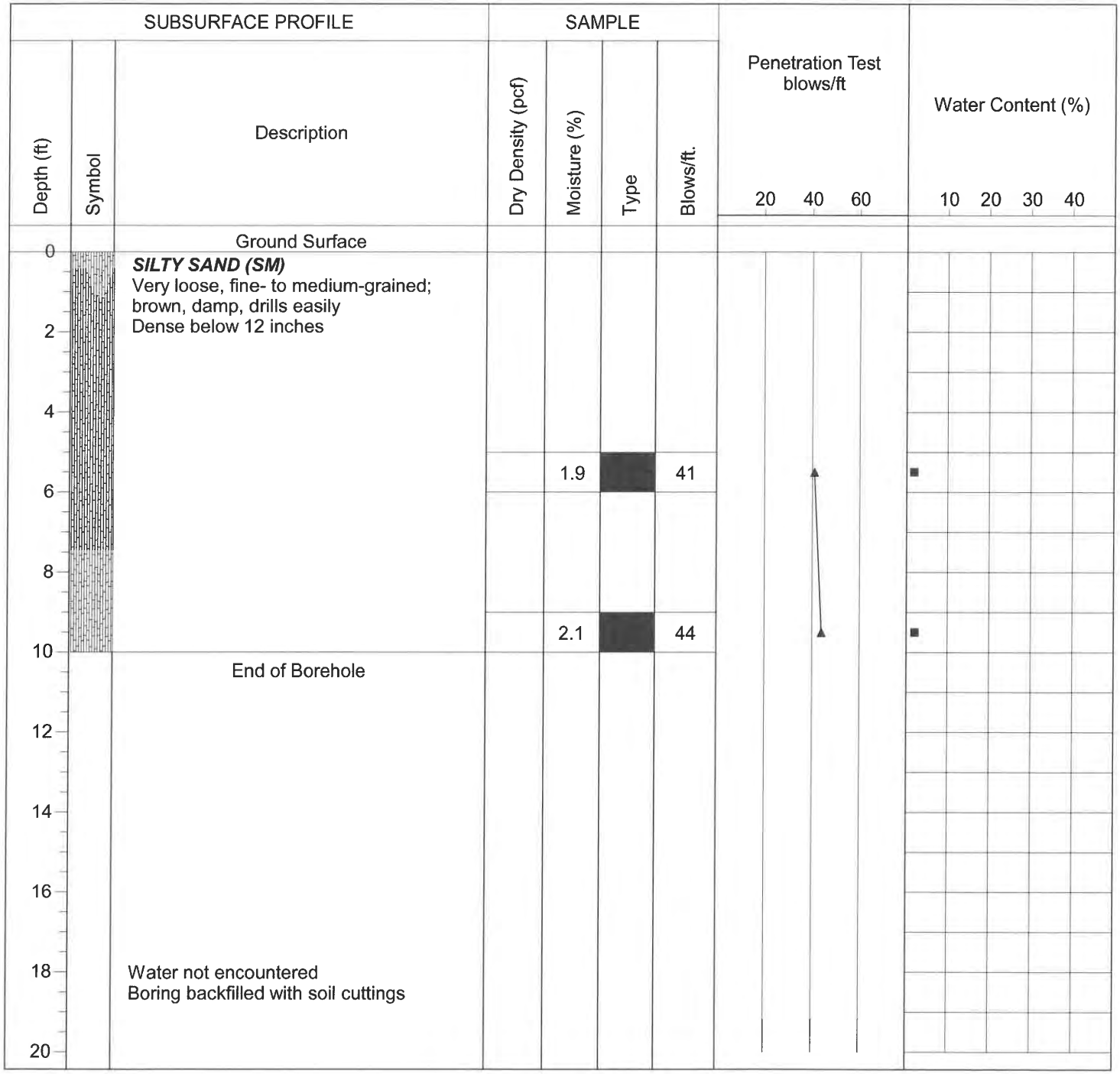
Client: Wood Investments

Figure No.: A-22

Location: 19439 Bear Valley Road, Apple Valley, California

Logged By: Angel Menchaca

Depth to Water> Not Encountered **Initial:** N/A **At Completion:** N/A



Drill Method: Hollow Stem

Drill Date: 7-29-21

Drill Rig: CME 75

Krazan and Associates

Hole Size: 5½ Inches

Driller: Whitcomb Drilling, Inc.

Elevation: 10 Feet

Sheet: 1 of 1

Log of Boring B23

Project: Retail Center

Project No: 112-21076

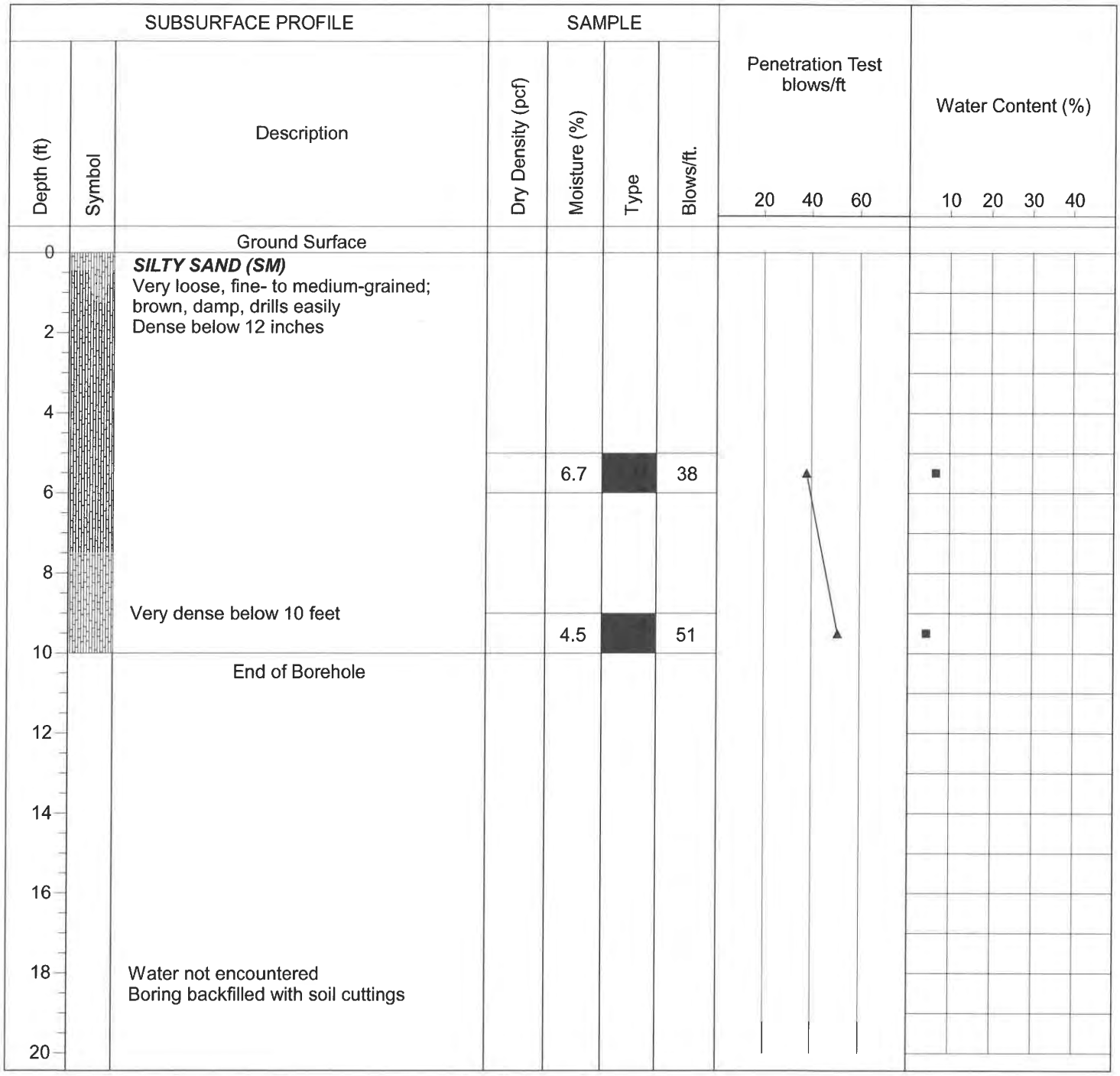
Client: Wood Investments

Figure No.: A-23

Location: 19439 Bear Valley Road, Apple Valley, California

Logged By: Angel Menchaca

Depth to Water> Not Encountered **Initial:** N/A **At Completion:** N/A



Drill Method: Hollow Stem

Drill Date: 7-29-21

Drill Rig: CME 75

Krazan and Associates

Hole Size: 5½ Inches

Driller: Whitcomb Drilling, Inc.

Elevation: 10 Feet

Sheet: 1 of 1

Log of Boring B24

Project: Retail Center

Project No: 112-21076

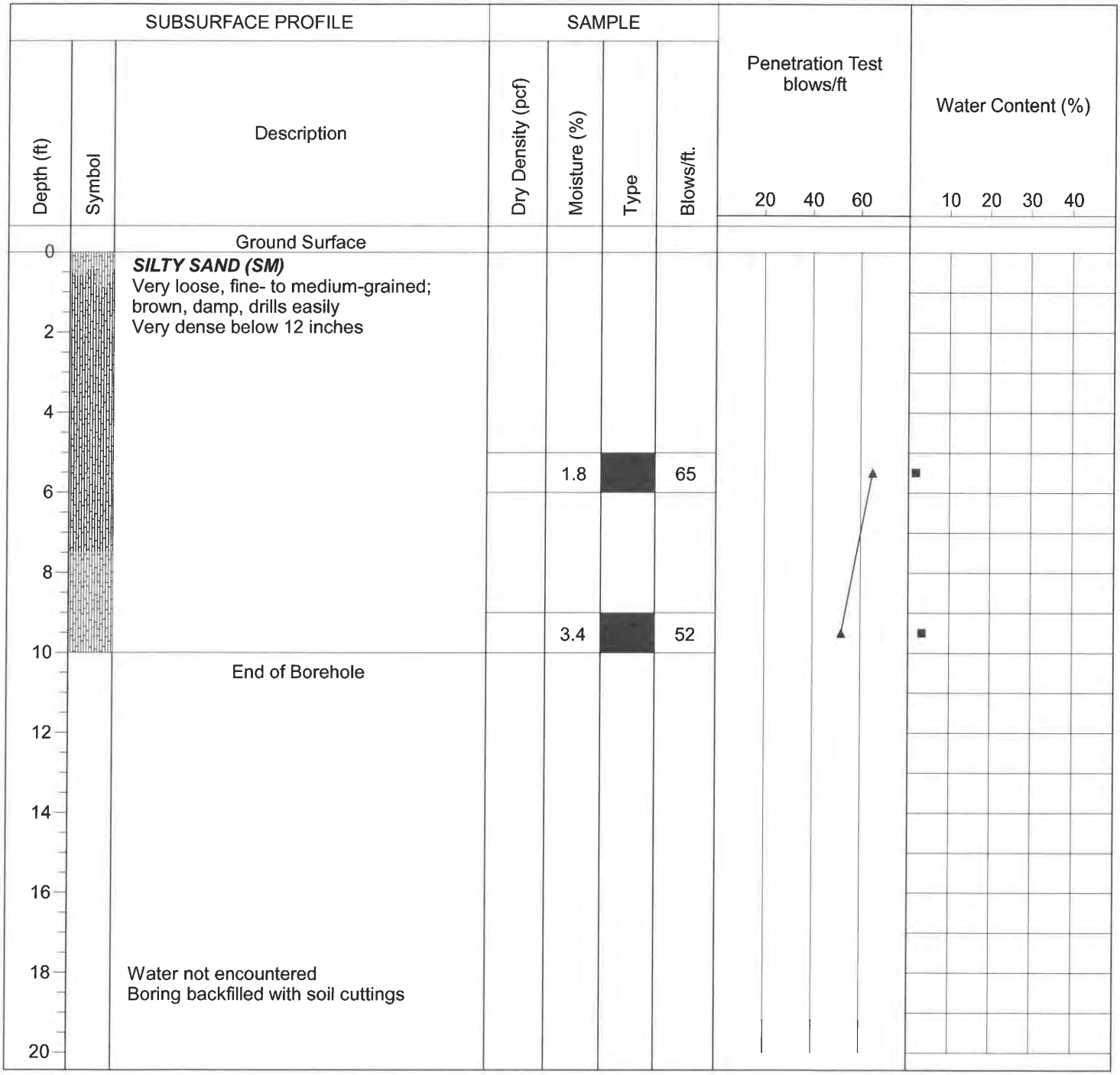
Client: Wood Investments

Figure No.: A-24

Location: 19439 Bear Valley Road, Apple Valley, California

Logged By: Angel Menchaca

Depth to Water> Not Encountered **Initial:** N/A **At Completion:** N/A



Drill Method: Hollow Stem

Drill Date: 7-29-21

Drill Rig: CME 75

Krazan and Associates

Hole Size: 5½ Inches

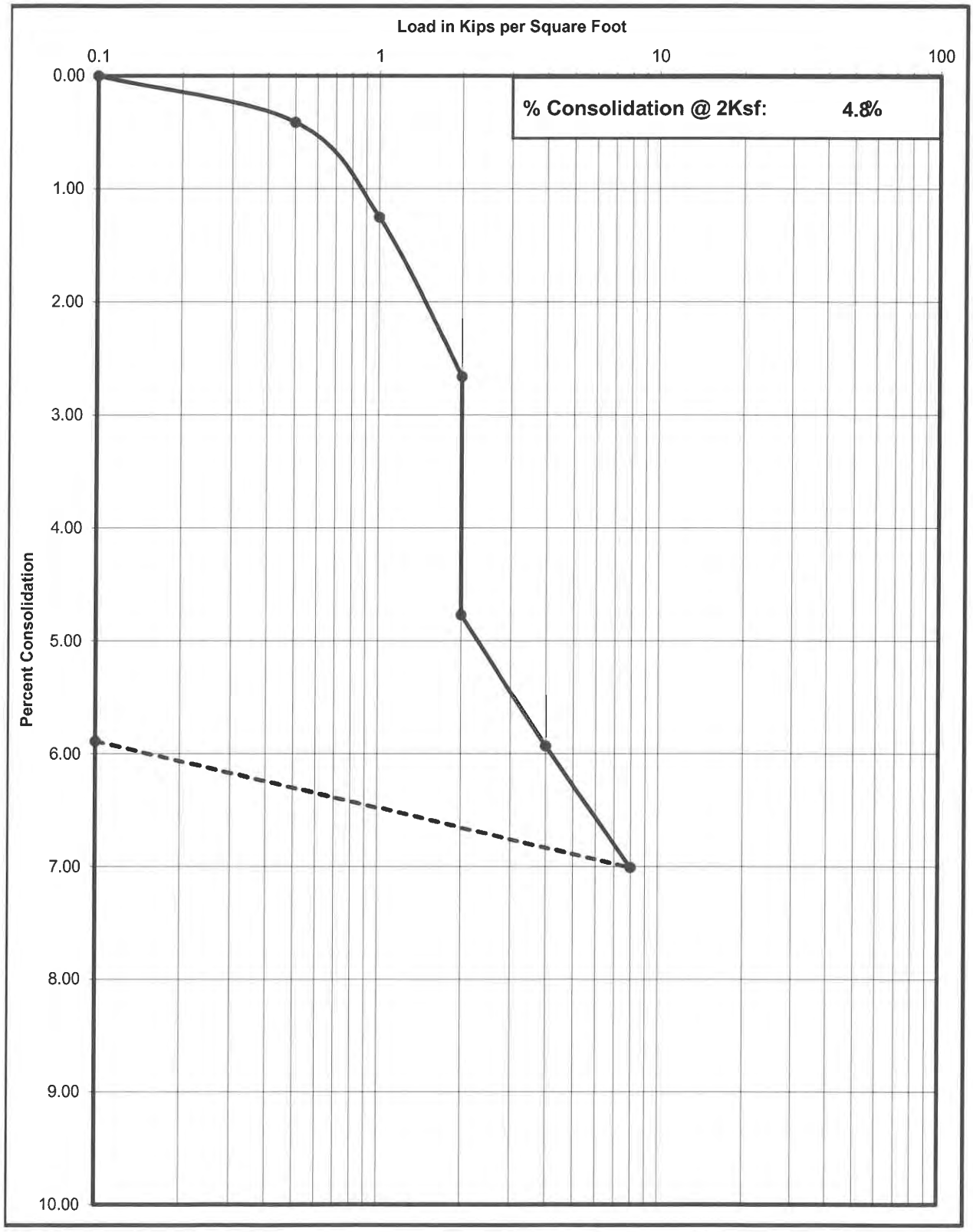
Driller: Whitcomb Drilling, Inc.

Elevation: 10 Feet

Sheet: 1 of 1

Consolidation Test

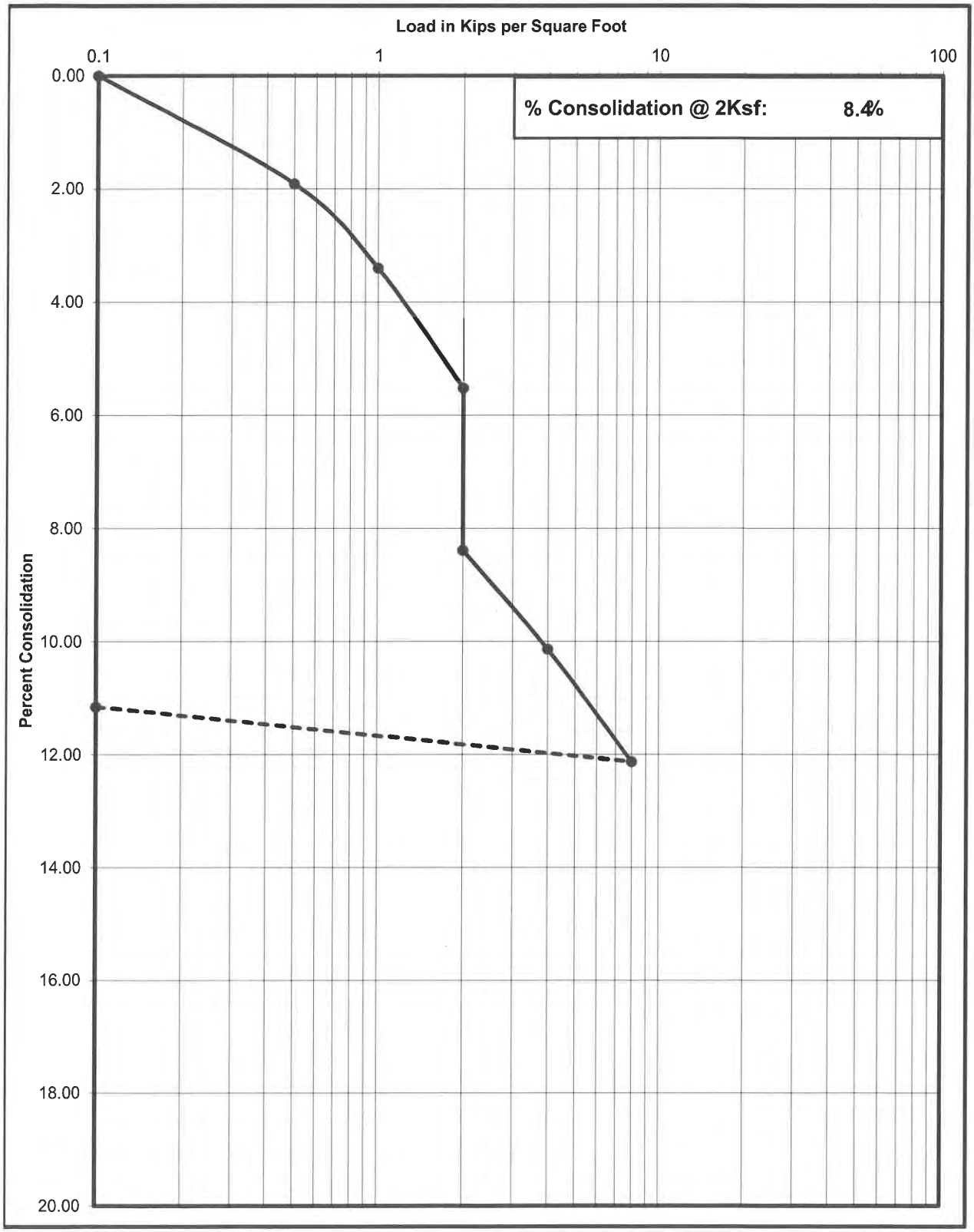
Project No	Boring No. & Depth	Date	Soil Classification
11221076	B-1 @ 2'	8/10/2021	SP



Krazan Testing Laboratory

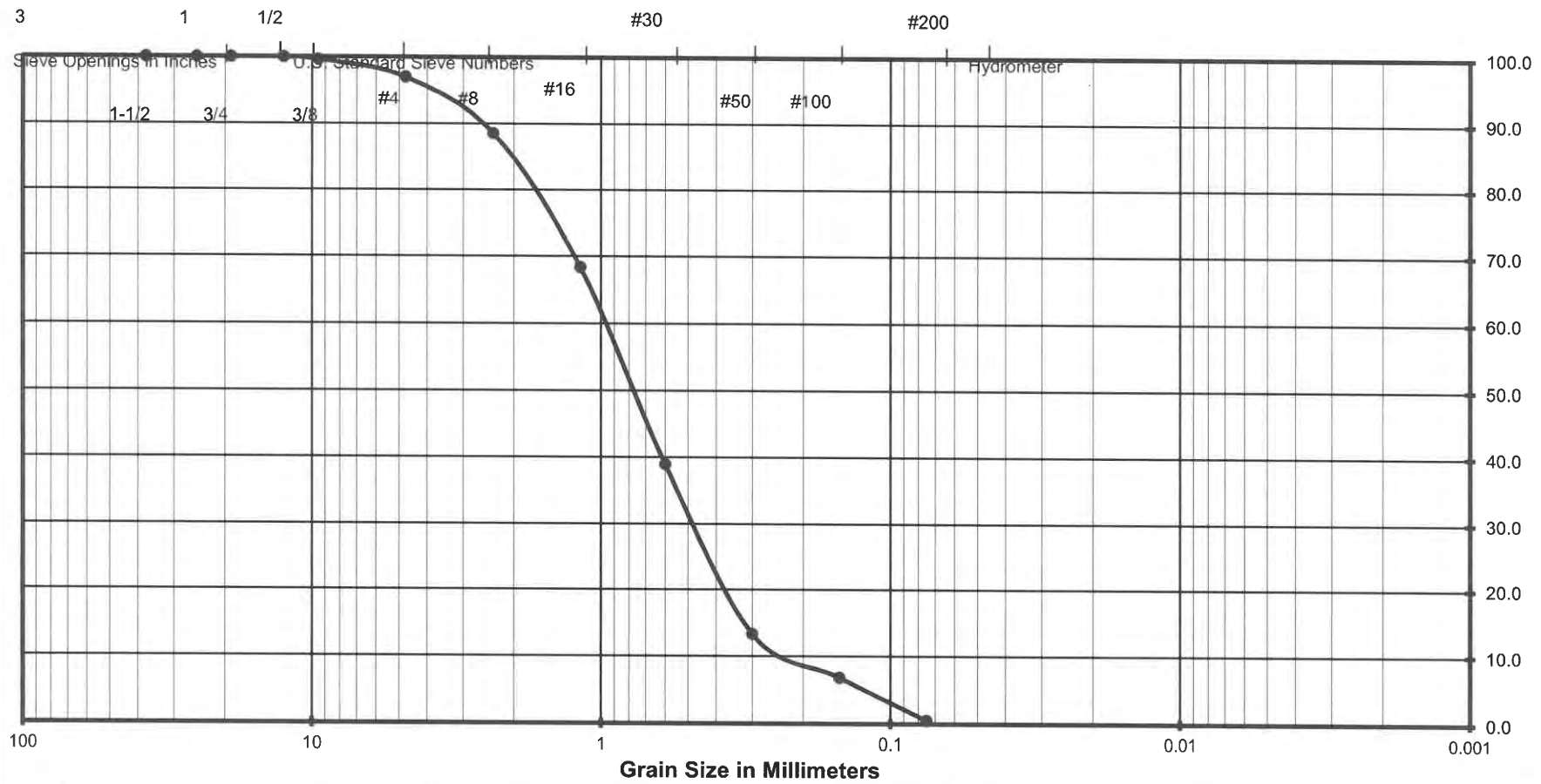
Consolidation Test

Project No	Boring No. & Depth	Date	Soil Classification
11221076	B-16 @ 2'	8/10/2021	SM



Krazan Testing Laboratory

Grain Size Analysis



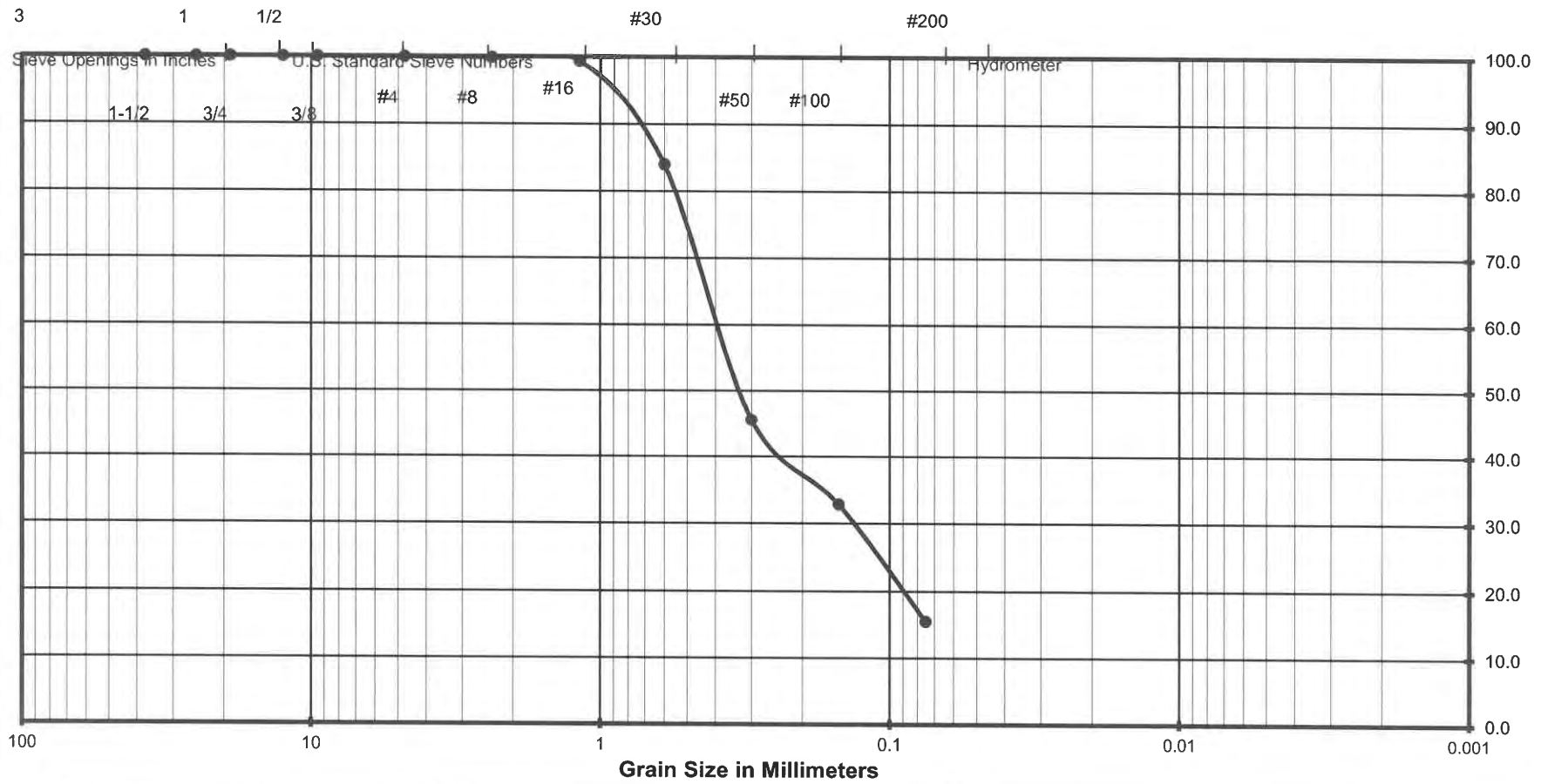
Gravel		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

(Unified Soils Classification)

Project Name	Apple Bear Retail Center
Project Number	11221076
Soil Classification	SP
Sample Number	B-1 @ 2'

Krazan Testing Laboratory

Grain Size Analysis



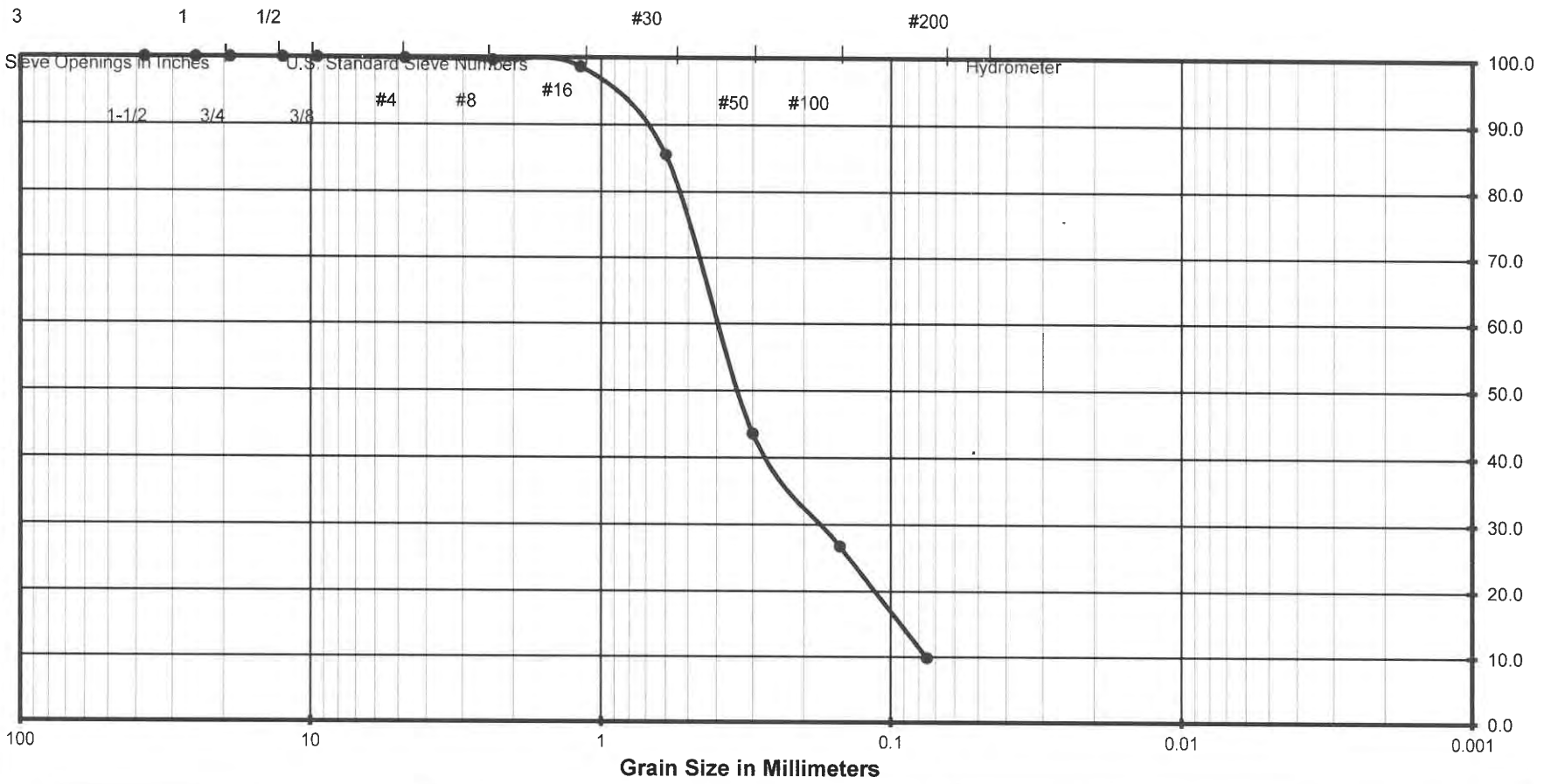
Gravel		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

(Unified Soils Classification)

Project Name	Apple Bear Retail Center
Project Number	11221076
Soil Classification	SM
Sample Number	B-1 @ 5'

Krazan Testing Laboratory

Grain Size Analysis



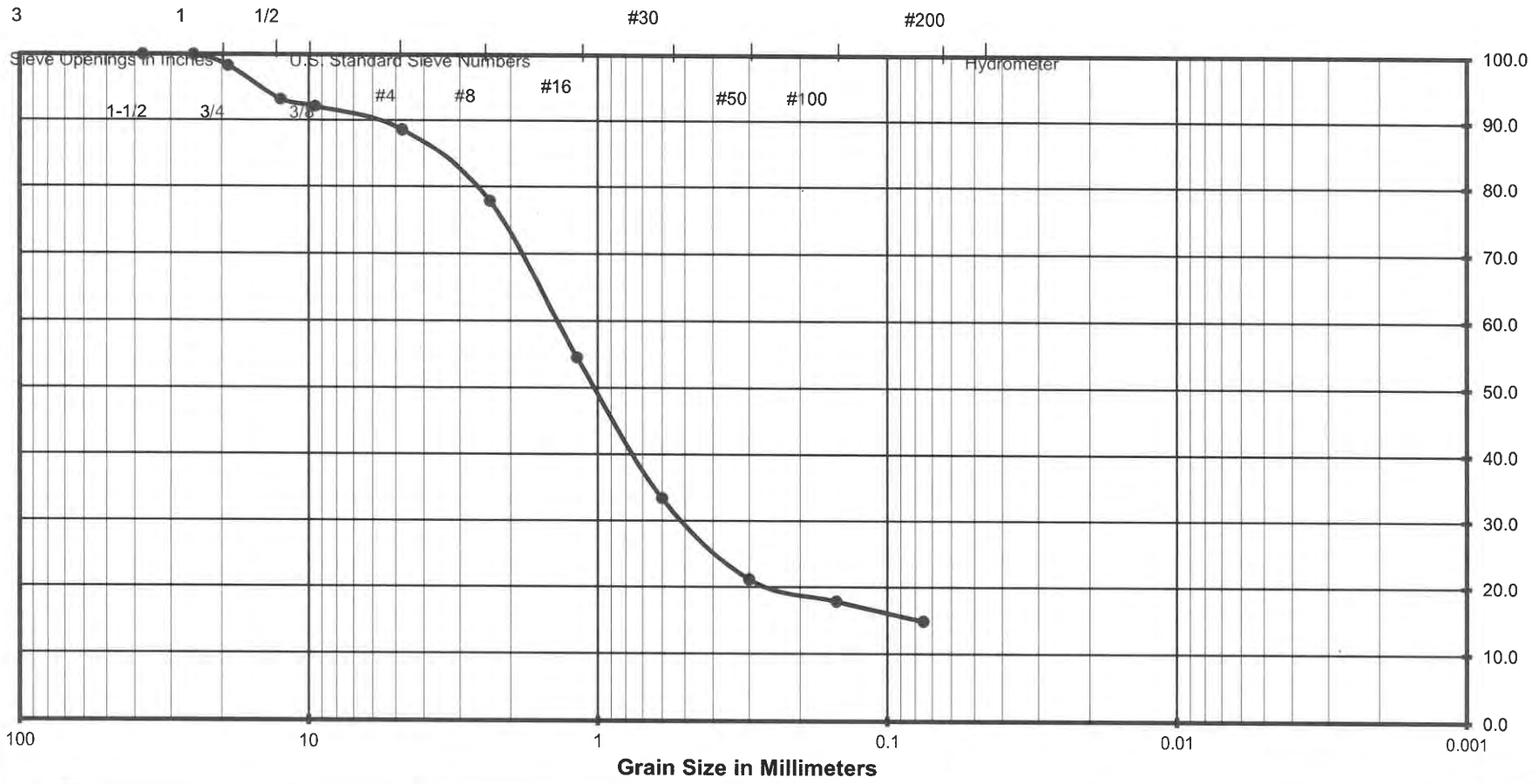
Gravel		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

(Unified Soils Classification)

Project Name	Apple Bear Retail Center
Project Number	11221076
Soil Classification	SM-SP
Sample Number	B-1 @ 15'

Krazan Testing Laboratory

Grain Size Analysis



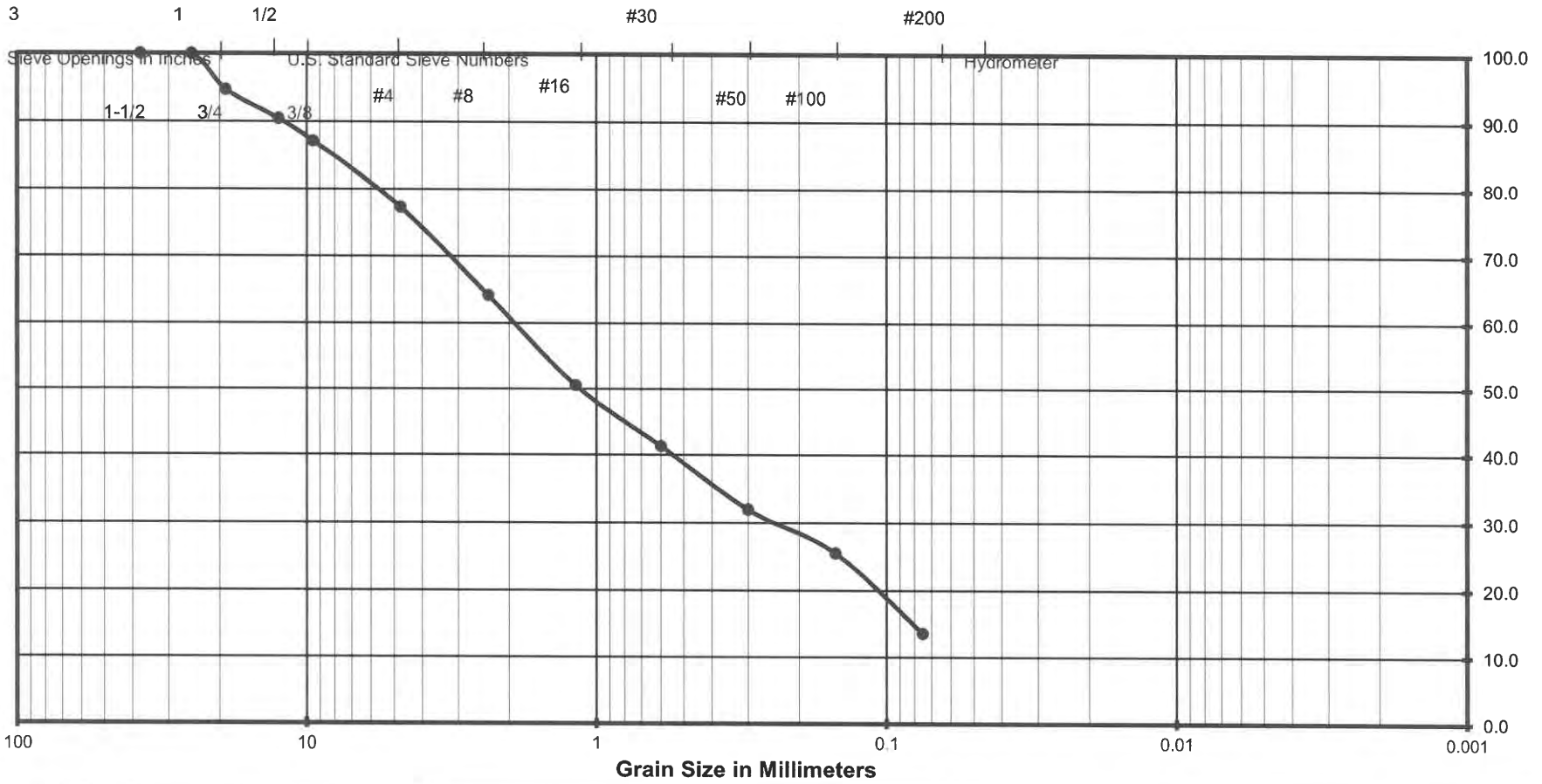
Gravel		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

(Unified Soils Classification)

Project Name	Apple Bear Retail Center
Project Number	11221076
Soil Classification	SM
Sample Number	B-1 @ 20'

Krazan Testing Laboratory

Grain Size Analysis



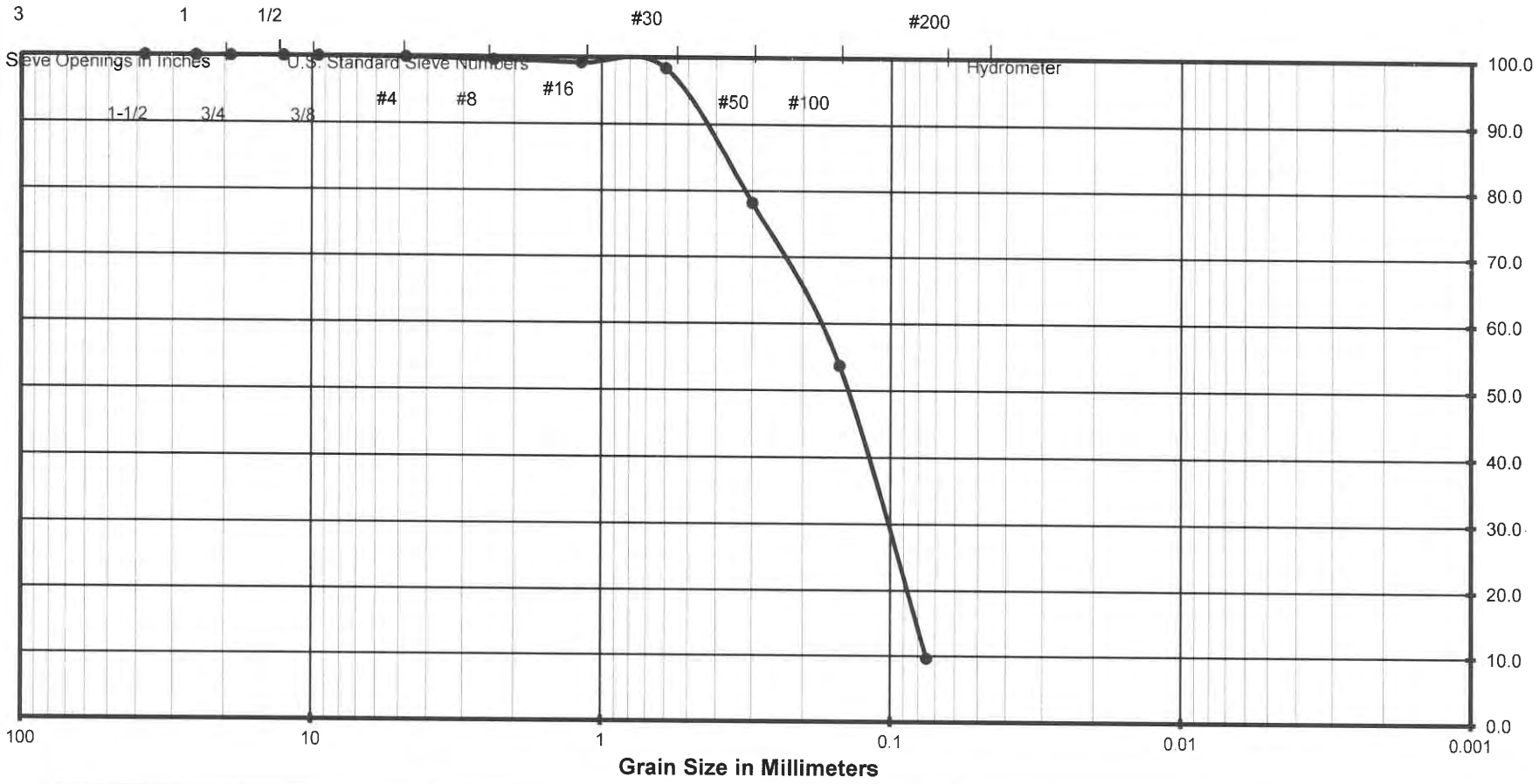
Gravel		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

(Unified Soils Classification)

Project Name	Apple Bear Retail Center
Project Number	11221076
Soil Classification	SM
Sample Number	B-1 @ 25'

Krazan Testing Laboratory

Grain Size Analysis



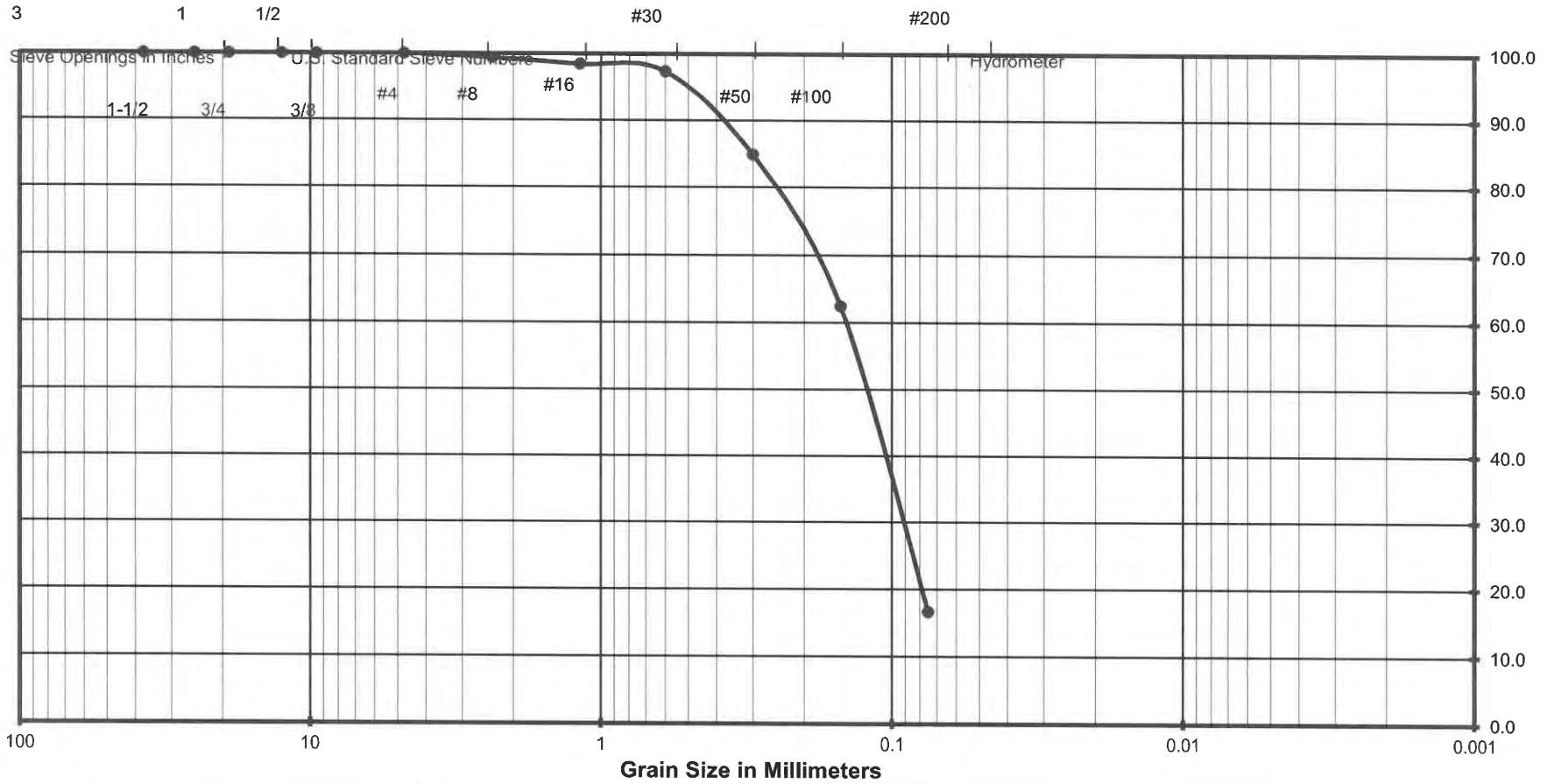
Gravel		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

(Unified Soils Classification)

Project Name	Apple Bear Retail Center
Project Number	11221076
Soil Classification	SM-SP
Sample Number	B-1 @ 30'

Krazan Testing Laboratory

Grain Size Analysis



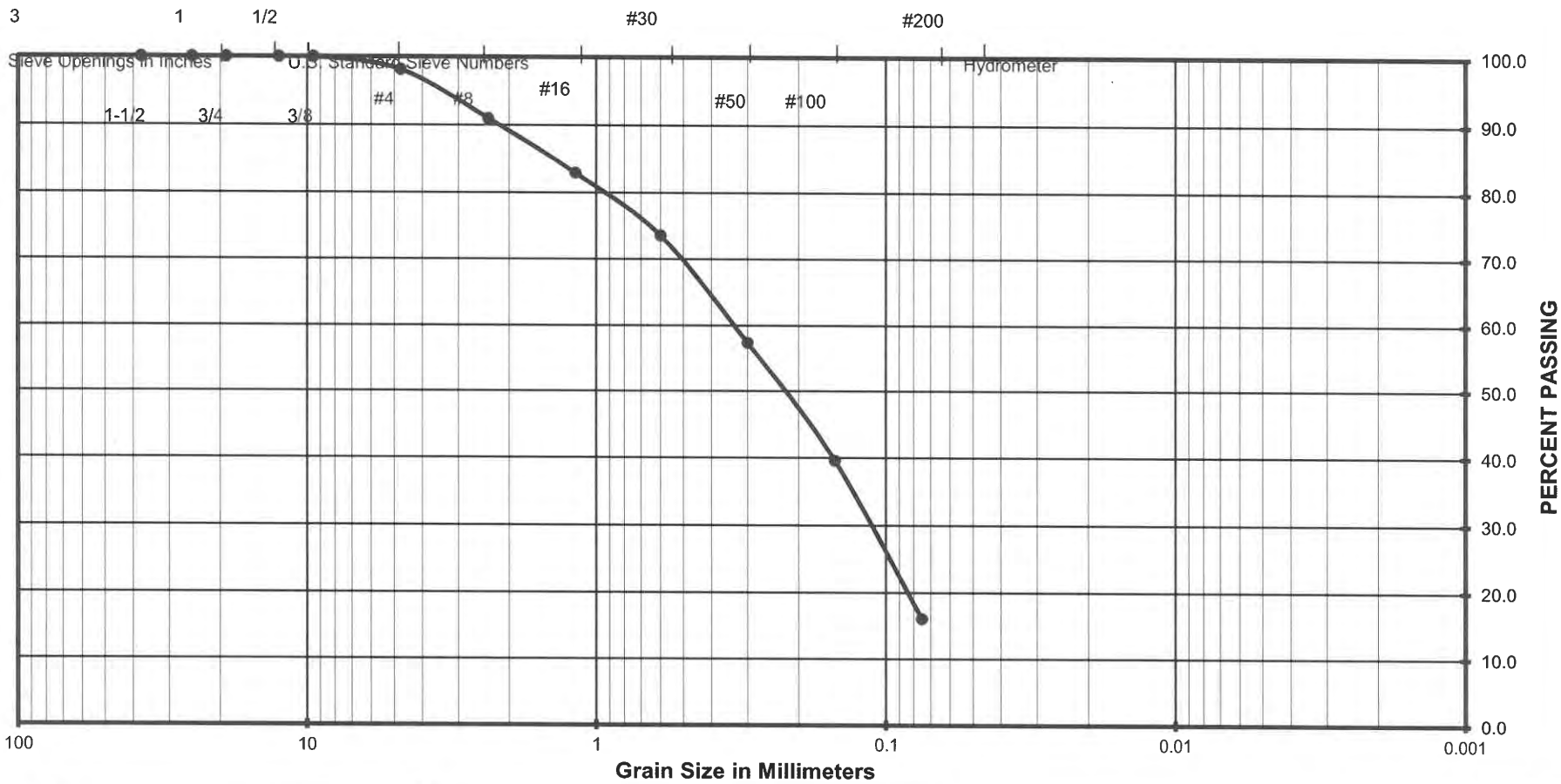
Gravel		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

(Unified Soils Classification)

Project Name	Apple Bear Retail Center
Project Number	11221076
Soil Classification	SM
Sample Number	B-1 @ 35'

Krazan Testing Laboratory

Grain Size Analysis



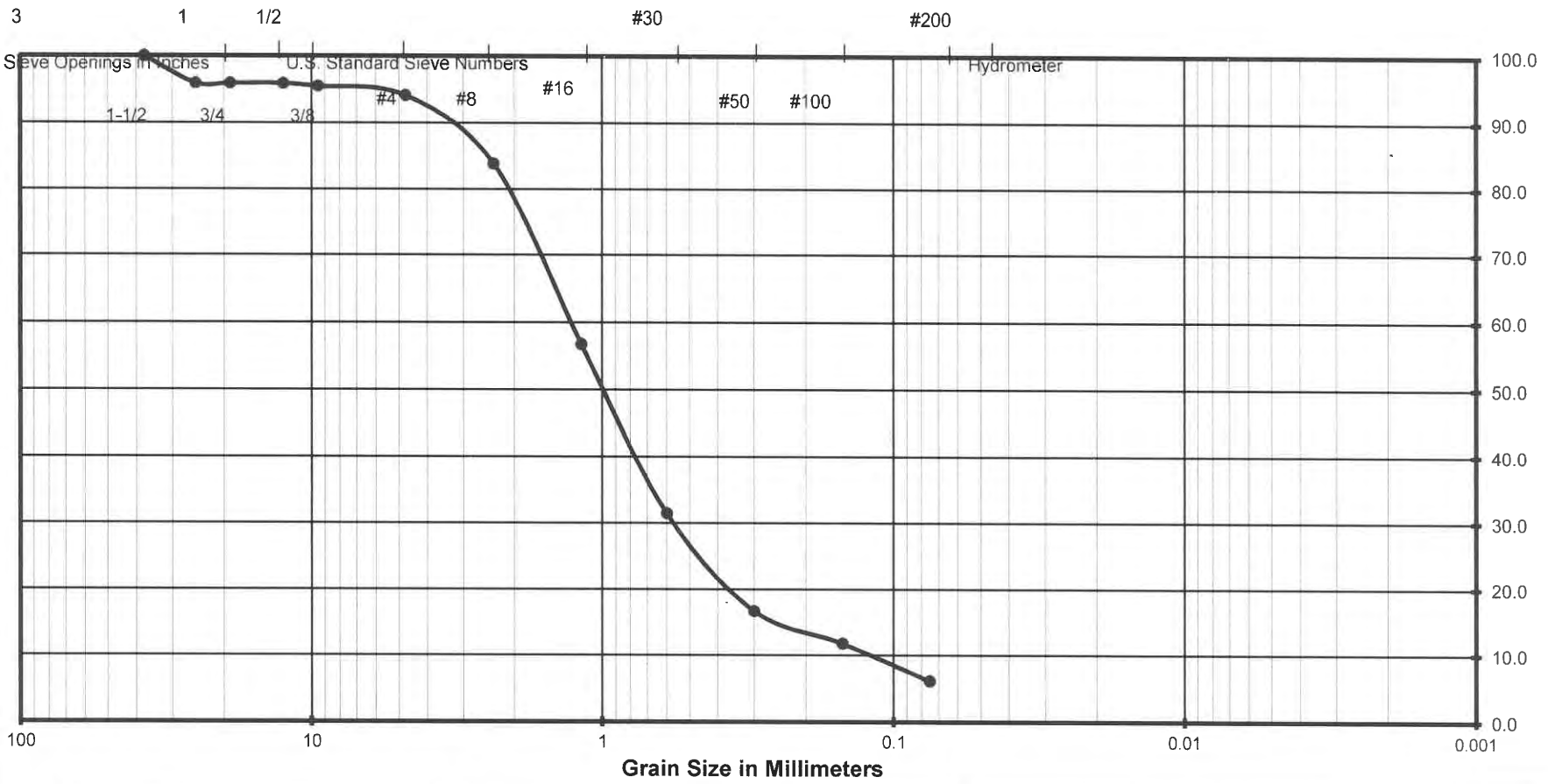
Gravel		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

(Unified Soils Classification)

Project Name	Apple Bear Retail Center
Project Number	11221076
Soil Classification	SM
Sample Number	B-1 @ 40'

Krazan Testing Laboratory

Grain Size Analysis



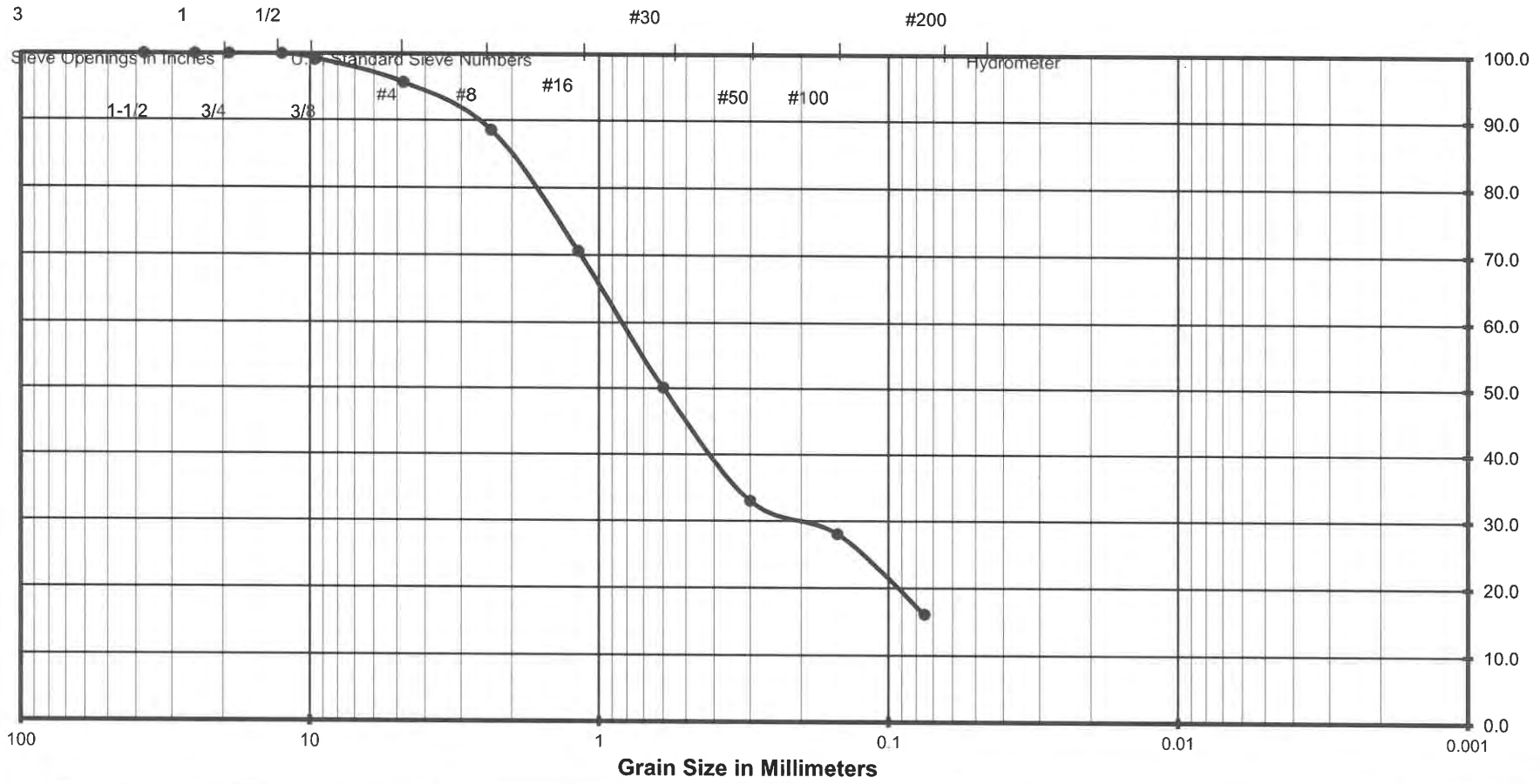
Gravel		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

(Unified Soils Classification)

Project Name	Apple Bear Retail Center
Project Number	11221076
Soil Classification	SM-SP
Sample Number	B-1 @ 45'

Krazan Testing Laboratory

Grain Size Analysis

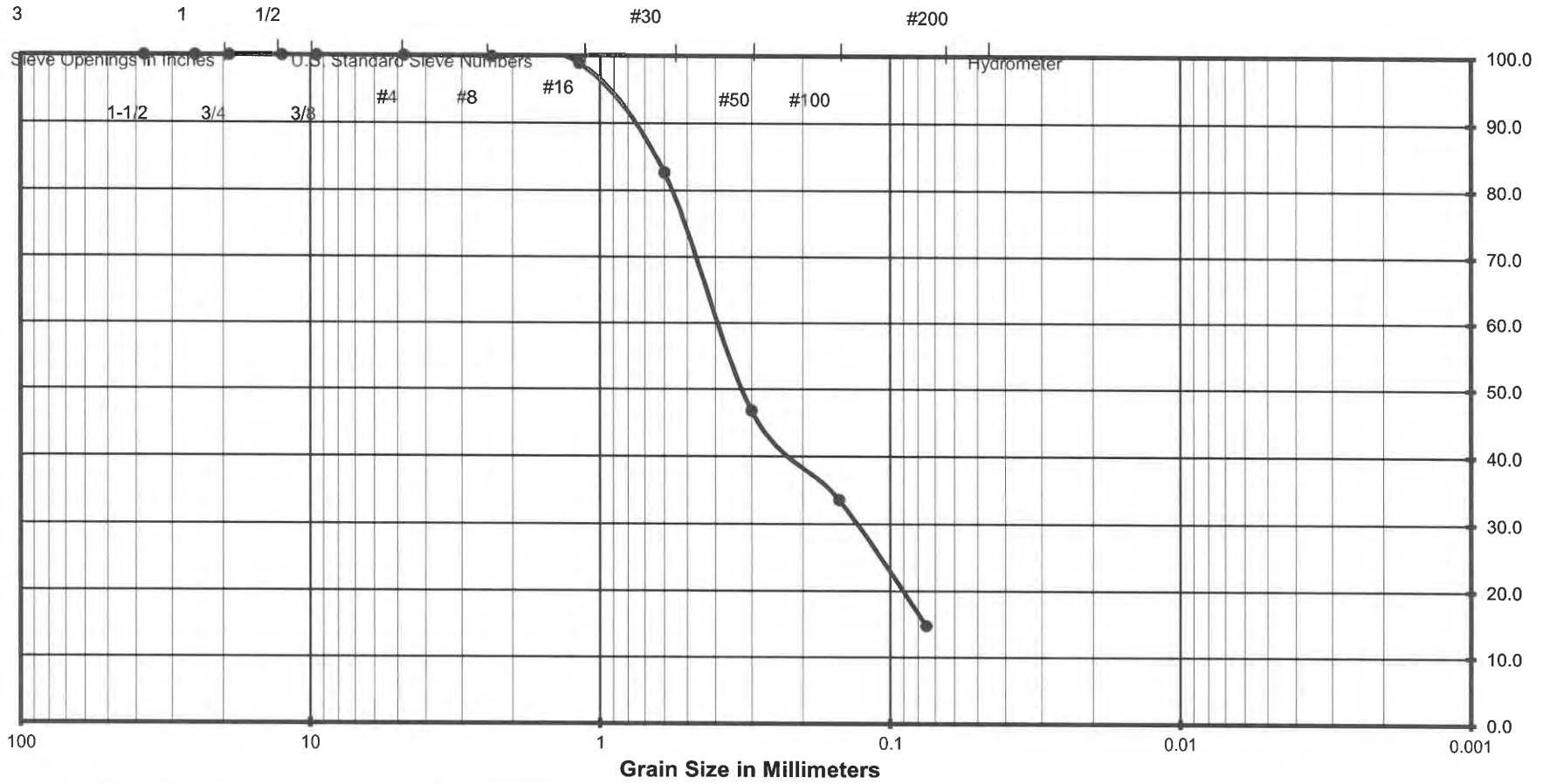


(Unified Soils Classification)

Project Name	Apple Bear Retail Center
Project Number	11221076
Soil Classification	SM
Sample Number	B-1 @ 50'

Krazan Testing Laboratory

Grain Size Analysis



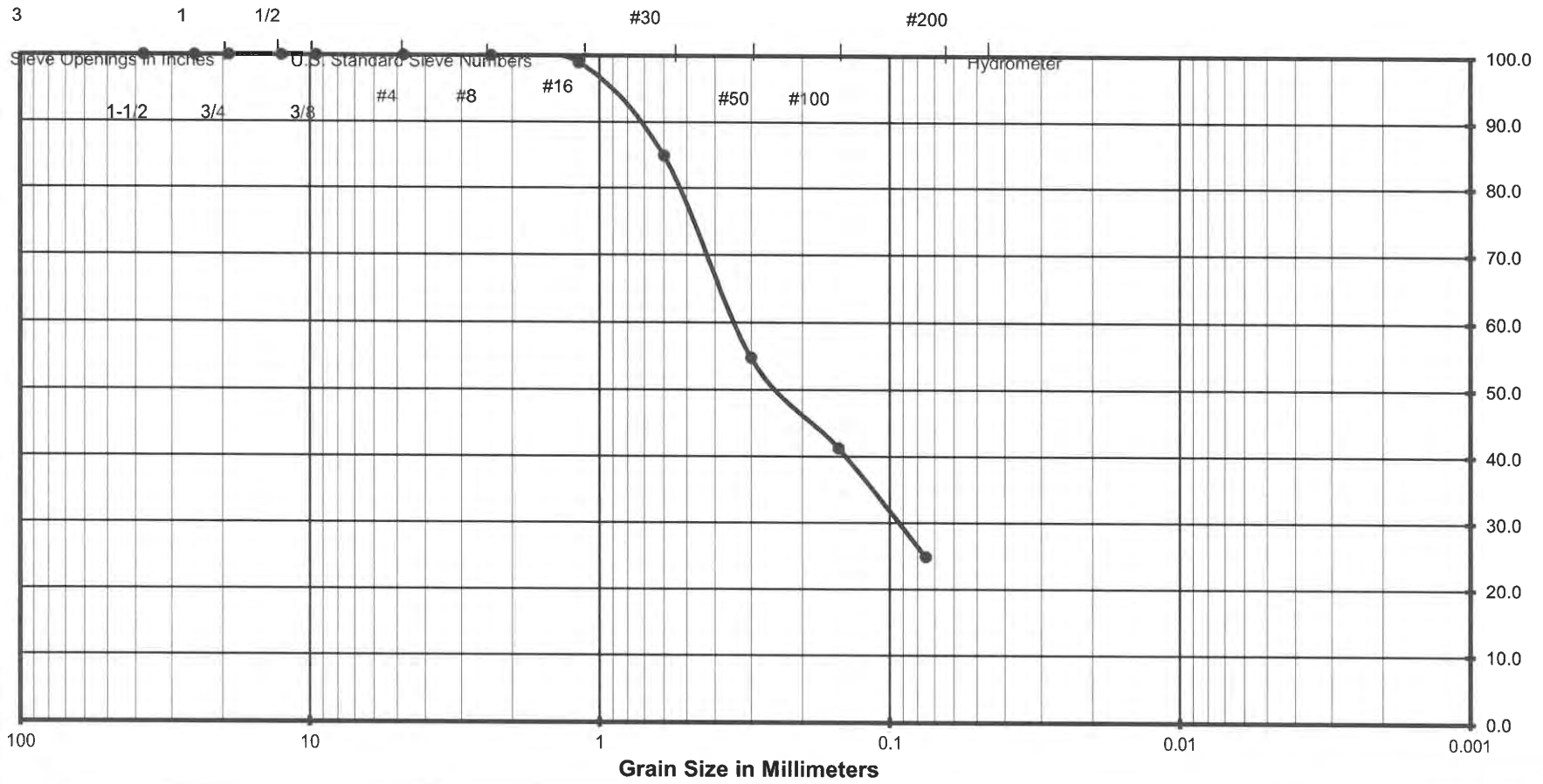
Gravel		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

(Unified Soils Classification)

Project Name	Apple Bear Retail Center
Project Number	11221076
Soil Classification	SM
Sample Number	B-4 @ 5'

Krazan Testing Laboratory

Grain Size Analysis

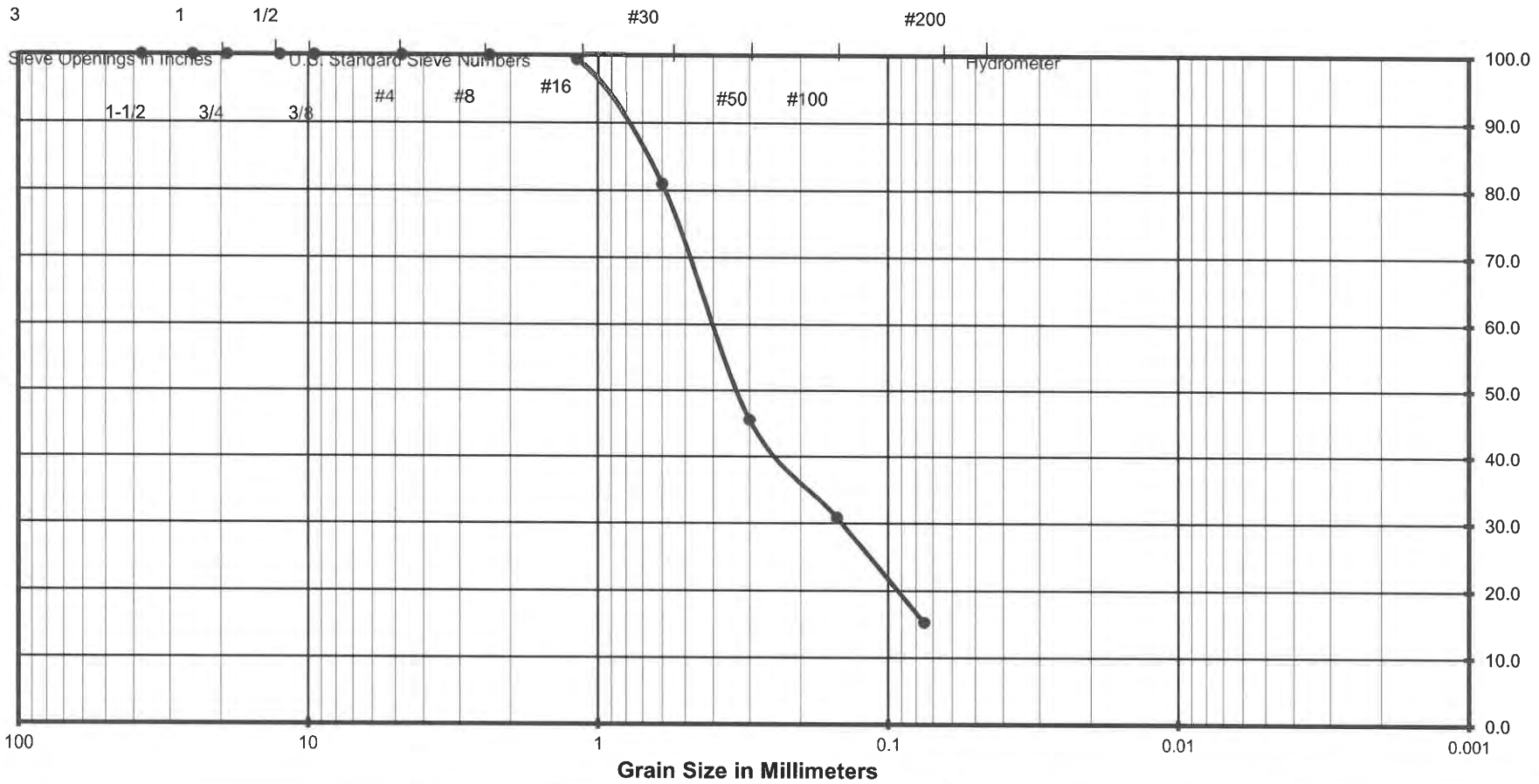


(Unified Soils Classification)

Project Name	Apple Bear Retail Center
Project Number	11221076
Soil Classification	SM
Sample Number	B-4 @ 10'

Krazan Testing Laboratory

Grain Size Analysis



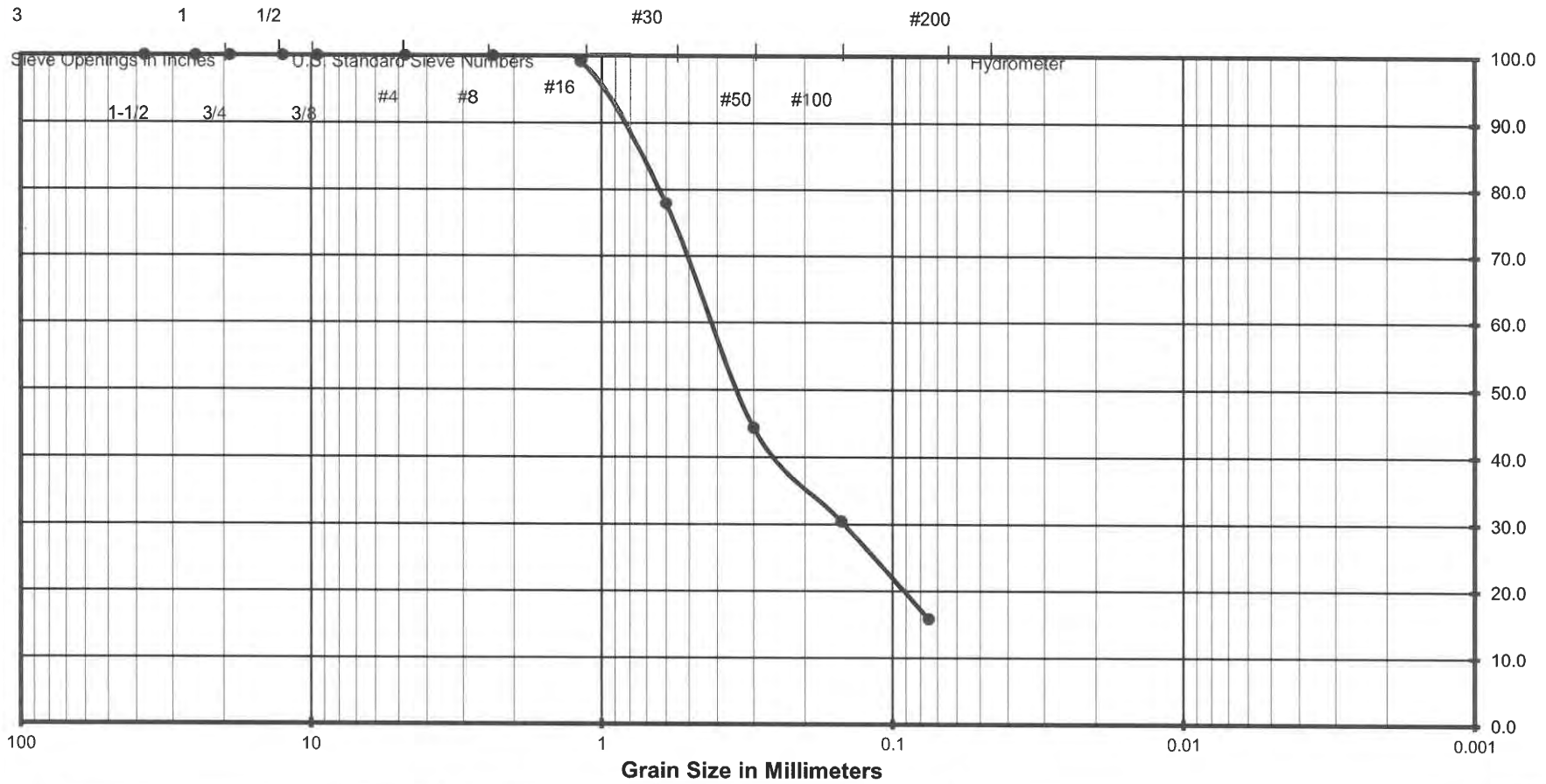
Gravel		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

(Unified Soils Classification)

Project Name	Apple Bear Retail Center
Project Number	11221076
Soil Classification	SM
Sample Number	B-8 @ 2'

Krazan Testing Laboratory

Grain Size Analysis



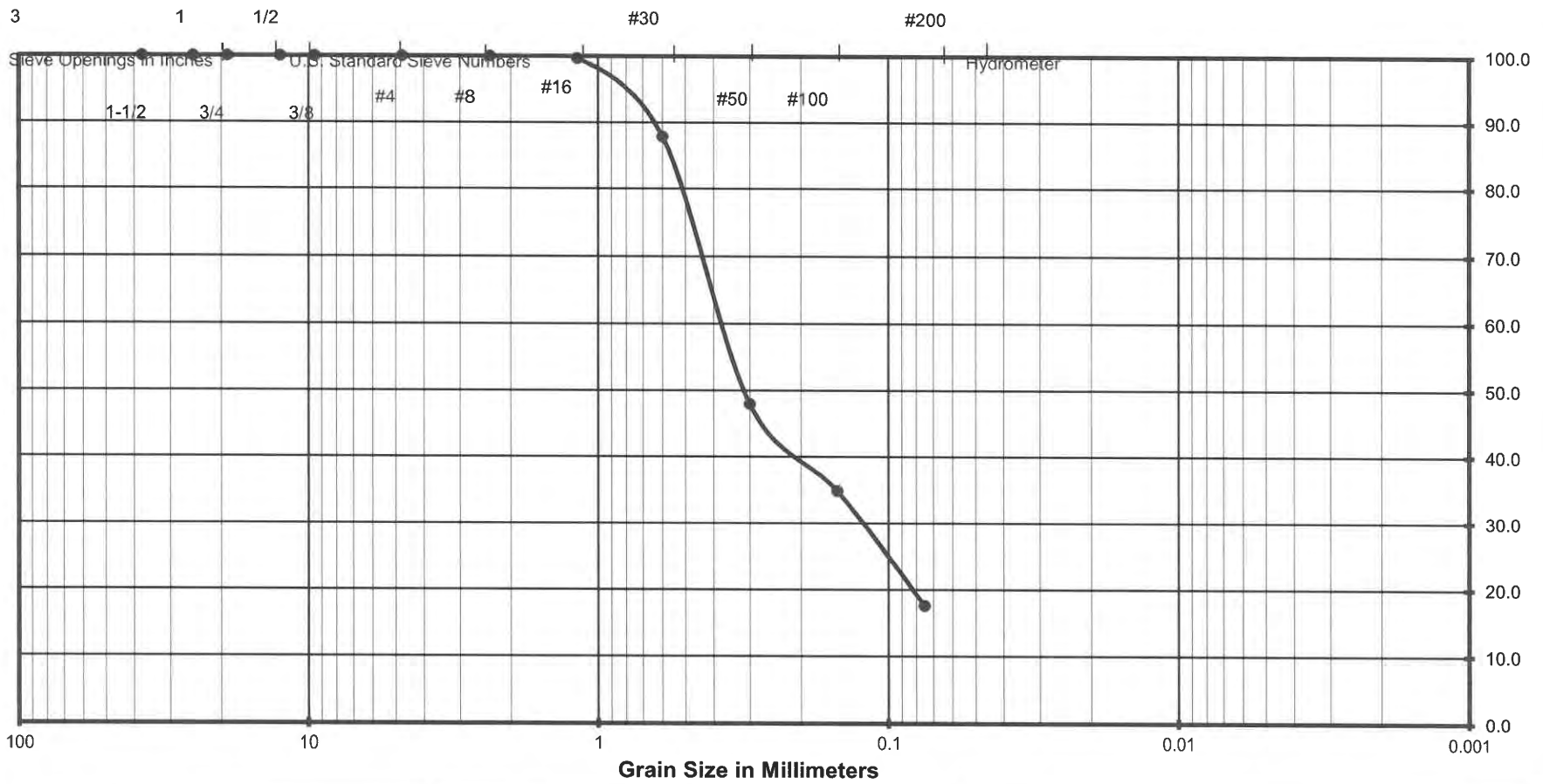
Gravel		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

(Unified Soils Classification)

Project Name	Apple Bear Retail Center
Project Number	11221076
Soil Classification	SM
Sample Number	B-8 @ 5'

Krazan Testing Laboratory

Grain Size Analysis



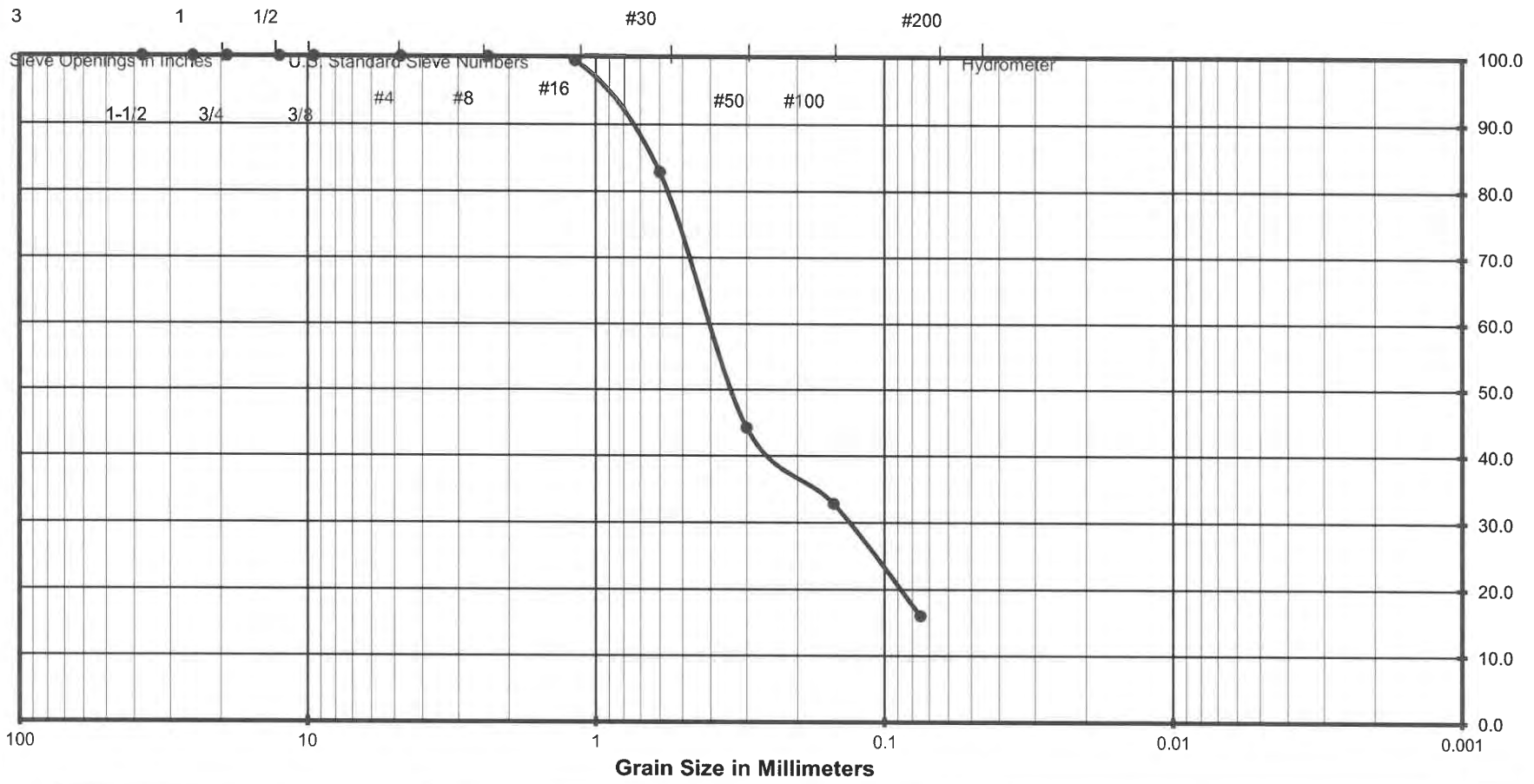
Gravel		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

(Unified Soils Classification)

Project Name	Apple Bear Retail Center
Project Number	11221076
Soil Classification	SM
Sample Number	B-10 @ 2'

Krazan Testing Laboratory

Grain Size Analysis



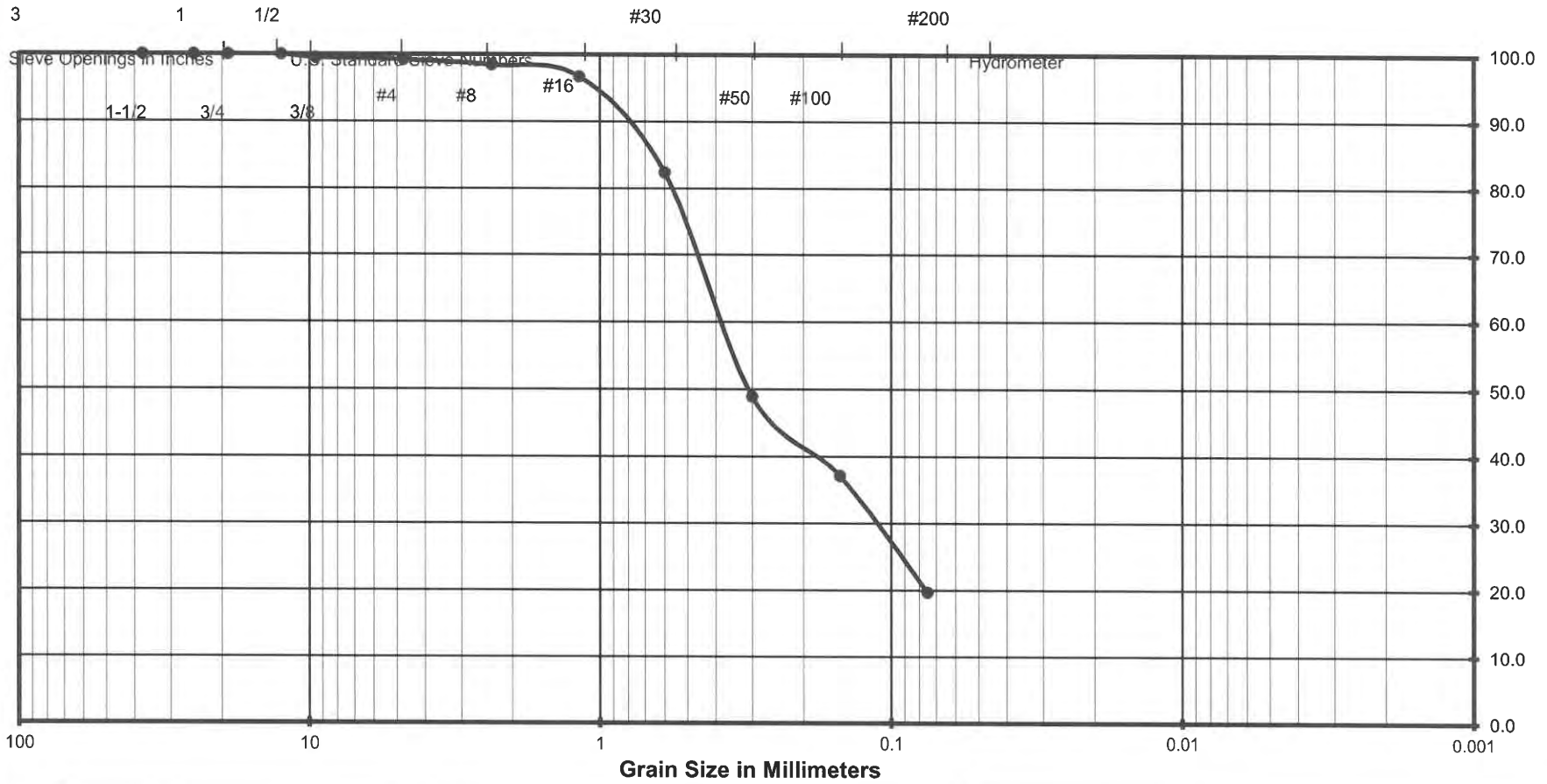
Gravel		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

(Unified Soils Classification)

Project Name	Apple Bear Retail Center
Project Number	11221076
Soil Classification	SM
Sample Number	B-10 @ 5'

Krazan Testing Laboratory

Grain Size Analysis

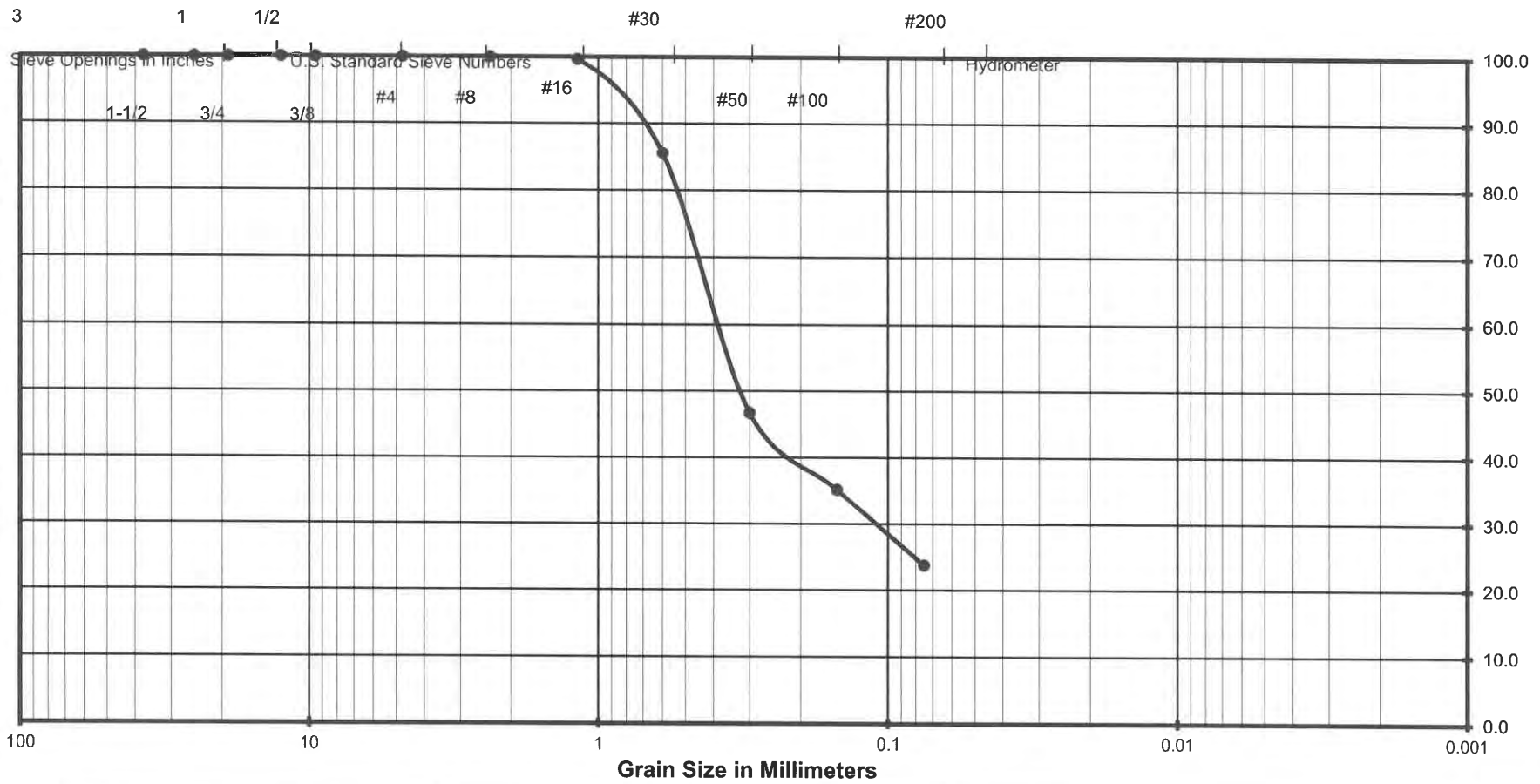


(Unified Soils Classification)

Project Name	Apple Bear Retail Center
Project Number	11221076
Soil Classification	SM
Sample Number	B-16 @ 2'

Krazan Testing Laboratory

Grain Size Analysis

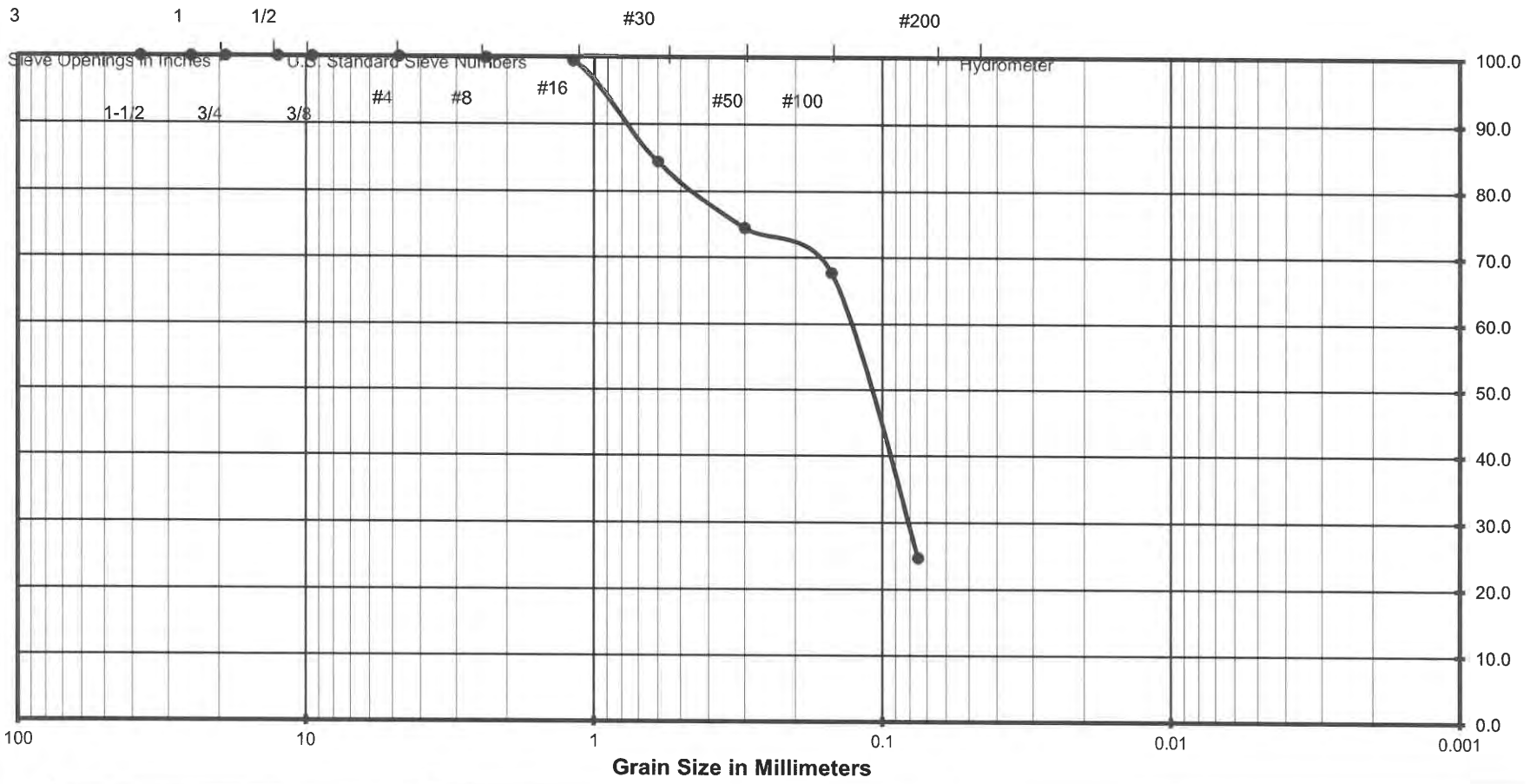


(Unified Soils Classification)

Project Name	Apple Bear Retail Center
Project Number	11221076
Soil Classification	SM
Sample Number	B-16 @ 5'

Krazan Testing Laboratory

Grain Size Analysis



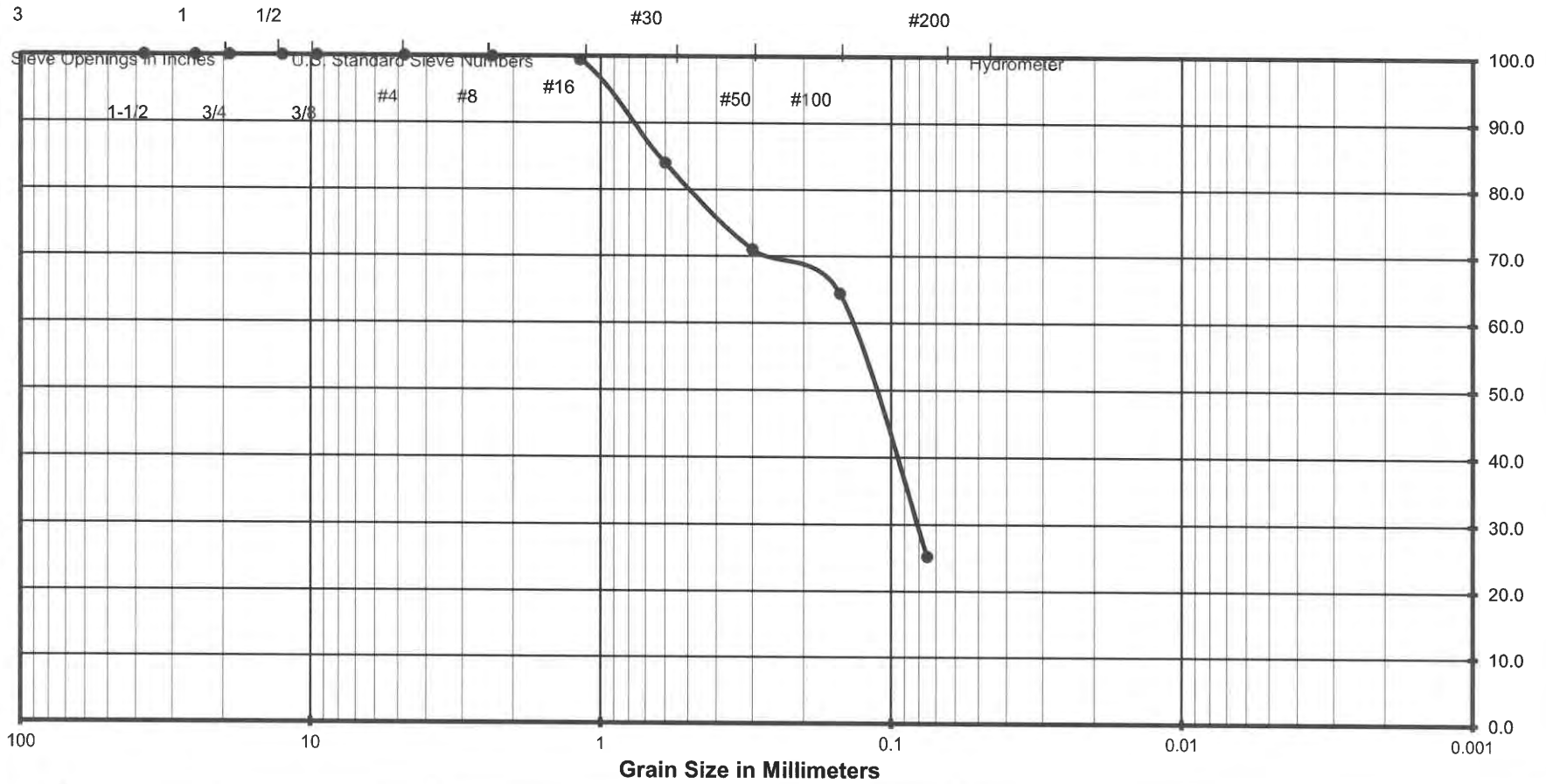
Gravel		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

(Unified Soils Classification)

Project Name	Apple Bear Retail Center
Project Number	11221076
Soil Classification	SM
Sample Number	B-24 @ 2'

Krazan Testing Laboratory

Grain Size Analysis



Gravel		Sand			Silt or Clay
Coarse	Fine	Coarse	Medium	Fine	

(Unified Soils Classification)

Project Name	Apple Bear Retail Center
Project Number	11221076
Soil Classification	SM
Sample Number	B-24 @ 5'

Krazan Testing Laboratory

APPENDIX B

EARTHWORK SPECIFICATIONS

GENERAL

When the text of the report conflicts with the general specifications in this appendix, the recommendations in the report have precedence.

SCOPE OF WORK: These specifications and applicable plans pertain to and include all earthwork associated with the site rough grading, including but not limited to the furnishing of all labor, tools, and equipment necessary for site clearing and grubbing, stripping, preparation of foundation materials for receiving fill, excavation, processing, placement and compaction of fill and backfill materials to the lines and grades shown on the project grading plans, and disposal of excess materials.

PERFORMANCE: The Contractor shall be responsible for the satisfactory completion of all earthwork in accordance with the project plans and specifications. This work shall be inspected and tested by a representative of Krazan and Associates, Inc., hereinafter known as the Soils Engineer and/or Testing Agency. Attainment of design grades when achieved shall be certified by the project Civil Engineer. Both the Soils Engineer and the Civil Engineer are the Owner's representatives. If the Contractor should fail to meet the technical or design requirements embodied in this document and on the applicable plans, he shall make the necessary readjustments until all work is deemed satisfactory as determined by both the Soils Engineer and the Civil Engineer. No deviation from these specifications shall be made except upon written approval of the Soils Engineer, Civil Engineer or project Architect.

No earthwork shall be performed without the physical presence or approval of the Soils Engineer. The Contractor shall notify the Soils Engineer at least 2 working days prior to the commencement of any aspect of the site earthwork.

The Contractor agrees that he shall assume sole and complete responsibility for job site conditions during the course of construction of this project, including safety of all persons and property; that this requirement shall apply continuously and not be limited to normal working hours; and that the Contractor shall defend, indemnify and hold the Owner and the Engineers harmless from any and all liability, real or alleged, in connection with the performance of work on this project, except for liability arising from the sole negligence of the Owner or the Engineers.

TECHNICAL REQUIREMENTS: All compacted materials shall be densified to a density not less than 95 percent relative compaction based on ASTM Test Method D1557 or CAL-216, as specified in the technical portion of the Soil Engineer's report. The location and frequency of field density tests shall be as determined by the Soils Engineer. The results of these tests and compliance with these specifications shall be the basis upon which satisfactory completion of work will be judged by the Soils Engineer.

SOILS AND FOUNDATION CONDITIONS: The Contractor is presumed to have visited the site and to have familiarized himself with existing site conditions and the contents of the data presented in the soil report.

The Contractor shall make his own interpretation of the data contained in said report, and the Contractor shall not be relieved of liability under the Contract documents for any loss sustained as a result of any variance between conditions indicated by or deduced from said report and the actual conditions encountered during the progress of the work.

DUST CONTROL: The work includes dust control as required for the alleviation or prevention of any dust nuisance on or about the site or the borrow area, or off-site if caused by the Contractor's operation either during the performance of the earthwork or resulting from the conditions in which the Contractor leaves the site. The Contractor shall assume all liability, including court costs of codefendants, for all claims related to dust or windblown materials attributable to his work.

SITE PREPARATION

Site preparation shall consist of site clearing and grubbing and the preparations of foundation materials for receiving fill.

CLEARING AND GRUBBING: The Contractor shall accept the site in this present condition and shall demolish and/or remove from the area of designated project earthwork all structures, both surface and subsurface, trees, brush, roots, debris, organic matter, and all other matter determined by the Soils Engineer to be deleterious or otherwise unsuitable. Such materials shall become the property of the Contractor and shall be removed from the site.

Tree root systems in proposed building areas should be removed to a minimum depth of 3 feet and to such an extent which would permit removal of all roots larger than 1 inch. Tree roots removed in parking areas may be limited to the upper 1½ feet of the ground surface. Backfill of tree root excavations should not be permitted until all exposed surfaces have been inspected and the Soils Engineer is present for the proper control of backfill placement and compaction. Burning in areas which are to receive fill materials shall not be permitted.

SUBGRADE PREPARATION: Surfaces to receive Engineered Fill, building or slab loads shall be prepared as outlined above, excavated/scarified to a depth of 12 inches, moisture-conditioned as necessary, and compacted to 95 percent relative compaction.

Loose soil areas, areas of uncertified fill, and/or areas of disturbed soils shall be moisture-conditioned as necessary and recompacted to 95 percent relative compaction. All ruts, hummocks, or other uneven surface features shall be removed by surface grading prior to placement of any fill materials. All areas which are to receive fill materials shall be approved by the Soils Engineer prior to the placement of any of the fill material.

EXCAVATION: All excavation shall be accomplished to the tolerance normally defined by the Civil Engineer as shown on the project grading plans. All over-excavation below the grades specified shall be backfilled at the Contractor's expense and shall be compacted in accordance with the applicable technical requirements.

FILL AND BACKFILL MATERIAL: No material shall be moved or compacted without the presence of the Soils Engineer. Material from the required site excavation may be utilized for construction site fills provided prior approval is given by the Soils Engineer. All materials utilized for constructing site fills shall be free from vegetation or other deleterious matter as determined by the Soils Engineer.

PLACEMENT, SPREADING AND COMPACTION: The placement and spreading of approved fill materials and the processing and compaction of approved fill and native materials shall be the responsibility of the Contractor. However, compaction of fill materials by flooding, ponding, or jetting shall not be permitted unless specifically approved by local code, as well as the Soils Engineer.

Both cut and fill areas shall be surface-compacted to the satisfaction of the Soils Engineer prior to final acceptance.

SEASONAL LIMITS: No fill material shall be placed, spread, or rolled while it is frozen or thawing or during unfavorable wet weather conditions. When the work is interrupted by heavy rains, fill operations shall not be resumed until the Soils Engineer indicates that the moisture content and density of previously placed fill are as specified.

APPENDIX C

PAVEMENT SPECIFICATIONS

1. DEFINITIONS - The term "pavement" shall include asphaltic concrete surfacing, untreated aggregate base, and aggregate subbase. The term "subgrade" is that portion of the area on which surfacing, base, or subbase is to be placed.

The term "Standard Specifications": hereinafter referred to is the 2018 Standard Specifications of the State of California, Department of Transportation, and the "Materials Manual" is the Materials Manual of Testing and Control Procedures, State of California, Department of Public Works, Division of Highways. The term "relative compaction" refers to the field density expressed as a percentage of the maximum laboratory density as defined in the applicable tests outlined in the Materials Manual.

2. SCOPE OF WORK - This portion of the work shall include all labor, materials, tools, and equipment necessary for, and reasonably incidental to the completion of the pavement shown on the plans and as herein specified, except work specifically noted as "Work Not Included."

3. PREPARATION OF THE SUBGRADE - The Contractor shall prepare the surface of the various subgrades receiving subsequent pavement courses to the lines, grades, and dimensions given on the plans. The upper 12 inches of the soil subgrade beneath the pavement section shall be compacted to a minimum relative compaction of 95 percent. The finished subgrades shall be tested and approved by the Soils Engineer prior to the placement of additional pavement courses.

4. UNTREATED AGGREGATE BASE - The aggregate base material shall be spread and compacted on the prepared subgrade in conformity with the lines, grades, and dimensions shown on the plans. The aggregate base material shall conform to the requirements of Section 26 of the Standard Specifications for Class 2 material, 1½ inches maximum size. The aggregate base material shall be spread and compacted in accordance with Section 26 of the Standard Specifications. The aggregate base material shall be spread in layers not exceeding 6 inches and each layer of aggregate material course shall be tested and approved by the Soils Engineer prior to the placement of successive layers. The aggregate base material shall be compacted to a minimum relative compaction of 95 percent.

5. AGGREGATE SUBBASE - The aggregate subbase shall be spread and compacted on the prepared subgrade in conformity with the lines, grades, and dimensions shown on the plans. The aggregate subbase material shall conform to the requirements of Section 25 of the Standard Specifications for Class 2 material. The aggregate subbase material shall be compacted to a minimum relative compaction of 95 percent, and it shall be spread and compacted in accordance with Section 25 of the Standard Specifications. Each layer of aggregate subbase shall be tested and approved by the Soils Engineer prior to the placement of successive layers.

6. ASPHALTIC CONCRETE SURFACING - Asphaltic concrete surfacing shall consist of a mixture of mineral aggregate and paving grade asphalt, mixed at a central mixing plant and spread and compacted on a prepared base in conformity with the lines, grades and dimensions shown on the plans. The viscosity grade of the asphalt shall be PG 64-10. The mineral aggregate shall be Type B, ½ inch maximum size, medium grading and shall conform to the requirements set forth in Section 39 of the Standard Specifications. The drying, proportioning and mixing of the materials shall conform to Section 39.

The prime coat, spreading and compacting equipment and spreading and compacting mixture shall conform to the applicable chapters of Section 39, with the exception that no surface course shall be placed when the atmospheric temperature is below 50° F. The surfacing shall be rolled with a combination of steel wheel and pneumatic rollers, as described in Section 39-6. The surface course shall be placed with an approved self-propelled mechanical spreading and finishing machine.

7. FOG SEAL COAT - The fog seal (mixing type asphaltic emulsion) shall conform to and be applied in accordance with the requirements of Section 37.

BEAR VALLEY ROAD

APPLE BEAR ROAD (PRIVATE)

FLYING FEATHER ROAD (PUBLIC)

N

0 30' 60'

SCALE: 1" = 30'

STORM DRAIN CATCH BASIN

STORM DRAIN MANHOLE

STORM DRAIN INLET

CDS UNIT

DMA-A
AREA (SF)=390,110
AREA (AC)=8.96
IMP%=85%

BMP-A
UNDERGROUND STORMWATER INFILTRATION FACILITY
STORAGE VOLUME=2.21 ACFT

DRIVE THRU

BYPASS LANE

VAN

EV

CA

SD

LEGEND

- XXX — MAJOR CONTOUR
- XXX — MINOR CONTOUR
- PARCEL LINE
- PROPERTY LINE
- OVERALL SHED AREA
- R — RIDGE LINE
- SD — STORM DRAIN LINE
- D — STORM DRAIN MANHOLE (OR CDS, SEE PLAN)
- STORM DRAIN CATCH BASIN
- X.X% — SLOPE ARROW

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PRELIMINARY WQMP MAP

APPLE BEAR RETAIL SITE
WOOD INVESTMENT COMPANIES
2950 AIRWAY AVENUE, SUITE A-9
COSTA MESA, CA 92626

DRAWN: AJC
DATE:
CHECKED:
DATE:
REVISION #:
DATE:
JOB NO: SP8879

1 OF 1

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Sep 12, 2022 - 5:30pm by rhoskin K:\Drawings\SP\SP8879 - Apple Valley\ENG\Preliminary WQMP\SP8879-WQMP.dwg

Preliminary

Hydrology Study

Apple Bear Retail Site

APN No. 0434-021-10-0-000, 0434-021-35-0-000, 0434-021-37-0-000

19439 Bear Valley Road

Apple Valley, CA.

September 12, 2022

This Hydraulic Study has been prepared by, and under the direction of, the undersigned, a duly Registered Civil Engineer in the State of California. Except as noted, the undersigned attests to the technical information contained herein, and has judged to be acceptable the qualifications of any technical specialists providing engineering data for this report, upon which findings, conclusions, and recommendations are based.

_____

Ryan Haskin, P.E.
Registered Civil Engineer No. C84850
Exp.: 3/31/24

Prepared for:

Wood Investment Companies
2950 Airway Ave, Suite A-9
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Prepared by:

Tait & Associates, Inc.
701 N. Parkcenter Drive
Santa Ana, CA 92705
(714) 560-8200

TAIT JOB # **SP8979**

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Section 1 Purpose and Scope

The proposed Appel Bear Retail Site is located in the Town of Apple Valley, County of San Bernardino, California. The site address is 19439 Bear Valley Road, at the southwest corner of Bear Valley Road and Flying Feather Road. The existing 10 acre site is composed of mostly undeveloped desert cover and a single residential house . The purpose of this hydrology report is to provide an analysis of the hydrologic effects of the development. It follows the requirements set forth in the San Bernardino County Hydrology Manual (SBCHM).

This preliminary hydrology study compares the existing and proposed condition hydrologic patterns and the impacts of the development. The analysis was prepared for the 2-, and 100-year storm events per the San Bernardino County Flood Control District Requirements and the mitigation analysis is provided. Included in the report are the general project characteristics, the design, criteria and methodology used for the preliminary design of the storm drain infrastructure of the project.

The plans and specifications in the Hydrology Study are not for construction purposes; the contractor shall refer to final approved construction documents for plans and specifications.

Section 2 Project Information

2.1 Project Description

The project is composed of developing approximately 10 acres of desert land for a retail center. The development will include a major retail building and several smaller building pads for commercial and retail use. A portion of the property will be dedicated to the Town of Apple Valley along Apple Valley Road where widening will occur. The project also includes the construction of 2 roads, Apple Bear Road which is private and Flying Feather Road which is public. For this preliminary hydrology study, only on-site runoff will be analyzed which is an area equal to 8.96 acres. Future studies will include improvement areas of Bear Valley Road and Flying Feather Road which are public.

The proposed improvements involve major grading of the parcel, building construction, utility installation, asphalt drive aisles, concrete walkways, and decorative landscape.

2.2 Hydrologic Setting

Both in the existing and proposed condition, the project drains to the northwest. The existing drainage discharged as overland sheet flow to Apple Valley Road and is ultimately discharged into the Mojave River. In the proposed condition, water on-site will be directed to flow into a proposed infiltration basin where it will be treated and then infiltrate into the soil.

Section 3 Design Criteria and Methodology

3.1 Design Criteria

This study has been prepared in conformance with the hydrologic procedures and standards set forth in the San Bernardino County Hydrology Manual (SBCHM), dated August 1986. In 2010, the County of San Bernardino, issued an addendum to their hydrology manual that updated rainfall data from the National Oceanic and Atmospheric Administration (NOAA) 1973 Atlas 2 to the NOAA Atlas 14, Volume 6. Per the SBCHM only the rational method is required for facility sizing when the watershed is less than 640 acres. For this analysis, the small area hydrograph analysis were prepared to provide the mitigation study. The San Bernardino County Flood Control District (SBCFCD) requires mitigation up to 90% of the existing condition for the 2- and 100-year storm events. The unit hydrograph were prepared using the Advance Engineering Software (AES) which is approved by the County of San Bernardino.

3.1.1 Soil Type and Infiltration

The most significant factor affecting infiltration is the nature of the soil on the watershed. The U.S. Department of Agriculture Soil Conservation Service (now the Natural Resource Conservation Service) classifies soils according to their infiltration capacity. Per the SBCHM Soils area are classified as SCS Soil Type A, B, C and D. Soils in Group A have high infiltration rates, soils in Group B have a moderate infiltration rates, soils in Group C have low infiltration rates when thoroughly wet, and soils Group D have very low infiltration rates. The site is located in soil group C. Other important factors in soil infiltration is the antecedent moisture condition (AMC). The AMC used for this analysis was AMC I for the 2-year storm event and AMC III for the 100-year storm event. Appendix A provides the soils map obtain from the NRCS Web Soil Survey.

3.1.2 Precipitation

The precipitation analysis was based upon the rainfall data obtained from the NOAA website specific to the site location (See Appendix B). The precipitation rainfall depths are provided for different frequencies and durations which are reproduced from NOAA Atlas 14, Volume 6.

3.2 Rational Method and Small Area Hydrograph

Per the SBCHM only the rational method is required for facility sizing when the watershed is less than 640 acres. The rational method is based on the equation: $(Q = C \times I \times A)$

where:

Q = runoff (cfs)
C = runoff coefficient representing the ratio of runoff depth to rainfall depth
I = the time-averaged rainfall intensity in inches per hour corresponding to the time of concentration
A = drainage area (acres).

Per the SBCFCD requirements, the 2- and 100-year storm events need to be mitigated. The peak discharge in the proposed condition has to be less than 90% of the peak discharge in the existing condition for each storm event. This analysis was prepared using the Small Area Hydrograph analysis which is utilized for areas smaller than 640 acres. The small area hydrograph was modeled using AES and it is utilized to model the flow through the detention basin.

For this preliminary analysis, only the small area hydrograph was needed since the project plans to retain and infiltrate the proposed 100 year storm runoff and no peak flow calculations are needed because there will be no site discharge.

3.3 Infiltration Basin

The proposed condition will be mitigated utilizing a underground infiltration basin. The basin will provide the required design capture treatment volume of the project. The basin will also capture and infiltrate the 100 year storm runoff volume from the proposed development.

Section 4 Hydrology Analysis

4.1 Summary of Results

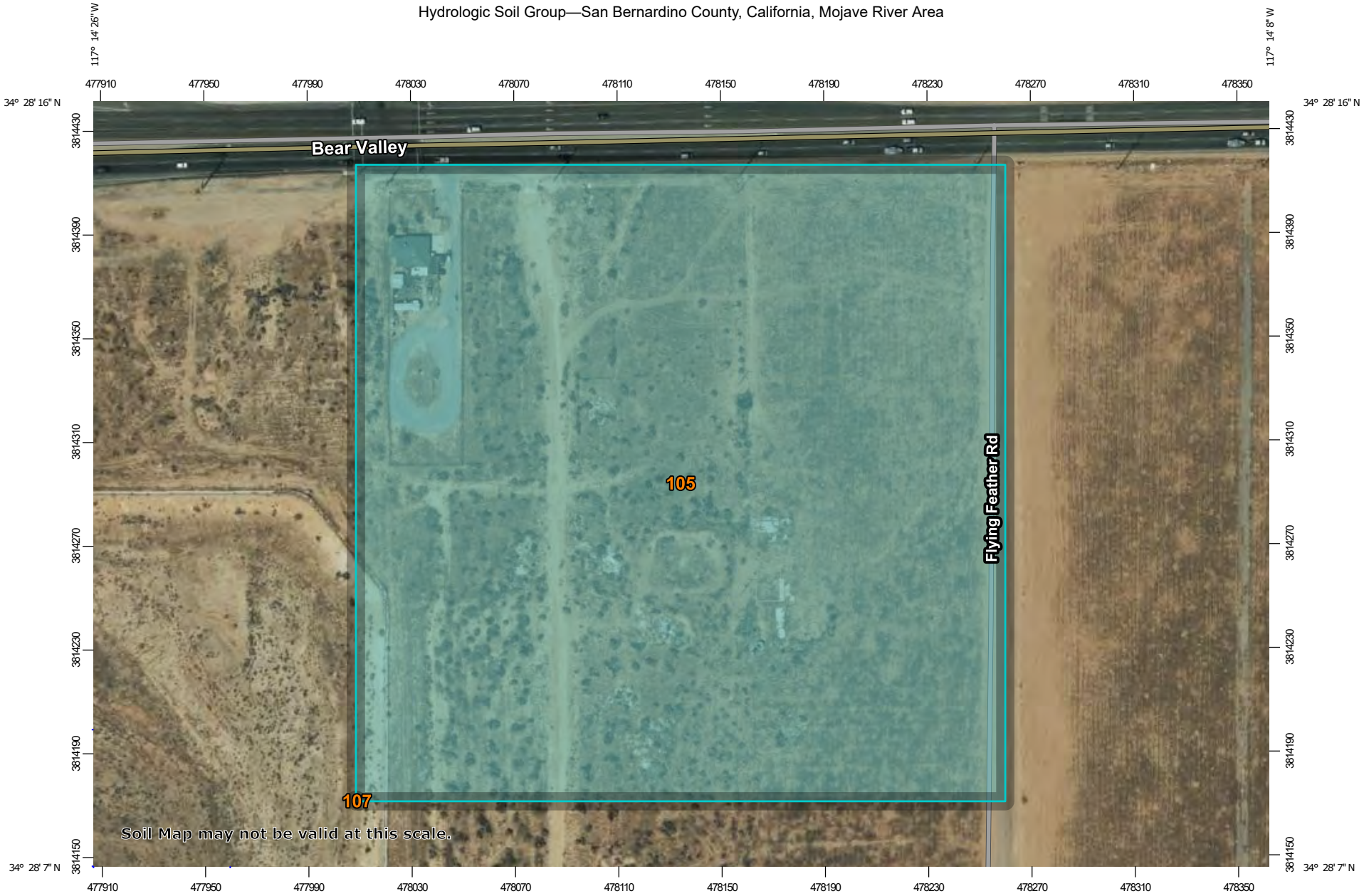
Based on the results of this preliminary study, the proposed project mitigation measures will reduce and eliminate discharge by at least 10% for the 2-, 25- and 100-year storm events. The proposed project improvements will not have an adverse effect on the downstream drainage system. The proposed underground infiltration basin will capture and infiltrate all proposed site runoff up to the 100 year storm event. Table 1 summarizes the existing and proposed condition runoff values.

Table 1. : Runoff Summary

	Peak Discharge (cfs)		Runoff Volume (af)
	2-year	100-year	100-year
Existing Condition	5.53	22.87	1.42
Proposed Condition	7.23	24.57	2.21
Prosed Infiltration Basin	-	-	2.21

APPENDIX

Appendix A – Soils Group Map


117° 14' 26" W
117° 14' 8" W
477910
477950
477990
478030
478070
478110
478150
478190
478230
478270
478310
478350
34° 28' 16" N
34° 28' 7" N
3814430
3814390
3814350
3814310
3814270
3814230
3814190
3814150
Bear Valley
Flying Feather Rd
105
107
Soil Map may not be valid at this scale.
Map Scale: 1:2,080 if printed on A landscape (11" x 8.5") sheet.
N
Meters
0 30 60 120 180
Feet
0 100 200 400 600
Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 11N WGS84

MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

Soils

Soil Rating Polygons

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Lines

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Points

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Water Features

- Streams and Canals

Transportation

- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background

- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: San Bernardino County, California, Mojave River Area
Survey Area Data: Version 13, Sep 13, 2021

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Mar 27, 2021—May 24, 2021

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
105	BRYMAN LOAMY FINE SAND, 0 TO 2 PERCENT SLOPES	C	15.3	100.0%
107	BRYMAN LOAMY FINE SAND, 5 TO 9 PERCENT SLOPES	C	0.0	0.0%
Totals for Area of Interest			**15.3**	**100.0%**

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

Appendix B – Precipitation

(NOAA Atlas 14, Volume 6 Precipitation Frequency at)

NOAA Atlas 14, Volume 6, Version 2
Location name: Apple Valley, California, USA*
Latitude: 34.4707°, Longitude: -117.2374°
Elevation: 2870.89 ft**
* source: ESRI Maps
** source: USGS

POINT PRECIPITATION FREQUENCY ESTIMATES

Sanja Perica, Sarah Dietz, Sarah Heim, Lillian Hiner, Kazungu Maitaria, Deborah Martin, Sandra Pavlovic, Ishani Roy, Carl Trypaluk, Dale Unruh, Fenglin Yan, Michael Yekta, Tan Zhao, Geoffrey Bonnin, Daniel Brewer, Li-Chuan Chen, Tye Parzybok, John Yarchoan

NOAA, National Weather Service, Silver Spring, Maryland

PF_tabular | PF_graphical | Maps_&_aerials

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches)[1]

Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	**0.079** (0.066-0.097)	**0.112** (0.093-0.137)	**0.158** (0.130-0.194)	**0.197** (0.161-0.244)	**0.253** (0.200-0.324)	**0.299** (0.231-0.391)	**0.348** (0.263-0.466)	**0.401** (0.294-0.552)	**0.477** (0.336-0.684)	**0.538** (0.366-0.799)
10-min	**0.114** (0.094-0.139)	**0.161** (0.133-0.197)	**0.226** (0.186-0.278)	**0.282** (0.230-0.349)	**0.363** (0.287-0.464)	**0.429** (0.332-0.560)	**0.499** (0.377-0.668)	**0.575** (0.422-0.791)	**0.683** (0.481-0.980)	**0.772** (0.525-1.15)
15-min	**0.138** (0.114-0.168)	**0.194** (0.160-0.238)	**0.274** (0.225-0.336)	**0.341** (0.278-0.422)	**0.439** (0.347-0.562)	**0.519** (0.401-0.677)	**0.604** (0.456-0.808)	**0.695** (0.510-0.957)	**0.826** (0.582-1.19)	**0.933** (0.635-1.39)
30-min	**0.188** (0.156-0.230)	**0.266** (0.219-0.326)	**0.374** (0.308-0.459)	**0.467** (0.381-0.577)	**0.600** (0.474-0.768)	**0.709** (0.548-0.926)	**0.825** (0.623-1.11)	**0.951** (0.698-1.31)	**1.13** (0.796-1.62)	**1.28** (0.868-1.89)
60-min	**0.234** (0.193-0.286)	**0.330** (0.272-0.404)	**0.464** (0.382-0.569)	**0.579** (0.472-0.716)	**0.745** (0.588-0.953)	**0.880** (0.680-1.15)	**1.02** (0.773-1.37)	**1.18** (0.866-1.62)	**1.40** (0.987-2.01)	**1.58** (1.08-2.35)
2-hr	**0.334** (0.276-0.408)	**0.451** (0.372-0.553)	**0.614** (0.505-0.753)	**0.752** (0.614-0.931)	**0.951** (0.751-1.22)	**1.11** (0.860-1.45)	**1.28** (0.967-1.72)	**1.46** (1.07-2.01)	**1.72** (1.21-2.47)	**1.93** (1.31-2.86)
3-hr	**0.408** (0.337-0.499)	**0.543** (0.448-0.665)	**0.729** (0.600-0.895)	**0.888** (0.725-1.10)	**1.11** (0.879-1.43)	**1.30** (1.00-1.69)	**1.49** (1.12-1.99)	**1.69** (1.24-2.33)	**1.98** (1.40-2.84)	**2.21** (1.51-3.28)
6-hr	**0.562** (0.464-0.687)	**0.739** (0.610-0.905)	**0.980** (0.806-1.20)	**1.18** (0.966-1.47)	**1.47** (1.16-1.88)	**1.70** (1.32-2.22)	**1.94** (1.47-2.60)	**2.20** (1.61-3.02)	**2.56** (1.80-3.66)	**2.84** (1.93-4.21)
12-hr	**0.730** (0.603-0.892)	**0.965** (0.796-1.18)	**1.28** (1.06-1.58)	**1.55** (1.26-1.92)	**1.92** (1.52-2.46)	**2.21** (1.71-2.89)	**2.52** (1.90-3.37)	**2.84** (2.08-3.90)	**3.28** (2.31-4.70)	**3.63** (2.47-5.39)
24-hr	**0.965** (0.855-1.11)	**1.30** (1.15-1.49)	**1.74** (1.53-2.01)	**2.10** (1.84-2.45)	**2.61** (2.21-3.14)	**3.00** (2.49-3.69)	**3.41** (2.76-4.29)	**3.83** (3.02-4.96)	**4.42** (3.34-5.96)	**4.88** (3.56-6.81)
2-day	**1.15** (1.02-1.32)	**1.57** (1.39-1.81)	**2.13** (1.89-2.47)	**2.59** (2.27-3.02)	**3.22** (2.73-3.88)	**3.71** (3.08-4.57)	**4.21** (3.41-5.31)	**4.73** (3.73-6.13)	**5.44** (4.12-7.35)	**6.00** (4.38-8.38)
3-day	**1.25** (1.11-1.44)	**1.73** (1.53-2.00)	**2.37** (2.09-2.74)	**2.89** (2.53-3.36)	**3.60** (3.05-4.33)	**4.14** (3.44-5.10)	**4.71** (3.81-5.93)	**5.29** (4.17-6.85)	**6.08** (4.60-8.21)	**6.70** (4.90-9.36)
4-day	**1.33** (1.18-1.53)	**1.84** (1.63-2.12)	**2.53** (2.23-2.92)	**3.09** (2.71-3.60)	**3.85** (3.26-4.64)	**4.44** (3.69-5.46)	**5.04** (4.08-6.35)	**5.67** (4.46-7.34)	**6.52** (4.93-8.79)	**7.18** (5.25-10.0)
7-day	**1.44** (1.27-1.65)	**1.99** (1.76-2.29)	**2.73** (2.41-3.15)	**3.33** (2.92-3.88)	**4.17** (3.53-5.02)	**4.82** (4.00-5.92)	**5.48** (4.44-6.90)	**6.17** (4.86-7.99)	**7.11** (5.37-9.59)	**7.84** (5.73-11.0)
10-day	**1.52** (1.34-1.75)	**2.09** (1.85-2.41)	**2.87** (2.53-3.31)	**3.51** (3.08-4.09)	**4.40** (3.73-5.30)	**5.10** (4.23-6.27)	**5.82** (4.71-7.33)	**6.56** (5.17-8.49)	**7.59** (5.74-10.2)	**8.39** (6.13-11.7)
20-day	**1.72** (1.52-1.98)	**2.38** (2.11-2.75)	**3.30** (2.91-3.81)	**4.06** (3.56-4.73)	**5.14** (4.36-6.19)	**6.00** (4.98-7.37)	**6.88** (5.57-8.66)	**7.80** (6.15-10.1)	**9.07** (6.86-12.2)	**10.1** (7.36-14.1)
30-day	**1.93** (1.71-2.22)	**2.69** (2.38-3.10)	**3.74** (3.30-4.32)	**4.63** (4.06-5.40)	**5.90** (5.00-7.10)	**6.91** (5.73-8.49)	**7.95** (6.44-10.0)	**9.05** (7.13-11.7)	**10.6** (7.99-14.3)	**11.8** (8.59-16.4)
45-day	**2.29** (2.03-2.64)	**3.19** (2.83-3.68)	**4.45** (3.93-5.14)	**5.53** (4.85-6.44)	**7.08** (6.00-8.53)	**8.33** (6.92-10.2)	**9.64** (7.81-12.1)	**11.0** (8.67-14.3)	**12.9** (9.77-17.4)	**14.4** (10.5-20.1)
60-day	**2.49** (2.21-2.87)	**3.46** (3.06-3.98)	**4.83** (4.26-5.58)	**6.01** (5.27-7.01)	**7.73** (6.55-9.30)	**9.12** (7.57-11.2)	**10.6** (8.58-13.3)	**12.1** (9.56-15.7)	**14.3** (10.8-19.3)	**16.0** (11.7-22.4)

[1] Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).

Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.

Please refer to NOAA Atlas 14 document for more information.

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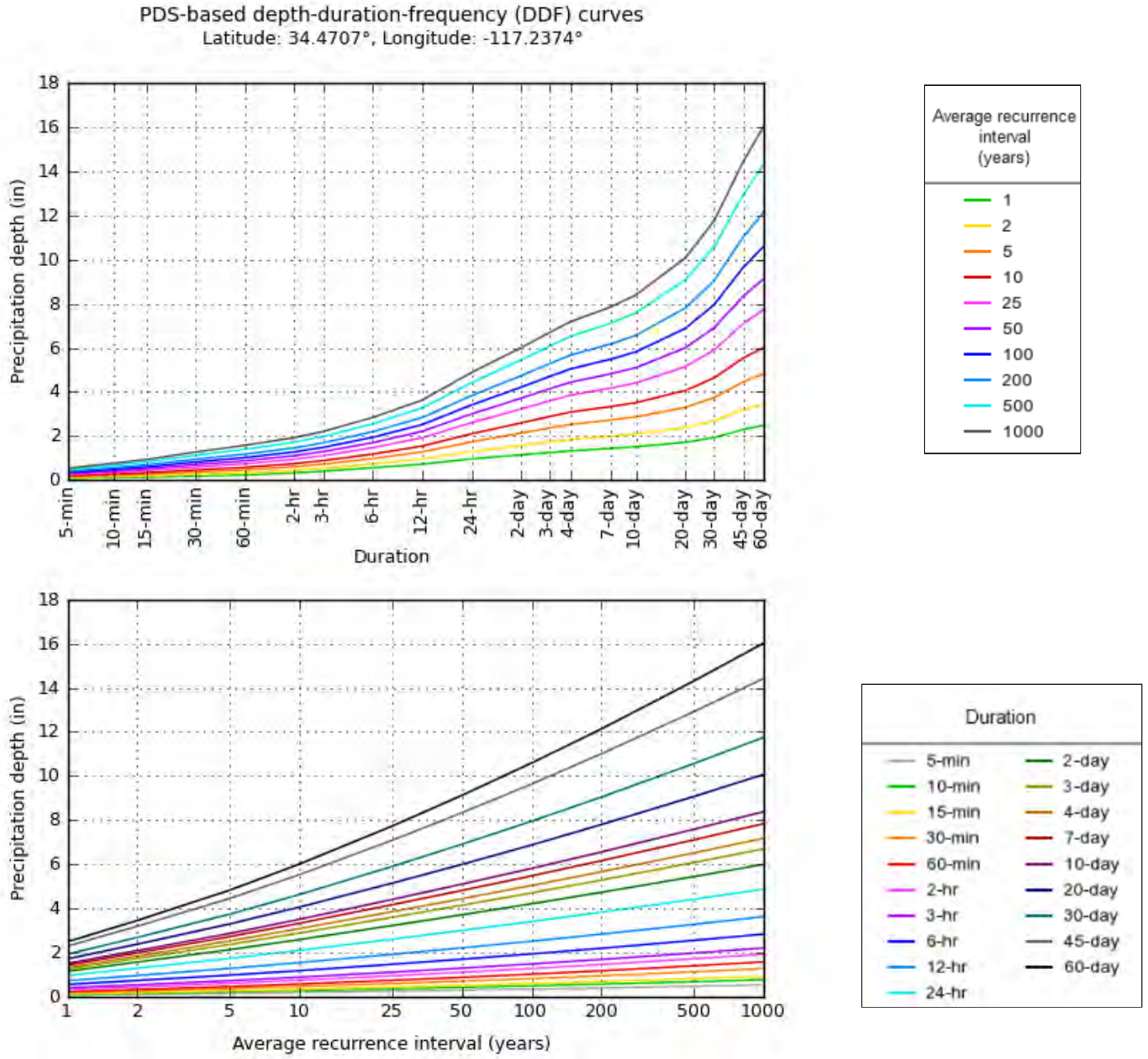
PF graphical



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Maps & aerials

Small scale terrain

Large scale terrain

Large scale map

Large scale aerial

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National Oceanic and Atmospheric Administration
National Weather Service
National Water Center
1325 East West Highway
Silver Spring, MD 20910
Questions?: HDSC.Questions@noaa.gov

Disclaimer

Appendix C – Existing Condition Hydrology Rational Method

(2- and 100-year storm events AES Results)

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 ************************************************************************
                      SMALL AREA UNIT HYDROGRAPH MODEL
 ========================================================================
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             Ver. 23.0  Release Date: 07/01/2016  License ID 1334

                             Analysis prepared by:




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  Problem Descriptions:
   SP8979 – Apple Valley
   EXISTING CONDITION - 2 YEAR ON-SITE HYDROGRAPH
-------------------------------------------------------------------------


    RATIONAL METHOD CALIBRATION COEFFICIENT = 0.90
    TOTAL CATCHMENT AREA(ACRES) =    8.96
    SOIL-LOSS RATE, Fm,(INCH/HR) =  0.248
    LOW LOSS FRACTION = 0.450
    TIME OF CONCENTRATION(MIN.) = 10.00
    SMALL AREA PEAK Q COMPUTED USING PEAK FLOW RATE FORMULA
    USER SPECIFIED RAINFALL VALUES ARE USED
    RETURN FREQUENCY(YEARS) =   2
       5-MINUTE POINT RAINFALL VALUE(INCHES) =  0.11
      30-MINUTE POINT RAINFALL VALUE(INCHES) =  0.27
       1-HOUR   POINT RAINFALL VALUE(INCHES) =  0.33
       3-HOUR   POINT RAINFALL VALUE(INCHES) =  0.54
       6-HOUR   POINT RAINFALL VALUE(INCHES) =  0.74
      24-HOUR   POINT RAINFALL VALUE(INCHES) =  1.30

 -------------------------------------------------------------------------

    TOTAL CATCHMENT   RUNOFF  VOLUME(ACRE-FEET) =     0.50
    TOTAL CATCHMENT SOIL-LOSS VOLUME(ACRE-FEET) =     0.48

 ************************************************************************
  TIME     VOLUME       Q    0.        2.5       5.0       7.5      10.0
 (HOURS)    (AF)      (CFS)
 -------------------------------------------------------------------------
  0.17      0.0007      0.10  Q         .         .         .         .
  0.33      0.0020      0.10  Q         .         .         .         .
  0.50      0.0034      0.10  Q         .         .         .         .
  0.67      0.0048      0.10  Q         .         .         .         .
  0.83      0.0061      0.10  Q         .         .         .         .
  1.00      0.0075      0.10  Q         .         .         .         .
  1.17      0.0089      0.10  Q         .         .         .         .
  1.33      0.0103      0.10  Q         .         .         .         .
  1.50      0.0117      0.10  Q         .         .         .         .
  1.67      0.0131      0.10  Q         .         .         .         .
  1.83      0.0146      0.10  Q         .         .         .         .
  2.00      0.0160      0.10  Q         .         .         .         .
  2.17      0.0175      0.11  Q         .         .         .         .
  2.33      0.0189      0.11  Q         .         .         .         .
  2.50      0.0204      0.11  Q         .         .         .         .
  2.67      0.0219      0.11  Q         .         .         .         .
  2.83      0.0234      0.11  Q         .         .         .         .
  3.00      0.0249      0.11  Q         .         .         .         .
  3.17      0.0264      0.11  Q         .         .         .         .
  3.33      0.0279      0.11  Q         .         .         .         .
  3.50      0.0295      0.11  Q         .         .         .         .
  3.67      0.0310      0.11  Q         .         .         .         .
  3.83      0.0326      0.11  Q         .         .         .         .
  4.00      0.0342      0.11  Q         .         .         .         .
  4.17      0.0358      0.12  Q         .         .         .         .
  4.33      0.0374      0.12  Q         .         .         .         .
  4.50      0.0390      0.12  Q         .         .         .         .
  4.67      0.0406      0.12  Q         .         .         .         .
  4.83      0.0423      0.12  Q         .         .         .         .
  5.00      0.0439      0.12  Q         .         .         .         .
  5.17      0.0456      0.12  Q         .         .         .         .
  5.33      0.0473      0.12  Q         .         .         .         .
  5.50      0.0490      0.12  Q         .         .         .         .
  5.67      0.0507      0.13  Q         .         .         .         .
  5.83      0.0525      0.13  Q         .         .         .         .
  6.00      0.0542      0.13  Q         .         .         .         .
  6.17      0.0560      0.13  Q         .         .         .         .
  6.33      0.0578      0.13  Q         .         .         .         .
  6.50      0.0596      0.13  Q         .         .         .         .
  6.67      0.0614      0.13  Q         .         .         .         .
  6.83      0.0633      0.13  Q         .         .         .         .
  7.00      0.0651      0.14  Q         .         .         .         .
  7.17      0.0670      0.14  Q         .         .         .         .
  7.33      0.0689      0.14  Q         .         .         .         .
  7.50      0.0708      0.14  Q         .         .         .         .
  7.67      0.0728      0.14  Q         .         .         .         .
  7.83      0.0748      0.14  Q         .         .         .         .
  8.00      0.0768      0.15  Q         .         .         .         .
  8.17      0.0788      0.15  Q         .         .         .         .
  8.33      0.0808      0.15  Q         .         .         .         .
  8.50      0.0829      0.15  Q         .         .         .         .
  8.67      0.0850      0.15  Q         .         .         .         .
  8.83      0.0871      0.16  Q         .         .         .         .
  9.00      0.0893      0.16  Q         .         .         .         .
  9.17      0.0915      0.16  Q         .         .         .         .
  9.33      0.0937      0.16  Q         .         .         .         .
  9.50      0.0959      0.17  Q         .         .         .         .
```

9.67	0.0982	0.17	Q	.	.	.	.
9.83	0.1006	0.17	Q	.	.	.	.
10.00	0.1029	0.17	Q	.	.	.	.
10.17	0.1053	0.18	Q	.	.	.	.
10.33	0.1077	0.18	Q	.	.	.	.
10.50	0.1102	0.18	Q	.	.	.	.
10.67	0.1127	0.18	Q	.	.	.	.
10.83	0.1153	0.19	Q	.	.	.	.
11.00	0.1179	0.19	Q	.	.	.	.
11.17	0.1206	0.20	Q	.	.	.	.
11.33	0.1233	0.20	Q	.	.	.	.
11.50	0.1261	0.20	Q	.	.	.	.
11.67	0.1289	0.21	Q	.	.	.	.
11.83	0.1318	0.21	Q	.	.	.	.
12.00	0.1348	0.22	Q	.	.	.	.
12.17	0.1380	0.25	.Q	.	.	.	.
12.33	0.1415	0.25	.Q	.	.	.	.
12.50	0.1450	0.26	.Q	.	.	.	.
12.67	0.1487	0.27	.Q	.	.	.	.
12.83	0.1524	0.28	.Q	.	.	.	.
13.00	0.1563	0.28	.Q	.	.	.	.
13.17	0.1603	0.29	.Q	.	.	.	.
13.33	0.1644	0.30	.Q	.	.	.	.
13.50	0.1686	0.31	.Q	.	.	.	.
13.67	0.1730	0.32	.Q	.	.	.	.
13.83	0.1775	0.34	.Q	.	.	.	.
14.00	0.1822	0.35	.Q	.	.	.	.
14.17	0.1871	0.36	.Q	.	.	.	.
14.33	0.1922	0.38	.Q	.	.	.	.
14.50	0.1976	0.40	.Q	.	.	.	.
14.67	0.2032	0.42	.Q	.	.	.	.
14.83	0.2093	0.46	.Q	.	.	.	.
15.00	0.2158	0.48	.Q	.	.	.	.
15.17	0.2228	0.54	. Q	.	.	.	.
15.33	0.2305	0.58	. Q	.	.	.	.
15.50	0.2376	0.45	.Q	.	.	.	.
15.67	0.2443	0.52	. Q	.	.	.	.
15.83	0.2570	1.32	. Q	.	.	.	.
16.00	0.2780	1.72	. Q	.	.	.	.
16.17	0.3279	5.53	.	.	. Q	.	.
16.33	0.3703	0.62	. Q	.	.	.	.
16.50	0.3790	0.63	. Q	.	.	.	.
16.67	0.3868	0.51	. Q	.	.	.	.
16.83	0.3933	0.44	.Q	.	.	.	.
17.00	0.3990	0.39	.Q	.	.	.	.
17.17	0.4042	0.36	.Q	.	.	.	.
17.33	0.4089	0.33	.Q	.	.	.	.
17.50	0.4133	0.31	.Q	.	.	.	.
17.67	0.4174	0.29	.Q	.	.	.	.
17.83	0.4212	0.27	.Q	.	.	.	.
18.00	0.4249	0.26	.Q	.	.	.	.
18.17	0.4282	0.22	Q	.	.	.	.
18.33	0.4311	0.21	Q	.	.	.	.
18.50	0.4340	0.20	Q	.	.	.	.
18.67	0.4367	0.19	Q	.	.	.	.
18.83	0.4393	0.19	Q	.	.	.	.
19.00	0.4418	0.18	Q	.	.	.	.
19.17	0.4443	0.17	Q	.	.	.	.
19.33	0.4466	0.17	Q	.	.	.	.
19.50	0.4489	0.16	Q	.	.	.	.
19.67	0.4511	0.16	Q	.	.	.	.
19.83	0.4533	0.15	Q	.	.	.	.
20.00	0.4554	0.15	Q	.	.	.	.
20.17	0.4574	0.15	Q	.	.	.	.
20.33	0.4594	0.14	Q	.	.	.	.
20.50	0.4614	0.14	Q	.	.	.	.
20.67	0.4633	0.14	Q	.	.	.	.
20.83	0.4652	0.13	Q	.	.	.	.
21.00	0.4670	0.13	Q	.	.	.	.
21.17	0.4688	0.13	Q	.	.	.	.
21.33	0.4705	0.13	Q	.	.	.	.
21.50	0.4723	0.12	Q	.	.	.	.
21.67	0.4739	0.12	Q	.	.	.	.
21.83	0.4756	0.12	Q	.	.	.	.
22.00	0.4772	0.12	Q	.	.	.	.
22.17	0.4788	0.12	Q	.	.	.	.
22.33	0.4804	0.11	Q	.	.	.	.
22.50	0.4820	0.11	Q	.	.	.	.
22.67	0.4835	0.11	Q	.	.	.	.
22.83	0.4850	0.11	Q	.	.	.	.
23.00	0.4865	0.11	Q	.	.	.	.
23.17	0.4880	0.11	Q	.	.	.	.
23.33	0.4894	0.10	Q	.	.	.	.
23.50	0.4908	0.10	Q	.	.	.	.
23.67	0.4922	0.10	Q	.	.	.	.
23.83	0.4936	0.10	Q	.	.	.	.
24.00	0.4950	0.10	Q	.	.	.	.
24.17	0.4957	0.00	Q	.	.	.	.

TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:
(Note: 100% of Peak Flow Rate estimate assumed to have
an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
0%	1440.0
10%	60.0
20%	30.0
30%	20.0
40%	10.0
50%	10.0
60%	10.0

70%	10.0
80%	10.0
90%	10.0

```
_______________________________________________________________________
*************************************************************************
          NON-HOMOGENEOUS WATERSHED AREA-AVERAGED LOSS RATE (Fm)
                    AND LOW LOSS FRACTION ESTIMATIONS
=========================================================================
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                          Analysis prepared by:




*************************************************************************
-------------------------------------------------------------------------

 Problem Descriptions:
  SP8979 – Apple Valley
  EXISTING CONDITION - 100 YEAR ON-SITE HYDROGRAPH
-------------------------------------------------------------------------


    RATIONAL METHOD CALIBRATION COEFFICIENT = 0.90
    TOTAL CATCHMENT AREA(ACRES) =    8.96
    SOIL-LOSS RATE, Fm,(INCH/HR) =  0.248
    LOW LOSS FRACTION = 0.450
    TIME OF CONCENTRATION(MIN.) = 10.00
    SMALL AREA PEAK Q COMPUTED USING PEAK FLOW RATE FORMULA
    USER SPECIFIED RAINFALL VALUES ARE USED
    RETURN FREQUENCY(YEARS) = 100
       5-MINUTE POINT RAINFALL VALUE(INCHES) =  0.38
      30-MINUTE POINT RAINFALL VALUE(INCHES) =  0.83
       1-HOUR   POINT RAINFALL VALUE(INCHES) =  1.02
       3-HOUR   POINT RAINFALL VALUE(INCHES) =  1.49
       6-HOUR   POINT RAINFALL VALUE(INCHES) =  1.94
      24-HOUR   POINT RAINFALL VALUE(INCHES) =  3.41

-------------------------------------------------------------------------

    TOTAL CATCHMENT   RUNOFF  VOLUME(ACRE-FEET) =     1.42
    TOTAL CATCHMENT SOIL-LOSS VOLUME(ACRE-FEET) =     1.13

*************************************************************************
  TIME     VOLUME       Q    0.        7.5      15.0      22.5      30.0
 (HOURS)    (AF)      (CFS)
-------------------------------------------------------------------------
  0.17      0.0018      0.26  Q         .         .         .         .
  0.33      0.0053      0.26  Q         .         .         .         .
  0.50      0.0089      0.26  Q         .         .         .         .
  0.67      0.0125      0.26  Q         .         .         .         .
  0.83      0.0161      0.26  Q         .         .         .         .
  1.00      0.0197      0.26  Q         .         .         .         .
  1.17      0.0234      0.27  Q         .         .         .         .
  1.33      0.0271      0.27  Q         .         .         .         .
  1.50      0.0308      0.27  Q         .         .         .         .
  1.67      0.0345      0.27  Q         .         .         .         .
  1.83      0.0383      0.27  Q         .         .         .         .
  2.00      0.0421      0.28  Q         .         .         .         .
  2.17      0.0459      0.28  Q         .         .         .         .
  2.33      0.0497      0.28  Q         .         .         .         .
  2.50      0.0536      0.28  Q         .         .         .         .
  2.67      0.0575      0.28  Q         .         .         .         .
  2.83      0.0614      0.29  Q         .         .         .         .
  3.00      0.0654      0.29  Q         .         .         .         .
  3.17      0.0694      0.29  Q         .         .         .         .
  3.33      0.0734      0.29  Q         .         .         .         .
  3.50      0.0774      0.30  Q         .         .         .         .
  3.67      0.0815      0.30  Q         .         .         .         .
  3.83      0.0856      0.30  Q         .         .         .         .
  4.00      0.0897      0.30  Q         .         .         .         .
  4.17      0.0939      0.30  Q         .         .         .         .
  4.33      0.0981      0.31  Q         .         .         .         .
  4.50      0.1024      0.31  Q         .         .         .         .
  4.67      0.1067      0.31  Q         .         .         .         .
  4.83      0.1110      0.32  Q         .         .         .         .
  5.00      0.1153      0.32  Q         .         .         .         .
  5.17      0.1197      0.32  Q         .         .         .         .
  5.33      0.1242      0.32  Q         .         .         .         .
  5.50      0.1287      0.33  Q         .         .         .         .
  5.67      0.1332      0.33  Q         .         .         .         .
  5.83      0.1377      0.33  Q         .         .         .         .
  6.00      0.1423      0.34  Q         .         .         .         .
  6.17      0.1470      0.34  Q         .         .         .         .
  6.33      0.1517      0.34  Q         .         .         .         .
  6.50      0.1564      0.35  Q         .         .         .         .
  6.67      0.1612      0.35  Q         .         .         .         .
  6.83      0.1661      0.35  Q         .         .         .         .
  7.00      0.1710      0.36  Q         .         .         .         .
  7.17      0.1759      0.36  Q         .         .         .         .
  7.33      0.1809      0.36  Q         .         .         .         .
  7.50      0.1860      0.37  Q         .         .         .         .
  7.67      0.1911      0.37  Q         .         .         .         .
  7.83      0.1963      0.38  Q         .         .         .         .
  8.00      0.2015      0.38  Q         .         .         .         .
  8.17      0.2068      0.39  Q         .         .         .         .
  8.33      0.2122      0.39  Q         .         .         .         .
  8.50      0.2177      0.40  Q         .         .         .         .
  8.67      0.2232      0.40  Q         .         .         .         .
  8.83      0.2288      0.41  Q         .         .         .         .
  9.00      0.2344      0.41  Q         .         .         .         .
  9.17      0.2402      0.42  Q         .         .         .         .
  9.33      0.2460      0.42  Q         .         .         .         .
```

9.50	0.2519	0.43	Q	.	.	.	.
9.67	0.2579	0.44	Q	.	.	.	.
9.83	0.2640	0.45	Q	.	.	.	.
10.00	0.2701	0.45	Q	.	.	.	.
10.17	0.2764	0.46	Q	.	.	.	.
10.33	0.2828	0.47	Q	.	.	.	.
10.50	0.2893	0.48	Q	.	.	.	.
10.67	0.2959	0.48	Q	.	.	.	.
10.83	0.3027	0.49	Q	.	.	.	.
11.00	0.3095	0.50	Q	.	.	.	.
11.17	0.3165	0.51	Q	.	.	.	.
11.33	0.3237	0.52	Q	.	.	.	.
11.50	0.3310	0.54	Q	.	.	.	.
11.67	0.3384	0.54	Q	.	.	.	.
11.83	0.3460	0.56	Q	.	.	.	.
12.00	0.3538	0.57	Q	.	.	.	.
12.17	0.3615	0.55	Q	.	.	.	.
12.33	0.3692	0.56	Q	.	.	.	.
12.50	0.3770	0.58	Q	.	.	.	.
12.67	0.3851	0.59	Q	.	.	.	.
12.83	0.3935	0.62	Q	.	.	.	.
13.00	0.4021	0.63	Q	.	.	.	.
13.17	0.4109	0.66	Q	.	.	.	.
13.33	0.4201	0.68	Q	.	.	.	.
13.50	0.4297	0.71	Q	.	.	.	.
13.67	0.4396	0.73	Q	.	.	.	.
13.83	0.4500	0.77	.Q	.	.	.	.
14.00	0.4608	0.80	.Q	.	.	.	.
14.17	0.4716	0.77	.Q	.	.	.	.
14.33	0.4825	0.80	.Q	.	.	.	.
14.50	0.4941	0.88	.Q	.	.	.	.
14.67	0.5064	0.92	.Q	.	.	.	.
14.83	0.5198	1.02	.Q	.	.	.	.
15.00	0.5343	1.08	.Q	.	.	.	.
15.17	0.5503	1.24	.Q	.	.	.	.
15.33	0.5681	1.35	.Q	.	.	.	.
15.50	0.5873	1.43	.Q	.	.	.	.
15.67	0.6085	1.65	. Q	.	.	.	.
15.83	0.6509	4.51	. Q	.	.	.	.
16.00	0.7287	6.78	. Q.	.	.	.	.
16.17	0.9329	22.87	.	.	.	Q	.
16.33	1.1040	1.97	. Q	.	.	.	.
16.50	1.1278	1.48	.Q	.	.	.	.
16.67	1.1459	1.16	.Q	.	.	.	.
16.83	1.1606	0.97	.Q	.	.	.	.
17.00	1.1730	0.84	.Q	.	.	.	.
17.17	1.1844	0.82	.Q	.	.	.	.
17.33	1.1953	0.75	.Q	.	.	.	.
17.50	1.2052	0.69	Q	.	.	.	.
17.67	1.2144	0.65	Q	.	.	.	.
17.83	1.2231	0.61	Q	.	.	.	.
18.00	1.2312	0.57	Q	.	.	.	.
18.17	1.2391	0.58	Q	.	.	.	.
18.33	1.2469	0.55	Q	.	.	.	.
18.50	1.2543	0.53	Q	.	.	.	.
18.67	1.2614	0.51	Q	.	.	.	.
18.83	1.2683	0.49	Q	.	.	.	.
19.00	1.2749	0.47	Q	.	.	.	.
19.17	1.2813	0.46	Q	.	.	.	.
19.33	1.2875	0.44	Q	.	.	.	.
19.50	1.2935	0.43	Q	.	.	.	.
19.67	1.2993	0.42	Q	.	.	.	.
19.83	1.3050	0.41	Q	.	.	.	.
20.00	1.3105	0.39	Q	.	.	.	.
20.17	1.3159	0.39	Q	.	.	.	.
20.33	1.3211	0.38	Q	.	.	.	.
20.50	1.3262	0.37	Q	.	.	.	.
20.67	1.3312	0.36	Q	.	.	.	.
20.83	1.3361	0.35	Q	.	.	.	.
21.00	1.3409	0.34	Q	.	.	.	.
21.17	1.3456	0.34	Q	.	.	.	.
21.33	1.3502	0.33	Q	.	.	.	.
21.50	1.3548	0.33	Q	.	.	.	.
21.67	1.3592	0.32	Q	.	.	.	.
21.83	1.3636	0.31	Q	.	.	.	.
22.00	1.3678	0.31	Q	.	.	.	.
22.17	1.3720	0.30	Q	.	.	.	.
22.33	1.3762	0.30	Q	.	.	.	.
22.50	1.3803	0.29	Q	.	.	.	.
22.67	1.3843	0.29	Q	.	.	.	.
22.83	1.3882	0.28	Q	.	.	.	.
23.00	1.3921	0.28	Q	.	.	.	.
23.17	1.3960	0.28	Q	.	.	.	.
23.33	1.3998	0.27	Q	.	.	.	.
23.50	1.4035	0.27	Q	.	.	.	.
23.67	1.4072	0.27	Q	.	.	.	.
23.83	1.4108	0.26	Q	.	.	.	.
24.00	1.4144	0.26	Q	.	.	.	.
24.17	1.4162	0.00	Q	.	.	.	.

TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:
(Note: 100% of Peak Flow Rate estimate assumed to have
an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
0%	1440.0
10%	30.0
20%	20.0
30%	10.0
40%	10.0
50%	10.0

60%	10.0
70%	10.0
80%	10.0
90%	10.0

Appendix D – Proposed Condition Hydrology Rational Method

(2- and 100-year storm events AES Results)

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 ************************************************************************
                      SMALL AREA UNIT HYDROGRAPH MODEL
 ========================================================================
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             Ver. 23.0  Release Date: 07/01/2016  License ID 1334

                             Analysis prepared by:




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  Problem Descriptions:
   SP8979 – Apple Valley
   PROPOSED CONDITION - 2 YEAR ON-SITE HYDROGRAPH
-------------------------------------------------------------------------


    RATIONAL METHOD CALIBRATION COEFFICIENT = 0.90
    TOTAL CATCHMENT AREA(ACRES) =    8.96
    SOIL-LOSS RATE, Fm,(INCH/HR) =  0.038
    LOW LOSS FRACTION = 0.380
    TIME OF CONCENTRATION(MIN.) = 10.00
    SMALL AREA PEAK Q COMPUTED USING PEAK FLOW RATE FORMULA
    USER SPECIFIED RAINFALL VALUES ARE USED
    RETURN FREQUENCY(YEARS) =   2
       5-MINUTE POINT RAINFALL VALUE(INCHES) =  0.11
      30-MINUTE POINT RAINFALL VALUE(INCHES) =  0.27
       1-HOUR   POINT RAINFALL VALUE(INCHES) =  0.33
       3-HOUR   POINT RAINFALL VALUE(INCHES) =  0.54
       6-HOUR   POINT RAINFALL VALUE(INCHES) =  0.74
      24-HOUR   POINT RAINFALL VALUE(INCHES) =  1.30

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    TOTAL CATCHMENT   RUNOFF  VOLUME(ACRE-FEET) =     0.60
    TOTAL CATCHMENT SOIL-LOSS VOLUME(ACRE-FEET) =     0.37

 ************************************************************************
  TIME     VOLUME       Q    0.        2.5       5.0       7.5      10.0
 (HOURS)    (AF)      (CFS)
 ------------------------------------------------------------------------
  0.17      0.0008      0.11  Q         .         .         .         .
  0.33      0.0023      0.11  Q         .         .         .         .
  0.50      0.0038      0.11  Q         .         .         .         .
  0.67      0.0054      0.11  Q         .         .         .         .
  0.83      0.0069      0.11  Q         .         .         .         .
  1.00      0.0085      0.11  Q         .         .         .         .
  1.17      0.0100      0.11  Q         .         .         .         .
  1.33      0.0116      0.12  Q         .         .         .         .
  1.50      0.0132      0.12  Q         .         .         .         .
  1.67      0.0148      0.12  Q         .         .         .         .
  1.83      0.0164      0.12  Q         .         .         .         .
  2.00      0.0181      0.12  Q         .         .         .         .
  2.17      0.0197      0.12  Q         .         .         .         .
  2.33      0.0213      0.12  Q         .         .         .         .
  2.50      0.0230      0.12  Q         .         .         .         .
  2.67      0.0247      0.12  Q         .         .         .         .
  2.83      0.0264      0.12  Q         .         .         .         .
  3.00      0.0281      0.12  Q         .         .         .         .
  3.17      0.0298      0.12  Q         .         .         .         .
  3.33      0.0315      0.13  Q         .         .         .         .
  3.50      0.0332      0.13  Q         .         .         .         .
  3.67      0.0350      0.13  Q         .         .         .         .
  3.83      0.0368      0.13  Q         .         .         .         .
  4.00      0.0385      0.13  Q         .         .         .         .
  4.17      0.0403      0.13  Q         .         .         .         .
  4.33      0.0421      0.13  Q         .         .         .         .
  4.50      0.0440      0.13  Q         .         .         .         .
  4.67      0.0458      0.13  Q         .         .         .         .
  4.83      0.0477      0.14  Q         .         .         .         .
  5.00      0.0495      0.14  Q         .         .         .         .
  5.17      0.0514      0.14  Q         .         .         .         .
  5.33      0.0533      0.14  Q         .         .         .         .
  5.50      0.0552      0.14  Q         .         .         .         .
  5.67      0.0572      0.14  Q         .         .         .         .
  5.83      0.0591      0.14  Q         .         .         .         .
  6.00      0.0611      0.14  Q         .         .         .         .
  6.17      0.0631      0.15  Q         .         .         .         .
  6.33      0.0651      0.15  Q         .         .         .         .
  6.50      0.0672      0.15  Q         .         .         .         .
  6.67      0.0692      0.15  Q         .         .         .         .
  6.83      0.0713      0.15  Q         .         .         .         .
  7.00      0.0734      0.15  Q         .         .         .         .
  7.17      0.0755      0.16  Q         .         .         .         .
  7.33      0.0777      0.16  Q         .         .         .         .
  7.50      0.0799      0.16  Q         .         .         .         .
  7.67      0.0821      0.16  Q         .         .         .         .
  7.83      0.0843      0.16  Q         .         .         .         .
  8.00      0.0865      0.16  Q         .         .         .         .
  8.17      0.0888      0.17  Q         .         .         .         .
  8.33      0.0911      0.17  Q         .         .         .         .
  8.50      0.0935      0.17  Q         .         .         .         .
  8.67      0.0958      0.17  Q         .         .         .         .
  8.83      0.0982      0.18  Q         .         .         .         .
  9.00      0.1007      0.18  Q         .         .         .         .
  9.17      0.1031      0.18  Q         .         .         .         .
  9.33      0.1056      0.18  Q         .         .         .         .
  9.50      0.1082      0.19  Q         .         .         .         .
```

9.67	0.1107	0.19	Q	.	.	.	.	
9.83	0.1133	0.19	Q	.	.	.	.	
10.00	0.1160	0.19	Q	.	.	.	.	
10.17	0.1187	0.20	Q	.	.	.	.	
10.33	0.1214	0.20	Q	.	.	.	.	
10.50	0.1242	0.21	Q	.	.	.	.	
10.67	0.1271	0.21	Q	.	.	.	.	
10.83	0.1300	0.21	Q	.	.	.	.	
11.00	0.1329	0.22	Q	.	.	.	.	
11.17	0.1359	0.22	Q	.	.	.	.	
11.33	0.1390	0.22	Q	.	.	.	.	
11.50	0.1421	0.23	Q	.	.	.	.	
11.67	0.1453	0.23	Q	.	.	.	.	
11.83	0.1486	0.24	Q	.	.	.	.	
12.00	0.1519	0.24	Q	.	.	.	.	
12.17	0.1556	0.28	.Q	.	.	.	.	
12.33	0.1595	0.29	.Q	.	.	.	.	
12.50	0.1635	0.30	.Q	.	.	.	.	
12.67	0.1676	0.30	.Q	.	.	.	.	
12.83	0.1718	0.31	.Q	.	.	.	.	
13.00	0.1762	0.32	.Q	.	.	.	.	
13.17	0.1807	0.33	.Q	.	.	.	.	
13.33	0.1853	0.34	.Q	.	.	.	.	
13.50	0.1900	0.35	.Q	.	.	.	.	
13.67	0.1950	0.36	.Q	.	.	.	.	
13.83	0.2001	0.38	.Q	.	.	.	.	
14.00	0.2054	0.39	.Q	.	.	.	.	
14.17	0.2109	0.41	.Q	.	.	.	.	
14.33	0.2167	0.42	.Q	.	.	.	.	
14.50	0.2227	0.45	.Q	.	.	.	.	
14.67	0.2291	0.47	.Q	.	.	.	.	
14.83	0.2360	0.53	. Q	.	.	.	.	
15.00	0.2435	0.57	. Q	.	.	.	.	
15.17	0.2521	0.68	. Q	.	.	.	.	
15.33	0.2620	0.75	. Q	.	.	.	.	
15.50	0.2707	0.51	. Q	.	.	.	.	
15.67	0.2786	0.64	. Q	.	.	.	.	
15.83	0.2975	2.10	.	Q .	.	.	.	
16.00	0.3313	2.82	.	.Q	.	.	.	
16.17	0.4006	7.23	.	.	.	Q .	.	
16.33	0.4560	0.83	. Q	.	.	.	.	
16.50	0.4675	0.84	. Q	.	.	.	.	
16.67	0.4775	0.62	. Q	.	.	.	.	
16.83	0.4852	0.49	.Q	.	.	.	.	
17.00	0.4916	0.44	.Q	.	.	.	.	
17.17	0.4974	0.40	.Q	.	.	.	.	
17.33	0.5027	0.37	.Q	.	.	.	.	
17.50	0.5077	0.35	.Q	.	.	.	.	
17.67	0.5123	0.32	.Q	.	.	.	.	
17.83	0.5166	0.31	.Q	.	.	.	.	
18.00	0.5207	0.29	.Q	.	.	.	.	
18.17	0.5245	0.25	Q	.	.	.	.	
18.33	0.5278	0.24	Q	.	.	.	.	
18.50	0.5310	0.23	Q	.	.	.	.	
18.67	0.5341	0.22	Q	.	.	.	.	
18.83	0.5370	0.21	Q	.	.	.	.	
19.00	0.5399	0.20	Q	.	.	.	.	
19.17	0.5426	0.20	Q	.	.	.	.	
19.33	0.5453	0.19	Q	.	.	.	.	
19.50	0.5478	0.18	Q	.	.	.	.	
19.67	0.5503	0.18	Q	.	.	.	.	
19.83	0.5528	0.17	Q	.	.	.	.	
20.00	0.5551	0.17	Q	.	.	.	.	
20.17	0.5575	0.17	Q	.	.	.	.	
20.33	0.5597	0.16	Q	.	.	.	.	
20.50	0.5619	0.16	Q	.	.	.	.	
20.67	0.5641	0.15	Q	.	.	.	.	
20.83	0.5662	0.15	Q	.	.	.	.	
21.00	0.5682	0.15	Q	.	.	.	.	
21.17	0.5702	0.15	Q	.	.	.	.	
21.33	0.5722	0.14	Q	.	.	.	.	
21.50	0.5742	0.14	Q	.	.	.	.	
21.67	0.5761	0.14	Q	.	.	.	.	
21.83	0.5779	0.13	Q	.	.	.	.	
22.00	0.5798	0.13	Q	.	.	.	.	
22.17	0.5816	0.13	Q	.	.	.	.	
22.33	0.5834	0.13	Q	.	.	.	.	
22.50	0.5851	0.13	Q	.	.	.	.	
22.67	0.5868	0.12	Q	.	.	.	.	
22.83	0.5885	0.12	Q	.	.	.	.	
23.00	0.5902	0.12	Q	.	.	.	.	
23.17	0.5919	0.12	Q	.	.	.	.	
23.33	0.5935	0.12	Q	.	.	.	.	
23.50	0.5951	0.12	Q	.	.	.	.	
23.67	0.5967	0.11	Q	.	.	.	.	
23.83	0.5982	0.11	Q	.	.	.	.	
24.00	0.5998	0.11	Q	.	.	.	.	
24.17	0.6005	0.00	Q	.	.	.	.	

TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:
(Note: 100% of Peak Flow Rate estimate assumed to have
an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
0%	1440.0
10%	60.0
20%	30.0
30%	20.0
40%	10.0
50%	10.0
60%	10.0

70%	10.0
80%	10.0
90%	10.0

```
_______________________________________________________________________________
*******************************************************************************
                      SMALL AREA UNIT HYDROGRAPH MODEL
===============================================================================
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            Ver. 23.0  Release Date: 07/01/2016  License ID 1334

                           Analysis prepared by:




*******************************************************************************
-------------------------------------------------------------------------------

 Problem Descriptions:
 SP8979 – Apple Valley
 PROPOSED 100 YEAR ON-SITE HYDROGRAPH

-------------------------------------------------------------------------------


    RATIONAL METHOD CALIBRATION COEFFICIENT = 0.90
    TOTAL CATCHMENT AREA(ACRES) =    8.96
    SOIL-LOSS RATE, Fm,(INCH/HR) =  0.038
    LOW LOSS FRACTION = 0.030
    TIME OF CONCENTRATION(MIN.) = 10.00
    SMALL AREA PEAK Q COMPUTED USING PEAK FLOW RATE FORMULA
    USER SPECIFIED RAINFALL VALUES ARE USED
    RETURN FREQUENCY(YEARS) = 100
       5-MINUTE POINT RAINFALL VALUE(INCHES) =  0.38
      30-MINUTE POINT RAINFALL VALUE(INCHES) =  0.83
       1-HOUR   POINT RAINFALL VALUE(INCHES) =  1.02
       3-HOUR   POINT RAINFALL VALUE(INCHES) =  1.49
       6-HOUR   POINT RAINFALL VALUE(INCHES) =  1.94
      24-HOUR   POINT RAINFALL VALUE(INCHES) =  3.41

-------------------------------------------------------------------------------

    TOTAL CATCHMENT   RUNOFF  VOLUME(ACRE-FEET) =     2.21
    TOTAL CATCHMENT SOIL-LOSS VOLUME(ACRE-FEET) =     0.34

*******************************************************************************
  TIME     VOLUME       Q    0.        7.5      15.0      22.5      30.0
 (HOURS)    (AF)      (CFS)
-------------------------------------------------------------------------------
  0.17      0.0031      0.45  Q         .         .         .         .
  0.33      0.0094      0.45  Q         .         .         .         .
  0.50      0.0157      0.46  Q         .         .         .         .
  0.67      0.0220      0.46  Q         .         .         .         .
  0.83      0.0284      0.46  Q         .         .         .         .
  1.00      0.0348      0.47  Q         .         .         .         .
  1.17      0.0412      0.47  Q         .         .         .         .
  1.33      0.0477      0.47  Q         .         .         .         .
  1.50      0.0543      0.48  Q         .         .         .         .
  1.67      0.0609      0.48  Q         .         .         .         .
  1.83      0.0675      0.48  Q         .         .         .         .
  2.00      0.0742      0.49  Q         .         .         .         .
  2.17      0.0809      0.49  Q         .         .         .         .
  2.33      0.0877      0.49  Q         .         .         .         .
  2.50      0.0945      0.50  Q         .         .         .         .
  2.67      0.1014      0.50  Q         .         .         .         .
  2.83      0.1083      0.51  Q         .         .         .         .
  3.00      0.1153      0.51  Q         .         .         .         .
  3.17      0.1223      0.51  Q         .         .         .         .
  3.33      0.1294      0.52  Q         .         .         .         .
  3.50      0.1365      0.52  Q         .         .         .         .
  3.67      0.1437      0.52  Q         .         .         .         .
  3.83      0.1510      0.53  Q         .         .         .         .
  4.00      0.1583      0.53  Q         .         .         .         .
  4.17      0.1656      0.54  Q         .         .         .         .
  4.33      0.1731      0.54  Q         .         .         .         .
  4.50      0.1806      0.55  Q         .         .         .         .
  4.67      0.1881      0.55  Q         .         .         .         .
  4.83      0.1957      0.56  Q         .         .         .         .
  5.00      0.2034      0.56  Q         .         .         .         .
  5.17      0.2112      0.57  Q         .         .         .         .
  5.33      0.2190      0.57  Q         .         .         .         .
  5.50      0.2269      0.58  Q         .         .         .         .
  5.67      0.2349      0.58  Q         .         .         .         .
  5.83      0.2429      0.59  Q         .         .         .         .
  6.00      0.2510      0.59  Q         .         .         .         .
  6.17      0.2592      0.60  Q         .         .         .         .
  6.33      0.2675      0.60  Q         .         .         .         .
  6.50      0.2759      0.61  Q         .         .         .         .
  6.67      0.2844      0.62  Q         .         .         .         .
  6.83      0.2929      0.62  Q         .         .         .         .
  7.00      0.3015      0.63  Q         .         .         .         .
  7.17      0.3103      0.64  Q         .         .         .         .
  7.33      0.3191      0.64  Q         .         .         .         .
  7.50      0.3280      0.65  Q         .         .         .         .
  7.67      0.3371      0.66  Q         .         .         .         .
  7.83      0.3462      0.67  Q         .         .         .         .
  8.00      0.3554      0.67  Q         .         .         .         .
  8.17      0.3648      0.68  Q         .         .         .         .
  8.33      0.3743      0.69  Q         .         .         .         .
  8.50      0.3839      0.70  Q         .         .         .         .
  8.67      0.3936      0.71  Q         .         .         .         .
  8.83      0.4034      0.72  Q         .         .         .         .
  9.00      0.4134      0.73  Q         .         .         .         .
  9.17      0.4235      0.74  Q         .         .         .         .
  9.33      0.4338      0.75  Q         .         .         .         .
```

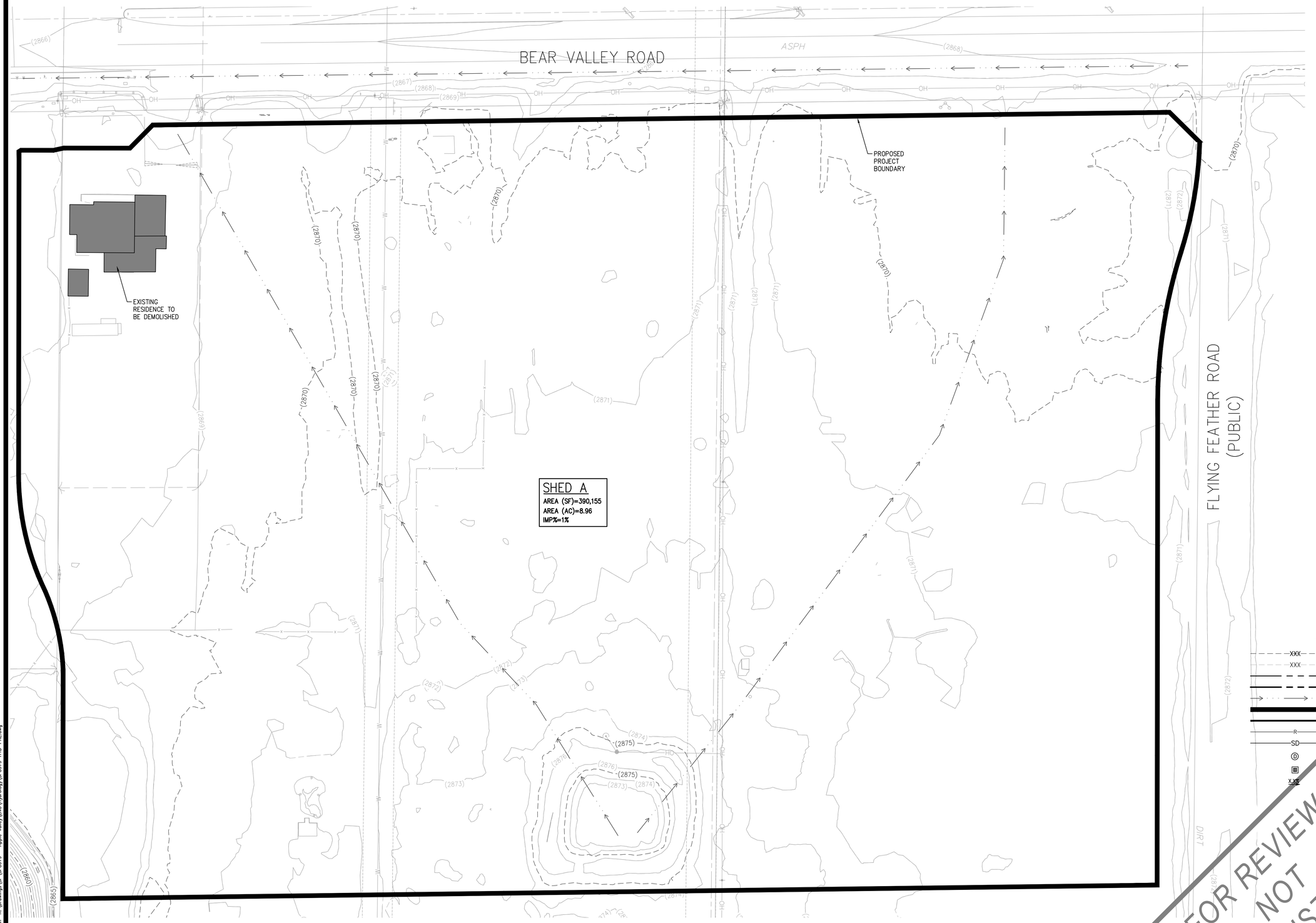
9.50	0.4442	0.76	.Q	.	.	.	.
9.67	0.4548	0.77	.Q	.	.	.	.
9.83	0.4655	0.79	.Q	.	.	.	.
10.00	0.4764	0.80	.Q	.	.	.	.
10.17	0.4875	0.81	.Q	.	.	.	.
10.33	0.4988	0.82	.Q	.	.	.	.
10.50	0.5103	0.84	.Q	.	.	.	.
10.67	0.5219	0.85	.Q	.	.	.	.
10.83	0.5338	0.87	.Q	.	.	.	.
11.00	0.5459	0.88	.Q	.	.	.	.
11.17	0.5582	0.91	.Q	.	.	.	.
11.33	0.5708	0.92	.Q	.	.	.	.
11.50	0.5837	0.95	.Q	.	.	.	.
11.67	0.5968	0.96	.Q	.	.	.	.
11.83	0.6102	0.99	.Q	.	.	.	.
12.00	0.6239	1.00	.Q	.	.	.	.
12.17	0.6376	0.97	.Q	.	.	.	.
12.33	0.6511	0.99	.Q	.	.	.	.
12.50	0.6649	1.03	.Q	.	.	.	.
12.67	0.6792	1.05	.Q	.	.	.	.
12.83	0.6939	1.09	.Q	.	.	.	.
13.00	0.7091	1.11	.Q	.	.	.	.
13.17	0.7248	1.16	.Q	.	.	.	.
13.33	0.7410	1.19	.Q	.	.	.	.
13.50	0.7578	1.25	.Q	.	.	.	.
13.67	0.7753	1.29	.Q	.	.	.	.
13.83	0.7936	1.36	.Q	.	.	.	.
14.00	0.8127	1.41	.Q	.	.	.	.
14.17	0.8318	1.37	.Q	.	.	.	.
14.33	0.8510	1.42	.Q	.	.	.	.
14.50	0.8714	1.54	. Q	.	.	.	.
14.67	0.8932	1.62	. Q	.	.	.	.
14.83	0.9167	1.80	. Q	.	.	.	.
15.00	0.9422	1.91	. Q	.	.	.	.
15.17	0.9705	2.19	. Q	.	.	.	.
15.33	1.0020	2.38	. Q	.	.	.	.
15.50	1.0357	2.53	. Q	.	.	.	.
15.67	1.0732	2.91	. Q	.	.	.	.
15.83	1.1367	6.31	. Q	.	.	.	.
16.00	1.2388	8.51	. .Q	.	.	.	.
16.17	1.4667	24.57	. .	.	.	Q	.
16.33	1.6598	3.48	. Q	.	.	.	.
16.50	1.7018	2.61	. Q	.	.	.	.
16.67	1.7338	2.04	. Q	.	.	.	.
16.83	1.7596	1.70	. Q	.	.	.	.
17.00	1.7815	1.48	.Q	.	.	.	.
17.17	1.8017	1.45	.Q	.	.	.	.
17.33	1.8208	1.33	.Q	.	.	.	.
17.50	1.8384	1.22	.Q	.	.	.	.
17.67	1.8546	1.14	.Q	.	.	.	.
17.83	1.8698	1.07	.Q	.	.	.	.
18.00	1.8841	1.01	.Q	.	.	.	.
18.17	1.8981	1.02	.Q	.	.	.	.
18.33	1.9118	0.97	.Q	.	.	.	.
18.50	1.9249	0.93	.Q	.	.	.	.
18.67	1.9375	0.90	.Q	.	.	.	.
18.83	1.9496	0.86	.Q	.	.	.	.
19.00	1.9613	0.83	.Q	.	.	.	.
19.17	1.9726	0.80	.Q	.	.	.	.
19.33	1.9835	0.78	.Q	.	.	.	.
19.50	1.9941	0.76	.Q	.	.	.	.
19.67	2.0043	0.73	Q	.	.	.	.
19.83	2.0143	0.72	Q	.	.	.	.
20.00	2.0240	0.70	Q	.	.	.	.
20.17	2.0335	0.68	Q	.	.	.	.
20.33	2.0428	0.66	Q	.	.	.	.
20.50	2.0518	0.65	Q	.	.	.	.
20.67	2.0606	0.63	Q	.	.	.	.
20.83	2.0693	0.62	Q	.	.	.	.
21.00	2.0777	0.61	Q	.	.	.	.
21.17	2.0860	0.60	Q	.	.	.	.
21.33	2.0941	0.58	Q	.	.	.	.
21.50	2.1021	0.57	Q	.	.	.	.
21.67	2.1099	0.56	Q	.	.	.	.
21.83	2.1176	0.55	Q	.	.	.	.
22.00	2.1252	0.54	Q	.	.	.	.
22.17	2.1326	0.53	Q	.	.	.	.
22.33	2.1399	0.53	Q	.	.	.	.
22.50	2.1471	0.52	Q	.	.	.	.
22.67	2.1542	0.51	Q	.	.	.	.
22.83	2.1612	0.50	Q	.	.	.	.
23.00	2.1680	0.50	Q	.	.	.	.
23.17	2.1748	0.49	Q	.	.	.	.
23.33	2.1815	0.48	Q	.	.	.	.
23.50	2.1881	0.48	Q	.	.	.	.
23.67	2.1946	0.47	Q	.	.	.	.
23.83	2.2010	0.46	Q	.	.	.	.
24.00	2.2073	0.46	Q	.	.	.	.
24.17	2.2105	0.00	Q	.	.	.	.

TIME DURATION(minutes) OF PERCENTILES OF ESTIMATED PEAK FLOW RATE:
(Note: 100% of Peak Flow Rate estimate assumed to have
an instantaneous time duration)

Percentile of Estimated Peak Flow Rate	Duration (minutes)
0%	1440.0
10%	70.0
20%	30.0
30%	20.0
40%	10.0
50%	10.0

60%	10.0
70%	10.0
80%	10.0
90%	10.0

Appendix E – Existing Condition Hydrology Map



FOR REVIEW ONLY NOT FOR CONSTRUCTION

NO.	DESCRIPTION	REVISIONS	BY	DATE

TAIT & ASSOCIATES
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Santa Ana Sacramento Denver Dallas
San Diego Riverside Boise Atlanta

PRELIMINARY PRE-CONSTRUCTION HYDROLOGY MAP

APPLE BEAR RETAIL SITE
WOOD INVESTMENT COMPANIES
2950 AIRWAY AVENUE, SUITE A-9
COSTA MESA, CA 92626

DRAWN: AJC
DATE:
CHECKED:
DATE:
REVISION #:
DATE:
JOB NO. SP8979

1 OF 1

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Sep. 12, 2022 - 3:41pm by rhatakin K:\Drawings\SP\SP8979 - Apple Valley\ENG\Hydrology\SP8979-HYD-PRE.dwg

Appendix F – Proposed Condition Hydrology Map

BEAR VALLEY ROAD

ASPH

FLYING FEATHER ROAD

STORM DRAIN CATCH BASIN

STORM DRAIN MANHOLE

CDS UNIT

DRIVE THRU

DRIVE THRU

DRIVE THRU

BYPASS LANE

VAN

NO ENTRY

NO ENTRY

SHED A
AREA (SF)=390,155
AREA (AC)=8.96
IMP%=85%

UNDERGROUND STORMWATER INFILTRATION FACILITY
STORAGE VOLUME=2.21 ACFT

N

0 30' 60'
SCALE: 1" = 30'

LEGEND

- MAJOR CONTOUR
- MINOR CONTOUR
- PARCEL LINE
- PROPERTY LINE
- OVERLAND FLOW PATH
- OVERALL SHED AREA
- SUB-SHED AREA
- RIDGE LINE
- STORM DRAIN LINE
- STORM DRAIN MANHOLE (OR CDS, SEE PLAN)
- STORM DRAIN CATCH BASIN
- SLOPE ARROW
- SUBAREA ID / SUBAREA AREA (AC)
- HYDROLOGY NODE ID / ELEVATION

NO.	DESCRIPTION	BY	DATE
	REVISIONS		

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PRELIMINARY POST CONSTRUCTION HYDROLOGY MAP

APPLE BEAR RETAIL SITE
WOOD INVESTMENT COMPANIES
2950 AIRWAY AVENUE, SUITE A-9
COSTA MESA, CA 92626

DRAWN: AJC
DATE:
CHECKED:
DATE:
REVISION #:
DATE:
JOB NO: SP8979

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CONSTRUCTION

Sep 12, 2022 - 5:23pm by rhoskin K:\Drawings\SP\SP8979 - Apple Valley\ENG\Hydrology\SP8979-HYD-POST.dwg

Noise Measurement Survey

Project Number: WDN2201 Test Personnel: Kevin Nguyendo

Project Name: Apple Bear Commercial Equipment: Larson Davis 831

Site Number: ST-1 Date: 9/28/22 Time: From 1:13 p.m. To 1:33 p.m.

Site Location: Located at the northwest corner of 12006 Locust Lane in Apple Valley. Near the property line.

Primary Noise Sources: Faint traffic on Bear Valley Road.

Measurement Results

	dBA
Leq	52.6
Lmax	65.6
Lmin	41.2
Lpeak	93.3
L2	57.2
L8	55.5
L25	53.5
L50	51.7
SEL	

Atmospheric Conditions:

Maximum Wind Velocity (mph)	4.9
Average Wind Velocity (mph)	1.5
Temperature (F)	105.0
Relative Humidity (%)	19.5
Comments:	

Comments:

Traffic Description:

Roadway	# Lanes	Speeds	NB/EB Counts			SB/WB Counts		
			Auto	MT	HT	Auto	MT	HT

Diagram:

Location Photo:

Noise Measurement Survey

Project Number: WDN2201 Test Personnel: Kevin Nguyendo

Project Name: Apple Bear Commercial Equipment: Larson Davis 831

Site Number: ST-2 Date: 9/28/22 Time: From 1:50 p.m. To 2:10 p.m.

Site Location: 11959 Apple Valley Road in Apple Valley. At the Apple Valley Post Acute Care Center. At the northeast corner of the property.

Primary Noise Sources: Traffic on Apple Valley Road. Rooftop HVAC noise from adult care facility.

Measurement Results

	dBA
Leq	48.0
Lmax	58.2
Lmin	44.2
Lpeak	104.2
L2	52.2
L8	49.6
L25	48.1
L50	47.4
SEL	

Atmospheric Conditions:

Maximum Wind Velocity (mph)	10.4
Average Wind Velocity (mph)	4.5
Temperature (F)	97.2
Relative Humidity (%)	23.3
Comments:	

Comments:

Traffic Description:

Roadway	# Lanes	Speeds	NB/EB Counts			SB/WB Counts		
			Auto	MT	HT	Auto	MT	HT

Diagram:

Location Photo:

Noise Measurement Survey – 24 HR

Project Number: WDN2201
Project Name: Apple Bear Commercial

Test Personnel: Kevin Nguyendo
Equipment: Spark 706RC (SN:905)

Site Number: LT-1 Date: 9/28/22

Time: From 1:00 p.m. To 1:00 p.m.

Site Location: North of the project site across Bear Valley Road near the drive through exit of 19380 Bear Valley Road, Apple Valley, CA 92308 on a light pole. Approximately 115 ft from the Bear Valley Road centerline.

Primary Noise Sources: Traffic on Bear Valley Road. Parking lot noise from the nearby El Pollo Loco.

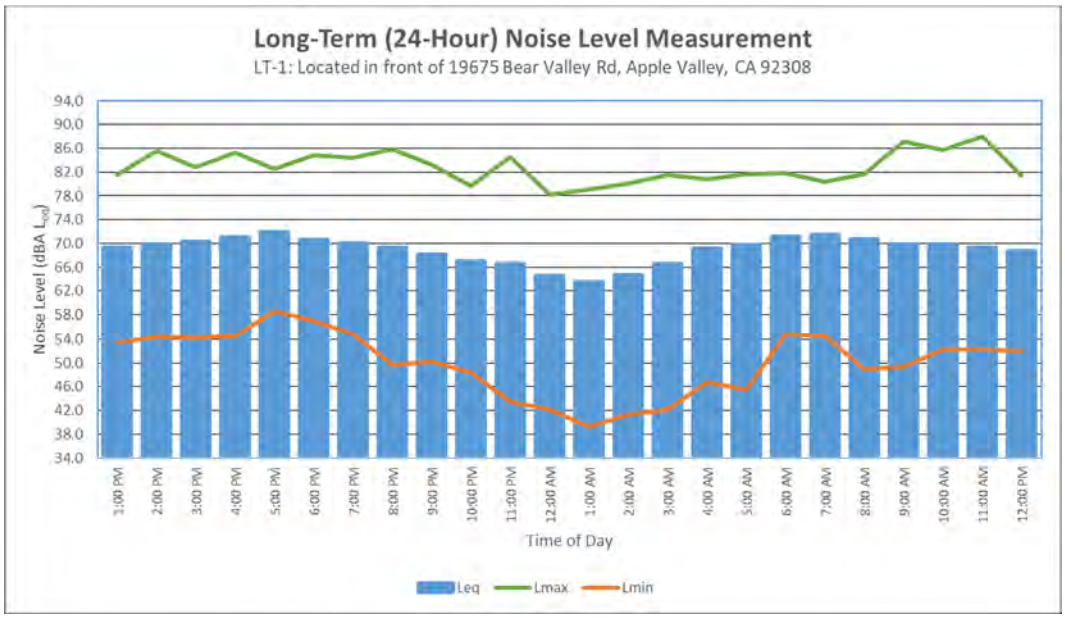
Comments:

Photo:

Long-Term (24-Hour) Noise Level Measurement Results at LT-1

Start Time	Date	Noise Level (dBA)		
		L_{eq}	L_{max}	L_{min}
1:00 PM	9/28/22	69.3	81.5	53.4
2:00 PM	9/28/22	69.8	85.6	54.4
3:00 PM	9/28/22	70.3	82.9	54.3
4:00 PM	9/28/22	71.0	85.3	54.5
5:00 PM	9/28/22	71.8	82.5	58.6
6:00 PM	9/28/22	70.6	84.9	57.0
7:00 PM	9/28/22	70.0	84.4	54.9
8:00 PM	9/28/22	69.3	85.8	49.6
9:00 PM	9/28/22	68.2	83.2	50.2
10:00 PM	9/28/22	67.0	79.6	48.3
11:00 PM	9/28/22	66.5	84.5	43.5
12:00 AM	9/29/22	64.5	78.2	42.2
1:00 AM	9/29/22	63.6	79.1	39.3
2:00 AM	9/29/22	64.6	80.1	41.3
3:00 AM	9/29/22	66.6	81.6	42.2
4:00 AM	9/29/22	69.1	80.8	46.8
5:00 AM	9/29/22	69.7	81.7	45.4
6:00 AM	9/29/22	71.2	81.8	54.8
7:00 AM	9/29/22	71.4	80.4	54.6
8:00 AM	9/29/22	70.8	81.7	49.0
9:00 AM	9/29/22	69.9	87.1	49.4
10:00 AM	9/29/22	69.8	85.7	52.3
11:00 AM	9/29/22	69.3	88.0	52.2
12:00 PM	9/29/22	68.7	81.4	52.0

Source: Compiled by LSA Associates, Inc. (2023).
dBA = A-weighted decibel
L_{eq} = equivalent continuous sound level
L_{max} = maximum instantaneous noise level
L_{min} = minimum measured sound level



Noise Measurement Survey – 24 HR

Project Number: WDN2201
Project Name: Apple Bear Commercial

Test Personnel: Kevin Nguyendo
Equipment: Spark 706RC (SN:907)

Site Number: LT-2 Date: 9/28/22

Time: From 1:00 p.m. To 1:00 p.m.

Site Location: Located east of the project site on a power line pole in front of the residence at 19675 Bear Valley Road, Apple Valley, CA 92308. Just south of Apple Bear Valley Road. Approximately 52 ft from Bear Valley Road centerline.

Primary Noise Sources: Traffic on Bear Valley Road.

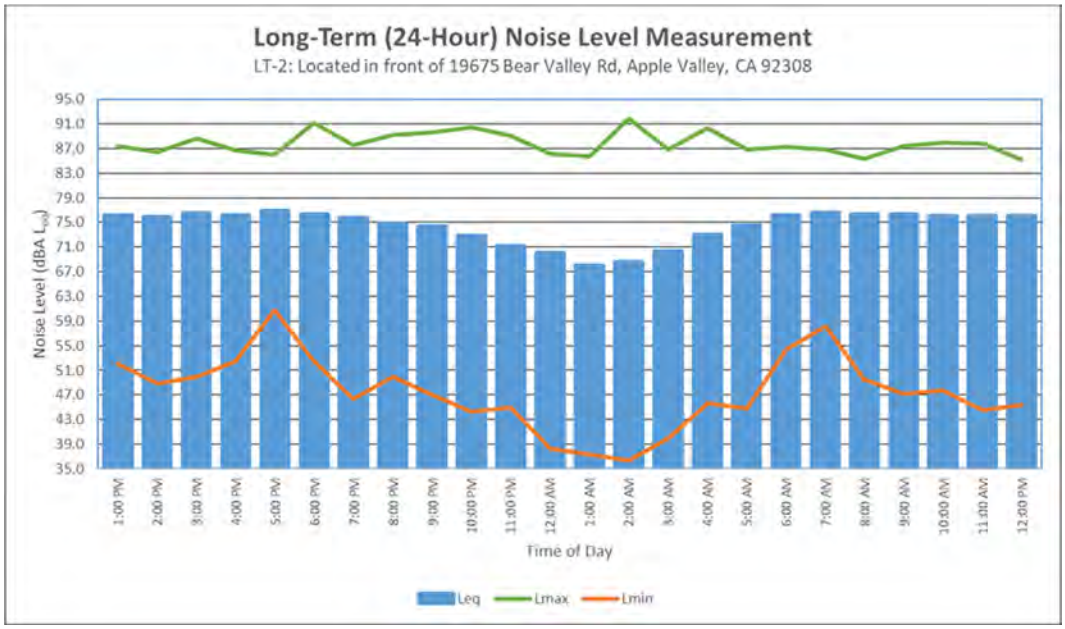
Comments: Nearby retaining wall height is 5 feet 4 inches.

Photo:

Long-Term (24-Hour) Noise Level Measurement Results at LT-2

Start Time	Date	Noise Level (dBA)		
		L_{eq}	L_{max}	L_{min}
1:00 PM	9/28/22	76.1	87.4	52.0
2:00 PM	9/28/22	75.9	86.5	48.9
3:00 PM	9/28/22	76.4	88.7	50.0
4:00 PM	9/28/22	76.1	86.7	52.4
5:00 PM	9/28/22	76.8	86.0	60.8
6:00 PM	9/28/22	76.3	91.2	52.4
7:00 PM	9/28/22	75.7	87.6	46.3
8:00 PM	9/28/22	74.8	89.2	50.0
9:00 PM	9/28/22	74.3	89.6	47.1
10:00 PM	9/28/22	72.9	90.4	44.3
11:00 PM	9/28/22	71.1	89.1	45.0
12:00 AM	9/29/22	70.1	86.1	38.3
1:00 AM	9/29/22	68.0	85.7	37.3
2:00 AM	9/29/22	68.5	91.8	36.4
3:00 AM	9/29/22	70.4	86.9	39.9
4:00 AM	9/29/22	73.0	90.3	45.7
5:00 AM	9/29/22	74.6	86.8	44.8
6:00 AM	9/29/22	76.2	87.2	54.4
7:00 AM	9/29/22	76.6	86.8	58.1
8:00 AM	9/29/22	76.3	85.3	49.5
9:00 AM	9/29/22	76.3	87.4	47.2
10:00 AM	9/29/22	76.1	88.0	47.7
11:00 AM	9/29/22	76.1	87.8	44.6
12:00 PM	9/29/22	76.0	85.2	45.4

Source: Compiled by LSA Associates, Inc. (2023).
dBA = A-weighted decibel
L_{eq} = equivalent continuous sound level
L_{max} = maximum instantaneous noise level
L_{min} = minimum measured sound level



Noise Measurement Survey – 24 HR

Project Number: WDN2201
Project Name: Apple Bear Commercial

Test Personnel: Kevin Nguyendo
Equipment: Spark 706RC (SN:908)

Site Number: LT-3 Date: 9/28/22

Time: From 1:00 p.m. To 1:00 p.m.

Site Location: Located west of a pet grooming business on the nearest powerline pole.

Primary Noise Sources: Faint barking noise from the nearby pet grooming business located southeast of the project site.

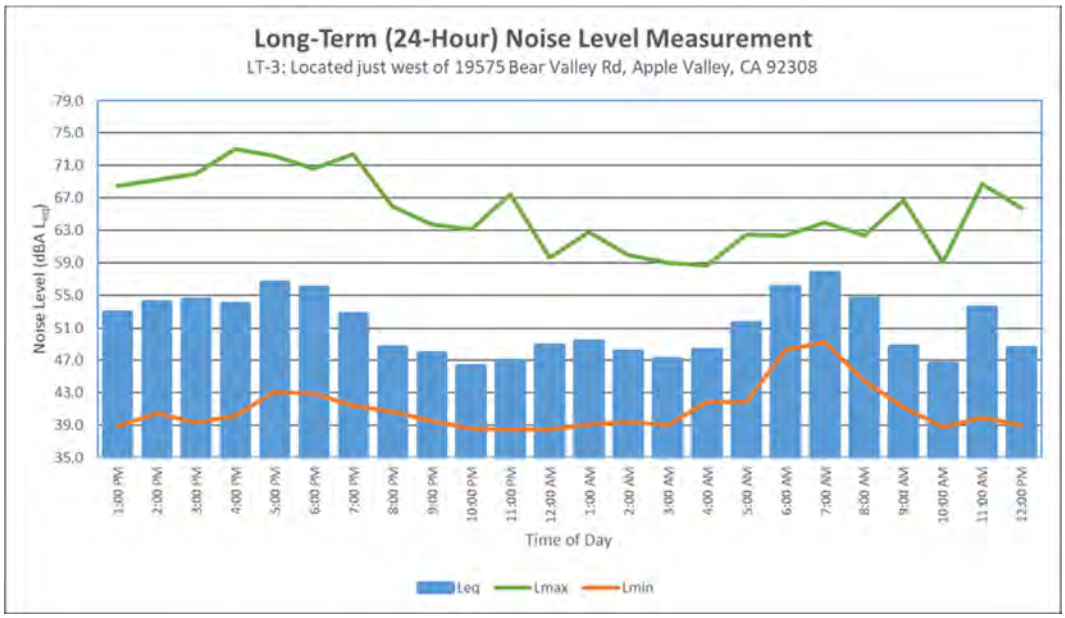
Comments:

Photo:

Long-Term (24-Hour) Noise Level Measurement Results at LT-3

Start Time	Date	Noise Level (dBA)		
		L_{eq}	L_{max}	L_{min}
1:00 PM	9/28/22	52.9	68.5	38.9
2:00 PM	9/28/22	54.2	69.2	40.5
3:00 PM	9/28/22	54.5	70.0	39.3
4:00 PM	9/28/22	53.9	73.0	40.2
5:00 PM	9/28/22	56.6	72.2	43.1
6:00 PM	9/28/22	55.9	70.6	42.9
7:00 PM	9/28/22	52.6	72.4	41.4
8:00 PM	9/28/22	48.6	66.0	40.7
9:00 PM	9/28/22	47.9	63.7	39.5
10:00 PM	9/28/22	46.3	63.1	38.6
11:00 PM	9/28/22	46.9	67.4	38.5
12:00 AM	9/29/22	48.8	59.6	38.5
1:00 AM	9/29/22	49.4	62.8	39.1
2:00 AM	9/29/22	48.1	59.9	39.4
3:00 AM	9/29/22	47.2	59.0	39.0
4:00 AM	9/29/22	48.3	58.7	41.9
5:00 AM	9/29/22	51.6	62.5	41.9
6:00 AM	9/29/22	56.0	62.4	48.3
7:00 AM	9/29/22	57.7	64.0	49.3
8:00 AM	9/29/22	54.5	62.4	44.5
9:00 AM	9/29/22	48.7	66.7	41.2
10:00 AM	9/29/22	46.7	59.1	38.8
11:00 AM	9/29/22	53.5	68.7	40.0
12:00 PM	9/29/22	48.5	65.7	39.0

Source: Compiled by LSA Associates, Inc. (2023).
dBA = A-weighted decibel
L_{eq} = equivalent continuous sound level
L_{max} = maximum instantaneous noise level
L_{min} = minimum measured sound level



Noise Measurement Survey – 24 HR

Project Number: WDN2201
Project Name: Apple Bear Commercial

Test Personnel: Kevin Nguyendo
Equipment: Spark 706RC (SN:119)

Site Number: LT-4 Date: 9/28/22

Time: From 1:00 p.m. To 1:00 p.m.

Site Location: Located at 19341 Bear Valley Road Suite 101, Apple Valley, CA 92308
On a tree west of the project site near the property wall.

Primary Noise Sources: Parking lot noise such as passing by and cars idling with the air conditioner on. Traffic on Apple Valley Road and Bear Valley Road.

Comments:

Photo:

Long-Term (24-Hour) Noise Level Measurement Results at LT-4

Start Time	Date	Noise Level (dBA)		
		L_{eq}	L_{max}	L_{min}
1:00 PM	9/28/22	57.1	68.0	46.8
2:00 PM	9/28/22	54.8	70.2	46.4
3:00 PM	9/28/22	57.0	73.7	47.5
4:00 PM	9/28/22	56.2	71.5	47.4
5:00 PM	9/28/22	58.0	72.2	49.4
6:00 PM	9/28/22	56.3	71.7	48.2
7:00 PM	9/28/22	56.0	73.0	47.6
8:00 PM	9/28/22	55.9	69.3	47.1
9:00 PM	9/28/22	56.2	74.0	46.8
10:00 PM	9/28/22	55.1	72.8	46.0
11:00 PM	9/28/22	54.2	71.6	45.2
12:00 AM	9/29/22	52.1	69.1	44.8
1:00 AM	9/29/22	52.4	66.9	44.7
2:00 AM	9/29/22	54.6	68.2	44.3
3:00 AM	9/29/22	55.7	67.1	43.9
4:00 AM	9/29/22	56.9	68.3	45.8
5:00 AM	9/29/22	58.2	69.3	47.1
6:00 AM	9/29/22	59.9	65.6	52.9
7:00 AM	9/29/22	59.4	73.2	50.5
8:00 AM	9/29/22	57.9	68.6	47.4
9:00 AM	9/29/22	56.9	70.6	46.4
10:00 AM	9/29/22	57.2	69.1	46.9
11:00 AM	9/29/22	56.8	69.8	46.4
12:00 PM	9/29/22	56.8	69.0	47.1

Source: Compiled by LSA Associates, Inc. (2023).
dBA = A-weighted decibel
L_{eq} = equivalent continuous sound level
L_{max} = maximum instantaneous noise level
L_{min} = minimum measured sound level

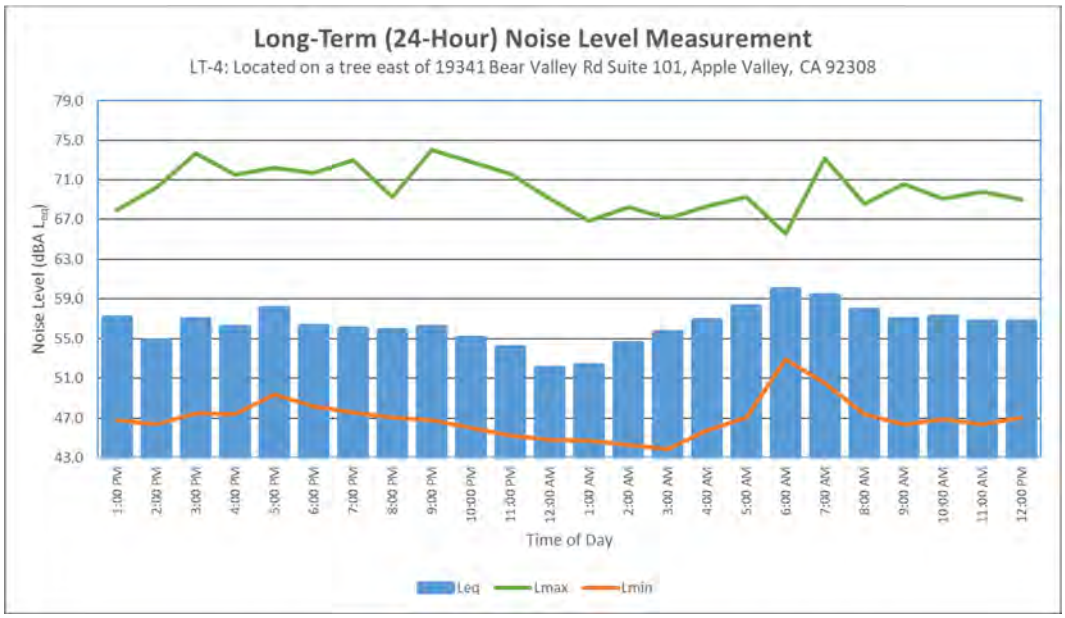


TABLE Existing (2022)-01
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/17/2023
ROADWAY SEGMENT: Bear Valley Road West of Jacaranda Avenue
NOTES: Apple Bear Commercial Project - Existing (2022)

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 35370 SPEED (MPH): 40 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 69.60

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
70.0	143.7	306.1	657.8

TABLE Existing (2022)-02
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/17/2023
ROADWAY SEGMENT: Bear Valley Road Between Jacaranda Avenue and Mojave Fish Hatchery Road
NOTES: Apple Bear Commercial Project - Existing (2022)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 40880 SPEED (MPH): 55 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 73.70

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
125.7	267.0	573.2	1233.8

TABLE Existing (2022)-03
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/17/2023
ROADWAY SEGMENT: Bear Valley Road Between Mojave Fish Hatchery Road and Jess Ranch Parkway
NOTES: Apple Bear Commercial Project - Existing (2022)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 40485 SPEED (MPH): 55 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 73.65

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
125.0	265.3	569.5	1225.9

TABLE Existing (2022)-04
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/17/2023
ROADWAY SEGMENT: Bear Valley Road Between Jess Ranch Parkway and Reata Road
NOTES: Apple Bear Commercial Project - Existing (2022)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 35380 SPEED (MPH): 55 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 73.07

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
114.6	242.7	520.7	1120.6

TABLE Existing (2022)-05
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/17/2023
ROADWAY SEGMENT: Bear Valley Road Between Reata Road and Apple Valley Road
NOTES: Apple Bear Commercial Project - Existing (2022)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 29800 SPEED (MPH): 55 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 72.32

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
102.8	216.7	464.5	999.5

TABLE Existing (2022)-06
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/17/2023
ROADWAY SEGMENT: Bear Valley Road Between Apple Valley Road and Flying Feather Road
NOTES: Apple Bear Commercial Project - Existing (2022)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 26625 SPEED (MPH): 55 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 71.83

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
95.8	201.2	431.0	927.2

TABLE Existing (2022)-07
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/17/2023
ROADWAY SEGMENT: Bear Valley Road Between Flying Feather Road and Deep Creek Road
NOTES: Apple Bear Commercial Project - Existing (2022)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 26960 SPEED (MPH): 55 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 71.89

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
96.6	202.9	434.6	935.0

TABLE Existing (2022)-08
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/17/2023
ROADWAY SEGMENT: Bear Valley Road Between Deep Creek Road and Kiowa Road
NOTES: Apple Bear Commercial Project - Existing (2022)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 25390 SPEED (MPH): 55 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 71.63

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL	70 CNEL	65 CNEL	60 CNEL	55 CNEL
	93.0	195.0	417.6	898.3

TABLE Existing (2022)-09
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/17/2023
ROADWAY SEGMENT: Pimlico Road West of Apple Valley Road
NOTES: Apple Bear Commercial Project - Existing (2022)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 7260 SPEED (MPH): 40 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 8 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 64.02

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	106.7	229.3

TABLE Existing (2022)-10
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/17/2023
ROADWAY SEGMENT: Reata Road North of Bear Valley Road
NOTES: Apple Bear Commercial Project - Existing (2022)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 8020 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 65.93

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	64.4	138.3	297.8

TABLE Existing (2022)-11
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/17/2023
ROADWAY SEGMENT: Apple Valley Road North of Pimlico Road
NOTES: Apple Bear Commercial Project - Existing (2022)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 21890 SPEED (MPH): 55 GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 70.98

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
84.9	177.0	378.4	813.8

TABLE Existing (2022)-12
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/17/2023
ROADWAY SEGMENT: Apple Valley Road Between Pimlico Road and Bear Valley Road
NOTES: Apple Bear Commercial Project - Existing (2022)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 17000 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 29 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 67.37

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	109.5	229.4	491.0

TABLE Existing (2022)-13
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/17/2023
ROADWAY SEGMENT: Apple Valley Road South of Bear Valley Road
NOTES: Apple Bear Commercial Project - Existing (2022)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 10670 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 29 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 65.34

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	82.7	169.3	360.4

TABLE Existing (2022)-14
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/17/2023
ROADWAY SEGMENT: Deep Creek Road South of Bear Valley Road
NOTES: Apple Bear Commercial Project - Existing (2022)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 4180 SPEED (MPH): 55 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 65.30

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	58.6	125.6	270.4

TABLE Existing (2022)-15
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/17/2023
ROADWAY SEGMENT: Kiowa Road North of Bear Valley Road
NOTES: Apple Bear Commercial Project - Existing (2022)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 8300 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 10 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 65.68

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	66.4	141.7	304.6

TABLE Existing (2022)-16
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/17/2023
ROADWAY SEGMENT: Kiowa Road South of Bear Valley Road
NOTES: Apple Bear Commercial Project - Existing (2022)

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 10900 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 10 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 66.86

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	79.3	169.8	365.2

TABLE Existing (2022) Plus Project-01
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/17/2023
ROADWAY SEGMENT: Bear Valley Road West of Jacaranda Avenue
NOTES: Apple Bear Commercial Project - Existing (2022) Plus Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 35810 SPEED (MPH): 40 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 69.65

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL	70 CNEL	65 CNEL	60 CNEL	55 CNEL
	70.5	144.8	308.6	663.2

TABLE Existing (2022) Plus Project-02
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/17/2023
ROADWAY SEGMENT: Bear Valley Road Between Jacaranda Avenue and Mojave Fish Hatchery Road
NOTES: Apple Bear Commercial Project - Existing (2022) Plus Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 41535 SPEED (MPH): 55 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 73.77

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
127.0	269.8	579.3	1247.0

TABLE Existing (2022) Plus Project-03
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/17/2023
ROADWAY SEGMENT: Bear Valley Road Between Mojave Fish Hatchery Road and Jess Ranch Parkway
NOTES: Apple Bear Commercial Project - Existing (2022) Plus Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 41350 SPEED (MPH): 55 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 73.75

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
126.7	269.0	577.6	1243.3

TABLE Existing (2022) Plus Project-04
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/17/2023
ROADWAY SEGMENT: Bear Valley Road Between Jess Ranch Parkway and Reata Road
NOTES: Apple Bear Commercial Project - Existing (2022) Plus Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 36460 SPEED (MPH): 55 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 73.20

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
116.9	247.5	531.2	1143.3

TABLE Existing (2022) Plus Project-05
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/17/2023
ROADWAY SEGMENT: Bear Valley Road Between Reata Road and Apple Valley Road
NOTES: Apple Bear Commercial Project - Existing (2022) Plus Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 31100 SPEED (MPH): 55 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 72.51

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
105.6	222.9	477.9	1028.3

TABLE Existing (2022) Plus Project-06
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/17/2023
ROADWAY SEGMENT: Bear Valley Road Between Apple Valley Road and Flying Feather Road
NOTES: Apple Bear Commercial Project - Existing (2022) Plus Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 28280 SPEED (MPH): 55 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 72.10

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
99.5	209.3	448.6	965.2

TABLE Existing (2022) Plus Project-07
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/17/2023
ROADWAY SEGMENT: Bear Valley Road Between Flying Feather Road and Deep Creek Road
NOTES: Apple Bear Commercial Project - Existing (2022) Plus Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 28685 SPEED (MPH): 55 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 72.16

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL	70 CNEL	65 CNEL	60 CNEL	55 CNEL
	100.4	211.3	452.9	974.4

TABLE Existing (2022) Plus Project-08
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/17/2023
ROADWAY SEGMENT: Bear Valley Road Between Deep Creek Road and Kiowa Road
NOTES: Apple Bear Commercial Project - Existing (2022) Plus Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 26480 SPEED (MPH): 55 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 71.81

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL	70 CNEL	65 CNEL	60 CNEL	55 CNEL
	95.5	200.5	429.4	923.8

TABLE Existing (2022) Plus Project-09
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/17/2023
ROADWAY SEGMENT: Pimlico Road West of Apple Valley Road
NOTES: Apple Bear Commercial Project - Existing (2022) Plus Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 7480 SPEED (MPH): 40 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 8 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 64.15

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	51.0	108.8	233.9

TABLE Existing (2022) Plus Project-10
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/17/2023
ROADWAY SEGMENT: Reata Road North of Bear Valley Road
NOTES: Apple Bear Commercial Project - Existing (2022) Plus Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 8240 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 66.04

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	65.6	140.9	303.2

TABLE Existing (2022) Plus Project-11
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/17/2023
ROADWAY SEGMENT: Apple Valley Road North of Pimlico Road
NOTES: Apple Bear Commercial Project - Existing (2022) Plus Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 22330 SPEED (MPH): 55 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES			
	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 71.07

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
85.9	179.3	383.4	824.7

TABLE Existing (2022) Plus Project-12
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/17/2023
ROADWAY SEGMENT: Apple Valley Road Between Pimlico Road and Bear Valley Road
NOTES: Apple Bear Commercial Project - Existing (2022) Plus Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 17655 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 29 SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 67.53

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
58.0	112.1	235.1	503.3

TABLE Existing (2022) Plus Project-13
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/17/2023
ROADWAY SEGMENT: Apple Valley Road South of Bear Valley Road
NOTES: Apple Bear Commercial Project - Existing (2022) Plus Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 11320 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 29 SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 65.60

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	85.6	175.9	374.9

TABLE Existing (2022) Plus Project-14
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/17/2023
ROADWAY SEGMENT: Deep Creek Road South of Bear Valley Road
NOTES: Apple Bear Commercial Project - Existing (2022) Plus Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 4620 SPEED (MPH): 55 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 65.73

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	62.6	134.3	289.0

TABLE Existing (2022) Plus Project-15
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/17/2023
ROADWAY SEGMENT: Kiowa Road North of Bear Valley Road
NOTES: Apple Bear Commercial Project - Existing (2022) Plus Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 8520 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 10 SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 65.79

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	67.5	144.2	310.0

TABLE Existing (2022) Plus Project-16
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/17/2023
ROADWAY SEGMENT: Kiowa Road South of Bear Valley Road
NOTES: Apple Bear Commercial Project - Existing (2022) Plus Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 11120 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 10 SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 66.95

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	80.4	172.1	370.1

TABLE Opening Year (2024) No Project-01
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/17/2023
ROADWAY SEGMENT: Bear Valley Road West of Jacaranda Avenue
NOTES: Apple Bear Commercial Project - Opening Year (2024) No Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 40190 SPEED (MPH): 40 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 70.15

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
75.5	156.1	333.2	716.2

TABLE Opening Year (2024) No Project-02
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/17/2023
ROADWAY SEGMENT: Bear Valley Road Between Jacaranda Avenue and Mojave Fish Hatchery Road
NOTES: Apple Bear Commercial Project - Opening Year (2024) No Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 46105 SPEED (MPH): 55 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 74.22

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
135.9	289.1	621.0	1336.8

TABLE Opening Year (2024) No Project-03
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/17/2023
ROADWAY SEGMENT: Bear Valley Road Between Mojave Fish Hatchery Road and Jess Ranch Parkway
NOTES: Apple Bear Commercial Project - Opening Year (2024) No Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 45655 SPEED (MPH): 55 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 74.18

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
135.0	287.2	616.9	1328.1

TABLE Opening Year (2024) No Project-04
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/17/2023
ROADWAY SEGMENT: Bear Valley Road Between Jess Ranch Parkway and Reata Road
NOTES: Apple Bear Commercial Project - Opening Year (2024) No Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 40280 SPEED (MPH): 55 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 73.63

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
124.6	264.4	567.6	1221.7

TABLE Opening Year (2024) No Project-05
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/17/2023
ROADWAY SEGMENT: Bear Valley Road Between Reata Road and Apple Valley Road
NOTES: Apple Bear Commercial Project - Opening Year (2024) No Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 34370 SPEED (MPH): 55 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 72.94

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
112.5	238.1	510.7	1099.2

TABLE Opening Year (2024) No Project-06
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/17/2023
ROADWAY SEGMENT: Bear Valley Road Between Apple Valley Road and Flying Feather Road
NOTES: Apple Bear Commercial Project - Opening Year (2024) No Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 31415 SPEED (MPH): 55 GRADE: .5

	TRAFFIC DISTRIBUTION PERCENTAGES		
	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 72.55

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
106.3	224.4	481.1	1035.3

TABLE Opening Year (2024) No Project-07
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/17/2023
ROADWAY SEGMENT: Bear Valley Road Between Flying Feather Road and Deep Creek Road
NOTES: Apple Bear Commercial Project - Opening Year (2024) No Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 31335 SPEED (MPH): 55 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 72.54

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
106.1	224.0	480.3	1033.5

TABLE Opening Year (2024) No Project-08
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/17/2023
ROADWAY SEGMENT: Bear Valley Road Between Deep Creek Road and Kiowa Road
NOTES: Apple Bear Commercial Project - Opening Year (2024) No Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 29045 SPEED (MPH): 55 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 72.21

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL	70 CNEL	65 CNEL	60 CNEL	55 CNEL
	101.2	213.1	456.6	982.5

TABLE Opening Year (2024) No Project-09
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/17/2023
ROADWAY SEGMENT: Pimlico Road West of Apple Valley Road
NOTES: Apple Bear Commercial Project - Opening Year (2024) No Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 7560 SPEED (MPH): 40 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 8 SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 64.19

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	51.4	109.6	235.6

TABLE Opening Year (2024) No Project-10
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/17/2023
ROADWAY SEGMENT: Reata Road North of Bear Valley Road
NOTES: Apple Bear Commercial Project - Opening Year (2024) No Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 8340 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 66.10

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	66.1	142.0	305.6

TABLE Opening Year (2024) No Project-11
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/17/2023
ROADWAY SEGMENT: Apple Valley Road North of Pimlico Road
NOTES: Apple Bear Commercial Project - Opening Year (2024) No Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 24430 SPEED (MPH): 55 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES			
	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 71.46

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
90.8	190.2	407.0	875.6

TABLE Opening Year (2024) No Project-12
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/17/2023
ROADWAY SEGMENT: Apple Valley Road Between Pimlico Road and Bear Valley Road
NOTES: Apple Bear Commercial Project - Opening Year (2024) No Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 19355 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 29 SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 67.93

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
60.8	118.7	249.7	535.1

TABLE Opening Year (2024) No Project-13
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/17/2023
ROADWAY SEGMENT: Apple Valley Road South of Bear Valley Road
NOTES: Apple Bear Commercial Project - Opening Year (2024) No Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 11540 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 29 SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 65.68

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL	70 CNEL	65 CNEL	60 CNEL	55 CNEL
	0.0	86.6	178.1	379.7

TABLE Opening Year (2024) No Project-14
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/17/2023
ROADWAY SEGMENT: Deep Creek Road South of Bear Valley Road
NOTES: Apple Bear Commercial Project - Opening Year (2024) No Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 5280 SPEED (MPH): 55 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 66.31

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	68.3	146.8	315.9

TABLE Opening Year (2024) No Project-15
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/17/2023
ROADWAY SEGMENT: Kiowa Road North of Bear Valley Road
NOTES: Apple Bear Commercial Project - Opening Year (2024) No Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 9610 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 10 SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 66.31

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	73.0	156.2	335.9

TABLE Opening Year (2024) No Project-16
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/17/2023
ROADWAY SEGMENT: Kiowa Road South of Bear Valley Road
NOTES: Apple Bear Commercial Project - Opening Year (2024) No Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 12050 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 10 SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 67.30

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	84.7	181.5	390.5

TABLE Opening Year (2024) Plus Project-01
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/17/2023
ROADWAY SEGMENT: Bear Valley Road West of Jacaranda Avenue
NOTES: Apple Bear Commercial Project - Opening Year (2024) Plus Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 40630 SPEED (MPH): 40 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 70.20

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL	70 CNEL	65 CNEL	60 CNEL	55 CNEL
	76.0	157.2	335.6	721.4

TABLE Opening Year (2024) Plus Project-02
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/17/2023
ROADWAY SEGMENT: Bear Valley Road Between Jacaranda Avenue and Mojave Fish Hatchery Road
NOTES: Apple Bear Commercial Project - Opening Year (2024) Plus Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 46760 SPEED (MPH): 55 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 74.28

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
137.1	291.8	626.8	1349.4

TABLE Opening Year (2024) Plus Project-03
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/17/2023
ROADWAY SEGMENT: Bear Valley Road Between Mojave Fish Hatchery Road and Jess Ranch Parkway
NOTES: Apple Bear Commercial Project - Opening Year (2024) Plus Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 46520 SPEED (MPH): 55 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 74.26

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
136.7	290.8	624.7	1344.8

TABLE Opening Year (2024) Plus Project-04
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/17/2023
ROADWAY SEGMENT: Bear Valley Road Between Jess Ranch Parkway and Reata Road
NOTES: Apple Bear Commercial Project - Opening Year (2024) Plus Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 41360 SPEED (MPH): 55 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 73.75

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
126.7	269.0	577.7	1243.5

TABLE Opening Year (2024) Plus Project-05
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/17/2023
ROADWAY SEGMENT: Bear Valley Road Between Reata Road and Apple Valley Road
NOTES: Apple Bear Commercial Project - Opening Year (2024) Plus Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 35670 SPEED (MPH): 55 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 73.10

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
115.2	244.0	523.5	1126.7

TABLE Opening Year (2024) Plus Project-06
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/17/2023
ROADWAY SEGMENT: Bear Valley Road Between Apple Valley Road and Flying Feather Road
NOTES: Apple Bear Commercial Project - Opening Year (2024) Plus Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 33070 SPEED (MPH): 55 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 72.78

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
109.8	232.1	497.8	1071.3

TABLE Opening Year (2024) Plus Project-07
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/17/2023
ROADWAY SEGMENT: Bear Valley Road Between Flying Feather Road and Deep Creek Road
NOTES: Apple Bear Commercial Project - Opening Year (2024) Plus Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 33060 SPEED (MPH): 55 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 72.77

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
109.8	232.0	497.7	1071.1

TABLE Opening Year (2024) Plus Project-08
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/17/2023
ROADWAY SEGMENT: Bear Valley Road Between Deep Creek Road and Kiowa Road
NOTES: Apple Bear Commercial Project - Opening Year (2024) Plus Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 30135 SPEED (MPH): 55 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 72.37

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
103.5	218.3	468.0	1007.0

TABLE Opening Year (2024) Plus Project-09
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/17/2023
ROADWAY SEGMENT: Pimlico Road West of Apple Valley Road
NOTES: Apple Bear Commercial Project - Opening Year (2024) Plus Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 7780 SPEED (MPH): 40 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 8 SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 64.32

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	52.3	111.7	240.1

TABLE Opening Year (2024) Plus Project-10
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/17/2023
ROADWAY SEGMENT: Reata Road North of Bear Valley Road
NOTES: Apple Bear Commercial Project - Opening Year (2024) Plus Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 8560 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 66.21

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	67.3	144.5	311.0

TABLE Opening Year (2024) Plus Project-11
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/17/2023
ROADWAY SEGMENT: Apple Valley Road North of Pimlico Road
NOTES: Apple Bear Commercial Project - Opening Year (2024) Plus Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 24870 SPEED (MPH): 55 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 71.54

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
91.8	192.4	411.9	886.0

TABLE Opening Year (2024) Plus Project-12
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/17/2023
ROADWAY SEGMENT: Apple Valley Road Between Pimlico Road and Bear Valley Road
NOTES: Apple Bear Commercial Project - Opening Year (2024) Plus Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 20010 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 29 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 68.07

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
61.9	121.3	255.3	547.0

TABLE Opening Year (2024) Plus Project-13
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/17/2023
ROADWAY SEGMENT: Apple Valley Road South of Bear Valley Road
NOTES: Apple Bear Commercial Project - Opening Year (2024) Plus Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 12190 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 29 SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 65.92

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	89.5	184.6	393.7

TABLE Opening Year (2024) Plus Project-14
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/17/2023
ROADWAY SEGMENT: Deep Creek Road South of Bear Valley Road
NOTES: Apple Bear Commercial Project - Opening Year (2024) Plus Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 5720 SPEED (MPH): 55 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 66.66

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	72.1	154.8	333.2

TABLE Opening Year (2024) Plus Project-15
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/17/2023
ROADWAY SEGMENT: Kiowa Road North of Bear Valley Road
NOTES: Apple Bear Commercial Project - Opening Year (2024) Plus Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 9830 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 10 SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 66.41

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	74.1	158.5	341.0

TABLE Opening Year (2024) Plus Project-16
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/17/2023
ROADWAY SEGMENT: Kiowa Road South of Bear Valley Road
NOTES: Apple Bear Commercial Project - Opening Year (2024) Plus Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 12270 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 10 SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 67.37

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	85.7	183.7	395.2

TABLE Horizon Year (2045) Cumulative No Project-01

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/17/2023
ROADWAY SEGMENT: Bear Valley Road West of Jacaranda Avenue
NOTES: Apple Bear Commercial Project - Horizon Year (2045) Cumulative No Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 42210 SPEED (MPH): 40 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 70.36

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
77.8	161.2	344.2	739.9

TABLE Horizon Year (2045) Cumulative No Project-02

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/17/2023
ROADWAY SEGMENT: Bear Valley Road Between Jacaranda Avenue and Mojave Fish Hatchery Road
NOTES: Apple Bear Commercial Project - Horizon Year (2045) Cumulative No Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 48410 SPEED (MPH): 55 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 74.43

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
140.2	298.6	641.5	1381.0

TABLE Horizon Year (2045) Cumulative No Project-03

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/17/2023
ROADWAY SEGMENT: Bear Valley Road Between Mojave Fish Hatchery Road and Jess Ranch Parkway
NOTES: Apple Bear Commercial Project - Horizon Year (2045) Cumulative No Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 47920 SPEED (MPH): 55 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 74.39

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
139.3	296.6	637.1	1371.7

TABLE Horizon Year (2045) Cumulative No Project-04

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/17/2023
ROADWAY SEGMENT: Bear Valley Road Between Jess Ranch Parkway and Reata Road
NOTES: Apple Bear Commercial Project - Horizon Year (2045) Cumulative No Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 42300 SPEED (MPH): 55 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 73.85

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL	70 CNEL	65 CNEL	60 CNEL	55 CNEL
	128.5	273.1	586.4	1262.2

TABLE Horizon Year (2045) Cumulative No Project-05

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/17/2023
ROADWAY SEGMENT: Bear Valley Road Between Reata Road and Apple Valley Road
NOTES: Apple Bear Commercial Project - Horizon Year (2045) Cumulative No Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 35965 SPEED (MPH): 55 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 73.14

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL	70 CNEL	65 CNEL	60 CNEL	55 CNEL
	115.8	245.3	526.4	1132.9

TABLE Horizon Year (2045) Cumulative No Project-06

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/17/2023
ROADWAY SEGMENT: Bear Valley Road Between Apple Valley Road and Flying Feather Road
NOTES: Apple Bear Commercial Project - Horizon Year (2045) Cumulative No Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 32525 SPEED (MPH): 55 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 72.70

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL	70 CNEL	65 CNEL	60 CNEL	55 CNEL
	108.7	229.5	492.3	1059.5

TABLE Horizon Year (2045) Cumulative No Project-07

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/17/2023
ROADWAY SEGMENT: Bear Valley Road Between Flying Feather Road and Deep Creek Road
NOTES: Apple Bear Commercial Project - Horizon Year (2045) Cumulative No Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 32955 SPEED (MPH): 55 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 72.76

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
109.6	231.5	496.6	1068.8

TABLE Horizon Year (2045) Cumulative No Project-08

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/17/2023
ROADWAY SEGMENT: Bear Valley Road Between Deep Creek Road and Kiowa Road
NOTES: Apple Bear Commercial Project - Horizon Year (2045) Cumulative No Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 31285 SPEED (MPH): 55 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 72.54

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
106.0	223.7	479.8	1032.4

TABLE Horizon Year (2045) Cumulative No Project-09

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/17/2023
ROADWAY SEGMENT: Pimlico Road West of Apple Valley Road
NOTES: Apple Bear Commercial Project - Horizon Year (2045) Cumulative No Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 7880 SPEED (MPH): 40 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 8 SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 64.37

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	52.8	112.6	242.2

TABLE Horizon Year (2045) Cumulative No Project-10

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/17/2023
ROADWAY SEGMENT: Reata Road North of Bear Valley Road
NOTES: Apple Bear Commercial Project - Horizon Year (2045) Cumulative No Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 8750 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 66.30

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	68.3	146.6	315.6

TABLE Horizon Year (2045) Cumulative No Project-11

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/17/2023
ROADWAY SEGMENT: Apple Valley Road North of Pimlico Road
NOTES: Apple Bear Commercial Project - Horizon Year (2045) Cumulative No Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 25690 SPEED (MPH): 55 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 71.68

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
93.7	196.5	420.9	905.4

TABLE Horizon Year (2045) Cumulative No Project-12

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/17/2023
ROADWAY SEGMENT: Apple Valley Road Between Pimlico Road and Bear Valley Road
NOTES: Apple Bear Commercial Project - Horizon Year (2045) Cumulative No Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 20405 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 29 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 68.16

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
62.5	122.8	258.6	554.2

TABLE Horizon Year (2045) Cumulative No Project-13

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/17/2023
ROADWAY SEGMENT: Apple Valley Road South of Bear Valley Road
NOTES: Apple Bear Commercial Project - Horizon Year (2045) Cumulative No Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 12350 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 29 SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 65.98

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	90.2	186.1	397.1

TABLE Horizon Year (2045) Cumulative No Project-14

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/17/2023
ROADWAY SEGMENT: Deep Creek Road South of Bear Valley Road
NOTES: Apple Bear Commercial Project - Horizon Year (2045) Cumulative No Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 6900 SPEED (MPH): 55 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 67.47

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	81.6	175.4	377.6

TABLE Horizon Year (2045) Cumulative No Project-15

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/17/2023
ROADWAY SEGMENT: Kiowa Road North of Bear Valley Road
NOTES: Apple Bear Commercial Project - Horizon Year (2045) Cumulative No Project

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 10100 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 10 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 66.53

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	75.5	161.4	347.2

TABLE Horizon Year (2045) Cumulative No Project-16

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/17/2023
ROADWAY SEGMENT: Kiowa Road South of Bear Valley Road
NOTES: Apple Bear Commercial Project - Horizon Year (2045) Cumulative No Project

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 12910 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 10 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 67.60

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	88.7	190.0	408.8

TABLE Horizon Year (2045) Cumulative Plus Project-01

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/17/2023
ROADWAY SEGMENT: Bear Valley Road West of Jacaranda Avenue
NOTES: Apple Bear Commercial Project - Horizon Year (2045) Cumulative Plus Project

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 42650 SPEED (MPH): 40 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 70.41

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
78.3	162.3	346.6	745.1

TABLE Horizon Year (2045) Cumulative Plus Project-02

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/17/2023
ROADWAY SEGMENT: Bear Valley Road Between Jacaranda Avenue and Mojave Fish Hatchery Road
NOTES: Apple Bear Commercial Project - Horizon Year (2045) Cumulative Plus Project

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 49065 SPEED (MPH): 55 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 74.49

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
141.5	301.2	647.2	1393.4

TABLE Horizon Year (2045) Cumulative Plus Project-03

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/17/2023
ROADWAY SEGMENT: Bear Valley Road Between Mojave Fish Hatchery Road and Jess Ranch Parkway
NOTES: Apple Bear Commercial Project - Horizon Year (2045) Cumulative Plus Project

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 48785 SPEED (MPH): 55 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES			
	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 74.46

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
140.9	300.1	644.8	1388.1

TABLE Horizon Year (2045) Cumulative Plus Project-04

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/17/2023
ROADWAY SEGMENT: Bear Valley Road Between Jess Ranch Parkway and Reata Road
NOTES: Apple Bear Commercial Project - Horizon Year (2045) Cumulative Plus Project

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 43380 SPEED (MPH): 55 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 73.95

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL	70 CNEL	65 CNEL	60 CNEL	55 CNEL
	130.6	277.6	596.3	1283.6

TABLE Horizon Year (2045) Cumulative Plus Project-05

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/17/2023
ROADWAY SEGMENT: Bear Valley Road Between Reata Road and Apple Valley Road
NOTES: Apple Bear Commercial Project - Horizon Year (2045) Cumulative Plus Project

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 37265 SPEED (MPH): 55 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 73.29

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
118.5	251.1	539.0	1160.0

TABLE Horizon Year (2045) Cumulative Plus Project-06

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/17/2023
ROADWAY SEGMENT: Bear Valley Road Between Apple Valley Road and Flying Feather Road
NOTES: Apple Bear Commercial Project - Horizon Year (2045) Cumulative Plus Project

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 34180 SPEED (MPH): 55 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 72.92

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL	70 CNEL	65 CNEL	60 CNEL	55 CNEL
	112.1	237.2	508.8	1095.1

TABLE Horizon Year (2045) Cumulative Plus Project-07

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/17/2023
ROADWAY SEGMENT: Bear Valley Road Between Flying Feather Road and Deep Creek Road
NOTES: Apple Bear Commercial Project - Horizon Year (2045) Cumulative Plus Project

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 34680 SPEED (MPH): 55 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 72.98

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
113.2	239.5	513.8	1105.8

TABLE Horizon Year (2045) Cumulative Plus Project-08

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/17/2023
ROADWAY SEGMENT: Bear Valley Road Between Deep Creek Road and Kiowa Road
NOTES: Apple Bear Commercial Project - Horizon Year (2045) Cumulative Plus Project

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 32375 SPEED (MPH): 55 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 72.68

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
108.3	228.9	490.8	1056.2

TABLE Horizon Year (2045) Cumulative Plus Project-09

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/17/2023
ROADWAY SEGMENT: Pimlico Road West of Apple Valley Road
NOTES: Apple Bear Commercial Project - Horizon Year (2045) Cumulative Plus Project

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 8100 SPEED (MPH): 40 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 8 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 64.49

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	53.7	114.7	246.6

TABLE Horizon Year (2045) Cumulative Plus Project-10

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/17/2023
ROADWAY SEGMENT: Reata Road North of Bear Valley Road
NOTES: Apple Bear Commercial Project - Horizon Year (2045) Cumulative Plus Project

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 8970 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES			
	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 66.41

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	69.4	149.0	320.8

TABLE Horizon Year (2045) Cumulative Plus Project-11

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/17/2023
ROADWAY SEGMENT: Apple Valley Road North of Pimlico Road
NOTES: Apple Bear Commercial Project - Horizon Year (2045) Cumulative Plus Project

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 26130 SPEED (MPH): 55 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 24 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 71.75

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
94.7	198.7	425.6	915.7

TABLE Horizon Year (2045) Cumulative Plus Project-12

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/17/2023
ROADWAY SEGMENT: Apple Valley Road Between Pimlico Road and Bear Valley Road
NOTES: Apple Bear Commercial Project - Horizon Year (2045) Cumulative Plus Project

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 21060 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES			
	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 29 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 68.30

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
63.6	125.2	264.0	565.9

TABLE Horizon Year (2045) Cumulative Plus Project-13

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/17/2023
ROADWAY SEGMENT: Apple Valley Road South of Bear Valley Road
NOTES: Apple Bear Commercial Project - Horizon Year (2045) Cumulative Plus Project

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 13000 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 29 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 66.20

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	93.0	192.5	410.9

TABLE Horizon Year (2045) Cumulative Plus Project-14

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/17/2023
ROADWAY SEGMENT: Deep Creek Road South of Bear Valley Road
NOTES: Apple Bear Commercial Project - Horizon Year (2045) Cumulative Plus Project

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 7340 SPEED (MPH): 55 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES			
	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 67.74

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL			
70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	85.0	182.8	393.5

TABLE Horizon Year (2045) Cumulative Plus Project-15

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/17/2023
ROADWAY SEGMENT: Kiowa Road North of Bear Valley Road
NOTES: Apple Bear Commercial Project - Horizon Year (2045) Cumulative Plus Project

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 10320 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 10 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 66.62

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	76.5	163.7	352.2

TABLE Horizon Year (2045) Cumulative Plus Project-16

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 04/17/2023
ROADWAY SEGMENT: Kiowa Road South of Bear Valley Road
NOTES: Apple Bear Commercial Project - Horizon Year (2045) Cumulative Plus Project

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 13130 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 10 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 67.67

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	89.6	192.2	413.5

HME

Customer Driven

Memo

Re: Drive-Thru Sound Pressure Levels From the Menu Board or Speaker Post

The sound pressure levels from the menu board or speaker post are as follows:

1. Sound pressure level (SPL) contours (A weighted) were measured on a typical HME SPP2 speaker post. The test condition was for pink noise set to 84 dBA at 1 foot in front of the speaker. All measurements were conducted outside with the speaker post placed 8 feet from a non-absorbing building wall and at an oblique angle to the wall. These measurements should not be construed to guarantee performance with any particular speaker post in any particular environment. They are typical results obtained under the conditions described above.

2. The SPL levels are presented for different distances from the speaker post:

Distance from the Speaker (Feet)	SPL (dBA)
1 foot	84 dBA
2 feet	78 dBA
4 feet	72 dBA
8 feet	66 dBA
16 feet	60 dBA
32 feet	54 dBA

3. The above levels are based on factory recommended operating levels, which are preset for HME components and represent the optimum level for drive-thru operations in the majority of the installations.

Also, HME incorporates automatic volume control (AVC) into many of our Systems. AVC will adjust the outbound volume based on the outdoor, ambient noise level. When ambient noise levels naturally decrease at night, AVC will reduce the outbound volume on the system. See below for example:

Distance from Outside Speaker	Decibel Level of standard system with 45 dB of outside noise without AVC	Decibel level of standard system with 45 dB of outside noise with AVC active
1 foot	84 dBA	60 dBA
2 feet	78 dBA	54 dBA
4 feet	72 dBA	48 dBA
8 feet	66 dBA	42 dBA
16 feet	60 dBA	36 dBA

If there are any further questions regarding this issue please contact HME customer service at 1-800-848-4468.

Thank you for your interest in HME's products.

LGH

Energence® Rooftop Units
60 Hz

COMMERCIAL
PRODUCT SPECIFICATIONS

Bulletin No. 210557
March 2021
Supersedes June 2020

ENERGENCE™ Saving Energy with *Intelligence*

PRODIGY™ CONTROL SYSTEM

SMARTWIRE™ SYSTEM

Environ™ Coil System

MSAV™ MULTI-STAGE AIR VOLUME

Humiditrol

L Connection® NETWORK

ASHRAE 90.1 COMPLIANT

ENERGY STAR

13 to 25 Tons
Net Cooling Capacity - 148,000 to 270,000 Btuh
Gas Input Heat Capacity - 169,000 to 480,000 Btuh

MODEL NUMBER IDENTIFICATION

L G H 240 H 4 B S 1 Y

Brand/Family
Energence®

Unit Type
G = Packaged Gas Heat w/ Electric Cooling

Major Design Sequence
H = 1st Generation

Nominal Cooling Capacity - Tons
156 = 13 Tons
180= 15 Tons
210 = 17.5 Tons
240 = 20 Tons
300 = 25 Tons

Cooling Efficiency
H = High Efficiency
S = Standard Efficiency

Refrigerant Type
4 = R-410A

Blower Type
B = Belt Drive, Constant Air Volume
M = MSAV® (Multi-Stage Air Volume), Belt Drive
V = VAV (Variable Air Volume), Belt Drive

Heating Type
L = Low Gas Heat, 1 Stage
S = Standard Gas Heat, 2 Stage
M = Medium Gas Heat, 2 Stage
H = High Gas Heat, 2 Stage

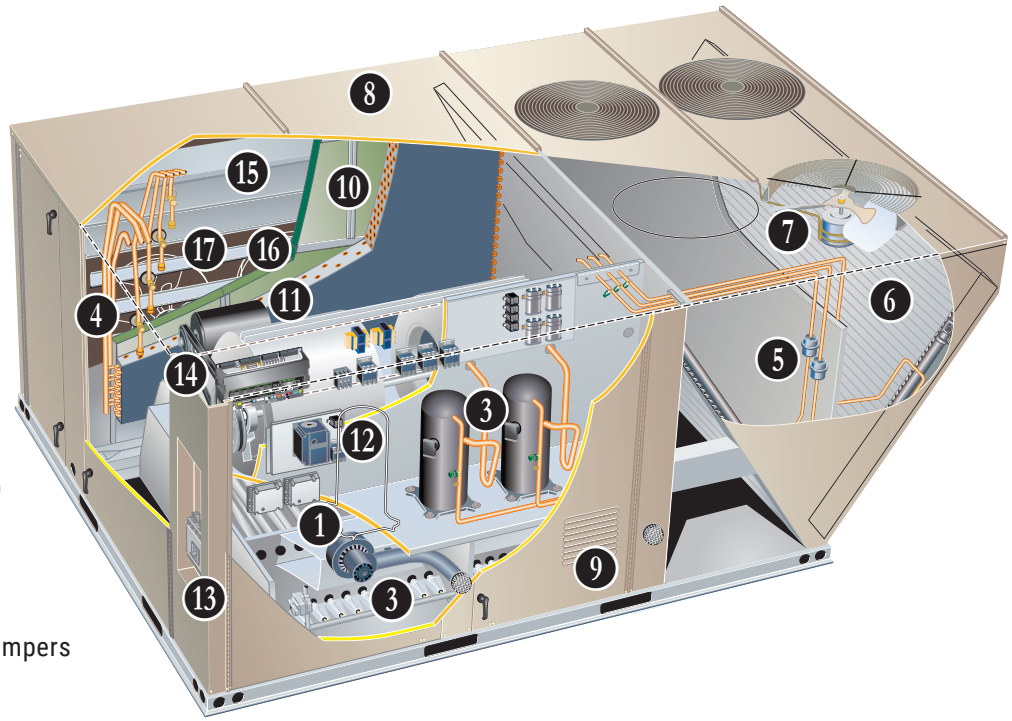
Minor Design Sequence
1 = 1st Revision
2 = 2nd Revision
3 = 3rd Revision

Voltage
Y = 208/230V-3 phase-60hz
G = 460V-3 phase-60hz
J = 575V-3 phase-60hz

FEATURE HIGHLIGHTS

Lennox' Energence® packaged rooftop unit product line was created to save energy with intelligence by offering some of the highest energy efficiency ratings available with a powerful, easy to use unit controller. This makes Energence rooftop units perfect for business owners looking for an HVAC product with the lowest total cost of ownership.

1. Heat Exchanger
2. Inshot Burners
3. Scroll Compressors
4. Thermal Expansion Valves
5. Filter/Driers
6. Lennox' Environ™ Coil System
7. Outdoor Coil Fan Motors
8. Heavy Gauge Steel Cabinet
9. Hinged Access Panels
10. Air Filters
11. Constant or Multi-Stage Air Volume (MSAV®) Blower
12. Variable Frequency Drive (VFD)
13. Disconnect Switch (option)
14. Prodigy® Control System
15. Economizer (option)
16. Downflow Barometric Relief Dampers (option)
17. Power Exhaust Fans (option)



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APPROVALS AND WARRANTY

APPROVALS

- AHRI Standard 340/360 certified
- ETL and CSA listed
- CSA certified energy ratings
- Unit and components ETL, NEC and CEC bonded for grounding to meet safety standards for servicing
- All models are ASHRAE 90.1-2010 energy efficiency compliant and meet or exceed requirements of Section 6.8
- All models meet DOE 2018 energy efficiency standards
- MSAV models meet California Code of Regulations, Title 24 and ASHRAE 90.1-2010 Section 6.4.3.10 requirements for staged airflow
- ENERGY STAR® certified
- ISO 9001 Registered Manufacturing Quality System

WARRANTY

- Aluminized Heat Exchanger - Limited ten years
- Stainless Steel Heat Exchanger (optional) - Limited fifteen years
- Compressors - Limited five years
- Lennox' Environ™ Coil System - Limited three years
- Prodigy® 2.0 Unit Controller - Limited three years
- Optional High Performance Economizers - Limited five years
- All other covered components - Limited one year

FEATURES AND BENEFITS

HEATING SYSTEM

1 Heat Exchanger
- Tubular construction, aluminized steel
- Life-cycle tested

NOTE - Optional Stainless Steel Heat Exchanger is required if mixed air temperature is below 45°F.

2 • Aluminized steel inshot burners
- Direct spark ignition
- Electronic flame sensor
- Combustion air inducer
- Redundant automatic dual stage gas valve with manual shut-off

Electronic Pilot Ignition
- Electronic spark igniter provides positive direct ignition of burners on each operating cycle
- Permits main gas valve to stay open only when the burners are proven to be lit
- If loss of flame occurs, gas valve closes, shutting off the gas to the burners
- LED indicates status and aids in troubleshooting
- Factory installed in the control section

Limit Controls
- Redundant limit controls with fixed temperature setting
- Protects heat exchanger and other components from overheating

Safety Switches
- Flame roll-out switch
- Flame sensor
- Combustion air inducer proving switch
- Protects system operation

Required Selections

Gas Input Choice - Order one:
- Low Gas Heat, 1 Stage (169,000 Btuh)
- Standard Gas Heat, 2 Stage (169,000/260,000 Btuh)
- Medium Gas Heat, 2 Stage (234,000/360,000 Btuh)
- High Gas Heat, 2 Stage (312,000/480,000 Btuh)

NOTE – Two-stage heat models can be operated with four stages of gas heating when controlled in either zone sensor, Discharge Air Control, or fresh air tempering mode on the Prodigy 2.0 unit controller (available when using the CS8500 thermostat or when connected to Building Automation Systems using BACnet, LonTalk, or S-Bus protocols). See Gas Heating Specifications table.

HEATING SYSTEM (continued)

Options/Accessories

Factory Installed

Stainless Steel Heat Exchanger
- Required if mixed air temperature is below 45°F

Factory or Field Installed

Bottom Gas Piping Kit
- Allows bottom gas entry
- Factory installed kit is furnished with the unit for field installation

Low Temperature Vestibule Heater
- Electric heater automatically controls minimum temperature in gas burner compartment when temperature is below -40°F
- CSA certified to allow operation of unit down to -60°F

Field Installed

Combustion Air Intake Extensions
- Recommended for use with existing flue extension kits in areas where high snow areas can block intake air
- Order two kits

LPG/Propane Kits
- Conversion kit to field change over units from Natural Gas to LPG/Propane
- Order two kits

Vertical Vent Extension Kit
- Use to exhaust flue gases vertically above unit
- Required when unit vent is too close to fresh air intakes per building codes
- Also prevents ice formation on intake louvers
- Kit contains vent transition, vent tee, drain cap and installation hardware
- Order two kits.

NOTE - Straight vent pipes (4 in. B-Vent) and caps are not furnished and must be field supplied. Refer to kit instructions for additional information.

COOLING SYSTEM

- Designed to maximize sensible and latent cooling performance at design conditions
- System can operate from 0°F to 125°F without any additional controls

R-410A Refrigerant
- Non-chlorine based
- Ozone-friendly

3 Scroll Compressors
- Scroll compressors on all models for high performance, reliability and quiet operation
- Resiliently mounted on rubber grommets for quiet operation

Compressor Crankcase Heaters
- Protects against refrigerant migration that can occur during low ambient operation

4 Thermal Expansion Valves
- Assures optimal performance throughout the application range
- Removable element head

5 Filter/Driers
- High capacity filter/drier protects the system from dirt and moisture

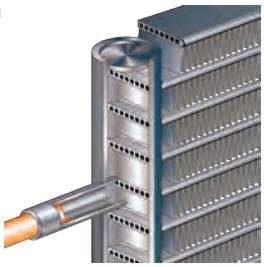
High Pressure Switches
- Protects the compressor from overload conditions such as dirty condenser coils, blocked refrigerant flow, or loss of outdoor fan operation

Low Pressure Switches
- Protects the compressors from low pressure conditions such as low refrigerant charge, or low/no airflow

Freezestats
- Protects the evaporator coil from damaging ice build-up due to conditions such as low/no airflow, or low refrigerant charge

6 Condenser Coil - Lennox' Environ™ Coil System

Lightweight, all aluminum brazed fin construction
- Constructed of three components
  - A flat extrusion tube
  - Fins in-between the flat extrusion tube
  - Two refrigerant manifolds



Environ™ Coil System Features:
- Improved heat transfer performance due to high primary surface area (flat tubes) versus secondary surface (fins)
- Smaller internal volume (reduced refrigerant charge)
- High durability
- All aluminum construction
- Fewer brazed joints
- Compact design
- Reduced unit weight
- Easy maintenance/cleaning
- Face split design
- Mounting brackets with rubber inserts
- Angled cabinet design protects coil from damage

FEATURES AND BENEFITS

COOLING SYSTEM (continued)

Evaporator Coil
- Copper tube construction
- Enhanced rippled-edge aluminum fins
- Flared shoulder tubing connections
- Silver soldered construction
- Factory leak tested
- Cross row circuiting with rifled tubing

NOTE - Constant air volume (CAV) and MSAV® (Multi-Stage Air Volume) models have face-split evaporator coils designed to keep condensate water off of an inactive part of the coil so the condensate will not re-enter the air stream. Variable air volume (VAV) models have row-split, intertwined evaporator coils.

Condensate Drain Pan
- Plastic pan, sloped to meet drainage requirements per ASHRAE 62.1
- Side or bottom drain connections

7 Outdoor Coil Fan Motors
- Thermal overload protected
- Totally enclosed
- Permanently lubricated ball bearings
- Shaft up
- Wire basket mount

Outdoor Coil Fans
- PVC coated fan guard furnished

Required Selections

Cooling Capacity
- Specify nominal cooling capacity

Options/Accessories

Factory Installed

Conventional Fin/Tube Condenser Coil (replaces Environ™ Coil System)
- Copper tube construction
- Enhanced rippled-edge aluminum fins
- Flared shoulder tubing connections
- Silver soldered construction

NOTE - Not available for VAV equipped models.

Discharge Air Temperature Sensor
- Sensor sends information to the unit controller to cycle up to 2 stages of heating or 4 stages of cooling to maintain the discharge air setpoints for heating or cooling
- Optional for CAV units (single zone or bypass zoning control)
- Furnished with all Variable Air Volume (VAV) units
- Sensor is shipped with the unit for remote field installation in the supply duct

Service Valves
- Fully serviceable brass valves installed in discharge & liquid lines

NOTE - Not available for units equipped with Environ™ Coil System or Humiditrol® Dehumidification option.

Factory or Field Installed

Condensate Drain Trap
- Field installed only
- May be factory enclosed to ship with unit
- Available in copper or PVC

Drain Pan Overflow Switch
- Monitors condensate level in drain pan
- Shuts down unit if drain becomes clogged

CABINET

8 Construction
- Heavy-gauge steel panels
- Full perimeter heavy-gauge galvanized steel base rail
- Base rails have rigging holes
- Three sides of the base rail have forklift slots
- Raised edges around duct and power entry openings in the bottom of the unit for water protection

Airflow Choice
- Units are shipped in downflow (vertical) return air flow configuration

NOTE - Units can be field converted to horizontal air flow with optional Horizontal Return Air Panel Kit and Horizontal Roof Curb.

Power/Gas Entry
- Electrical and gas lines can be brought through the unit base or through horizontal access knock-outs

Exterior Panels
- Constructed of heavy-gauge, galvanized steel
- Two-layer enamel paint finish

Insulation
- Fully insulated with non-hygroscopic fiberglass insulation (conditioned areas)
- Unit base is fully insulated
- Base insulation serves as an air seal to the roof curb, eliminating the need to add a seal during installation

9 Hinged Access Panels
- Filter section
- Blower section
- Heating section
- Compressor/controls section
- Panel seals and quarter-turn latching handles provide a tight air and water seal

CABINET (continued)

Required Selections

Airflow Configuration
- Specify downflow or horizontal

Options/Accessories

Factory Installed

Corrosion Protection
- Completely flexible immersed coating
- Electrodeposited dry film process
- AST ElectroFin E-Coat
- Meets Mil Spec MIL-P-53084, ASTM B117 Standard Method Salt Spray Testing
- Indoor Corrosion Protection:
  - Coated coil
  - - Coated reheat coil (Humiditrol®)
  - - Painted blower housing
  - - Painted base
- Outdoor Corrosion Protection:
  - Coated coil
  - Painted outdoor base

Field Installed

Combination Coil/Hail Guards
- Heavy gauge steel frame
- Painted to match cabinet
- Expanded metal mesh protects outdoor coil

Horizontal Return Air Panel Kit
- Required for horizontal applications with Horizontal Roof Curb
- Contains panel with return air opening for field replacement of existing unit panel and panel to cover bottom return air opening in unit
- See dimension drawings

INDOOR AIR QUALITY

10 Air Filters
- Disposable 2 inch filters furnished as standard

Options/Accessories

Factory or Field Installed

Healthy Climate® High Efficiency Air Filters
- Disposable MERV 8 or MERV 13 (Minimum Efficiency Reporting Value based on ASHRAE 52.2) efficiency 2 inch pleated filters

Replacement Filter Media Kit With Frame
- Replaces existing pleated filter media
- Includes washable metal mesh screen and metal frame with clip for holding replaceable non-pleated filter

Field Installed

Healthy Climate® UVC Germicidal Light Kit

- Germicidal lamps emit ultra-violet (UV-C) energy, which has been proven to be effective in reducing microbes such as viruses, bacteria, yeasts, and molds
- This process either destroys the organism or controls its ability to reproduce
- UV-C energy greatly reduces the growth and proliferation of mold and other bioaerosols (bacteria and viruses) on illuminated surfaces (particularly coil and drain pan)
- Field installed in the blower/evaporator coil section
- Magnetic safety interlock terminates power when access panels are removed
- All necessary hardware for installation is included
- Lamps operate on 110/230V, 1 phase power supply
- Step-down transformer must be field supplied when used with 460V and 575V rooftop units

NOTE - Step-down transformer may be ordered separately for 460V and 575V units.

- Approved by ETL

Indoor Air Quality (CO_2) Sensors
- Monitors CO_2 levels, reports to the Prodigy® 2.0 unit controller which adjusts economizer dampers as needed

FEATURES AND BENEFITS

BLOWER

- A wide selection of supply air blower options are available to meet a variety of airflow requirements

Motor

- Overload protected, equipped with ball bearings
- Belt drive motors are offered on all models and are available in several different sizes to maximize air performance

NOTE - All blower motors 5 hp and above meet minimum energy efficiency standards in accordance with the Energy Independence and Security Act (EISA). of 2007

11 Supply Air Blower

- Forward curved blades
- Double inlet
- Blower wheel statically and dynamically balanced
- Ball bearings
- Adjustable pulley (allows speed change)
- Blower assembly slides out of unit for servicing
- Grease fittings furnished

Supply Static Pressure Transducer (156/180/240 VAV Models Only)

- Sends information to the Prodigy® 2.0 unit controller to control VFD blower speed
- Shipped with the unit for remote field installation in the supply duct

Required Selections

Select Constant Air Volume (CAV), Variable Air Volume (VAV) or MSAV® (Multi-Stage Air Volume)

- Constant Air Volume (CAV) models supply a constant volume of air
- Variable Air Volume (VAV) (156/180/240 Models Only) variable frequency drive (VFD) varies the air volume to maintain a constant duct static pressure
- MSAV (Multi-Stage Air Volume) models stages the amount of airflow according to compressor stages, heating demand, ventilation demand or smoke alarm

NOTE - Units with the MSAV® supply air blower option have the same face split indoor coils as units with the CAV supply air blower option. Part load airflow in cooling mode on MSAV® units should not be set below 220 cfm/nominal full load ton to reduce the risk of evaporator coil freeze-up.

12

- Utilizes a Variable Frequency Drive (VFD) to stage the supply blower airflow
- VFD alters the frequency and voltage of the power supply to the blower to control blower speed
- The amount of airflow for each stage can be set according to a parameter in the Prodigy® 2.0 unit controller
- Unit is shipped from the factory with preset airflow
- MSAV® can be ordered with or without an Electronic Bypass Control
- If equipped with the bypass control the MSAV® features manual (default) or automatic electronic bypass control of the VFD
- In case of a VFD malfunction, a VFD alarm is generated by the Prodigy® 2.0 unit controller
- VFD can be manually bypassed to continue unit operation at full blower speed
- Or the unit controller can be set to automatically switch to full blower speed if a VFD alarm is generated
- VFD has an operational range of 0 to 125°F outdoor air ambient temperature

- Lower operating costs are obtained when the blower is operated on lower speeds

NOTE - Units equipped a Variable Frequency Drive (VFD) are designed to operate on balanced, three-phase power. Operating units on unbalanced three-phase power will reduce the reliability of all electrical components in the unit. Unbalanced power is a result of the power delivery system supplied by the local utility company. Factory-installed inverters are sized to drive blower motors with an equivalent current rating using balanced three-phase power. If unbalanced three-phase power is supplied; the installer must replace the existing factory-installed inverter with an inverter that has a higher current rating to allow for the imbalance. Refer to the installation instructions for additional information and replacement information.

Ordering Information

- Specify motor horsepower and drive kit number when base unit is ordered

Options/Accessories

Factory Installed

Blower Belt Auto-Tensioner

- Provides proper tension to belt drive blower belt without the need for regular adjustments
- Maintains airflow and proper performance

FEATURES AND BENEFITS

ELECTRICAL

SmartWire™ System
- Keyed and color-coded wiring connectors prevent miswiring
- Wire coloring scheme is standardized across all models
- Each connection is intuitively labeled to make troubleshooting and servicing quick and easy

Electrical Plugs
- Positive connection electrical plugs connect common accessories or maintenance parts for easy removal or installation

Required Selections

Voltage Choice
- Specify when ordering base unit

Options/Accessories

Factory Installed

Circuit Breakers
- HACR type
- For overload and short circuit protection
- Factory wired and mounted in the power entry panel
- Current sensitive and temperature activated
- Manual reset

Phase/Voltage Detection (Optional for CAV Models Only)
- Monitors power supply to assure phase is correct at unit start-up
- If phase is incorrect, the unit will not start and an alarm code is reported to the unit controller
- Protects unit from being started with incorrect phasing which could lead to issues such as compressors running backwards
- Voltage detection monitors power supply voltage to assure proper voltage
- If voltage is not correct (over/under voltage conditions) the unit will not start and an alarm code is reported to the unit controller

NOTE - Phase/voltage detection is furnished when the MSAV (Multi-Stage Air Volume) option is ordered.

Short-Circuit Current Rating (SCCR)
- Higher short circuit protection up to 100kA

Factory or Field Installed

13 Disconnect Switch
- Accessible outside of unit
- Spring loaded weatherproof cover furnished

GFI Service Outlets (2)
- 115V ground fault circuit interrupter (GFCI) type
- Available non-powered, field-wired or factory-wired and powered

Field Installed

GFI Weatherproof Cover
- Single-gang cover
- Heavy-duty UV-resistant polycarbonate case construction
- Hinged base cover with gasket

CONTROL SYSTEM

PRODIGY® CONTROL SYSTEM

14 The Prodigy 2.0 unit controller is a microprocessor-based controller that provides flexible control of all unit functions.

Features:

- LCD Display
- Easy to read menu (4 lines x 20 character display)
- Buttons for menu navigation during setup and diagnostic
- Menu navigation LEDs for Data, Setup, Service, Settings
- Main Menu and Help Buttons for quick navigation to home screen and built-in help functions
- Scroll, Value Adjustment Select and Save Buttons
- Setup menu insures proper installation and simplified setup of the rooftop unit
- Profile setup copies key settings between units with the same configuration to reduce setup time
- USB port allows a technician to download and transfer unit information to help verify service was performed
- USB software updates on the Prodigy Control System enhance functionality without the need to change components
- Unit Controller Software
- Unit self-test verifies individual critical component and system performance
- Economizer test function assures economizer is operating correctly
- Time Clock with Run-Time Information

Built-In Functions Include:

- Adjustable Blower On/Off Delay
- Built-in Control Parameter Defaults
- Compressor Time-Off Delay
- DDC Compatible
- Dirty Filter Switch Input
- Discharge Air Temperature Control
- Display/Sensor Readout
- Economizer Control Options (See Economizer / Exhaust Air / Outdoor Air sections)
- Fresh Air Tempering
- Over 100 diagnostic and status messages in English
- Exhaust Fan Control Modes for fresh air damper position
- Permanent Diagnostic Code Storage
- Field Adjustable Control Parameters (Over 200 settings)
- Indoor Air Quality Input (Demand Control Ventilation)
- Low Ambient Controls for cooling operation down to 0°F
- Gas Valve Time Delay Between First and Second Stage
- Minimum Compressor Run Time
- Network Capable (Can be daisy chained to other units or controls)
- Night Setback Mode
- Return Air Temperature Limit Control
- Safety Switch Input allows Controller to respond to a external safety switch trip
- Service Relay Output
- Smoke Alarm Mode has four choices (unit off, positive pressure, negative pressure, purge)
- Up to 2 heat/2 cool (standard Prodigy unit controller thermostat input)
- Up to 3 cool with additional relay
- Up to 4 cool with room sensor or network operation
- "Strike Three" Protection
- Gas Reheat Control allows simultaneous heating and cooling operation for humidity control of process air applications such as supermarkets
- On Demand Dehumidification monitors and controls condenser hot gas reheat operation with Humiditrol® dehumidification option
- Thermostat Bounce Delay
- Warm Up Mode Delay
- LED Indicators
- PC Interface connects the Prodigy 2.0 unit controller to a PC with the Lennox Unit Controller Software
- Room Sensor Operation controls temperature

NOTE - Prodigy Control System features shown vary with the type of rooftop unit the control is installed in.

NOTE - See separate Prodigy Control System Product Specifications Bulletin for additional information.

CONTROL SYSTEM

PRODIGY® CONTROL SYSTEM (continued)

Control Options

Factory or Field Installed

Blower Proving Switch
- Monitors blower operation, shuts down unit if blower fails

Dirty Filter Switch

Senses static pressure increase indicating dirty filter condition Fresh Air Tempering
- Used in applications with high outside air requirements
- Controller energizes the first stage heat as needed to maintain a minimum supply air temperature for comfort, regardless of the thermostat demand
- When ordered as a factory option, sensor ships with the unit for field installation

Smoke Detector
- Photoelectric type
- Installed in supply air section, return air section or both sections
- Available with power board and single sensor (supply or return) or power board and two sensors (supply and return)
- Power board located in unit control compartment

Interoperability via BACnet® or LonTalk® Protocols
- Communication compatible with third-party automation systems that support the BACnet Application Specific Controller device profile, LonMark® Space Comfort Controller functional profile, or LonMark Discharge Air Controller functional profile

Commercial Control Systems

L Connection® Network Control System
- Complete building automation control system for single or multi-zone applications
- Options include local interface, software for local or remote communication, and hardware for networking other control functions
- See L Connection Network Control System Product Specifications Bulletin for details

After-Market DDC
- Novar® Unit Controller and options

Thermostats
- Control system and thermostat options
- After-Market unit controller options

Field Installed

General Purpose Control Kit
- Plug-in control provides additional analog and digital inputs/outputs for field installed options

Humidity Sensor Kit
- Humidity sensor required with factory installed Humiditrol® dehumidification option or Supermarket reheat field selectable option

OPTIONS / ACCESSORIES

ECONOMIZER
- Economizer operation is set and controlled by the Prodigy 2.0 unit controller
- Simple plug-in connections from economizer to unit controller for easy installation
- All Energence rooftop units are equipped with factory installed CEC Title 24 approved sensors for outside, return and discharge air temperature monitoring

NOTE - Optional sensors may be used instead of unit sensors to determine whether outdoor air is suitable for free cooling. See Options/Accessories table.

Factory or Field Installed

15 High Performance Economizer
- Approved for California Title 24 building standards
- Low leakage dampers are Air Movement and Control Association International (AMCA) Class 1A Certified - Maximum 3 CFM per sq. ft. leakage at 1 in. w.g.
- ASHRAE 90.1-2010 compliant
- Outdoor Air Hood with mist elimination is included when economizer is factory installed and is furnished with economizer when ordered for field installation
- Gear-driven action
- High torque 24-volt fully-modulating spring return damper motor
- Return air and outdoor air dampers
- Plug-in connections to unit
- Stainless steel bearings
- Enhanced neoprene blade edge seals
- Flexible stainless steel jamb seals

NOTE - High Performance Economizers are not approved for use with enthalpy controls in Title 24 applications.

NOTE - The Free Cooling setpoint for Title 24 applications must be set based on the Climate Zone where the system is installed. See Section 140.4 "Prescriptive Requirements for Space Conditioning Systems" of the California Energy Commission's 2013 Building Energy Efficiency Standards.

NOTE - Refer to Installation Instructions for complete setup information.

ECONOMIZER (continued)

Differential Sensible Control
- Factory setting
- Uses outdoor air and return air sensors that are furnished with the unit
- The Prodigy® 2.0 unit controller compares outdoor air temperature with return air
- When the outdoor air is below the configured setpoint and cooler than return air, the controller activates the economizer

NOTE - Differential Sensible Control can be configured in the field to provide Offset Differential Sensible Control or Single Sensible Control.

NOTE - In Offset Differential Sensible Control mode, the economizer is enabled if the temperature differential (offset) between outdoor air and return air reaches the configured setpoint.
In Single Sensible Control mode, the economizer is enabled when outdoor air temperature falls below the configured setpoint.

Global Control
- The unit controller communicates with a DDC system with one global sensor (enthalpy or sensible)
- Determines whether outside air is suitable for free cooling on all units connected to the control system
- Sensor must be field provided

Factory or Field Installed

Single Enthalpy Temperature Control (Not for Title 24)
- Outdoor air enthalpy sensor enables Economizer if the outdoor enthalpy is less than the setpoint of the control

Differential Enthalpy Control (Not for Title 24)
- Order two Single Enthalpy Controls
- One is field installed in the return air section
- One is installed in the outdoor air section
- Allows the economizer control to select between outdoor air or return air, whichever has lower enthalpy

Field Installed

Outdoor Air CFM Control
- Maintains constant outdoor air volume levels on the supply air fan and varying unit airflows
- Velocity sensor located in the rooftop unit outdoor air section, the Prodigy® 2.0 unit controller changes the economizer position to help minimize the effect of supply fan speed changes on outdoor air volume levels
- Setpoint for outdoor air volume is established by field testing

NOTE - Not available with Demand Control Ventilation (CO_2 Sensor) or Building Pressure Control.

Building Pressure Control
- Maintains constant building pressure level
- Includes a static pressure transducer and outdoor static pressure assembly
- Using differential pressure information between the outdoor air and the building air, the Prodigy® 2.0 unit controller changes the economizer position to help maintain a constant building pressure

NOTE - Not available with Demand Control Ventilation (CO_2 Sensor) or Outdoor Air CFM Control.

EXHAUST

Factory or Field Installed

16 Downflow Barometric Relief Dampers
- Allow relief of excess air
- Aluminum blade dampers prevent blow back and outdoor air infiltration during off cycle
- Exhaust hood is factory installed when dampers are factory installed with economizer
- Exhaust hood is furnished with dampers when ordered for field installation
- Bird screen furnished

17 Power Exhaust Fans
- Install internal to unit for downflow applications only with economizer option
- Provides exhaust air pressure relief
- Interlocked to run when supply air blower is operating
- Fans run when outdoor air dampers are 50% open (adjustable)
- Motor is overload protected
- Dual fans are 20 in. diameter
- Five blades
- Two 1/3 hp motors

NOTE - Requires Economizer with furnished Outdoor Air Hood and Downflow Barometric Relief Dampers.

NOTE - MSAV® (Multi-Stage Air Volume) and VAV (Variable Air Volume) models are equipped with 2-stage power exhaust fans. Power exhaust operates in 1st stage (one fan) up to 70% of supply air blower speed. Both exhaust fans operate in 2nd stage when supply air blower speed is above 70% (adjustable) of full speed.

OPTIONS / ACCESSORIES

Field Installed

Horizontal Barometric Relief Dampers
- For use when unit is configured for horizontal applications requiring an economizer
- Allows relief of excess air
- Aluminum blade dampers prevent blow back and outdoor air infiltration during off cycle
- Field installed in return air duct
- Bird screen and hood furnished

OUTDOOR AIR

Factory or Field Installed

Outdoor Air Damper
- Downflow or Horizontal
- Linked mechanical dampers
- 0 to 25% (fixed) outdoor air adjustable
- Installs in unit
- Includes outdoor air hood
- Automatic model features fully modulating spring return damper motor with plug-in connection
- Manual model features parallel blade, gear-driven dampers with adjustable fixed position

ROOF CURBS
- Nailer strip furnished (downflow only)
- Mates to unit
- US National Roofing Contractors Approved
- Shipped knocked down

Downflow

Hybrid Roof Curbs
- Interlocking tabs fasten corners together
- No tools required
- Can also be fastened together with furnished hardware
- Available in 8, 14, 18, and 24 inch heights

Adjustable Pitch Curb
- Fully adjustable pitch curbs (3/4 in. per foot in any direction) provide a level platform for rooftop units allowing flexible installations on roofs with uneven or sloped angles
- Uses interlocking tabs to fasten corners together. No tools required
- Hardware is furnished to connect upper curb with lower curb
- Available in 14 inch height

Horizontal
- Meet National Roofing Code requirements
- Converts unit from downflow to horizontal (side) air flow
- Return air is on unit, supply air is on curb
- See dimension drawings
- Available in 26, 30, 37 and 41 inch heights

NOTE - Requires Horizontal Return Air Panel Kit.

ROOF CURBS (continued)

NOTE - Optional Insulation Kit is available to help prevent sweating.

Adaptor Curbs (not shown)
- Curbs are regionally sourced
- Dimensions vary based upon the source

NOTE - Contact your local sales representative for a detailed cut sheet with applicable dimensions.

CEILING DIFFUSERS

Field Installed

Ceiling Diffusers
(Flush or Step-Down)
- White powder coat finish on diffuser face and grilles
- Insulated UL listed duct liner
- Diffuser box has collars for duct connection
- Step-down diffusers have double deflection blades
- Flush diffusers have fixed blades
- Provisions for suspending
- Internally sealed to prevent recirculation
- Removable return air grille
- Adapts to T-bar ceiling grids or plaster ceilings

Transitions (Supply and Return)
- Used with diffusers
- Installs in roof curb
- Galvanized steel construction
- Flanges furnished for duct connection to diffusers
- Fully insulated

HUMIDITROL® DEHUMIDIFICATION SYSTEM OPTION

OVERVIEW

NOTE - Humiditrol® Dehumidification System Only Available For CAV And MSAV® (Multi-Stage Air Volume) Models.

- Factory installed option designed to control humidity
- Provides dehumidification on demand using ASHRAE 90.1 recommended method for comfort conditioning humidity control
- Unit comes equipped with one row reheat coil, solenoid valve and humidity controller
- A thermostat with a dehumidification output, a dehumidistat, or a DDC controller with an isolated output is required to control humidity and must be located in the occupied space

NOTE - Remote Mounted Humidity Sensor Kit is required for field installation. The humidity sensor provides input to the Unit Controller which is used to control activation of the dehumidification operation.

BENEFITS

- Improves indoor air quality
- Helps prevents damage due to high humidity levels
- Improves comfort levels by reducing space humidity levels

OPERATION

No Dehumidification Demand

- The unit will operate conventionally whenever there is a demand for cooling or heating and no dehumidification demand
- Free cooling is only permitted when there is no demand for dehumidification

Dehumidification Demand Only

- The Unit Controller is factory set at 60% relative humidity setpoint and can be adjusted at the Unit Controller or with optional Unit Controller Software

NOTE - Controls are not furnished and must be ordered extra.

- Reheat operation will initiate on a dehumidification demand and does not require a cooling demand
- The unit will operate in the dehumidification mode until the relative humidity of the conditioned space is below the setpoint
- The reheat coil is sized to provide 68°F to 75°F supply air during reheat operation
- This reduces sensible cooling capacity and extends compressor run time to control humidity when the cooling load is low
- A solenoid valve diverts hot gas from the compressor to the reheat coil
- The cooled and dehumidified air from the evaporator is reheated as it passes through the reheat coil
- The de-superheated and partially condensed refrigerant continues to the outdoor condenser coil where condensing is completed
- Unit will continue to operate in this mode until the dehumidification demand is satisfied

NOTE - See Sequence of Operation for additional information.

Dehumidification and Cooling Demand (Thermostat/ Room Sensor Application)

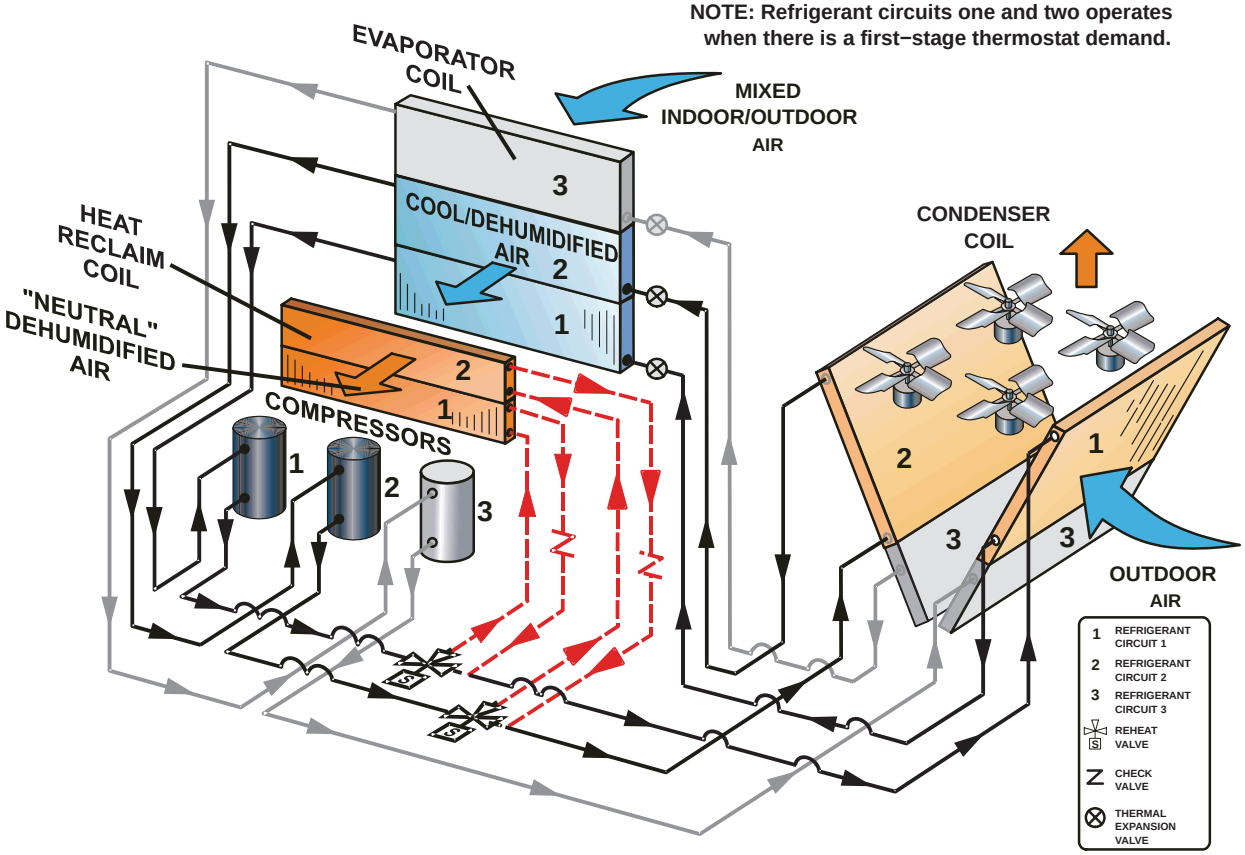
- If both a dehumidification and a full cooling load demand occur, the system will operate in cooling until the cooling demand is satisfied
- Then the system will energize the dehumidification mode.
- Options/Accessories

Humidity Sensor Kit

- Remote Mounted Humidity sensor required with factory installed Humiditrol® Dehumidification Option or Supermarket reheat field selectable option

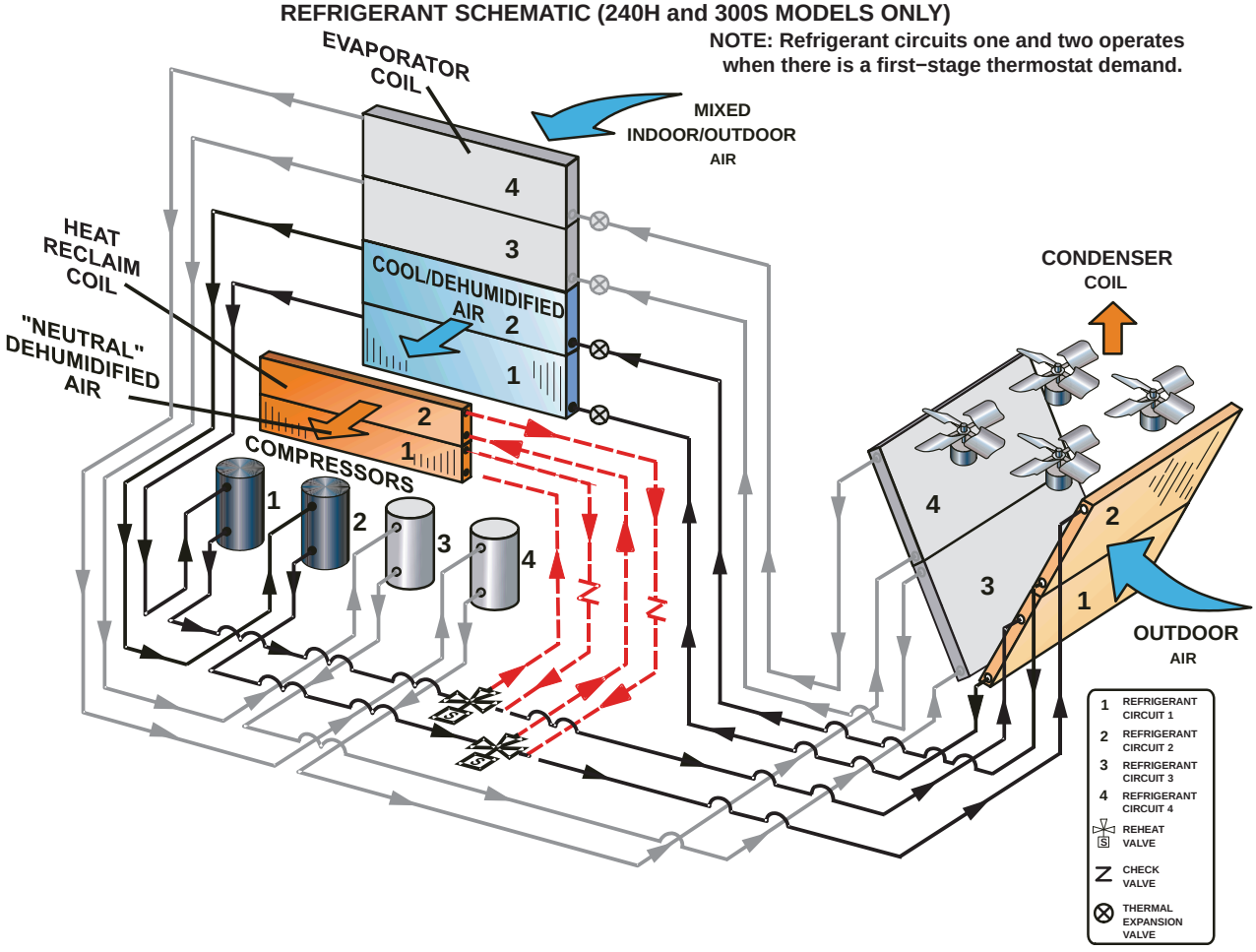
REFRIGERANT SCHEMATIC (156H, 180H and 210H MODELS ONLY)

NOTE: Refrigerant circuits one and two operates when there is a first−stage thermostat demand.



REFRIGERANT SCHEMATIC (240H and 300S MODELS ONLY)

NOTE: Refrigerant circuits one and two operates when there is a first−stage thermostat demand.



OPTIONAL CONVENTIONAL TEMPERATURE CONTROL SYSTEMS

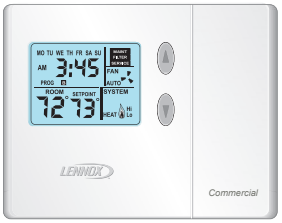
ComfortSense® 8500 Commercial 7-Day Programmable Thermostat

- Fully Communicating Sensor
- Full Color Touchscreen Interface
- Variable Speed System Control (On Compatible Units)
- Up To 4 Heat / 4 Cool
- Built-In Sensors For Temperature, Humidity And Optional CO_2
- Remote Sensor Options For Occupancy, Temperature
- BACnet Capable Options
- 5-2 or 7-Day Scheduling
- Smooth Setback Recovery
- Heat/Cool Auto-Changeover
- Four-Wire Installation
- FDD, ASHRAE, IECC Compliant

ComfortSense® 7500 Commercial 7-Day Programmable Thermostat

- Premium Universal Thermostat
- Full Color Touchscreen Interface
- Up To 4 Heat / 4 Cool
- Built-In Sensors For Temperature and Humidity
- Remote Sensors Options For Temperature, Discharge Air, Outdoor Air
- 5-2 or 7-Day Scheduling
- Smooth Setback Recovery
- Heat/Cool Auto-Changeover
- FDD, ASHRAE, IECC Compliant

ComfortSense® 3000 Commercial 5-2 Day Programmable Thermostat



- Conventional Multi-Stage Thermostat
- Intuitive Display
- Push-Button Operation
- Up To 2 Heat / 2 Cool
- Built-In Temperature Sensor
- Remote Temperature Sensing
- Up to 5-2 Day Scheduling
- Smooth Setback Recovery
- Heat/Cool Auto-changeover

Wired Room Sensor (LCS-5030)

- Simple Push-Button Override
- Variable Speed System Control (On Compatible Units)
- Up To 4 Heat / 4 Cool
- Built-In Temperature and Humidity Sensors
- AA Battery / 24VAC Powered
- SBUS Wired Operation
- Automatic Sensor Averaging
- Locking Hex Screw

OPTIONAL CONVENTIONAL TEMPERATURE CONTROL SYSTEMS

Description		Catalog No.
ComfortSense® 8500 Commercial 7 Day Programmable Thermostat		
CS8500 7-Day Thermostat	No CO2Sensing	**17G75**
	With CO2Sensing	**17G76**
Sensors/Accessories	[1] Remote non-adjustable wall-mount 10k	**47W37**
	[1] Remote non-adjustable wall-mount 11k	**94L61**
Sysbus Network Cable (Yellow) for ComfortSense 8500 and LCS-5030 Wired Room Sensor		
Twisted pair 100% shielded communication cable, Red and Black 22 AWG, yellow jacket, rated at 75°C, 300V, Plenum rated Insulation - Low smoke PVC, NEC, CMP	500 ft. box	**27M19**
	1000 ft. box	**94L63**
	2500 ft. roll	**68M25**
ComfortSense® 7500 Commercial 7-Day Programmable Thermostat		
CS7500 7-Day Thermostat		**17G74**
Sensors/Accessories	[2] Remote non-adjustable wall-mount 20k	**47W36**
	[2] Remote non-adjustable wall-mount 10k	**47W37**
	Remote non-adjustable discharge air (duct mount)	**19L22**
	Outdoor temperature sensor	**X2658**
ComfortSense® 3000 Commercial 5-2 Day Programmable Thermostat		
CS3000 5-2 Day Thermostat		**11Y05**
Sensors/Accessories	Remote non-adjustable wall mount 10k averaging	**47W37**
	Thermostat wall mounting plate	**X2659**
ComfortSense® Non-Programmable Thermostat		
CS3000 Non-Programmable Thermostat		**51M32**
Universal Thermostat Guard with Lock (clear)		
	Inside Dimensions (H x W) 5 7/8 x 8 3/8 in.	**39P21**
Wired Room Sensor		
LCS-5030 Wired Room Sensor		**21L07**

[1] Up to nine of the same type remote temperature sensors can be connected in parallel.

[2] Remote wall-mount sensors can be applied in any of the following combinations:
One Sensor - (1) 47W36, Two Sensors - (2) 47W37, Three Sensors - (2) 47W36 and (1) 47W37
Four Sensors - (4) 47W36, Five Sensors - (3) 47W36 and (2) 47W37

Objective: Outline the unit functions as a result of room thermostat or zone sensor demands.

Given: When economizer is present, it will function as an integral part of the unit cooling system. When not present, unit will function as if economizer is present but outdoor ambient is high and sensed as not suitable.

UNIT OPERATION WITH 2-STAGE THERMOSTAT (2 COOLING STAGES, Y1, Y2) - 3 AND 4 COMPRESSORS MODELS

SUPPLY AIR BLOWER SPEED

Unit has the following supply air blower speed settings:

- Ventilation speed
- Cooling speed - Low
- Cooling speed - High
- Heating speed
- Smoke speed (Used only in smoke removal option - not discussed)

[1] Unit Features An Economizer And Outdoor Air Is Suitable

Y1 Demand:

All compressors are off, supply air blower is on low cooling speed to minimize blower power consumption, economizer modulates (minimum to maximum open position) to maintain 55°F supply air temperature (default unit controller setting).

Y2 Demand:

All compressors are off, supply air blower is on high cooling speed providing higher cooling capacity, and economizer modulates to maintain 55°F supply air temperature.

If economizer stays at maximum open for 3 minutes, 1st stage compressors (compressor 1 and 2) are energized while supply air blower stays on high cooling speed providing maximum cooling capacity.

[1] Outdoor air suitability is determined by the energy state of outdoor ambient (enthalpy or sensible) and its ability to achieve the desired free cooling effects. Outdoor air suitability can also be determined by a third party controller and provided to the RTU via a network connection.

Unit Does Not Feature An Economizer Or Outdoor Air Is Not Suitable

Y1 Demand:

1st stage compressors operate and supply air blower operates at low cooling speed.

Y2 Demand:

All compressors operate and supply air blower operates at high cooling speed.

Dehumidification Mode

If a unit with Humiditrol® Dehumidification Option receives a call for dehumidification, economizer free cooling is locked out.

Call For Dehumidification, No Y1, Y2 Demand:

1st stage compressors (1 & 2) operate, supply air blower operates at high cooling speed, and the reheat valves are energized.

Y1 Demand With A Call For Dehumidification:

All compressors operate, supply air blower operates at high cooling speed and the reheat valves are energized.

Y2 Demand With A Call For Dehumidification:

All compressors operate, supply air blower operates at high cooling speed, and the reheat valves are de-energized.

UNIT WITH 3-STAGE THERMOSTAT (3 COOLING STAGES, Y1, Y2, Y3) - 3 AND 4 COMPRESSORS MODELS, OR ZONE SENSOR (4 COOLING STAGES, Y1, Y2, Y3, Y4) - 3 COMPRESSORS MODELS

SUPPLY AIR BLOWER SPEED

Unit has following supply air blower speed setting:

- Ventilation speed
- Cooling speed - Low
- Cooling speed - Medium
- Cooling speed - High
- Heating speed
- Smoke speed (Used only in smoke removal option - not discussed)

[1] Unit Features An Economizer And Outdoor Air Is Suitable

3 Compressor Models

Y1 Demand:

All compressors are off, supply air blower is on low cooling speed to minimize blower power consumption, economizer modulates (minimum to maximum open position) to maintain 55°F supply air temperature (default unit controller setting).

Y2 Demand:

All compressors are off, supply air blower is on high cooling speed providing higher cooling capacity, economizer modulates (minimum to maximum open position) to maintain 55°F supply air temperature (default unit controller setting).

If economizer stays at maximum open for 3 minutes then compressor 1 is energized while supply air blower stays on high cooling speed. After compressor is energized the economizer stays at maximum open.

Y3 Demand:

Compressors 1 and 2 are energized while supply air blower stays on high cooling speed. After compressors are energized the economizer stays at maximum.

Y4 (Zone Sensor Only) Demand:

All compressors are energized and supply air blower stays on high cooling speed.

4 Compressor Models

Y1 Demand:

All compressors are off, supply air blower is on low cooling speed to minimize blower power consumption, economizer modulates (minimum to maximum open position) to maintain 55°F supply air temperature (default unit controller setting).

Y2 Demand:

All compressors are off, supply air blower is on high cooling speed providing higher cooling capacity, economizer modulates (minimum to maximum open position) to maintain 55°F supply air temperature (default unit controller setting).

If economizer stays at maximum open for 3 minutes then compressors 1 and 2 are energized while supply air blower stays on high cooling speed. After compressors are energized the economizer stays at maximum open.

Y3 Demand:

Compressors 1, 2 and 3 are energized and supply air blower stays on high cooling speed.

[1] Outdoor air suitability is determined by the energy state of outdoor ambient (enthalpy or sensible) and its ability to achieve the desired free cooling effects. Outdoor air suitability can also be determined by a third party controller and provided to the RTU via a network connection.

UNIT WITH 3-STAGE THERMOSTAT (3 COOLING STAGES, Y1, Y2, Y3) - 3 AND 4 COMPRESSORS MODELS, OR ZONE SENSOR (4 COOLING STAGES, Y1, Y2, Y3, Y4) - 3 COMPRESSORS MODELS (CONTINUED)

Unit Does Not Feature An Economizer Or Outdoor Air Is Not Suitable

3 Compressor Units

Y1 Demand:

Compressor 1 operates and supply air blower operates at low cooling speed.

Y2 Demand:

Compressors 1 and 2 operate and supply air blower operates at medium cooling speed.

Y3 or Y4 (Zone Sensor Only) Demand:

All compressors operate and supply air blower operates at high cooling speed .

4 Compressor Units

Y1 Demand:

Compressors 1 and 2 operate and supply air blower operates at low cooling speed.

Y2 demand:

Compressors 1, 2, and 3 operate and supply air blower operates at medium cooling speed.

Y3 demand:

All compressors operate and supply air blower operates at high cooling speed.

Dehumidification Mode

If a unit with Humiditrol® Dehumidification Option receives a call for dehumidification, economizer free cooling is locked out.

Call For Dehumidification, No Y1, Y2, Y3 Demand:

Compressor 1 and 2 operate, supply air blower operates at high cooling speed, and both reheat valves are energized.

Y1 Demand With A Call For Dehumidification:

All compressors operate, supply air blower operates at high cooling speed and both reheat valves are energized.

Y2 Demand With A Call For Dehumidification:

All compressors operate, supply air blower operates at high cooling speed, and the reheat valve of refrigeration circuit 1 is energized while the reheat valve of refrigeration circuit 2 is de-energized.

Y3 or Y4 (Zone Sensor Only) Demand:

All compressors operate, supply air blower operates at high cooling speed, and both reheat valves are de-energized.

UNIT WITH ZONE SENSOR (4 COOLING STAGES, Y1, Y2, Y3, Y4) – 4 COMPRESSORS MODELS

SUPPLY AIR BLOWER SPEED

- Unit has following supply air blower speed setting:
- Ventilation speed
- Cooling speed - Low
- Cooling speed - Medium-Low
- Cooling speed - Medium-High
- Cooling speed - High
- Heating speed
- Smoke speed (Used only in smoke removal option - not discussed)

[1] Unit Features An Economizer And Outdoor Air Is Suitable

Y1 Demand:

All compressors are off, supply air blower is on low cooling speed to minimize blower power consumption, economizer modulates (minimum to maximum open position) to maintain 55°F supply air temperature (default unit controller setting).

Y2 Demand:

All compressors are off, supply air blower is on high cooling speed providing higher cooling capacity, and economizer modulates to maintain 55°F supply air temperature.

If economizer stays at maximum open for 3 minutes, compressor 1 is energized while supply air blower stays on high cooling speed. After compressor 1 is energized the economizer stays at maximum open.

Y3 Demand:

Compressor 1 and 2 are energized while supply air blower is on high cooling speed providing even higher cooling capacity.

Y4 Demand:

All compressors are energized while supply air blower is on high cooling speed providing maximum cooling capacity.

[1] Outdoor air suitability is determined by the energy state of outdoor ambient (enthalpy or sensible) and its ability to achieve the desired free cooling effects. Outdoor air suitability can also be determined by a third party controller and provided to the RTU via a network connection.

Unit Does Not Feature An Economizer Or Outdoor Air Is Not Suitable

Y1 demand:

Compressor 1 operates and supply air blower operates at low cooling speed.

Y2 demand:

Compressors 1 and 2 operate and supply air blower operates at medium-low cooling speed.

Y3 demand:

Compressors 1, 2, and 3 operate and supply air blower operates at medium-high cooling speed.

Y4 demand:

All compressors operate and supply air blower operates at high cooling speed.

UNIT WITH ZONE SENSOR (4 COOLING STAGES, Y1, Y2, Y3, Y4) – 4 COMPRESSORS MODELS (CONTINUED)

Dehumidification Mode

If a unit with Humiditrol® Dehumidification Option receives a call for dehumidification, economizer free cooling is locked out.

Call For Dehumidification, No Y1, Y2, Y3, Y4 Demand:

Compressors 1 and 2 operate, supply air blower operates at high cooling speed, and both reheat valves are energized.

Y1 Demand With A Call For Dehumidification:

Compressors 1, 2, and 3 operate, supply air blower operates at high cooling speed and both reheat valves are energized.

Y2 Demand With A Call For Dehumidification:

All compressors operate, supply air blower operates at high cooling speed, and both reheat valves are energized.

Y3 Demand With A Call For Dehumidification:

All compressors operate, supply air blower operates at high cooling speed, and the reheat valve of compressor 1 is energized while the reheat valve of compressor 2 is de-energized.

Y4 Demand With A Call For Dehumidification:

All compressors operate, supply air blower operates at high cooling speed, and the reheat valves are de-energized.

Heating Mode

NOTE - HEATING MODE IS THE SAME FOR ALL CONTROL OPTIONS.

W1 Demand:

Gas valves are open (stage 1 on units with 2-stage gas valves) and supply air blower operates at heating speed.

W2 Demand:

Gas valves are open (stage 2 on units with 2-stage gas valves) and supply air blower operates at heating speed.

Modulating Outdoor Air Damper

The minimum damper position for “occupied low blower” and “occupied high blower” is adjusted during unit setup to provide minimum fresh air requirements per ASHRAE 62.1 at the corresponding supply air blower speeds.

- When supply air blower is off or the unit is in unoccupied mode, the outdoor air damper is closed.
- When unit is in occupied mode and supply air blower is operating at a speed below the “midpoint” blower speed, the outdoor air damper is at minimum “low blower” position.
- When unit is in occupied mode and supply air blower is operating at a speed equal to or above the “midpoint” blower speed, the outdoor air damper is at minimum “high blower” position.

NOTE - The “midpoint” blower speed is an average of the minimum and maximum blower speed (minimum speed + maximum speed divided by 2).

Power Exhaust Operation

NOTE - POWER EXHAUST OPERATION IS THE SAME FOR ALL CONTROL OPTIONS

MSAV® models are equipped with 2-stage power exhaust fans. Power exhaust fans operate when economizer outdoor air dampers are 50% open (adjustable). Power exhaust operates in 1st stage (one fan) up to 70% of supply air blower speed. 2nd stage power exhaust fans (both fans) operate when supply air blower speed is above 70% (adjustable) of full speed.

UNITS IN ZONING APPLICATIONS OPERATING WITH DISCHARGE AIR CONTROL - 156/180 MODELS ONLY (4 HEAT / 3 COOL)

SUPPLY AIR BLOWER SPEED

Unit has the following supply air blower speed settings:

- Ventilation Speed
- Cooling Speed - Fully modular based on supply duct static pressure
- Heating Speed
- Smoke Speed (Used only in smoke removal option - not discussed)

Cooling Mode (3 Cool)

- Discharge air temperature (DAT) can be used to control unit staging.
- DAT default setpoint = 55ºF. Unit will stage compressors as required to maintain the setpoint when provided with Y1 thermostat demand.
- Increasing compressor stages provides more cooling capacity while decreasing compressor stages provides less cooling capacity.

[1] Unit Features An Economizer And Outdoor Air Is Suitable

Cooling Stage 1

All compressors are off, supply air blower operates to maintain duct static pressure, economizer modulates (minimum to maximum open position) to maintain 55°F supply air temperature (default unit controller setting).

Cooling Stage 2

All compressors are off, supply air blower operates to maintain duct static pressure, and economizer modulates to maintain 55°F supply air temperature. If economizer stays at maximum open for 3 minutes, compressor 1 is energized while supply air blower operates to maintain duct static pressure. After compressor 1 is energized, the economizer stays at maximum open.

Cooling Stage 3

Compressor 1 and 2 are energized while supply air blower operates to maintain duct static pressure.

[1] Outdoor air suitability is determined by the energy state of outdoor ambient (enthalpy or sensible) and its ability to achieve the desired free cooling effects. Outdoor air suitability can also be determined by a third party controller and provided to the RTU via a network connection.

Unit Does Not Feature An Economizer Or Outdoor Air Is Not Suitable

Cooling Stage 1

Compressor 1 operates and supply air blower operates to maintain duct static pressure.

Cooling Stage 2

Compressors 1 and 2 operate and supply air blower operates to maintain duct static pressure.

Cooling Stage 3

Compressors 1, 2, and 3 operate and supply air blower operates to maintain duct static pressure.

HEATING MODE (4 Heat)

- Room sensors (when connected to S-Bus) or Discharge air temperature (DAT) can be used to control up to four stages of electric heat.
- DAT default setpoint = 110ºF. Unit will stage heating as required to maintain the setpoint when provided with W1 demand.
- Room sensor occupied setpoint default = 70ºF. Unit will stage heating as required to maintain the setpoint.
- Increasing heat stages provides more heating capacity while decreasing heat stages provides less heating capacity.
- Blower set to Heating Speed for all stages.

UNITS IN ZONING APPLICATIONS OPERATING WITH DISCHARGE AIR CONTROL - 240 MODELS ONLY (4 HEAT / 4 COOL)

SUPPLY AIR BLOWER SPEED

Unit has the following supply air blower speed settings:

- Ventilation Speed
- Cooling Speed - Fully modular based on supply duct static pressure
- Heating Speed
- Smoke Speed (Used only in smoke removal option - not discussed)

Cooling Mode (4 Cool)

- Discharge air temperature (DAT) can be used to control unit staging.
- DAT default setpoint = 55ºF. Unit will stage compressors as required to maintain the setpoint when provided with Y1 thermostat demand.
- Increasing compressor stages provides more cooling capacity while decreasing compressor stages provides less cooling capacity.

[1] Unit Features An Economizer And Outdoor Air Is Suitable

Cooling Stage 1

All compressors are off, supply air blower operates to maintain duct static pressure, economizer modulates (minimum to maximum open position) to maintain 55°F supply air temperature (default unit controller setting).

Cooling Stage 2

All compressors are off, supply air blower operates to maintain duct static pressure, and economizer modulates to maintain 55°F supply air temperature. If economizer stays at maximum open for 3 minutes, compressor 1 is energized while supply air blower operates to maintain duct static pressure. After compressor 1 is energized, the economizer stays at maximum open.

Cooling Stage 3

Compressor 1 and 2 are energized while supply air blower operates to maintain duct static pressure.

Cooling Stage 4

All compressors are energized while supply air blower operates to maintain duct static pressure.

[1] Outdoor air suitability is determined by the energy state of outdoor ambient (enthalpy or sensible) and its ability to achieve the desired free cooling effects. Outdoor air suitability can also be determined by a third party controller and provided to the RTU via a network connection.

Unit Does Not Feature An Economizer Or Outdoor Air Is Not Suitable

Cooling Stage 1

Compressor 1 operates and supply air blower operates to maintain duct static pressure.

Cooling Stage 2

Compressors 1 and 2 operate and supply air blower operates to maintain duct static pressure.

Cooling Stage 3

Compressors 1, 2, and 3 operate and supply air blower operates to maintain duct static pressure.

Cooling Stage 4

All compressors operate and supply air blower operates to maintain duct static pressure.

UNITS IN ZONING APPLICATIONS OPERATING WITH DISCHARGE AIR CONTROL (4 HEAT / 4 COOL) (CONTINUED)

HEATING MODE (4 Heat)

Discharge air temperature (DAT) can be used to control unit staging.

- DAT default setpoint = 110ºF. Unit will stage heating as required to maintain the setpoint when provided with W1 demand.
- Increasing heat stages provides more heating capacity while decreasing heat stages provides less heating capacity.
- Blower set to Heating Speed for all stages.
- Heating Stage 1 -The first stage of mechanical heat is activated; gas valve one is in low fire mode. This is ~33% of heating capacity.
- Heating Stage 2 - The first and second stages of mechanical heat are activated; gas valves one and two are in low fire mode. This is ~66% of heating capacity.

Heating Stage 3

- Gas valve one is in high fire mode; gas valve two is in low fire mode. This is ~83% of heating capacity.

Heating Stage 4

- Gas valves one and two are in high fire mode. This is 100% of heating capacity.

Modulating Outdoor Air Damper

The minimum damper position for “occupied low blower” and “occupied high blower” is adjusted during unit setup to provide minimum fresh air requirements per ASHRAE 62.1 at the corresponding supply air blower speeds. When supply air blower is off or the unit is in unoccupied mode, the outdoor air damper is closed.

When unit is in occupied mode and supply air blower is operating at a speed below the “midpoint” blower speed, the outdoor air damper is at minimum “low blower” position.

When unit is in occupied mode and supply air blower is operating at a speed equal to or above the “midpoint” blower speed, the outdoor air damper is at minimum “high blower” position.

NOTE - The “midpoint” blower speed is an average of the minimum and maximum blower speed ((minimum speed + maximum speed) divided by 2).

OPTIONS / ACCESSORIES

Item Description		Catalog Number	Unit Model No 156	180	210	240	300
COOLING SYSTEM							
Condensate Drain Trap	PVC	**22H54**	OX	OX	OX	OX	OX
	Copper	**76W27**	OX	OX	OX	OX	OX
Conventional Fin/Tube Condenser Coil (replaces Environ™ Coil System)		Factory	O	O	O	O	O
Corrosion Protection		Factory	O	O	O	O	O
Drain Pan Overflow Switch		**21Z07**	OX	OX	OX	OX	OX
Efficiency		High	O	O	O	O	
		Standard					O
Refrigerant Type		R-410A	O	O	O	O	O
Service valves (not for Environ™ Coil System or Humiditrol® Dehumidification)		Factory	O	O	O	O	O
HEATING SYSTEM							
Bottom Gas Piping Kit		**85M31**	OX	OX	OX	OX	OX
Combustion Air Intake Extensions (order two)		**89L97**	X	X	X	X	X
Gas Heat Input	Low - 169,000 Btuh	Factory	O	O	O		
	Standard - 260,000 Btuh	Factory	O	O	O	O	O
	Medium - 360,000 Btuh	Factory	O	O	O	O	O
	High - 480,000 Btuh	Factory		O	O	O	O
Low Temperature Vestibule Heater	208/230V-3ph	**13X66**	OX	OX	OX	OX	OX
	460V-3ph	**13X67**	OX	OX	OX	OX	OX
	575V-3ph	**13X68**	OX	OX	OX	OX	OX
LPG/Propane Conversion Kits (Order 2 kits)	Low Heat	**14N28**	X	X	X		
	Standard Heat	**14N28**	X	X	X	X	X
	Medium Heat	**14N29**	X	X	X	X	X
	High Heat	**14N30**		X	X	X	X
Stainless Steel Heat Exchanger		Factory	O	O	O	O	O
Vertical Vent Extension Kit (Order two kits)		**42W16**	X	X	X	X	X
BLOWER - SUPPLY AIR							
Blower Option	CAV (Constant Air Volume)	Factory	O	O	O	O	O
	VAV (Variable Air Volume) supply air blower option (Without VFD Bypass Control)	Factory	O	O		O	
	MSAV® (Multi-Stage Air Volume) supply air blower option (With VFD Bypass Control)	Factory	O	O	O	O	O
	MSAV® (Multi-Stage Air Volume) supply air blower option (Without VFD Bypass Control)	Factory	O	O	O	O	O
Motors - CAV (Constant Air Volume)	Belt Drive (standard efficiency) - 2 hp	Factory	O				
	Belt Drive (standard or high efficiency) - 3 hp	Factory	O	O	O		
	Belt Drive (standard efficiency) - 5 hp	Factory	O	O	O	O	O
	Belt Drive (standard efficiency) - 7.5 hp	Factory		O	O	O	O
	Belt Drive (standard efficiency) - 10 hp	Factory				O	O
Motors - VAV (Variable Air Volume)	Belt Drive (standard or high efficiency) - 2 hp	Factory	O				
	Belt Drive (standard or high efficiency) - 3 hp	Factory	O	O			
	Belt Drive (standard efficiency) - 5 hp	Factory	O	O		O	
	Belt Drive (standard efficiency) - 7.5 hp	Factory		O		O	
	Belt Drive (standard efficiency) - 10 hp	Factory				O	
Motors - MSAV® (Multi-Stage Air Volume)	Belt Drive (standard efficiency) - 2 hp	Factory	O				
	Belt Drive (standard efficiency) - 3 hp	Factory	O	O	O		
	Belt Drive (standard efficiency) - 5 hp	Factory	O	O	O	O	O
	Belt Drive (standard efficiency) - 7.5 hp	Factory		O	O	O	O
	Belt Drive (standard efficiency) - 10 hp	Factory				O	O
Drive Kits See Blower Data Tables for usage and selection	Kit #1 535-725 rpm	Factory	O	O	O		
	Kit #2 710-965 rpm	Factory	O	O	O		
	Kit #3 685-856 rpm	Factory	O	O	O	O	O
	Kit #4 850-1045 rpm	Factory	O	O	O	O	O
	Kit #5 945-1185 rpm	Factory	O	O	O	O	O
	Kit #6 850-1045 rpm	Factory		O	O	O	O
	Kit #7 945-1185 rpm	Factory		O	O	O	O
	Kit #8 1045-1285 rpm	Factory		O	O	O	O
	Kit #10 1045-1285 rpm	Factory				O	O
	Kit #11 1135-1365 rpm	Factory				O	O
	Blower Belt Auto-Tensioner	Factory	O	O	O	O	O

NOTE - Catalog numbers shown are for ordering field installed accessories.

OX - Configure To Order (Factory Installed) or Field Installed

O = Configure To Order (Factory Installed)

X = Field Installed

OPTIONS / ACCESSORIES

Item Description		Catalog Number	Unit Model No 156	180	210	240	300
CONTROLS							
Blower Proving Switch		**21Z10**	OX	OX	OX	OX	OX
Commercial Controls	Prodigy® Control System - BACnet® Module	59W51	OX	OX	OX	OX	OX
	Prodigy® Control System - LonTalk® Module	**54W27**	OX	OX	OX	OX	OX
	Novar® LSE	Factory	O	O	O	O	O
L Connection® Building Automation System		- - -	X	X	X	X	X
Dirty Filter Switch		**53W68**	OX	OX	OX	OX	OX
Fresh Air Tempering		**21Z08**	OX	OX	OX	OX	OX
General Purpose Control Kit		**13J78**	X	X	X	X	X
Smoke Detector - Supply or Return (Power board and one sensor)		**83W40**	OX	OX	OX	OX	OX
Smoke Detector - Supply and Return (Power board and two sensors)		**83W41**	OX	OX	OX	OX	OX
INDOOR AIR QUALITY							
Air Filters							
Healthy Climate® High Efficiency Air Filters 24 x 24 x 2 (Order 6 per unit)	MERV 8	**54W67**	OX	OX	OX	OX	OX
	MERV 13	**52W40**	OX	OX	OX	OX	OX
Replacement Media Filter With Metal Mesh Frame (includes non-pleated filter media)		**44N61**	OX	OX	OX	OX	OX
Indoor Air Quality (CO_2) Sensors							
Sensor - Wall-mount, off-white plastic cover with LCD display		**77N39**	X	X	X	X	X
Sensor - Wall-mount, off-white plastic cover, no display		**87N53**	X	X	X	X	X
Sensor - Black plastic case with LCD display, rated for plenum mounting		**87N52**	X	X	X	X	X
Sensor - Wall-mount, black plastic case, no display, rated for plenum mounting		**87N54**	X	X	X	X	X
CO2Sensor Duct Mounting Kit - for downflow applications		**85L43**	X	X	X	X	X
Aspiration Box - for duct mounting non-plenum rated CO2sensors (**87N53** or **77N39**)		**90N43**	X	X	X	X	X
UVC Germicidal Light Kit							
[1] Healthy Climate® UVC Light Kit (110/230v-1ph)		**21A94**	X	X	X	X	X
Step-Down Transformers	460V primary, 230V secondary	**10H20**	X	X	X	X	X
	575V primary, 230V secondary	**10H21**	X	X	X	X	X
ELECTRICAL							
Voltage 60 hz	208/230V - 3 phase	Factory	O	O	O	O	O
	460V - 3 phase	Factory	O	O	O	O	O
	575V - 3 phase	Factory	O	O	O	O	O
HACR Circuit Breakers		Factory	O	O	O	O	O
Short-Circuit Current Rating (SCCR) of 100kA (includes Phase/Voltage Detection)		Factory	O	O	O	O	O
Disconnect Switch (see Disconnect Table for usage, page 51)	80 amp	**54W88**	OX	OX	OX	OX	OX
	150 amp	**54W89**	OX	OX	OX	OX	OX
	250 amp	**90W82**					OX
GFI Service Outlets	15 amp non-powered, field-wired (208/230V, 460V, 575V)	**74M70**	OX	OX	OX	OX	OX
	15 amp factory-wired and powered (208/230V, 460V, 575V)	Factory	O	O	O	O	O
	20 amp non-powered, field-wired (575V only)	**67E01**	OX	OX	OX	OX	OX
Weatherproof Cover for GFI		**10C89**	X	X	X	X	X
Phase/Voltage Detection (Optional for CAV options only, furnished with MSAV® option)		Factory	O	O	O	O	O

[1] Lamps operate on 110-230V single-phase power supply. Step-down transformer may be ordered separately for 460V and 575V units. Alternately, 110V power supply may be used to directly power the UVC ballast(s).

NOTE - Catalog numbers shown are for ordering field installed accessories.

OX - Configure To Order (Factory Installed) or Field Installed

O = Configure To Order (Factory Installed)

X = Field Installed

OPTIONS / ACCESSORIES

Item Description		Catalog Number	Unit Model No 156	180	210	240	300
ECONOMIZER							
High Performance Economizer (Approved for California Title 24 Building Standards AMCA Class 1A Certified)							
High Performance Economizer Downflow or Horizontal Applications - Includes Outdoor Air Hood. Order Downflow or Horizontal Barometric Relief Dampers separately.		**16Y98**	OX	OX	OX	OX	OX
Economizer Controls							
Differential Enthalpy (Not for Title 24)	Order 2	**21Z09**	OX	OX	OX	OX	OX
Sensible Control	Sensor is Furnished	Factory	O	O	O	O	O
Single Enthalpy (Not for Title 24)		**21Z09**	OX	OX	OX	OX	OX
Global Control	Sensor Field Provided	Factory	O	O	O	O	O
Building Pressure Control		**13J77**	X	X	X	X	X
Outdoor Air CFM Control		**13J76**	X	X	X	X	X
Barometric Relief Dampers With Exhaust Hood							
Downflow Barometric Relief Dampers		**54W78**	OX	OX	OX	OX	OX
Horizontal Barometric Relief Dampers		**16K99**	X	X	X	X	X
OUTDOOR AIR							
Outdoor Air Dampers With Outdoor Air Hood							
Motorized		**13U04**	OX	OX	OX	OX	OX
Manual		**13U05**	OX	OX	OX	OX	OX
[1] POWER EXHAUST (DOWNFLOW APPLICATIONS ONLY)							
Standard Static	208/230V	**75W90**	OX	OX	OX	OX	OX
	460V	**75W91**	OX	OX	OX	OX	OX
	575V	**75W92**	OX	OX	OX	OX	OX
SCCR Rated, Standard Static	208/230V	**75W90**	OX	OX	OX	OX	OX
	460V	**17J93**	OX	OX	OX	OX	OX
	575V	**17J98**	OX	OX	OX	OX	OX
HUMIDITROL® CONDENSER REHEAT OPTION (CAV AND MSAV®) MODELS ONLY							
Humiditrol Dehumidification Option		Factory	O	O	O	O	O
Humidity Sensor Kit, Remote mounted (required)		**17M50**	X	X	X	X	X
CABINET							
Combination Coil/Hail Guards	Environ™ Coil System	**15T92**	X				
		15T93		X	X	X	X
	Conventional Fin/Tube Condenser Coil	**13T08**	X				
		13T12		X	X	X	X

[1] Field installed Power Exhaust requires Economizer with Outdoor Air Hood and Downflow Barometric Relief Dampers with Exhaust Hood. Must be ordered separately.

NOTE - Catalog numbers shown are for ordering field installed accessories.

OX - Configure To Order (Factory Installed) or Field Installed

O = Configure To Order (Factory Installed)

X = Field Installed

OPTIONS / ACCESSORIES

Item Description		Catalog Number	Unit Model No 156	180	210	240	300
ROOF CURBS							
Hybrid Roof Curbs, Downflow							
8 in. height		**11F58**	X	X	X	X	X
14 in. height		**11F59**	X	X	X	X	X
18 in. height		**11F60**	X	X	X	X	X
24 in. height		**11F61**	X	X	X	X	X
Adjustable Pitch Curb							
14 in. height		**43W26**	X	X	X	X	X
Standard Roof Curbs, Horizontal - Requires Horizontal Return Air Panel Kit							
26 in. height - slab applications		**11T89**	X	X	X	X	
30 in. height - slab applications		**11T90**					X
37 in. height - rooftop applications		**11T96**	X	X	X	X	
41 in. height - rooftop applications		**11T97**					X
Insulation Kit For Standard Horizontal Roof Curbs							
For 26 in. Curb		**73K32**	X	X	X	X	
For 30 in. Curb		**73K33**					X
For 37 in. Curb		**73K34**	X	X	X	X	
For 41 in. Curb		**73K35**					X
Horizontal Return Air Panel Kit							
Required for Horizontal Applications with Roof Curb		**87M00**	X	X	X	X	X
CEILING DIFFUSERS							
Step-Down - Order one	RTD11-185S	**13K63**	X	X			
	RTD11-275S	**13K64**			X	X	X
Flush - Order one	FD11-185S	**13K58**	X	X			
	FD11-275S	**13K59**			X	X	X
Transitions (Supply and Return) - Order one	C1DIFF33C-1	**12X68**	X	X			
	C1DIFF34C-1	**12X70**			X	X	X

NOTE - Catalog numbers shown are for ordering field installed accessories.
OX - Configure To Order (Factory Installed) or Field Installed
O = Configure To Order (Factory Installed)
X = Field Installed

SPECIFICATIONS

General Data			13 Ton	13 Ton	13 Ton
	Nominal Tonnage		13 Ton	13 Ton	13 Ton
	Model Number		LGH156H4B	LGH156H4V	LGH156H4M
	Efficiency Type		High	High	High
	Blower Type		CAV (Constant Air Volume)	VAV (Variable Air Volume)	MSAV® (Multi-Stage Air Volume)
Cooling Performance	Gross Cooling Capacity - Btuh		154,000	152,000	154,000
	[1] Net Cooling Capacity - Btuh		150,000	148,000	150,000
	AHRI Rated Air Flow - cfm		5000	4600	5000
	Total Unit Power - kW		12.5	12.3	12.5
	[1] EER (Btuh/Watt)		12.0	12.0	12.0
	[2] IEER (Btuh/Watt)		13.2	14.5	14.1
Refrigerant Charge	Refrigerant Type		R-410A	R-410A	R-410A
	Environ™ Coil System	Circuit 1	5 lbs. 12 oz.	5 lbs. 0 oz.	5 lbs. 12 oz.
		Circuit 2	5 lbs. 4 oz.	5 lbs. 8 oz.	5 lbs. 4 oz.
		Circuit 3	5 lbs. 10 oz.	5 lbs. 0 oz.	5 lbs. 10 oz.
	Environ™ Coil System with Humiditrol®	Circuit 1	5 lbs. 14 oz.	- - -	5 lbs. 14 oz.
		Circuit 2	5 lbs. 8 oz.	- - -	5 lbs. 8 oz.
		Circuit 3	5 lbs. 12 oz.	- - -	5 lbs. 12 oz.
	Conventional Fin/Tube Coil Option	Circuit 1	10 lbs. 0 oz.	- - -	10 lbs. 0 oz.
		Circuit 2	10 lbs. 0 oz.	- - -	10 lbs. 0 oz.
		Circuit 3	9 lbs. 8 oz.	- - -	9 lbs. 8 oz.
	Conventional Fin/Tube With Humiditrol®	Circuit 1	12 lbs. 0 oz.	- - -	12 lbs. 0 oz.
		Circuit 2	12 lbs. 0 oz.	- - -	12 lbs. 0 oz.
		Circuit 3	9 lbs. 8 oz.	- - -	9 lbs. 8 oz.
Gas Heating Options Available			See page 33		
Compressor Type (number)			Scroll (3)	Scroll (3)	Scroll (3)
Outdoor Coils Environ™ (Fin/Tube)	Net face area (total) - sq. ft.		41.4	41.4	41.4
	Number of rows		1 (2)	1 (2)	1 (2)
	Fins per inch		23 (20)	23 (20)	23 (20)
Outdoor Coil Fans	Motor - (No.) horsepower		(3) 1/3	(3) 1/3	(3) 1/3
	Motor rpm		1075	1075	1075
	Total Motor watts		1100	1100	1100
	Diameter - (No.) in.		(3) 24	(3) 24	(3) 24
	Number of blades		3	3	3
	Total Air volume - cfm		12,000	12,000	12,000
Indoor Coils	Net face area (total) - sq. ft.		21.4	21.4	21.4
	Tube diameter - in.		3/8	3/8	3/8
	Number of rows		3	3	3
	Fins per inch		14	14	14
	Drain connection - No. and size		(1) 1 in. FPT	(1) 1 in. FPT	(1) 1 in. FPT
	Expansion device type		Balance port TXV, removable head		
[3] **Indoor Blower and Drive Selection**	Nominal motor output		2 hp, 3 hp, 5 hp		
	Max. usable motor output (US)		2.3 hp, 3.45 hp, 5.75 hp		
	Motor - Drive kit number		**2 hp** **Kit 1** 535-725 rpm **Kit 2** 710-965 rpm **3 hp Std. Eff.** **Kit 1** 535-725 rpm **Kit 2** 710-965 rpm **3 hp High. Eff.** K**it 3** 685-856 rpm **Kit 4** 850-1045 rpm **5 hp** **Kit 3** - 685-856 rpm **Kit 4** 850-1045 rpm **Kit 5** 945-1185 rpm		
	Blower wheel nominal D x W - in.		(2) 15 x 15 in.	(2) 15 x 15 in.	(2) 15 x 15 in.
Filters	Type of filter		Fiberglass, disposable		
	Number and size - in.		(6) 24 x 24 x 2		
Electrical characteristics			208/230V, 460V or 575V - 60 hertz - 3 phase		

NOTE - Net capacity includes evaporator blower motor heat deduction. Gross capacity does not include evaporator blower motor heat deduction.

[1] AHRI Certified to AHRI Standard 340/360; 95°F outdoor air temperature and 80°F db/67°F wb entering evaporator air; minimum external duct static pressure.

[2] Integrated Energy Efficiency Ratio tested according to AHRI Standard 340/360.

[3] Using total air volume and system static pressure requirements determine from blower performance tables rpm and motor output required. Maximum usable output of motors furnished are shown. In Canada, nominal motor output is also maximum usable motor output. If motors of comparable output are used, be sure to keep within the service factor limitations outlined on the motor nameplate.

NOTE – Units equipped with MSAV® (Multi-Stage Air Volume) option are limited to a motor service factor of 1.0.

SPECIFICATIONS

General Data			15 Ton	15 Ton	15 Ton	17.5 Ton	17.5 Ton
	Nominal Tonnage		15 Ton	15 Ton	15 Ton	17.5 Ton	17.5 Ton
	Model Number		LGH180H4B	LGH180H4V	LGH180H4M	LGH210H4B	LGH210H4M
	Efficiency Type		High	High	High	High	High
	Blower Type		CAV (Constant Air Volume)	VAV (Variable Air Volume)	MSAV® (Multi-Stage Air Volume)	CAV (Constant Air Volume)	MSAV® (Multi-Stage Air Volume)
Cooling Performance	Gross Cooling Capacity - Btuh		176,000	176,000	176,000	204,000	204,000
	[1] Net Cooling Capacity - Btuh		172,000	172,000	172,000	198,000	198,000
	AHRI Rated Air Flow - cfm		5250	5250	5250	6125	6125
	Total Unit Power - kW		14.3	14.3	14.3	16.5	16.5
	[1] EER (Btuh/Watt)		12.0	12.0	12.0	12.0	12.0
	[2] IEER (Btuh/Watt)		13.5	15.2	13.7	13.0	14.0
Refrigerant Charge	Refrigerant Type		R-410A	R-410A	R-410A	R-410A	R-410A
	Environ™ Coil System	Circuit 1	6 lbs. 0 oz.	5 lbs. 4 oz.	6 lbs. 0 oz.	6 lbs. 12 oz.	6 lbs. 12 oz.
		Circuit 2	5 lbs. 10 oz.	5 lbs. 8 oz.	5 lbs. 10 oz.	6 lbs. 14 oz.	6 lbs. 14 oz.
		Circuit 3	5 lbs. 14 oz.	5 lbs. 8 oz.	5 lbs. 14 oz.	6 lbs. 14 oz.	6 lbs. 14 oz.
	Environ™ Coil System with Humiditrol®	Circuit 1	6 lbs. 8 oz.	- - -	6 lbs. 8 oz.	7 lbs. 4 oz.	7 lbs. 4 oz.
		Circuit 2	5 lbs. 12 oz.	- - -	5 lbs. 12 oz.	7 lbs. 0 oz.	7 lbs. 0 oz.
		Circuit 3	6 lbs. 9 oz.	- - -	6 lbs. 9 oz.	6 lbs. 4 oz.	6 lbs. 4 oz.
	Conventional Fin/Tube Coil Option	Circuit 1	12 lbs. 8 oz.	- - -	12 lbs. 8 oz.	13 lbs. 0 oz.	13 lbs. 0 oz.
		Circuit 2	12 lbs. 8 oz.	- - -	12 lbs. 8 oz.	13 lbs. 0 oz.	13 lbs. 0 oz.
		Circuit 3	12 lbs. 8 oz.	- - -	12 lbs. 8 oz.	13 lbs. 0 oz.	13 lbs. 0 oz.
	Conventional Fin/Tube With Humiditrol®	Circuit 1	14 lbs. 8 oz.	- - -	14 lbs. 8 oz.	15 lbs. 0 oz.	15 lbs. 0 oz.
		Circuit 2	14 lbs. 8 oz.	- - -	14 lbs. 8 oz.	15 lbs. 0 oz.	15 lbs. 0 oz.
		Circuit 3	12 lbs. 8 oz.	- - -	12 lbs. 8 oz.	13 lbs. 0 oz.	13 lbs. 0 oz.
Gas Heating Options Available			See page 33				
Compressor Type (number)			Scroll (3)	Scroll (3)	Scroll (3)	Scroll (3)	Scroll (3)
Outdoor Coils Environ™ (Fin/Tube)	Net face area (total) - sq. ft.		55.2	55.2	55.2	55.2	55.2
	Number of rows		1 (2)	1 (2)	1 (2)	1 (2)	1 (2)
	Fins per inch		23 (20)	23 (20)	23 (20)	23 (20)	23 (20)
Outdoor Coil Fans	Motor - (No.) horsepower		(4) 1/3	(4) 1/3	(4) 1/3	(6) 1/3	(6) 1/3
	Motor rpm		1075	1075	1075	1075	1075
	Total Motor watts		1500	1500	1500	1950	1950
	Diameter - (No.) in.		(4) 24	(4) 24	(4) 24	(6) 24	(6) 24
	Number of blades		3	3	3	3	3
	Total Air volume - cfm		16,000	16,000	16,000	20,000	20,000
Indoor Coils	Net face area (total) - sq. ft.		21.4	21.4	21.4	21.4	21.4
	Tube diameter - in.		3/8	3/8	3/8	3/8	3/8
	Number of rows		3	3	3	4	4
	Fins per inch		14	14	14	14	14
	Drain connection - No. and size		(1) 1 in. FPT	(1) 1 in. FPT	(1) 1 in. FPT	(1) 1 in. FPT	(1) 1 in. FPT
	Expansion device type		Balance port TXV, removable head				
[3] Indoor Blower and Drive Selection	Nominal motor output		3 hp, 5 hp, 7.5 hp				
	Max. usable motor output (US)		3.45 hp, 5.75 hp, 8.62 hp				
	Motor - Drive kit number		**3 hp Std. Eff.** **Kit 1** 535-725 rpm **Kit 2** 710-965 rpm **3 hp High. Eff.** **Kit 3** - 685-856 rpm **Kit 4** 850-1045 rpm **5 hp** **Kit 3** 685-856 rpm **Kit 4** 850-1045 rpm **Kit 5** 945-1185 rpm **7.5 hp** **Kit 6** 850-1045 rpm **Kit 7** 945-1185 rpm **Kit 8** 1045-1285 rpm				
	Blower wheel nominal D x W - in.		(2) 15 x 15				
Filters	Type of filter		Fiberglass, disposable				
	Number and size - in.		(6) 24 x 24 x 2				
Electrical characteristics			208/230V, 460V or 575V - 60 hertz - 3 phase				

NOTE - Net capacity includes evaporator blower motor heat deduction. Gross capacity does not include evaporator blower motor heat deduction.

[1] AHRI Certified to AHRI Standard 340/360; 95°F outdoor air temperature and 80°F db/67°F wb entering evaporator air; minimum external duct static pressure.

[2] Integrated Energy Efficiency Ratio tested according to AHRI Standard 340/360.

[3] Using total air volume and system static pressure requirements determine from blower performance tables rpm and motor output required. Maximum usable output of motors furnished are shown. In Canada, nominal motor output is also maximum usable motor output. If motors of comparable output are used, be sure to keep within the service factor limitations outlined on the motor nameplate.

NOTE – Units equipped with MSAV® (Multi-Stage Air Volume) option are limited to a motor service factor of 1.0.

SPECIFICATIONS

General Data			20 Ton	20 Ton	20 Ton
	Nominal Tonnage		20 Ton	20 Ton	20 Ton
	Model Number		LGH240H4B	LGH240H4V	LGH240H4M
	Efficiency Type		High	High	High
	Blower Type		CAV (Constant Air Volume)	VAV (Variable Air Volume)	MSAV® (Multi-Stage Air Volume)
Cooling Performance	Gross Cooling Capacity - Btuh		238,000	238,000	238,000
	[1] Net Cooling Capacity - Btuh		230,000	230,000	230,000
	AHRI Rated Air Flow - cfm		6400	6400	6400
	Total Unit Power - kW		19.2	19.2	19.2
	[1] EER (Btuh/Watt)		12.0	12.0	12.0
	[2] IEER (Btuh/Watt)		13.2	16.0	14.5
Refrigerant Charge	Refrigerant Type		R-410A	R-410A	R-410A
	Environ™ Coil System	Circuit 1	6 lbs. 4 oz.	6 lbs. 2 oz.	6 lbs. 4 oz.
		Circuit 2	6 lbs. 2 oz.	6 lbs. 6 oz.	6 lbs. 2 oz.
		Circuit 3	5 lbs. 14 oz.	6 lbs. 0 oz.	5 lbs. 14 oz.
		Circuit 4	5 lbs. 6 oz.	6 lbs. 10 oz.	5 lbs. 6 oz.
	Environ™ Coil System with Humiditrol®	Circuit 1	6 lbs. 4 oz.	- - -	6 lbs. 4 oz.
		Circuit 2	5 lbs. 10 oz.	- - -	5 lbs. 10 oz.
		Circuit 3	4 lbs. 14 oz.	- - -	4 lbs. 14 oz.
		Circuit 4	4 lbs. 14 oz.	- - -	4 lbs. 14 oz.
	Conventional Fin/Tube Coil Option	Circuit 1	10 lbs. 0 oz.	- - -	10 lbs. 0 oz.
		Circuit 2	10 lbs. 0 oz.	- - -	10 lbs. 0 oz.
		Circuit 3	10 lbs. 0 oz.	- - -	10 lbs. 0 oz.
		Circuit 4	8 lbs. 12 oz.	- - -	8 lbs. 12 oz.
	Conventional Fin/Tube With Humiditrol®	Circuit 1	12 lbs. 0 oz.	- - -	12 lbs. 0 oz.
		Circuit 2	12 lbs. 0 oz.	- - -	12 lbs. 0 oz.
		Circuit 3	10 lbs. 0 oz.	- - -	10 lbs. 0 oz.
		Circuit 4	8 lbs. 12 oz.	- - -	8 lbs. 12 oz.
Gas Heating Options Available			See page 33		
Compressor Type (number)			Scroll (4)	Scroll (4)	Scroll (4)
Outdoor Coils Environ™ (Fin/Tube)	Net face area (total) - sq. ft.		55.2	55.2	55.2
	Number of rows		1 (2)	1 (2)	1 (2)
	Fins per inch		23 (20)	23 (20)	23 (20)
Outdoor Coil Fans	Motor - (No.) horsepower		(6) 1/3	(6) 1/3	(6) 1/3
	Motor rpm -Total Motor watts		1075 - 1950	1075 - 1950	1075 - 1950
	Diameter - (No.) in. - No. of blades		(6) 24 - 3	(6) 24 - 3	(6) 24 - 3
	Total Air volume - cfm		20,000	20,000	20,000
Indoor Coils	Net face area (total) - sq. ft.		21.4	21.4	21.4
	Tube diameter - in.		3/8	3/8	3/8
	Number of rows		4	4	4
	Fins per inch		14	14	14
	Drain connection - No. and size		(1) 1 in. FPT	(1) 1 in. FPT	(1) 1 in. FPT
	Expansion device type		Balance port TXV, removable head		
[3] Indoor Blower and Drive Selection	Nominal motor output		5 hp, 7.5 hp, 10 hp		
	Maximum usable motor output (US Only)		5.75 hp, 8.62 hp, 11.5 hp		
	Motor - Drive kit number		**5 hp** **Kit 3** 685-856 rpm **Kit 4** 850-1045 rpm **Kit 5** 945-1185 rpm **7.5 hp** **Kit 6** 850-1045 rpm **Kit 7** 945-1185 rpm **Kit 8** 1045-1285 rpm **10 hp** **Kit 7** 945-1185 rpm **Kit 10** 1045-1285 rpm **Kit 11** 1135-1365 rpm		
	Blower wheel nom. D x W - in.		(2) 15 x 15		
Filters	Type of filter		Fiberglass, disposable		
	Number and size - in.		(6) 24 x 24 x 2		
Electrical characteristics			208/230V, 460V or 575V - 60 hertz - 3 phase		

NOTE - Net capacity includes evaporator blower motor heat deduction. Gross capacity does not include evaporator blower motor heat deduction.

[1] AHRI Certified to AHRI Standard 340/360; 95°F outdoor air temperature and 80°F db/67°F wb entering evaporator air; minimum external duct static pressure.

[2] Integrated Energy Efficiency Ratio tested according to AHRI Standard 340/360.

[3] Using total air volume and system static pressure requirements determine from blower performance tables rpm and motor output required. Maximum usable output of motors furnished are shown. In Canada, nominal motor output is also maximum usable motor output. If motors of comparable output are used, be sure to keep within the service factor limitations outlined on the motor nameplate.

NOTE – Units equipped with MSAV® (Multi-Stage Air Volume) option are limited to a motor service factor of 1.0.

SPECIFICATIONS

General Data			Nominal Tonnage	25 Ton	25 Ton
			Model Number	**LGH300S4B**	**LGH300S4M**
			Efficiency Type	**Standard**	**Standard**
			Blower Type	CAV (Constant Air Volume)	MSAV® (Multi-Stage Air Volume)
Cooling Performance	Gross Cooling Capacity - Btuh			281,000	281,000
	[1] Net Cooling Capacity - Btuh			270,000	270,000
	AHRI Rated Air Flow - cfm			8400	8400
	Total Unit Power - kW			25.7	25.7
	[1] EER (Btuh/Watt)			10.5	10.5
	[2] IEER (Btuh/Watt)			11.4	13.8
Refrigerant Charge	Refrigerant Type			R-410A	R-410A
	Environ™ Coil System	Circuit 1		6 lbs. 4 oz.	6 lbs. 4 oz.
		Circuit 2		5 lbs. 10 oz.	5 lbs. 10 oz.
		Circuit 3		6 lbs. 6 oz.	6 lbs. 6 oz.
		Circuit 4		6 lbs. 0 oz.	6 lbs. 0 oz.
	Environ™ Coil System with Humiditrol®	Circuit 1		7 lbs. 8 oz.	7 lbs. 8 oz.
		Circuit 2		6 lbs. 4 oz.	6 lbs. 4 oz.
		Circuit 3		6 lbs. 2 oz.	6 lbs. 2 oz.
		Circuit 4		5 lbs. 14 oz.	5 lbs. 14 oz.
	Conventional Fin/Tube Coil Option	Circuit 1		10 lbs. 8 oz.	10 lbs. 8 oz.
		Circuit 2		10 lbs. 0 oz.	10 lbs. 0 oz.
		Circuit 3		9 lbs. 12 oz.	9 lbs. 12 oz.
		Circuit 4		9 lbs. 12 oz.	9 lbs. 12 oz.
	Conventional Fin/Tube With Humiditrol®	Circuit 1		12 lbs. 12 oz.	12 lbs. 12 oz.
		Circuit 2		11 lbs. 12 oz.	11 lbs. 12 oz.
		Circuit 3		9 lbs. 12 oz.	9 lbs. 12 oz.
		Circuit 4		9 lbs. 12 oz.	9 lbs. 12 oz.
Gas Heating Options Available				See page 33	
Compressor Type (number)				Scroll (4)	Scroll (4)
Outdoor Coils Environ™ (Fin/Tube)	Net face area (total) - sq. ft.			55.2	55.2
	Number of rows			1 (2)	1 (2)
	Fins per inch			23 (20)	23 (20)
Outdoor Coil Fans	Motor - (No.) horsepower			(6) 1/3	(6) 1/3
	Motor rpm -Total Motor watts			1075 - 1950	1075 - 1950
	Diameter - (No.) in. - No. of blades			(6) 24 - 3	(6) 24 - 3
	Total Air volume - cfm			20,000	20,000
Indoor Coils	Net face area (total) - sq. ft.			21.4	21.4
	Tube diameter - in.			3/8	3/8
	Number of rows			4	4
	Fins per inch			14	14
	Drain connection - No. and size			(1) 1 in. FPT	(1) 1 in. FPT
	Expansion device type			Balance port TXV, removable head	
[3] **Indoor Blower and Drive Selection**	Nominal motor output			5 hp, 7.5 hp, 10 hp	
	Maximum usable motor output (US Only)			5.75 hp, 8.62 hp, 11.5 hp	
	Motor - Drive kit number			**5 hp** **Kit 3** 685-856 rpm **Kit 4** 850-1045 rpm **Kit 5** 945-1185 rpm **7.5 hp** **Kit 6** 850-1045 rpm **Kit 7** 945-1185 rpm **Kit 8** 1045-1285 rpm **10 hp** **Kit 7** 945-1185 rpm **Kit 10** 1045-1285 rpm **Kit 11** 1135-1365 rpm	
	Blower wheel nom. D x W - in.			(2) 15 x 15	
Filters	Type of filter			Fiberglass, disposable	
	Number and size - in.			(6) 24 x 24 x 2	
Electrical characteristics				208/230V, 460V or 575V - 60 hertz - 3 phase	

NOTE - Net capacity includes evaporator blower motor heat deduction. Gross capacity does not include evaporator blower motor heat deduction.

[1] AHRI Certified to AHRI Standard 340/360; 95°F outdoor air temperature and 80°F db/67°F wb entering evaporator air; minimum external duct static pressure.

[2] Integrated Energy Efficiency Ratio tested according to AHRI Standard 340/360.

[3] Using total air volume and system static pressure requirements determine from blower performance tables rpm and motor output required. Maximum usable output of motors furnished are shown. In Canada, nominal motor output is also maximum usable motor output. If motors of comparable output are used, be sure to keep within the service factor limitations outlined on the motor nameplate.

NOTE – Units equipped with MSAV® (Multi-Stage Air Volume) option are limited to a motor service factor of 1.0.

SPECIFICATIONS - GAS HEAT

Usage Data		Model Number	LGH156 LGH180 LGH210	LGH156 LGH180 LGH210 LGH240 LGH300		LGH180 LGH210 LGH240 LGH300
		Heat Input Type	Low (L)	Standard (S)	Medium (M)	High (H)
		Number of Gas Heat Stages	1	2	2	2
Gas Heating Performance (Two-Stage)	Input - Btuh	First Stage	169,000	169,000	234,000	312,000
		Second Stage	N/A	260,000	360,000	480,000
	Output - Btuh	First Stage	135,000	- - -	- - -	- - -
		Second Stage	N/A	208,000	288,000	384,000
[1] **Gas Heating Performance (Four-Stage)**	Input - Btuh	First Stage	N/A	84,500	117,000	156,000
		Second Stage	N/A	169,000	234,000	312,000
		Third Stage	N/A	214,000	297,000	396,000
		Fourth Stage	N/A	260,000	360,000	480,000
	Output - Btuh	First Stage	135,000	- - -	- - -	- - -
		Second Stage	N/A	- - -	- - -	- - -
		Third Stage	N/A	- - -	- - -	- - -
		Fourth Stage	N/A	208,000	288,000	384,000
		Temperature Rise Range - °F	15 - 45	15 - 45	30 - 60	40 - 70
		Thermal Efficiency	80.0%	80.0%	80.0%	80.0%
		Gas Supply Connections	1 in. npt	1 in. npt	1 in. npt	1 in. npt
Recommended Gas Supply Pressure - in. w.g.		Natural	7	7	7	7
		LPG/Propane	11	11	11	11

[1] Four-stage gas heating is enabled when zone sensor, Discharge Air Control, or fresh air tempering mode is selected. (Available when using the CS8500 thermostat or when connected to Building Automation Systems using BACnet, LonTalk, or S-Bus protocols)

HIGH ALTITUDE DERATE

Units may be installed at altitudes up to 2000 feet above sea level without any modification.

At altitudes above 2000 feet, units must be derated to match gas manifold pressures shown in table below.

At altitudes above 4500 feet unit must be derated 2% for each 1000 feet above sea level.

NOTE − This is the only permissible derate for these units.

TWO-STAGE

Gas Heat Type (Two-Stage)	Altitude - ft.	Gas Manifold Pressure - in. w.g.		Input Rate Natural Gas or LPG/Propane - Btuh	
		Natural Gas	LPG/Propane Gas	First Stage	Second Stage
Low (L)	No adjustment required				
Standard (S)	2001 - 4500	3.4	9.6	169,000	249,000
Medium (M)	2001 - 4500	3.4	9.6	234,000	345,000
High (H)	2001 - 4500	3.4	9.6	312,000	460,000

FOUR-STAGE

[1] Gas Heat Type (Four-Stage)	Altitude - ft.	Gas Manifold Pressure - in. w.g.		Input Rate Natural Gas or LPG/Propane - Btuh			
		Natural Gas	LPG/Propane Gas	First Stage	Second Stage	Third Stage	Fourth Stage
Low (L)	No adjustment required						
Standard (S)	2001 - 4500	3.4	9.6	84,000	169,000	209,000	249,000
Medium (M)	2001 - 4500	3.4	9.6	117,000	234,000	289,000	345,000
High (H)	2001 - 4500	3.4	9.6	156,000	312,000	386,000	460,000

[1] Four-Stage Gas Heating is field configured.

RATINGS

NOTE − For Temperatures and Capacities not shown in tables, see bulletin − Cooling Unit Rating Table Correction Factor Data in Miscellaneous Engineering Data section.

13 TON HIGH EFFICIENCY LGH156H4B (1ST STAGE) - CONSTANT AIR VOLUME

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		65°F					75°F					85°F					95°F				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb		
	cfm	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F
63°F	4160	110.6	4.68	0.67	0.80	0.93	103.7	5.30	0.68	0.81	0.95	96.4	5.97	0.68	0.82	0.97	88.8	6.74	0.68	0.84	0.99
	5200	117.9	4.73	0.72	0.87	0.99	110.4	5.34	0.72	0.88	1.00	102.7	6.01	0.73	0.90	1.00	94.7	6.78	0.74	0.93	1.00
	6240	123.1	4.77	0.76	0.93	1.00	115.4	5.38	0.77	0.95	1.00	107.5	6.05	0.79	0.97	1.00	99.3	6.81	0.80	0.99	1.00
67°F	4160	118.4	4.73	0.54	0.65	0.77	111.2	5.34	0.53	0.65	0.78	103.8	6.02	0.52	0.66	0.79	96.0	6.79	0.52	0.66	0.80
	5200	126.0	4.79	0.57	0.70	0.83	118.4	5.39	0.56	0.70	0.85	110.5	6.07	0.56	0.71	0.86	102.2	6.83	0.56	0.72	0.89
	6240	131.7	4.83	0.59	0.74	0.90	123.6	5.43	0.59	0.75	0.91	115.4	6.11	0.59	0.76	0.94	106.7	6.87	0.59	0.78	0.96
71°F	4160	126.1	4.78	0.42	0.53	0.63	118.8	5.39	0.40	0.52	0.63	111.2	6.07	0.39	0.52	0.63	103.1	6.84	0.37	0.51	0.64
	5200	134.1	4.84	0.43	0.55	0.67	126.1	5.45	0.41	0.55	0.68	118.0	6.13	0.4	0.55	0.69	109.6	6.89	0.39	0.55	0.70
	6240	140.0	4.88	0.44	0.58	0.72	131.7	5.49	0.42	0.58	0.73	123.3	6.17	0.42	0.59	0.74	114.3	6.93	0.40	0.59	0.76

13 TON HIGH EFFICIENCY LGH156H4B (2ND STAGE) - CONSTANT AIR VOLUME

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		85°F					95°F					105°F					115°F				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb		
	cfm	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F
63°F	4160	148.1	9.05	0.70	0.85	0.99	136.5	10.20	0.71	0.87	1.00	124.5	11.51	0.72	0.9	1.00	112.1	13.01	0.73	0.93	1.00
	5200	157.1	9.11	0.76	0.94	1.00	145.1	10.26	0.77	0.96	1.00	132.6	11.57	0.79	0.99	1.00	120.5	13.08	0.81	1.00	1.00
	6240	164.5	9.17	0.82	0.99	1.00	152.7	10.32	0.83	1.00	1.00	141.1	11.64	0.86	1.00	1.00	129.1	13.15	0.89	1.00	1.00
67°F	4160	159.3	9.13	0.54	0.68	0.82	147.4	10.28	0.54	0.69	0.84	135.3	11.59	0.53	0.70	0.86	122.4	13.09	0.53	0.71	0.89
	5200	169.0	9.20	0.58	0.74	0.90	156.5	10.35	0.58	0.75	0.92	143.4	11.66	0.58	0.77	0.95	129.8	13.16	0.58	0.79	0.98
	6240	175.9	9.25	0.61	0.80	0.97	162.7	10.40	0.62	0.81	0.99	149.1	11.71	0.62	0.83	1.00	135.2	13.2	0.63	0.86	1.00
71°F	4160	170.4	9.21	0.40	0.53	0.66	158.1	10.36	0.38	0.53	0.66	145.8	11.68	0.37	0.53	0.67	132.6	13.18	0.35	0.52	0.69
	5200	180.5	9.29	0.41	0.57	0.72	167.6	10.44	0.41	0.57	0.73	154.2	11.75	0.39	0.57	0.74	140.5	13.25	0.37	0.58	0.76
	6240	187.9	9.35	0.43	0.61	0.77	174.4	10.50	0.42	0.61	0.79	160.4	11.81	0.41	0.61	0.81	146.2	13.31	0.40	0.62	0.84

15 TON HIGH EFFICIENCY LGH180H4B (1ST STAGE) - CONSTANT AIR VOLUME

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		65°F					75°F					85°F					95°F				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb		
	cfm	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F
63°F	4800	127.8	5.04	0.70	0.82	0.93	120.4	5.79	0.7	0.82	0.94	112.8	6.62	0.70	0.83	0.96	104.8	7.53	0.70	0.85	0.98
	6000	136.3	5.05	0.74	0.87	0.99	128.3	5.81	0.75	0.88	1.00	120.1	6.64	0.75	0.90	1.00	111.6	7.56	0.76	0.92	1.00
	7200	142.4	5.05	0.78	0.92	1.00	134.1	5.82	0.79	0.94	1.00	125.4	6.66	0.80	0.96	1.00	116.7	7.58	0.81	0.98	1.00
67°F	4800	136.5	5.05	0.56	0.68	0.79	129.0	5.81	0.55	0.68	0.79	121.1	6.65	0.55	0.68	0.80	112.8	7.56	0.54	0.68	0.81
	6000	145.4	5.06	0.59	0.72	0.84	137.2	5.83	0.58	0.72	0.85	128.8	6.67	0.58	0.73	0.86	120.1	7.60	0.58	0.74	0.88
	7200	151.9	5.06	0.61	0.76	0.89	143.3	5.84	0.61	0.77	0.91	134.5	6.69	0.61	0.78	0.93	125.3	7.62	0.61	0.79	0.95
71°F	4800	145.1	5.06	0.44	0.55	0.65	137.2	5.83	0.42	0.54	0.65	129.2	6.67	0.41	0.54	0.66	120.6	7.60	0.40	0.53	0.66
	6000	154.3	5.07	0.45	0.57	0.70	145.9	5.85	0.43	0.57	0.70	137.2	6.70	0.42	0.57	0.71	128.1	7.63	0.41	0.57	0.71
	7200	161.0	5.08	0.46	0.6	0.74	152.3	5.86	0.44	0.6	0.74	143.1	6.72	0.44	0.6	0.76	133.6	7.66	0.43	0.61	0.77

15 TON HIGH EFFICIENCY LGH180H4B (2ND STAGE) - CONSTANT AIR VOLUME

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		85°F					95°F					105°F					115°F				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb		
	cfm	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F
63°F	4800	172.5	9.96	0.71	0.85	0.99	160.1	11.32	0.71	0.87	1.00	146.8	12.83	0.72	0.90	1.00	132.7	14.51	0.74	0.93	1.00
	6000	182.6	9.99	0.77	0.93	1.00	169.5	11.37	0.78	0.95	1.00	155.7	12.89	0.79	0.98	1.00	141.3	14.57	0.81	1.00	1.00
	7200	190.3	10.02	0.82	0.99	1.00	177.3	11.41	0.83	1.00	1.00	164.3	12.94	0.86	1.00	1.00	150.5	14.64	0.89	1.00	1.00
67°F	4800	185.0	10.00	0.55	0.69	0.82	172.1	11.38	0.55	0.69	0.84	158.6	12.90	0.54	0.70	0.86	144.0	14.59	0.54	0.72	0.89
	6000	195.8	10.04	0.58	0.74	0.90	182.1	11.43	0.58	0.76	0.92	167.5	12.96	0.59	0.77	0.95	152.2	14.65	0.59	0.79	0.98
	7200	203.7	10.07	0.62	0.8	0.97	189.3	11.46	0.62	0.81	0.99	173.9	13.00	0.63	0.84	1.00	157.8	14.69	0.63	0.86	1.00
71°F	4800	197.2	10.04	0.41	0.54	0.67	183.9	11.43	0.39	0.54	0.67	169.9	12.97	0.38	0.53	0.68	155.0	14.67	0.36	0.53	0.69
	6000	208.4	10.09	0.42	0.58	0.72	194.2	11.48	0.41	0.58	0.73	179.4	13.03	0.4	0.58	0.75	163.3	14.73	0.38	0.59	0.77
	7200	216.6	10.12	0.43	0.61	0.78	201.8	11.52	0.42	0.62	0.79	186.2	13.07	0.42	0.62	0.81	169.7	14.78	0.41	0.63	0.84

RATINGS

NOTE − For Temperatures and Capacities not shown in tables, see bulletin − Cooling Unit Rating Table Correction Factor Data in Miscellaneous Engineering Data section.

17.5 TON HIGH EFFICIENCY LGH210H4B (1ST STAGE) - CONSTANT AIR VOLUME

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		65°F					75°F					85°F					95°F				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb		
	cfm	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F
63°F	5600	142.9	5.49	0.71	0.85	0.97	134.4	6.23	0.72	0.86	0.99	125.5	7.05	0.72	0.88	1.00	116.4	7.97	0.74	0.9	1.00
	7000	151.1	5.54	0.76	0.92	1.00	142.3	6.29	0.77	0.94	1.00	133	7.11	0.79	0.96	1.00	123.5	8.03	0.80	0.98	1.00
	8400	157.9	5.58	0.82	0.98	1.00	148.7	6.34	0.83	1.00	1.00	139.3	7.16	0.84	1.00	1.00	130.5	8.08	0.87	1.00	1.00
67°F	5600	153.6	5.55	0.56	0.69	0.81	144.5	6.30	0.56	0.69	0.83	135.3	7.13	0.56	0.70	0.84	125.7	8.04	0.56	0.71	0.86
	7000	161.9	5.61	0.60	0.74	0.88	152.1	6.36	0.6	0.75	0.90	142.5	7.19	0.60	0.77	0.92	132.2	8.10	0.61	0.78	0.95
	8400	167.9	5.65	0.63	0.79	0.95	157.9	6.41	0.63	0.81	0.97	147.6	7.23	0.63	0.82	0.99	137.0	8.14	0.63	0.84	1.00
71°F	5600	164.4	5.63	0.43	0.55	0.67	154.9	6.38	0.42	0.55	0.67	145.2	7.21	0.41	0.54	0.68	135.3	8.13	0.4	0.55	0.69
	7000	172.9	5.69	0.45	0.59	0.72	162.9	6.45	0.44	0.59	0.73	152.6	7.27	0.43	0.59	0.74	142.1	8.19	0.42	0.60	0.76
	8400	179.1	5.74	0.45	0.62	0.77	168.6	6.49	0.46	0.63	0.79	157.8	7.32	0.45	0.63	0.8	146.5	8.24	0.44	0.64	0.82

17.5 TON HIGH EFFICIENCY LGH210H4B (2ND STAGE) - CONSTANT AIR VOLUME

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		85°F					95°F					105°F					115°F				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb		
	cfm	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F
63°F	5600	197.5	11.26	0.71	0.86	0.99	183.2	12.71	0.73	0.89	1.00	168.8	14.37	0.74	0.91	1.00	153.6	16.25	0.75	0.94	1.00
	7000	209.3	11.34	0.78	0.95	1.00	194.5	12.8	0.79	0.97	1.00	179.6	14.45	0.81	0.99	1.00	164.6	16.33	0.83	1.00	1.00
	8400	219.3	11.42	0.83	0.99	1.00	205.2	12.89	0.85	1.00	1.00	190.5	14.55	0.88	1.00	1.00	175.2	16.42	0.91	1.00	1.00
67°F	5600	212.6	11.36	0.55	0.69	0.83	198.1	12.83	0.55	0.70	0.85	182.6	14.48	0.55	0.71	0.87	166.4	16.34	0.55	0.73	0.90
	7000	224.4	11.46	0.59	0.76	0.91	208.9	12.92	0.60	0.77	0.94	192.3	14.56	0.60	0.79	0.96	175.2	16.41	0.60	0.81	0.98
	8400	232.7	11.52	0.62	0.81	0.98	216.2	12.98	0.63	0.83	0.99	199.3	14.62	0.64	0.85	1.00	181.7	16.47	0.64	0.88	1.00
71°F	5600	228.4	11.49	0.41	0.54	0.67	212.9	12.95	0.40	0.54	0.68	197.0	14.60	0.39	0.55	0.69	180.1	16.46	0.38	0.55	0.71
	7000	240.3	11.59	0.42	0.59	0.73	223.9	13.05	0.42	0.59	0.75	206.9	14.69	0.41	0.59	0.76	189.0	16.54	0.40	0.60	0.78
	8400	248.5	11.66	0.44	0.62	0.79	231.5	13.12	0.44	0.63	0.81	214.0	14.75	0.43	0.64	0.83	195.1	16.60	0.42	0.64	0.86

20 TON HIGH EFFICIENCY LGH240H4B (1ST STAGE) - CONSTANT AIR VOLUME

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		65°F					75°F					85°F					95°F				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb		
	cfm	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F
63°F	6400	130.1	5.15	0.69	0.81	0.94	123.5	5.86	0.69	0.83	0.96	116.6	6.64	0.70	0.84	0.98	109.3	7.52	0.71	0.86	0.99
	8000	137.5	5.20	0.73	0.88	0.99	130.5	5.91	0.74	0.90	1.00	123.1	6.69	0.75	0.92	1.00	115.6	7.57	0.77	0.94	1.00
	9600	143.4	5.25	0.78	0.94	1.00	136.1	5.96	0.79	0.96	1.00	128.4	6.74	0.81	0.98	1.00	120.6	7.62	0.83	0.99	1.00
67°F	6400	139.2	5.22	0.55	0.66	0.78	132.2	5.93	0.55	0.67	0.79	124.7	6.71	0.55	0.68	0.81	117.0	7.58	0.55	0.69	0.83
	8000	146.6	5.27	0.57	0.71	0.85	139.1	5.99	0.58	0.72	0.86	131.3	6.77	0.58	0.73	0.88	123.0	7.64	0.58	0.75	0.91
	9600	152.1	5.31	0.60	0.76	0.91	144.2	6.03	0.61	0.77	0.93	135.9	6.81	0.62	0.79	0.96	127.2	7.68	0.62	0.81	0.98
71°F	6400	148.1	5.28	0.42	0.53	0.64	140.8	6.00	0.42	0.53	0.65	133.2	6.79	0.41	0.54	0.65	125.1	7.66	0.41	0.53	0.66
	8000	155.9	5.34	0.43	0.56	0.69	148.1	6.06	0.43	0.56	0.69	139.8	6.85	0.42	0.57	0.71	131.2	7.73	0.42	0.58	0.73
	9600	161.6	5.39	0.44	0.59	0.73	153.2	6.11	0.44	0.60	0.75	144.7	6.90	0.44	0.61	0.76	135.7	7.77	0.44	0.62	0.78

20 TON HIGH EFFICIENCY LGH240H4B (2ND STAGE) - CONSTANT AIR VOLUME

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		85°F					95°F					105°F					115°F				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb		
	cfm	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F
63°F	6400	236.6	13.31	0.73	0.88	1.00	221.6	15.06	0.74	0.91	1.00	205.8	17.06	0.76	0.94	1.00	189.2	19.35	0.78	0.97	1.00
	8000	249.2	13.43	0.79	0.97	1.00	233.7	15.17	0.80	0.98	1.00	217.5	17.17	0.83	0.99	1.00	201.1	19.47	0.86	1.00	1.00
	9600	260.1	13.53	0.85	1.00	1.00	244.7	15.28	0.87	1.00	1.00	228.9	17.29	0.90	1.00	1.00	212.1	19.59	0.94	1.00	1.00
67°F	6400	252.7	13.46	0.56	0.71	0.85	236.8	15.20	0.57	0.72	0.87	220.0	17.20	0.57	0.73	0.90	202.2	19.48	0.58	0.76	0.93
	8000	264.4	13.57	0.60	0.77	0.93	247.3	15.31	0.61	0.78	0.96	229.6	17.30	0.62	0.81	0.98	210.9	19.57	0.63	0.84	0.99
	9600	272.8	13.66	0.64	0.83	0.99	255.3	15.39	0.64	0.85	1.00	236.8	17.38	0.65	0.88	1.00	217.9	19.65	0.67	0.92	1.00
71°F	6400	269.2	13.62	0.41	0.55	0.68	252.6	15.37	0.41	0.56	0.70	235.2	17.36	0.41	0.56	0.71	216.6	19.64	0.40	0.57	0.73
	8000	281.5	13.75	0.43	0.59	0.74	263.7	15.49	0.43	0.60	0.76	245.0	17.48	0.43	0.61	0.78	225.2	19.74	0.42	0.62	0.81
	9600	289.9	13.83	0.45	0.63	0.81	271.3	15.57	0.45	0.64	0.83	252.0	17.55	0.45	0.65	0.86	231.3	19.81	0.44	0.67	0.89

RATINGS

NOTE − For Temperatures and Capacities not shown in tables, see bulletin − Cooling Unit Rating Table Correction Factor Data in Miscellaneous Engineering Data section.

25 TON STANDARD EFFICIENCY LGH300S4B (1ST STAGE) - CONSTANT AIR VOLUME

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		65°F					75°F					85°F					95°F				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb		
	cfm	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F
63°F	8000	147.3	6.36	0.70	0.82	0.95	140.6	7.18	0.71	0.84	0.97	134.8	8.10	0.72	0.86	0.99	129.1	9.16	0.73	0.88	1.00
	9500	152.7	6.41	0.73	0.87	0.99	145.9	7.24	0.74	0.90	1.00	140.0	8.16	0.75	0.92	1.00	133.8	9.22	0.77	0.94	1.00
	11000	157.6	6.47	0.75	0.92	1.00	150.5	7.29	0.78	0.95	1.00	144.1	8.22	0.80	0.97	1.00	137.6	9.27	0.82	0.98	1.00
67°F	8000	156.1	6.45	0.55	0.67	0.79	149.2	7.27	0.56	0.68	0.81	142.8	8.20	0.57	0.70	0.83	136.3	9.25	0.57	0.70	0.84
	9500	161.6	6.51	0.57	0.70	0.84	154.0	7.33	0.58	0.71	0.86	147.3	8.26	0.59	0.73	0.88	140.8	9.31	0.60	0.75	0.91
	11000	165.6	6.55	0.59	0.73	0.89	158.2	7.38	0.60	0.76	0.92	151.1	8.31	0.61	0.77	0.94	144.2	9.37	0.63	0.79	0.96
71°F	8000	165.2	6.55	0.42	0.54	0.65	157.7	7.38	0.42	0.54	0.66	151.1	8.31	0.42	0.55	0.67	144.2	9.37	0.43	0.56	0.69
	9500	170.7	6.61	0.43	0.56	0.68	162.8	7.44	0.43	0.57	0.70	155.4	8.37	0.44	0.57	0.71	148.2	9.42	0.44	0.58	0.72
	11000	174.8	6.66	0.44	0.58	0.71	166.6	7.49	0.45	0.59	0.73	159.1	8.42	0.44	0.60	0.75	151.8	9.47	0.45	0.61	0.77

25 TON STANDARD EFFICIENCY LGH300S4B (2ND STAGE) - CONSTANT AIR VOLUME

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		85°F					95°F					105°F					115°F				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb		
	cfm	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F
63°F	8000	277.2	17.80	0.72	0.87	1.00	264.6	19.95	0.74	0.89	1.00	251.7	22.43	0.75	0.92	1.00	238.5	25.35	0.78	0.95	1.00
	9500	287.2	17.97	0.76	0.93	1.00	273.8	20.12	0.78	0.96	1.00	260.1	22.59	0.80	0.98	1.00	246.0	25.49	0.83	1.00	1.00
	11000	295.0	18.11	0.80	0.98	1.00	280.6	20.25	0.83	1.00	1.00	267.4	22.73	0.85	1.00	1.00	254.5	25.68	0.88	1.00	1.00
67°F	8000	293.2	18.08	0.57	0.70	0.83	279.6	20.23	0.58	0.71	0.86	265.8	22.71	0.59	0.73	0.88	251.7	25.63	0.60	0.75	0.91
	9500	302.9	18.25	0.59	0.74	0.89	288.4	20.39	0.60	0.76	0.92	273.9	22.86	0.62	0.78	0.95	258.8	25.78	0.63	0.80	0.98
	11000	310.1	18.38	0.62	0.78	0.95	295.3	20.52	0.63	0.80	0.98	279.9	22.99	0.64	0.83	1.00	264.5	25.89	0.65	0.85	1.00
71°F	8000	310.0	18.38	0.43	0.56	0.68	295.5	20.53	0.43	0.57	0.69	280.6	23.00	0.43	0.58	0.71	265.8	25.92	0.44	0.59	0.73
	9500	319.0	18.54	0.44	0.58	0.72	304.0	20.68	0.44	0.59	0.74	288.9	23.17	0.45	0.61	0.75	273.0	26.07	0.45	0.62	0.78
	11000	326.9	18.68	0.44	0.61	0.76	311.2	20.82	0.45	0.62	0.78	294.9	23.29	0.46	0.63	0.80	278.5	26.19	0.47	0.65	0.83

RATINGS

NOTE − For Temperatures and Capacities not shown in tables, see bulletin − Cooling Unit Rating Table Correction Factor Data in Miscellaneous Engineering Data section.

13 TON HIGH EFFICIENCY LGH156H4V (1 COMPRESSOR OPERATING) - VARIABLE AIR VOLUME

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		65°F					75°F					85°F					95°F				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb		
	cfm	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F
63°F	1500	51.8	2.25	0.74	0.87	0.96	49.5	2.58	0.74	0.88	0.96	46.9	2.93	0.75	0.89	0.97	44.3	3.33	0.76	0.9	0.98
	1800	54.2	2.25	0.77	0.9	0.98	51.7	2.59	0.78	0.91	0.99	49.1	2.95	0.79	0.92	1	46.3	3.34	0.79	0.93	1
	2100	56.1	2.26	0.8	0.93	1	53.5	2.6	0.8	0.94	1	50.8	2.96	0.81	0.95	1	47.9	3.35	0.83	0.96	1
67°F	1500	54.3	2.25	0.49	0.69	0.83	51.9	2.59	0.49	0.69	0.84	49.4	2.95	0.48	0.7	0.85	46.6	3.34	0.48	0.71	0.87
	1800	56.8	2.26	0.51	0.73	0.87	54.2	2.6	0.51	0.73	0.88	51.4	2.96	0.5	0.75	0.89	48.5	3.35	0.51	0.76	0.9
	2100	58.7	2.27	0.53	0.76	0.9	56	2.61	0.53	0.77	0.91	53.2	2.97	0.53	0.78	0.92	50.2	3.36	0.53	0.79	0.94
71°F	1500	57.1	2.26	0.25	0.45	0.64	54.5	2.6	0.24	0.45	0.64	51.9	2.96	0.22	0.44	0.65	49	3.36	0.21	0.44	0.66
	1800	59.5	2.27	0.24	0.47	0.68	56.9	2.61	0.23	0.47	0.68	54	2.97	0.22	0.47	0.69	51.1	3.37	0.21	0.47	0.72
	2100	61.4	2.28	0.24	0.49	0.71	58.7	2.62	0.23	0.49	0.73	55.7	2.98	0.22	0.5	0.74	52.6	3.38	0.21	0.5	0.76

13 TON HIGH EFFICIENCY LGH156H4V (2 COMPRESSORS OPERATING) - VARIABLE AIR VOLUME

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		65°F					75°F					85°F					95°F				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb		
	cfm	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F
63°F	3000	108.4	4.56	0.72	0.85	0.96	103.3	5.23	0.72	0.86	0.98	97.8	5.95	0.73	0.88	0.99	91.9	6.75	0.74	0.89	0.99
	3500	112.5	4.58	0.75	0.89	0.99	107	5.25	0.75	0.9	1	101	5.97	0.76	0.92	1	95.2	6.77	0.78	0.94	1
	4000	115.7	4.6	0.77	0.93	1	110.2	5.26	0.79	0.94	1	104.5	5.99	0.8	0.96	1	98.5	6.79	0.81	0.98	1
67°F	3000	114.4	4.59	0.57	0.7	0.82	109.1	5.26	0.57	0.7	0.83	103.6	5.98	0.58	0.71	0.84	97.6	6.78	0.58	0.72	0.86
	3500	119	4.61	0.59	0.73	0.86	113.4	5.28	0.59	0.74	0.87	107.5	6.01	0.6	0.75	0.89	101.2	6.81	0.6	0.76	0.91
	4000	122.6	4.63	0.61	0.75	0.9	116.8	5.3	0.61	0.76	0.92	110.6	6.03	0.62	0.78	0.93	104	6.83	0.62	0.8	0.95
71°F	3000	120	4.61	0.44	0.56	0.68	114.6	5.29	0.43	0.56	0.68	108.9	6.01	0.43	0.56	0.69	102.7	6.82	0.42	0.57	0.7
	3500	125	4.64	0.44	0.58	0.7	119.1	5.31	0.44	0.58	0.71	113	6.04	0.44	0.58	0.72	106.7	6.85	0.44	0.59	0.74
	4000	128.8	4.65	0.45	0.59	0.73	122.8	5.33	0.45	0.6	0.74	116.4	6.06	0.45	0.61	0.76	109.7	6.86	0.45	0.62	0.77

13 TON HIGH EFFICIENCY LGH156H4V (3 COMPRESSORS OPERATING) - VARIABLE AIR VOLUME

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		85°F					95°F					105°F					115°F				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb		
	cfm	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F
63°F	4160	151.8	9.02	0.72	0.84	0.95	143.1	10.22	0.72	0.85	0.97	133.7	11.57	0.74	0.87	0.99	123.6	13.1	0.75	0.89	1
	5200	159.9	9.07	0.77	0.9	1	150.4	10.28	0.78	0.92	1	140.4	11.62	0.79	0.94	1	130.1	13.15	0.81	0.97	1
	6240	166	9.1	0.81	0.96	1	156.6	10.32	0.83	0.98	1	146.6	11.67	0.84	0.99	1	136.2	13.2	0.87	1	1
67°F	4160	158.6	9.05	0.56	0.7	0.81	149.2	10.26	0.56	0.71	0.82	139.5	11.61	0.57	0.71	0.84	129.3	13.15	0.58	0.73	0.86
	5200	166.6	9.1	0.59	0.74	0.87	157.1	10.32	0.59	0.75	0.89	146.9	11.67	0.62	0.77	0.91	135.9	13.2	0.63	0.79	0.94
	6240	172.9	9.14	0.62	0.79	0.93	162.9	10.36	0.64	0.8	0.95	152.2	11.71	0.64	0.82	0.98	140.6	13.24	0.66	0.84	0.99
71°F	4160	167.9	9.11	0.42	0.55	0.68	158.5	10.33	0.42	0.56	0.68	147.9	11.68	0.41	0.55	0.7	136.8	13.2	0.41	0.56	0.71
	5200	175.8	9.16	0.44	0.59	0.72	165.6	10.37	0.44	0.59	0.74	154.7	11.73	0.43	0.6	0.76	142.8	13.25	0.43	0.61	0.77
	6240	181.9	9.2	0.46	0.62	0.77	170.8	10.41	0.46	0.63	0.79	159.5	11.77	0.45	0.64	0.81	147.1	13.29	0.45	0.65	0.83

RATINGS

NOTE − For Temperatures and Capacities not shown in tables, see bulletin − Cooling Unit Rating Table Correction Factor Data in Miscellaneous Engineering Data section.

15 TON HIGH EFFICIENCY LGH180H4V (1 COMPRESSOR OPERATING) - VARIABLE AIR VOLUME

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		65°F					75°F					85°F					95°F				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb		
	cfm	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F
63°F	1600	58.6	2.51	0.58	0.73	0.87	55.8	2.87	0.59	0.74	0.89	52.7	3.25	0.59	0.75	0.9	49.5	3.67	0.59	0.77	0.93
	2000	62.3	2.53	0.62	0.78	0.93	59.2	2.89	0.62	0.79	0.95	55.9	3.27	0.63	0.81	0.97	52.4	3.68	0.64	0.83	0.99
	2400	65	2.55	0.64	0.83	0.98	61.7	2.9	0.65	0.85	0.99	58.3	3.28	0.67	0.87	1	54.7	3.7	0.68	0.89	1
67°F	1600	61.7	2.53	0.39	0.54	0.68	58.7	2.88	0.39	0.55	0.69	55.6	3.26	0.38	0.55	0.7	52.2	3.68	0.37	0.55	0.72
	2000	65.3	2.55	0.4	0.58	0.73	62.1	2.91	0.4	0.58	0.75	58.8	3.28	0.4	0.59	0.77	55.2	3.7	0.39	0.6	0.78
	2400	68.1	2.57	0.42	0.61	0.78	64.7	2.92	0.42	0.62	0.8	61.2	3.3	0.42	0.63	0.82	57.4	3.71	0.42	0.64	0.84
71°F	1600	64.9	2.55	0.2	0.36	0.5	61.8	2.9	0.19	0.35	0.5	58.6	3.28	0.18	0.35	0.51	55.2	3.7	0.16	0.34	0.51
	2000	68.5	2.57	0.2	0.37	0.53	65.3	2.92	0.18	0.37	0.54	61.9	3.3	0.17	0.37	0.54	58.2	3.71	0.16	0.36	0.56
	2400	71.3	2.59	0.19	0.39	0.57	67.9	2.94	0.19	0.39	0.58	64.3	3.32	0.17	0.39	0.59	60.5	3.73	0.16	0.39	0.61

15 TON HIGH EFFICIENCY LGH180H4V (2 COMPRESSORS OPERATING) - VARIABLE AIR VOLUME

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		65°F					75°F					85°F					95°F				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb		
	cfm	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F
63°F	3200	124.3	5.08	0.7	0.82	0.94	117.9	5.79	0.71	0.83	0.95	111.2	6.55	0.71	0.85	0.97	104.2	7.38	0.72	0.86	0.98
	4000	131.8	5.13	0.74	0.87	0.99	125	5.83	0.75	0.89	0.99	117.8	6.59	0.76	0.91	1	110.2	7.42	0.77	0.93	1
	4800	137.2	5.16	0.78	0.93	1	130.1	5.86	0.79	0.94	1	122.9	6.62	0.8	0.96	1	115.5	7.45	0.81	0.98	1
67°F	3200	131.5	5.13	0.56	0.68	0.79	124.9	5.83	0.56	0.68	0.8	118.2	6.59	0.56	0.69	0.81	111.1	7.42	0.56	0.7	0.83
	4000	139.8	5.18	0.58	0.72	0.84	132.7	5.88	0.59	0.73	0.86	125.3	6.63	0.59	0.74	0.88	117.7	7.47	0.59	0.75	0.9
	4800	145.6	5.22	0.61	0.76	0.9	138.3	5.92	0.61	0.77	0.91	130.6	6.67	0.62	0.78	0.93	122.5	7.5	0.62	0.8	0.96
71°F	3200	138	5.16	0.43	0.55	0.66	131.5	5.87	0.43	0.55	0.66	124.5	6.63	0.42	0.55	0.67	117.2	7.46	0.42	0.55	0.68
	4000	146.8	5.22	0.44	0.57	0.69	139.7	5.93	0.43	0.58	0.71	132.2	6.68	0.44	0.58	0.72	124.3	7.51	0.43	0.58	0.73
	4800	153.2	5.27	0.45	0.6	0.73	145.7	5.97	0.45	0.6	0.75	137.9	6.72	0.44	0.61	0.76	129.7	7.55	0.44	0.61	0.77

15 TON HIGH EFFICIENCY LGH180H4V (3 COMPRESSORS OPERATING) - VARIABLE AIR VOLUME

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		85°F					95°F					105°F					115°F				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb		
	cfm	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F
63°F	4800	176.3	9.9	0.72	0.83	0.95	165.8	11.16	0.72	0.85	0.96	154.7	12.56	0.73	0.86	0.98	142.9	14.15	0.74	0.88	0.99
	6000	186.7	9.96	0.76	0.89	0.99	175.2	11.21	0.77	0.91	1	163.4	12.62	0.79	0.93	1	151.1	14.22	0.8	0.96	1
	7200	193.9	10.01	0.8	0.95	1	182.5	11.26	0.82	0.97	1	170.8	12.67	0.83	0.99	1	158.6	14.27	0.86	1	1
67°F	4800	185.5	9.96	0.55	0.69	0.8	174.1	11.2	0.55	0.7	0.82	162.3	12.61	0.57	0.71	0.83	150	14.21	0.57	0.73	0.85
	6000	195.1	10.01	0.59	0.74	0.86	183.2	11.26	0.6	0.74	0.88	171.2	12.67	0.59	0.76	0.9	158.6	14.26	0.61	0.78	0.93
	7200	202.7	10.06	0.62	0.78	0.92	190.7	11.32	0.62	0.79	0.94	178.1	12.72	0.64	0.81	0.96	164.7	14.3	0.64	0.83	0.99
71°F	4800	197	10.03	0.42	0.55	0.67	185.4	11.28	0.42	0.54	0.67	173.3	12.68	0.42	0.54	0.69	160.4	14.27	0.41	0.55	0.7
	6000	207.2	10.09	0.43	0.57	0.71	194.6	11.34	0.44	0.59	0.73	181.8	12.74	0.43	0.6	0.74	168.5	14.34	0.43	0.6	0.76
	7200	214.6	10.14	0.45	0.6	0.76	201.4	11.39	0.46	0.62	0.78	188.3	12.79	0.45	0.62	0.79	174.1	14.38	0.44	0.64	0.81

RATINGS

NOTE − For Temperatures and Capacities not shown in tables, see bulletin − Cooling Unit Rating Table Correction Factor Data in Miscellaneous Engineering Data section.

20 TON HIGH EFFICIENCY LGH240H4V (1 COMPRESSOR OPERATING) - VARIABLE AIR VOLUME

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		65°F					75°F					85°F					95°F				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb		
	cfm	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F
63°F	1600	58.5	2.59	0.59	0.74	0.87	56	2.96	0.6	0.75	0.89	53.3	3.36	0.6	0.76	0.91	50.4	3.79	0.61	0.78	0.93
	2000	62	2.59	0.62	0.79	0.93	59.3	2.97	0.63	0.8	0.95	56.5	3.36	0.64	0.82	0.96	53.4	3.79	0.65	0.84	0.98
	2400	64.6	2.6	0.66	0.83	0.97	61.9	2.98	0.66	0.85	0.99	58.9	3.37	0.68	0.87	1	55.7	3.81	0.69	0.89	1
67°F	1600	61.3	2.59	0.4	0.55	0.69	58.7	2.96	0.39	0.55	0.7	56	3.36	0.39	0.56	0.71	53.1	3.8	0.39	0.57	0.73
	2000	64.8	2.61	0.41	0.58	0.74	62.1	2.97	0.41	0.59	0.75	59.2	3.37	0.41	0.6	0.77	56.1	3.81	0.41	0.61	0.79
	2400	67.6	2.62	0.43	0.62	0.78	64.7	2.98	0.43	0.62	0.8	61.6	3.38	0.43	0.64	0.82	58.3	3.81	0.43	0.65	0.84
71°F	1600	64.3	2.6	0.21	0.36	0.51	61.6	2.97	0.2	0.36	0.51	58.8	3.36	0.19	0.36	0.52	55.9	3.8	0.18	0.36	0.52
	2000	67.9	2.61	0.2	0.37	0.54	65.1	2.98	0.19	0.38	0.55	62.1	3.38	0.18	0.38	0.56	58.9	3.81	0.18	0.38	0.57
	2400	70.7	2.63	0.2	0.39	0.57	67.7	2.99	0.19	0.4	0.58	64.5	3.39	0.19	0.4	0.6	61.2	3.82	0.18	0.4	0.62

20 TON HIGH EFFICIENCY LGH240H4V (2 COMPRESSORS OPERATING) - VARIABLE AIR VOLUME

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		65°F					75°F					85°F					95°F				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb		
	cfm	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F
63°F	3200	123.6	5.16	0.71	0.82	0.94	118	5.89	0.71	0.83	0.95	112.2	6.68	0.72	0.85	0.97	105.9	7.54	0.73	0.86	0.98
	4000	130.9	5.19	0.74	0.88	0.99	124.9	5.92	0.75	0.89	0.99	118.5	6.7	0.76	0.91	1	111.8	7.56	0.77	0.93	1
	4800	136.2	5.21	0.78	0.93	1	129.9	5.94	0.79	0.94	1	123.5	6.72	0.8	0.96	1	116.9	7.58	0.82	0.98	1
67°F	3200	130.5	5.19	0.57	0.68	0.79	124.8	5.92	0.57	0.69	0.8	118.9	6.71	0.57	0.7	0.81	112.4	7.56	0.57	0.71	0.83
	4000	138.5	5.22	0.58	0.72	0.84	132.3	5.95	0.59	0.73	0.86	125.9	6.73	0.6	0.74	0.87	119	7.59	0.6	0.75	0.9
	4800	144.3	5.25	0.61	0.75	0.9	137.9	5.98	0.61	0.77	0.91	130.9	6.75	0.62	0.78	0.93	123.8	7.61	0.63	0.8	0.95
71°F	3200	136.8	5.22	0.44	0.55	0.66	131	5.95	0.43	0.55	0.67	124.9	6.73	0.43	0.55	0.68	118.4	7.59	0.42	0.56	0.68
	4000	145.2	5.26	0.44	0.57	0.7	139	5.98	0.44	0.58	0.71	132.4	6.76	0.44	0.59	0.72	125.5	7.62	0.44	0.59	0.73
	4800	151.6	5.29	0.45	0.59	0.73	145	6.01	0.45	0.6	0.74	137.9	6.78	0.44	0.61	0.76	130.6	7.64	0.45	0.62	0.78

20 TON HIGH EFFICIENCY LGH240H4V (3 COMPRESSORS OPERATING) - VARIABLE AIR VOLUME

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		65°F					75°F					85°F					95°F				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb		
	cfm	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F
63°F	4800	193.8	7.85	0.7	0.82	0.92	185.4	8.96	0.7	0.83	0.93	176.5	10.15	0.71	0.84	0.95	167.1	11.48	0.72	0.85	0.97
	6000	205	7.89	0.73	0.87	0.98	196	8.99	0.75	0.88	0.99	186.4	10.18	0.76	0.9	1	176.4	11.5	0.76	0.91	1
	7200	213.2	7.93	0.78	0.92	1	203.7	9.02	0.78	0.93	1	193.6	10.2	0.81	0.95	1	183.3	11.51	0.81	0.97	1
67°F	4800	204.8	7.89	0.55	0.67	0.78	195.9	9	0.55	0.68	0.8	186.3	10.18	0.55	0.69	0.81	176.2	11.5	0.56	0.7	0.82
	6000	215.3	7.94	0.57	0.72	0.84	205.7	9.02	0.59	0.72	0.85	195.7	10.21	0.59	0.73	0.87	184.7	11.51	0.6	0.75	0.88
	7200	223	7.97	0.61	0.76	0.89	212.8	9.05	0.6	0.77	0.9	202.3	10.23	0.61	0.78	0.92	191.3	11.53	0.62	0.79	0.94
71°F	4800	217.5	7.95	0.42	0.53	0.65	208.3	9.04	0.42	0.53	0.66	198.2	10.21	0.4	0.54	0.67	187.7	11.53	0.41	0.55	0.68
	6000	228.1	8	0.43	0.57	0.69	218.1	9.08	0.43	0.57	0.69	207.6	10.27	0.43	0.57	0.72	196.2	11.56	0.43	0.58	0.73
	7200	235.7	8.04	0.44	0.59	0.73	225.3	9.12	0.43	0.6	0.74	214.2	10.29	0.43	0.6	0.76	202.6	11.59	0.43	0.61	0.77

20 TON HIGH EFFICIENCY LGH240H4V (4 COMPRESSORS OPERATING) - VARIABLE AIR VOLUME

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		85°F					95°F					105°F					115°F				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb		
	cfm	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F
63°F	6400	239.3	13.51	0.71	0.84	0.94	226.8	15.27	0.72	0.85	0.96	213.6	17.22	0.74	0.87	0.98	199.4	19.49	0.75	0.89	0.99
	8000	253.6	13.55	0.76	0.89	0.99	240	15.3	0.79	0.91	1	225.8	17.26	0.79	0.93	1	210.7	19.47	0.82	0.95	1
	9600	263.9	13.6	0.81	0.94	1	249.8	15.33	0.83	0.96	1	235.5	17.29	0.84	0.98	1	220.7	19.52	0.86	1	1
67°F	6400	252.7	13.55	0.56	0.69	0.81	238.7	15.3	0.55	0.7	0.82	223.8	17.25	0.56	0.71	0.84	208.4	19.48	0.57	0.74	0.86
	8000	264.1	13.59	0.59	0.74	0.87	249.5	15.33	0.59	0.76	0.88	234.4	17.28	0.6	0.78	0.9	218.8	19.51	0.6	0.8	0.92
	9600	273.4	13.64	0.62	0.8	0.92	258.5	15.36	0.63	0.82	0.94	243.2	17.32	0.63	0.84	0.96	227.4	19.56	0.65	0.84	0.98
71°F	6400	269.1	13.62	0.41	0.54	0.67	254.6	15.34	0.41	0.55	0.67	239.8	17.32	0.4	0.55	0.69	223.6	19.53	0.41	0.56	0.7
	8000	281.4	13.67	0.43	0.58	0.72	266.1	15.41	0.43	0.59	0.74	250.2	17.33	0.41	0.58	0.75	233.4	19.57	0.43	0.59	0.77
	9600	290.2	13.71	0.43	0.61	0.78	274.1	15.44	0.44	0.62	0.79	257.7	17.38	0.46	0.64	0.81	239.9	19.61	0.45	0.65	0.82

RATINGS

NOTE − For Temperatures and Capacities not shown in tables, see bulletin − Cooling Unit Rating Table Correction Factor Data in Miscellaneous Engineering Data section.

13 TON HIGH EFFICIENCY LGH156H4M (1ST STAGE) - MSAV® (Multi-Stage Air Volume) SUPPLY AIR BLOWER

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		65°F					75°F					85°F					95°F				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb		
	cfm	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F
63°F	3000	98.5	4.61	0.63	0.73	0.84	92.2	5.23	0.62	0.73	0.84	85.8	5.90	0.61	0.74	0.86	78.9	6.67	0.61	0.74	0.87
	3500	104.4	4.64	0.65	0.76	0.88	97.8	5.26	0.65	0.77	0.89	91.0	5.94	0.64	0.77	0.91	83.8	6.70	0.64	0.79	0.93
	4000	109.2	4.67	0.67	0.79	0.92	102.4	5.29	0.67	0.80	0.93	95.2	5.96	0.67	0.81	0.95	87.7	6.73	0.67	0.83	0.98
67°F	3000	105.7	4.65	0.51	0.60	0.70	99.3	5.27	0.50	0.60	0.70	92.6	5.94	0.48	0.59	0.70	85.6	6.71	0.47	0.59	0.71
	3500	111.8	4.69	0.52	0.62	0.73	105.1	5.30	0.51	0.62	0.73	98.0	5.98	0.50	0.62	0.74	90.7	6.75	0.49	0.62	0.75
	4000	116.9	4.72	0.53	0.65	0.76	109.9	5.33	0.53	0.65	0.77	102.5	6.01	0.52	0.65	0.78	94.8	6.78	0.51	0.65	0.79
71°F	3000	112.9	4.69	0.40	0.49	0.58	106.3	5.31	0.39	0.48	0.58	99.4	5.99	0.37	0.47	0.57	92.2	6.75	0.35	0.46	0.57
	3500	119.3	4.73	0.41	0.51	0.60	112.3	5.35	0.39	0.50	0.60	105.1	6.03	0.38	0.49	0.60	97.4	6.79	0.36	0.48	0.60
	4000	124.5	4.77	0.41	0.52	0.62	117.3	5.38	0.40	0.51	0.62	109.7	6.06	0.39	0.51	0.63	101.7	6.83	0.37	0.50	0.63

13 TON HIGH EFFICIENCY LGH156H4M (2ND STAGE) - MSAV® (Multi-Stage Air Volume) SUPPLY AIR BLOWER

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		85°F					95°F					105°F					115°F				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb		
	cfm	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F
63°F	4160	148.1	9.05	0.70	0.85	0.99	136.5	10.20	0.71	0.87	1.00	124.5	11.51	0.72	0.9	1.00	112.1	13.01	0.73	0.93	1.00
	5200	157.1	9.11	0.76	0.94	1.00	145.1	10.26	0.77	0.96	1.00	132.6	11.57	0.79	0.99	1.00	120.5	13.08	0.81	1.00	1.00
	6240	164.5	9.17	0.82	0.99	1.00	152.7	10.32	0.83	1.00	1.00	141.1	11.64	0.86	1.00	1.00	129.1	13.15	0.89	1.00	1.00
67°F	4160	159.3	9.13	0.54	0.68	0.82	147.4	10.28	0.54	0.69	0.84	135.3	11.59	0.53	0.70	0.86	122.4	13.09	0.53	0.71	0.89
	5200	169.0	9.20	0.58	0.74	0.90	156.5	10.35	0.58	0.75	0.92	143.4	11.66	0.58	0.77	0.95	129.8	13.16	0.58	0.79	0.98
	6240	175.9	9.25	0.61	0.80	0.97	162.7	10.40	0.62	0.81	0.99	149.1	11.71	0.62	0.83	1.00	135.2	13.20	0.63	0.86	1.00
71°F	4160	170.4	9.21	0.40	0.53	0.66	158.1	10.36	0.38	0.53	0.66	145.8	11.68	0.37	0.53	0.67	132.6	13.18	0.35	0.52	0.69
	5200	180.5	9.29	0.41	0.57	0.72	167.6	10.44	0.41	0.57	0.73	154.2	11.75	0.39	0.57	0.74	140.5	13.25	0.37	0.58	0.76
	6240	187.9	9.35	0.43	0.61	0.77	174.4	10.50	0.42	0.61	0.79	160.4	11.81	0.41	0.61	0.81	146.2	13.31	0.40	0.62	0.84

15 TON HIGH EFFICIENCY LGH180H4M (1ST STAGE) - MSAV® (Multi-Stage Air Volume) SUPPLY AIR BLOWER

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		65°F					75°F					85°F					95°F				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb		
	cfm	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F
63°F	3500	114.2	5.02	0.65	0.75	0.84	107.7	5.76	0.65	0.75	0.85	100.8	6.58	0.64	0.75	0.86	93.7	7.47	0.64	0.76	0.87
	4000	120.2	5.03	0.67	0.77	0.88	113.3	5.78	0.67	0.78	0.89	106.0	6.59	0.67	0.78	0.9	98.6	7.50	0.66	0.79	0.91
	4500	125.2	5.03	0.69	0.8	0.91	117.9	5.79	0.69	0.8	0.92	110.5	6.61	0.69	0.81	0.93	102.7	7.52	0.69	0.82	0.95
67°F	3500	122.4	5.03	0.53	0.63	0.72	115.6	5.78	0.52	0.62	0.72	108.6	6.60	0.51	0.62	0.72	101.1	7.51	0.5	0.62	0.73
	4000	128.6	5.04	0.54	0.64	0.74	121.4	5.79	0.53	0.64	0.75	114.1	6.62	0.53	0.64	0.75	106.3	7.53	0.52	0.64	0.76
	4500	133.7	5.04	0.55	0.66	0.77	126.3	5.81	0.55	0.66	0.77	118.7	6.64	0.54	0.66	0.78	110.6	7.55	0.53	0.67	0.79
71°F	3500	130.5	5.04	0.42	0.51	0.60	123.5	5.80	0.41	0.51	0.60	116.2	6.63	0.39	0.5	0.6	108.6	7.54	0.37	0.49	0.59
	4000	136.9	5.04	0.43	0.53	0.62	129.5	5.81	0.41	0.52	0.62	121.9	6.65	0.40	0.51	0.62	113.8	7.56	0.38	0.5	0.62
	4500	142.3	5.05	0.43	0.54	0.64	134.6	5.82	0.42	0.53	0.64	126.7	6.66	0.41	0.53	0.64	118.3	7.58	0.39	0.52	0.64

15 TON HIGH EFFICIENCY LGH180H4M (2ND STAGE) - MSAV® (Multi-Stage Air Volume) SUPPLY AIR BLOWER

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		85°F					95°F					105°F					115°F				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb		
	cfm	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F
63°F	4800	172.5	9.96	0.71	0.85	0.99	160.1	11.32	0.71	0.87	1.00	146.8	12.83	0.72	0.90	1.00	132.7	14.51	0.74	0.93	1.00
	6000	182.6	9.99	0.77	0.93	1.00	169.5	11.37	0.78	0.95	1.00	155.7	12.89	0.79	0.98	1.00	141.3	14.57	0.81	1.00	1.00
	7200	190.3	10.02	0.82	0.99	1.00	177.3	11.41	0.83	1.00	1.00	164.3	12.94	0.86	1.00	1.00	150.5	14.64	0.89	1.00	1.00
67°F	4800	185.0	10.00	0.55	0.69	0.82	172.1	11.38	0.55	0.69	0.84	158.6	12.90	0.54	0.70	0.86	144.0	14.59	0.54	0.72	0.89
	6000	195.8	10.04	0.58	0.74	0.90	182.1	11.43	0.58	0.76	0.92	167.5	12.96	0.59	0.77	0.95	152.2	14.65	0.59	0.79	0.98
	7200	203.7	10.07	0.62	0.8	0.97	189.3	11.46	0.62	0.81	0.99	173.9	13.00	0.63	0.84	1.00	157.8	14.69	0.63	0.86	1.00
71°F	4800	197.2	10.04	0.41	0.54	0.67	183.9	11.43	0.39	0.54	0.67	169.9	12.97	0.38	0.53	0.68	155.0	14.67	0.36	0.53	0.69
	6000	208.4	10.09	0.42	0.58	0.72	194.2	11.48	0.41	0.58	0.73	179.4	13.03	0.4	0.58	0.75	163.3	14.73	0.38	0.59	0.77
	7200	216.6	10.12	0.43	0.61	0.78	201.8	11.52	0.42	0.62	0.79	186.2	13.07	0.42	0.62	0.81	169.7	14.78	0.41	0.63	0.84

RATINGS

NOTE − For Temperatures and Capacities not shown in tables, see bulletin − Cooling Unit Rating Table Correction Factor Data in Miscellaneous Engineering Data section.

17.5 TON HIGH EFFICIENCY LGH210H4M (1ST STAGE) - MSAV® (Multi-Stage Air Volume) SUPPLY AIR BLOWER

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		65°F					75°F					85°F					95°F				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb		
	cfm	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F
63°F	4000	128.7	5.41	0.66	0.77	0.87	121.1	6.15	0.65	0.77	0.89	113.4	6.96	0.65	0.78	0.90	105.1	7.88	0.65	0.79	0.92
	4750	136.2	5.45	0.68	0.80	0.92	128.2	6.19	0.68	0.81	0.94	119.8	7.01	0.69	0.83	0.96	111.0	7.93	0.69	0.84	0.98
	5500	142.2	5.48	0.71	0.84	0.97	133.7	6.23	0.71	0.85	0.99	124.9	7.05	0.72	0.87	1.00	115.8	7.96	0.73	0.89	1.00
67°F	4000	138.9	5.46	0.53	0.63	0.73	130.9	6.21	0.52	0.63	0.74	122.6	7.03	0.51	0.63	0.74	114.1	7.95	0.51	0.63	0.75
	4750	146.6	5.51	0.55	0.66	0.77	138.2	6.26	0.54	0.66	0.78	129.5	7.08	0.54	0.66	0.79	120.2	8.00	0.53	0.67	0.81
	5500	152.8	5.55	0.56	0.69	0.81	143.8	6.30	0.56	0.69	0.82	134.7	7.12	0.55	0.70	0.84	125.2	8.04	0.56	0.71	0.85
71°F	4000	149.1	5.52	0.41	0.51	0.61	141.2	6.28	0.40	0.51	0.61	132.3	7.10	0.39	0.50	0.61	123.4	8.02	0.38	0.49	0.61
	4750	157.4	5.58	0.42	0.53	0.64	148.4	6.33	0.41	0.53	0.64	139.4	7.16	0.40	0.53	0.64	129.6	8.07	0.39	0.52	0.65
	5500	163.6	5.62	0.43	0.55	0.66	154.3	6.38	0.42	0.55	0.67	144.6	7.20	0.41	0.54	0.67	134.7	8.12	0.40	0.55	0.68

17.5 TON HIGH EFFICIENCY LGH210H4M (2ND STAGE) - MSAV® (Multi-Stage Air Volume) SUPPLY AIR BLOWER

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		85°F					95°F					105°F					115°F				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb		
	cfm	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F
63°F	5600	197.5	11.26	0.71	0.86	0.99	183.2	12.71	0.73	0.89	1.00	168.8	14.37	0.74	0.91	1.00	153.6	16.25	0.75	0.94	1.00
	7000	209.3	11.34	0.78	0.95	1.00	194.5	12.8	0.79	0.97	1.00	179.6	14.45	0.81	0.99	1.00	164.6	16.33	0.83	1.00	1.00
	8400	219.3	11.42	0.83	0.99	1.00	205.2	12.89	0.85	1.00	1.00	190.5	14.55	0.88	1.00	1.00	175.2	16.42	0.91	1.00	1.00
67°F	5600	212.6	11.36	0.55	0.69	0.83	198.1	12.83	0.55	0.70	0.85	182.6	14.48	0.55	0.71	0.87	166.4	16.34	0.55	0.73	0.90
	7000	224.4	11.46	0.59	0.76	0.91	208.9	12.92	0.60	0.77	0.94	192.3	14.56	0.60	0.79	0.96	175.2	16.41	0.60	0.81	0.98
	8400	232.7	11.52	0.62	0.81	0.98	216.2	12.98	0.63	0.83	0.99	199.3	14.62	0.64	0.85	1.00	181.7	16.47	0.64	0.88	1.00
71°F	5600	228.4	11.49	0.41	0.54	0.67	212.9	12.95	0.40	0.54	0.68	197.0	14.60	0.39	0.55	0.69	180.1	16.46	0.38	0.55	0.71
	7000	240.3	11.59	0.42	0.59	0.73	223.9	13.05	0.42	0.59	0.75	206.9	14.69	0.41	0.59	0.76	189.0	16.54	0.40	0.60	0.78
	8400	248.5	11.66	0.44	0.62	0.79	231.5	13.12	0.44	0.63	0.81	214.0	14.75	0.43	0.64	0.83	195.1	16.60	0.42	0.64	0.86

20 TON HIGH EFFICIENCY LGH240H4M (1ST STAGE) - MSAV® (Multi-Stage Air Volume) SUPPLY AIR BLOWER

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		65°F					75°F					85°F					95°F				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb		
	cfm	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F
63°F	4500	116.8	5.07	0.64	0.74	0.84	111.1	5.77	0.64	0.75	0.85	105.1	6.55	0.64	0.75	0.87	98.7	7.43	0.64	0.76	0.88
	5500	124.7	5.12	0.66	0.78	0.90	118.5	5.83	0.67	0.79	0.91	111.8	6.60	0.67	0.80	0.93	104.9	7.48	0.68	0.82	0.95
	6500	130.6	5.16	0.69	0.82	0.95	124.0	5.87	0.70	0.84	0.96	117.1	6.64	0.70	0.85	0.98	109.7	7.52	0.71	0.87	0.99
67°F	4500	125.3	5.12	0.52	0.61	0.71	119.3	5.83	0.52	0.61	0.71	113.0	6.61	0.51	0.62	0.72	106.2	7.49	0.51	0.62	0.73
	5500	133.4	5.18	0.53	0.64	0.75	126.9	5.89	0.53	0.64	0.76	120.0	6.67	0.53	0.65	0.77	112.8	7.55	0.53	0.65	0.78
	6500	139.7	5.22	0.55	0.67	0.79	132.7	5.93	0.55	0.68	0.80	125.2	6.71	0.55	0.68	0.82	117.4	7.59	0.55	0.69	0.83
71°F	4500	133.9	5.18	0.41	0.50	0.59	127.5	5.89	0.40	0.50	0.59	120.9	6.68	0.39	0.50	0.59	113.7	7.55	0.39	0.49	0.59
	5500	142.3	5.24	0.42	0.52	0.62	135.3	5.95	0.41	0.52	0.62	128.2	6.74	0.40	0.52	0.62	120.8	7.62	0.40	0.52	0.63
	6500	148.8	5.29	0.42	0.54	0.64	141.3	6.01	0.42	0.54	0.65	133.7	6.79	0.41	0.54	0.66	125.4	7.66	0.41	0.54	0.67

20 TON HIGH EFFICIENCY LGH240H4M (2ND STAGE) - MSAV® (Multi-Stage Air Volume) SUPPLY AIR BLOWER

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		85°F					95°F					105°F					115°F				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb		
	cfm	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F
63°F	6400	236.6	13.31	0.73	0.88	1.00	221.6	15.06	0.74	0.91	1.00	205.8	17.06	0.76	0.94	1.00	189.2	19.35	0.78	0.97	1.00
	8000	249.2	13.43	0.79	0.97	1.00	233.7	15.17	0.80	0.98	1.00	217.5	17.17	0.83	0.99	1.00	201.1	19.47	0.86	1.00	1.00
	9600	260.1	13.53	0.85	1.00	1.00	244.7	15.28	0.87	1.00	1.00	228.9	17.29	0.90	1.00	1.00	212.1	19.59	0.94	1.00	1.00
67°F	6400	252.7	13.46	0.56	0.71	0.85	236.8	15.20	0.57	0.72	0.87	220.0	17.20	0.57	0.73	0.90	202.2	19.48	0.58	0.76	0.93
	8000	264.4	13.57	0.60	0.77	0.93	247.3	15.31	0.61	0.78	0.96	229.6	17.30	0.62	0.81	0.98	210.9	19.57	0.63	0.84	0.99
	9600	272.8	13.66	0.64	0.83	0.99	255.3	15.39	0.64	0.85	1.00	236.8	17.38	0.65	0.88	1.00	217.9	19.65	0.67	0.92	1.00
71°F	6400	269.2	13.62	0.41	0.55	0.68	252.6	15.37	0.41	0.56	0.70	235.2	17.36	0.41	0.56	0.71	216.6	19.64	0.40	0.57	0.73
	8000	281.5	13.75	0.43	0.59	0.74	263.7	15.49	0.43	0.60	0.76	245.0	17.48	0.43	0.61	0.78	225.2	19.74	0.42	0.62	0.81
	9600	289.9	13.83	0.45	0.63	0.81	271.3	15.57	0.45	0.64	0.83	252.0	17.55	0.45	0.65	0.86	231.3	19.81	0.44	0.67	0.89

RATINGS

NOTE − For Temperatures and Capacities not shown in tables, see bulletin − Cooling Unit Rating Table Correction Factor Data in Miscellaneous Engineering Data section.

25 TON STANDARD EFFICIENCY LGH300S4M (1ST STAGE) - MSAV® (Multi-Stage Air Volume) SUPPLY AIR BLOWER

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		65°F					75°F					85°F					95°F				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb		
	cfm	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F
63°F	5750	135.3	6.25	0.65	0.75	0.86	130.0	7.06	0.66	0.77	0.88	124.8	7.98	0.66	0.78	0.89	119.7	9.04	0.67	0.79	0.91
	6750	141.3	6.30	0.67	0.79	0.90	135.5	7.12	0.68	0.80	0.92	129.8	8.04	0.69	0.82	0.94	124.3	9.10	0.70	0.83	0.96
	7750	146.0	6.35	0.69	0.82	0.94	139.8	7.17	0.70	0.84	0.96	133.9	8.09	0.72	0.86	0.98	128.1	9.14	0.73	0.87	0.99
67°F	5750	143.5	6.32	0.53	0.62	0.72	138.1	7.15	0.53	0.63	0.73	132.4	8.07	0.54	0.64	0.74	126.9	9.13	0.54	0.65	0.76
	6750	149.9	6.39	0.54	0.64	0.75	143.6	7.21	0.54	0.65	0.77	137.7	8.14	0.55	0.67	0.78	131.9	9.19	0.56	0.67	0.80
	7750	155.1	6.44	0.55	0.67	0.79	148.1	7.26	0.56	0.68	0.81	141.9	8.19	0.57	0.69	0.82	135.7	9.25	0.57	0.71	0.84
71°F	5750	151.7	6.41	0.42	0.51	0.60	145.6	7.24	0.42	0.51	0.61	140.1	8.17	0.42	0.52	0.61	134.2	9.23	0.42	0.52	0.62
	6750	158.3	6.48	0.42	0.52	0.62	151.7	7.31	0.42	0.53	0.63	145.6	8.24	0.42	0.53	0.64	139.7	9.30	0.42	0.54	0.65
	7750	164.2	6.54	0.42	0.54	0.64	156.7	7.37	0.41	0.54	0.65	150.2	8.30	0.42	0.55	0.67	143.3	9.35	0.43	0.56	0.68

25 TON STANDARD EFFICIENCY LGH300S4M (2ND STAGE) - MSAV® (Multi-Stage Air Volume) SUPPLY AIR BLOWER

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		85°F					95°F					105°F					115°F				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb		
	cfm	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F
63°F	8000	277.2	17.80	0.72	0.87	1.00	264.6	19.95	0.74	0.89	1.00	251.7	22.43	0.75	0.92	1.00	238.5	25.35	0.78	0.95	1.00
	9500	287.2	17.97	0.76	0.93	1.00	273.8	20.12	0.78	0.96	1.00	260.1	22.59	0.80	0.98	1.00	246.0	25.49	0.83	1.00	1.00
	11000	295.0	18.11	0.80	0.98	1.00	280.6	20.25	0.83	1.00	1.00	267.4	22.73	0.85	1.00	1.00	254.5	25.68	0.88	1.00	1.00
67°F	8000	293.2	18.08	0.57	0.70	0.83	279.6	20.23	0.58	0.71	0.86	265.8	22.71	0.59	0.73	0.88	251.7	25.63	0.60	0.75	0.91
	9500	302.9	18.25	0.59	0.74	0.89	288.4	20.39	0.60	0.76	0.92	273.9	22.86	0.62	0.78	0.95	258.8	25.78	0.63	0.80	0.98
	11000	310.1	18.38	0.62	0.78	0.95	295.3	20.52	0.63	0.80	0.98	279.9	22.99	0.64	0.83	1.00	264.5	25.89	0.65	0.85	1.00
71°F	8000	310.0	18.38	0.43	0.56	0.68	295.5	20.53	0.43	0.57	0.69	280.6	23.00	0.43	0.58	0.71	265.8	25.92	0.44	0.59	0.73
	9500	319.0	18.54	0.44	0.58	0.72	304.0	20.68	0.44	0.59	0.74	288.9	23.17	0.45	0.61	0.75	273.0	26.07	0.45	0.62	0.78
	11000	326.9	18.68	0.44	0.61	0.76	311.2	20.82	0.45	0.62	0.78	294.9	23.29	0.46	0.63	0.80	278.5	26.19	0.47	0.65	0.83

13 TON HIGH EFFICIENCY LGH156H4 WITH HUMIDITROL® OPERATING (1ST STAGE)

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		65°F					75°F					85°F					95°F				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb		
	cfm	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F
63°F	4160	78.9	4.67	.56	.74	.93	66.3	5.28	.50	.73	.96	53.6	5.89	.45	.72	.99	40.9	6.50	.39	.71	1.00
	5200	86.8	4.71	.58	.80	1.00	72.5	5.30	.52	.79	1.00	58.1	5.89	.47	.78	1.00	43.7	6.48	.41	.77	1.00
	6240	94.7	4.74	.60	.86	1.00	78.7	5.32	.54	.85	1.00	62.6	5.89	.49	.83	1.00	46.6	6.47	.43	.82	1.00
67°F	4160	89.4	4.76	.40	.57	.74	77.1	5.37	.33	.53	.74	64.8	5.98	.26	.49	.73	52.5	6.59	.18	.46	.73
	5200	97.5	4.77	.41	.61	.80	83.6	5.38	.34	.57	.80	69.6	5.98	.26	.53	.80	55.7	6.58	.18	.49	.81
	6240	105.7	4.79	.43	.64	.86	90.1	5.38	.34	.60	.87	74.5	5.98	.26	.57	.88	58.9	6.57	.17	.53	.89
71°F	4160	99.9	4.85	.25	.40	.55	87.9	5.46	.16	.33	.51	76.0	6.07	.07	.27	.47	64.1	6.69	-.03	.20	.43
	5200	108.2	4.84	.25	.41	.58	94.7	5.45	.15	.35	.55	81.2	6.07	.05	.28	.52	67.7	6.68	-.06	.22	.49
	6240	116.6	4.84	.25	.43	.61	101.5	5.45	.14	.36	.59	86.4	6.06	.03	.30	.57	71.3	6.68	-.09	.23	.55

13 TON HIGH EFFICIENCY LGH156H4 WITH HUMIDITROL® OPERATING (2ND STAGE)

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		65°F					75°F					85°F					95°F				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb		
	cfm	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F
63°F	4160	131.1	7.12	.64	.82	1.00	116.4	8.10	.62	.83	1.00	101.6	9.08	.60	.84	1.00	86.8	10.05	.57	.85	1.00
	5200	142.5	7.16	.67	.87	1.00	125.8	8.14	.66	.89	1.00	109.2	9.11	.65	.90	1.00	92.6	10.09	.64	.91	1.00
	6240	153.8	7.20	.71	.93	1.00	135.3	8.17	.71	.94	1.00	116.8	9.15	.71	.96	1.00	98.3	10.12	.71	.98	1.00
67°F	4160	148.3	7.23	.47	.63	.79	132.8	8.20	.44	.62	.81	117.3	9.18	.41	.61	.82	101.8	10.15	.37	.61	.84
	5200	160.5	7.28	.49	.67	.85	143.0	8.25	.46	.67	.87	125.4	9.22	.44	.66	.88	107.8	10.19	.41	.65	.90
	6240	172.8	7.33	.51	.71	.91	153.1	8.30	.49	.71	.92	133.5	9.26	.47	.70	.94	113.8	10.23	.44	.70	.96
71°F	4160	165.4	7.34	.31	.45	.59	149.2	8.31	.26	.42	.58	133.0	9.28	.22	.39	.57	116.8	10.24	.17	.36	.56
	5200	178.6	7.40	.31	.47	.63	160.1	8.37	.27	.44	.62	141.6	9.33	.22	.42	.62	123.0	10.29	.17	.39	.62
	6240	191.8	7.46	.32	.49	.67	171.0	8.42	.27	.47	.67	150.1	9.38	.22	.45	.67	129.2	10.34	.17	.42	.68

15 TON HIGH EFFICIENCY LGH180H4 WITH HUMIDITROL® OPERATING (1ST STAGE)

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		65°F					75°F					85°F					95°F				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb		
	cfm	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F
63°F	4800	91.6	5.36	.56	.74	.91	78.7	6.02	.51	.73	.94	65.8	6.67	.46	.71	.96	52.8	7.33	.41	.70	.98
	6000	97.3	5.40	.60	.80	1.00	82.5	6.03	.56	.81	1.00	67.7	6.65	.53	.82	1.00	52.9	7.28	.49	.83	1.00
	7200	103.0	5.44	.63	.87	1.00	86.4	6.04	.61	.90	1.00	69.7	6.64	.59	.94	1.00	53.0	7.23	.57	.97	1.00
67°F	4800	103.7	5.47	.41	.57	.72	90.4	6.13	.34	.53	.72	77.0	6.78	.28	.49	.71	63.6	7.44	.21	.46	.71
	6000	108.5	5.51	.43	.61	.79	94.0	6.14	.37	.59	.81	79.5	6.76	.31	.56	.82	65.0	7.39	.25	.54	.84
	7200	113.3	5.54	.44	.65	.86	97.6	6.14	.39	.64	.90	82.0	6.75	.33	.63	.93	66.3	7.35	.28	.63	.97
71°F	4800	115.9	5.58	.25	.39	.53	102.1	6.24	.17	.33	.50	88.2	6.90	.09	.28	.46	74.4	7.55	.01	.22	.43
	6000	119.7	5.61	.25	.41	.57	105.5	6.24	.17	.36	.55	91.2	6.87	.08	.30	.52	77.0	7.51	.00	.25	.50
	7200	123.5	5.64	.25	.43	.61	108.9	6.25	.17	.38	.60	94.2	6.85	.08	.33	.58	79.6	7.46	-.01	.28	.57

15 TON HIGH EFFICIENCY LGH180H4 WITH HUMIDITROL® OPERATING (2ND STAGE)

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		65°F					75°F					85°F					95°F				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb		
	cfm	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F
63°F	4800	154.5	8.08	.64	.80	.96	138.5	9.09	.63	.81	.99	122.4	10.11	.62	.82	1.00	106.3	11.13	.61	.83	1.00
	6000	163.3	8.13	.69	.87	1.00	144.9	9.13	.69	.89	1.00	126.4	10.12	.69	.90	1.00	108.0	11.12	.69	.92	1.00
	7200	172.0	8.18	.73	.94	1.00	151.3	9.16	.74	.96	1.00	130.5	10.14	.75	.98	1.00	109.7	11.12	.76	1.00	1.00
67°F	4800	171.4	8.23	.48	.62	.77	155.1	9.24	.45	.62	.79	138.8	10.25	.42	.61	.80	122.6	11.26	.39	.60	.81
	6000	180.3	8.27	.50	.65	.80	161.9	9.27	.48	.65	.83	143.5	10.27	.46	.66	.86	125.1	11.26	.44	.67	.90
	7200	189.2	8.31	.53	.67	.82	168.7	9.30	.51	.69	.87	148.2	10.28	.49	.71	.93	127.7	11.26	.48	.73	.98
71°F	4800	188.2	8.38	.31	.45	.59	171.7	9.39	.27	.42	.58	155.3	10.39	.23	.40	.57	138.9	11.40	.18	.37	.56
	6000	197.3	8.41	.31	.43	.54	179.0	9.41	.27	.42	.57	160.6	10.41	.23	.42	.61	142.3	11.40	.19	.41	.64
	7200	206.4	8.45	.32	.40	.49	186.2	9.43	.27	.42	.57	165.9	10.42	.23	.44	.65	145.7	11.41	.19	.46	.72

17.5 TON HIGH EFFICIENCY LGH210H4 WITH HUMIDITROL® OPERATING (1ST STAGE)

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		65°F					75°F					85°F					95°F				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb		
	cfm	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F
63°F	5600	105.3	5.76	.58	.77	.96	91.1	6.45	.53	.75	.98	76.8	7.14	.48	.74	1.00	62.6	7.84	.43	.72	1.00
	7000	109.7	5.79	.63	.85	1.00	92.9	6.47	.60	.85	1.00	76.1	7.14	.57	.86	1.00	59.3	7.82	.54	.86	1.00
	8400	114.0	5.82	.68	.93	1.00	94.7	6.48	.67	.95	1.00	75.3	7.14	.65	.98	1.00	56.0	7.81	.64	1.00	1.00
67°F	5600	120.6	5.91	.42	.59	.77	105.7	6.59	.35	.55	.76	90.7	7.27	.29	.52	.74	75.8	7.95	.23	.48	.73
	7000	126.6	5.95	.45	.64	.83	108.8	6.62	.39	.62	.84	91.0	7.28	.33	.59	.86	73.1	7.95	.27	.57	.87
	8400	132.7	5.99	.47	.69	.90	111.9	6.64	.42	.68	.93	91.2	7.29	.37	.67	.97	70.5	7.94	.32	.66	1.00
71°F	5600	135.8	6.07	.26	.42	.58	120.2	6.74	.18	.36	.53	104.7	7.40	.10	.30	.49	89.1	8.06	.02	.23	.45
	7000	143.6	6.11	.26	.43	.60	124.7	6.77	.18	.38	.58	105.9	7.42	.10	.33	.56	87.0	8.07	.01	.28	.55
	8400	151.3	6.16	.27	.44	.62	129.2	6.80	.18	.40	.63	107.1	7.44	.09	.36	.64	84.9	8.08	.00	.32	.65

17.5 TON HIGH EFFICIENCY LGH210H4 WITH HUMIDITROL® OPERATING (2ND STAGE)

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		65°F					75°F					85°F					95°F				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb		
	cfm	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F
63°F	5600	179.3	9.23	.65	.81	.98	162.1	10.35	.63	.82	1.00	144.9	11.47	.62	.83	1.00	127.6	12.60	.60	.83	1.00
	7000	189.8	9.32	.69	.87	1.00	170.6	10.43	.68	.88	1.00	151.4	11.54	.67	.89	1.00	132.2	12.64	.66	.90	1.00
	8400	200.2	9.42	.74	.94	1.00	179.0	10.51	.73	.95	1.00	157.9	11.60	.73	.96	1.00	136.7	12.69	.72	.98	1.00
67°F	5600	199.6	9.47	.48	.63	.79	181.4	10.58	.45	.62	.80	163.2	11.68	.43	.62	.81	144.9	12.78	.40	.61	.81
	7000	210.4	9.58	.51	.68	.85	190.2	10.67	.48	.67	.87	170.0	11.75	.46	.67	.88	149.8	12.84	.44	.66	.89
	8400	221.3	9.68	.54	.73	.92	199.1	10.76	.51	.72	.94	176.9	11.83	.49	.72	.95	154.6	12.91	.47	.72	.97
71°F	5600	219.9	9.72	.31	.45	.60	200.7	10.80	.28	.43	.59	181.5	11.88	.24	.41	.58	162.2	12.96	.20	.39	.57
	7000	231.1	9.83	.32	.48	.65	209.9	10.90	.28	.46	.64	188.6	11.97	.25	.44	.64	167.4	13.04	.21	.42	.64
	8400	242.4	9.93	.33	.52	.70	219.1	11.00	.29	.50	.70	195.8	12.06	.25	.48	.71	172.6	13.13	.21	.46	.71

20 TON HIGH EFFICIENCY LGH240H4 WITH HUMIDITROL® OPERATING (1ST STAGE)

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		65°F					75°F					85°F					95°F				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb		
	cfm	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F
63°F	6400	91.1	5.34	.52	.70	.88	75.6	5.99	.43	.68	.93	60.0	6.63	.34	.66	.97	44.4	7.28	.25	.64	1.00
	8000	98.6	5.37	.54	.76	.97	80.6	5.99	.47	.76	1.00	62.7	6.61	.39	.77	1.00	44.7	7.23	.31	.78	1.00
	9600	106.1	5.40	.57	.82	1.00	85.7	5.99	.50	.85	1.00	65.3	6.59	.43	.88	1.00	45.0	7.19	.36	.92	1.00
67°F	6400	106.4	5.48	.37	.52	.68	89.5	6.12	.27	.48	.69	72.6	6.76	.17	.43	.69	55.7	7.40	.07	.38	.69
	8000	112.6	5.50	.38	.57	.75	94.4	6.12	.28	.53	.78	76.2	6.74	.18	.49	.80	58.0	7.36	.09	.46	.83
	9600	118.9	5.52	.39	.61	.82	99.3	6.12	.30	.58	.87	79.7	6.72	.20	.56	.92	60.2	7.32	.11	.54	.96
71°F	6400	121.7	5.62	.22	.35	.49	103.5	6.25	.10	.28	.45	85.3	6.88	-.01	.20	.40	67.1	7.52	-.12	.12	.36
	8000	126.7	5.63	.22	.38	.54	108.2	6.25	.10	.30	.49	89.7	6.87	-.02	.22	.45	71.2	7.49	-.13	.14	.41
	9600	131.6	5.64	.21	.40	.58	112.9	6.25	.09	.32	.54	94.1	6.85	-.02	.24	.49	75.4	7.46	-.14	.15	.45

20 TON HIGH EFFICIENCY LGH240H4 WITH HUMIDITROL® OPERATING (2ND STAGE)

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		65°F					75°F					85°F					95°F				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb		
	cfm	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F
63°F	6400	215.7	10.70	.64	.79	.93	193.6	12.10	.63	.81	.99	171.4	13.50	.62	.84	1.00	149.3	14.90	.61	.86	1.00
	8000	226.5	10.73	.69	.86	1.00	201.6	12.10	.69	.88	1.00	176.6	13.48	.70	.91	1.00	151.7	14.86	.70	.93	1.00
	9600	237.4	10.76	.73	.94	1.00	209.6	12.11	.75	.96	1.00	181.8	13.46	.77	.98	1.00	154.0	14.81	.80	1.00	1.00
67°F	6400	240.5	10.89	.48	.62	.76	217.4	12.29	.46	.62	.79	194.3	13.69	.44	.63	.82	171.2	15.10	.42	.63	.85
	8000	249.1	10.91	.51	.67	.84	224.6	12.30	.49	.68	.86	200.1	13.69	.48	.68	.88	175.7	15.08	.46	.68	.91
	9600	257.6	10.94	.53	.73	.92	231.8	12.31	.53	.73	.93	206.0	13.68	.52	.73	.95	180.1	15.05	.51	.74	.96
71°F	6400	265.4	11.07	.32	.45	.58	241.3	12.48	.29	.44	.59	217.2	13.88	.25	.42	.59	193.1	15.29	.22	.40	.59
	8000	271.6	11.10	.33	.49	.64	247.6	12.50	.29	.47	.65	223.6	13.89	.26	.45	.65	199.6	15.29	.22	.44	.66
	9600	277.8	11.12	.34	.52	.70	254.0	12.51	.30	.50	.70	230.1	13.90	.26	.49	.71	206.2	15.29	.22	.47	.72

25 TON STANDARD EFFICIENCY LGH300S4 WITH HUMIDITROL® OPERATING (1ST STAGE)

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		65°F					75°F					85°F					95°F				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb		
	cfm	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F
63°F	8000	100.4	7.25	.55	.74	.93	83.6	7.96	.47	.71	.96	66.7	8.67	.38	.69	.99	49.8	9.38	.29	.66	1.00
	9500	106.3	7.33	.58	.77	.97	89.3	8.02	.50	.76	.99	72.3	8.71	.42	.74	1.00	55.2	9.40	.34	.72	1.00
	11,000	112.2	7.40	.61	.81	.99	95.0	8.08	.53	.80	1.00	77.8	8.75	.46	.80	1.00	60.6	9.43	.38	.79	1.00
67°F	8000	116.1	7.40	.37	.54	.71	98.8	8.14	.27	.48	.70	81.5	8.87	.17	.43	.69	64.2	9.61	.07	.37	.68
	9500	122.7	7460	0.38	0.56	0.74	104.2	8190	0.28	0.51	0.74	85.8	8910	0.18	0.46	0.74	67.3	9635	0.08	0.41	0.75
	11,000	129.2	7.52	.40	.58	.77	109.6	8.24	.30	.54	.78	90.1	8.95	.20	.50	.80	70.5	9.66	.09	.46	.82
71°F	8000	131.7	7.55	.19	.34	.49	114.0	8.31	.07	.25	.44	96.3	9.07	-.04	.17	.38	78.6	9.83	-.16	.09	.33
	9500	139.0	7.60	.19	.35	.51	119.1	8.36	.07	.27	.46	99.3	9.11	-.06	.19	.43	79.5	9.86	-.18	.11	.38
	11,000	146.2	7.65	.19	.36	.52	124.2	8.40	.07	.28	.49	102.3	9.14	-.07	.20	.47	80.4	9.89	-.20	.12	.44

25 TON STANDARD EFFICIENCY LGH300S4 WITH HUMIDITROL® OPERATING (2ND STAGE)

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		65°F					75°F					85°F					95°F				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb		
	cfm	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F
63°F	8000	260.3	14.9	.66	.80	.95	234.7	16.7	.65	.81	.97	209.1	18.5	.65	.82	.98	183.5	20.3	.65	.82	1.00
	9500	276.4	15.0	.69	.83	.96	248.2	16.8	.70	.84	.97	220.1	18.6	.70	.85	.99	191.9	20.4	.71	.85	1.00
	11,000	279.6	15.1	.73	.87	1.00	253.1	16.9	.75	.87	1.00	226.7	18.7	.76	.88	1.00	200.3	20.5	.78	.89	1.00
67°F	8000	283.9	15.2	.50	.64	.78	257.7	17.0	.48	.63	.79	231.5	18.8	.46	.63	.80	205.3	20.7	.44	.62	.81
	9500	294.1	15.3	.52	.67	.81	266.7	17.1	.51	.66	.82	239.3	18.9	.49	.66	.82	211.9	20.8	.48	.66	.83
	11,000	302.0	15.4	.54	.69	.84	274.2	17.2	.53	.69	.85	246.3	19.1	.53	.69	.86	218.4	20.9	.52	.69	.87
71°F	8000	307.5	15.5	.34	.47	.61	280.7	17.3	.31	.46	.61	253.9	19.2	.27	.44	.61	227.2	21.1	.24	.43	.61
	9500	311.7	15.5	.35	.51	.66	285.1	17.4	.32	.49	.66	258.5	19.3	.28	.47	.66	231.9	21.2	.25	.46	.66
	11,000	324.5	15.6	.35	.51	.67	295.2	17.5	.32	.51	.69	265.9	19.4	.29	.50	.71	236.6	21.3	.26	.50	.73

BLOWER DATA

BLOWER TABLE INCLUDES RESISTANCE FOR BASE UNIT ONLY WITH DRY INDOOR COIL & AIR FILTERS IN PLACE
FOR ALL UNITS ADD:

1 - Wet indoor coil air resistance of selected unit.
2 - Any factory installed options air resistance (heat section, economizer, etc.)
3 - Any field installed accessories air resistance (heat section, duct resistance, diffuser, etc.)

Then determine from blower table blower motor output and drive required.
See page 48 for wet coil and option/accessory air resistance data.
See page 47 for factory installed drive kit specifications.

MINIMUM AIR VOLUME REQUIRED FOR DIFFERENT GAS HEAT SIZES

Low (L), Standard (S) and Medium Heat (M) - 4500 cfm minimum
High Heat (H) - 5125 cfm minimum

Air Volume cfm	TOTAL STATIC PRESSURE - Inches Water Gauge (Pa)																									
	0.20		0.40		0.60		0.80		1.00		1.20		1.40		1.60		1.80		2.00		2.20		2.40		2.60	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
2750	385	0.30	505	0.50	600	0.70	680	0.90	755	1.10	820	1.30	---	---	---	---	---	---	---	---	---	---	---	---	---	---
3000	395	0.35	515	0.55	610	0.75	685	1.00	760	1.20	825	1.45	885	1.70	---	---	---	---	---	---	---	---	---	---	---	---
3250	405	0.40	520	0.60	615	0.85	695	1.10	765	1.30	830	1.60	890	1.85	950	2.10	---	---	---	---	---	---	---	---	---	---
3500	415	0.45	530	0.70	620	0.95	700	1.20	775	1.45	840	1.70	900	2.00	955	2.25	1005	2.55	---	---	---	---	---	---	---	---
3750	425	0.50	540	0.75	630	1.05	710	1.30	780	1.60	845	1.85	905	2.15	960	2.45	1010	2.70	1060	3.00	1110	3.30	---	---	---	---
4000	435	0.55	545	0.85	635	1.10	715	1.40	785	1.70	850	2.00	910	2.30	965	2.60	1020	2.90	1070	3.25	1115	3.55	1160	3.85	1205	4.15
4250	445	0.60	555	0.90	645	1.25	725	1.55	795	1.85	855	2.15	915	2.45	970	2.80	1025	3.10	1075	3.45	1120	3.75	1165	4.10	1210	4.45
4500	455	0.70	565	1.00	655	1.35	730	1.65	800	2.00	865	2.35	925	2.65	980	3.00	1030	3.30	1080	3.65	1130	4.05	1175	4.35	1215	4.70
4750	470	0.75	575	1.10	660	1.45	740	1.80	810	2.15	870	2.50	930	2.85	985	3.20	1040	3.55	1085	3.90	1135	4.25	1180	4.65	1225	5.00
5000	480	0.85	585	1.25	670	1.60	750	1.95	815	2.30	880	2.70	940	3.05	995	3.40	1045	3.80	1095	4.15	1140	4.50	1185	4.90	1230	5.30
5250	495	0.95	595	1.35	680	1.70	755	2.10	825	2.50	890	2.90	945	3.25	1000	3.65	1050	4.00	1100	4.40	1150	4.80	1195	5.20	1235	5.60
5500	505	1.05	605	1.45	690	1.85	765	2.25	835	2.65	895	3.05	955	3.45	1010	3.85	1060	4.25	1110	4.70	1155	5.10	1200	5.50	1240	5.90
5750	520	1.15	615	1.60	700	2.00	775	2.45	840	2.85	905	3.25	960	3.65	1015	4.10	1065	4.50	1115	4.95	1160	5.35	1205	5.80	1250	6.25
6000	530	1.30	630	1.75	710	2.15	785	2.60	850	3.05	910	3.45	970	3.90	1025	4.35	1075	4.80	1120	5.20	1170	5.65	1215	6.10	1255	6.55
6250	545	1.40	640	1.90	720	2.35	795	2.80	860	3.25	920	3.70	975	4.15	1030	4.60	1080	5.05	1130	5.50	1175	5.95	1220	6.45	1265	6.90
6500	560	1.55	650	2.05	730	2.50	805	3.00	870	3.45	930	3.95	985	4.40	1040	4.85	1090	5.35	1140	5.85	1185	6.30	1225	6.75	1270	7.25
6750	570	1.70	665	2.20	745	2.70	815	3.20	880	3.70	940	4.20	995	4.65	1045	5.10	1095	5.60	1145	6.10	1190	6.60	1235	7.10	1275	7.60
7000	585	1.85	675	2.35	755	2.90	825	3.40	890	3.95	950	4.45	1005	4.95	1055	5.40	1105	5.95	1155	6.45	1200	6.95	1240	7.45	1285	8.00
7250	600	2.00	690	2.60	765	3.10	835	3.65	900	4.15	955	4.65	1015	5.25	1065	5.75	1115	6.25	1160	6.75	1205	7.30	1250	7.85	1290	8.35
7500	615	2.20	700	2.75	775	3.30	845	3.85	910	4.45	965	4.95	1020	5.50	1075	6.05	1125	6.60	1170	7.15	1215	7.65	1260	8.25	1300	8.75
7750	630	2.40	715	3.00	790	3.55	855	4.10	920	4.70	975	5.25	1030	5.80	1080	6.35	1130	6.90	1180	7.50	1225	8.05	1265	8.60	1305	9.15
8000	640	2.55	725	3.20	800	3.80	865	4.35	930	4.95	985	5.50	1040	6.10	1090	6.70	1140	7.25	1185	7.85	1230	8.40	1275	9.00	1315	9.60
8250	655	2.80	740	3.40	810	4.00	880	4.65	940	5.25	995	5.85	1050	6.45	1100	7.05	1150	7.65	1195	8.25	1240	8.85	1280	9.40	1325	10.05
8500	670	3.00	750	3.65	825	4.30	890	4.90	950	5.55	1005	6.15	1060	6.80	1110	7.40	1160	8.05	1205	8.65	1250	9.25	1290	9.85	1330	10.45
8750	685	3.25	765	3.90	835	4.55	900	5.20	960	5.85	1015	6.45	1070	7.15	1120	7.75	1165	8.35	1215	9.05	1255	9.65	1300	10.30	1340	10.90
9000	700	3.50	780	4.20	850	4.85	910	5.50	970	6.15	1025	6.80	1080	7.50	1130	8.15	1175	8.75	1220	9.40	1265	10.10	1310	10.80	1350	11.40
9250	715	3.75	790	4.45	860	5.15	925	5.85	985	6.55	1040	7.20	1090	7.85	1140	8.55	1185	9.20	1230	9.85	1275	10.55	1315	11.20	---	---
9500	730	4.00	805	4.75	875	5.45	935	6.15	995	6.90	1050	7.60	1100	8.25	1150	8.95	1195	9.60	1240	10.30	1285	11.05	---	---	---	---
9750	745	4.30	820	5.05	885	5.75	950	6.55	1005	7.20	1060	7.95	1110	8.65	1160	9.40	1205	10.05	1250	10.80	1295	11.50	---	---	---	---
10,000	760	4.60	835	5.40	900	6.15	960	6.85	1015	7.60	1070	8.35	1120	9.05	1170	9.80	1215	10.50	1260	11.25	---	---	---	---	---	---
10,250	775	4.90	845	5.65	910	6.45	970	7.20	1030	8.00	1080	8.75	1135	9.55	1180	10.25	1225	11.00	---	---	---	---	---	---	---	---
10,500	790	5.20	860	6.00	925	6.85	985	7.65	1040	8.40	1095	9.20	1145	10.00	1190	10.70	1235	11.45	---	---	---	---	---	---	---	---
10,750	805	5.55	875	6.40	940	7.25	1000	8.05	1055	8.85	1105	9.65	1155	10.45	1200	11.20	---	---	---	---	---	---	---	---	---	---
11,000	820	5.90	890	6.80	950	7.60	1010	8.45	1065	9.30	1115	10.05	1165	10.90	---	---	---	---	---	---	---	---	---	---	---	---

BLOWER DATA

FACTORY INSTALLED BELT DRIVE KIT SPECIFICATIONS

Motor Efficiency	Nominal hp	Maximum hp	Drive Kit Number	RPM Range
Standard or High	2	2.30	1	535 - 725
Standard or High	2	2.30	2	710 - 965
Standard	3	3.45	1	535 - 725
Standard	3	3.45	2	710 - 965
High	3	3.45	3	685 - 856
High	3	3.45	4	850 - 1045
Standard	5	5.75	3	685 - 856
Standard	5	5.75	4	850 - 1045
Standard	5	5.75	5	945 - 1185
Standard	7.5	8.63	6	850 - 1045
Standard	7.5	8.63	7	945 - 1185
Standard	7.5	8.63	8	1045 - 1285
Standard	10	11.50	7	945 - 1185
Standard	10	11.50	10	1045 - 1285
Standard	10	11.50	11	1135 - 1365

NOTE - Using total air volume and system static pressure requirements determine from blower performance tables rpm and motor output required. Maximum usable output of motors furnished are shown. In Canada, nominal motor output is also maximum usable motor output. If motors of comparable output are used, be sure to keep within the service factor limitations outlined on the motor nameplate.

NOTE – Units equipped with MSAV® (Multi-Stage Air Volume) option are limited to a motor service factor of 1.0.

FACTORY INSTALLED OPTIONS/FIELD INSTALLED ACCESSORY AIR RESISTANCE

Air Volume cfm	Wet Indoor Coil		Humiditrol® Condenser Reheat Coil	Gas Heat Exchanger			Economizer	Filters		Horizontal Roof Curb	
	156H, 180H	210H, 240H, 300S		Low/Standard Heat	Medium Heat	High Heat				156H thru 240H	300S
	in. w.g.	in. w.g.	in. w.g.	in. w.g.	in. w.g.	in. w.g.	in. w.g.	MERV 8	MERV 13	in. w.g.	in. w.g.
2750	.01	.02	.01	.02	.04	.05	- - -	.01	.03	.03	-
3000	.01	.02	.01	.03	.04	.05	- - -	.01	.03	.04	-
3250	.01	.03	.01	.03	.05	.06	- - -	.01	.04	.04	.01
3500	.01	.03	.02	.03	.05	.06	- - -	.01	.04	.05	.01
3750	.01	.03	.02	.04	.06	.07	- - -	.01	.04	.05	.01
4000	.02	.04	.02	.04	.06	.07	- - -	.01	.04	.06	.02
4250	.02	.04	.02	.04	.06	.08	- - -	.01	.05	.07	.02
4500	.02	.05	.02	.05	.07	.09	- - -	.01	.05	.07	.02
4750	.02	.05	.02	.05	.08	.10	- - -	.02	.05	.08	.03
5000	.02	.05	.02	.05	.09	.11	- - -	.02	.06	.08	.03
5250	.02	.06	.03	.06	.10	.12	- - -	.02	.06	.09	.04
5500	.02	.07	.03	.06	.10	.13	- - -	.02	.06	.10	.04
5750	.03	.07	.03	.06	.11	.14	- - -	.02	.07	.11	.05
6000	.03	.08	.03	.07	.12	.15	- - -	.03	.07	.11	.06
6250	.03	.08	.03	.07	.12	.16	.01	.03	.07	.12	.07
6500	.03	.09	.04	.08	.13	.17	.02	.03	.08	.13	.08
6750	.04	.10	.04	.08	.14	.18	.03	.03	.08	.14	.08
7000	.04	.10	.04	.09	.15	.19	.04	.04	.08	.15	.09
7250	.04	.11	.04	.09	.16	.20	.05	.04	.09	.16	.10
7500	.05	.12	.05	.10	.17	.21	.06	.04	.09	.17	.11
8000	.05	.13	.05	.11	.19	.24	.09	.05	.10	.19	.13
8500	.06	.15	.05	.12	.20	.26	.11	.05	.10	.21	.15
9000	.07	.16	.06	.13	.23	.29	.14	.06	.11	.24	.17
9500	.08	.18	.07	.14	.25	.32	.16	.07	.12	.26	.19
10,000	.08	.20	.07	.16	.27	.35	.19	.07	.12	.29	.21
10,500	.09	.22	.08	.17	.30	.38	.22	.08	.13	.31	.24
11,000	.11	.24	.08	.18	.31	.40	.25	.09	.14	.34	.27

BLOWER DATA

POWER EXHAUST FAN PERFORMANCE

Return Air System Static Pressure	Air Volume Exhausted
in. w.g.	cfm
0.00	8630
0.05	8210
0.10	7725
0.15	7110
0.20	6470
0.25	5790
0.30	5060
0.35	4300
0.40	3510
0.45	2690
0.50	1840

CEILING DIFFUSER AIR RESISTANCE - in. w.g.

Air Volume cfm	Step-Down Diffuser						Flush Diffuser	
	RTD11-185S			RTD11-275S			FD11-185S	FD11-275S
	2 Ends Open	1 Side/2 Ends Open	All Ends & Sides Open	2 Ends Open	1 Side/2 Ends Open	All Ends & Sides Open		
5000	.51	.44	.39	- - -	- - -	- - -	.27	- - -
5200	.56	.48	.42	- - -	- - -	- - -	.30	- - -
5400	.61	.52	.45	- - -	- - -	- - -	.33	- - -
5600	.66	.56	.48	- - -	- - -	- - -	.36	- - -
5800	.71	.59	.51	- - -	- - -	- - -	.39	- - -
6000	.76	.63	.55	.36	.31	.27	.42	.29
6200	.80	.68	.59	- - -	- - -	- - -	.46	- - -
6400	.86	.72	.63	- - -	- - -	- - -	.50	- - -
6500	- - -	- - -	- - -	.42	.36	.31	- - -	.34
6600	.92	.77	.67	- - -	- - -	- - -	.54	- - -
6800	.99	.83	.72	- - -	- - -	- - -	.58	- - -
7000	1.03	.87	.76	.49	.41	.36	.62	.40
7200	1.09	.92	.80	- - -	- - -	- - -	.66	- - -
7400	1.15	.97	.84	- - -	- - -	- - -	.70	- - -
7500	- - -	- - -	- - -	.51	.46	.41	- - -	.45
7600	1.20	1.02	.88	- - -	- - -	- - -	.74	- - -
8000	- - -	- - -	- - -	.59	.49	.43	- - -	.50
8500	- - -	- - -	- - -	.69	.58	.50	- - -	.57
9000	- - -	- - -	- - -	.79	.67	.58	- - -	.66
9500	- - -	- - -	- - -	.89	.75	.65	- - -	.74
10,000	- - -	- - -	- - -	1.00	.84	.73	- - -	.81
10,500	- - -	- - -	- - -	1.10	.92	.80	- - -	.89
11,000	- - -	- - -	- - -	1.21	1.01	.88	- - -	.96

CEILING DIFFUSER AIR THROW DATA - ft.

Model No.	Air Volume cfm	[1] Effective Throw Range - ft.	
		RTD11-185S Step-Down	FD11-185S Flush
156 180	5600	39 - 49	28 - 37
	5800	42 - 51	29 - 38
	6000	44 - 54	40 - 50
	6200	45 - 55	42 - 51
	6400	46 - 55	43 - 52
	6600	47 - 56	45 - 56

[1] Throw is the horizontal or vertical distance an airstream travels on leaving the outlet or diffuser before the maximum velocity is reduced to 50 ft. per minute. Four sides open.

Model No.	Air Volume cfm	[1] Effective Throw Range - ft.	
		RTD11-275S Step-Down	FD11-275S Flush
210 240 300	7200	33 - 38	26 - 35
	7400	35 - 40	28 - 37
	7600	36 - 41	29 - 38
	7800	38 - 43	40 - 50
	8000	39 - 44	42 - 51
	8200	41 - 46	43 - 52
	8400	43 - 49	44 - 54
	8600	44 - 50	46 - 57
	8800	47 - 55	48 - 59

ELECTRICAL DATA — 13 TON

13 TON HIGH EFFICIENCY — LGH156H4

[1] Voltage - 60hz		208/230V - 3 Ph			460V - 3 Ph			575V - 3 Ph		
Compressor 1	Rated Load Amps	14.5			6.3			6		
	Locked Rotor Amps	98			55			41		
Compressor 2	Rated Load Amps	14.5			6.3			6		
	Locked Rotor Amps	98			55			41		
Compressor 3	Rated Load Amps	14.5			6.3			6		
	Locked Rotor Amps	98			55			41		
Outdoor Fan Motors (3)	Full Load Amps (total)	2.4 (7.2)			1.3 (3.9)			1 (3)		
Power Exhaust (2) 0.33 HP	Full Load Amps (total)	2.4 (4.8)			1.3 (2.6)			1 (2)		
Service Outlet 115V GFI (amps)		15			15			20		
Indoor Blower Motor	Horsepower	2	3	5	2	3	5	2	3	5
	Full Load Amps	7.5	10.6	16.7	3.4	4.8	7.6	2.7	3.9	6.1
[2] Maximum Overcurrent Protection	Unit Only	70	70	80	30	35	35	30	30	30
	With (2) 0.33 HP Power Exhaust	80	80	90	35	35	40	30	30	35
[3] Minimum Circuit Ampacity	Unit Only	62	65	72	28	30	33	26	27	29
	With (2) 0.33 HP Power Exhaust	67	70	77	31	32	35	28	29	31

ELECTRICAL DATA — 15 TON

15 TON HIGH EFFICIENCY — LGH180H4

[1] Voltage - 60hz		208/230V - 3 Ph			460V - 3 Ph			575V - 3 Ph		
Compressor 1	Rated Load Amps	13.2			6.3			4.9		
	Locked Rotor Amps	93			60			41		
Compressor 2	Rated Load Amps	13.2			6.3			4.9		
	Locked Rotor Amps	93			60			41		
Compressor 3	Rated Load Amps	13.2			6.3			4.9		
	Locked Rotor Amps	93			60			41		
Outdoor Fan Motors (4)	Full Load Amps (total)	2.4 (9.6)			1.3 (5.2)			1 (4)		
Power Exhaust (2) 0.33 HP	Full Load Amps (total)	2.4 (4.8)			1.3 (2.6)			1 (2)		
Service Outlet 115V GFI (amps)		15			15			20		
Indoor Blower Motor	Horsepower	3	5	7.5	3	5	7.5	3	5	7.5
	Full Load Amps	10.6	16.7	24.2	4.8	7.6	11	3.9	6.1	9
[2] Maximum Overcurrent Protection	Unit Only	70	80	100	35	40	45	25	30	35
	With (2) 0.33 HP Power Exhaust	80	90	100	35	40	50	30	30	40
[3] Minimum Circuit Ampacity	Unit Only	64	71	80	31	34	38	24	27	30
	With (2) 0.33 HP Power Exhaust	68	75	85	34	37	41	26	29	32

NOTE - All units have a minimum Short Circuit Current Rating (SCCR) of 5000 amps.

[1] Extremes of operating range are plus and minus 10% of line voltage.

[2] HACR type breaker or fuse.

[3] Refer to National or Canadian Electrical Code manual to determine wire, fuse and disconnect size requirements.

[4] Factory installed circuit breaker not available.

ELECTRICAL DATA — 17.5 TON

17.5 TON HIGH EFFICIENCY — LGH210H4

[1] Voltage - 60hz		208/230V - 3 Ph			460V - 3 Ph			575V - 3 Ph		
Compressor 1	Rated Load Amps	15.6			7.8			5.8		
	Locked Rotor Amps	110			52			38.9		
Compressor 2	Rated Load Amps	15.6			7.8			5.8		
	Locked Rotor Amps	110			52			38.9		
Compressor 3	Rated Load Amps	19.6			8.2			6.6		
	Locked Rotor Amps	136			66.1			55.3		
Outdoor Fan Motors (6)	Full Load Amps (total)	2.4 (14.4)			1.3 (7.8)			1 (6)		
Power Exhaust (2) 0.33 HP	Full Load Amps (total)	2.4 (4.8)			1.3 (2.6)			1 (2)		
Service Outlet 115V GFI (amps)		15			15			20		
Indoor Blower Motor	Horsepower	3	5	7.5	3	5	7.5	3	5	7.5
	Full Load Amps	10.6	16.7	24.2	4.8	7.6	11	3.9	6.1	9
[2] Maximum Overcurrent Protection	Unit Only	100	100	110	45	45	50	35	35	40
	With (2) 0.33 HP Power Exhaust	100	110	110	45	50	50	35	40	45
[3] Minimum Circuit Ampacity	Unit Only	81	87	96	39	42	46	30	32	36
	With (2) 0.33 HP Power Exhaust	86	92	101	42	44	48	32	34	38

ELECTRICAL DATA — 20 TON

20 TON HIGH EFFICIENCY — LGH240H4

[1] Voltage - 60hz		208/230V - 3 Ph			460V - 3 Ph			575V - 3 Ph		
Compressor 1	Rated Load Amps	13.2			6.3			4.9		
	Locked Rotor Amps	93			60			41		
Compressor 2	Rated Load Amps	13.2			6.3			4.9		
	Locked Rotor Amps	93			60			41		
Compressor 3	Rated Load Amps	13.2			6.3			4.9		
	Locked Rotor Amps	93			60			41		
Compressor 4	Rated Load Amps	13.2			6.3			4.9		
	Locked Rotor Amps	93			60			41		
Outdoor Fan Motors (6)	Full Load Amps (total)	2.4 (14.4)			1.3 (7.8)			1 (6)		
Power Exhaust (2) 0.33 HP	Full Load Amps (total)	2.4 (4.8)			1.3 (2.6)			1 (2)		
Service Outlet 115V GFI (amps)		15			15			20		
Indoor Blower Motor	Horsepower	5	7.5	10	5	7.5	10	5	7.5	10
	Full Load Amps	16.7	24.2	30.8	7.6	11	14	6.1	9	11
[2] Maximum Overcurrent Protection	Unit Only	100	110	125	50	50	60	35	45	50
	With (2) 0.33 HP Power Exhaust	100	125	125	50	60	60	40	45	50
[3] Minimum Circuit Ampacity	Unit Only	89	98	106	43	47	51	34	37	40
	With (2) 0.33 HP Power Exhaust	93	103	111	46	50	54	36	39	42

NOTE - All units have a minimum Short Circuit Current Rating (SCCR) of 5000 amps.

[1] Extremes of operating range are plus and minus 10% of line voltage.

[2] HACR type breaker or fuse.

[3] Refer to National or Canadian Electrical Code manual to determine wire, fuse and disconnect size requirements.

[4] Factory installed circuit breaker not available.

ELECTRICAL DATA — 25 TON

25 TON STANDARD EFFICIENCY — LGH300S4

[1] Voltage - 60hz		208/230V - 3 Ph			460V - 3 Ph			575V - 3 Ph		
Compressor 1	Rated Load Amps	19.6			8.2			6.6		
	Locked Rotor Amps	136			66.1			55.3		
Compressor 2	Rated Load Amps	19.6			8.2			6.6		
	Locked Rotor Amps	136			66.1			55.3		
Compressor 3	Rated Load Amps	22.4			10.6			7.7		
	Locked Rotor Amps	149			75			54		
Compressor 4	Rated Load Amps	22.4			10.6			7.7		
	Locked Rotor Amps	149			75			54		
Outdoor Fan Motors (6)	Full Load Amps (total)	2.4 (14.4)			1.3 (7.8)			1 (6)		
Power Exhaust (2) 0.33 HP	Full Load Amps (total)	2.4 (4.8)			1.3 (2.6)			1 (2)		
Service Outlet 115V GFI (amps)		15			15			20		
Indoor Blower Motor	Horsepower	5	7.5	10	5	7.5	10	5	7.5	10
	Full Load Amps	16.7	24.2	30.8	7.6	11	14	6.1	9	11
[2] Maximum Overcurrent Protection	Unit Only	125	150	150	60	70	70	50	50	50
	With (2) 0.33 HP Power Exhaust	150	150	150	60	70	70	50	50	60
[3] Minimum Circuit Ampacity	Unit Only	121	129	137	56	60	63	45	46	49
	With (2) 0.33 HP Power Exhaust	126	134	142	59	62	66	45	48	51

NOTE - All units have a minimum Short Circuit Current Rating (SCCR) of 5000 amps.

[1] Extremes of operating range are plus and minus 10% of line voltage.

[2] HACR type breaker or fuse.

[3] Refer to National or Canadian Electrical Code manual to determine wire, fuse and disconnect size requirements.

[4] Factory installed circuit breaker not available.

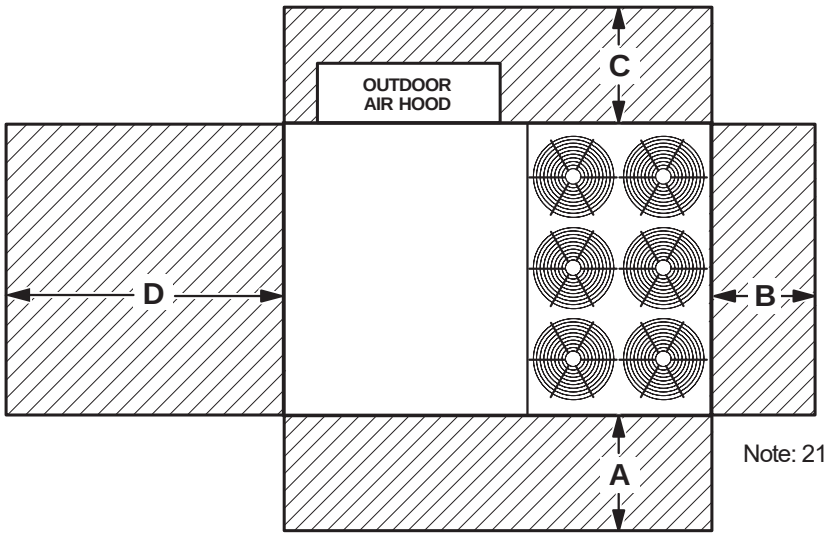
ELECTRICAL ACCESSORIES

DISCONNECTS

Voltage	208V	240V	208V	240V	208V	240V	460V	460V	460V	575V	575V	575V
Model No.	LGH156H4											
Blower Motor HP	2		3		5		2	3	5	2	3	5
Unit Only	54W88	54W88	54W88	54W88	54W88	54W88	54W88	54W88	54W88	54W88	54W88	54W88
Unit w/ Power Exhaust	54W88	54W88	54W88	54W88	54W88	54W88	54W88	54W88	54W88	54W88	54W88	54W88
Model No.	LGH180H4											
Blower Motor HP	3		5		7.5		3	5	7.5	3	5	7.5
Unit Only	54W88	54W88	54W88	54W88	54W89	54W89	54W88	54W88	54W88	54W88	54W88	54W88
Unit w/ Power Exhaust	54W88	54W88	54W89	54W89	54W89	54W89	54W88	54W88	54W88	54W88	54W88	54W88
Model No.	LGH210H4											
Blower Motor HP	3		5		7.5		3	5	7.5	3	5	7.5
Unit Only	54W89	54W89	54W89	54W89	54W89	54W89	54W88	54W88	54W88	54W88	54W88	54W88
Unit w/ Power Exhaust	54W89	54W89	54W89	54W89	54W89	54W89	54W88	54W88	54W88	54W88	54W88	54W88
Model No.	LGH240H4											
Blower Motor HP	5		7.5		10		5	7.5	10	5	7.5	10
Unit Only	54W89	54W89	54W89	54W89	54W89	54W89	54W88	54W88	54W88	54W88	54W88	54W88
Unit w/ Power Exhaust	54W89	54W89	54W89	54W89	54W89	54W89	54W88	54W88	54W88	54W88	54W88	54W88
Model No.	LGH300S4											
Blower Motor HP	5		7.5		10		5	7.5	10	5	7.5	10
Unit Only	54W89	54W89	54W89	54W89	54W89	54W89	54W88	54W88	54W88	54W88	54W88	54W88
Unit w/ Power Exhaust	54W89	54W89	54W89	54W89	90W82	90W82	54W88	54W88	54W88	54W88	54W88	54W88

INSTALLATION CLEARANCES

Unit With Economizer



Note: 210-240-300 sizes shown

[1] Unit Clearance	A		B		C		D		Top Clearance
	in.	mm	in.	mm	in.	mm	in.	mm	
Service Clearance	60	1524	36	914	36	934	66	1676	Unobstructed
Clearance to Combustibles	36	914	1	25	1	25	1	25	
Minimum Operation Clearance	45	1143	36	914	36	914	41	1041	

NOTE - Entire perimeter of unit base requires support when elevated above the mounting surface.

[1] **Service Clearance** - Required for removal of serviceable parts.
Clearance to Combustibles - Required clearance to combustible material.
Minimum Operation Clearance - Required clearance for proper unit operation.

OUTDOOR SOUND DATA

Unit Model Number	Octave Band Sound Power Levels dBA, re 10^{-12} Watts - Center Frequency - Hz							[1] Sound Rating Number (dBA)
	125	250	500	1000	2000	4000	8000	
156	71	78	81	81	76	71	63	86
180	80	83	87	88	84	80	71	93
210, 240, 300	79	84	88	89	85	82	73	94

Note - The octave sound power data does not include tonal corrections.

[1] Sound Rating Number according to AHRI Standard 370-2001 (includes pure tone penalty). Sound Rating Number is the overall A-Weighted Sound Power Level, (LWA), dBA (100 Hz to 10,000 Hz).

WEIGHT DATA

Model Number	Outdoor Coil	Net		Shipping		Outdoor Coil	Net		Shipping	
		lbs.	kg	lbs.	kg		lbs.	kg	lbs.	kg
156 Base Unit	Environ™	1935	878	2135	968	Fin/Tube	2000	907	2200	998
156 Max. Unit	Environ™	2205	1000	2405	1091	Fin/Tube	2270	1030	2470	1120
180 Base Unit	Environ™	2115	959	2315	1050	Fin/Tube	2220	1007	2420	1098
180 Max. Unit	Environ™	2400	1089	2600	1179	Fin/Tube	2505	1136	2705	1227
210 Base Unit	Environ™	2240	1016	2440	1107	Fin/Tube	2330	1057	2530	1148
210 Max. Unit	Environ™	2525	1145	2725	1236	Fin/Tube	2615	1186	2815	1277
240 Base Unit	Environ™	2325	1055	2525	1145	Fin/Tube	2430	1102	2630	1193
240 Max. Unit	Environ™	2610	1184	2810	1275	Fin/Tube	2715	1232	2915	1322
300 Base Unit	Environ™	2450	1111	2650	1202	Fin/Tube	2515	1141	2715	1232
300 Max. Unit	Environ™	2735	1241	2935	1331	Fin/Tube	2800	1270	3000	1361

Max. Unit - The unit with ALL INTERNAL OPTIONS Installed. (Economizer, Standard Static Power Exhaust Fans, Controls, etc.). Does not include accessories external to unit.

OPTIONS / ACCESSORIES

Description		Shipping Weight	
		lbs.	kg
CEILING DIFFUSERS			
Step-Down	RTD11-185S	168	76
	RTD11-275S	238	108
Flush	FD11-185S	168	76
	FD11-275S	238	108
Transitions	C1DIFF33C-1	80	36
	C1DIFF34C-1	75	34
ECONOMIZER / OUTDOOR AIR / EXHAUST			
Economizer			
Economizer Dampers		102	46
Barometric Relief Dampers (downflow)		30	14
Barometric Relief Dampers (horizontal)		20	9
Outdoor Air Damper Hood (downflow)		65	29
Outdoor Air Dampers			
Outdoor Air Damper Section (downflow) - Automatic (including Hood)		18	39
Outdoor Air Damper Section (downflow) - Manual (including Hood)		10	22
Power Exhaust		62	28
GAS HEAT EXCHANGER (NET WEIGHT)			
Medium Heat (adder over standard heat)		18	8
High Heat (adder over standard heat)		64	29
HUMIDITROL® DEHUMIDIFICATION SYSTEM			
Humiditrol Dehumidification Option (Net Weight)		50	23
MSAV® (MULTI-STAGE AIR VOLUME) SUPPLY AIR BLOWER OPTION			
Variable Frequency Drive (VFD) and associated components		10	5
ROOF CURBS			
Hybrid Roof Curbs, Downflow			
8 in. height		75	34
14 in. height		105	48
18 in. height		125	57
24 in. height		155	70
Adjustable Pitch Curb, Downflow			
14 in. height		262	119
Horizontal, Standard			
26 in. height		470	213
37 in. height		505	229
30 in. height		575	261
41 in. height		610	277
PACKAGING			
LTL Packaging (less than truck load)		310	141

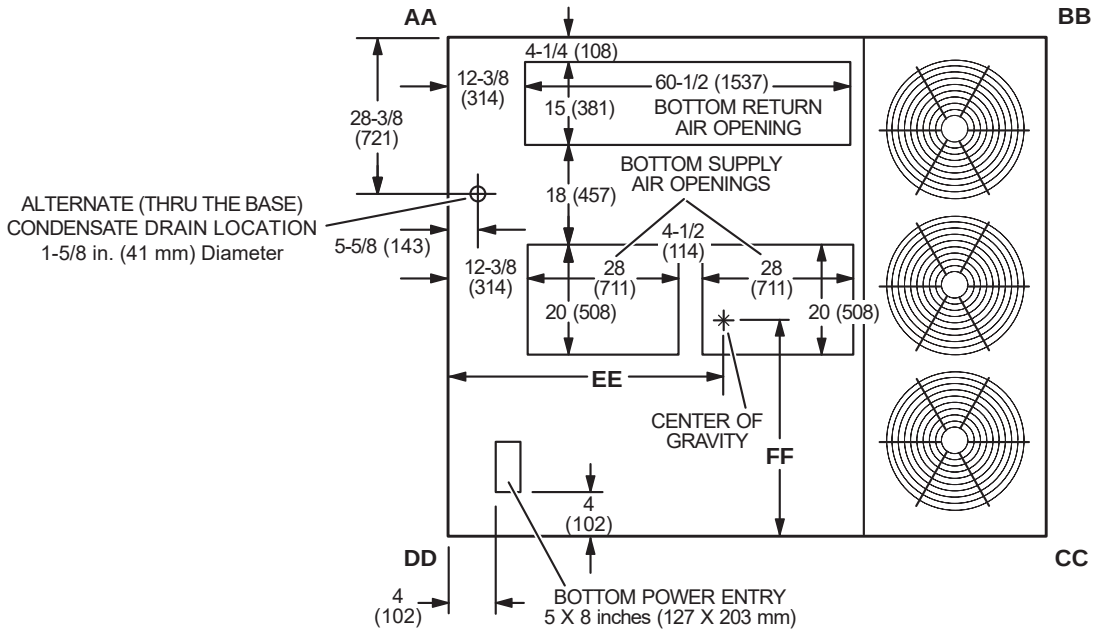
DIMENSIONS - UNIT — LGH156

CORNER WEIGHTS | **CENTER OF GRAVITY**

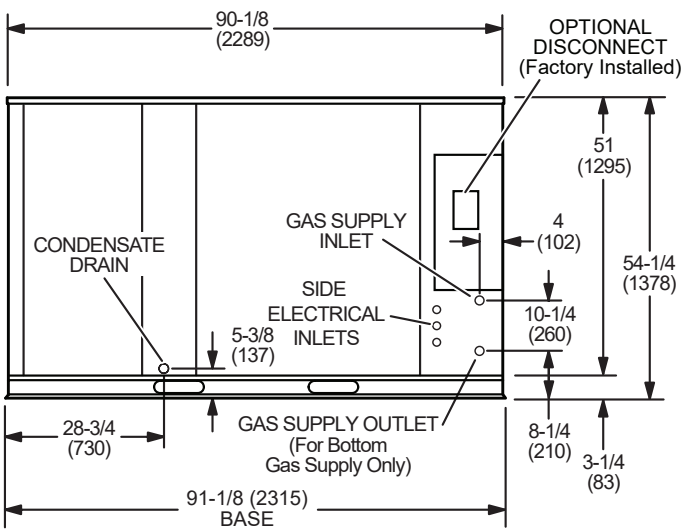
Model No.	AA		BB		CC		DD		EE		FF	
	lbs.	kg	lbs.	kg	lbs.	kg	lbs.	kg	in.	mm	in.	mm
LGH156 Base Unit (Environ™ Coil)	473	215	367	167	483	219	612	278	47-1/4	1200	39-1/2	1003
LGH156 Max. Unit (Environ™ Coil)	586	266	447	203	510	232	663	301	46-3/4	1187	42-3/4	1086
LGH156 Base Unit (Fin/Tube Coil)	476	216	397	180	513	233	615	279	49	1245	39-3/4	1010
LGH156 Max. Unit (Fin/Tube Coil)	588	267	477	216	540	245	665	302	48-1/4	1226	42-3/4	1086

Base Unit - The unit with NO INTERNAL OPTIONS.

Max. Unit - The unit with ALL INTERNAL OPTIONS Installed. (Economizer, Standard Static Power Exhaust Fans, Controls, etc.). Does not include accessories external to unit.



TOP VIEW



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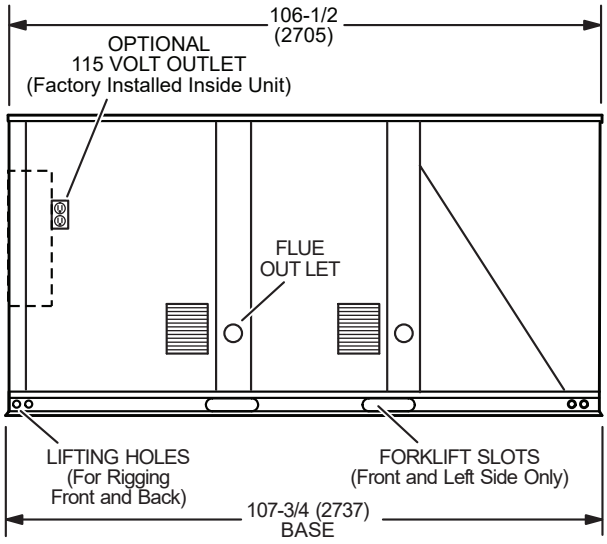


SIDE VIEW

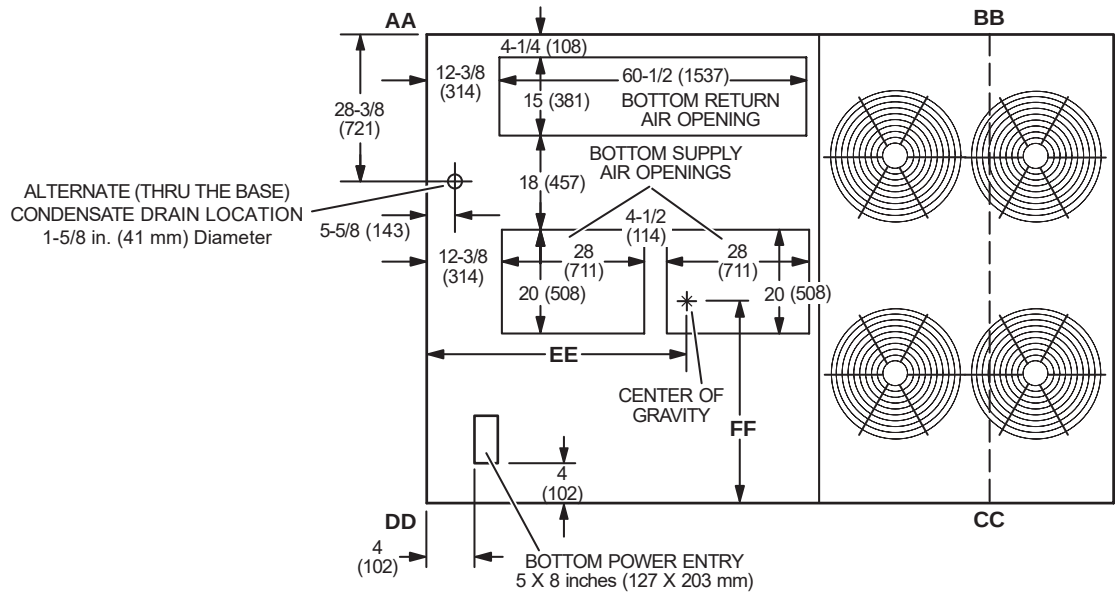
DIMENSIONS - UNIT — LGH180

CORNER WEIGHTS | **CENTER OF GRAVITY**

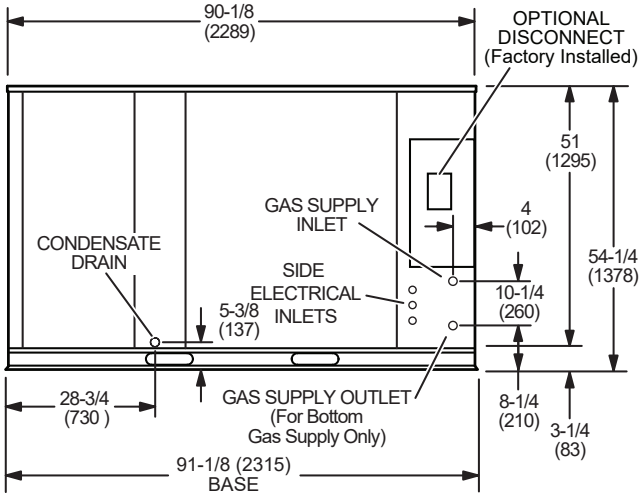
Model No.	AA		BB		CC		DD		EE		FF	
	lbs.	kg	lbs.	kg	lbs.	kg	lbs.	kg	in.	mm	in.	mm
LGH180 Base Unit (Environ™ Coil)	487	221	423	192	569	259	636	289	50-3/4	1289	39-1/4	997
LGH180 Max. Unit (Environ™ Coil)	597	272	505	229	599	272	699	318	49-3/4	1264	42	1067
LGH180 Base Unit (Fin/Tube)	487	221	476	216	622	282	636	288	53-/4	1353	39-1/2	1003
LGH180 Max. Unit (Fin/Tube)	597	271	557	253	652	296	699	317	52	1321	42	1067

Base Unit - The unit with NO INTERNAL OPTIONS.

Max. Unit - The unit with ALL INTERNAL OPTIONS Installed. (Economizer, Standard Static Power Exhaust Fans, Controls, etc.). Does not include accessories external to unit.



TOP VIEW



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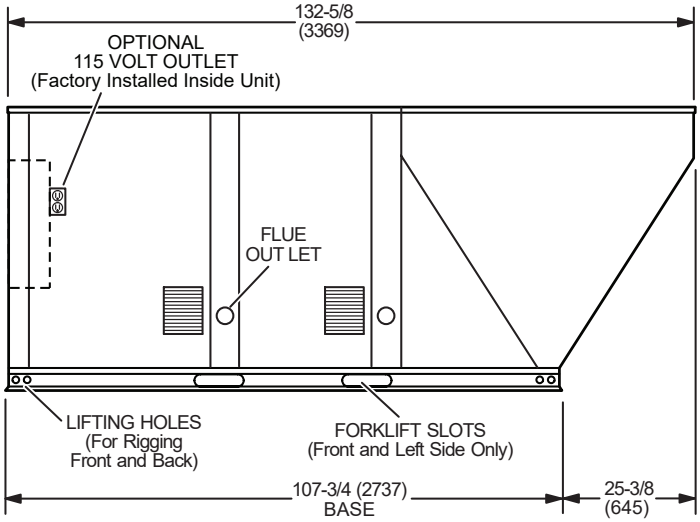


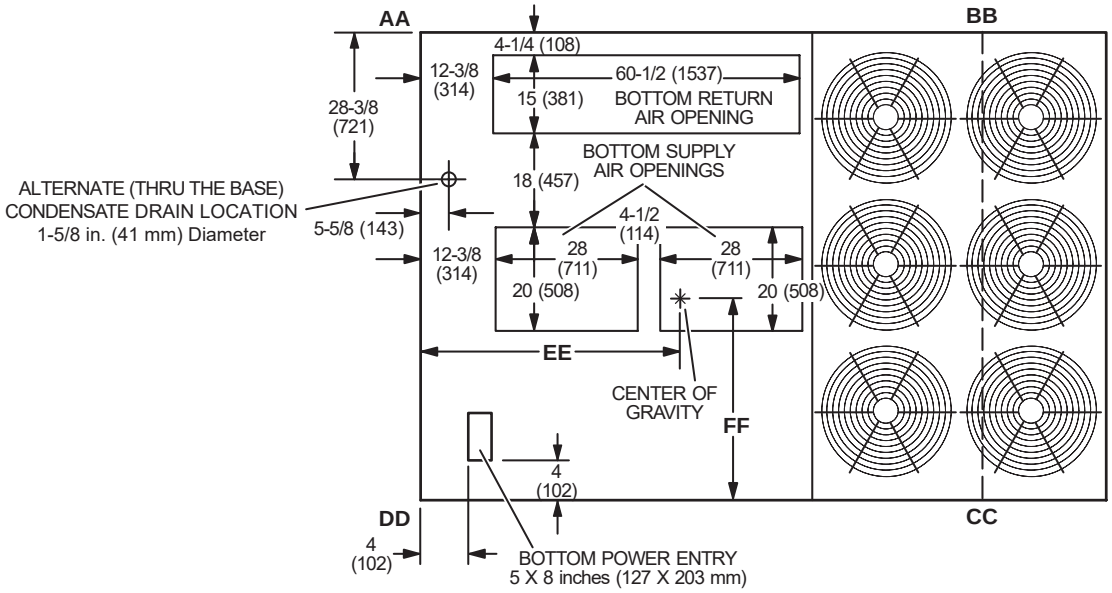
SIDE VIEW

CORNER WEIGHTS | **CENTER OF GRAVITY**

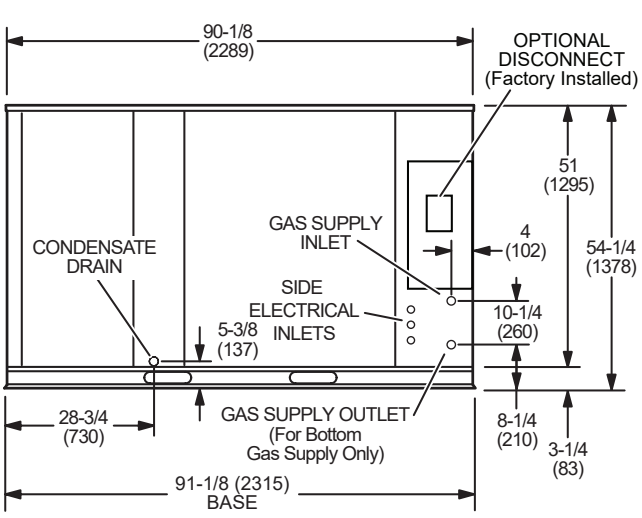
Model No.	AA		BB		CC		DD		EE		FF	
	lbs.	kg	lbs.	kg	lbs.	kg	lbs.	kg	in.	mm	in.	mm
LGH210 Base Uni (Environ™ Coil)	497	226	468	213	626	284	649	295	52-3/4	1340	39-1/4	997
LGH210 Max. Unit (Environ™ Coil)	607	276	553	252	655	298	710	323	51-1/2	1308	42	1067
LGH210 Base Unit (Fin/Tube Coil)	497	225	513	233	671	304	649	294	54-3/4	1391	39-1/2	1003
LGH210 Max. Unit (Fin/Tube Coil)	607	275	598	271	700	318	710	322	53-1/2	1359	42	1067
LGH240 Base Unit (Environ™ Coil)	507	230	481	219	660	300	677	308	53	1346	38-3/4	984
LGH240 Max. Unit (Environ™ Coil)	617	280	567	258	688	313	738	335	52	1321	41-1/2	1054
LGH240 Base Unit (Fin/Tube Coil)	507	230	533	242	713	323	677	307	55-1/4	1403	39	991
LGH240 Max. Unit (Fin/Tube Coil)	617	280	620	281	741	336	738	335	54	1372	41-1/2	1054
LGH300 Base Unit (Environ™ Coil)	500	227	522	237	731	332	699	318	53-1/2	1359	38	965
LGH300 Max. Unit (Environ™ Coil)	609	277	607	276	759	345	761	346	52-1/2	1334	40-1/2	1029
LGH300 Base Unit (Fin/Tube Coil)	524	238	518	236	733	333	741	337	55	1397	37-3/4	959
LGH300 Max. Unit (Fin/Tube Coil)	638	290	608	276	759	345	797	362	53-3/4	1365	40-1/2	1029

Base Unit - The unit with NO INTERNAL OPTIONS.

Max. Unit - The unit with ALL INTERNAL OPTIONS Installed. (Economizer, Standard Static Power Exhaust Fans, Controls, etc.). Does not include accessories external to unit.



TOP VIEW



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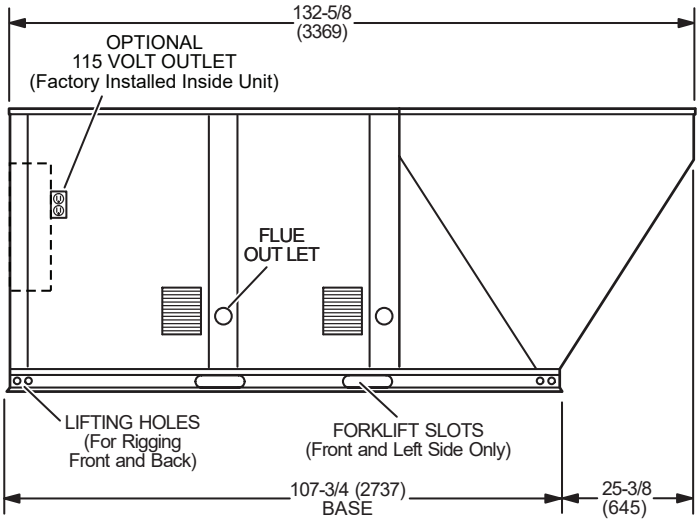
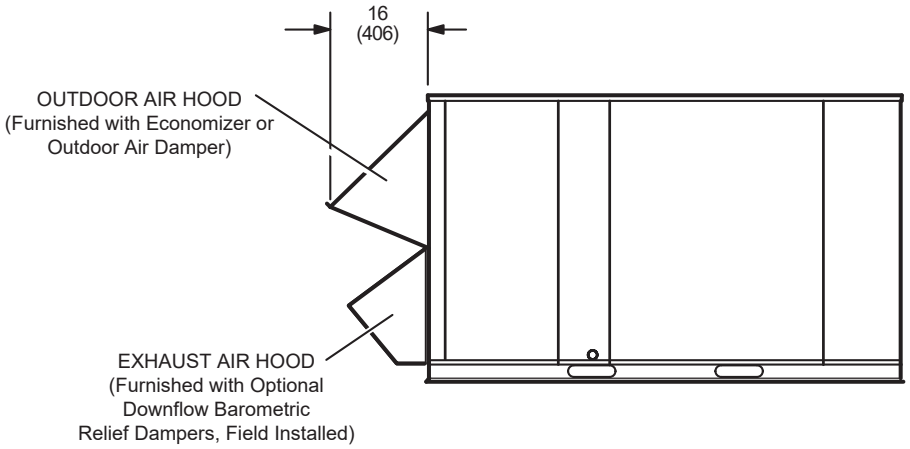


SIDE VIEW

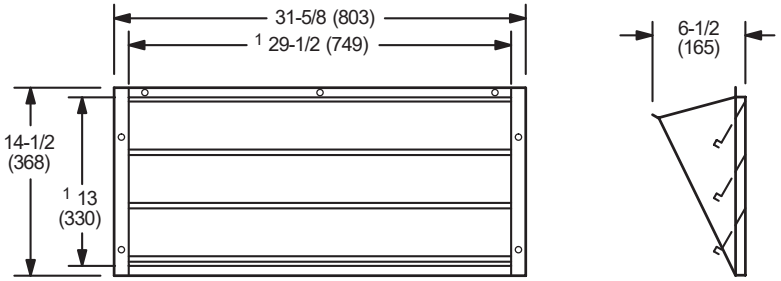
DIMENSIONS - OPTIONAL ACCESSORIES

OUTDOOR AIR HOOD DETAIL



OPTIONAL HORIZONTAL BAROMETRIC RELIEF DAMPERS WITH HOOD

(Field installed in horizontal return air duct adjacent to unit)

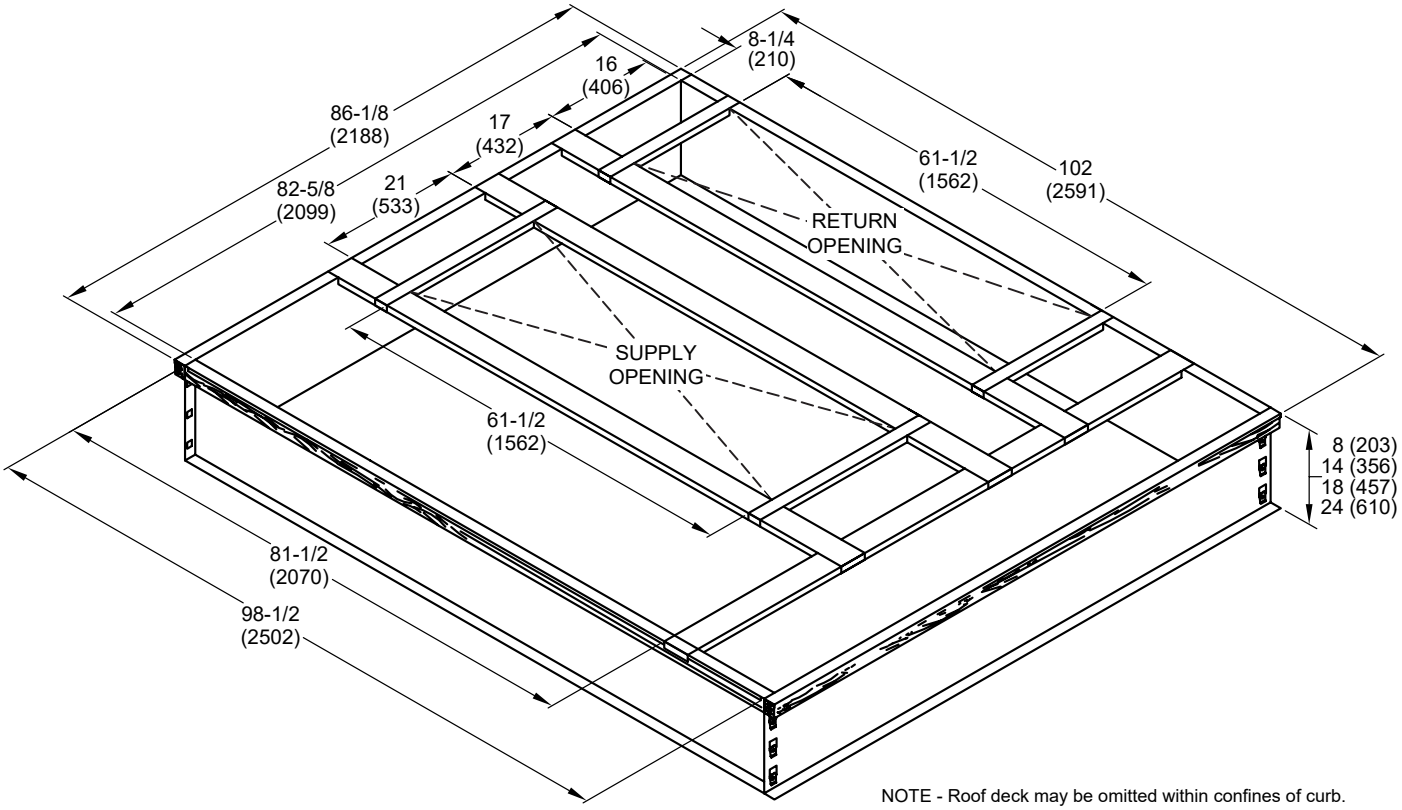


FRONT VIEW **SIDE VIEW**

NOTE - Two furnished per order no.

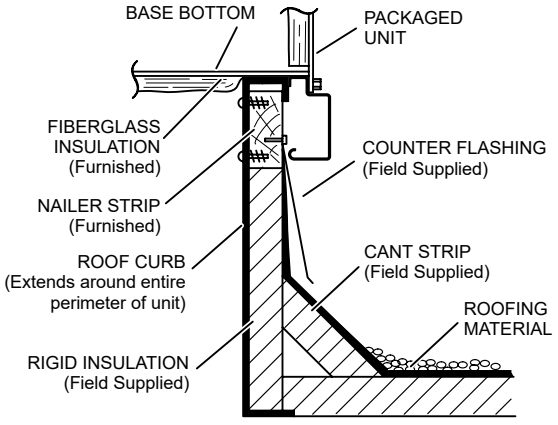
[1] NOTE - Opening size required in return air duct.

HYBRID ROOF CURBS - DOUBLE DUCT OPENING

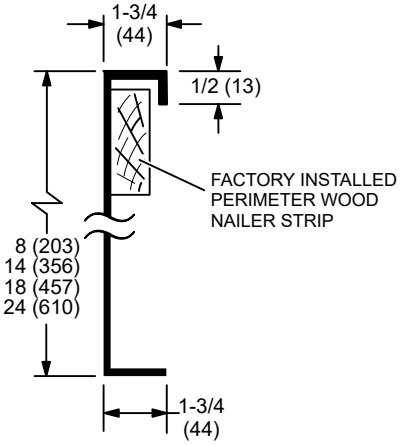


NOTE - Roof deck may be omitted within confines of curb.

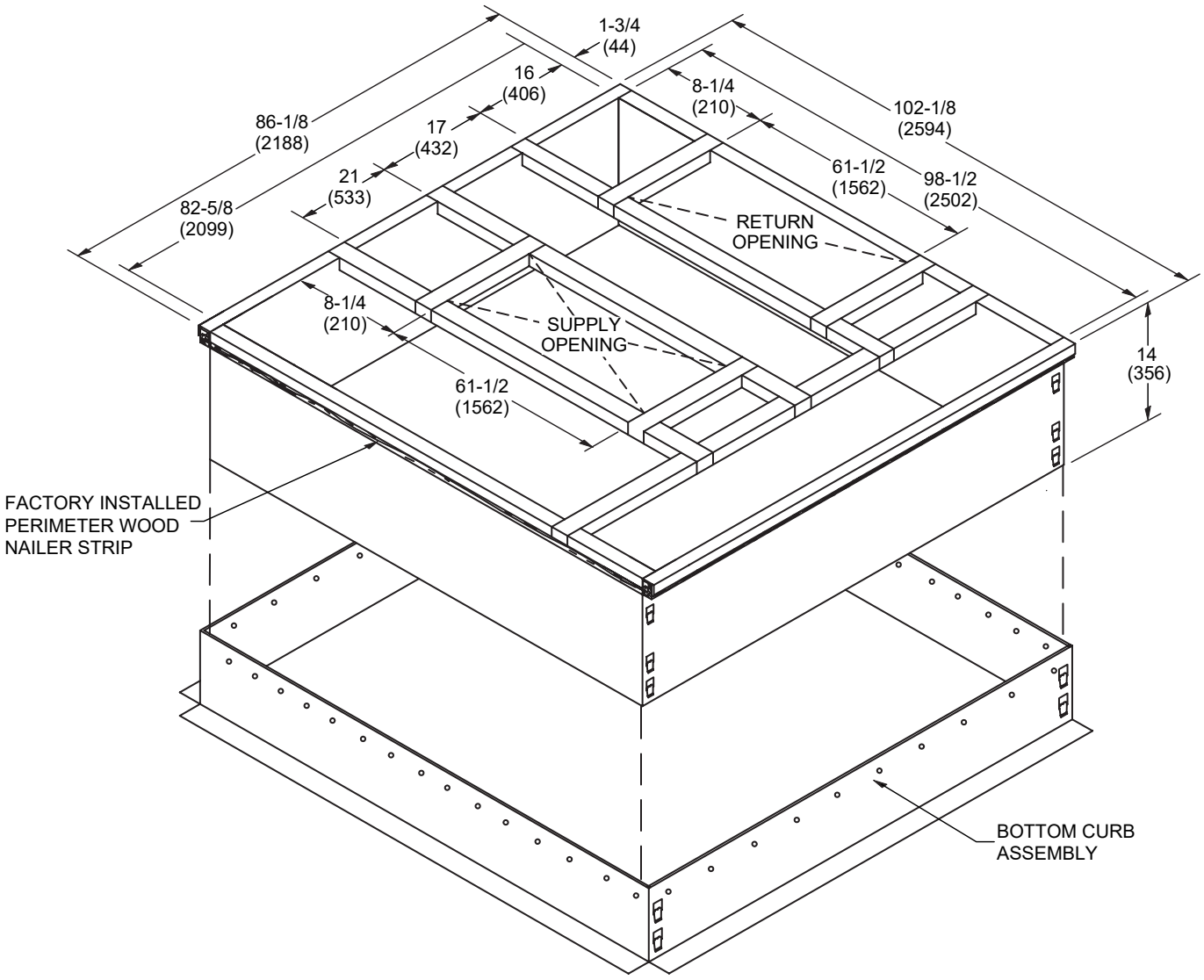
TYPICAL FLASHING DETAIL FOR ROOF CURB



DETAIL ROOF CURB

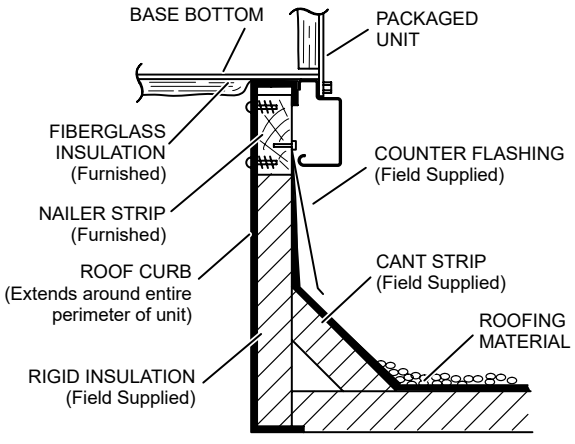


ADJUSTABLE PITCH CURB - DOUBLE DUCT OPENING

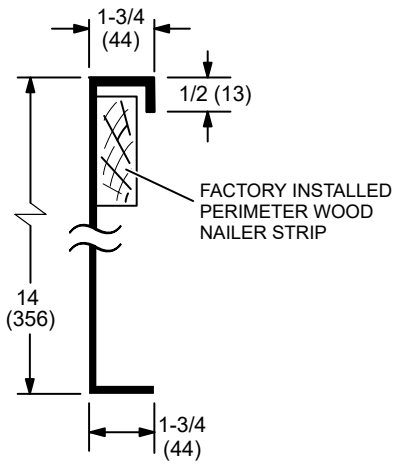


NOTE - Maximum slope pitch is 3/4 in. per 1 foot (19 mm per 305 mm) in any one direction.

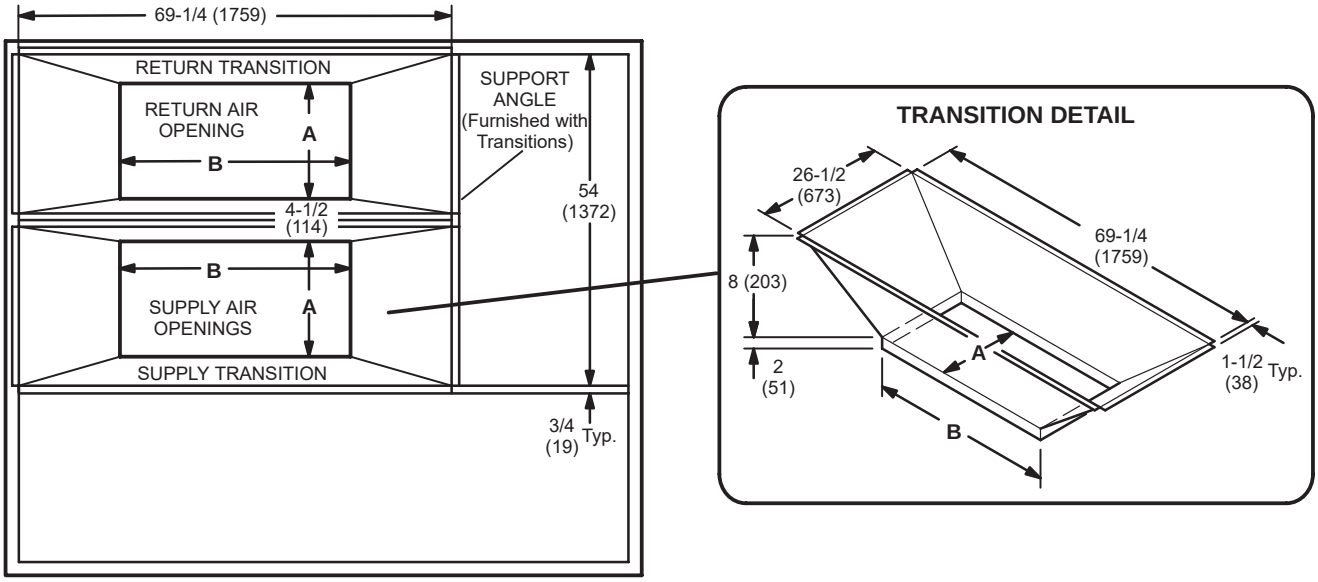
TYPICAL FLASHING DETAIL FOR ROOF CURB



DETAIL ROOF CURB



ROOF CURBS WITH SUPPLY & RETURN AIR TRANSITIONS FOR CEILING DIFFUSERS

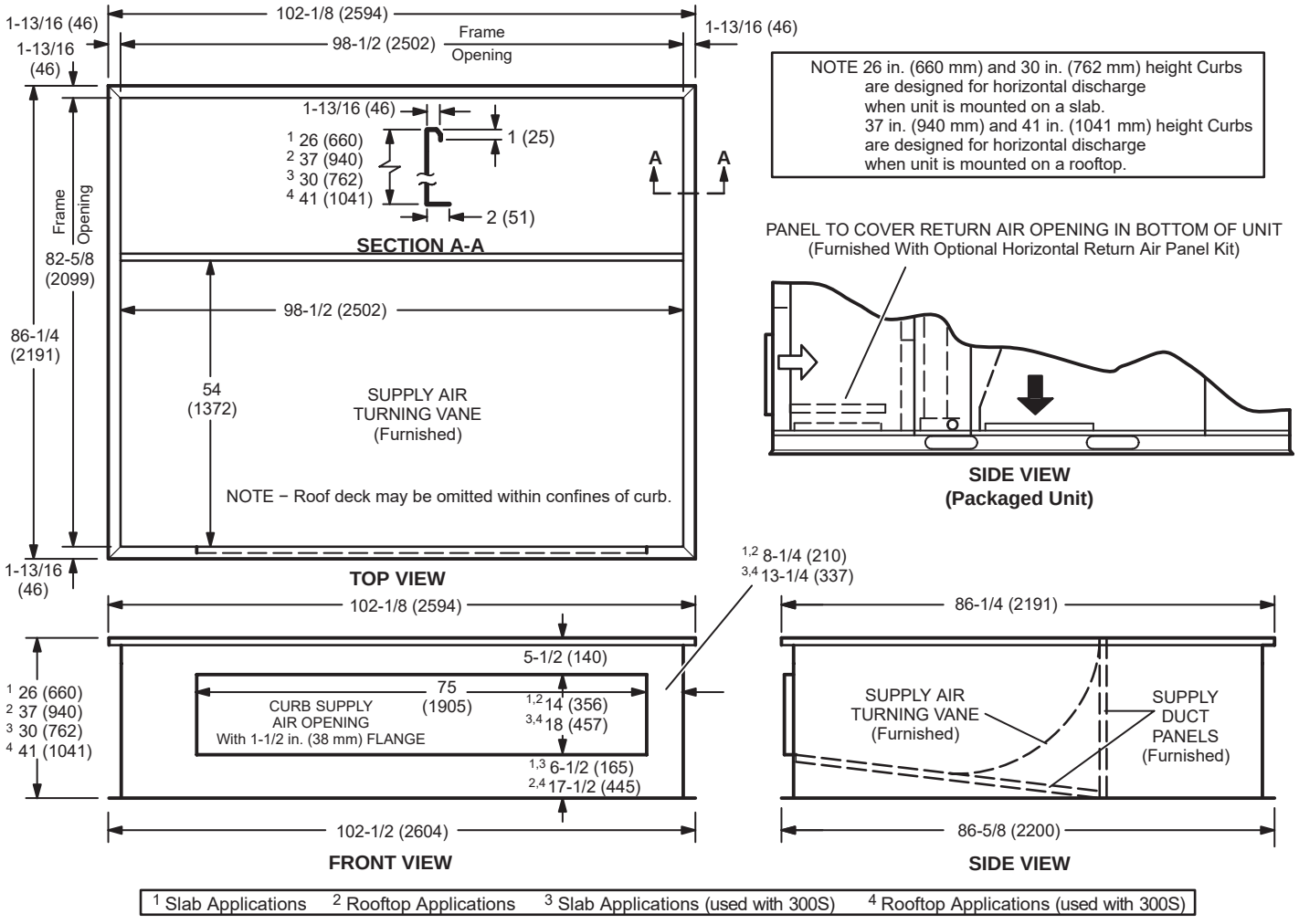


TOP VIEW

TRANSITION OPENING SIZES

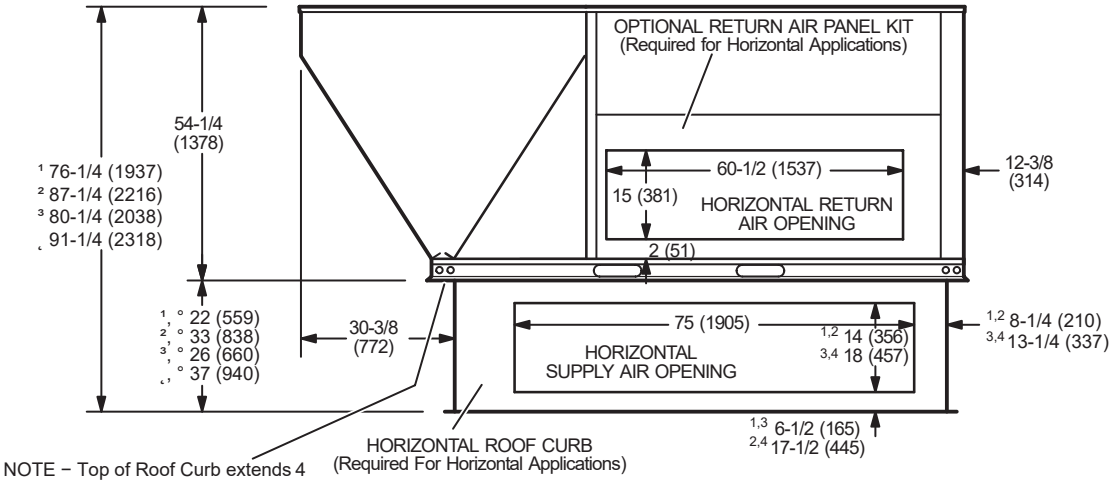
Model Number	A		B	
	inch	mm	inch	mm
C1DIFF33C-1	18	457	36	914
C1DIFF34C-1	24	610	48	1219

HORIZONTAL ROOF CURBS − Requires Optional Horizontal Return Air Panel Kit



[1] Slab Applications [2] Rooftop Applications [3] Slab Applications (used with 300S) [4] Rooftop Applications (used with 300S)

HORIZONTAL SUPPLY AND RETURN AIR OPENINGS WITH HORIZONTAL ROOF CURB

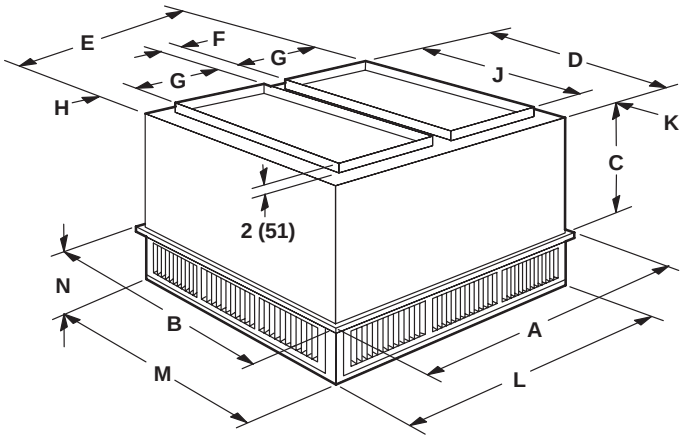


° NOTE − Top of Roof Curb extends 4 inch (102 mm) inside bottom of unit base. See Typical flashing detail.

[1] Slab Applications
[2] Rooftop Applications
[3] Slab Applications (used with 300S Models Only)
[4] Rooftop Applications (used with 300S Models Only)

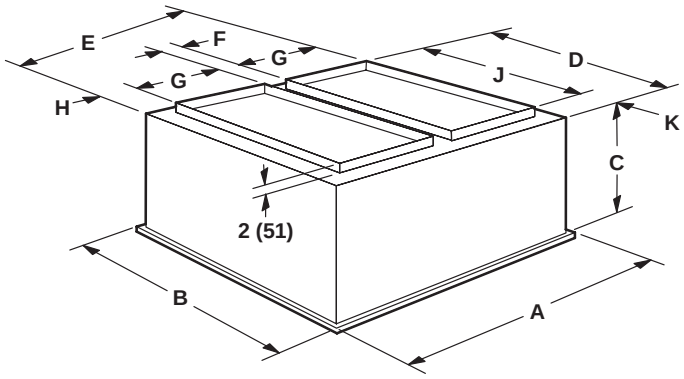
COMBINATION CEILING SUPPLY AND RETURN DIFFUSERS

STEP-DOWN CEILING DIFFUSER



Model Number		RTD11-185S	RTD11-275S
A	in.	47-5/8	59-5/8
	mm	1210	1514
B	in.	47-5/8	59-5/8
	mm	1210	1514
C	in.	24-5/8	30-5/8
	mm	625	778
D	in.	45-1/2	57-1/2
	mm	1156	1461
E	in.	45-1/2	57-1/2
	mm	1156	1461
F	in.	4-1/2	4-1/2
	mm	114	114
G	in.	18	24
	mm	457	610
H	in.	2-1/2	2-1/2
	mm	64	64
J	in.	36	48
	mm	914	1219
K	in.	4-3/4	4-3/4
	mm	121	121
L	in.	45-1/2	57-1/2
	mm	1156	1461
M	in.	45-1/2	57-1/2
	mm	1156	1461
N	in.	10-1/8	11-1/8
	mm	257	283
Duct Size	in.	18 x 36	24 x 48
	mm	457 x 914	610 x 1219

FLUSH CEILING DIFFUSER



Model Number		FD11-185S	FD11-275S
A	in.	47-5/8	59-5/8
	mm	1210	1514
B	in.	47-5/8	59-5/8
	mm	1210	1514
C	in.	29-1/4	35-1/4
	mm	743	895
D	in.	45	57
	mm	1143	1148
E	in.	45	57
	mm	1143	1448
F	in.	4-1/2	4-1/2
	mm	114	114
G	in.	18	24
	mm	457	610
H	in.	2-1/4	2-1/4
	mm	57	57
J	in.	36	48
	mm	914	1219
K	in.	4-1/2	4-1/2
	mm	114	114
Duct Size	in.	18 x 36	24 x 48
	mm	457 x 914	610 x 1219

REVISIONS

Sections	Description of Change
Options/Accessories	Added step-down transformers for UVC lights. **Catalog numbers revised for:** Blower Proving Switch Condensate Drain Trap Drain Pan Overflow Switch Fresh Air Tempering Single Enthalpy

Visit us at www.lennox.com
For the latest technical information, www.lennoxcommercial.com
Contact us at 1-800-4-LENNOX

NOTE - Due to Lennox' ongoing commitment to quality, Specifications, Ratings and Dimensions subject to change without notice and without incurring liability.
Improper installation, adjustment, alteration, service or maintenance can cause property damage or personal injury.
Installation and service must be performed by a qualified installer and servicing agency.

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ALLIED™ Commercial

LGH

E-Series™ Rooftop Units
60 Hz

Bulletin No. LCH-092-150 (02/2020)

COMMERCIAL
PRODUCT SPECIFICATIONS

ASHRAE 90.1 COMPLIANT

ENERGY STAR

7.5 to 12.5 Tons
Net Cooling Capacity – 90,000 to 138,000 Btuh
Gas Input Heat Capacity – 130,000 to 240,000 Btuh

MODEL NUMBER IDENTIFICATION

L G H 120 H 4 B S 1 Y

Brand/Family
L = E-Series™

Unit Type
G = Packaged Gas Heat w/ Electric Cooling

Major Design Sequence
H = 1st Generation

Nominal Cooling Capacity - Tons
092 = 7.5 Tons
102 = 8.5 Tons
120 = 10 Tons
150 = 12.5 Tons

Cooling Efficiency
H = High Efficiency

Refrigerant Type
4 = R-410A

Blower Type
B = Belt Drive, Constant Air Volume
M = Single Zone VAV Supply Fan Option

Heating Type
S = Standard Gas Heat, 2 Stage
M = Medium Gas Heat, 2 Stage
H = High Gas Heat, 2 Stage

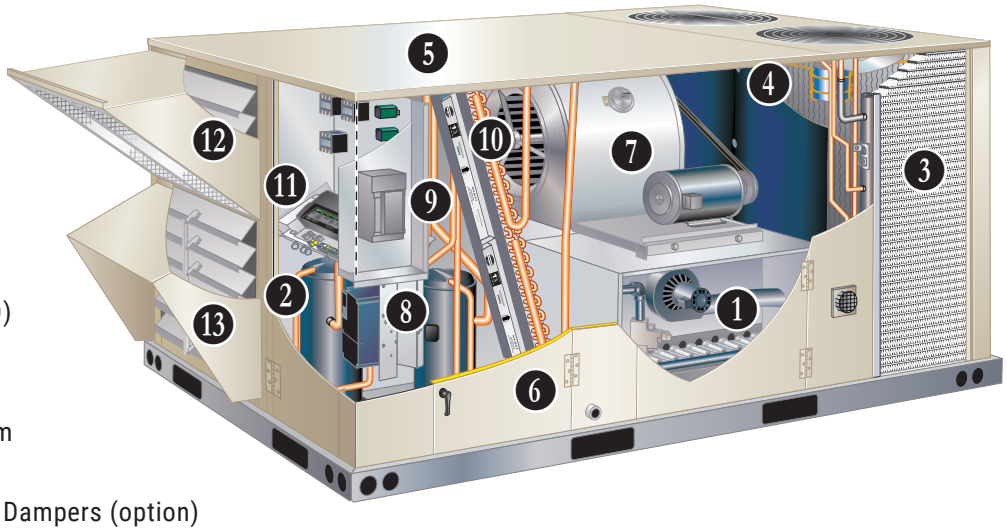
Minor Design Sequence
1 = 1st Revision
2 = 2nd Revision
3 = 3rd Revision

Voltage
Y = 208/230V-3 phase-60hz
G = 460V-3 phase-60hz
J = 575V-3 phase-60hz

FEATURE HIGHLIGHTS

E-Series™ packaged rooftop unit product line was created to save energy with intelligence by offering some of the highest energy efficiency ratings available with a powerful, easy to use unit controller. This makes E-Series™ rooftop units perfect for business owners looking for an HVAC product with the lowest total cost of ownership.

1. Heat Exchanger/Inshot Burners
2. Scroll Compressors
3. Eco-Last™ Coil System
4. Outdoor Coil Fan Motors
5. Heavy Gauge Steel Cabinet
6. Hinged Access Panels
7. Constant or Single Zone VAV Air Volume Blower
8. Variable Frequency Drive (VFD)
9. GFI Service Outlets (option)
10. Air Filters
11. Intelli-Guide™ Control System
12. Economizer (option)
13. Downflow Barometric Relief Dampers (option)



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APPROVALS AND WARRANTY

APPROVALS

- AHRI Standard 340/360 certified
- ETL and CSA listed
- CSA certified energy ratings
- Unit and components ETL, NEC and CEC bonded for grounding to meet safety standards for servicing
- All models are ASHRAE 90.1-2010 energy efficiency compliant and meet or exceed requirements of Section 6.8
- All models meet DOE 2018 energy efficiency standards
- Single Zone VAV models meet California Code of Regulations, Title 24 and ASHRAE 90.1-2010 Section 6.4.3.10 requirements for staged airflow
- ENERGY STAR® certified
- ISO 9001 Registered Manufacturing Quality System

WARRANTY

- Aluminized Heat Exchanger - Limited ten years
- Stainless Steel Heat Exchanger (optional) - Limited fifteen years
- Compressors - Limited five years
- Eco-Last™ Coil System - Limited three years
- Intelli-Guide™ Unit Controller - Limited three years
- High Performance Economizers (optional) - Limited five years
- All other covered components - Limited one year

FEATURES AND BENEFITS

HEATING SYSTEM

1 • Aluminized steel inshot burners
- Direct spark ignition
- Electronic flame sensor
- Combustion air inducer
- Redundant automatic dual stage gas valve with manual shut-off

Heat Exchanger
- Tubular construction, aluminized steel
- Life-cycle tested

NOTE - Optional Stainless Steel Heat Exchanger is required if mixed air temperature is below 45°F.

Electronic Pilot Ignition
- Electronic spark igniter provides positive direct ignition of burners on each operating cycle
- Permits main gas valve to stay open only when the burners are proven to be lit
- If loss of flame occurs, gas valve closes, shutting off the gas to the burners
- LED indicates status and aids in troubleshooting
- Watchguard circuit on module automatically resets ignition controls after one hour of continuous thermostat demand after unit lockout, eliminating nuisance service calls
- Factory installed in the gas heating compartment

Limit Controls
- Redundant limit controls with fixed temperature setting
- Protects heat exchanger and other components from overheating

Safety Switches
- Flame roll-out switch
- Flame sensor
- Combustion air inducer proving switch
- Protects system operation

Required Selections

Gas Input Choice - Order one:
- Standard Gas Heat, 2 Stage (84,500/130,000 Btuh)
- Medium Gas Heat, 2 Stage (117,000/180,000 Btuh)
- High Gas Heat, 2 Stage (156,000/240,000 Btuh)

Options/Accessories

Factory Installed

Stainless Steel Heat Exchanger
- Required if mixed air temperature is below 45°F

Factory or Field Installed

Bottom Gas Piping Kit
- Allows bottom gas entry
- Factory installed kit is furnished wth the unit for field installtion

Low Temperature Vestibule Heater
- Electric heater automatically controls minimum temperature in gas burner compartment when temperature is below -40°F
- CSA certified to allow operation of unit down to -60°F

HEATING SYSTEM (continued)

Options/Accessories

Field Installed

Combustion Air Intake Extensions
- Recommended for use with existing flue extension kits in areas where high snow areas can block intake air

LPG/Propane Kits
- Conversion kit to field change over units from Natural Gas to LPG/Propane

Vertical Vent Extension Kit
- Use to exhaust flue gases vertically above unit
- Required when unit vent is too close to fresh air intakes per building codes
- Also prevents ice formation on intake louvers
- Kit contains vent transition, vent tee, drain cap and installation hardware

NOTE - Straight vent pipes (4 in. B-Vent) and caps are not furnished and must be field supplied. Refer to kit instructions for additional information.

COOLING SYSTEM

- Designed to maximize sensible and latent cooling performance at design conditions
- System can operate from 0°F to 125°F without any additional controls

R-410A Refrigerant
- Non-chlorine based
- Ozone-friendly

2 Scroll Compressors
- Scroll compressors on all models for high performance, reliability and quiet operation
- Resiliently mounted on rubber grommets for quiet operation

Compressor Crankcase Heaters
- Protects against refrigerant migration that can occur during low ambient operation

Thermal Expansion Valves
- Assures optimal performance throughout the application range
- Removable element head

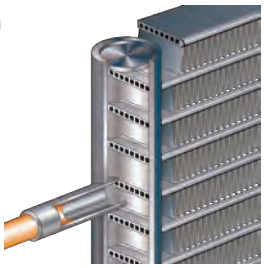
Filter/Driers
- High capacity filter/drier protects the system from dirt and moisture

High Pressure Switches
- Protects the system from high pressure conditions

Low Pressure Switches
- Protects the compressors from low pressure conditions such as low refrigerant charge, or low/no airflow

Freezestats
- Protects the evaporator coil from damaging ice build-up due to conditions such as low/no airflow, or low refrigerant charge

3 Condenser Coil - Eco-Last™ Coil System (092 through 120 models only)



Lightweight, all aluminum brazed fin construction
- Constructed of three components
  - A flat extrusion tube
  - Fins in-between the flat extrusion tube
  - Two refrigerant manifolds

Eco-Last™ Coil System Features:
- Improved heat transfer performance due to high primary surface area (flat tubes) versus secondary surface (fins)
- Smaller internal volume (reduced refrigerant charge)
- High durability
- All aluminum construction
- Fewer brazed joints
- Compact design
- Reduced unit weight
- Easy maintenance/cleaning
- Face split design
- Mounting brackets with rubber inserts
- Angled cabinet design protects coil from damage

Conventional Fin/Tube Condenser Coils (150 models only, optional 092-120 models)
- Copper tube construction
- Enhanced rippled-edge aluminum fins
- Flared shoulder tubing connections
- Silver soldered construction

Evaporator Coil
- Copper tube construction
- Ehanced rippled-edge aluminum fins
- Flared shoulder tubing connections
- Silver soldered construction
- Factory leak tested
- Cross row circuiting with rifled tubing

NOTE - Constant air volume (CAV) and Single Zone VAV models have face-split evaporator coils designed to keep condensate water off of an inactive part of the coil so the condensate will not re-enter the air stream.
Variable air volume (VAV) models have row-split, intertwined evaporator coils.

Condensate Drain Pan
- Plastic pan, sloped to meet drainage requirements per ASHRAE 62.1
- Side or bottom drain connections

FEATURES AND BENEFITS

COOLING SYSTEM (continued)

4 Outdoor Coil Fan Motors
- Thermal overload protected
- Totally enclosed
- Permanently lubricated ball bearings
- Shaft up
- Wire basket mount

Outdoor Coil Fans
- PVC coated fan guard furnished

Required Selections

Cooling Capacity
- Specify nominal cooling capacity

Options/Accessories

Factory Installed

Conventional Fin/Tube Condenser Coil (replaces Eco-Last™ Coil System - 092 through 120 models only)
- Copper tube construction
- Enhanced rippled-edge aluminum fins
- Flared shoulder tubing connections
- Silver soldered construction

NOTE - All 150 models have a fin/tube coil as standard.

Service Valves
- Fully serviceable brass valves installed in discharge & liquid lines

NOTE - Not available for units equipped with Eco-Last™ Coil System or Dehumidification option.

Factory or Field Installed

Condensate Drain Trap
- Available in copper or PVC
- Field installed only, may be factory ordered to ship with unit

Drain Pan Overflow Switch
- Monitors condensate level in drain pan
- Shuts down unit if drain becomes clogged

CABINET

5 Construction
- Heavy-gauge steel panels
- Full perimeter heavy-gauge galvanized steel base rail
- Base rails have rigging holes
- Three sides of the base rail have forklift slots
- Raised edges around duct and power entry openings in the bottom of the unit for water protection

Airflow Choice
- Units are shipped in downflow (vertical) return air flow configuration

NOTE - Units can be field converted to horizontal airflow with optional Horizontal Discharge Kit.

Duct Flanges
- Provided for horizontal duct attachment

Power/Gas Entry
- Electrical and gas lines can be brought through the unit base or through horizontal access knock-outs

Exterior Panels
- Constructed of heavy-gauge, galvanized steel
- Two-layer enamel paint finish

Insulation
- Fully insulated with non-hygroscopic fiberglass insulation (conditioned areas)
- Unit base is fully insulated
- Base insulation serves as an air seal to the roof curb, eliminating the need to add a seal during installation

6 Hinged Access Panels
- Tool-less access
- Filter section
- Blower/heating section
- Compressor/controls section
- Panel seals and quarter-turn latching handles provide a tight air and water seal

Required Selections

Airflow Configuration
- Specify downflow or horizontal

Options/Accessories

Factory or Field Installed

Return Air Adaptor Plate
- For same size LC/LG/LH and TC/TG/TH unit replacement
- Installs on return air opening in unit to match return air opening on existing roof curbs
- Also see Accessory Air Resistance table

Factory Installed

Corrosion Protection
- Completely flexible immersed coating
- Electrodeposited dry film process
- AST ElectroFin E-Coat
- Meets Mil Spec MIL-P-53084, ASTM B117 Standard Method Salt Spray Testing
- Indoor Corrosion Protection:
  - Coated coil
  - Coated reheat coil (Dehumidification)
  - Painted blower housing
  - Painted base
- Outdoor Corrosion Protection:
  - Coated coil
  - Painted outdoor base

CABINET (contined)

Options/Accessories

Field Installed

Combination Coil/Hail Guards
- Heavy gauge steel frame
- Painted to match cabinet
- Expanded metal mesh protects outdoor coil

Horizontal Discharge Kit
- Consists of duct covers to block off downflow supply and return air openings for horizontal applications
- Also includes return air duct flanges for end return air when economizer is used in horizontal applications

NOTE - When configuring unit for horizontal application with economizer, a separate Horizontal Barometric Relief Damper with Hood must be ordered separately for installation in the return air duct.

BLOWER

A wide selection of supply air blower options are available to meet a variety of airflow requirements

Motor
- Overload protected, equipped with ball bearings
- Belt drive motors are offered on all models and are available in several different sizes to maximize air performance

NOTE - All blower motors 5 hp and above meet minimum energy efficiency standards in accordance with the Energy Independence and Security Act (EISA) of 2007.

Supply Air Blower
- Forward curved blades
- Double inlet
- Blower wheel statically and dynamically balanced
- Ball bearings
- Adjustable pulley (allows speed change)
- Blower assembly slides out of unit for servicing

Required Selections

7 Select Constant Air Volume (CAV) or Single Zone VAV Supply Air Blower Option
- Constant Air Volume (CAV) models supply a constant volume of air
- Single Zone VAV models stage the amount of airflow according to compressor stages, heating demand, ventilation demand or smoke alarm

NOTE - Units with the Single Zone VAV supply air blower option have the same face split indoor coils as units with the CAV supply air blower option. Part load airflow in cooling mode on Single Zone VAV units should not be set below 220 cfm/nominal full load ton to reduce the risk of evaporator coil freeze-up.

8
- Utilizes a Variable Frequency Drive (VFD) to stage the supply blower airflow
- VFD alters the frequency and voltage of the power supply to the blower to control blower speed
- The amount of airflow for each stage can be set according to a parameter in the Intelli-Guide™ unit controller
- Unit is shipped from the factory with preset airflow
- Single Zone VAV can be ordered with or without an Electronic Bypass Control
- If equipped with the bypass control the Single Zone VAV features manual (default) or automatic electronic bypass control of the VFD
- In case of a VFD malfunction, a VFD alarm is generated by the Intelli-Guide™ unit controller
- VFD can be manually bypassed to continue unit operation at full blower speed
- Or the unit controller can be set to automatically switch to full blower speed if a VFD alarm is generated
- VFD has an operational range of 0 to 125°F outdoor air ambient temperature
- Lower operating costs are obtained when the blower is operated on lower speeds

Ordering Information
- Specify motor horsepower and drive kit number when base unit is ordered

Options/Accessories

Factory Installed

Blower Belt Auto-Tensioner
- Provides proper tension to belt drive blower belt without the need for regular adjustments
- Maintains airflow and proper performance

FEATURES AND BENEFITS

ELECTRICAL

WireRight™ System
- Keyed and color-coded wiring connectors prevent miswiring
- Wire coloring scheme is standardized across all models
- Each connection is intuitively labeled to make troubleshooting and servicing quick and easy

Electrical Plugs
- Positive connection electrical plugs are used to connect common accessories or maintenance parts for easy removal or installation

Required Selections

Voltage Choice
- Specify when ordering base unit

Options/Accessories

Factory Installed

Circuit Breakers
- HACR type
- For overload and short circuit protection
- Factory wired and mounted in the power entry panel
- Current sensitive and temperature activated
- Manual reset

Phase/Voltage Detection (Optional for CAV Models Only)
- Monitors power supply to assure phase is correct at unit start-up
- If phase is incorrect, the unit will not start and an alarm code is reported to the unit controller
- Protects unit from being started with incorrect phasing which could lead to issues such as compressors running backwards
- Voltage detection monitors power supply voltage to assure proper voltage
- If voltage is not correct (over/under voltage conditions) the unit will not start and an alarm code is reported to the unit controller

NOTE - Phase/voltage detection is furnished when the Single Zone VAV option is ordered.

Short-Circuit Current Rating (SCCR)
- Higher short circuit protection up to 100kA

Factory or Field Installed

Disconnect Switch
- Accessible outside of unit
- Spring loaded weatherproof cover furnished

9 GFI Service Outlets (2)
- 115V ground fault circuit interrupter (GFCI) type
- Non-powered, field-wired

Field Installed

GFI Weatherproof Cover
- Single-gang cover
- Heavy-duty UV-resistant polycarbonate case construction
- Hinged base cover with gasket

INDOOR AIR QUALITY

10 Air Filters
- Disposable 2-inch filters furnished as standard

Options/Accessories

Factory or Field Installed

High Efficiency Air Filters
- Disposable MERV 8 or MERV 13 (Minimum Efficiency Reporting Value based on ASHRAE 52.2) efficiency 2 inch pleated filters

Replacement Filter Media Kit With Frame
- Replaces existing pleated filter media
- Includes washable metal mesh screen and metal frame with clip for holding replaceable non-pleated filter

Field Installed

UVC Germicidal Light Kit

- Germicidal lamps emit ultra-violet (UV-C) energy, which has been proven to be effective in reducing microbes such as viruses, bacteria, yeasts, and molds
- This process either destroys the organism or controls its ability to reproduce
- UV-C energy greatly reduces the growth and proliferation of mold and other bioaerosols (bacteria and viruses) on illuminated surfaces (particularly coil and drain pan)
- Field installed in the blower/evaporator coil section
- All necessary hardware for installation is included.
- Lamps operate on 110/230V, 1 phase power supply

NOTE - Step-down transformer must be field supplied when used with 460V and 575V rooftop units. Step-down transformer is furnished with lamps when factory installed.
- Approved by ETL

Indoor Air Quality (CO_2) Sensors
- Monitors CO_2 levels, reports to the Intelli-Guide™ unit controller which adjusts economizer dampers as needed

CONTROL SYSTEM

INTELLI-GUIDE™ CONTROL SYSTEM

11 The Intelli-Guide™ unit controller is a microprocessor-based controller that provides flexible control of all unit functions.

Features:

- LCD Display
- Easy to read menu (4 lines x 20 character display)
- Buttons for menu navigation during setup and diagnostic
- Menu navigation LEDs for Data, Setup, Service, Settings
- Main Menu and Help Buttons for quick navigation to home screen and built-in help functions
- Scroll, Value Adjustment Select and Save Buttons
- Setup menu insures proper installation and simplified setup of the rooftop unit
- Profile setup copies key settings between units with the same configuration to reduce setup time
- USB port allows a technician to download and transfer unit information to help verify service was performed
- USB software updates on the Prodigy Control System enhance functionality without the need to change components
- Unit Controller Software
- Unit self-test verifies individual critical component and system performance
- Economizer test function assures economizer is operating correctly
- Time Clock with Run-Time Information

Built-In Functions Include:

- Adjustable Blower On/Off Delay
- Built-in Control Parameter Defaults
- Compressor Time-Off Delay
- DDC Compatible
- Dirty Filter Switch Input
- Discharge Air Temperature Control
- Display/Sensor Readout
- Economizer Control Options (See Economizer / Exhaust Air / Outdoor Air sections)
- Fresh Air Tempering
- Over 100 diagnostic and status messages in English
- Exhaust Fan Control Modes for fresh air damper position
- Permanent Diagnostic Code Storage
- Field Adjustable Control Parameters (Over 200 settings)
- Indoor Air Quality Input (Demand Control Ventilation)
- Low Ambient Controls for cooling operation down to 0°F
- Gas Valve Time Delay Between First and Second Stage
- Minimum Compressor Run Time
- Network Capable (Can be daisy chained to other units or controls)
- Night Setback Mode
- Return Air Temperature Limit Control
- Safety Switch Input allows Controller to respond to a external safety switch trip
- Service Relay Output
- Smoke Alarm Mode has four choices (unit off, positive pressure, negative pressure, purge)
- Up to 2 heat/2 cool (standard Prodigy unit controller thermostat input)
- Up to 3 cool with additional relay
- Up to 4 cool with room sensor or network operation
- “Strike Three” Protection
- Gas Reheat Control allows simultaneous heating and cooling operation for humidity control of process air applications such as supermarkets
- On Demand Dehumidification monitors and controls condenser hot gas reheat operation with dehumidification option
- Thermostat Bounce Delay
- Warm Up Mode Delay
- LED Indicators
- PC Interface connects the Intelli-Guide™ unit controller to a PC with the Unit Controller Software
- Room Sensor Operation controls temperature

NOTE - Intelli-Guide Control System features vary with the type of rooftop unit in which the control is installed.

CONTROL SYSTEM

INTELLI-GUIDE™ CONTROL SYSTEM (continued)

Controls Options

Factory or Field Installed

Blower Proving Switch
- Monitors blower operation, shuts down unit if blower fails

Dirty Filter Switch
- Senses static pressure increase indicating dirty filter condition

Fresh Air Tempering
- Used in applications with high outside air requirements
- Controller energizes the first stage heat as needed to maintain a minimum supply air temperature for comfort, regardless of the thermostat demand
- When ordered as a factory option, sensor ships with the unit for field installation

Smoke Detector
- Photoelectric type
- Installed in supply air section, return air section or both sections
- Available with power board and single sensor (supply or return) or power board and two sensors (supply and return)
- Power board located in unit control compartment

Interoperability via BACnet® or LonTalk® Protocols
- Communication compatible with third-party automation systems that support the BACnet Application Specific Controller device profile, LonMark® Space Comfort Controller functional profile, or LonMark Discharge Air Controller functional profile

Commercial Control Systems

After-Market DDC
- Novar® Unit Controller and options

Thermostats
- Control system and thermostat options
- After-Market unit controller options

Field Installed

General Purpose Control Kit
- Plug-in control provides additional analog and digital inputs/outputs for field installed options

Humidity Sensor Kit
- Humidity sensor required with factory installed dehumidification option or Supermarket reheat field selectable option

ECONOMIZER

- Economizer operation is set and controlled by the Intelli-Guide™ unit controller
- Simple plug-in connections from economizer to unit controller for easy installation
- All rooftop units are equipped with factory installed CEC Title 24 approved sensors for outside, return and discharge air temperature monitoring

OPTIONS / ACCESSORIES

NOTE - Optional sensors may be used instead of unit sensors to determine whether outdoor air is suitable for free cooling See Options/Accessories table

Factory or Field Installed

12 High Performance Economizer
- Approved for California Title 24 building standards
- Low leakage dampers are Air Movement and Control Association International (AMCA) Class 1A Certified - Maximum 3 CFM per sq. ft. leakage at 1 in. w.g.
- ASHRAE 90.1-2010 compliant
- Downflow or Horizontal with Outdoor Air Hood
- Outdoor Air Hood is included when economizer is factory installed and is furnished with economizer when ordered for field installation

13
- Downflow Barometric Relief Dampers with Exhaust Hood is also furnished
- Gear-driven action
- High torque 24-volt fully-modulating spring return damper motor
- Return air and outdoor air dampers
- Plug-in connections to unit
- Stainless steel bearings
- Enhanced neoprene blade edge seals
- Flexible stainless steel jamb seals

NOTE - High Performance Economizers are not approved for use with enthalpy controls in Title 24 applications.

NOTE - The Free Cooling setpoint for Title 24 applications must be set based on the Climate Zone where the system is installed. See Section 140.4 "Prescriptive Requirements for Space Conditioning Systems" of the California Energy Commission's 2013 Building Energy Efficiency Standards.

NOTE - Refer to Installation Instructions for complete setup information.

ECONOMIZER (continued)

Differential Sensible Control
- Factory setting
- Uses outdoor air and return air sensors that are furnished with the unit
- The Intelli-Guide™ unit controller compares outdoor air temperature with return air
- When the outdoor air is below the configured setpoint and cooler than return air, the controller activates the economizer

NOTE - Differential Sensible Control can be configured in the field to provide Offset Differential Sensible Control or Single Sensible Control.

NOTE - In Offset Differential Sensible Control mode, the economizer is enabled if the temperature differential (offset) between outdoor air and return air reaches the configured setpoint.
In Single Sensible Control mode, the economizer is enabled when outdoor air temperature falls below the configured setpoint.

Global Control
- The unit controller communicates with a DDC system with one global sensor (enthalpy or sensible)
- Determines whether outside air is suitable for free cooling on all units connected to the control system
- Sensor must be field provided

Factory or Field Installed

Single Enthalpy Temperature Control (Not for Title 24)
- Outdoor air enthalpy sensor enables Economizer if the outdoor enthalpy is less than the setpoint of the control

Differential Enthalpy Control (Not for Title 24)
- Order two Single Enthalpy Controls
- One is field installed in the return air section
- One is installed in the outdoor air section
- Allows the economizer control to select between outdoor air or return air, whichever has lower enthalpy

Field Installed

Outdoor Air CFM Control
- Maintains constant outdoor air volume levels on the supply air fan and varying unit airflows
- Velocity sensor located in the rooftop unit outdoor air section, the Intelli-Guide™ unit controller changes the economizer position to help minimize the effect of supply fan speed changes on outdoor air volume levels
- Setpoint for outdoor air volume is established by field testing

NOTE - Not available with Demand Control Ventilation (CO_2 Sensor) or Building Pressure Control.

Building Pressure Control
- Maintains constant building pressure level
- Includes a static pressure transducer and outdoor static pressure assembly
- Using differential pressure information between the outdoor air and the building air, the Intelli-Guide™ unit controller changes the economizer position to help maintain a constant building pressure

NOTE - Not available with Demand Control Ventilation (CO_2 Sensor) or Outdoor Air CFM Control.

EXHAUST

Factory or Field Installed

Power Exhaust Fan
- Installs internal to unit for downflow applications only with economizer option
- Provides exhaust air pressure relief
- Interlocked to run when supply air blower is operating,
- Fan runs when outdoor air dampers are 50% open (adjustable)
- Motor is overload protected
- Fan is 20 in. diameter
- Five blades
- One 1/3 hp motor

NOTE - Requires Economizer and Downflow Barometric Relief Dampers

Field Installed

Horizontal Low Profile Barometric Relief Dampers
- For use when unit is configured for horizontal applications requiring an economizer
- Allows relief of excess air
- Aluminum blade dampers prevent blow back and outdoor air infiltration during off cycle
- Field installed in return air duct
- Bird screen and hood furnished

NOTE - Requires Horizontal Discharge Kit

OPTIONS / ACCESSORIES

OUTDOOR AIR

Factory or Field Installed

Outdoor Air Damper
- Downflow or Horizontal
- Linked mechanical dampers
- 0 to 25% (fixed) outdoor air adjustable
- Installs in unit
- Includes outdoor air hood
- Automatic model features fully modulating spring return damper motor with plug-in connection
- Manual model features parallel blade, gear-driven dampers with adjustable fixed position

ROOF CURBS

Field Installed
- Nailer strip furnished (downflow only)
- Mates to unit
- US National Roofing Contractors Approved
- Shipped knocked down

Hybrid Roof Curbs, Downflow
- Interlocking tabs fasten corners together
- No tools required
- Can also be fastened together with furnished hardware
- Available in 8, 14, 18, and 24 inch heights

Adjustable Pitch Curb
- Fully adjustable pitch curbs (3/4 in. per foot in any direction) provide a level platform for rooftop units allowing flexible installations on roofs with uneven or sloped angles
- Uses interlocking tabs to fasten corners together. No tools required
- Hardware is furnished to connect upper curb with lower curb
- Available in 14 inch height

Adaptor Curbs (not shown)
- Curbs are regionally sourced
- Dimensions vary based upon the source

NOTE - Contact your local sales representative for a detailed cut sheet with applicable dimensions.

CEILING DIFFUSERS

Field Installed

Ceiling Diffusers
(Flush or Step-Down)
- White powder coat finish on diffuser face and grilles
- Insulated UL listed duct liner
- Diffuser box has collars for duct connection
- Step-down diffusers have double deflection blades
- Flush diffusers have fixed blades
- Provisions for suspending
- Internally sealed to prevent recirculation
- Removable return air grille
- Adapts to T-bar ceiling grids or plaster ceilings

Transitions (Supply and Return)
- Used with diffusers
- Installs in roof curb
- Galvanized steel construction
- Flanges furnished for duct connection to diffusers
- Fully insulated

DEHUMIDIFICATION SYSTEM OPTION

OVERVIEW

NOTE - Not available with Eco-Last™ Coil System. Conventional Fin/Tube condenser coil must be ordered as a factory option.

- Factory installed option designed to control humidity
- Provides dehumidification on demand using ASHRAE 90.1 recommended method for comfort conditioning humidity control
- Unit comes equipped with one row reheat coil, solenoid valve and humidity controller
- A thermostat with a dehumidification output, a dehumidistat, or a DDC controller with an isolated output is required to control humidity and must be located in the occupied space

BENEFITS

- Improves indoor air quality
- Helps prevents damage due to high humidity levels
- Improves comfort levels by reducing space humidity levels

OPERATION

No Dehumidification Demand

- The unit will operate conventionally whenever there is a demand for cooling or heating and no dehumidification demand
- Free cooling is only permitted when there is no demand for dehumidification

Dehumidification Demand Only

- Dehumidification is initiated by an output from a thermostat with a dehumidification output, a dehumidistat, or a DDC controller with an isolated output to control humidity

NOTE - Controls are not furnished and must be ordered separately.

- Reheat operation will initiate on a dehumidification demand and does not require a cooling demand
- The unit will operate in the dehumidification mode until the relative humidity of the conditioned space is below the setpoint
- This reduces sensible cooling capacity and extends compressor run time to control humidity when the cooling load is low
- A solenoid valve diverts hot gas from the compressor to the reheat coil
- The cooled and dehumidified air from the evaporator is reheated as it passes through the reheat coil
- The de-superheated and partially condensed refrigerant continues to the outdoor condenser coil where condensing is completed
- Unit will continue to operate in this mode until the dehumidification demand is satisfied

NOTE - See Sequence of Operation for additional information.

Dehumidification and Cooling Demand (Thermostat/ Room Sensor Application)

- If both a dehumidification and a full cooling load demand occur, the system will operate in cooling until the cooling demand is satisfied
- Then the system will energize the dehumidification mode

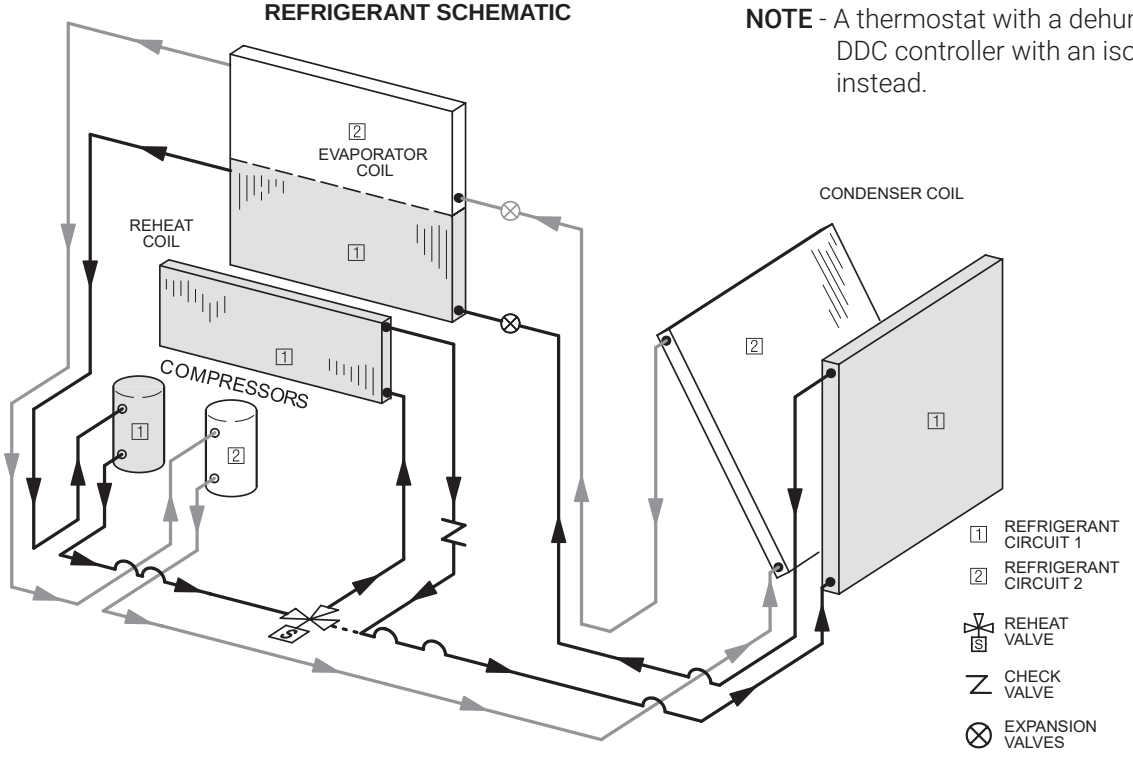
Options / Accessories

Humidity Sensor Kit

- Remote mounted dehumidistat for factory installed Dehumidification option
- Adjustable 20-80%

NOTE - A thermostat with a dehumidification output or a DDC controller with an isolated output can be use instead.

REFRIGERANT SCHEMATIC



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Objective**: Outline the unit functions as a result of room thermostat or zone sensor demands.**

Given**: When economizer is present, it will function as an integral part of the unit cooling system. When not present, unit will function as if economizer is present but outdoor ambient is high and sensed as not suitable.**

UNIT OPERATION WITH 2-STAGE THERMOSTAT (2 COOL AND 2 HEAT STAGES, Y1, Y2, W1, W2)

SUPPLY AIR BLOWER SPEED

Unit has following supply air blower speed setting:

- Ventilation speed
- Cooling Speed - Low
- Cooling Speed - High
- Heating speed
- Smoke speed (Used only in smoke removal option - not discussed)

[1] **UNIT FEATURES AN ECONOMIZER AND OUTDOOR AIR IS SUITABLE**

Cooling - Thermostat Mode (Y1, Y2)

Y1 Demand:

All compressors are off, supply air blower is on low cooling speed to minimize blower power consumption, economizer modulates (minimum to maximum open position) to maintain 55°F supply air temperature (default unit controller setting).

Y2 Demand:

All compressors are off, supply air blower is on high cooling speed providing higher cooling capacity, and economizer modulates to maintain 55°F supply air temperature.

If economizer stays at maximum open for 3 minutes, compressor 1 is energized while supply air blower stays on high cooling speed providing maximum cooling capacity.

[1] Outdoor air suitability is determined by the energy state of outdoor ambient (enthalpy or sensible) and its ability to achieve the desired free cooling effects. Outdoor air suitability can also be determined by a third party controller and provided to the rooftop unit via a network connection.

UNIT DOES NOT FEATURE AN ECONOMIZER OR OUTDOOR AIR IS NOT SUITABLE

Y1 Demand:

Compressor 1 operates and supply air blower operates at low cooling speed.

Y2 Demand:

All compressors operate and supply air blower operates at high cooling speed.

Dehumidification Mode

If a unit with Dehumidification Option receives a call for dehumidification, economizer free cooling is locked out.

Call For Dehumidification, No Y1, Y2 demand:

1st stage compressor operates, supply air blower operates at high cooling speed, and the reheat valve is energized.

Y1 Demand With A Call For Dehumidification:

All compressors operate, supply air blower operates at high cooling speed and the reheat valve is energized.

Y2 Demand With A Call For Dehumidification:

All compressors operate, supply air blower operates at high cooling speed, and the reheat valve is de-energized.

UNIT OPERATION WITH 3-STAGE THERMOSTAT OR ZONE SENSOR (3 COOL AND 2 HEAT STAGES, Y1, Y2, Y3 AND W1, W2)

SUPPLY AIR BLOWER SPEED

Unit has following supply air blower speed setting:

- Ventilation speed
- Cooling Speed - Low
- Cooling Speed - High
- Heating speed
- Smoke speed (Used only in smoke removal option - not discussed)

[1] Unit Features An Economizer And Outdoor Air Is Suitable

Cooling - Thermostat or Zone Sensor Mode (Y1, Y2, Y3)

Y1 Demand:

All compressors are off, supply air blower is on low cooling speed to minimize blower power consumption, economizer modulates (minimum to maximum open position) to maintain 55°F supply air temperature (default unit controller setting).

Y2 Demand:

All compressors are off, supply air blower is on high cooling speed providing higher cooling capacity, and economizer modulates to maintain 55°F supply air temperature.

If economizer stays at maximum open for 3 minutes, compressor 1 is energized while supply air blower stays on high cooling speed providing maximum cooling capacity. After compressors are energized the economizer stays at maximum open.

Y3 Demand:

Compressors 1 and 2 are energized while supply air blower stays on high cooling speed.

[1] Outdoor air suitability is determined by the energy state of outdoor ambient (enthalpy or sensible) and its ability to achieve the desired free cooling effects. Outdoor air suitability can also be determined by a third party controller and provided to the rooftop unit via a network connection.

Unit Does Not Feature An Economizer or Outdoor Air Is Not Suitable

Y1 Demand:

Compressor 1 operates and supply air blower operates at low cooling speed.

Y2 or Y3 Demand:

All compressors operate and supply air blower operates at high cooling speed.

Dehumidification Mode

If a unit with Dehumidification Option receives a call for dehumidification, economizer free cooling is locked out.

Call For Dehumidification, No Y1, Y2 demand:

1st stage compressor operates, supply air blower operates at high cooling speed, and the reheat valve is energized.

Y1 Demand With A Call For Dehumidification:

All compressors operate, supply air blower operates at high cooling speed and the reheat valve is energized.

Y2 Or Y3 Demand With A Call For Dehumidification:

All compressors operate, supply air blower operates at high cooling speed, and the reheat valve is de-energized.

HEATING MODE (GAS HEAT)

NOTE - HEATING MODE IS THE SAME FOR ALL CONTROL OPTIONS

W1 Demand:

Gas valves are open (stage 1 on units with 2-stage gas valves) and supply air blower operates at heating speed.

W2 Demand:

Gas valves are open (stage 2 on units with 2-stage gas valves) and supply air blower operates at heating speed.

MODULATING OUTDOOR AIR DAMPER

The minimum damper position for “occupied low blower” and “occupied high blower” is adjusted during unit setup to provide minimum fresh air requirements per ASHRAE 62.1 at the corresponding supply air blower speeds.

When supply air blower is off or the unit is in unoccupied mode, the outdoor air damper is closed.

When unit is in occupied mode and supply air blower is operating at a speed below the “midpoint” blower speed, the outdoor air damper is at minimum “low blower” position.

When unit is in occupied mode and supply air blower is operating at a speed equal to or above the “midpoint” blower speed, the outdoor air damper is at minimum “high blower” position.

NOTE - The “midpoint” blower speed is an average of the minimum and maximum blower speed (minimum speed + maximum speed divided by 2).

POWER EXHAUST

NOTE - POWER EXHAUST OPERATION IS THE SAME FOR ALL CONTROL OPTIONS

Power exhaust blower operates when economizer outdoor air dampers are 50% open (adjustable) and when supply air blower speed is above 70% (adjustable) of full speed.

OPTIONS / ACCESSORIES

Item Description	Model Number	Catalog Number	Unit Model No 092	102	120	150
COOLING SYSTEM						
Condensate Drain Trap	PVC - C1TRAP20AD2	**76W26**	OX	OX	OX	OX
	Copper - C1TRAP10AD2	**76W27**	OX	OX	OX	OX
Conventional Fin/Tube Condenser Coil (replaces Eco-Last™ Coil System)		Factory	O	O	O	
Corrosion Protection		Factory	O	O	O	O
Drain Pan Overflow Switch	E1SNSR71AD1	**68W88**	OX	OX	OX	OX
Refrigerant Type		R-410A	O	O	O	O
Service Valves (not for Eco-Last™ Coil System or Dehumidification equipped units)		Factory	O	O	O	O
HEATING SYSTEM						
Bottom Gas Piping Kit	C1GPKT01B-01	**54W95**	OX	OX	OX	OX
Combustion Air Intake Extensions	T1EXTN10AN1	**19W51**	X	X	X	X
Gas Heat Input	130,000 Btuh	Factory	O	O	O	O
	180,000 Btuh	Factory	O	O	O	O
	240,000 Btuh	Factory	O	O	O	O
Low Temperature Vestibule Heater	208/230V-3ph - C1LTVH10B-2Y	**13X63**	OX	OX	OX	OX
	460V - C1LTVH10B-2G	**13X64**	OX	OX	OX	OX
	575V - C1LTVH10B-2J	**13X65**	OX	OX	OX	OX
LPG/Propane Conversion Kits	Standard Heat - C1PROP23BS1	**14N22**	X	X	X	X
	Medium Heat - C1PROP22BS1	**14N23**	X	X	X	X
	High Heat - C1PROP21BS1	**14N25**	X	X	X	X
Stainless Steel Heat Exchanger		Factory	O	O	O	O
Vertical Vent Extension Kit	C1EXTN2021	**42W16**	X	X	X	X
BLOWER - SUPPLY AIR						
Blower Option	CAV (Constant Air Volume)	Factory	O	O	O	O
	Single Zone VAV supply air blower option (With VFD Bypass Control)	Factory	O	O	O	O
	Single Zone VAV supply air blower option (Without VFD Bypass Control)	Factory	O	O	O	O
Motors - Constant Air Volume (CAV)	Belt Drive (standard efficiency) - 2 hp	Factory	O	O	O	O
	Belt Drive (standard or high efficiency) - 3 hp	Factory	O	O	O	O
	Belt Drive (standard efficiency) - 5 hp	Factory	O	O	O	O
Motors - Single Zone VAV	Belt Drive (standard efficiency) - 2 hp	Factory	O	O	O	O
	Belt Drive (standard efficiency) - 3 hp	Factory	O	O	O	O
	Belt Drive (standard efficiency) - 5 hp	Factory	O	O	O	O
Drive Kits	Kit #1 590-890 rpm	Factory	O	O	O	O
See Blower Data Tables for selection	Kit #2 800-1105 rpm	Factory	O	O	O	O
	Kit #3 795-1195 rpm	Factory	O	O	O	O
	Kit #4 730-970 rpm	Factory	O	O	O	O
	Kit #5 940-1200 rpm	Factory	O	O	O	O
	Kit #6 1015-1300 rpm	Factory	O	O	O	O
	Kit #7 730-970 rpm	Factory	O	O	O	O
	Kit #8 940-1200 rpm	Factory	O	O	O	O
	Kit #9 1015-1300 rpm	Factory	O	O	O	O
	Kit #10 900-1135 rpm	Factory	O	O	O	O
	Kit #11 1040-1315 rpm	Factory	O	O	O	O
	Kit #12 1125-1425 rpm	Factory	O	O	O	O
	Blower Belt Auto-Tensioner	Factory	O	O	O	O
CABINET						
Combination Coil/ Hail Guards	Furnished Eco-Last™ Coil System - C1GARD52B-1	**13T05**	X	X	X	
	Optional Conventional Fin/Tube Condenser Coil - E1GARD51B-1	**13T04**	X	X	X	
	Furnished Conventional Fin/Tube Condenser Coil System - C1GARD52B-1	**13T05**				X
Horizontal Discharge Kit	K1HECK00B-1	**51W25**	X	X	X	X
Return Air Adaptor Plate (for LC/LG/LH and TC/TG/TH unit replacement)	C1CONV10B-1	**54W96**	OX	OX	OX	OX

NOTE - Catalog and model numbers shown are for ordering field installed accessories.
OX - Configure To Order (Factory Installed) or Field Installed
O = Configure To Order (Factory Installed)
X = Field Installed

OPTIONS / ACCESSORIES

Item Description	Model Number	Catalog Number	Unit Model No 092	102	120	150
CONTROLS						
Blower Proving Switch	C1SNSR35FF1	**53W65**	OX	OX	OX	OX
Commercial Controls Intelli-Guide™ Control System - BACnet® Module	C0CTRL60AE1L	59W51	OX	OX	OX	OX
Intelli-Guide™ Control System - LonTalk® Module	C0CTRL65FF1	**54W27**	OX	OX	OX	OX
Novar® LSE		Factory	O	O	O	O
Dirty Filter Switch	E1SNSR55B-1	**53W67**	OX	OX	OX	OX
General Purpose Control Kit	E1GPBK30C1	**13J78**	X	X	X	X
Fresh Air Tempering	C1SNSR75AD1	**58W63**	OX	OX	OX	OX
Smoke Detector - Supply or Return (Power board and one sensor)	C1SNSR44B-2	**11K76**	OX	OX	OX	OX
Smoke Detector - Supply and Return (Power board and two sensors)	C1SNSR43B-2	**11K80**	OX	OX	OX	OX
INDOOR AIR QUALITY						
Air Filters						
High Efficiency Air Filters MERV 8	C1FLTR15B-1	**50W61**	OX	OX	OX	OX
20 x 25 x 2 (Order 4 per unit) MERV 13	C1FLTR40B-1	**52W41**	OX	OX	OX	OX
Replacement Media Filter With Metal Mesh Frame (includes non-pleated filter media)	C1FLTR30B-1-	**Y3063**	X	X	X	X
Indoor Air Quality (CO_2) Sensors						
Sensor - Wall-mount, off-white plastic cover with LCD display	C0SNSR50AE1L	**77N39**	X	X	X	X
Sensor - Wall-mount, off-white plastic cover, no display	C0SNSR52AE1L	**87N53**	X	X	X	X
Sensor - Black plastic case with LCD display, rated for plenum mounting	C0SNSR51AE1L	**87N52**	X	X	X	X
Sensor - Wall-mount, black plastic case, no display, rated for plenum mounting	C0MISC19AE1	**87N54**	X	X	X	X
CO_2 Sensor Duct Mounting Kit - for downflow applications	C0MISC19AE1-	**85L43**	X	X	X	X
Aspiration Box - for duct mounting non-plenum rated CO_2 sensors (**87N53** or **77N39**)	C0MISC16AE1-	**90N43**	X	X	X	X
UVC Germicidal Lamps						
[1] UVC Light Kit (208/230v-1ph)	C1UVCL10B-1	**54W62**	X	X	X	X
ELECTRICAL						
Voltage 60 hz 208/230V - 3 phase		Factory	O	O	O	O
460V - 3 phase		Factory	O	O	O	O
575V - 3 phase		Factory	O	O	O	O
HACR Circuit Breakers		Factory	O	O	O	O
Short-Circuit Current Rating (SCCR) of 100kA (includes Phase/Voltage Detection)		Factory	O	O	O	O
Disconnect Switch 80 amp	C1DISC080B-1	**54W56**	OX	OX	OX	OX
150 amp	C1DISC150B-1	**54W57**	OX	OX	OX	OX
GFI Service Outlets 15 amp non-powered, field-wired (208/230V, 460V only)	LTAGFIK10/15	**74M70**	OX	OX	OX	OX
20 amp non-powered, field-wired (575V only)	C1GFCI20FF1	**67E01**	OX	OX	OX	OX
Weatherproof Cover for GFI	C1GFCI99FF1	**10C89**	X	X	X	X
Phase/Voltage Detection (Optional for CAV options only, furnished with Single Zone VAV option)		Factory	O	O	O	O

[1] Lamps operate on 110-230V single-phase power supply. Step-down transformer may be ordered separately for 460V and 575V units. Alternately, 110V power supply may be used to directly power the UVC ballast(s)

NOTE - Catalog and model numbers shown are for ordering field installed accessories.
OX - Configure To Order (Factory Installed) or Field Installed
O = Configure To Order (Factory Installed)
X = Field Installed

OPTIONS / ACCESSORIES

Item Description	Model Number	Catalog Number	Unit Model No 092	102	120	150
ECONOMIZER						
High Performance Economizer (Approved for California Title 24 Building Standards / AMCA Class 1A Certified)						
High Performance Economizer Downflow or Horizontal - Includes Outdoor Air Hood and Downflow Barometric Relief Dampers with Exhaust Hood Order Horizontal Barometric Relief Dampers separately	E1ECON17B-2	**17U08**	OX	OX	OX	OX
Horizontal Barometric Relief Dampers						
Horizontal Low Profile Barometric With Exhaust Hood	LAGEDH03/15	**53K04**	X	X	X	X
Economizer Controls (Not for Title 24)						
Differential Enthalpy	Order 2 - C1SNSR64FF1	**53W64**	OX	OX	OX	OX
Sensible Control	Sensor is Furnished	Factory	O	O	O	O
Single Enthalpy	C1SNSR64FF1	**53W64**	OX	OX	OX	OX
Building Pressure Control	E1GPBK20C1	**13J77**	X	X	X	X
Outdoor Air CFM Control	E1GPBK10C1	**13J76**	X	X	X	X
Global Control	Sensor Field Provided	Factory	O	O	O	O
OUTDOOR AIR						
Outdoor Air Dampers With Outdoor Air Hood						
Motorized	C1DAMP20B-1	**14G28**	OX	OX	OX	OX
Manual	C1DAMP10B-2	**14G29**	OX	OX	OX	OX
POWER EXHAUST						
Standard Static	208/230V-3ph - K1PWRE10B-1Y	**53W44**	OX	OX	OX	OX
	460V-3ph - K1PWRE10B-1G	**53W45**	OX	OX	OX	OX
	575V-3ph - K1PWRE10B-1J	**53W46**	OX	OX	OX	OX
CONDENSER REHEAT OPTION						
Dehumidification Option		Factory	O	O	O	O
Humidity Sensor Kit, Remote mounted (required)	C0SNSR31AE-1	**17M50**	X	X	X	X
ROOF CURBS						
Hybrid Roof Curbs, Downflow						
8 in. height	C1CURB70B-1	**11F54**	X	X	X	X
14 in. height	C1CURB71B-1	**11F55**	X	X	X	X
18 in. height	C1CURB72B-1	**11F56**	X	X	X	X
24 in. height	C1CURB73B-1	**11F57**	X	X	X	X
Adjustable Pitch Curb, Downflow						
14 in. height	C1CURB55B-1	**54W50**	X	X	X	X
CEILING DIFFUSERS						
Step-Down - Order one	RTD11-95S	**13K61**	X			
	RTD11-135S	**13K62**		X	X	
	RTD11-185S	**13K63**				X
Flush - Order one	FD11-95S	**13K56**	X			
	FD11-135S	**13K57**		X	X	
	FD11-185S	**13K58**				X
Transitions (Supply and Return) - Order one	C1DIFF30B-1	**12X65**	X			
	C1DIFF31B-1	**12X66**		X	X	
	C1DIFF32B-1	**12X67**				X

NOTE - Catalog and model numbers shown are for ordering field installed accessories.
OX - Configure To Order (Factory Installed) or Field Installed
O = Configure To Order (Factory Installed)
X = Field Installed

SPECIFICATIONS

General Data		Nominal Tonnage	7.5 Ton	7.5 Ton	8.5 Ton	8.5 Ton
		Model Number	LGH092H4B	LGH092H4M	LGH102H4B	LGH102H4M
		Efficiency Type	High	High	High	High
		Blower Type	Constant Air Volume CAV	Single Zone VAV	Constant Air Volume CAV	Single Zone VAV
Cooling Performance		Gross Cooling Capacity - Btuh	93,000	93,000	103,800	103,800
		[1] Net Cooling Capacity - Btuh	90,000	90,000	100,000	100,000
		AHRI Rated Air Flow - cfm	3000	2800	3400	3400
		Total Unit Power - kW	7.5	7.5	8.1	8.1
		[1] EER (Btuh/Watt)	12.5	12.5	12.2	12.2
		[2] IEER (Btuh/Watt)	13.0	14.0	12.9	14.0
Refrigerant Charge		Refrigerant Type	R-410A	R-410A	R-410A	R-410A
	Eco-Last™ Coil System	Circuit 1	6 lbs. 6 oz.	6 lbs. 6 oz.	6 lbs. 8 oz.	6 lbs. 8 oz.
		Circuit 2	6 lbs. 7 oz.	6 lbs. 7 oz.	6 lbs. 12 oz.	6 lbs. 12 oz.
	Eco-Last™ Coil System with Dehumidification	Circuit 1	6 lbs. 6 oz.	6 lbs. 6 oz.	6 lbs. 8 oz.	6 lbs. 8 oz.
		Circuit 2	6 lbs. 7 oz.	6 lbs. 7 oz.	6 lbs. 12 oz.	6 lbs. 12 oz.
	Conventional Fin/Tube Coil Option	Circuit 1	13 lbs. 8 oz.	13 lbs. 8 oz.	13 lbs. 8 oz.	13 lbs. 8 oz.
		Circuit 2	12 lbs. 8 oz.	12 lbs. 8 oz.	12 lbs. 8 oz.	12 lbs. 8 oz.
	Conventional Fin/Tube With Dehumidification	Circuit 1	17 lbs. 0 oz.	17 lbs. 0 oz.	17 lbs. 0 oz.	17 lbs. 0 oz.
		Circuit 2	12 lbs. 8 oz.	12 lbs. 8 oz.	12 lbs. 8 oz.	12 lbs. 8 oz.
Gas Heating Options Available - See page 23			Standard (2 Stage), Medium (2 Stage), High (2 Stage)			
Compressor Type (number)			Scroll (2)	Scroll (2)	Scroll (2)	Scroll (2)
Outdoor Coils Eco-Last™ (Fin/Tube)		Net face area (total) - sq. ft.	28.0 (29.33)	28.0 (29.33)	28.0 (29.33)	28.0 (29.33)
		Number of rows	1 (3)	1 (3)	1 (3)	1 (3)
		Fins per inch	20 (20)	20 (20)	20 (20)	20 (20)
Outdoor Coil Fans		Motor - (No.) hp	(2) 1/3	(2) 1/3	(2) 1/3	(2) 1/3
		Motor rpm	1075	1075	1075	1075
		Total Motor watts	800	800	800	800
		Diameter - (No.) in.	(2) 24	(2) 24	(2) 24	(2) 24
		Number of blades	3	3	3	3
		Total Air volume - cfm	8800	8800	8800	8800
Indoor Coils		Net face area (total) - sq. ft.	12.78	12.78	12.78	12.78
		Tube diameter - in.	3/8	3/8	3/8	3/8
		Number of rows	4	4	4	4
		Fins per inch	14	14	14	14
		Drain connection - Number and size	(1) 1 in. NPT coupling			
		Expansion device type	Balance port TXV, removable head			
[3] Indoor Blower and Drive Selection		Nominal motor output	2 hp, 3 hp, 5 hp			
		Maximum usable motor output (US Only)	2.3 hp, 3.45 hp, 5.75 hp			
		Motor - Drive kit number	2 hp **Kit 1** 590-890 rpm (std. and high efficiency) **Kit 2** 800-1105 rpm (std. and high efficiency) **Kit 3** 795-1195 rpm (std. and high efficiency) 3 hp **Kit 4** 730-970 rpm (std. efficiency) **Kit 5** 940-1200 rpm (std. efficiency) **Kit 6** 1015-1300 rpm (std. efficiency) **Kit 7** 730-970 rpm (high efficiency) **Kit 8** 940-1200 rpm (high efficiency) **Kit 9** 1015-1300 rpm (high efficiency) 5 hp **Kit 10** 900-1135 rpm (std. efficiency) **Kit 11** 1040-1315 rpm (std. efficiency) **Kit 12** 1125-1425 rpm (std. efficiency)			
		Blower wheel nominal diameter x width - in.	(1) 15 X 15	(1) 15 X 15	(1) 15 X 15	(1) 15 X 15
Filters		Type of filter	Disposable			
		Number and size - in.	(4) 20 x 25 x 2			
Electrical characteristics			208/230V, 460V or 575V - 60 hertz - 3 phase			

NOTE - Net capacity includes evaporator blower motor heat deduction. Gross capacity does not include evaporator blower motor heat deduction.

[1] AHRI Certified to AHRI Standard 340/360; 95°F outdoor air temperature and 80°F db/67°F wb entering evaporator air; minimum external duct static pressure.

[2] Integrated Energy Efficiency Ratio certified and tested according to AHRI Standard 340/360.

[3] Using total air volume and system static pressure requirements determine from blower performance tables rpm and motor output required. Maximum usable output of motors furnished are shown. In Canada, nominal motor output is also maximum usable motor output. If motors of comparable output are used, be sure to keep within the service factor limitations outlined on the motor nameplate.

NOTE – Units equipped with Single Zone VAV option are limited to a motor service factor of 1.0.

SPECIFICATIONS

General Data		Nominal Tonnage	10 Ton	10 Ton	12.5 Ton	12.5 Ton
		Model Number	LGH120H4B	LGH120H4M	LGH150H4B	LGH150H4M
		Efficiency Type	High	High	High	High
		Blower Type	Constant Air Volume CAV	Single Zone VAV	Constant Air Volume CAV	Single Zone VAV
Cooling Performance		Gross Cooling Capacity - Btuh	122,000	122,000	143,000	143,000
		[1] Net Cooling Capacity - Btuh	118,000	118,000	138,000	138,000
		AHRI Rated Air Flow - cfm	3600	3300	3950	3950
		Total Unit Power - kW	9.9	9.8	12.8	12.8
		[1] EER (Btuh/Watt)	12	12.0	10.8	10.8
		[2] IEER (Btuh/Watt)	13.0	13.8	12.2	13.5
Refrigerant Charge		Refrigerant Type	R-410A	R-410A	R-410A	R-410A
	Eco-Last™ Coil System	Circuit 1	7 lbs. 0 oz.	7 lbs. 0 oz.	- - -	- - -
		Circuit 2	6 lbs. 12 oz.	6 lbs. 12 oz.	- - -	- - -
	Eco-Last™ Coil System with dehumidification	Circuit 1	7 lbs. 0 oz.	7 lbs. 0 oz.	- - -	- - -
		Circuit 2	6 lbs. 12 oz.	6 lbs. 12 oz.	- - -	- - -
	Conventional Fin/Tube Coil Option	Circuit 1	14 lbs. 8 oz.	14 lbs. 8 oz.	14 lbs. 0 oz.	14 lbs. 0 oz.
		Circuit 2	13 lbs. 8 oz.	13 lbs. 8 oz.	13 lbs. 8 oz.	13 lbs. 8 oz.
	Conventional Fin/Tube with dehumidification	Circuit 1	17 lbs. 8 oz.	17 lbs. 8 oz.	14 lbs. 6 oz.	14 lbs. 6 oz.
		Circuit 2	13 lbs. 8 oz.	13 lbs. 8 oz.	13 lbs. 8 oz.	13 lbs. 8 oz.
Gas Heating Options Available - See page 23			Standard (2 Stage), Medium (2 Stage), High (2 Stage)			
Compressor Type (number)			Scroll (2)	Scroll (2)	Scroll (2)	Scroll (2)
Outdoor Coils Eco-Last™ (Fin/Tube)		Net face area (total) - sq. ft.	28.0 (29.33)	28.0 (29.33)	- - - (28.0)	- - - (28.0)
		Number of rows	1 (3)	1 (3)	3	3
		Fins per inch	20 (20)	20 (20)	20	20
Outdoor Coil Fans		Motor - (No.) hp	(2) 1/3	(2) 1/3	(2) 1/2	(2) 1/2
		Motor rpm	1075	1075	1075	1075
		Total Motor watts	800	800	1050	1050
		Diameter - (No.) in.	(2) 24	(2) 24	(2) 24	(2) 24
		Number of blades	3	3	3	3
		Total Air volume - cfm	8800	8800	9700	9700
Indoor Coils		Net face area (total) - sq. ft.	13.54	13.54	13.54	13.54
		Tube diameter - in.	3/8	3/8	3/8	3/8
		Number of rows	4	4	4	4
		Fins per inch	14	14	14	14
		Drain connection - Number and size	(1) 1 in. NPT coupling			
		Expansion device type	Balance port TXV, removable head			
[3] Indoor Blower and Drive Selection		Nominal motor output	2 hp, 3 hp, 5 hp			
		Maximum usable motor output (US Only)	2.3 hp, 3.45 hp, 5.75 hp			
		Motor - Drive kit number	2 hp **Kit 1** 590-890 rpm (std. and high efficiency) **Kit 2** 800-1105 rpm (std. and high efficiency) **Kit 3** 795-1195 rpm (std. and high efficiency) 3 hp **Kit 4** 730-970 rpm (std. efficiency) **Kit 5** 940-1200 rpm (std. efficiency) **Kit 6** 1015-1300 rpm (std. efficiency) **Kit 7** 730-970 rpm (high efficiency) **Kit 8** 940-1200 rpm (high efficiency) **Kit 9** 1015-1300 rpm (high efficiency) 5 hp **Kit 10** 900-1135 rpm (std. efficiency) **Kit 11** 1040-1315 rpm (std. efficiency) **Kit 12** 1125-1425 rpm (std. efficiency)			
		Blower wheel nominal diameter x width - in.	(1) 15 X 15	(1) 15 X 15	(1) 15 X 15	(1) 15 X 15
Filters		Type of filter	Disposable			
		Number and size - in.	(4) 20 x 25 x 2			
Electrical characteristics			208/230V, 460V or 575V - 60 hertz - 3 phase			

NOTE - Net capacity includes evaporator blower motor heat deduction. Gross capacity does not include evaporator blower motor heat deduction.

[1] AHRI Certified to AHRI Standard 340/360; 95°F outdoor air temperature and 80°F db/67°F wb entering evaporator air; minimum external duct static pressure.

[2] Integrated Energy Efficiency Ratio certified and tested according to AHRI Standard 340/360.

[3] Using total air volume and system static pressure requirements determine from blower performance tables rpm and motor output required. Maximum usable output of motors furnished are shown. In Canada, nominal motor output is also maximum usable motor output. If motors of comparable output are used, be sure to keep within the service factor limitations outlined on the motor nameplate.

NOTE – Units equipped with Single Zone VAV option are limited to a motor service factor of 1.0.

SPECIFICATIONS - GAS HEAT

		Heat Input Type	**Standard**	**Medium**	**High**
		Number of Gas Heat Stages	**2**	**2**	**2**
Gas Heating Performance	Input - Btuh	First Stage	84,500	117,000	156,000
		Second Stage	130,000	180,000	240,000
	Output - Btuh	Second Stage	104,000	144,000	192,000
		Temperature Rise Range - °F	15 - 45	30 - 60	40 - 70
		Thermal Efficiency	80%	80%	80%
		Gas Supply Connections	3/4 in. npt	3/4 in. npt	3/4 in. npt.
Recommended Gas Supply Pressure - in. w.g.		Natural	7 in. w.c.	7 in. w.c.	7 in. w.c.
		LPG/Propane	11 in. w.c.	11 in. w.c.	11 in. w.c.

HIGH ALTITUDE DERATE

Units may be installed at altitudes up to 2000 feet above sea level without any modification.

At altitudes above 2000 feet, units must be derated to match gas manifold pressures shown in table below.

At altitudes above 4500 feet unit must be derated 2% for each 1000 feet above sea level.

NOTE − This is the only permissible derate for these units.

Gas Heat Type	**Altitude Feet**	**Gas Manifold Pressure in. w.g.**		**Input Rate - Btuh (Natural Gas or LPG/Propane)**	
		Natural Gas	**LPG/Propane Gas**	**First Stage**	**Second Stage**
Standard	2001-4500	3.4	9.6	84,500	124,000
Medium	2001-4500	3.4	9.6	117,000	172,000
High	2001-4500	3.4	9.6	156,000	230,000

RATINGS

NOTE − For Temperatures and Capacities not shown in tables, see bulletin − Cooling Unit Rating Table Correction Factor Data in Miscellaneous Engineering Data section.

7.5 TON HIGH EFFICIENCY LGH092H4B (1ST STAGE) - CONSTANT AIR VOLUME

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		65°F					75°F					85°F					95°F				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb		
	cfm	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F
63°F	2400	48.6	1.95	0.63	0.76	0.93	46.8	2.21	0.64	0.78	0.95	44.9	2.49	0.65	0.80	0.98	42.9	2.81	0.66	0.83	1.00
	3000	51.0	1.96	0.67	0.85	1.00	49.1	2.22	0.68	0.88	1.00	47.2	2.50	0.70	0.90	1.00	45.0	2.82	0.72	0.94	1.00
	3600	52.9	1.97	0.72	0.95	1.00	50.9	2.22	0.74	0.97	1.00	48.9	2.50	0.76	0.99	1.00	46.7	2.82	0.79	1.00	1.00
67°F	2400	51.3	1.96	0.50	0.61	0.72	49.5	2.22	0.51	0.62	0.73	47.6	2.50	0.51	0.63	0.76	45.5	2.82	0.52	0.64	0.78
	3000	53.9	1.97	0.53	0.65	0.80	51.9	2.22	0.53	0.66	0.83	49.7	2.50	0.55	0.67	0.86	47.7	2.82	0.56	0.69	0.89
	3600	55.9	1.98	0.55	0.70	0.90	53.7	2.23	0.56	0.71	0.93	51.5	2.51	0.57	0.74	0.96	48.9	2.83	0.58	0.76	0.99
71°F	2400	54.1	1.97	0.39	0.49	0.59	52.2	2.22	0.39	0.49	0.60	50.2	2.50	0.39	0.51	0.60	48.0	2.82	0.39	0.51	0.61
	3000	56.8	1.98	0.39	0.51	0.63	54.7	2.23	0.40	0.52	0.64	52.4	2.51	0.40	0.53	0.65	50.1	2.83	0.41	0.55	0.67
	3600	58.6	1.99	0.41	0.54	0.67	56.5	2.24	0.41	0.55	0.69	54.1	2.51	0.42	0.56	0.71	51.5	2.83	0.42	0.57	0.73

7.5 TON HIGH EFFICIENCY LGH092H4B (2ND STAGE) - CONSTANT AIR VOLUME

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		85°F					95°F					105°F					115°F				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb		
	cfm	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F
63°F	2400	87.9	5.19	.69	.83	.98	84.0	5.86	.70	.85	1.00	79.8	6.64	.72	.88	1.00	75.2	7.55	.74	.92	1.00
	3000	92.3	5.20	.74	.92	1.00	88.0	5.87	.76	.95	1.00	83.5	6.64	.78	.98	1.00	78.7	7.54	.81	1.00	1.00
	3600	95.6	5.21	.79	1.00	1.00	91.4	5.87	.82	1.00	1.00	87.3	6.64	.85	1.00	1.00	82.9	7.55	.88	1.00	1.00
67°F	2400	93.0	5.20	.55	.66	.79	89.0	5.87	.55	.68	.81	84.5	6.64	.56	.69	.84	79.5	7.54	.58	.71	.87
	3000	97.3	5.21	.58	.71	.88	93.0	5.88	.59	.73	.91	88.2	6.65	.60	.76	.94	82.8	7.54	.61	.78	.98
	3600	100.6	5.22	.61	.77	.97	95.7	5.88	.62	.79	.99	90.8	6.65	.63	.82	1.00	85.2	7.54	.64	.86	1.00
71°F	2400	98.2	5.21	.42	.53	.64	93.8	5.88	.42	.54	.65	89.0	6.65	.42	.54	.67	84.2	7.54	.43	.56	.69
	3000	102.5	5.23	.43	.56	.69	97.9	5.89	.43	.58	.71	92.9	6.65	.44	.59	.73	87.5	7.54	.44	.60	.76
	3600	105.9	5.24	.44	.60	.75	100.8	5.89	.45	.61	.77	95.4	6.65	.45	.62	.79	89.9	7.54	.46	.64	.84

8.5 TON HIGH EFFICIENCY LGH102H4B (1ST STAGE) - CONSTANT AIR VOLUME

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		65°F					75°F					85°F					95°F				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb		
	cfm	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F
63°F	2720	52.3	2.13	.62	.76	.96	50.4	2.41	.63	.78	.98	48.4	2.73	.64	.81	1.00	46.3	3.08	.65	.84	1.00
	3400	54.8	2.14	.66	.87	1.00	52.7	2.42	.67	.90	1.00	50.6	2.73	.69	.93	1.00	48.4	3.09	.71	.97	1.00
	4080	56.6	2.15	.72	.97	1.00	54.6	2.43	.74	.99	1.00	52.4	2.74	.77	1.00	1.00	50.3	3.09	.80	1.00	1.00
67°F	2720	55.2	2.14	.49	.60	.71	53.2	2.42	.50	.61	.73	51.2	2.73	.50	.62	.76	48.7	3.09	.50	.63	.79
	3400	57.7	2.15	.52	.64	.82	55.6	2.43	.52	.65	.84	53.3	2.74	.54	.67	.88	50.9	3.09	.55	.68	.92
	4080	59.7	2.16	.55	.69	.93	57.4	2.44	.56	.71	.96	54.9	2.74	.56	.73	.99	52.4	3.10	.57	.76	1.00
71°F	2720	58.0	2.16	.38	.48	.58	56.1	2.43	.38	.49	.59	53.8	2.74	.38	.49	.60	51.3	3.09	.38	.50	.61
	3400	60.7	2.16	.39	.51	.62	58.4	2.44	.39	.51	.63	56.0	2.75	.39	.53	.65	53.6	3.10	.40	.54	.67
	4080	62.5	2.17	.40	.53	.67	60.2	2.45	.40	.55	.68	57.8	2.75	.40	.56	.71	55.0	3.10	.41	.56	.73

8.5 TON HIGH EFFICIENCY LGH102H4B (2ND STAGE) - CONSTANT AIR VOLUME

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		85°F					95°F					105°F					115°F				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb		
	cfm	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F
63°F	2720	98.8	5.54	.70	.85	1.00	94.4	6.27	.72	.88	1.00	89.7	7.10	.73	.91	1.00	84.7	8.09	.76	.95	1.00
	3400	103.3	5.56	.76	.95	1.00	98.6	6.27	.78	.98	1.00	93.5	7.11	.80	1.00	1.00	88.7	8.08	.83	1.00	1.00
	4080	106.9	5.56	.82	1.00	1.00	102.6	6.28	.84	1.00	1.00	98.2	7.12	.88	1.00	1.00	93.1	8.08	.91	1.00	1.00
67°F	2720	104.3	5.56	.55	.68	.81	99.6	6.28	.56	.69	.84	94.7	7.11	.57	.71	.87	89.3	8.08	.59	.73	.91
	3400	108.8	5.57	.59	.74	.91	103.8	6.29	.60	.76	.94	98.5	7.12	.61	.78	.97	92.7	8.08	.62	.81	1.00
	4080	112.0	5.58	.62	.80	.99	106.6	6.30	.63	.82	1.00	101.2	7.12	.65	.85	1.00	95.2	8.08	.66	.89	1.00
71°F	2720	109.6	5.57	.42	.54	.66	104.7	6.29	.43	.55	.67	99.7	7.12	.43	.56	.69	94.1	8.08	.43	.58	.71
	3400	114.3	5.59	.43	.58	.72	109.2	6.30	.44	.59	.74	103.6	7.12	.45	.60	.76	97.4	8.08	.45	.61	.78
	4080	117.8	5.60	.45	.61	.77	112.2	6.31	.45	.62	.80	106.4	7.13	.46	.64	.83	100.0	8.08	.47	.66	.86

RATINGS

NOTE − For Temperatures and Capacities not shown in tables, see bulletin − Cooling Unit Rating Table Correction Factor Data in Miscellaneous Engineering Data section.

10 TON HIGH EFFICIENCY LGH120H4B (1ST STAGE) - CONSTANT AIR VOLUME

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		65°F					75°F					85°F					95°F				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb		
	cfm	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F
63°F	3200	61.5	2.61	.64	.78	.95	59.3	2.96	.65	.80	.97	56.8	3.34	.66	.82	1.00	54.3	3.77	.67	.85	1.00
	4000	64.5	2.64	.68	.86	1.00	62.2	2.99	.70	.89	1.00	59.5	3.37	.71	.93	1.00	56.8	3.80	.74	.96	1.00
	4800	66.8	2.67	.73	.95	1.00	64.3	3.02	.76	.98	1.00	61.5	3.40	.78	1.00	1.00	58.8	3.83	.81	1.00	1.00
67°F	3200	64.8	2.65	.51	.62	.73	62.5	2.99	.52	.63	.75	60.0	3.38	.52	.64	.78	57.2	3.81	.53	.65	.80
	4000	68.1	2.68	.53	.66	.82	65.5	3.03	.54	.67	.84	62.7	3.41	.55	.69	.88	59.8	3.84	.56	.70	.91
	4800	70.3	2.71	.56	.70	.91	67.7	3.06	.58	.73	.94	64.7	3.44	.58	.75	.98	61.6	3.87	.60	.78	1.00
71°F	3200	68.5	2.69	.40	.50	.60	66.0	3.04	.39	.50	.61	63.4	3.42	.40	.51	.62	60.5	3.85	.40	.52	.63
	4000	71.5	2.72	.40	.52	.64	68.9	3.07	.40	.53	.65	65.9	3.46	.41	.54	.67	62.7	3.88	.41	.55	.68
	4800	73.9	2.75	.41	.55	.68	70.9	3.10	.42	.56	.70	67.9	3.48	.43	.57	.73	64.7	3.91	.43	.58	.75

10 TON HIGH EFFICIENCY LGH120H4B (2ND STAGE) - CONSTANT AIR VOLUME

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		85°F					95°F					105°F					115°F				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb		
	cfm	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F
63°F	3200	118.3	7.09	.67	.83	1.00	113.1	8.00	.68	.86	1.00	107.4	9.04	.70	.89	1.00	101.4	10.23	.72	.93	1.00
	4000	123.7	7.16	.72	.94	1.00	118.2	8.07	.75	.97	1.00	112.2	9.11	.78	1.00	1.00	106.1	10.29	.81	1.00	1.00
	4800	127.9	7.21	.79	1.00	1.00	122.7	8.13	.82	1.00	1.00	116.9	9.17	.85	1.00	1.00	111.3	10.37	.90	1.00	1.00
67°F	3200	124.8	7.17	.53	.65	.79	119.2	8.08	.54	.66	.81	113.4	9.12	.54	.68	.84	106.8	10.30	.56	.70	.89
	4000	130.2	7.24	.56	.70	.90	124.4	8.16	.57	.72	.93	118.1	9.19	.58	.75	.97	111.1	10.36	.60	.78	1.00
	4800	134.2	7.29	.59	.77	.99	127.9	8.21	.61	.80	1.00	121.0	9.23	.62	.82	1.00	114.1	10.40	.64	.87	1.00
71°F	3200	131.6	7.26	.40	.52	.63	125.7	8.17	.41	.52	.64	119.6	9.21	.41	.53	.66	112.8	10.38	.41	.55	.68
	4000	136.6	7.33	.42	.55	.68	130.6	8.24	.42	.56	.70	123.7	9.27	.43	.58	.72	116.7	10.45	.43	.59	.75
	4800	140.5	7.38	.43	.58	.74	134.1	8.29	.44	.60	.77	127.3	9.32	.44	.62	.80	119.5	10.49	.45	.63	.84

12.5 TON HIGH EFFICIENCY LGH150H4B (1ST STAGE) - CONSTANT AIR VOLUME

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		65°F					75°F					85°F					95°F				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb		
	cfm	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F
63°F	3800	76.4	3.46	0.67	0.81	0.96	72.0	3.83	0.67	0.82	0.98	67.0	4.24	0.68	0.84	0.99	61.7	4.69	0.68	0.86	1.00
	4400	79.6	3.47	0.71	0.86	1.00	74.9	3.84	0.71	0.88	1.00	69.9	4.25	0.71	0.90	1.00	64.4	4.70	0.73	0.92	1.00
	5000	82.3	3.49	0.74	0.91	1.00	77.5	3.85	0.74	0.93	1.00	72.2	4.26	0.76	0.95	1.00	66.6	4.71	0.77	0.98	1.00
67°F	3800	81.9	3.48	0.53	0.65	0.78	77.2	3.85	0.53	0.65	0.79	72.3	4.26	0.52	0.66	0.80	66.8	4.71	0.52	0.66	0.82
	4400	85.2	3.50	0.55	0.68	0.82	80.4	3.86	0.55	0.69	0.84	75.1	4.27	0.54	0.69	0.85	69.6	4.72	0.54	0.70	0.88
	5000	87.8	3.51	0.57	0.71	0.87	82.8	3.88	0.57	0.72	0.89	77.6	4.28	0.57	0.73	0.91	71.8	4.73	0.56	0.74	0.94
71°F	3800	87.7	3.51	0.41	0.52	0.63	83.0	3.87	0.40	0.52	0.63	77.8	4.28	0.38	0.52	0.64	72.3	4.73	0.37	0.51	0.64
	4400	90.7	3.52	0.42	0.54	0.66	85.8	3.89	0.41	0.54	0.66	80.6	4.29	0.40	0.54	0.67	74.8	4.74	0.38	0.53	0.68
	5000	93.6	3.54	0.43	0.56	0.69	88.3	3.90	0.41	0.56	0.70	82.9	4.30	0.41	0.56	0.71	77.0	4.75	0.40	0.56	0.72

12.5 TON HIGH EFFICIENCY LGH150H4B (2ND STAGE) - CONSTANT AIR VOLUME

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		85°F					95°F					105°F					115°F				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb		
	cfm	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F
63°F	3800	144.8	9.20	0.69	0.84	0.98	133.8	10.21	0.69	0.86	1.00	122.3	11.34	0.70	0.88	1.00	110.1	12.62	0.72	0.91	1.00
	4400	150.9	9.23	0.73	0.89	1.00	139.2	10.23	0.74	0.91	1.00	127.5	11.37	0.75	0.94	1.00	115.2	12.65	0.77	0.98	1.00
	5000	155.8	9.26	0.76	0.94	1.00	144.0	10.27	0.77	0.97	1.00	132.2	11.40	0.80	0.99	1.00	119.9	12.67	0.82	1.00	1.00
67°F	3800	155.7	9.26	0.53	0.67	0.81	144.2	10.26	0.53	0.68	0.82	132.5	11.39	0.52	0.68	0.84	120.2	12.68	0.51	0.69	0.87
	4400	161.8	9.29	0.56	0.71	0.86	150.1	10.30	0.55	0.72	0.88	137.8	11.43	0.55	0.73	0.90	125.1	12.70	0.55	0.75	0.94
	5000	166.8	9.32	0.58	0.74	0.91	154.8	10.33	0.58	0.75	0.93	142.4	11.47	0.58	0.77	0.96	129.0	12.73	0.58	0.79	0.99
71°F	3800	167.5	9.32	0.39	0.53	0.65	155.7	10.34	0.38	0.52	0.65	143.6	11.47	0.37	0.52	0.66	130.7	12.74	0.35	0.51	0.67
	4400	173.4	9.36	0.41	0.55	0.69	161.3	10.36	0.40	0.55	0.70	148.8	11.51	0.38	0.54	0.70	135.3	12.77	0.37	0.54	0.72
	5000	178.3	9.39	0.42	0.57	0.72	165.7	10.39	0.41	0.57	0.73	152.9	11.52	0.40	0.57	0.75	139.2	12.79	0.38	0.58	0.77

RATINGS

NOTE − For Temperatures and Capacities not shown in tables, see bulletin − Cooling Unit Rating Table Correction Factor Data in Miscellaneous Engineering Data section.

7.5 TON HIGH EFFICIENCY LGH092H4M (1ST STAGE) - SINGLE ZONE VAV SUPPLY FAN

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		65°F					75°F					85°F					95°F				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb		
	cfm	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F
63°F	1680	43.9	1.94	0.59	0.69	0.81	42.4	2.20	0.60	0.70	0.82	40.9	2.48	0.60	0.71	0.84	39.2	2.81	0.61	0.73	0.86
	2100	46.9	1.95	0.61	0.74	0.88	45.2	2.20	0.62	0.76	0.90	43.5	2.49	0.63	0.78	0.93	41.6	2.81	0.64	0.80	0.95
	2520	49.2	1.96	0.65	0.8	0.96	47.3	2.21	0.66	0.81	0.98	45.4	2.49	0.67	0.84	1.00	43.4	2.82	0.69	0.87	1.00
67°F	1680	46.6	1.95	0.48	0.56	0.65	45.2	2.20	0.48	0.57	0.66	43.5	2.49	0.48	0.58	0.68	41.7	2.81	0.49	0.58	0.69
	2100	49.6	1.96	0.49	0.59	0.70	47.8	2.21	0.50	0.59	0.72	46.0	2.49	0.50	0.60	0.73	44.0	2.81	0.51	0.61	0.75
	2520	51.9	1.96	0.51	0.62	0.76	50.1	2.22	0.52	0.63	0.77	48.1	2.50	0.52	0.64	0.79	45.9	2.82	0.53	0.66	0.82
71°F	1680	49.4	1.96	0.38	0.46	0.54	47.8	2.21	0.38	0.47	0.55	46.1	2.50	0.39	0.47	0.55	44.2	2.82	0.38	0.47	0.56
	2100	52.5	1.97	0.38	0.48	0.57	50.7	2.22	0.39	0.48	0.57	48.8	2.50	0.39	0.49	0.58	46.7	2.82	0.39	0.49	0.59
	2520	54.6	1.97	0.39	0.49	0.59	52.7	2.23	0.39	0.50	0.60	50.6	2.51	0.40	0.50	0.62	48.4	2.82	0.40	0.51	0.63

7.5 TON HIGH EFFICIENCY LGH092H4M (2ND STAGE) - SINGLE ZONE VAV SUPPLY FAN

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		85°F					95°F					105°F					115°F				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb		
	cfm	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F
63°F	2400	87.9	5.19	.69	.83	.98	84.0	5.86	.70	.85	1.00	79.8	6.64	.72	.88	1.00	75.2	7.55	.74	.92	1.00
	3000	92.3	5.20	.74	.92	1.00	88.0	5.87	.76	.95	1.00	83.5	6.64	.78	.98	1.00	78.7	7.54	.81	1.00	1.00
	3600	95.6	5.21	.79	1.00	1.00	91.4	5.87	.82	1.00	1.00	87.3	6.64	.85	1.00	1.00	82.9	7.55	.88	1.00	1.00
67°F	2400	93.0	5.20	.55	.66	.79	89.0	5.87	.55	.68	.81	84.5	6.64	.56	.69	.84	79.5	7.54	.58	.71	.87
	3000	97.3	5.21	.58	.71	.88	93.0	5.88	.59	.73	.91	88.2	6.65	.60	.76	.94	82.8	7.54	.61	.78	.98
	3600	100.6	5.22	.61	.77	.97	95.7	5.88	.62	.79	.99	90.8	6.65	.63	.82	1.00	85.2	7.54	.64	.86	1.00
71°F	2400	98.2	5.21	.42	.53	.64	93.8	5.88	.42	.54	.65	89.0	6.65	.42	.54	.67	84.2	7.54	.43	.56	.69
	3000	102.5	5.23	.43	.56	.69	97.9	5.89	.43	.58	.71	92.9	6.65	.44	.59	.73	87.5	7.54	.44	.60	.76
	3600	105.9	5.24	.44	.60	.75	100.8	5.89	.45	.61	.77	95.4	6.65	.45	.62	.79	89.9	7.54	.46	.64	.84

8.5 TON HIGH EFFICIENCY LGH102H4M (1ST STAGE) - SINGLE ZONE VAV SUPPLY FAN

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		65°F					75°F					85°F					95°F				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb		
	cfm	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F
63°F	1920	49.5	2.12	0.61	0.72	0.84	47.8	2.4	0.63	0.73	0.86	46.1	2.71	0.63	0.75	0.87	44.2	3.07	0.63	0.76	0.9
	2400	52.6	2.13	0.64	0.78	0.92	50.8	2.41	0.65	0.79	0.94	48.8	2.72	0.66	0.81	0.96	46.6	3.08	0.68	0.83	0.98
	2880	54.8	2.14	0.68	0.83	0.99	52.9	2.42	0.69	0.85	1	50.8	2.73	0.71	0.87	1	48.4	3.08	0.72	0.9	1
67°F	1920	52.3	2.13	0.5	0.59	0.69	50.7	2.41	0.51	0.6	0.7	48.8	2.72	0.51	0.6	0.71	46.9	3.08	0.51	0.61	0.72
	2400	55.4	2.14	0.52	0.62	0.73	53.6	2.42	0.52	0.63	0.75	51.5	2.73	0.52	0.64	0.77	49.3	3.08	0.53	0.65	0.79
	2880	57.8	2.15	0.53	0.65	0.79	55.8	2.43	0.53	0.66	0.81	53.6	2.73	0.54	0.68	0.83	51.2	3.09	0.56	0.7	0.87
71°F	1920	55.5	2.14	0.4	0.48	0.57	53.7	2.42	0.4	0.49	0.57	51.7	2.73	0.39	0.49	0.58	49.5	3.09	0.4	0.49	0.59
	2400	58.6	2.15	0.4	0.5	0.6	56.5	2.43	0.4	0.51	0.6	54.4	2.74	0.41	0.51	0.61	52	3.09	0.4	0.52	0.62
	2880	60.9	2.16	0.41	0.52	0.63	58.6	2.43	0.41	0.52	0.64	56.3	2.74	0.41	0.53	0.65	53.9	3.09	0.41	0.54	0.67

8.5 TON HIGH EFFICIENCY LGH102H4M (2ND STAGE) - SINGLE ZONE VAV SUPPLY FAN

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		85°F					95°F					105°F					115°F				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb		
	cfm	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F
63°F	2720	98.8	5.54	.70	.85	1.00	94.4	6.27	.72	.88	1.00	89.7	7.10	.73	.91	1.00	84.7	8.09	.76	.95	1.00
	3400	103.3	5.56	.76	.95	1.00	98.6	6.27	.78	.98	1.00	93.5	7.11	.80	1.00	1.00	88.7	8.08	.83	1.00	1.00
	4080	106.9	5.56	.82	1.00	1.00	102.6	6.28	.84	1.00	1.00	98.2	7.12	.88	1.00	1.00	93.1	8.08	.91	1.00	1.00
67°F	2720	104.3	5.56	.55	.68	.81	99.6	6.28	.56	.69	.84	94.7	7.11	.57	.71	.87	89.3	8.08	.59	.73	.91
	3400	108.8	5.57	.59	.74	.91	103.8	6.29	.60	.76	.94	98.5	7.12	.61	.78	.97	92.7	8.08	.62	.81	1.00
	4080	112.0	5.58	.62	.80	.99	106.6	6.30	.63	.82	1.00	101.2	7.12	.65	.85	1.00	95.2	8.08	.66	.89	1.00
71°F	2720	109.6	5.57	.42	.54	.66	104.7	6.29	.43	.55	.67	99.7	7.12	.43	.56	.69	94.1	8.08	.43	.58	.71
	3400	114.3	5.59	.43	.58	.72	109.2	6.30	.44	.59	.74	103.6	7.12	.45	.60	.76	97.4	8.08	.45	.61	.78
	4080	117.8	5.60	.45	.61	.77	112.2	6.31	.45	.62	.80	106.4	7.13	.46	.64	.83	100.0	8.08	.47	.66	.86

RATINGS

NOTE − For Temperatures and Capacities not shown in tables, see bulletin − Cooling Unit Rating Table Correction Factor Data in Miscellaneous Engineering Data section.

10 TON HIGH EFFICIENCY LGH120H4M (1ST STAGE) - SINGLE ZONE VAV SUPPLY FAN

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		65°F					75°F					85°F					95°F				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb		
	cfm	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F
63°F	2240	59	2.61	0.68	0.77	0.87	57	2.96	0.68	0.78	0.88	54.9	3.34	0.69	0.8	0.89	52.6	3.78	0.7	0.81	0.91
	2800	62.9	2.64	0.71	0.82	0.92	60.6	2.99	0.72	0.83	0.94	58.2	3.38	0.72	0.84	0.96	55.6	3.82	0.74	0.86	0.98
	3360	65.7	2.67	0.74	0.86	0.98	63.3	3.02	0.75	0.87	0.99	60.6	3.41	0.76	0.89	1	58	3.85	0.77	0.91	1
67°F	2240	62.5	2.64	0.55	0.65	0.74	60.5	2.99	0.56	0.65	0.75	58.2	3.38	0.56	0.67	0.76	55.8	3.82	0.56	0.67	0.77
	2800	66.2	2.67	0.57	0.68	0.79	64	3.03	0.57	0.69	0.8	61.4	3.42	0.58	0.7	0.81	58.9	3.86	0.58	0.71	0.83
	3360	69.3	2.7	0.58	0.71	0.83	66.8	3.06	0.59	0.72	0.84	64	3.45	0.6	0.73	0.86	61.1	3.88	0.6	0.75	0.88
71°F	2240	66.3	2.67	0.44	0.53	0.62	64	3.03	0.44	0.54	0.63	61.6	3.42	0.44	0.54	0.64	59.1	3.86	0.44	0.55	0.65
	2800	70.2	2.71	0.44	0.55	0.65	67.8	3.07	0.44	0.56	0.67	65.1	3.46	0.45	0.56	0.67	62.2	3.9	0.45	0.57	0.68
	3360	73.1	2.74	0.45	0.57	0.69	70.3	3.1	0.45	0.58	0.7	67.6	3.49	0.45	0.59	0.71	64.5	3.93	0.45	0.59	0.72

10 TON HIGH EFFICIENCY LGH120H4M (2ND STAGE) - SINGLE ZONE VAV SUPPLY FAN

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		85°F					95°F					105°F					115°F				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb		
	cfm	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F
63°F	3200	118.3	7.09	.67	.83	1.00	113.1	8.00	.68	.86	1.00	107.4	9.04	.70	.89	1.00	101.4	10.23	.72	.93	1.00
	4000	123.7	7.16	.72	.94	1.00	118.2	8.07	.75	.97	1.00	112.2	9.11	.78	1.00	1.00	106.1	10.29	.81	1.00	1.00
	4800	127.9	7.21	.79	1.00	1.00	122.7	8.13	.82	1.00	1.00	116.9	9.17	.85	1.00	1.00	111.3	10.37	.90	1.00	1.00
67°F	3200	124.8	7.17	.53	.65	.79	119.2	8.08	.54	.66	.81	113.4	9.12	.54	.68	.84	106.8	10.30	.56	.70	.89
	4000	130.2	7.24	.56	.70	.90	124.4	8.16	.57	.72	.93	118.1	9.19	.58	.75	.97	111.1	10.36	.60	.78	1.00
	4800	134.2	7.29	.59	.77	.99	127.9	8.21	.61	.80	1.00	121.0	9.23	.62	.82	1.00	114.1	10.40	.64	.87	1.00
71°F	3200	131.6	7.26	.40	.52	.63	125.7	8.17	.41	.52	.64	119.6	9.21	.41	.53	.66	112.8	10.38	.41	.55	.68
	4000	136.6	7.33	.42	.55	.68	130.6	8.24	.42	.56	.70	123.7	9.27	.43	.58	.72	116.7	10.45	.43	.59	.75
	4800	140.5	7.38	.43	.58	.74	134.1	8.29	.44	.60	.77	127.3	9.32	.44	.62	.80	119.5	10.49	.45	.63	.84

12.5 TON HIGH EFFICIENCY LGH150H4M (1ST STAGE) - SINGLE ZONE VAV SUPPLY FAN

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		65°F					75°F					85°F					95°F				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb		
	cfm	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F
63°F	2560	68.8	3.41	0.64	0.74	0.84	64.5	3.80	0.63	0.74	0.85	60.0	4.21	0.62	0.74	0.86	55.3	4.66	0.62	0.75	0.88
	3200	74.6	3.44	0.67	0.79	0.91	70.1	3.82	0.67	0.80	0.92	65.2	4.22	0.67	0.80	0.94	60.3	4.68	0.67	0.82	0.96
	3480	76.6	3.45	0.69	0.81	0.93	72.0	3.82	0.69	0.82	0.95	67.2	4.23	0.69	0.83	0.97	61.9	4.68	0.69	0.84	0.99
67°F	2560	74.2	3.44	0.51	0.62	0.71	69.9	3.82	0.50	0.61	0.71	65.4	4.23	0.49	0.60	0.71	60.6	4.69	0.48	0.60	0.72
	3200	80.0	3.46	0.54	0.65	0.76	75.3	3.84	0.53	0.64	0.76	70.6	4.25	0.52	0.65	0.77	65.3	4.70	0.51	0.65	0.78
	3480	82.1	3.47	0.55	0.67	0.78	77.5	3.84	0.54	0.66	0.78	72.5	4.25	0.53	0.66	0.80	67.1	4.70	0.52	0.67	0.81
71°F	2560	79.9	3.46	0.41	0.50	0.59	75.6	3.84	0.39	0.49	0.58	70.8	4.24	0.37	0.48	0.58	65.9	4.70	0.35	0.47	0.58
	3200	86.0	3.49	0.42	0.52	0.63	81.4	3.86	0.40	0.52	0.62	76.5	4.27	0.39	0.51	0.63	71.1	4.72	0.37	0.50	0.62
	3480	88.2	3.50	0.42	0.53	0.64	83.4	3.87	0.41	0.53	0.64	78.3	4.27	0.40	0.52	0.64	72.9	4.73	0.38	0.52	0.64

12.5 TON HIGH EFFICIENCY LGH150H4M (2ND STAGE) - SINGLE ZONE VAV SUPPLY FAN

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		85°F					95°F					105°F					115°F				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb		
	cfm	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F
63°F	3800	144.8	9.20	0.69	0.84	0.98	133.8	10.21	0.69	0.86	1.00	122.3	11.34	0.70	0.88	1.00	110.1	12.62	0.72	0.91	1.00
	4400	150.9	9.23	0.73	0.89	1.00	139.2	10.23	0.74	0.91	1.00	127.5	11.37	0.75	0.94	1.00	115.2	12.65	0.77	0.98	1.00
	5000	155.8	9.26	0.76	0.94	1.00	144.0	10.27	0.77	0.97	1.00	132.2	11.40	0.80	0.99	1.00	119.9	12.67	0.82	1.00	1.00
67°F	3800	155.7	9.26	0.53	0.67	0.81	144.2	10.26	0.53	0.68	0.82	132.5	11.39	0.52	0.68	0.84	120.2	12.68	0.51	0.69	0.87
	4400	161.8	9.29	0.56	0.71	0.86	150.1	10.30	0.55	0.72	0.88	137.8	11.43	0.55	0.73	0.90	125.1	12.70	0.55	0.75	0.94
	5000	166.8	9.32	0.58	0.74	0.91	154.8	10.33	0.58	0.75	0.93	142.4	11.47	0.58	0.77	0.96	129.0	12.73	0.58	0.79	0.99
71°F	3800	167.5	9.32	0.39	0.53	0.65	155.7	10.34	0.38	0.52	0.65	143.6	11.47	0.37	0.52	0.66	130.7	12.74	0.35	0.51	0.67
	4400	173.4	9.36	0.41	0.55	0.69	161.3	10.36	0.40	0.55	0.70	148.8	11.51	0.38	0.54	0.70	135.3	12.77	0.37	0.54	0.72
	5000	178.3	9.39	0.42	0.57	0.72	165.7	10.39	0.41	0.57	0.73	152.9	11.52	0.40	0.57	0.75	139.2	12.79	0.38	0.58	0.77

DEHUMIDIFICATION SYSTEM RATINGS

7.5 TON HIGH EFFICIENCY LGH092H4 WITH DEHUMIDIFICATION OPERATING (1ST STAGE)

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		65°F					75°F					85°F					95°F				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb		
	cfm	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F
63°F	2400	26.1	1.9	0.47	0.63	0.81	22.1	2.2	0.33	0.55	0.79	18.0	2.4	0.21	0.47	0.80	12.0	2.6	0.09	0.4	0.8
	3000	30.8	1.9	0.50	0.69	0.89	26.0	2.2	0.36	0.59	0.82	20.6	2.4	0.22	0.48	0.81	10.3	2.6	0.09	0.37	0.79
	3600	35.5	1.9	0.54	0.76	0.98	29.9	2.2	0.39	0.63	0.86	20.7	2.4	0.24	0.55	0.81	8.5	2.6	0.09	0.46	0.76
67°F	2400	33.8	2.0	0.35	0.48	0.64	29.1	2.2	0.20	0.39	0.58	24.3	2.4	0.07	0.30	0.54	17.4	2.7	-0.05	0.21	0.50
	3000	38.0	2.0	0.36	0.52	0.70	32.8	2.2	0.20	0.41	0.62	26.8	2.4	0.07	0.30	0.56	16.8	2.7	-0.08	0.19	0.50
	3600	42.1	2.0	0.37	0.56	0.75	36.5	2.2	0.21	0.53	0.66	27.8	2.4	0.06	0.53	0.56	16.3	2.7	-0.10	0.52	0.47
71°F	2400	41.6	2.0	0.22	0.34	0.47	37.0	2.2	0.07	0.23	0.39	30.5	2.5	-0.06	0.12	0.31	22.9	2.7	-0.19	0.02	0.23
	3000	45.1	2.0	0.22	0.35	0.50	39.6	2.2	0.05	0.24	0.42	32.9	2.5	-0.10	0.12	0.35	23.3	2.7	-0.24	0.01	0.27
	3600	48.7	2.0	0.21	0.37	0.53	43.1	2.2	0.03	0.25	0.46	34.6	2.5	-0.13	0.13	0.39	23.7	2.7	-0.30	0.01	0.31

7.5 TON HIGH EFFICIENCY LGH092H4 WITH DEHUMIDIFICATION OPERATING (2ND STAGE)

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		65°F					75°F					85°F					95°F				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb		
	cfm	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F
63°F	2400	75.3	4.0	0.63	0.76	0.89	68.2	4.5	0.62	0.78	0.92	61.2	5.0	0.61	0.80	0.96	54.1	5.5	0.60	0.82	1.00
	3000	78.8	4.0	0.68	0.81	0.94	71.2	4.5	0.68	0.82	0.96	63.5	5.0	0.67	0.82	0.98	55.9	5.5	0.67	0.83	1.00
	3600	82.3	4.0	0.73	0.90	1.00	74.1	4.5	0.73	0.90	1.00	65.9	5.0	0.73	0.92	1.00	57.7	5.5	0.74	0.96	1.00
67°F	2400	84.0	4.0	0.48	0.61	0.73	78.0	4.5	0.46	0.60	0.74	72.0	5.0	0.43	0.60	0.76	65.5	5.6	0.41	0.60	0.77
	3000	88.6	4.0	0.51	0.65	0.79	81.7	4.5	0.49	0.64	0.80	74.8	5.1	0.47	0.64	0.80	66.9	5.6	0.45	0.63	0.81
	3600	93.3	4.1	0.53	0.71	0.84	85.4	4.6	0.52	0.69	0.84	77.6	5.1	0.50	0.68	0.84	68.3	5.6	0.49	0.68	0.84
71°F	2400	92.7	4.1	0.33	0.45	0.58	87.8	4.6	0.29	0.43	0.57	82.9	5.1	0.25	0.40	0.55	75.5	5.6	0.22	0.38	0.54
	3000	98.5	4.1	0.34	0.48	0.63	92.3	4.6	0.30	0.46	0.62	86.2	5.1	0.26	0.44	0.62	76.9	5.6	0.22	0.42	0.61
	3600	104.2	4.1	0.34	0.51	0.68	96.8	4.6	0.30	0.49	0.68	89.4	5.1	0.27	0.48	0.68	78.3	5.6	0.23	0.46	0.68

8.5 TON HIGH EFFICIENCY LGH102H4 WITH DEHUMIDIFICATION OPERATING (1ST STAGE)

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		65°F					75°F					85°F					95°F				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb		
	cfm	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F
63°F	2720	34.2	2.1	0.49	0.66	0.83	27.4	2.3	0.34	0.58	0.89	18.4	2.6	0.22	0.49	0.94	9.3	2.9	0.09	0.41	1.00
	3400	39.1	2.1	0.53	0.71	0.89	29.2	2.3	0.37	0.60	0.92	19.0	2.6	0.24	0.53	0.96	8.8	2.8	0.12	0.48	1.00
	4080	42.4	2.1	0.56	0.75	0.94	31.0	2.3	0.39	0.69	0.96	19.6	2.6	0.26	0.63	0.98	8.2	2.8	0.14	0.57	1.00
67°F	2720	42.5	2.1	0.33	0.50	0.66	35.0	2.4	0.19	0.37	0.63	25.4	2.6	0.06	0.27	0.59	15.8	2.9	-0.07	0.19	0.56
	3400	47.0	2.1	0.45	0.57	0.70	37.6	2.4	0.20	0.41	0.66	26.7	2.6	0.06	0.32	0.62	15.9	2.9	-0.07	0.24	0.59
	4080	51.5	2.2	0.56	0.65	0.73	40.3	2.4	0.24	0.49	0.69	28.1	2.6	0.06	0.37	0.67	16.0	2.9	-0.08	0.29	0.65
71°F	2720	50.7	2.1	0.18	0.33	0.49	42.6	2.4	0.05	0.20	0.37	32.4	2.7	-0.09	0.10	0.29	22.2	2.9	-0.23	-0.01	0.21
	3400	54.9	2.2	0.37	0.44	0.51	46.1	2.4	0.06	0.23	0.40	34.5	2.7	-0.11	0.11	0.32	23.0	2.9	-0.26	0.00	0.25
	4080	59.0	2.2	0.56	0.54	0.52	49.5	2.4	0.17	0.30	0.43	36.6	2.7	-0.14	0.11	0.37	23.7	2.9	-0.29	0.00	0.30

8.5 TON HIGH EFFICIENCY LGH102H4 WITH DEHUMIDIFICATION OPERATING (2ND STAGE)

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		65°F					75°F					85°F					95°F				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb		
	cfm	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F
63°F	2720	85.3	4.3	0.64	0.81	0.98	77.9	4.9	0.63	0.83	0.99	69.3	5.4	0.61	0.84	0.99	57.8	6.0	0.60	0.86	1.00
	3400	89.2	4.4	0.70	0.84	0.99	81.7	4.9	0.69	0.84	0.99	72.0	5.5	0.69	0.84	1.00	58.9	6.0	0.68	0.84	1.00
	4080	93.1	4.4	0.75	0.87	1.00	85.5	4.9	0.75	0.88	1.00	74.6	5.5	0.76	0.91	1.00	59.9	6.0	0.76	0.95	1.00
67°F	2720	100.8	4.4	0.48	0.63	0.78	90.0	4.9	0.45	0.63	0.78	78.8	5.5	0.42	0.62	0.78	67.6	6.1	0.40	0.62	0.78
	3400	104.5	4.4	0.51	0.66	0.81	94.6	5.0	0.49	0.65	0.81	82.1	5.5	0.46	0.64	0.81	69.7	6.1	0.44	0.62	0.81
	4080	108.2	4.5	0.55	0.69	0.84	99.1	5.0	0.52	0.68	0.84	85.5	5.6	0.50	0.68	0.84	71.8	6.1	0.48	0.67	0.84
71°F	2720	110.1	4.4	0.32	0.45	0.58	99.2	5.0	0.28	0.42	0.57	88.3	5.6	0.23	0.40	0.56	77.4	6.2	0.19	0.37	0.55
	3400	115.8	4.5	0.33	0.48	0.63	104.1	5.0	0.29	0.46	0.63	92.3	5.6	0.24	0.43	0.62	80.6	6.2	0.20	0.41	0.62
	4080	121.5	4.5	0.34	0.51	0.68	108.9	5.1	0.29	0.49	0.68	96.3	5.6	0.25	0.46	0.68	83.7	6.2	0.20	0.44	0.68

10 TON HIGH EFFICIENCY LGH120H4 WITH DEHUMIDIFICATION OPERATING (1ST STAGE)

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		65°F					75°F					85°F					95°F				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb		
	cfm	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F
63°F	3200	49.5	2.6	.48	.70	.92	42.3	2.9	.39	.66	.94	35.1	3.2	.22	.60	.98	27.9	3.5	.01	.46	1.00
	4000	59.0	2.6	.56	.82	1.00	49.1	2.9	.45	.81	1.00	39.1	3.2	.31	.80	.93	29.2	3.5	-.01	.77	.97
	4800	68.6	2.6	.62	.92	1.00	55.9	2.9	.56	.96	1.00	43.2	3.2	.41	1.00	1.00	30.5	3.5	-.02	.97	.80
67°F	3200	61.2	2.7	.30	.49	.66	52.4	3.0	.20	.41	.64	43.5	3.3	.01	.30	.59	34.7	3.6	-.06	.08	.50
	4000	68.2	2.7	.34	.55	.77	57.7	3.0	.23	.49	.75	47.1	3.3	.05	.38	.75	36.5	3.6	-.12	.15	.72
	4800	75.2	2.7	.37	.62	.87	62.9	3.0	.26	.57	.89	50.7	3.3	.06	.50	.92	38.4	3.6	-.18	.28	.98
71°F	3200	73.0	2.7	.17	.32	.48	62.5	3.0	.06	.24	.42	52.0	3.3	-.12	.11	.34	41.5	3.6	-.13	.03	.19
	4000	77.4	2.7	.17	.35	.54	66.2	3.0	.05	.28	.50	55.1	3.3	-.14	.15	.42	43.9	3.6	-.23	-.04	.28
	4800	81.9	2.8	.19	.39	.61	70.0	3.1	.06	.31	.57	58.1	3.4	-.16	.18	.51	46.3	3.7	-.34	-.09	.40

10 TON HIGH EFFICIENCY LGH120H4 WITH DEHUMIDIFICATION OPERATING (2ND STAGE)

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		65°F					75°F					85°F					95°F				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb		
	cfm	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F
63°F	3200	104.7	5.4	.61	.73	.86	95.0	6.1	.58	.75	.91	85.3	6.8	.56	.76	.95	75.5	7.5	.53	.77	1.00
	4000	114.8	5.5	.63	.78	.93	103.4	6.2	.62	.78	.95	91.9	6.8	.60	.79	.98	80.5	7.5	.59	.79	1.00
	4800	125.0	5.5	.65	.82	.99	111.8	6.2	.65	.82	1.00	98.6	6.9	.65	.82	1.00	85.4	7.5	.64	.82	1.00
67°F	3200	118.9	5.5	.45	.57	.69	108.5	6.2	.42	.57	.71	98.1	6.9	.39	.56	.73	87.7	7.6	.36	.56	.74
	4000	128.7	5.6	.47	.60	.74	117.3	6.3	.44	.59	.75	105.9	6.9	.42	.59	.75	94.5	7.6	.39	.58	.76
	4800	138.4	5.6	.48	.64	.79	126.1	6.3	.46	.62	.79	113.8	7.0	.44	.61	.78	101.4	7.6	.42	.60	.78
71°F	3200	133.1	5.6	.29	.41	.53	122.0	6.3	.26	.39	.51	110.9	7.0	.23	.36	.50	99.8	7.7	.20	.34	.49
	4000	142.5	5.7	.30	.43	.56	131.2	6.4	.27	.41	.55	119.9	7.1	.23	.38	.53	108.6	7.7	.19	.36	.52
	4800	151.9	5.8	.31	.45	.59	140.4	6.4	.27	.42	.58	128.9	7.1	.23	.40	.57	117.5	7.7	.19	.37	.56

12.5 TON HIGH EFFICIENCY LGH150H4 WITH DEHUMIDIFICATION OPERATING (1ST STAGE)

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		65°F					75°F					85°F					95°F				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb		
	cfm	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F
63°F	3800	55.2	3.4	.48	.70	.91	45.8	3.8	.40	.67	.94	36.4	4.1	.25	.61	.97	27.0	4.5	.33	.51	.99
	4400	58.2	3.5	.53	.77	1.00	47.9	3.8	.45	.76	1.00	37.6	4.1	.31	.73	1.00	27.3	4.5	.22	.69	1.00
	5000	61.2	3.5	.57	.84	1.00	50.0	3.8	.50	.85	1.00	38.8	4.1	.33	.73	.90	27.6	4.5	.10	.89	1.00
67°F	3800	63.7	3.5	.29	.48	.66	53.8	3.9	.20	.41	.63	44.0	4.2	.04	.32	.59	34.1	4.6	.03	.12	.52
	4400	66.6	3.6	.32	.51	.73	56.1	3.9	.21	.46	.72	45.7	4.2	.05	.36	.68	35.3	4.6	-.04	.19	.65
	5000	69.4	3.6	.33	.55	.79	58.4	3.9	.24	.51	.79	47.4	4.2	.08	.42	.79	36.4	4.6	-.10	.25	.60
71°F	3800	72.2	3.6	.15	.31	.47	61.9	4.0	.05	.23	.42	51.6	4.3	-.10	.12	.35	41.3	4.6	-.28	-.07	.22
	4400	74.9	3.7	.16	.33	.51	64.4	4.0	.05	.25	.45	53.8	4.3	-.11	.14	.39	43.3	4.7	-.29	-.06	.27
	5000	77.7	3.7	.16	.35	.55	66.9	4.0	.05	.28	.51	56.1	4.4	-.12	.16	.45	45.3	4.7	-.30	-.04	.33

12.5 TON HIGH EFFICIENCY LGH150H4 WITH DEHUMIDIFICATION OPERATING (2ND STAGE)

Entering Wet Bulb Temperature	Total Air Volume	Outdoor Air Temperature Entering Outdoor Coil																			
		65°F					75°F					85°F					95°F				
		Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb			Total Cool Cap.	Comp. Motor Input	Sensible To Total Ratio (S/T) Dry Bulb		
	cfm	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F	kBtuh	kW	75°F	80°F	85°F
63°F	3800	122.7	7.3	.63	.79	.96	110.6	8.0	.62	.80	.99	98.6	8.8	.61	.81	1.00	86.5	9.6	.60	.82	1.00
	4400	127.4	7.3	.66	.82	.97	114.4	8.1	.65	.83	1.00	101.4	8.8	.65	.84	1.00	88.4	9.6	.64	.85	1.00
	5000	132.1	7.3	.69	.84	.99	118.2	8.1	.69	.86	1.00	104.2	8.9	.69	.87	1.00	90.3	9.6	.69	.88	1.00
67°F	3800	137.7	7.5	.47	.62	.76	124.7	8.2	.44	.61	.78	111.8	9.0	.42	.60	.79	98.8	9.8	.39	.60	.80
	4400	142.5	7.5	.49	.64	.79	128.7	8.3	.46	.63	.80	115.0	9.0	.44	.63	.81	101.3	9.8	.42	.62	.83
	5000	147.2	7.6	.50	.66	.81	132.7	8.3	.48	.65	.82	118.2	9.1	.46	.65	.84	103.7	9.8	.44	.65	.85
71°F	3800	152.7	7.7	.31	.44	.57	138.8	8.4	.27	.42	.56	125.0	9.2	.23	.39	.55	111.1	10.0	.19	.37	.55
	4400	157.5	7.7	.31	.46	.60	143.1	8.5	.27	.43	.60	128.6	9.2	.23	.41	.59	114.2	10.0	.19	.39	.59
	5000	162.4	7.8	.31	.47	.63	147.3	8.5	.27	.45	.63	132.2	9.3	.23	.43	.63	117.2	10.0	.19	.41	.63

BLOWER DATA

092 AND 102 BELT DRIVE BLOWER − BASE UNIT

BLOWER TABLE INCLUDES RESISTANCE FOR BASE UNIT ONLY (NO HEAT SECTION) WITH DRY INDOOR COIL AND AIR FILTERS IN PLACE.

FOR ALL UNITS ADD:
1 − Wet indoor coil air resistance of selected unit.
2 − Any factory installed options air resistance (heat section, economizer, etc.)
3 − Any field installed accessories air resistance (duct resistance, diffuser, etc.)
Then determine from blower table blower motor output required.

See page 32 for blower motors and drives. See page 32 for wet coil and option/accessory air resistance data.

MAXIMUM STATIC PRESSURE WITH GAS HEAT - 2.0 in. w.g.

Total Air Volume cfm	Total Static Pressure − in. w.g.																							
	0.2		0.4		0.6		0.8		1.0		1.2		1.4		1.6		1.8		2.0		2.2		2.4		2.6	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
1750	481	0.21	549	0.4	618	0.57	688	0.7	758	0.82	824	0.93	885	1.08	941	1.23	991	1.39	1038	1.54	1082	1.68	1124	1.82	1166	1.95
2000	493	0.29	561	0.47	629	0.64	700	0.77	768	0.9	832	1.02	892	1.17	946	1.33	995	1.49	1041	1.66	1085	1.81	1126	1.97	1167	2.12
2250	507	0.37	574	0.56	643	0.72	712	0.86	779	0.99	842	1.13	900	1.28	953	1.44	1001	1.61	1045	1.78	1088	1.95	1128	2.12	1168	2.3
2500	521	0.46	588	0.64	657	0.81	727	0.95	792	1.09	853	1.24	909	1.4	960	1.57	1007	1.74	1050	1.93	1091	2.11	1130	2.29	1170	2.48
2750	537	0.56	604	0.74	674	0.91	743	1.06	806	1.21	865	1.36	920	1.53	969	1.71	1014	1.89	1055	2.08	1095	2.27	1133	2.47	1172	2.66
3000	554	0.67	622	0.86	692	1.02	760	1.18	822	1.34	878	1.5	931	1.68	979	1.86	1021	2.06	1061	2.26	1099	2.46	1136	2.65	1174	2.85
3250	572	0.78	641	0.98	712	1.15	778	1.32	838	1.49	892	1.66	943	1.84	989	2.03	1030	2.24	1068	2.45	1105	2.65	1141	2.85	1178	3.06
3500	592	0.9	663	1.12	733	1.3	798	1.47	855	1.65	907	1.83	956	2.02	1000	2.22	1039	2.44	1076	2.65	1111	2.86	1146	3.07	1183	3.27
3750	614	1.04	687	1.28	756	1.47	818	1.65	872	1.83	923	2.02	970	2.22	1011	2.43	1049	2.65	1084	2.87	1118	3.09	1152	3.29	1189	3.51
4000	639	1.22	713	1.48	780	1.66	838	1.83	890	2.02	939	2.22	984	2.44	1023	2.66	1059	2.89	1093	3.11	1126	3.33	1160	3.54	1197	3.77
4250	667	1.43	741	1.69	805	1.86	859	2.02	909	2.22	956	2.45	998	2.68	1036	2.92	1070	3.15	1103	3.37	1135	3.59	1169	3.81	1207	4.05

BLOWER DATA

120 AND 150 BELT DRIVE BLOWER − BASE UNIT

BLOWER TABLE INCLUDES RESISTANCE FOR BASE UNIT ONLY (NO HEAT SECTION) WITH DRY INDOOR COIL AND AIR FILTERS IN PLACE.

FOR ALL UNITS ADD:
1 − Wet indoor coil air resistance of selected unit.
2 − Any factory installed options air resistance (heat section, economizer, etc.)
3 − Any field installed accessories air resistance (duct resistance, diffuser, etc.)
Then determine from blower table blower motor output required.

See page 32 for blower motors and drives. See page 32 for wet coil and option/accessory air resistance data.

MAXIMUM STATIC PRESSURE WITH GAS HEAT - 2.0 in. w.g.

Total Air Volume cfm	Total Static Pressure − in. w.g.																									
	0.2		0.4		0.6		0.8		1.0		1.2		1.4		1.6		1.8		2.0		2.2		2.4		2.6	
	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP	RPM	BHP
2000	497	0.25	558	0.44	624	0.6	694	0.74	764	0.85	830	0.99	889	1.16	943	1.34	994	1.52	1045	1.71	1096	1.89	1146	2.08	1197	2.27
2250	511	0.34	573	0.52	638	0.68	708	0.82	776	0.94	839	1.09	896	1.26	948	1.45	998	1.64	1048	1.83	1098	2.01	1149	2.2	1200	2.4
2500	527	0.44	589	0.62	654	0.78	723	0.91	789	1.05	850	1.21	904	1.39	955	1.58	1003	1.77	1052	1.96	1101	2.14	1152	2.33	1203	2.53
2750	545	0.55	606	0.72	672	0.88	740	1.03	804	1.17	861	1.34	914	1.53	962	1.72	1010	1.92	1057	2.10	1105	2.29	1154	2.47	1206	2.68
3000	564	0.66	626	0.84	692	1.01	759	1.16	819	1.32	874	1.49	924	1.68	971	1.88	1017	2.08	1063	2.26	1110	2.44	1158	2.63	1208	2.83
3250	585	0.79	648	0.98	714	1.14	778	1.31	836	1.48	887	1.66	935	1.86	981	2.06	1026	2.26	1071	2.45	1117	2.63	1163	2.80	1213	3.00
3500	607	0.93	672	1.13	737	1.31	798	1.48	852	1.66	901	1.85	948	2.05	993	2.26	1037	2.46	1081	2.65	1125	2.83	1171	3.01	1221	3.21
3750	632	1.10	698	1.31	762	1.50	819	1.67	869	1.86	915	2.05	961	2.25	1005	2.47	1049	2.68	1092	2.88	1136	3.05	1181	3.24	1231	3.45
4000	660	1.30	726	1.52	787	1.70	838	1.87	885	2.06	930	2.26	974	2.48	1018	2.71	1062	2.93	1105	3.12	1149	3.30	1194	3.49	1245	3.72
4250	691	1.53	755	1.75	810	1.91	857	2.07	901	2.27	945	2.50	990	2.74	1034	2.98	1077	3.20	1120	3.39	1163	3.58	1210	3.79	1262	4.03
4500	724	1.78	783	1.98	831	2.12	874	2.28	917	2.50	962	2.75	1006	3.02	1051	3.27	1094	3.49	1137	3.70	1181	3.89	1228	4.11	1281	4.38
4750	757	2.05	809	2.20	851	2.33	891	2.51	935	2.76	980	3.05	1025	3.33	1070	3.59	1113	3.82	1156	4.03	1201	4.24	1249	4.47	1303	4.75
5000	787	2.31	831	2.43	870	2.57	910	2.78	954	3.06	1000	3.38	1046	3.68	1091	3.95	1135	4.19	1178	4.40	1224	4.62	1272	4.86	1325	5.13
5250	814	2.55	852	2.66	889	2.83	930	3.09	975	3.41	1023	3.76	1070	4.08	1115	4.35	1159	4.59	1203	4.81	1248	5.03	1297	5.27	1350	5.53
5500	835	2.78	871	2.91	909	3.13	952	3.44	999	3.81	1049	4.18	1096	4.51	1142	4.79	1186	5.03	1229	5.24	1275	5.46	1324	5.69	- - -	- - -
5750	854	3.01	890	3.19	930	3.48	977	3.86	1027	4.27	1078	4.66	1126	4.99	1171	5.26	1214	5.49	1258	5.70	- - -	- - -	- - -	- - -	- - -	- - -
6000	871	3.26	910	3.53	955	3.90	1006	4.34	1060	4.80	1111	5.19	1158	5.51	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -
6250	890	3.57	934	3.94	985	4.41	1041	4.91	1096	5.38	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -

BLOWER DATA

FACTORY INSTALLED BELT DRIVE KIT SPECIFICATIONS

Motor Efficiency	Nominal hp	Maximum hp	Drive Kit Number	RPM Range
Standard & High	2	2.3	1	590 - 890
Standard & High	2	2.3	2	800 - 1105
Standard & High	2	2.3	3	795 - 1195
Standard	3	3.45	4	730 - 970
Standard	3	3.45	5	940 - 1200
Standard	3	3.45	6	1015 - 1300
High	3	3.45	7	730 - 970
High	3	3.45	8	940 - 1200
High	3	3.45	9	1015 - 1300
Standard	5	5.75	10	900 - 1135
Standard	5	5.75	11	1040 - 1315
Standard	5	5.75	12	1125 - 1425

NOTE - Using total air volume and system static pressure requirements determine from blower performance tables rpm and motor output required. Maximum usable output of motors furnished are shown. In Canada, nominal motor output is also maximum usable motor output. If motors of comparable output are used, be sure to keep within the service factor limitations outlined on the motor nameplate.

NOTE – Units equipped with MSAV® (Multi-Stage Air Volume) option are limited to a motor service factor of 1.0.

POWER EXHAUST FAN PERFORMANCE

Return Air System Static Pressure	Air Volume Exhausted
in. w.g.	cfm
0	3175
0.05	2955
0.10	2685
0.15	2410
0.20	2165
0.25	1920
0.30	1420
0.35	1200

FACTORY INSTALLED OPTIONS/FIELD INSTALLED ACCESSORY AIR RESISTANCE - in. w.g.

Air Volume cfm	Wet Indoor Coil		Gas Heat Exchanger			Economizer	Condenser Reheat Coil	Filters		Return Air Adaptor Plate
	092, 102	120, 150	Standard Heat	Medium heat	High Heat			MERV 8	MERV 13	
1750	0.04	0.04	0.06	0.02	0.02	0.05	0.02	0.01	0.03	0.00
2000	0.05	0.05	0.07	0.05	0.06	0.06	0.02	0.01	0.03	0.00
2250	0.06	0.06	0.07	0.07	0.08	0.08	0.02	0.01	0.04	0.00
2500	0.07	0.07	0.09	0.10	0.11	0.11	0.03	0.01	0.05	0.00
2750	0.08	0.08	0.09	0.11	0.12	0.12	0.03	0.02	0.05	0.00
3000	0.10	0.09	0.11	0.12	0.13	0.13	0.03	0.02	0.06	0.02
3250	0.11	0.10	0.12	0.15	0.16	0.15	0.04	0.02	0.06	0.02
3500	0.12	0.11	0.12	0.16	0.17	0.15	0.04	0.03	0.07	0.04
3750	0.14	0.13	0.14	0.19	0.20	0.15	0.05	0.03	0.08	0.07
4000	0.15	0.14	0.14	0.21	0.22	0.19	0.05	0.04	0.08	0.09
4250	0.17	0.15	0.14	0.24	0.28	0.19	0.06	0.04	0.09	0.11
4500	0.19	0.17	0.15	0.26	0.32	0.22	0.07	0.04	0.09	0.12
4750	0.20	0.18	0.16	0.29	0.37	0.25	0.07	0.05	0.10	0.16
5000	0.22	0.20	0.16	0.34	0.43	0.29	0.08	0.06	0.10	0.18
5250	0.24	0.22	0.16	0.37	0.47	0.32	0.08	0.06	0.11	0.19
5500	0.25	0.23	0.18	0.44	0.54	0.34	0.09	0.07	0.12	0.22
5750	0.27	0.25	0.19	0.49	0.59	0.45	0.10	0.07	0.12	0.25
6000	0.29	0.27	0.20	0.54	0.64	0.52	0.10	0.08	0.13	0.27

BLOWER DATA

CEILING DIFFUSERS AIR RESISTANCE - in. w.g.

Unit Size	RTD11 Step-Down Diffuser				FD11 Flush Diffuser
	Air Volume cfm	2 Ends Open	1 Side, 2 Ends Open	All Ends & Sides Open	
092 Models	2400	0.21	0.18	0.15	0.14
	2600	0.24	0.21	0.18	0.17
	2800	0.27	0.24	0.21	0.20
	3000	0.32	0.29	0.25	0.25
	3200	0.41	0.37	0.32	0.31
	3400	0.50	0.45	0.39	0.37
	3600	0.61	0.54	0.48	0.44
	3800	0.73	0.63	0.57	0.51
102 & 120 Models	3600	0.36	0.28	0.23	0.15
	3800	0.40	0.32	0.26	0.18
	4000	0.44	0.36	0.29	0.21
	4200	0.49	0.40	0.33	0.24
	4400	0.54	0.44	0.37	0.27
	4600	0.60	0.49	0.42	0.31
	4800	0.65	0.53	0.46	0.35
	5000	0.69	0.58	0.50	0.39
	5200	0.75	0.62	0.54	0.43
150 Models	4200	0.22	0.19	0.16	0.10
	4400	0.28	0.24	0.20	0.12
	4600	0.34	0.29	0.24	0.15
	4800	0.40	0.34	0.29	0.19
	5000	0.46	0.39	0.34	0.23
	5200	0.52	0.44	0.39	0.27
	5400	0.58	0.49	0.43	0.31
	5600	0.64	0.54	0.47	0.35
	5800	0.70	0.59	0.51	0.39

CEILING DIFFUSER AIR THROW DATA

Model No.	Air Volume	[1] Effective Throw Range	
		RTD11 Step-Down	FD11 Flush
	cfm	ft.	ft.
092 Models	2600	24 - 29	19 - 24
	2800	25 - 30	20 - 28
	3000	27 - 33	21 - 29
	3200	28 - 35	22 - 29
	3400	30 - 37	22 - 30
102, 120 Models	3600	25 - 33	22 - 29
	3800	27 - 35	22 - 30
	4000	29- 37	24 - 33
	4200	32 - 40	26 - 35
	4400	34 - 42	28 - 37
150 Models	5600	39 - 49	28 - 37
	5800	42 - 51	29 - 38
	6000	44 - 54	40 - 50
	6200	45 - 55	42 - 51
	6400	46 - 55	43 - 52
	6600	47 - 56	45 - 56

[1] Throw is the horizontal or vertical distance an air stream travels on leaving the outlet or diffuser before the maximum velocity is reduced to 50 ft. per minute. Four sides open.

ELECTRICAL DATA — 7.5 TON

		Model No.	LGH092H4								
[1] Voltage - 60hz			208/230V - 3 Ph			460V - 3 Ph			575V - 3 Ph		
Compressor 1	Rated Load Amps		13.1			6.1			4.4		
	Locked Rotor Amps		83.1			41			33		
Compressor 2	Rated Load Amps		13.1			6.1			4.4		
	Locked Rotor Amps		83.1			41			33		
Outdoor Fan Motors (2)	Full Load Amps (total)		2.4 (4.8)			1.3 (2.6)			1 (2)		
Power Exhaust (1) 0.33 HP	Full Load Amps		2.4			1.3			1		
Service Outlet 115V GFI (amps)			15			15			20		
Indoor Blower Motor	Horsepower	2	3	5	2	3	5	2	3	5	
	Full Load Amps	7.5	10.6	16.7	3.4	4.8	7.6	2.7	3.9	6.1	
[2] Maximum Overcurrent Protection	Unit Only	50	50	60	25	25	30	15	20	20	
	With (1) 0.33 HP Power Exhaust	50	60	70	25	25	30	20	20	25	
[3] Minimum Circuit Ampacity	Unit Only	42	45	52	20	22	25	15	16	19	
	With (1) 0.33 HP Power Exhaust	45	48	55	22	23	26	16	17	20	

NOTE - All units have a minimum Short Circuit Current Rating (SCCR) of 5000 amps.
[1] Extremes of operating range are plus and minus 10% of line voltage.
[2] HACR type breaker or fuse.
[3] Refer to National or Canadian Electrical Code manual to determine wire, fuse and disconnect size requirements.

ELECTRICAL DATA — 8.5 TON

		Model No.	LGH102H4								
[1] Voltage - 60hz			208/230V - 3 Ph			460V - 3 Ph			575V - 3 Ph		
Compressor 1	Rated Load Amps		13.7			6.2			4.8		
	Locked Rotor Amps		83.1			41			33		
Compressor 2	Rated Load Amps		13.7			6.2			4.8		
	Locked Rotor Amps		83.1			41			33		
Outdoor Fan Motors (2)	Full Load Amps (total)		2.4 (4.8)			1.3 (2.6)			1 (2)		
Power Exhaust (1) 0.33 HP	Full Load Amps		2.4			1.3			1		
Service Outlet 115V GFI (amps)			15			15			20		
Indoor Blower Motor	Horsepower	2	3	5	2	3	5	2	3	5	
	Full Load Amps	7.5	10.6	16.7	3.4	4.8	7.6	2.7	3.9	6.1	
[2] Maximum Overcurrent Protection	Unit Only	50	50	60	25	25	30	20	20	25	
	With (1) 0.33 HP Power Exhaust	50	60	70	25	25	30	20	20	25	
[3] Minimum Circuit Ampacity	Unit Only	44	47	54	20	22	25	16	17	20	
	With (1) 0.33 HP Power Exhaust	46	49	56	22	23	26	17	18	21	

NOTE - All units have a minimum Short Circuit Current Rating (SCCR) of 5000 amps.
[1] Extremes of operating range are plus and minus 10% of line voltage.
[2] HACR type breaker or fuse.
[3] Refer to National or Canadian Electrical Code manual to determine wire, fuse and disconnect size requirements.

ELECTRICAL DATA — 10 TON

Model No.		LGH120H4								
[1] Voltage - 60hz		208/230V - 3 Ph			460V - 3 Ph			575V - 3 Ph		
Compressor 1	Rated Load Amps	16			7.8			5.7		
	Locked Rotor Amps	110			52			38.9		
Compressor 2	Rated Load Amps	16			7.8			5.7		
	Locked Rotor Amps	110			52			38.9		
Outdoor Fan Motors (2)	Full Load Amps	2.4			1.3			1		
	(total)	(4.8)			(2.6)			(2)		
Power Exhaust (1) 0.33 HP	Full Load Amps	2.4			1.3			1		
Service Outlet 115V GFI (amps)		15			15			20		
Indoor Blower Motor	Horsepower	2	3	5	2	3	5	2	3	5
	Full Load Amps	7.5	10.6	16.7	3.4	4.8	7.6	2.7	3.9	6.1
[2] Maximum Overcurrent Protection	Unit Only	60	60	70	30	30	35	20	20	25
	With (1) 0.33 HP Power Exhaust	60	60	70	30	30	35	20	25	25
[3] Minimum Circuit Ampacity	Unit Only	49	52	58	24	25	28	18	19	22
	With (1) 0.33 HP Power Exhaust	51	54	61	25	27	30	19	20	23

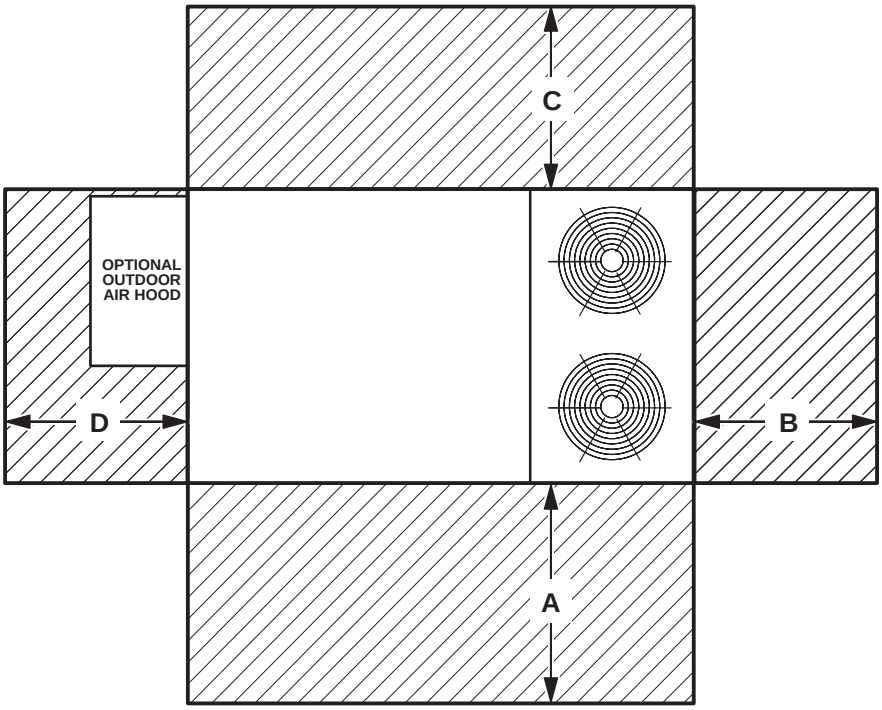
NOTE - All units have a minimum Short Circuit Current Rating (SCCR) of 5000 amps.
[1] Extremes of operating range are plus and minus 10% of line voltage.
[2] HACR type breaker or fuse.
[3] Refer to National or Canadian Electrical Code manual to determine wire, fuse and disconnect size requirements.

ELECTRICAL DATA — 12.5 TON

Model No.		LGH150H4								
[1] Voltage - 60hz		208/230V - 3 Ph			460V - 3 Ph			575V - 3 Ph		
Compressor 1	Rated Load Amps	19.6			8.2			6.6		
	Locked Rotor Amps	136			66.1			55.3		
Compressor 2	Rated Load Amps	22.4			10.6			7.7		
	Locked Rotor Amps	149			75			54		
Outdoor Fan Motors (2)	Full Load Amps	3.2			1.7			1.5		
	(total)	(6.4)			(3.4)			(3)		
Power Exhaust (1) 0.33 HP	Full Load Amps	2.4			1.3			1		
Service Outlet 115V GFI (amps)		15			15			20		
Indoor Blower Motor	Horsepower	2	3	5	2	3	5	2	3	5
	Full Load Amps	7.5	10.6	16.7	3.4	4.8	7.6	2.7	3.9	6.1
[2] Maximum Overcurrent Protection	Unit Only	80	80	90	35	35	40	25	30	30
	With (1) 0.33 HP Power Exhaust	80	80	90	35	40	40	30	30	30
[3] Minimum Circuit Ampacity	Unit Only	62	65	71	28	30	33	22	23	25
	With (1) 0.33 HP Power Exhaust	64	67	73	30	31	34	23	24	26

NOTE - All units have a minimum Short Circuit Current Rating (SCCR) of 5000 amps.
[1] Extremes of operating range are plus and minus 10% of line voltage.
[2] HACR type breaker or fuse.
[3] Refer to National or Canadian Electrical Code manual to determine wire, fuse and disconnect size requirements.

UNIT CLEARANCES



[1] Unit Clearance	A		B		C		D		Top Clearance
	in.	mm	in.	mm	in.	mm	in.	mm	
Service Clearance	60	1524	36	914	36	934	60	1524	Unobstructed
Clearance to Combustibles	36	914	1	25	1	25	1	25	
Minimum Operation Clearance	36	914	36	914	36	914	36	914	

NOTE - Entire perimeter of unit base requires support when elevated above the mounting surface.

[1] Service Clearance - Required for removal of serviceable parts.
Clearance to Combustibles - Required clearance to combustible material.
Minimum Operation Clearance - Required clearance for proper unit operation.

OUTDOOR SOUND DATA

Unit Model Number	Octave Band Sound Power Levels dBA, re 10^{-12} Watts - Center Frequency - Hz							[1] Sound Rating Number (dBA)
	125	250	500	1000	2000	4000	8000	
092, 102 and 120	76	79	84	83	79	73	66	88
150	75	81	87	85	80	74	70	90

Note - The octave sound power data does not include tonal corrections.

[1] Sound Rating Number according to AHRI Standard 370-2001 (includes pure tone penalty). Sound Rating Number is the overall A-Weighted Sound Power Level, (LWA), dBA (100 Hz to 10,000 Hz).

WEIGHT DATA

Model Number	Outdoor Coil	Net		Shipping		Outdoor Coil	Net		Shipping	
		lbs.	kg	lbs.	kg		lbs.	kg	lbs.	kg
092 Base Unit	Eco-Last™	1088	494	1173	532	Fin/Tube	1168	530	1253	568
092 Max. Unit	Eco-Last™	1239	562	1324	601	Fin/Tube	1319	598	1404	637
102 Base Unit	Eco-Last™	1095	497	1180	535	Fin/Tube	1175	533	1260	572
102 Max. Unit	Eco-Last™	1246	565	1331	604	Fin/Tube	1326	601	1411	640
120 Base Unit	Eco-Last™	1130	513	1215	551	Fin/Tube	1210	549	1295	587
120 Max. Unit	Eco-Last™	1281	581	1366	620	Fin/Tube	1361	617	1446	656
150 Base Unit	N/A	- - -	- - -	- - -	- - -	Fin/Tube	1213	550	1298	589
150 Max. Unit	N/A	- - -	- - -	- - -	- - -	Fin/Tube	1363	618	1448	657

OPTIONS / ACCESSORIES

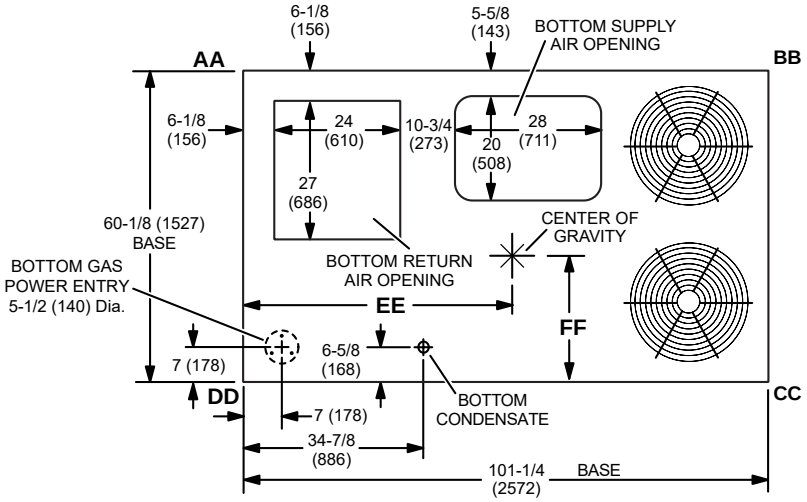
Model Number	Shipping Weight	
	lbs.	kg
CONVENTIONAL FIN/TUBE CONDENSER COIL		
Fin/Tube Condenser Coil (092-102-120 Models Only)	80	36
ECONOMIZER / OUTDOOR AIR / EXHAUST		
Economizer		
Economizer Dampers	60	27
Outdoor Air Hood (downflow)	23	10
Barometric Relief Dampers (downflow)	8	4
Barometric Relief Dampers (low profile horizontal)	20	9
Outdoor Air Dampers		
Outdoor Air Damper Section - Automatic	51	23
Outdoor Air Damper Section - Manual	39	18
Power Exhaust	31	14
GAS HEAT EXCHANGER (NET WEIGHT)		
Medium Heat (adder over standard heat)	9	5
High Heat (adder over standard heat)	32	15
DEHUMIDIFICATION SYSTEM		
Dehumidification Option	20	9
SUPPLY AIR BLOWER OPTION		
Variable Frequency Drive (VFD) and associated components	10	5
ROOF CURBS		
Hybrid Roof Curbs, Downflow		
8 in. height	60	27
14 in. height	85	39
18 in. height	100	45
24 in. height	125	57
Adjustable Pitch Curb, Downflow		
14 in. height	191	82
CEILING DIFFUSERS		
Step-Down		
RTD11-95S	118	54
RTD11-135S	135	61
RTD11-185S	168	76
Flush		
FD11-95S	118	54
FD11-135S	135	61
FD11-185S	168	76
Transitions		
C1DIFF30B-1	30	14
C1DIFF31B-1	32	15
C1DIFF32B-1	36	16
PACKAGING		
LTL Packaging (less than truck load)	105	48

DIMENSIONS - UNIT

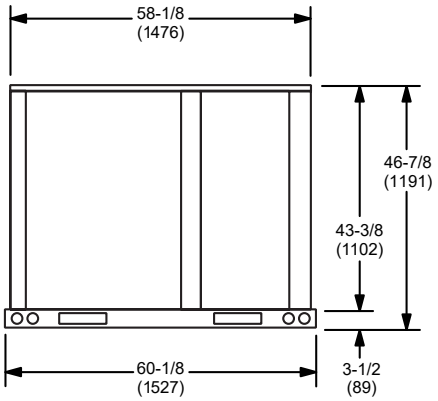
Model No.	CORNER WEIGHTS																CENTER OF GRAVITY							
	AA				BB				CC				DD				EE				FF			
	Base		Max.		Base		Max.		Base		Max.		Base		Max.		Base		Max.		Base		Max.	
	lbs.	kg	lbs.	kg	lbs.	kg	lbs.	kg	lbs.	kg	lbs.	kg	lbs.	kg	lbs.	kg	in.	mm	in.	mm	in.	mm	in.	mm
092	293	133	338	153	263	119	295	134	286	130	316	143	326	148	370	168	46.5	1181	45.5	1156	24.5	622	25.5	648
102	294	134	340	154	265	120	297	135	288	131	318	144	328	149	372	169	46.5	1181	45.5	1156	24.5	622	25.5	648
120	306	139	349	158	275	125	305	138	295	134	326	148	334	152	382	173	46.5	1181	45.5	1156	24.5	622	25.5	648
150	316	143	359	163	284	129	314	142	304	138	393	178	345	157	393	178	46.5	1181	45.5	1156	24.5	622	25.5	648

Base Unit - The unit with NO INTERNAL OPTIONS.

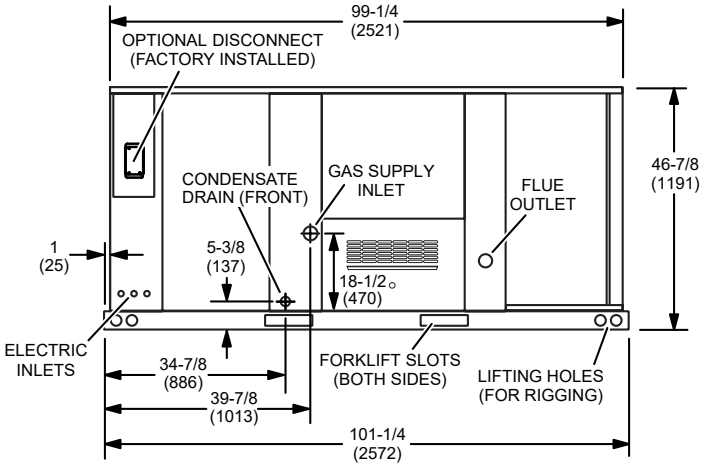
Max. Unit - The unit with ALL INTERNAL OPTIONS Installed. (Economizer, Standard Static Power Exhaust Fans, Controls, etc.). Does not include accessories external to unit or high static power exhaust.



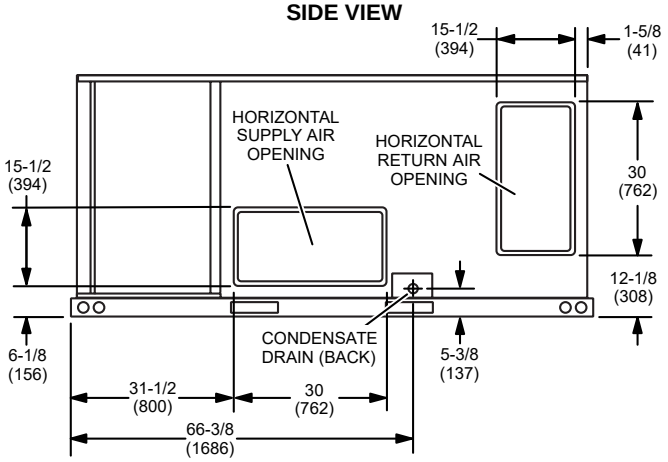
TOP VIEW



END VIEW

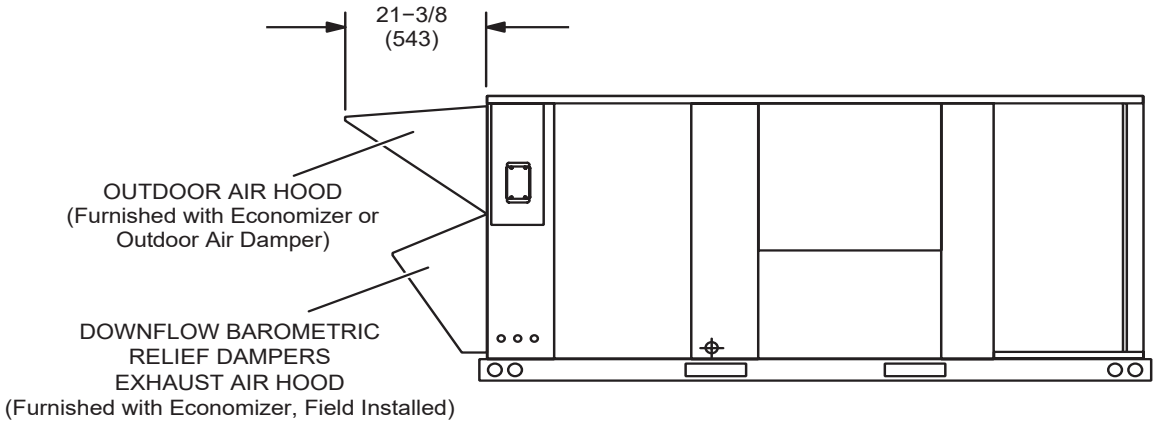


SIDE VIEW

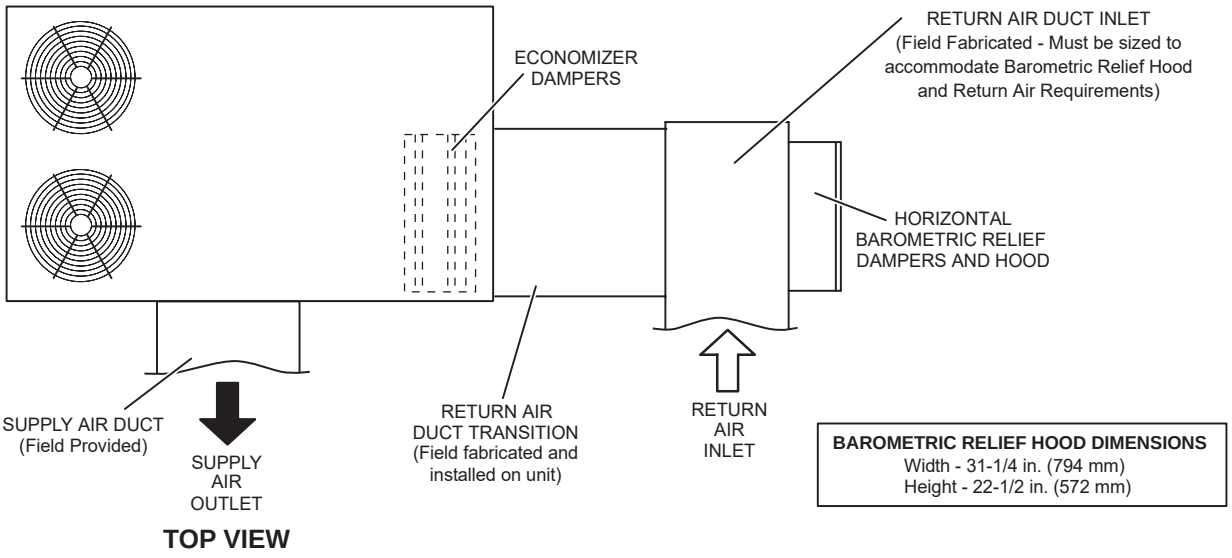


SIDE VIEW
(Horizontal Openings)

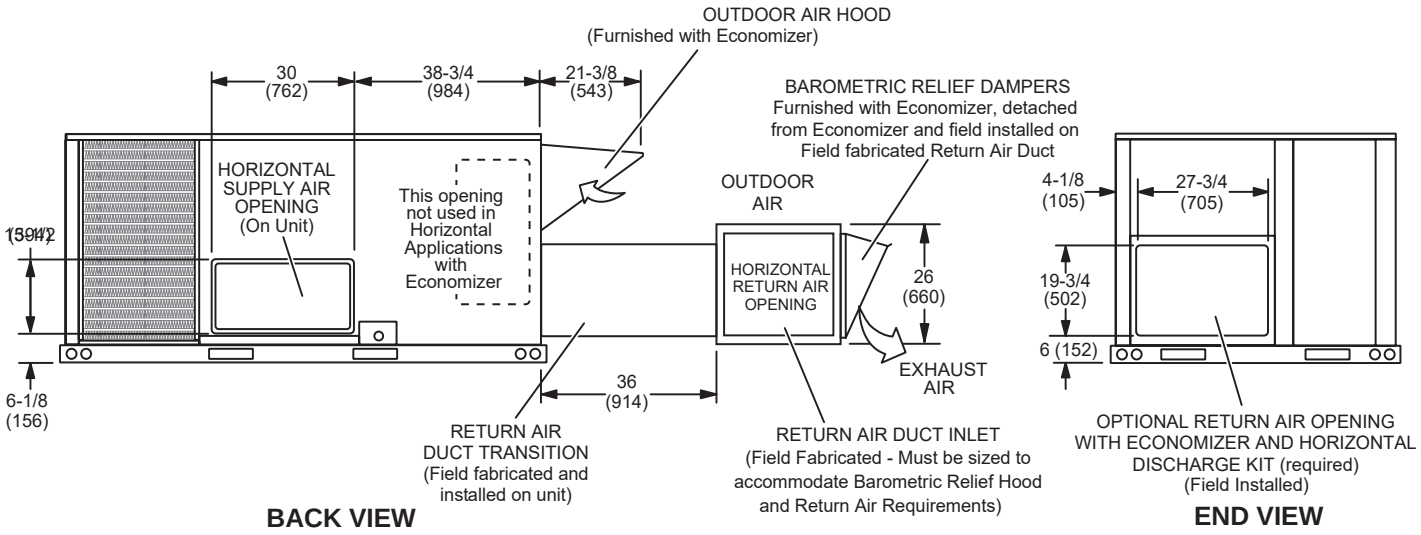
OUTDOOR AIR HOOD DETAIL



HORIZONTAL ECONOMIZER APPLICATION
(With Furnished Barometric Relief Dampers and Optional Horizontal Discharge Kit - Required)



TOP VIEW

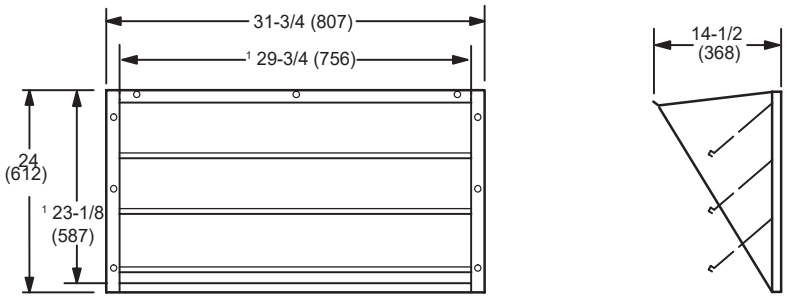


BACK VIEW **END VIEW**

NOTE - Return Air Duct and Transition must be supported.

BAROMETRIC RELIEF DAMPERS
(Furnished with Economizer)

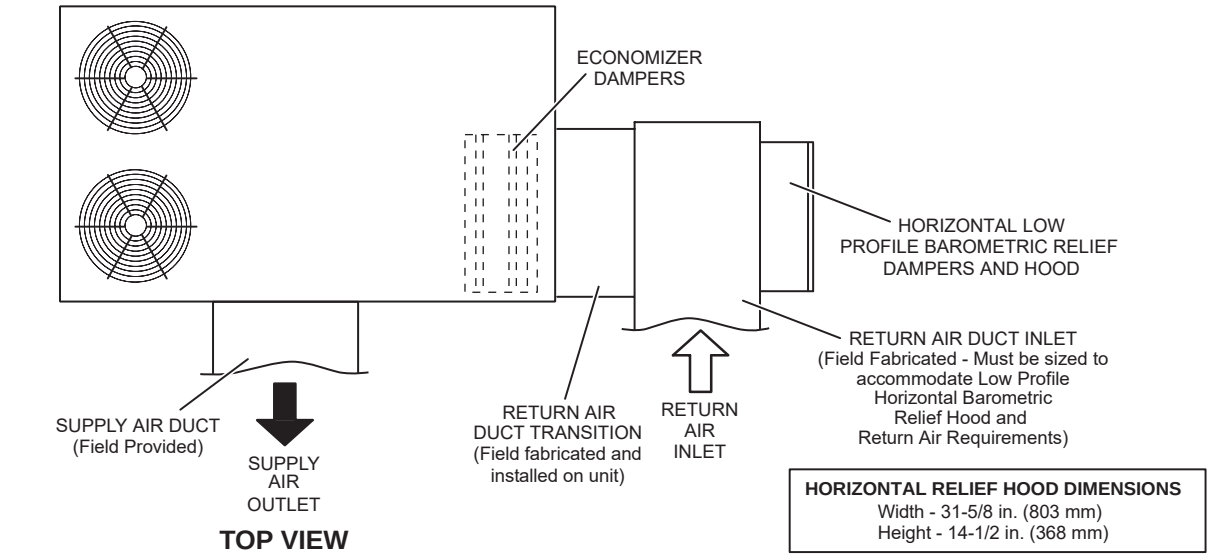
(Field installed in horizontal return air duct adjacent to unit)



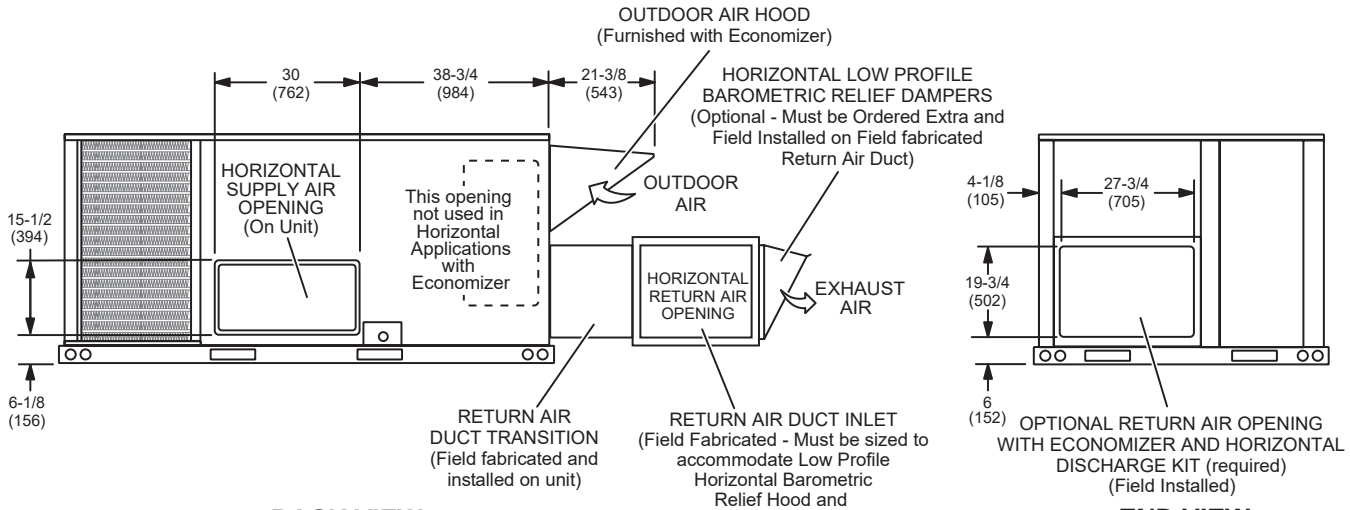
FRONT VIEW **SIDE VIEW**

[1] NOTE - Opening size required in return air duct.

HORIZONTAL ECONOMIZER APPLICATION
(with Optional Low Profile Horizontal Barometric Relief Dampers and Horizontal Discharge Kit - Required)



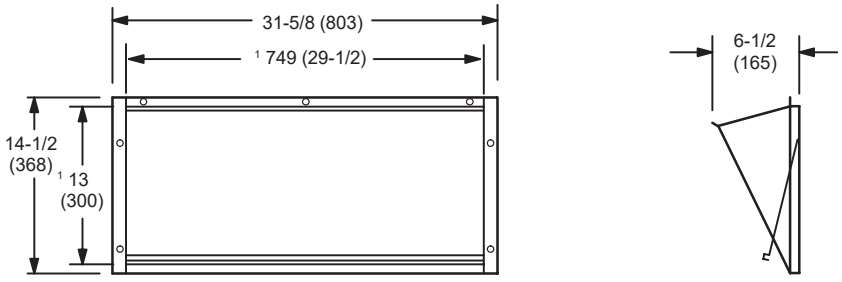
TOP VIEW



BACK VIEW **END VIEW**

NOTE - Return Air Duct and Transition must be supported.

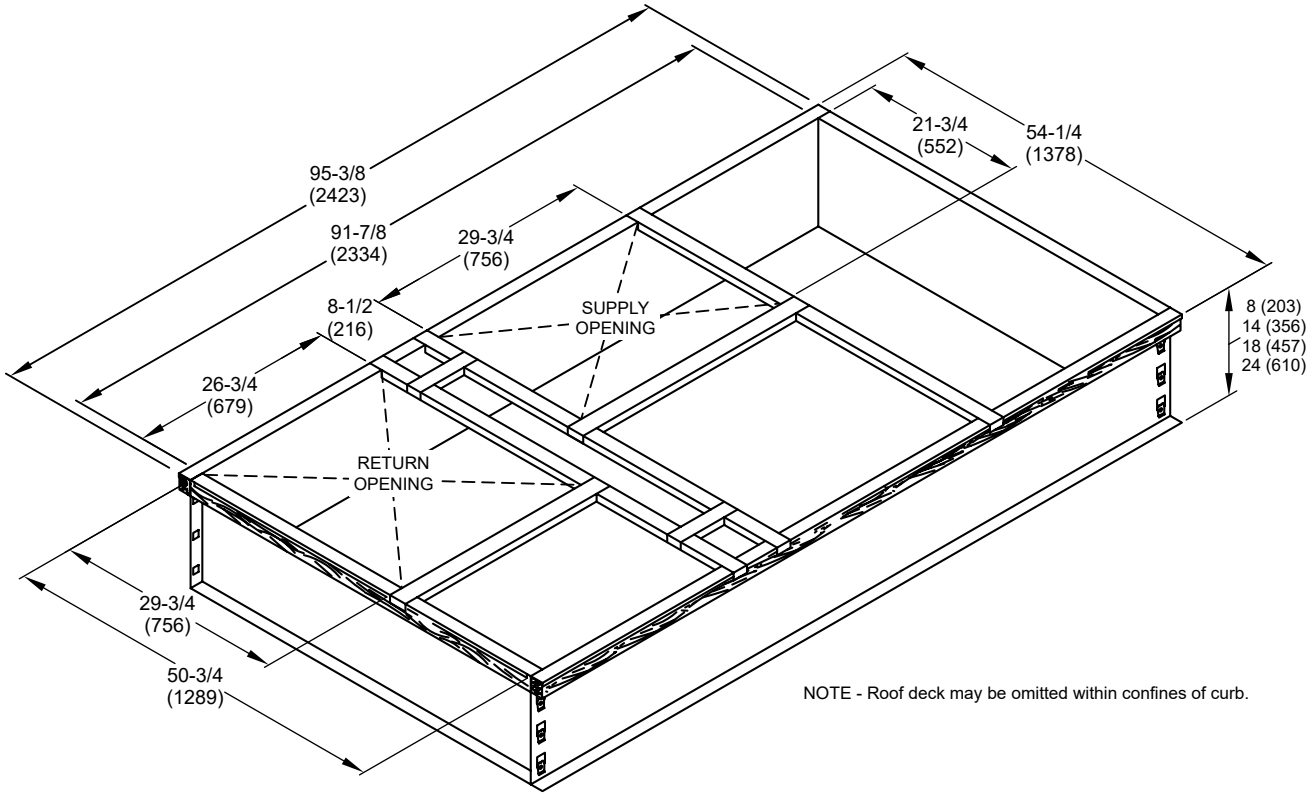
HORIZONTAL LOW PROFILE BAROMETRIC RELIEF DAMPERS
(Field installed in horizontal return air duct adjacent to unit)



FRONT VIEW **SIDE VIEW**

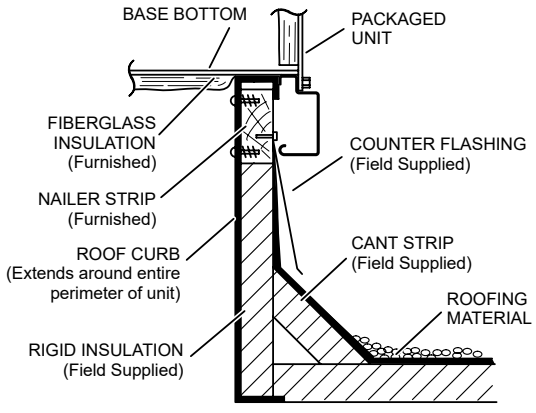
[1] NOTE - Opening size required in return air duct.

HYBRID ROOF CURBS - DOUBLE DUCT OPENING

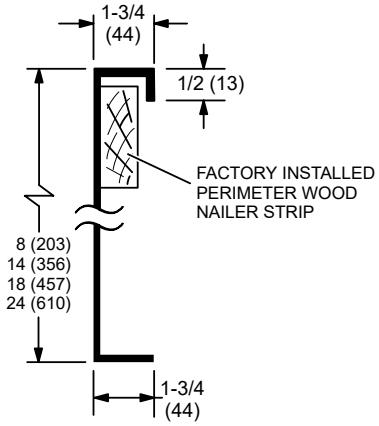


NOTE - Roof deck may be omitted within confines of curb.

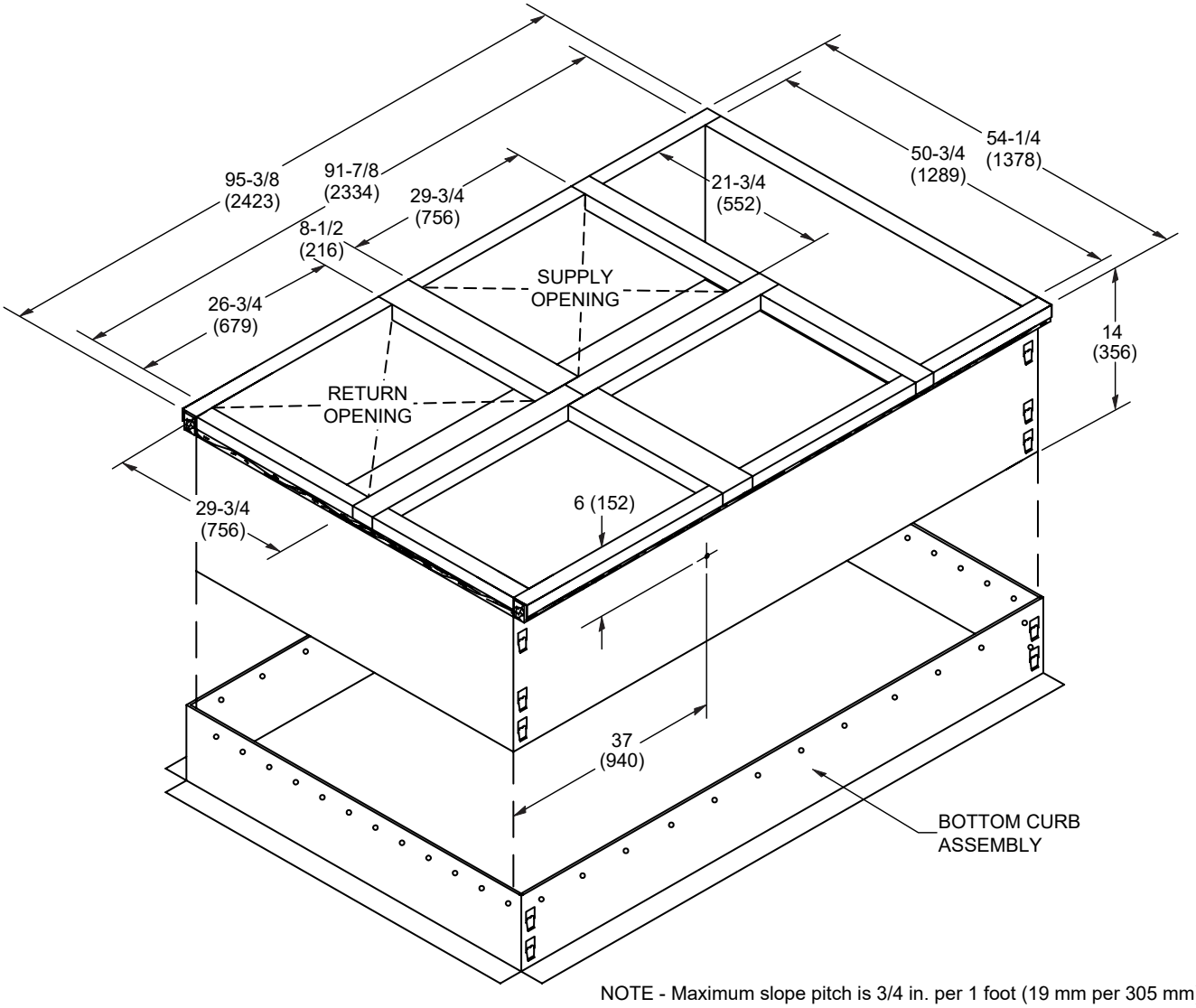
TYPICAL FLASHING DETAIL FOR ROOF CURB



DETAIL ROOF CURB

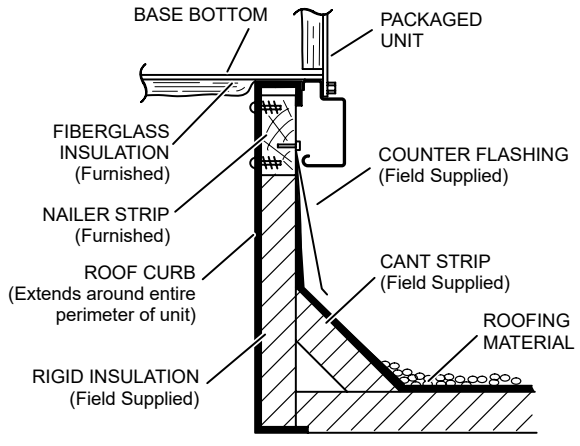


ADJUSTABLE PITCH CURBS - DOUBLE DUCT OPENING

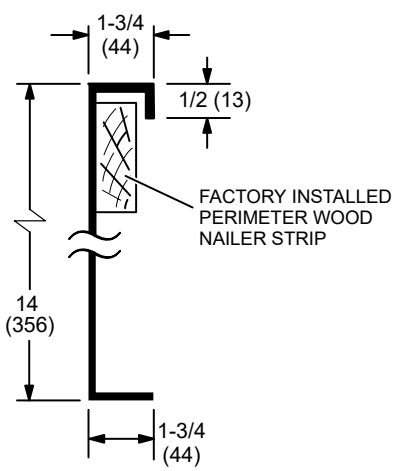


NOTE - Maximum slope pitch is 3/4 in. per 1 foot (19 mm per 305 mm) in any one direction.

TYPICAL FLASHING DETAIL FOR ROOF CURB

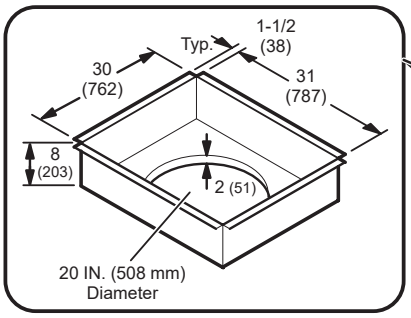


DETAIL ROOF CURB

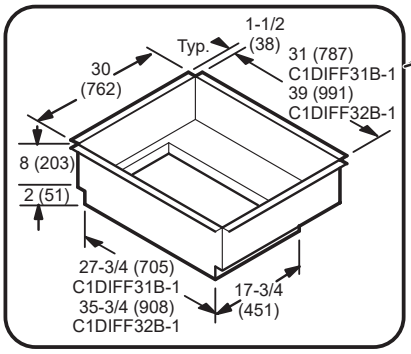


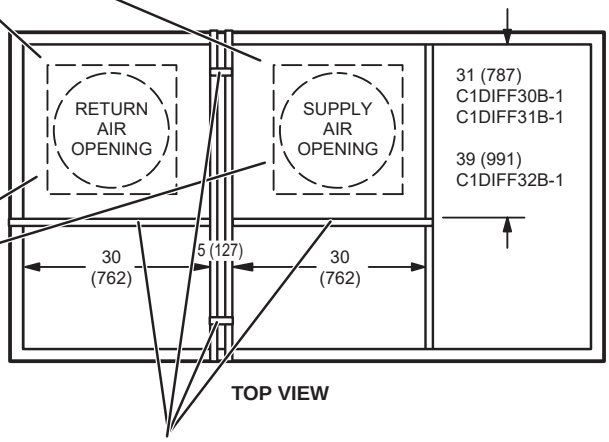
ROOF CURBS WITH SUPPLY & RETURN AIR TRANSITIONS FOR CEILING DIFFUSERS

C1DIFF30B-1 ROUND TRANSITIONS
(for 092 models)



C1DIFF31B-1 & C1DIFF32B-1 RECTANGULAR TRANSITIONS
(for 102 thru 150 models)



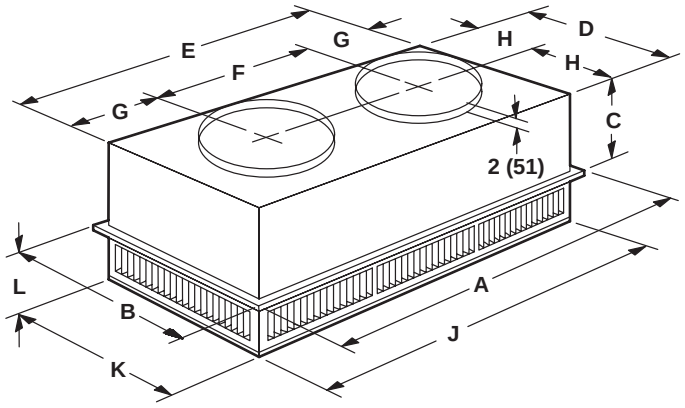


TOP VIEW

NOTE - These four supports are furnished with the transitions to replace supports furnished with curb for proper transition spacing.

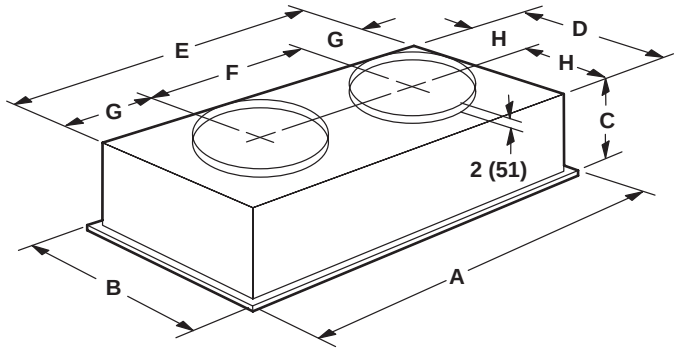
COMBINATION CEILING SUPPLY AND RETURN DIFFUSERS

STEP-DOWN CEILING DIFFUSER



Model Number		RTD11-95S
A	in.	47-5/8
	mm	1159
B	in.	29-5/8
	mm	752
C	in.	14-3/8
	mm	365
D	in.	27-1/2
	mm	699
E	in.	45-1/2
	mm	1158
F	in.	22-1/2
	mm	572
G	in.	11-1/2
	mm	292
H	in.	13-3/4
	mm	349
J	in.	45-1/2
	mm	1156
K	in.	27-1/2
	mm	699
L	in.	8-1/8
	mm	206
Duct Size	in.	20 round
	mm	508 round

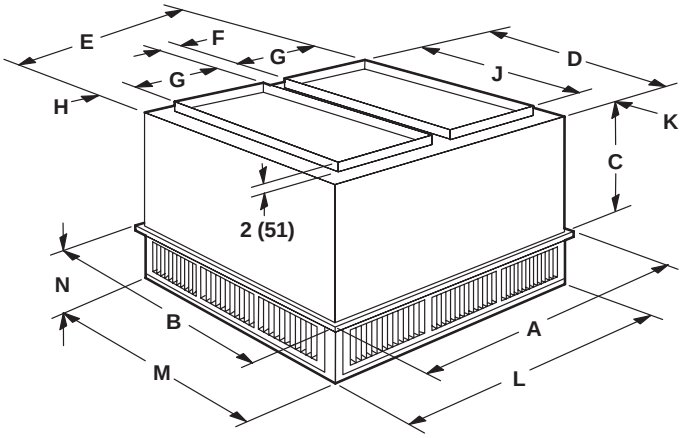
FLUSH CEILING DIFFUSER



Model Number		FD11-95S
A	in.	47-5/8
	mm	1159
B	in.	29-5/8
	mm	752
C	in.	16-5/8
	mm	422
D	in.	27
	mm	686
E	in.	45
	mm	1143
F	in.	22-1/2
	mm	572
G	in.	11-1/4
	mm	286
H	in.	13-1/2
	mm	343
Duct Size	in.	20 round
	mm	508 round

COMBINATION CEILING SUPPLY AND RETURN DIFFUSERS

STEP-DOWN CEILING DIFFUSER



Model Number		RTD11-135S	RTD11-185S
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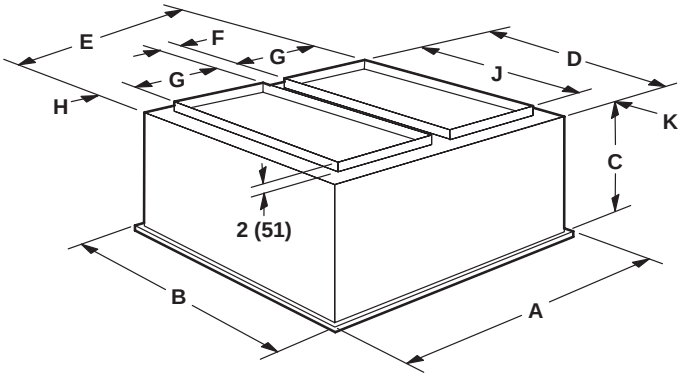
	mm	1210	1210
B	in.	35-5/8	47-5/8
	mm	905	1210
C	in.	20-5/8	24-5/8
	mm	524	625
D	in.	33-1/2	45-1/2
	mm	851	1156
E	in.	45-1/2	45-1/2
	mm	1156	1156
F	in.	4-1/2	4-1/2
	mm	114	114
G	in.	18	18
	mm	457	457
H	in.	2-1/2	2-1/2
	mm	64	64
J	in.	28	36
	mm	711	914
K	in.	2-3/4	4-3/4
	mm	70	121
L	in.	45-1/2	45-1/2
	mm	1156	1156
M	in.	33-1/2	45-1/2
	mm	851	1156
N	in.	9-1/8	10-1/8
	mm	232	257
Duct Size	in.	18 x 28	18 x 36
	mm	457 x 711	457 x 914

FLUSH CEILING DIFFUSER



Model Number		FD11-135S	FD11-185S
A	in.	47-5/8	47-5/8
	mm	1210	1210
B	in.	35-5/8	47-5/8
	mm	905	1210
C	in.	23-1/4	29-1/4
	mm	591	743
D	in.	33	45
	mm	838	1143
E	in.	45	45
	mm	1143	1143
F	in.	4-1/2	4-1/2
	mm	114	114
G	in.	18	18
	mm	457	457
H	in.	2-1/4	2-1/4
	mm	57	57
J	in.	28	36
	mm	711	914
K	in.	2-1/2	4-1/2
	mm	64	114
Duct Size	in.	18 x 28	18 x 36
	mm	457 x 711	457 x 914

REVISIONS

Section	Description
Electrical Data	Updated for LGH092, 102 models.
Specifications	Refrigerant charge updated for LGH092, 102 models.

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Contact us at 1-800-448-5872

NOTE - Due to Allied Commercial ongoing commitment to quality, Specifications, Ratings and Dimensions subject to change without notice and without incurring liability.
Improper installation, adjustment, alteration, service or maintenance can cause property damage or personal injury.
Installation and service must be performed by a qualified installer and servicing agency.

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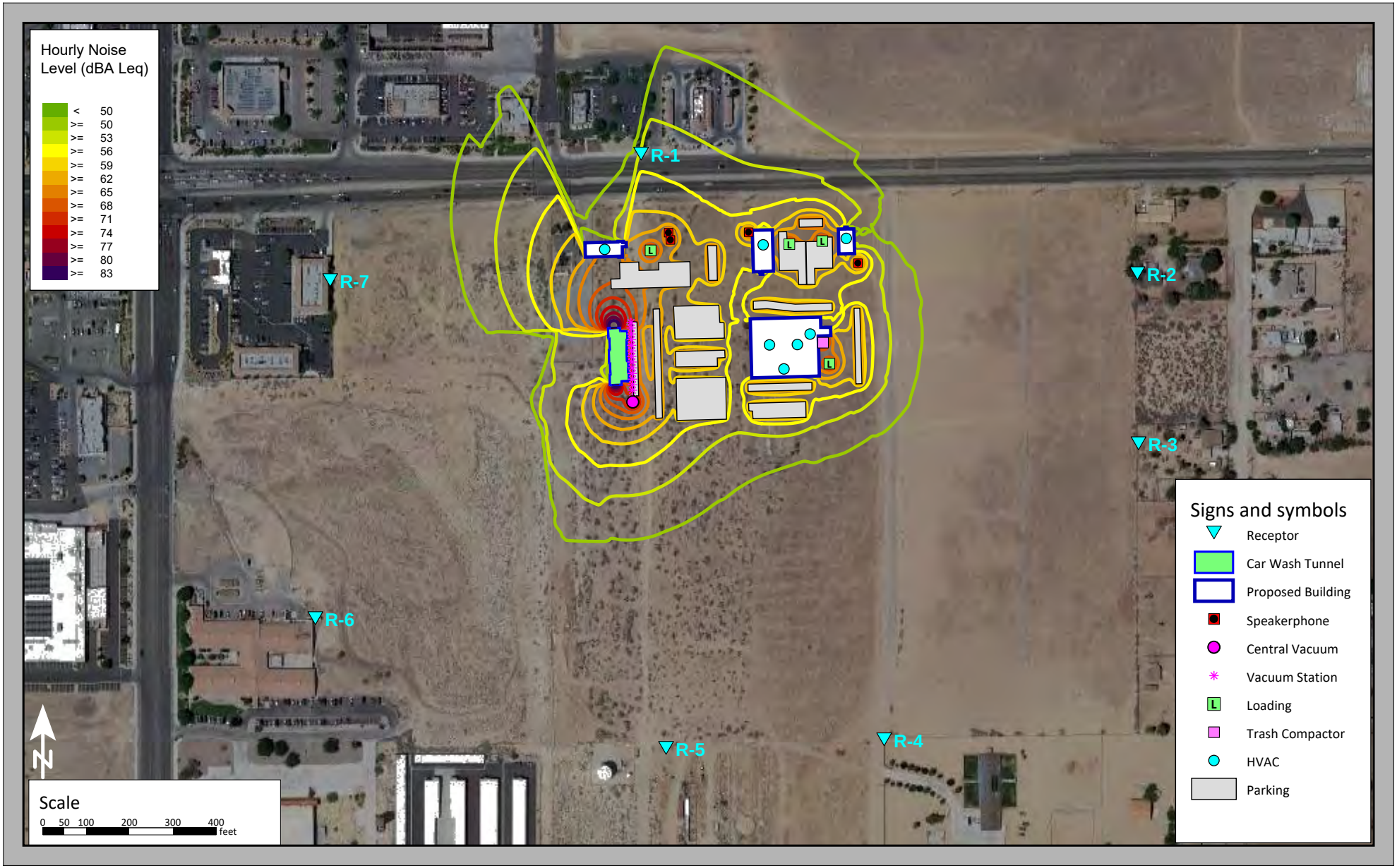
Apple Bear Commercial

Project No. WDN2201

Project Operational Noise Levels - Daytime



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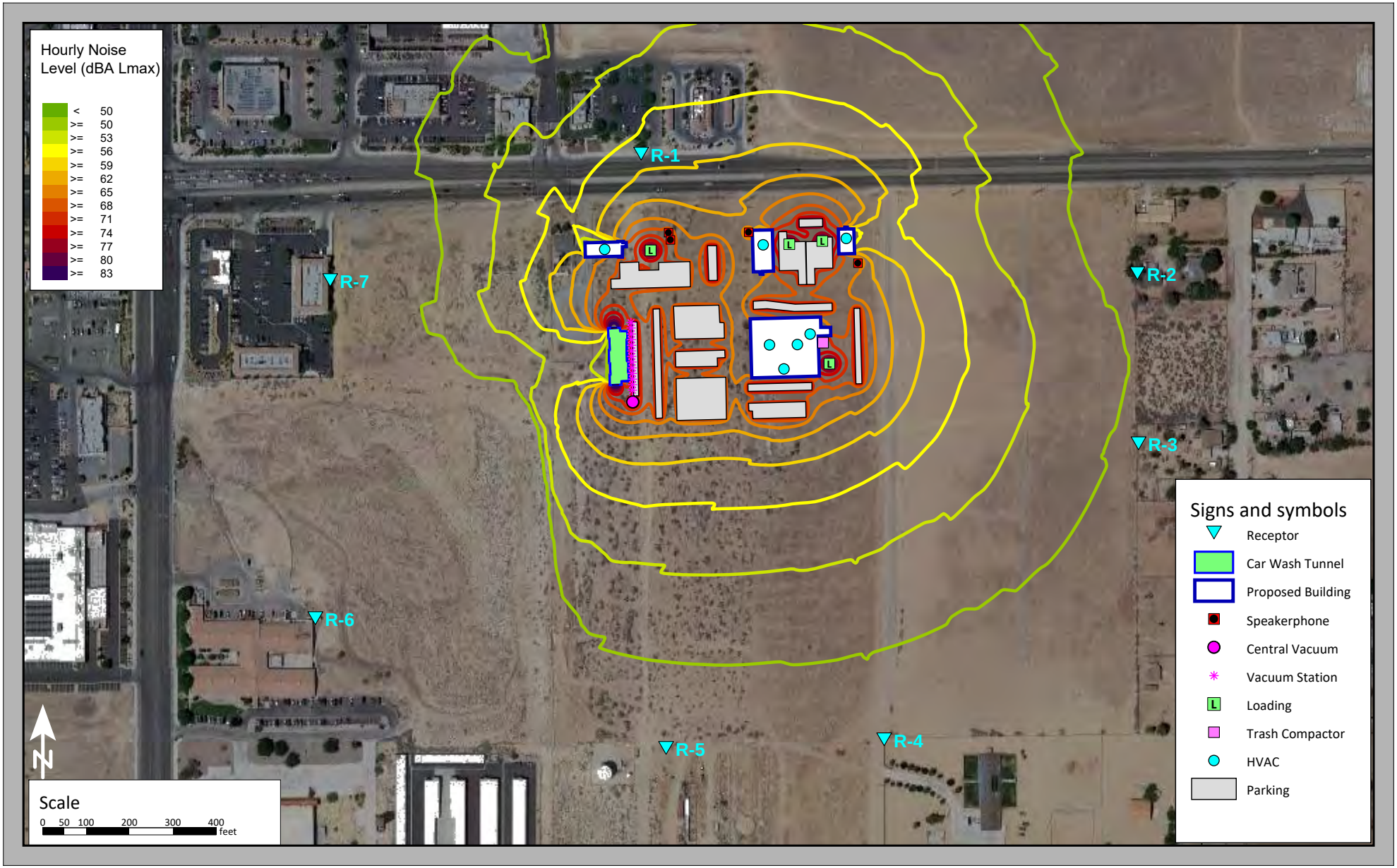
Apple Bear Commercial

Project No. WDN2201

Project Operational Maximum (Lmax) Noise Levels - Daytime



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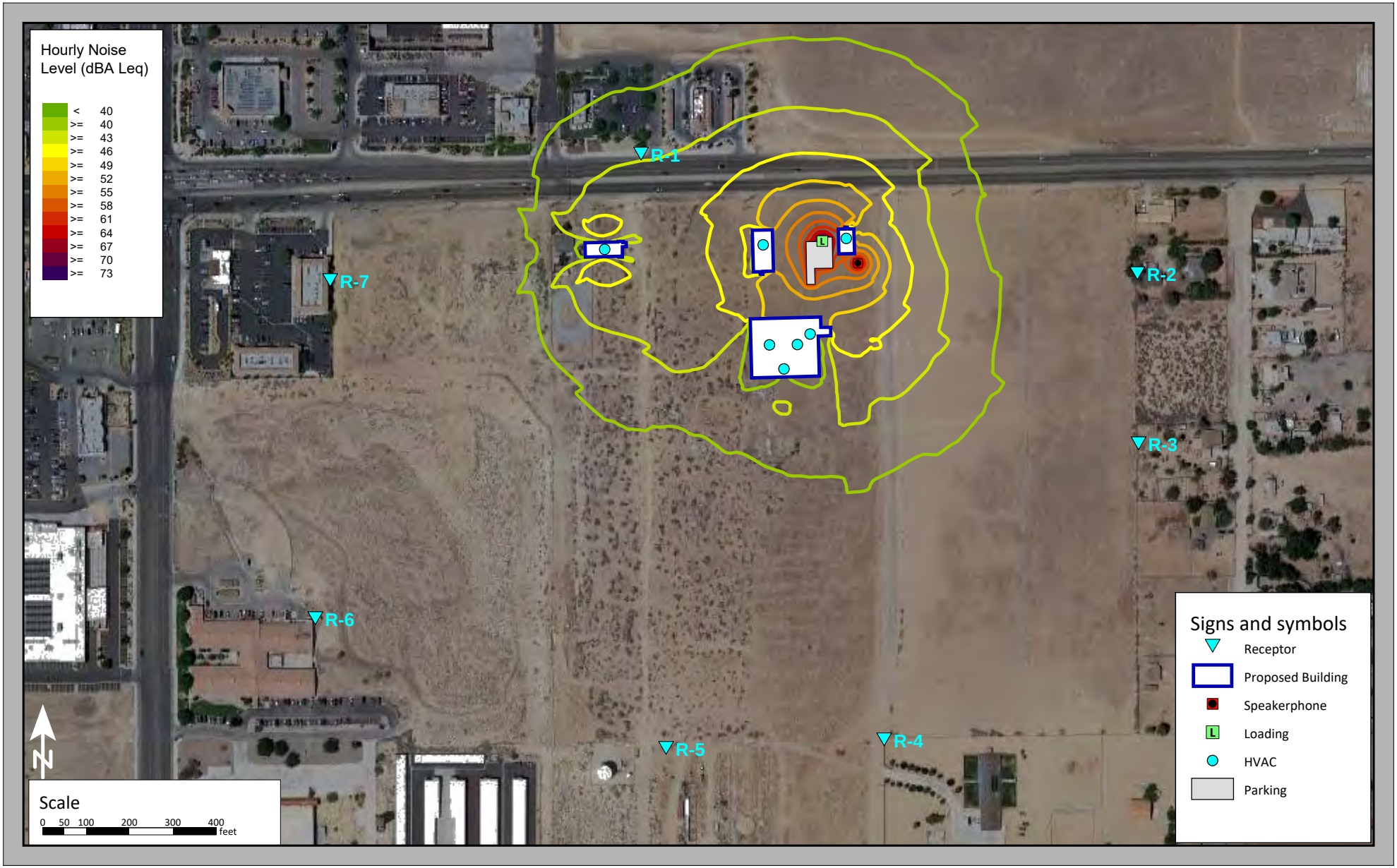
Apple Bear Commercial

Project No. WDN2201

Project Operational Noise Levels - Nighttime



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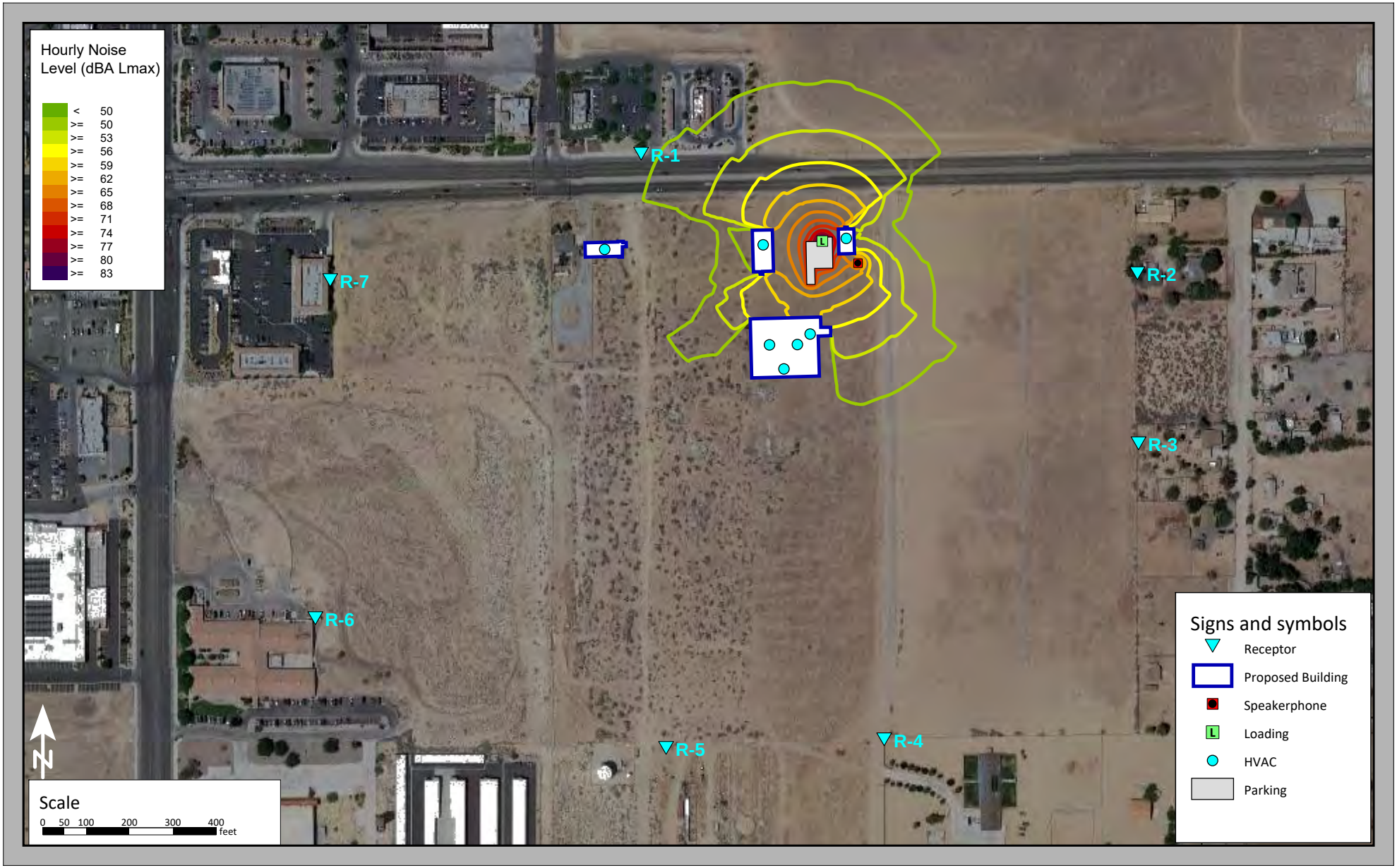
Apple Bear Commercial

Project No. WDN2201

Project Operational Maximum (Lmax) Noise Levels - Nighttime



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TRAFFIC IMPACT STUDY

APPLE BEAR COMMERCIAL PROJECT

TOWN OF APPLE VALLEY

SAN BERNARDINO COUNTY, CALIFORNIA

This Traffic Impact Study has been prepared under the supervision of
Ambarish Mukherjee, P.E.

LSA

May 2023

TRAFFIC IMPACT STUDY

APPLE BEAR COMMERCIAL PROJECT

TOWN OF APPLE VALLEY

SAN BERNARDINO COUNTY, CALIFORNIA

Prepared for:

Richard Pedersen, Deputy Town Engineer
Town of Apple Valley
14955 Dale Evans Parkway
Apple Valley, California 92307

Prepared by:

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Project No. WDN2201

LSA

May 2023

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1.0 EXECUTIVE SUMMARY

The proposed Apple Bear Commercial Project (Project) in the Town of Apple Valley (Town) consists of a 23,256 square-foot (sf) grocery store (Sprouts), a 3,546 sf fast-food restaurant with drive-through (Raising Canes), a 1,310 sf fast-food restaurant with drive-through, a 2,500 sf fast-food restaurant with drive-through (Pad 3), 3,750 sf of quick serve restaurants, and a 5,500 sf car wash with a 131-foot wash tunnel.

The project is located on the southeast corner of Bear Valley Road and Apple Bear Road (future road) in the Town of Apple Valley, San Bernardino County (County) on Assessor Parcel Numbers (APNs) 0434-021-10, -34, and -37. According to the Town's General Plan, the project parcel is considered as General Commercial (C-G). The project is anticipated to be completed by Year 2024.

The project can be accessed via five driveways:

- Project Driveway 1 on Apple Bear Road;
- Project Driveway 2 on Apple Bear Road;
- Project Driveway 3 on Bear Valley Road;
- Project Driveway 4 on Flying Feather Road; and
- Project Driveway 5 on Flying Feather Road.

Project Driveway 1, Project Driveway 2, Project Driveway 4, and Project Driveway 5 will be full access driveways. Project Driveway 3 will be a right-in-right-out (RIRO) driveway. Based on discussion with Town staff, the project will extend the existing raised median along Bear Valley Road to the east of the intersection of Flying Feather Road and Bear Valley Road. This project design feature will restrict left-turns in and out of Flying Feather Road.

The project is forecast to generate 388 net passenger car equivalent (PCE) trips in the a.m. peak hour, 432 net PCE trips in the p.m. peak hour, and 5,120 net PCE daily trips.

The study area for the project was finalized based on the criteria defined in the San Bernardino County *Traffic Impact Study (TIS) Guidelines* (dated July 2019) and in consultation with Town staff. Based on the County's TIS Guidelines and discussions with Town staff during the scoping agreement process, the study area includes fifteen intersections.

Traffic conditions were examined for the weekday a.m. and p.m. peak hour conditions under the following scenarios:

- Existing Conditions;
- Opening Year No Project Conditions;
- Opening Year Plus Project Conditions;
- Cumulative No Project Conditions; and

- Cumulative Plus Project Conditions.

1.1 EXISTING CONDITIONS SUMMARY

Based on the criteria as discussed in Section 3.2, Level of Service Procedures and Criteria, of this report, the following intersections are currently operating at a deficient LOS under existing conditions:

1. Jacaranda Avenue/Bear Valley Road (p.m. peak hour only);
2. Mojave Fish Hatchery Road/Bear Valley Road (p.m. peak hour only);
6. Apple Valley Road/Bear Valley Road (both a.m. and p.m. peak hours); and
10. Kiowa Road/Bear Valley Road (both a.m. and p.m. peak hours).

All other study intersections are currently operating at a satisfactory LOS.

1.2 OPENING YEAR (2024) CONDITIONS SUMMARY

Based on the criteria as discussed in Section 3.2, Level of Service Procedures and Criteria, the following intersections are forecast to operate at a deficient LOS under opening year no project conditions:

1. Jacaranda Avenue/Bear Valley Road (both a.m. and p.m. peak hours);
2. Mojave Fish Hatchery Road/Bear Valley Road (both a.m. and p.m. peak hours);
6. Apple Valley Road/Bear Valley Road (both a.m. and p.m. peak hours);
8. Flying Feather Road/Bear Valley Road (both a.m. and p.m. peak hours); and
10. Kiowa Road/Bear Valley Road (both a.m. and p.m. peak hours).

All other intersections are forecast to operate at a satisfactory LOS under opening year no project conditions.

Under opening year plus project conditions, the following intersections are forecast to operate at a deficient LOS:

1. Jacaranda Avenue/Bear Valley Road (both a.m. and p.m. peak hours);
2. Mojave Fish Hatchery Road/Bear Valley Road (both a.m. and p.m. peak hours);
6. Apple Valley Road/Bear Valley Road (both a.m. and p.m. peak hours); and
10. Kiowa Road/Bear Valley Road (both a.m. and p.m. peak hours).

All other intersections are forecast to operate at a satisfactory LOS under opening year plus project conditions. It should be noted that under opening year plus project conditions, intersection 8 – Flying Feather Road/Bear Valley Road is no longer forecast to operate at a deficient LOS.

With the implementation of improvements recommended in Chapter 10, the intersections of Jacaranda Avenue/Bear Valley Road and Mojave Fish Hatchery Road/Bear Valley Road are forecast to operate at a satisfactory LOS under opening year plus project conditions.

It should be noted that with the implementation of the proposed improvements, the intersections of Apple Valley Road/Bear Valley Road and Kiowa Road/Bear Valley Road are still forecast to operate at a deficient LOS under opening year plus project conditions. However, the improvements will improve the delay under plus project conditions to better than the corresponding delay under no project conditions for both intersections.

It should be noted that the intersection of Westmont Drive – Apple Valley Road/Bear Valley Road would require addition of a dedicated eastbound right-turn lane for this intersection to operate at satisfactory LOS. However, Town staff is requiring the project to widen this intersection according to the Town's General Plan Circulation Element requirements for Bear Valley Road. Therefore, the project would be required to widen the eastbound approach of Bear Valley Road at Westmont Drive – Apple Valley Road to include three eastbound through lanes and a dedicated right-turn lane.

Table 1-A summarizes the recommended improvements for study intersections and funding mechanism under opening year conditions.

1.3 CUMULATIVE (2045) CONDITIONS SUMMARY

Based on the criteria as discussed in Section 3.2, Level of Service Procedures and Criteria, the following intersections are forecast to operate at a deficient LOS under cumulative no project conditions:

1. Jacaranda Avenue/Bear Valley Road (both a.m. and p.m. peak hours);
2. Mojave Fish Hatchery Road/Bear Valley Road (both a.m. and p.m. peak hours);
6. Apple Valley Road/Bear Valley Road (both a.m. and p.m. peak hours);
8. Flying Feather Road/Bear Valley Road (both a.m. and p.m. peak hours); and
10. Kiowa Road/Bear Valley Road (both a.m. and p.m. peak hours).

All other intersections are forecast to operate at a satisfactory LOS under cumulative no project conditions.

Under cumulative plus project conditions, the following intersections are forecast to operate at a deficient LOS:

1. Jacaranda Avenue/Bear Valley Road (both a.m. and p.m. peak hours);

2. Mojave Fish Hatchery Road/Bear Valley Road (both a.m. and p.m. peak hours);

6. Apple Valley Road/Bear Valley Road (both a.m. and p.m. peak hours); and

10. Kiowa Road/Bear Valley Road (both a.m. and p.m. peak hours).

All other intersections are forecast to operate at a satisfactory LOS under cumulative plus project conditions. It should be noted that under cumulative plus project conditions, intersection 8 – Flying Feather Road/Bear Valley Road is no longer forecast to operate at a deficient LOS.

With the implementation of improvements recommended in Chapter 10, the intersections of Jacaranda Avenue/Bear Valley Road and Mojave Fish Hatchery Road/Bear Valley Road are forecast to operate at a satisfactory LOS under cumulative plus project conditions.

It should be noted that with the implementation of the proposed improvements, the intersections of Apple Valley Road/Bear Valley Road and Kiowa Road/Bear Valley Road are still forecast to operate at a deficient LOS under cumulative plus project conditions. However, the improvements will improve the delay under plus project conditions to better than the corresponding delay under no project conditions for both intersections.

It should be noted that the intersection of Westmont Drive – Apple Valley Road/Bear Valley Road would require addition of a dedicated eastbound right-turn lane for this intersection to operate at satisfactory LOS. However, Town staff is requiring the project to widen this intersection according to the Town's General Plan Circulation Element requirements for Bear Valley Road. Therefore, the project would be required to widen the eastbound approach of Bear Valley Road at Westmont Drive – Apple Valley Road to include three eastbound through lanes and a dedicated right-turn lane.

Table 1-A summarizes the recommended improvements for study intersections and funding mechanism under cumulative conditions.

1.4 CALIFORNIA ENVIRONMENTAL QUALITY ACT ASSESSMENT – VEHICLE MILES TRAVELED ANALYSIS AND ACTIVE TRANSPORTATION AND PUBLIC TRANSIT ANALYSIS SUMMARY

1.4.1 Vehicle Miles Traveled Analysis Summary

Senate Bill 743 (SB 743) required changes made to CEQA regulations introducing VMT as the new metric for determining project traffic impacts. The Town recommends evaluation of a project screening criteria for purposes of a VMT analysis based on the County's TIS Guidelines. Therefore, the project's VMT screening evaluation will be based on the County's TIS Guidelines. The project can be considered as local-serving retail that has a total square footage less than 50,000 sf. Pursuant to the County's TIS VMT Analysis Guidelines, the project may be screened out from a VMT analysis and can be considered to have a less than significant impact on VMT.

1.4.2 Active Transportation and Public Transit Analysis Summary

The project does not conflict with any existing or proposed bicycle, pedestrian, or public transit facilities. Additionally, the project will be constructing a paved sidewalk along the project frontage on the southern side of Bear Valley Road. Therefore, it can be considered to conform to all adopted policies, plans, or programs concerning these facilities and will not have a significant impact.

It should be noted that at present, there are no proposed service changes in the Victor Valley Transit Authority (VVTA) transit network. VVTA bus Routes 42 and 43 serve the study area with stops along Apple Valley Road and Bear Valley Road near the project site. Route 42 has an existing bus stop located on the southbound direction of Apple Valley Road approximately 1,400 feet northwest of the project site. Route 43 has an existing bus stop located on the eastbound direction of Bear Valley Road approximately 450 feet west of the project site and another stop located on the eastbound direction of Bear Valley Road approximately 950 feet east of the project site. Routes 42 and 43 share a stop located on the southbound direction of Apple Valley Road approximately 1,100 feet southwest of the project site.

1.5 LIST OF CHAPTER 1.0 TABLES

- Table 1-A: Recommended Improvements for Intersections and Funding Mechanism

LSA

Table 1-A - Recommended Improvements for Intersections and Funding Mechanism

Intersection	Opening Year (2024) Plus Project Improvements	Cumulative (2045) Plus Project Improvements	Funding Mechanism	Improvements Covered by Nexus Study	Improvements Covered by Fair Share
1 . Jacaranda Avenue/Bear Valley Road	Restripe NBTR to NBR, add right-turn overlap to NBR, optimize signal timings	Restripe NBTR to NBR, add right-turn overlap to NBR, optimize signal timings	Fair Share	-	Restripe NBTR to NBR, add right-turn overlap to NBR, optimize signal timings
2 . Mojave Fish Hatchery Road/Bear Valley Road	Restripe NBTL to NBT, change N/S split phasing to protected left-turn phasing, optimize signal timings	Restripe NBTL to NBT, change N/S split phasing to protected left-turn phasing, optimize signal timings	Fair Share	-	Restripe NBTL to NBT, change N/S split phasing to protected left-turn phasing, optimize signal timings
6 . Apple Valley Road/Bear Valley Road	Add right-turn overlap to NBR, optimize signal timings	Add right-turn overlap to NBR, optimize signal timings	Fair Share	-	Add right-turn overlap to NBR, optimize signal timings
10 . Kiowa Road/Bear Valley Road	Add right-turn overlaps to EBR and SBR, optimize signal timings	Add right-turn overlaps to EBR and SBR, optimize signal timings	Fair Share	-	Add right-turn overlaps to EBR and SBR, optimize signal timings

Notes:

N = North; S = South; NBR = North Bound Right-turn; NBT = North Bound Through; NBTR = North Bound Through Right-turn; NBTL = North Bound Through Left-turn; EBR = East Bound Right-turn; SBR = South Bound Right-turn

2.0 INTRODUCTION

The Traffic Impact Study (TIS) has been prepared for the proposed Apple Bear Commercial Project (project) to be located on the southeast corner of Bear Valley Road and Apple Bear Road (future road) in the Town of Apple Valley (Town). Figure 2-1 illustrates the regional and project location. (Figures and tables are located at the end of each chapter.)

This report is intended to satisfy the requirements established by the San Bernardino County *Transportation Impact Study Guidelines* (dated July 2019). The scope of work for this TIS, including trip generation, trip distribution, study area, and analysis methodologies, has been approved by Town staff via the Scoping Agreement process. A copy of the Scoping Agreement is included in Appendix A.

This study examines traffic operations in the vicinity of the proposed project under the following five scenarios:

- Existing Conditions;
- Opening Year No Project Conditions;
- Opening Year Plus Project Conditions;
- Cumulative No Project Conditions; and
- Cumulative Plus Project Conditions.

Traffic conditions were examined for the weekday a.m. and p.m. peak hour conditions. The a.m. peak hour is defined as the one hour of highest traffic volumes occurring between 7:00 and 9:00 a.m. The p.m. peak hour is the one hour of highest traffic volumes occurring between 4:00 and 6:00 p.m.

2.1 PROJECT DESCRIPTION

The proposed project consists of a 23,256 square-foot (sf) grocery store (Sprouts), a 3,546 sf fast-food restaurant with drive-through (Raising Canes), a 1,310 sf fast-food restaurant with drive-through, a 2,500 sf fast-food restaurant with drive-through (Pad 3), 3,750 sf of quick serve restaurants, and a 5,500 sf car wash with a 131-foot wash tunnel. Per the Town's General Plan, the project parcel is considered as General Commercial (C-G). The project is anticipated to be completed by Year 2024. The project will extend the existing raised median on Bear Valley Road east of the intersection of Flying Feather Road and Bear Valley Road. As such, the left-turn movements will be restricted at intersection of Flying Feather Road and Bear Valley Road as the project is built. Figure 2-2 illustrates the conceptual site plan for the proposed project.

As shown in Figure 2-2, the project can be accessed via five driveways:

- Project Driveway 1 on Apple Bear Road;
- Project Driveway 2 on Apple Bear Road;

- Project Driveway 3 on Bear Valley Road;
- Project Driveway 4 on Flying Feather Road; and
- Project Driveway 5 on Flying Feather Road.

Project Driveway 1, Project Driveway 2, Project Driveway 4, and Project Driveway 5 will be full access driveways. Project Driveway 3 will be a right-in-right-out (RIRO) driveway.

2.2 LIST OF CHAPTER 2.0 FIGURES

- Figure 2-1: Regional and Project Location
- Figure 2-2: Conceptual Site Plan

LSA

FIGURE 2-1

N

0 1000 2000

FEET

SOURCE: ESRI Streetmap, 2021; Google Earth, 2020.

Apple Bear Commercial Project
Traffic Impact Study

Regional and Project Location

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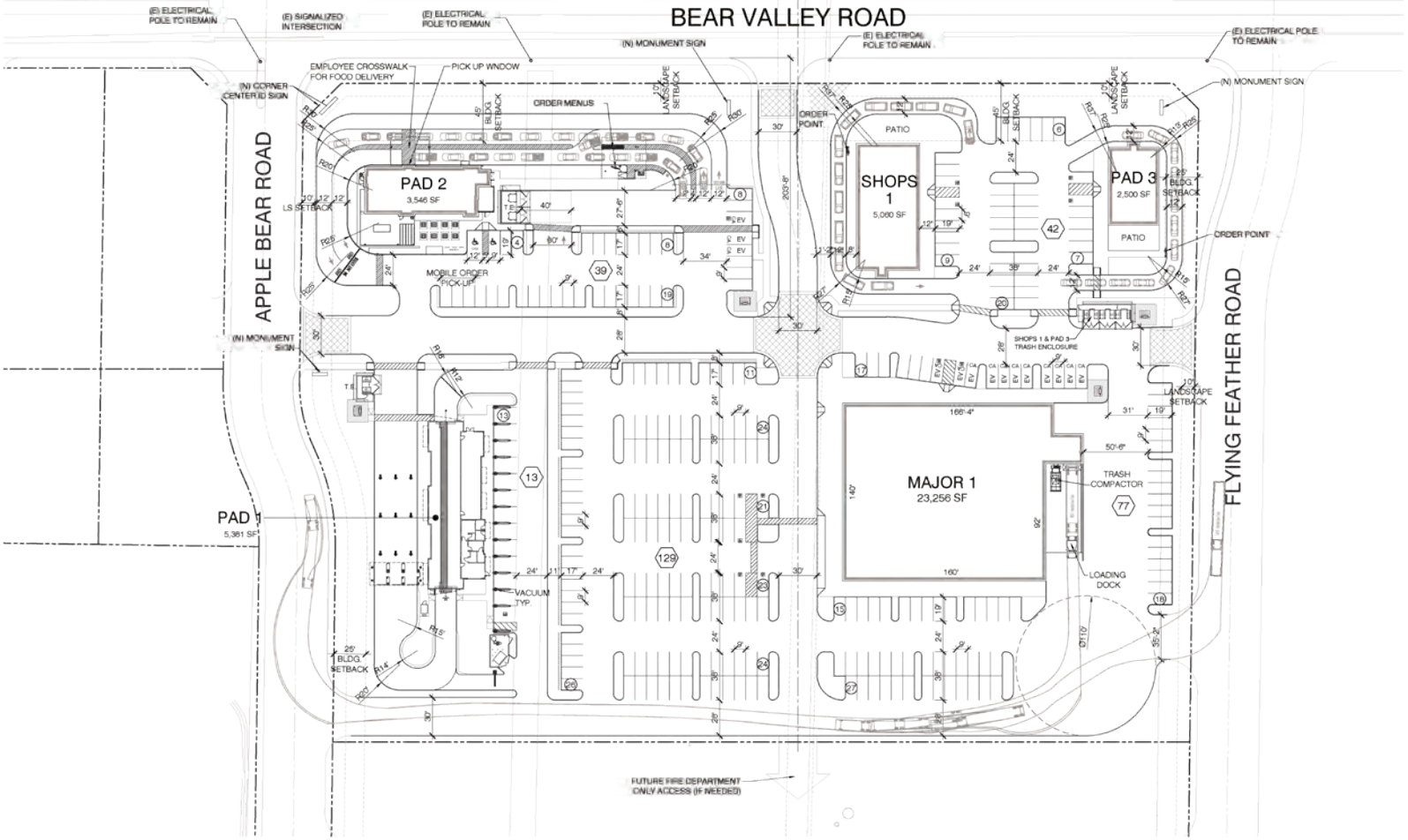


LSA

FIGURE 2-2

N

0 50 100

FEET

Apple Bear Commercial Project
Traffic Impact Study

Conceptual Site Plan

SOURCE: MCG Architecture, December 2022.

P:\WDN2201_Apple Bear Commercial Project\Technical Studies\Traffic and VMT\Traffic\Site Plan (2/20/2022)

3.0 ANALYSIS METHODOLOGY AND CRITERIA

3.1 LEVEL OF SERVICE DEFINITIONS

LOS can be characterized for the whole intersection, by each intersection approach, and by each lane group. Control delay alone is used to characterize LOS for the entire intersection. Control delay quantifies the increase in travel time due to the traffic signal control and is a surrogate measure of driver discomfort and fuel consumption.

A complete description of the meaning of LOS can be found in the Transportation Research Board Special Report 209, *Highway Capacity Manual* (HCM). The HCM establishes LOS A through F for intersections. A description of LOS for signalized and unsignalized intersections is summarized in Table 3-A. Table 3-B shows the LOS criteria for unsignalized and signalized intersections.

For all study area intersections, the *Highway Capacity Manual 6th Edition* (HCM 6) analysis methodologies were used to determine intersection LOS. Intersection LOS was calculated using the Synchro 11 software, which uses the HCM 6 methodologies.

3.2 LEVEL OF SERVICE PROCEDURES AND CRITERIA

Study intersections analyzed in this report are under the jurisdictions of the Town of Apple Valley, the City of Hesperia, and the City of Victorville. The Town of Apple Valley uses LOS C as its minimum level of service criterion for all intersections. The City of Hesperia and the City of Victorville use LOS D as their minimum level of service criterion for all intersections.

3.3 LIST OF CHAPTER 3.0 TABLES

- Table 3-A: Intersection Level of Service Definitions
- Table 3-B: Level of Service Criteria for Unsignalized and Signalized Intersections

Table 3-A: Intersection Level of Service Definitions

LOS	Description
A	Traffic operations with a control delay of 10 seconds per vehicle or less and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is low and either progression is exceptionally favorable or the cycle length is very short. If LOS A is the result of favorable progression, most vehicles arrive during the green indication and travel through the intersection without stopping.
B	Traffic operations with control delay between 10 seconds per vehicle and 20 seconds per vehicle and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is low and either progression is highly favorable or the cycle length is short. More vehicles stop than with LOS A.
C	Traffic operations with control delay between 20 and 35 seconds per vehicle and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when progression is favorable or the cycle length is moderate. Individual cycle failures (i.e., one or more queued vehicles are not able to depart as a result of the insufficient capacity during the cycle) may begin to appear at this level. The number of vehicles stopping is significant, although many vehicles still pass through the intersection without stopping.
D	Traffic operations with control delay between 35 and 55 seconds per vehicle and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is high and either progression is ineffective or the cycle length is long. Many vehicles stop and individual cycle failures are noticeable.
E	Traffic operations with control delay between 55 and 80 seconds per vehicle and a volume-to-capacity ratio no greater than 1.0. This level is typically assigned when volume-to-capacity ratio is high, progression is unfavorable, and the cycle length is long. Individual cycle failures are frequent.
F	Traffic operations with control delay exceeding 80 seconds per vehicle or a volume-to-capacity ratio greater than 1.0. This level is typically assigned when the volume-to-capacity ratio is very high, progression is very poor, and the cycle length is long. Most cycles fail to clear the queue.

Source: Highway Capacity Manual (6th Edition)

Table 3-B: Level of Service Criteria for Unsignalized and Signalized Intersections

Level of Service	Unsignalized Intersection Average Delay per Vehicle (sec.)	Signalized Intersection Average Delay per Vehicle (sec.)
A	$\leq$ 10	$\leq$ 10
B	> 10 and $\leq$ 15	> 10 and $\leq$ 20
C	> 15 and $\leq$ 25	> 20 and $\leq$ 35
D	> 25 and $\leq$ 35	> 35 and $\leq$ 55
E	> 35 and $\leq$ 50	> 55 and $\leq$ 80
F	> 50	> 80

Source: *Highway Capacity Manual* (6th Edition)

4.0 EXISTING CONDITIONS

4.1 STUDY AREA

Based on the TIS Guidelines, the study area shall include all intersections at which the proposed project will add 50 or more peak hour trips. All study intersections were analyzed during the a.m. and p.m. peak hours. The a.m. peak hour is defined as the one hour of highest traffic volumes occurring between 7:00 a.m. and 9:00 a.m. while the p.m. peak hour is defined as the one hour of highest traffic volumes occurring between 4:00 p.m. and 6:00 p.m. All study intersections were approved by Town staff as part of the scoping process.

Per the Scoping Agreement (Appendix A), intersections analyzed in this study are as follows:

1. Jacaranda Avenue/Bear Valley Road (Hesperia, Victorville);
2. Mojave Fish Hatchery Road/Bear Valley Road (Hesperia, Victorville);
3. Jess Ranch Parkway/Bear Valley Road (Apple Valley);
4. Reata Road/Bear Valley Road (Apple Valley);
5. Apple Valley Road/Pimlico Road – Shopping Center Driveway (Apple Valley);
6. Apple Valley Road/Bear Valley Road (Apple Valley);
7. Westmont Drive – Apple Bear Road/Bear Valley Road (Apple Valley);
8. Flying Feather Road/Bear Valley Road (Apple Valley);
9. Deep Creek Road/Apple Valley Road (Apple Valley);
10. Kiowa Road/Bear Valley Road (Apple Valley);
11. Apple Bear Road/Project Driveway 1 (Apple Valley);
12. Apple Bear Road/Project Driveway 2 (Apple Valley);
13. Project Driveway 3/Bear Valley Road (Apple Valley);
14. Flying Feather Road/Project Driveway 4 (Apple Valley); and
15. Flying Feather Road/Project Driveway 5 (Apple Valley).

Figure 4-1 illustrates the locations of all study intersections.

4.2 EXISTING ROADWAY NETWORK

This section provides a description of the circulation network within the study area. Within the City of Hesperia, all major roadways are classified based on the Street Classification and Transportation Plan in the Circulation Element of the City of Hesperia *General Plan 2010*. Within the Town of Apple Valley, all major roadways are classified based on the Existing Roadway Classifications and Improvements provided in the Existing Environmental Conditions, Project Impacts and Mitigation Measures of the Town of Apple Valley *2009 General Plan Draft EIR* (General Plan). Following is a brief description of major roadways within the study area:

- **Jacaranda Avenue:** Within the study area, Jacaranda Avenue is designated as an Arterial in the City of Hesperia *General Plan 2010*. Between Bear Valley Road and Carob Street, Jacaranda Avenue is a two-lane, undivided Arterial with a posted speed limit of 45 miles per hour. There are no bike facilities along either direction of this segment. There is no provision for on-street parking along either direction of this segment.

- **Bear Valley Road:** Within the study area, Bear Valley Road is designated as a Major Divided Arterial in the Town's General Plan. Between Jacaranda Avenue and Flying Feather Road, Bear Valley Road is a six-lane divided Arterial with a raised median and a posted speed limit of 50 miles per hour. There are no bike facilities nor provision for on-street parking along either direction of this segment. Between Flying Feather Road and Kiowa Road, Bear Valley Road is a four-lane divided Arterial with a painted median and a posted speed limit of 55 miles per hour. There are no bike facilities nor provision for on-street parking along either direction of this segment.

- **Apple Valley Road:** Within the study area, Apple Valley Road is designated as a Major Divided Arterial in the Town's General Plan. Between Pimlico Road and Bear Valley Road, Apple Valley Road is a six-lane divided Arterial with a raised median and a posted speed limit of 50 miles per hour. There are no bike facilities nor provision for on-street parking along either direction of this segment. Between Bear Valley Road and Town Center Drive, Apple Valley Road is a four-lane divided Arterial with a painted median and a posted speed limit of 50 miles per hour. There are bike lanes along both directions of this segment. There is no provision for on-street parking along either direction of this segment.

- **Flying Feather Road:** Within the study area, Flying Feather Road is a local street and has no designation in the Town's General Plan. Between Bear Valley Road and Oso Road, Flying Feather Road is a two-way, unpaved road. There are no bike facilities along either direction of this segment. There is no designated provision for on-street parking along either direction of this segment.

- **Deep Creek Road:** Within the study area, Deep Creek Road is designated as a Secondary Road in the Town's General Plan. Between Bear Valley Road and Wisconsin Street, Deep Creek Road is a two-lane, undivided road with a posted speed limit of 55 miles per hour. It should be noted that there is a proposed extension of Deep Creek Road between Bear Valley Road and Sitting Bull Road as outlined in the Town's General Plan. For purposes of this analysis, the extension has been considered only for the Cumulative scenarios. There are no bike facilities along either direction of this segment. There is no provision for on-street parking along either direction of this segment.

- **Kiowa Road:** Within the study area, Kiowa Road is designated as a Major Road in the Town's General Plan. Between Caddo Road and Puye Road, Kiowa Road is a two-lane divided road with a painted median and a posted speed limit of 50 miles per hour. There are bike lanes along both directions of this segment. There is no provision for on-street parking along either direction of this segment.

Figure 4-2 illustrates existing study intersection geometrics and traffic control. Figures 4-3, 4-4, and 4-5 illustrate Roadway Classifications for the Town of Apple Valley, the City of Hesperia, and the City of Victorville, respectively.

4.3 BICYCLE, PEDESTRIAN, AND TRANSIT FACILITIES

4.3.1 Bicycle Facilities

The Town of Apple Valley promotes bicycling for recreation and mobility. Bicycling can be a viable alternative to local work commutes and offers children a healthy way to get to school. To facilitate and encourage bicycle trips, the Town has adopted a Non-Motorized Transportation Master Plan that includes a network of proposed facilities and capital improvement projects.

According to the Town of Apple Valley General Plan, the bikeway network within the Town is classified into three categories: Class I, Class II, and Class III. Class I bikeways provide a separate, paved right-of-way for bicycle travel, outside the roadbed but within the right of way. Class II bikeways provide a striped and stenciled lane for one-way travel on a street or highway. Class III bikeways are unmarked routes identified only by signage, which allow shared travel with pedestrians and motor vehicles. Furthermore, bicycle travel is allowed on all public roadways, except freeways and freeway ramps, within the Town.

As part of the Town's Bikeway Network, Class II bikeways have been to both directions of Apple Valley Road south of Bear Valley Road and Kiowa Road within the study area. Proposed future Class I bikeways have been planned to be added along the eastbound direction of Bear Valley Road east of the Mojave River and the northbound direction of Apple Valley Road north of Bear Valley Road within the study area. Proposed future Class II bikeways have been planned to be added along both directions of Bear Valley Road west of the Mojave River and Deep Creek Road within the study area. Figure 4-6 illustrates the existing and proposed bikeways within the Town of Apple Valley.

4.3.2 Pedestrian Facilities

The implementation of enhanced pedestrian linkage with a comprehensive trails system links residential areas, schools, parks, and commercial centers so that residents can travel within the community without driving. Safe and attractive sidewalks and walkways improve the walkability of the Town. Townwide, sidewalks are generally provided on both sides of the streets. Additionally, standard paved trails and non-standard unpaved trails are frequently used by bicyclists and pedestrians in the Town. Some trails are also available for equestrian riders. The existence of trails and sidewalks provides accessible facilities, provides safety features, and improves walkability in the Town of Apple Valley. According to the Town's General Plan, there is a proposed Lifeline Trail for multi-use and equestrian use along Bear Valley Road within the study area. Paved sidewalks are provided on both sides of Bear Valley Road east of the Mojave River, Apple Valley Road, and Kiowa Road. Figures 4-7, 4-8, and 4-9 illustrate the network of existing and proposed trails within the City of Hesperia, the City of Victorville, and the Town of Apple Valley, respectively.

4.3.3 Transit Facilities

The Victor Valley Transit Authority (VVTA) is the Regional Transit System operated by the high desert communities of Adelanto, Apple Valley, Hesperia, Victorville, and San Bernardino County. VVTA is responsible for coordinating transit services throughout the approximately 950-square-mile service

area. VVTA provides both local and regional services throughout the region with 32 fixed routes using 64 active vehicles. VVTA bus Routes 42, 43, and 47 operate within the study area. Route 42 has stops along Bear Valley Road, Mojave Fish Hatchery Road, Jess Ranch Parkway, and Apple Valley Road within the study area. Route 43 has stops along Bear Valley Road, Mojave Fish Hatchery Road, and Jess Ranch Parkway within the study area. Route 47 has stops along Kiowa Road within the study area.

4.4 EXISTING TRAFFIC VOLUMES

Existing traffic volumes were developed based on counts collected by Counts Unlimited in November 2022. A.m. and p.m. peak hour turning movement counts were collected at study intersections. Detailed count sheets are included in Appendix B.

Vehicle classification counts were conducted at all study intersections. At these locations, counts were converted to Passenger Car Equivalent (PCE) volumes. The concept of PCEs accounts for the larger impact of trucks on traffic operations. It does so by assigning each type of truck a PCE factor that represents the number of passenger vehicles that could travel through an intersection in the same time that a particular type of truck could. PCE volumes at study intersections were computed using a factor of 1.5 for 2-axle trucks, 2.0 for 3-axle trucks, and 3.0 for trucks with four or more axles consistent with the San Bernardino County Transportation Authority (SBCTA) Congestion Management Plan (CMP) TIS guidelines.

4.5 EXISTING LEVELS OF SERVICE

An intersection LOS analysis was conducted for existing conditions using the methodologies previously discussed. For all signalized intersections, existing signal timing sheets were obtained from the City of Victorville and Town of Apple Valley staff and the corresponding signal timings were included in the Synchro files. These timings were used for all the analysis scenarios. The signal timing sheets are included in Appendix B. Table 4-A summarizes the results of this analysis and shows that the following intersections are currently operating at a deficient LOS under existing conditions:

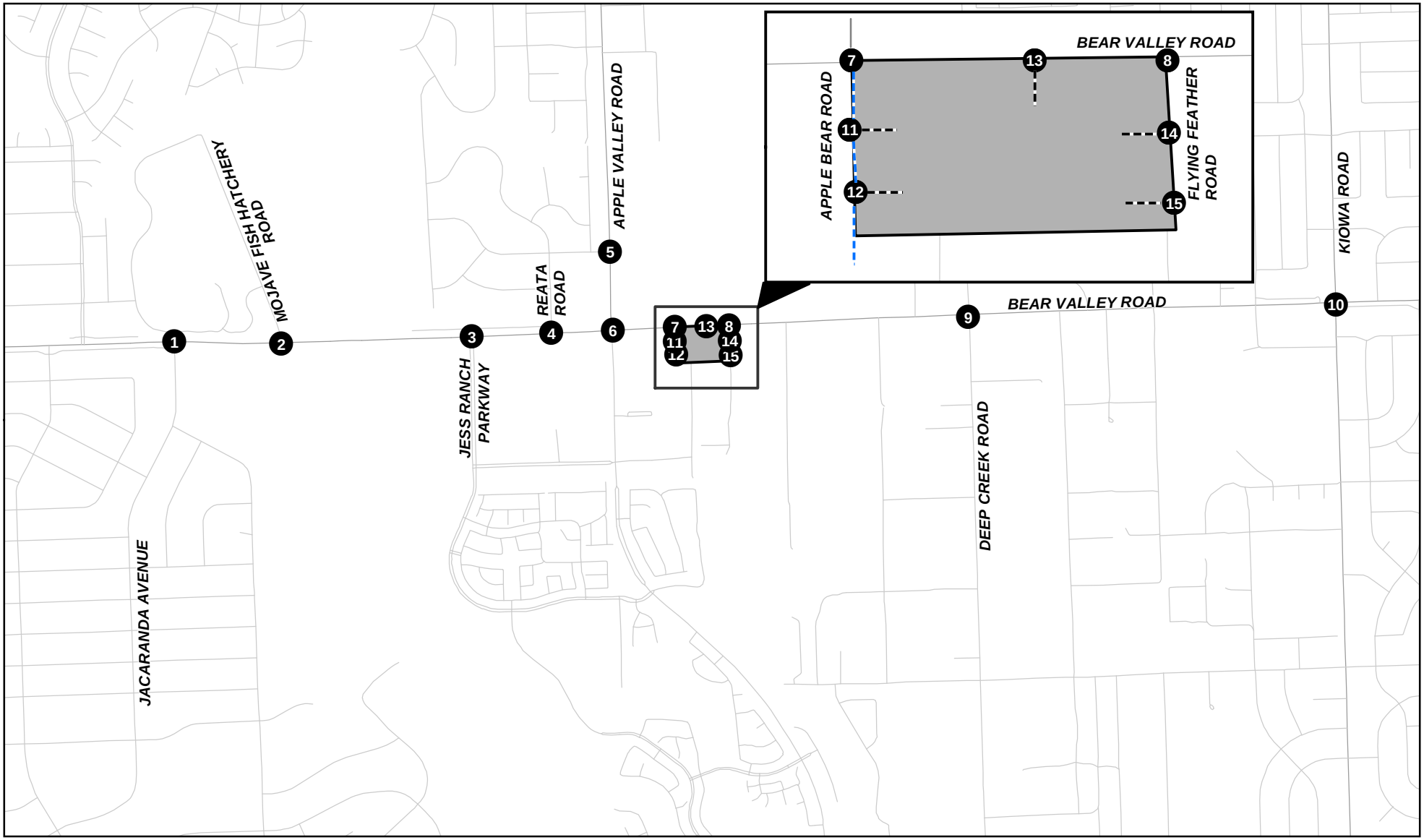
1. Jacaranda Avenue/Bear Valley Road (p.m. peak hour only);
2. Mojave Fish Hatchery Road/Bear Valley Road (p.m. peak hour only);
6. Apple Valley Road/Bear Valley Road (both a.m. and p.m. peak hours); and
10. Kiowa Road/Bear Valley Road (both a.m. and p.m. peak hours).

All other intersections are forecast to operate at a satisfactory LOS. Detailed LOS worksheets are included in Appendix D.

4.6 LIST OF CHAPTER 4.0 FIGURES AND TABLES

- Figure 4-1: Study Area Intersections
- Figure 4-2: Existing Intersection Geometrics and Traffic Control
- Figure 4-3: Town of Apple Valley Roadway Classification
- Figure 4-4: City of Hesperia Roadway Classification

- Figure 4-5: City of Victorville Roadway Classification
- Figure 4-6: Town of Apple Valley Existing and Proposed Bikeways
- Figure 4-7: City of Hesperia Master Plan of Bikeways and Trails
- Figure 4-8: City of Victorville Master Plan of Bikeways and Trails
- Figure 4-9: Town of Apple Valley Master Plan of Trails
- Figure 4-10: Existing Peak Hour Traffic Volumes
- Table 4-A: Existing Intersection Levels of Service



LSA

LEGEND

- Project Location
- Study Area Intersections
- Project Driveway
- Future Road

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FEET

SOURCE: ESRI Streetmap, 2021.

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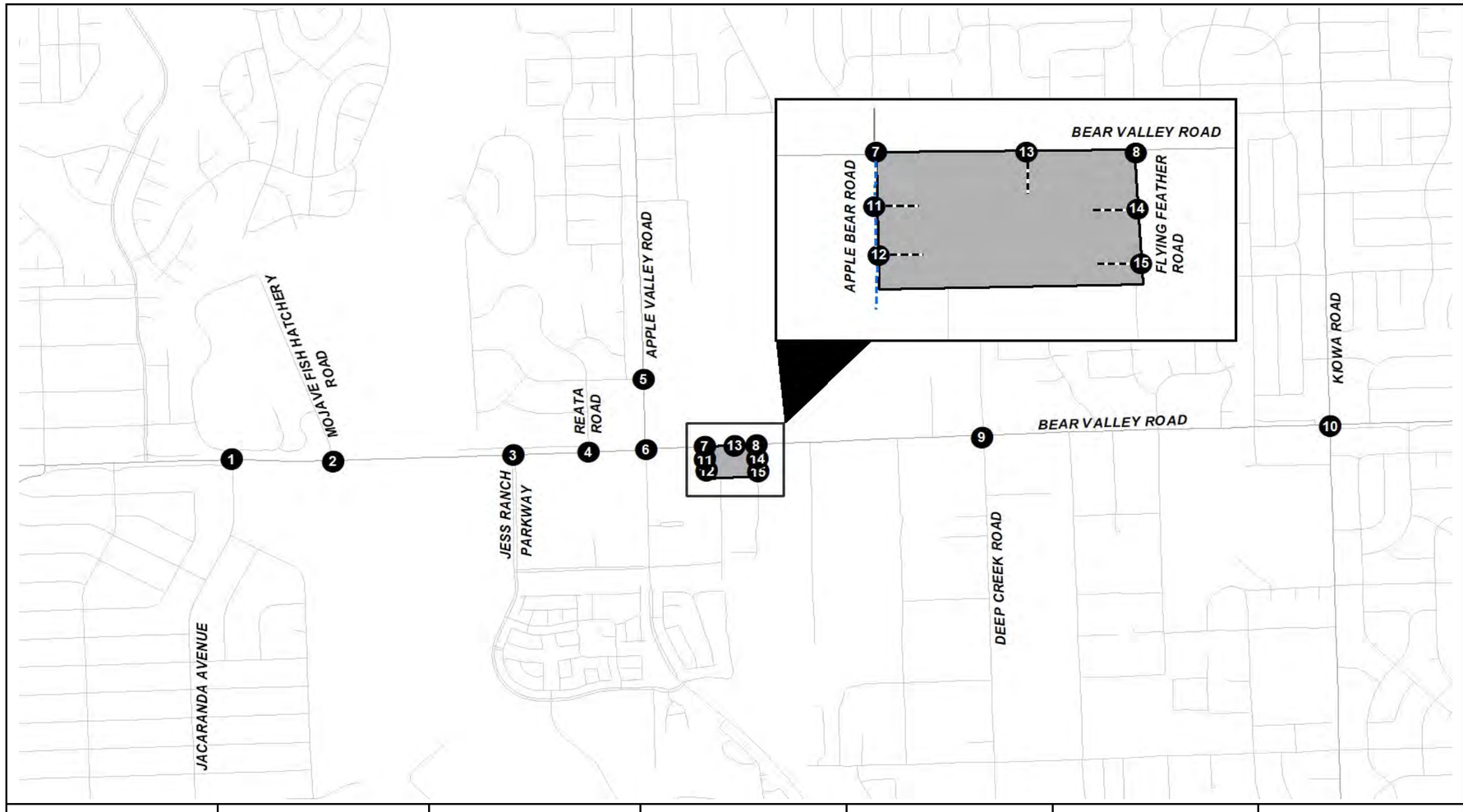
FIGURE 4-1

Apple Bear Commercial Project
Traffic Impact Study
Study Area Intersections



1 Jacaranda Avenue/Bear Valley Road

2 Mojave Fish Hatchery Road/Bear Valley Road

3 Jess Ranch Parkway/Bear Valley Road

4 Reata Road/Bear Valley Road

5 Apple Valley Road/Pimlico Road - Shopping Center Driveway

6 Apple Valley Road/Bear Valley Road

7 Westmont Drive - Apple Bear Road/Bear Valley Road

8 Flying Feather Road/Bear Valley Road

9 Deep Creek Road/Apple Valley Road

10 Kiowa Road/Bear Valley Road

11 Apple Bear Road/Project Driveway 1 — *Future Intersection*

12 Apple Bear Road/Project Driveway 2 — *Future Intersection*

13 Project Driveway 3/Bear Valley Road — *Future Intersection*

14 Flying Feather Road/Project Driveway 4 — *Future Intersection*

15 Flying Feather Road/Project Driveway 5 — *Future Intersection*

LSA

FIGURE 4-2

Legend

Signal

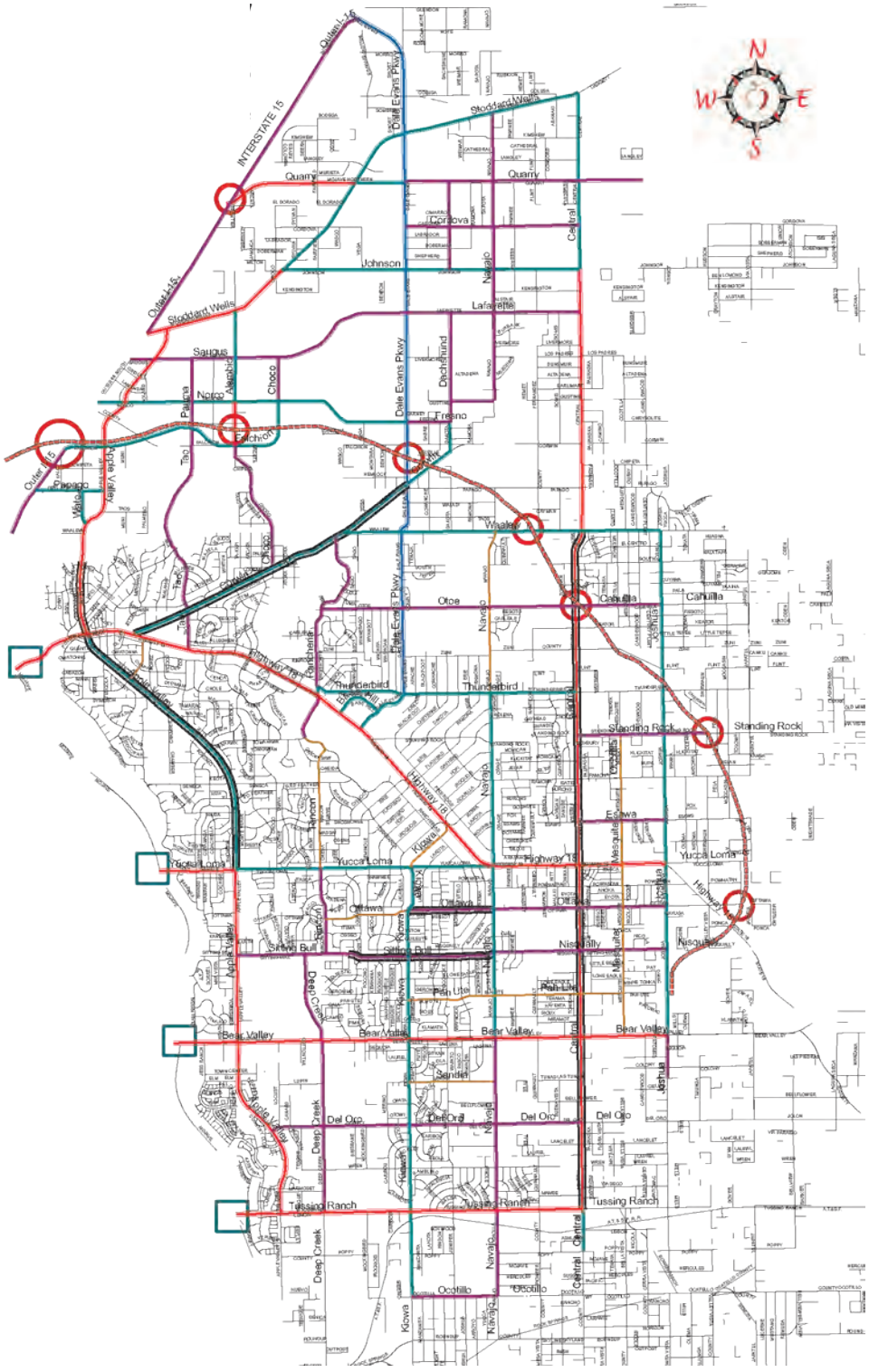
Stop Sign

o Right-Turn Overlap

d De-facto Right Turn

Apple Bear Commercial Project
Traffic Impact Study

Existing Intersection Geometrics and Traffic Control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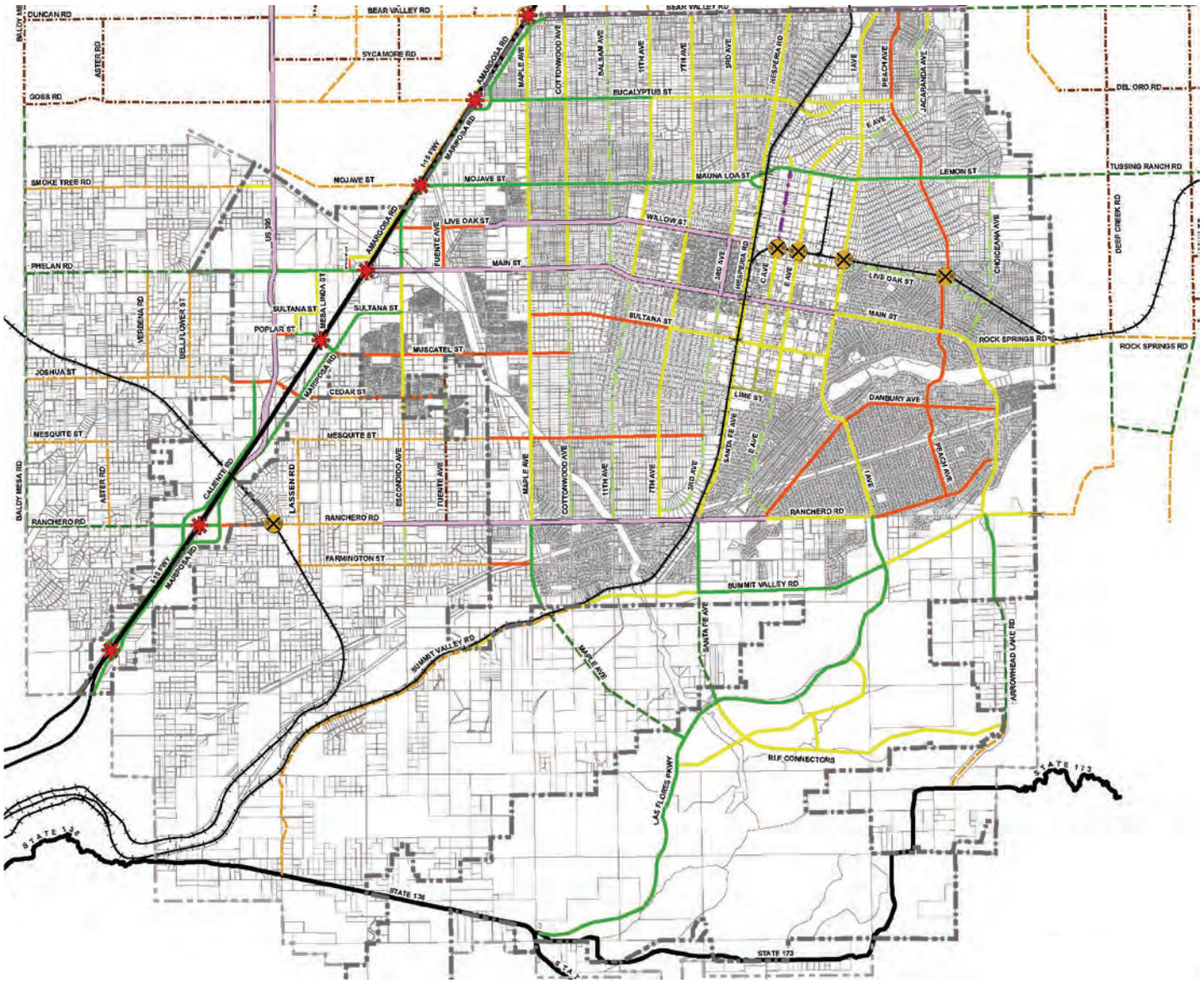
INTERSTATE 15
Outer I-15
Dale Evans Pkwy
Stoddard Wells
Quarry
Cordova
Johnson
Navajo
Lafayette
Central
Saugus
Aliento
Choco
Palmdale
Palmdale
Palmdale



LSA

LEGEND

Arterials

- Major Arterial
- Arterial
- Secondary Arterial
- Industrial Collector
- Suburban Collector
- Rural Collector

Misc.

- City Boundary
- Sphere of Influence
- Railroad
- At Grade Crossing
- Bridge/overcrossing/undercrossing
- Freeway Interchange

N

FIGURE 4-4

Apple Bear Commercial Project
Traffic Impact Study

City of Hesperia Roadway Classification

SOURCE: City of Hesperia General Plan 2010

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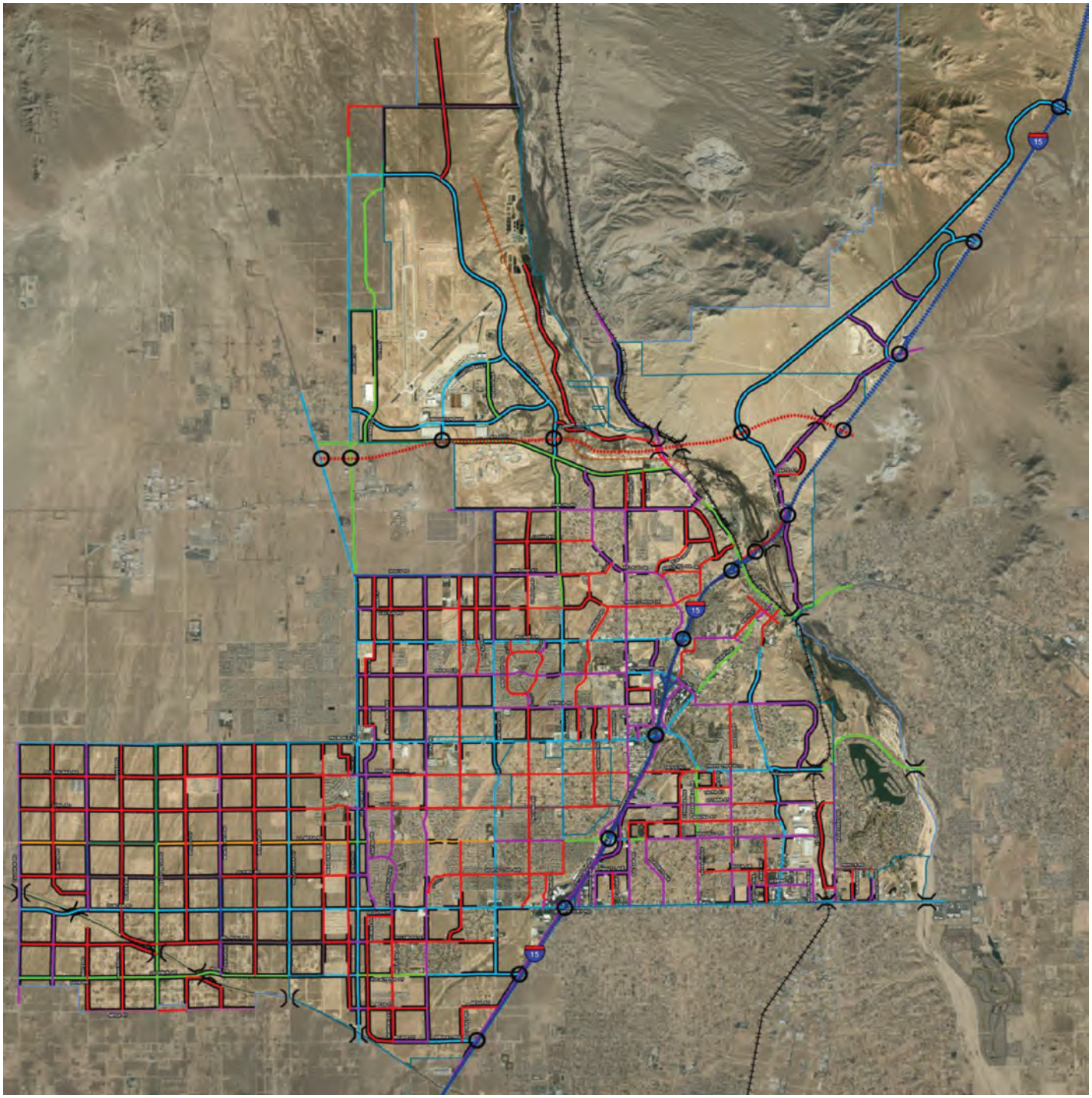

LSA

LEGEND

Retrofit Street Sections

- Collector
- Arterial
- Major Arterial
- Residential Arterial
- Super Arterial

Street Sections

- Collector
- Arterial
- Major Arterial
- Residential Arterial
- Super Arterial

- Victorville City Boundary
- Victorville Sphere of Influence
- High Desert Corridor Freeway
- Interchange
- I-15
- BNSF Rail
- City Rail
- Bridge

N

FIGURE 4-5

Apple Bear Commercial Project
Traffic Impact Study

City of Victorville Roadway Classification

SOURCE: City of Victorville 2018 General Plan

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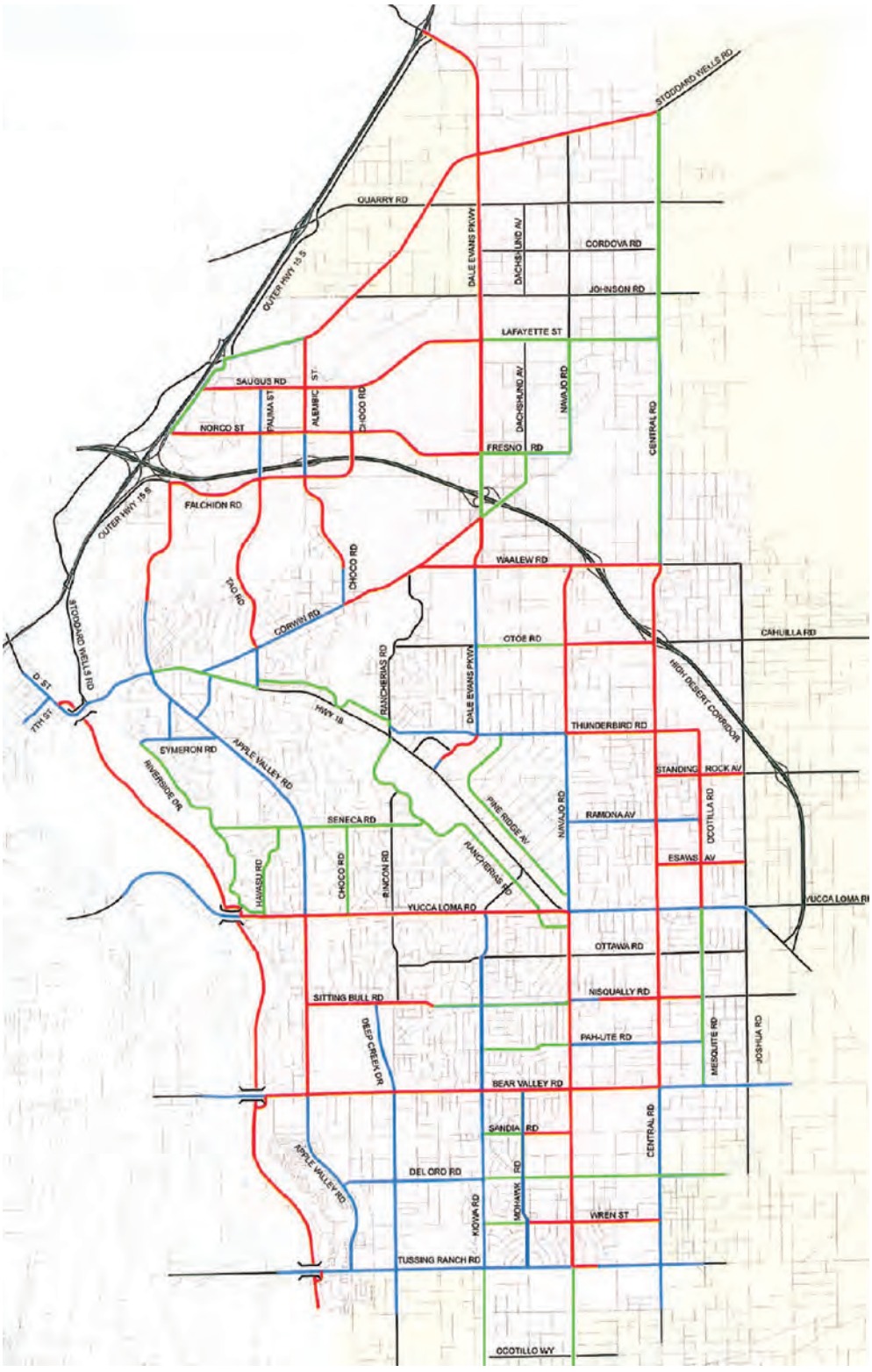

LSA

LEGEND

- Class I
- Class II
- Class II on Frontage Roads
- Class III

N

FIGURE 4-6

Apple Bear Commercial Project
Traffic Impact Study

Town of Apple Valley Existing and Proposed Bikeways

SOURCE: Town of Apple Valley 2009 General Plan Draft EIR

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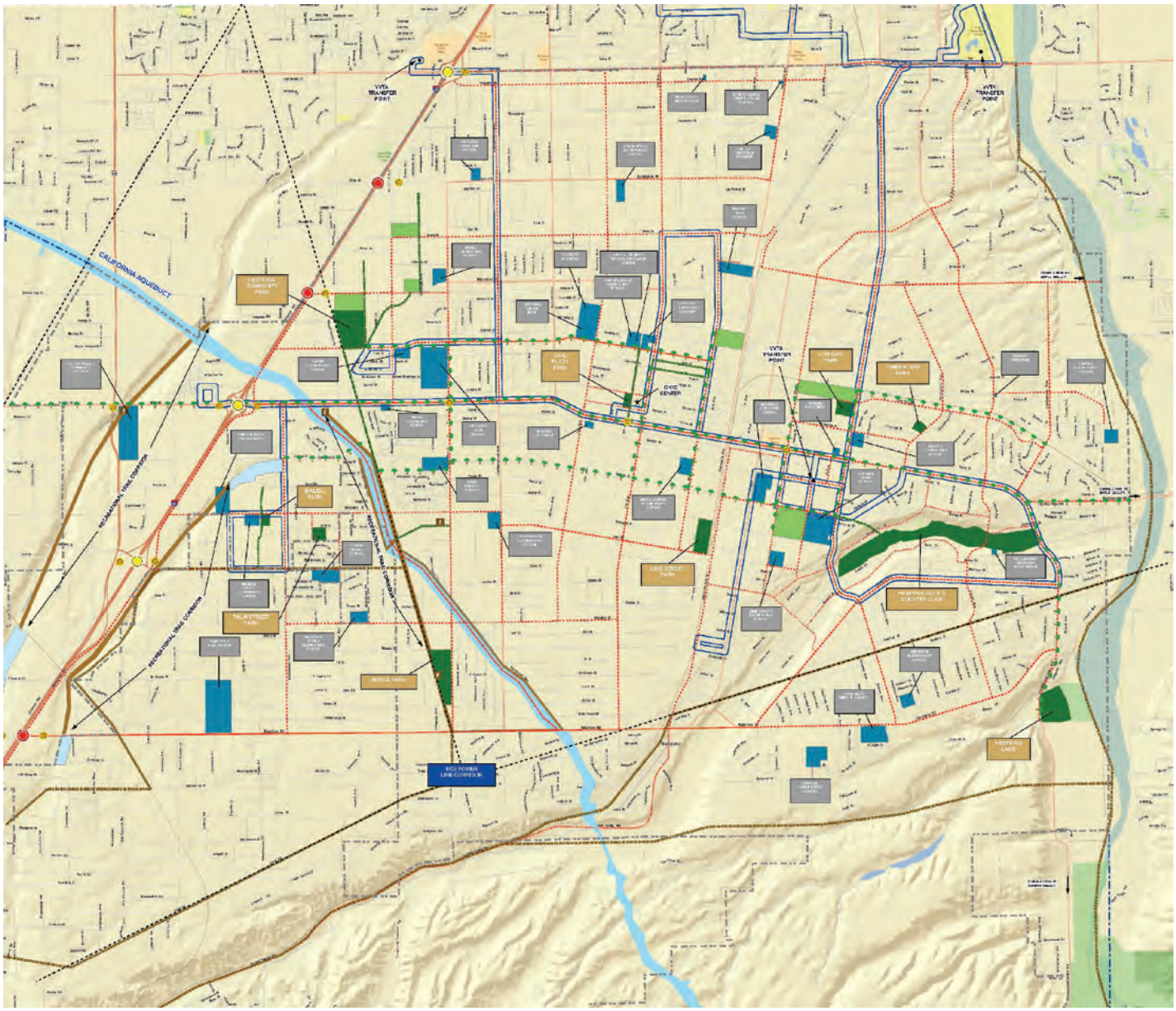

LSA

LEGEND

- Recreational Trailhead
- Class 1 Bike Trail
- Class 2 Bike Trail
- Class 3 Bike Trail
- Equestrian Trail
- PASEO

N

FIGURE 4-7

Apple Bear Commercial Project
Traffic Impact Study

City of Hesperia Master Plan of Bikeways and Trails

SOURCE: City of Hesperia General Plan 2010

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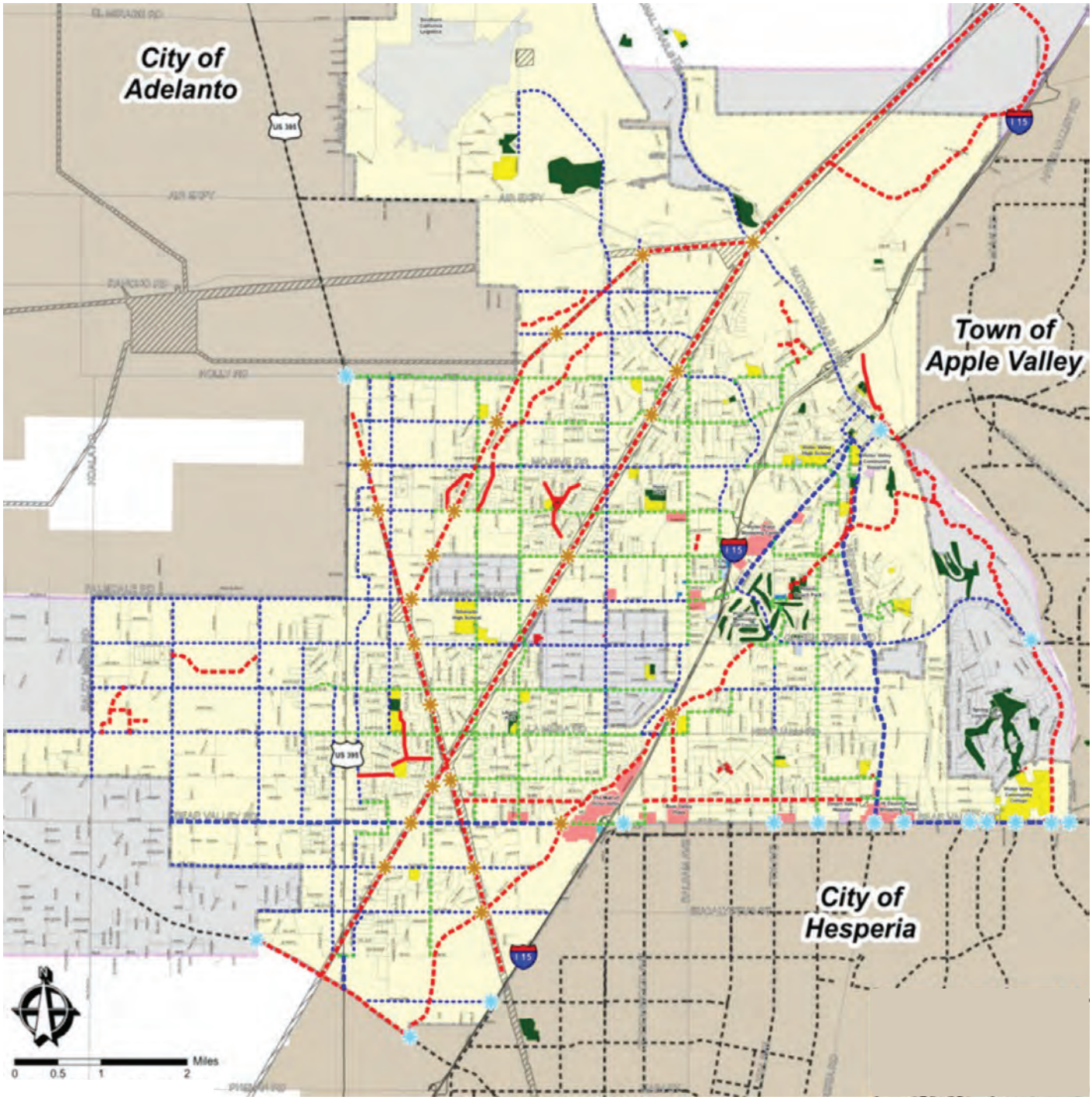

LSA

LEGEND

- Existing Class 1 Trail/Path
- Proposed Class 1 Trail/Path
- Proposed Class 1 Trail/Path
- Proposed Class 2 Bike Lane
- Proposed Class 3 Shared Route
- Planned Regional Trail/Path
- Regional Connection
- Proposed Trail Crossings

FIGURE 4-8

Apple Bear Commercial Project
Traffic Impact Study

City of Victorville Master Plan of Bikeways and Trails

SOURCE: City of Victorville 2018 General Plan

P:\WDN2201_Apple Bear Commercial Project\Technical Studies\Traffic and VMT\Traffic\GIS\Reports\fig4-8_Bike Network-Trails_Victorville.ai (2/16/2023)

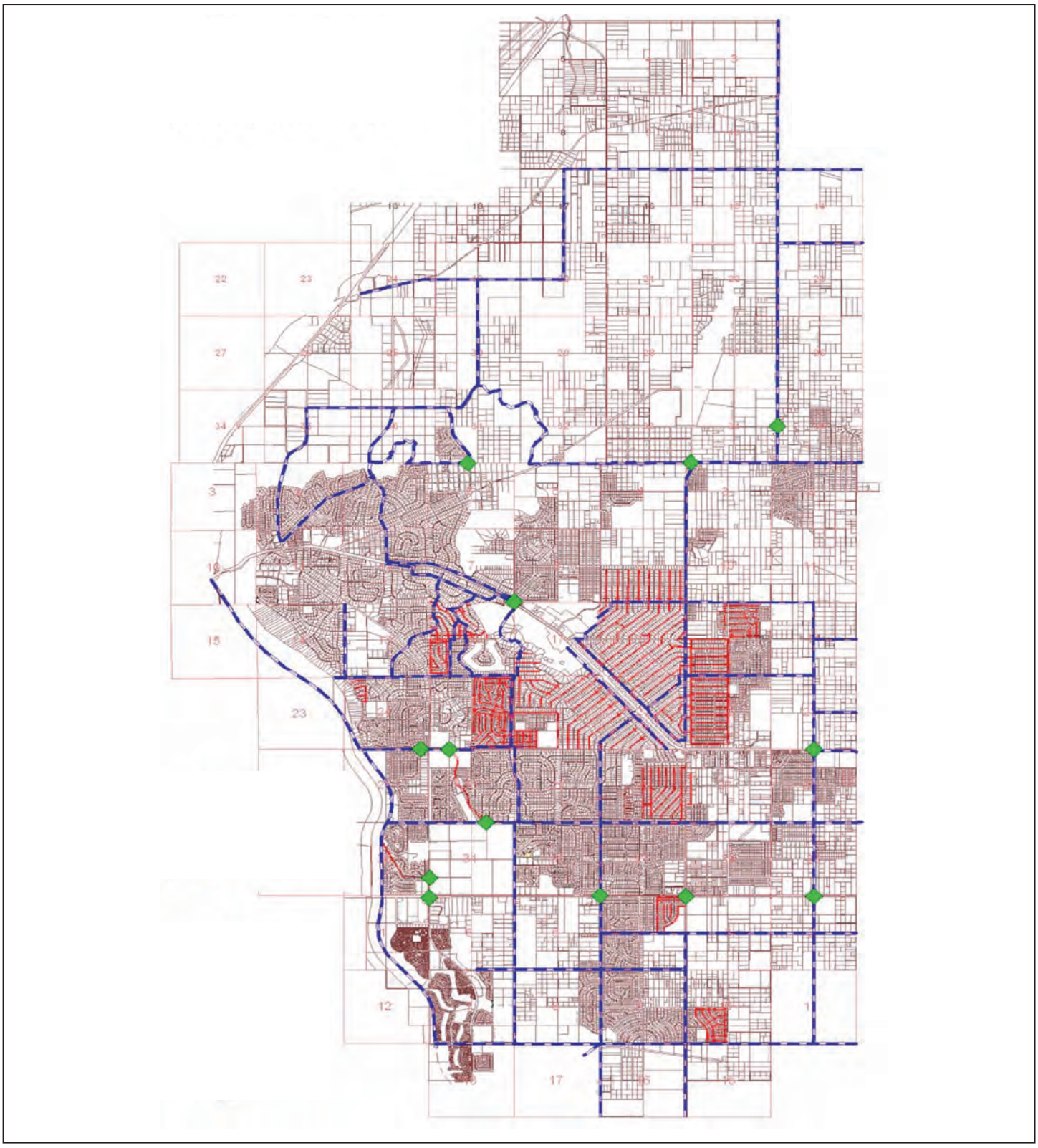

FIGURE 4-9

Apple Bear Commercial Project
Traffic Impact Study

Town of Apple Valley Master Plan of Trails

SOURCE: Town of Apple Valley 2009 General Plan Draft EIR

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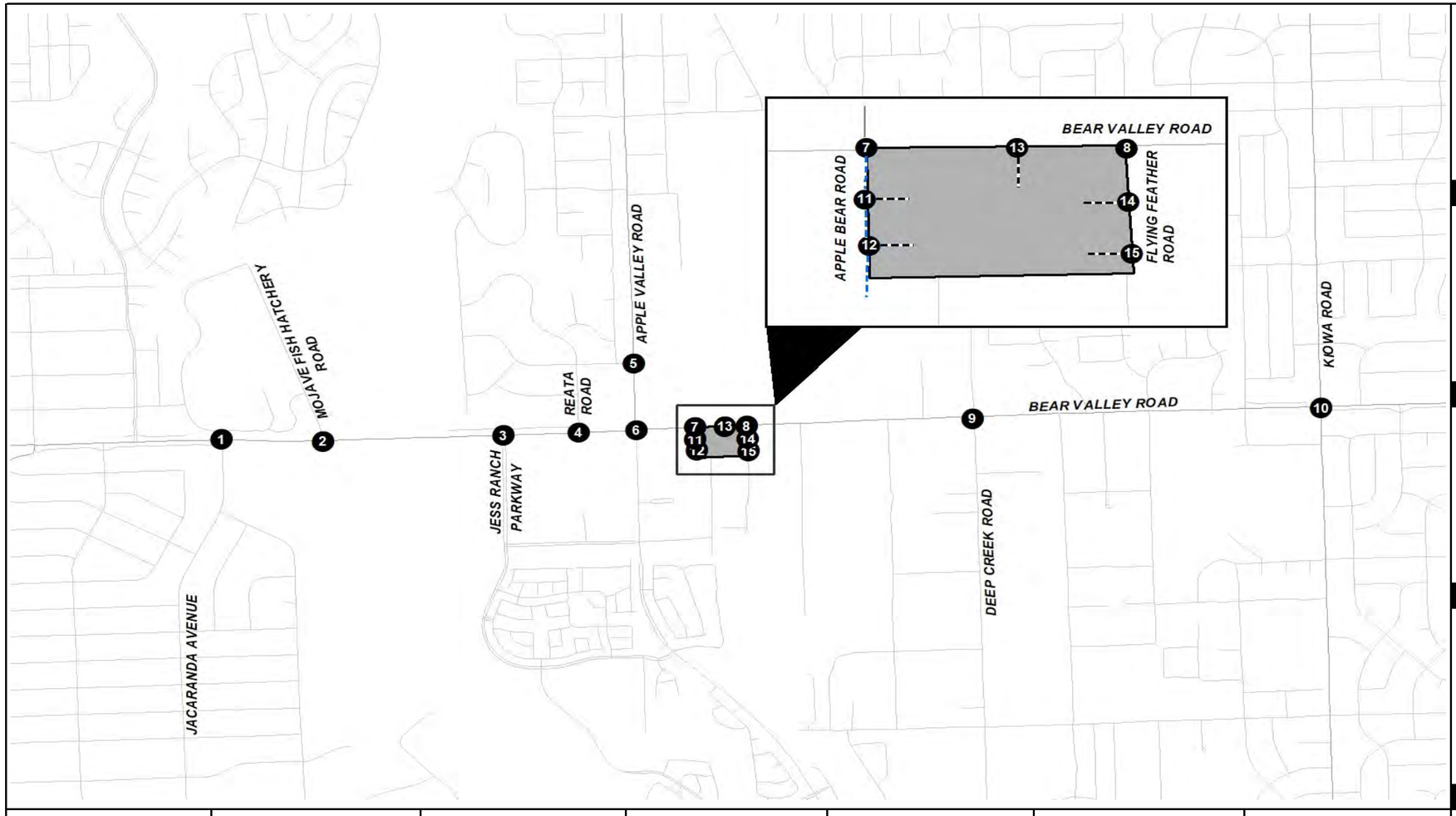

1 Jacaranda Avenue/Bear Valley Road

	36 / 36	43 / 22
	15 / 18	1516 / 1576
	14 / 27	217 / 303
127 / 35	78 / 82	
1273 / 1762	49 / 9	
63 / 46	264 / 398	

2 Mojave Fish Hatchery Road/Bear Valley Road

	64 / 84	239 / 90
	5 / 5	1669 / 1713
	99 / 115	45 / 115
160 / 57	42 / 104	
1335 / 2033	6 / 9	
55 / 97	24 / 64	

3 Jess Ranch Parkway/Bear Valley Road

		1688 / 1463
		75 / 191
1245 / 1732	265 / 455	
167 / 317	41 / 173	

4 Reata Road/Bear Valley Road

	273 / 260	15 / 14
	39 / 102	1455 / 1193
	19 / 28	59 / 150
203 / 293	35 / 201	
994 / 1464	24 / 105	
46 / 127	28 / 152	

5 Apple Valley Road/Pimlico Road - Shopping Center Driveway

	190 / 245	31 / 100
	760 / 752	26 / 45
	64 / 142	34 / 80
147 / 275	38 / 70	
35 / 53	575 / 675	
14 / 38	35 / 88	

6 Apple Valley Road/Bear Valley Road

	392 / 351	165 / 125
	188 / 350	1101 / 926
	168 / 197	100 / 177
332 / 449	71 / 107	
635 / 1067	154 / 225	
40 / 59	44 / 149	

7 Westmont Drive - Apple Bear Road/Bear Valley Road

	17 / 46	56 / 92
	47 / 168	1369 / 1150
39 / 85		
744 / 1319		

8 Flying Feather Road/Bear Valley Road

		1399 / 1211
		2 / 0
793 / 1471	3 / 1	
3 / 1	2 / 3	

9 Deep Creek Road/Apple Valley Road

		1259 / 1133
		105 / 108
743 / 1381	133 / 100	
51 / 93	59 / 117	

10 Kiowa Road/Bear Valley Road

168 / 127	139 / 221	47 / 65
87 / 155	261 / 209	96 / 123
492 / 859	139 / 210	781 / 776
133 / 213	60 / 114	43 / 52

11 Apple Bear Road/Project Driveway 1 — *Future Intersection*

12 Apple Bear Road/Project Driveway 2 — *Future Intersection*

13 Project Driveway 3/Bear Valley Road — *Future Intersection*

14 Flying Feather Road/Project Driveway 4 — *Future Intersection*

15 Flying Feather Road/Project Driveway 5 — *Future Intersection*

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FIGURE 4-10

XXXX / YYYY

AM / PM Peak Hour PCE Traffic Volumes

Project Driveway

Future Road

Apple Bear Commercial Project
Traffic Impact Study

Existing Peak Hour Traffic Volumes

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Table 4-A - Existing Intersection Levels of Service

Intersection	Jurisdiction	LOS Standard	No Project				
			Control	A.M. Peak Hour		P.M. Peak Hour	
				Delay (sec.)	LOS	Delay (sec.)	LOS
1 . Jacaranda Avenue/Bear Valley Road	City of Hesperia/City of Victorville	D	Signal	49.2	D	90.1	**F** *
2 . Mojave Fish Hatchery Road/Bear Valley Road	City of Hesperia/City of Victorville	D	Signal	49.1	D	55.7	**E** *
3 . Jess Ranch Parkway/Bear Valley Road	Town of Apple Valley	C	Signal	19.8	B	24.8	C
4 . Reata Road/Bear Valley Road	Town of Apple Valley	C	Signal	28.9	C	32.2	C
5 . Apple Valley Road/Pimlico Road - Shopping Center Driveway	Town of Apple Valley	C	Signal	17.5	B	27.6	C
6 . Apple Valley Road/Bear Valley Road	Town of Apple Valley	C	Signal	55.1	**E** *	62.0	**E** *
7 . Westmont Drive - Apple Bear Road/Bear Valley Road	Town of Apple Valley	C	Signal	14.8	B	17.0	B
8 . Flying Feather Road/Bear Valley Road	Town of Apple Valley	C	OWSC	22.4	C	21.4	C
9 . Deep Creek Road/Apple Valley Road	Town of Apple Valley	C	Signal	18.3	B	21.2	C
10 . Kiowa Road/Bear Valley Road	Town of Apple Valley	C	Signal	45.2	**D** *	44.3	**D** *
11 . Apple Bear Road/Project Driveway 1	Town of Apple Valley	C	-	*Does Not Exist*		*Does Not Exist*	
12 . Apple Bear Road/Project Driveway 2	Town of Apple Valley	C	-	*Does Not Exist*		*Does Not Exist*	
13 . Project Driveway 3/Bear Valley Road	Town of Apple Valley	C	-	*Does Not Exist*		*Does Not Exist*	
14 . Flying Feather Road/Project Driveway 4	Town of Apple Valley	C	-	*Does Not Exist*		*Does Not Exist*	
15 . Flying Feather Road/Project Driveway 5	Town of Apple Valley	C	-	*Does Not Exist*		*Does Not Exist*	

Notes:

OWSC = One-Way Stop Control; LOS = Level of Service

Delay = Average control delay in seconds (For OWSC intersections, reported delay is for worst-case movement).

* Exceeds LOS Standard

5.0 PROJECT TRAFFIC

5.1 EXISTING TRAFFIC REASSIGNMENT

The intersection of Flying Feather Road and Bear Valley Road is currently an unsignalized intersection with one-way stop control (OWSC) on Flying Feather Road. Vehicles traveling westbound on Bear Valley Road are currently able to make a left-turn maneuver onto Flying Feather Road using the available painted median on Bear Valley Road. Vehicles traveling northbound on Flying Feather Road are currently able to make a left-turn maneuver onto Bear Valley Road. The project will extend the raised median on Bear Valley Road eastward past the intersection of Flying Feather Road and Bear Valley Road, restricting left-turn ingress and egress to and from Flying Feather Road. Therefore, existing left-turn trips at this intersection have been redistributed to study intersection 7 – Westmont Drive – Apple Bear Road/Bear Valley Road, study intersection 12 – Apple Bear Road/Project Driveway 2, and study intersection 15 – Flying Feather Road/Project Driveway 5. The reassignment of existing trips was developed taking into the consideration the project site layout and driveway locations.

5.2 PROJECT TRIP GENERATION

The trip generation for the proposed project was developed using rates from the Institute of Transportation Engineers (ITE) *Trip Generation Manual* (11th Edition) for Land Use 850 – "Supermarket", Land Use 933 – "Fast-Food Restaurant without Drive-Through Window", and Land Use 934 – "Fast-Food Restaurant with Drive-Through Window". Since the ITE *Trip Generation Manual* does not provide trip generation rates for automated car washes, the trip generation for this facility was developed using the survey rates used in traffic studies for similar automated car wash studies. As such, the following two traffic studies were evaluated:

1. Arbor Car Wash Traffic Impact Analysis (City of Rancho Cucamonga) – using survey rates from Fast5 Xpress car wash in the City of Murrieta; and

2. Newport Pointe Project Traffic Impact Analysis (City of Menifee) – using survey rates from Victorville Speedwash facility located at 12147 Industrial Boulevard.

Since the Victorville Speedwash facility rates were higher, these rates have been used to estimate the trip generation for the automated car wash component of the project as a conservative measure. Appendix A includes the trip generation rates for both facilities.

Table 5-A summarizes the daily, a.m., and p.m. peak hour project trip generation. As shown in Table 5-A, the project is anticipated to generate 8,865 gross daily trips, with 643 gross trips occurring during the a.m. peak hour and 739 gross trips occurring during the p.m. peak hour.

Supermarkets, fast-food restaurants, and automated car wash facilities will typically draw some trips from the traffic passing the site on an adjacent street or from traffic on other roadways within the vicinity. These trips are not "new" trips made for the sole purpose of visiting the site, but are trips made as an intermediate stop en route to a final destination. Trips from traffic passing the site on an adjacent street are referred to as "pass-by" trips and will only affect traffic at project driveways and on streets adjacent to the project.

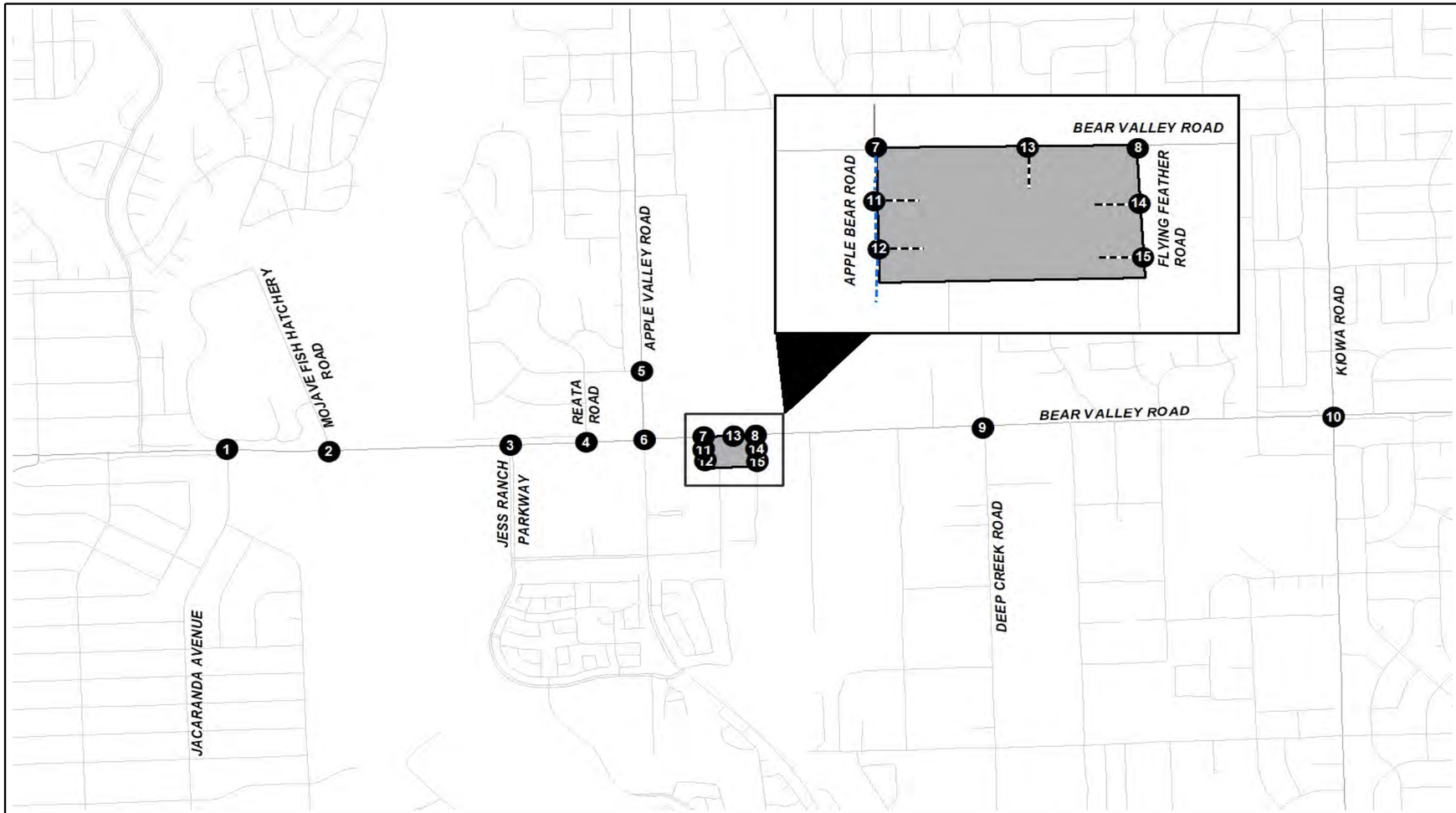
Pass-by trip percentages for the supermarket, fast-food restaurants, and automated car wash were obtained from the ITE *Trip Generation Manual*. Total pass-by trips were subtracted from the gross external trips to obtain the net external trips for the project. After accounting for pass-by trips, the project is anticipated to generate 5,120 net daily trips, with 388 net trips occurring during the a.m. peak hour and 432 net trips occurring during the p.m. peak hour.

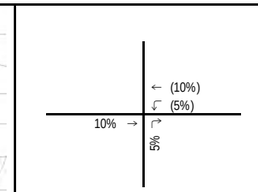
5.3 PROJECT TRIP DISTRIBUTION AND ASSIGNMENT

The project trip distribution patterns were based on the regional roadway network and the location of residential, employment, and commercial centers in relation to the proposed project. Figure 5-1 illustrates the project trip distribution for the proposed project. Figure 5-2 illustrates the total pass-by trip assignment. The project trip assignment at the study intersections is the product of the project trip generation and the corresponding trip distribution percentages. Figure 5-3 illustrates the total project trip assignment.

5.4 LIST OF CHAPTER 5.0 FIGURES AND TABLES

- Figure 5-1: Project Trip Distribution
- Figure 5-2: Project Total Pass-by Trip Assignment
- Figure 5-3: Total Project Trip Assignment
- Table 5-A: Project Trip Generation





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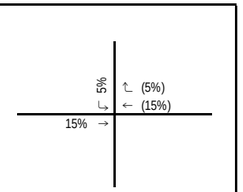
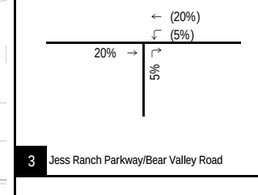
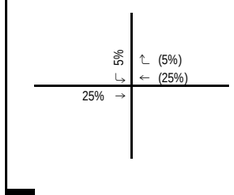


2 Mojave Fish Hatchery Road/Bear Valley Road



3 Jess Ranch Parkway/Bear Valley Road



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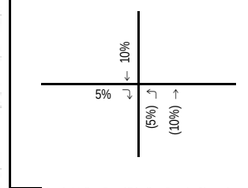
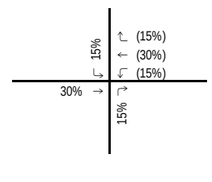
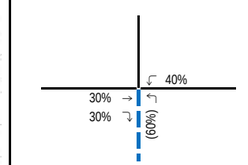


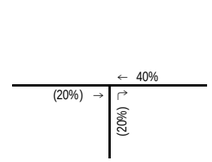
5 Apple Valley Road/Pimlico Road - Shopping Center Driveway



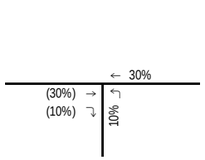
6 Apple Valley Road/Bear Valley Road



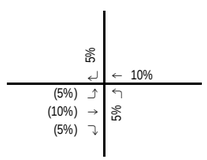
7 Westmont Drive - Apple Bear Road/Bear Valley Road



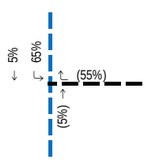
8 Flying Feather Road/Bear Valley Road



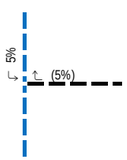
9 Deep Creek Road/Apple Valley Road



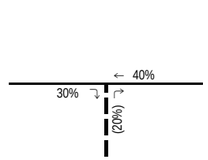
10 Kiowa Road/Bear Valley Road



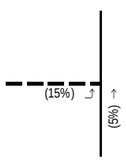
11 Apple Bear Road/Project Driveway 1



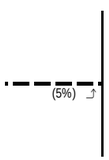
12 Apple Bear Road/Project Driveway 2



13 Project Driveway 3/Bear Valley Road



14 Flying Feather Road/Project Driveway 4



15 Flying Feather Road/Project Driveway 5

XX% (YY%)
Inbound (Outbound) Distribution
Project Driveway
Future Road

FIGURE 5-1

Apple Bear Commercial Project
Traffic Impact Study
Project Trip Distribution

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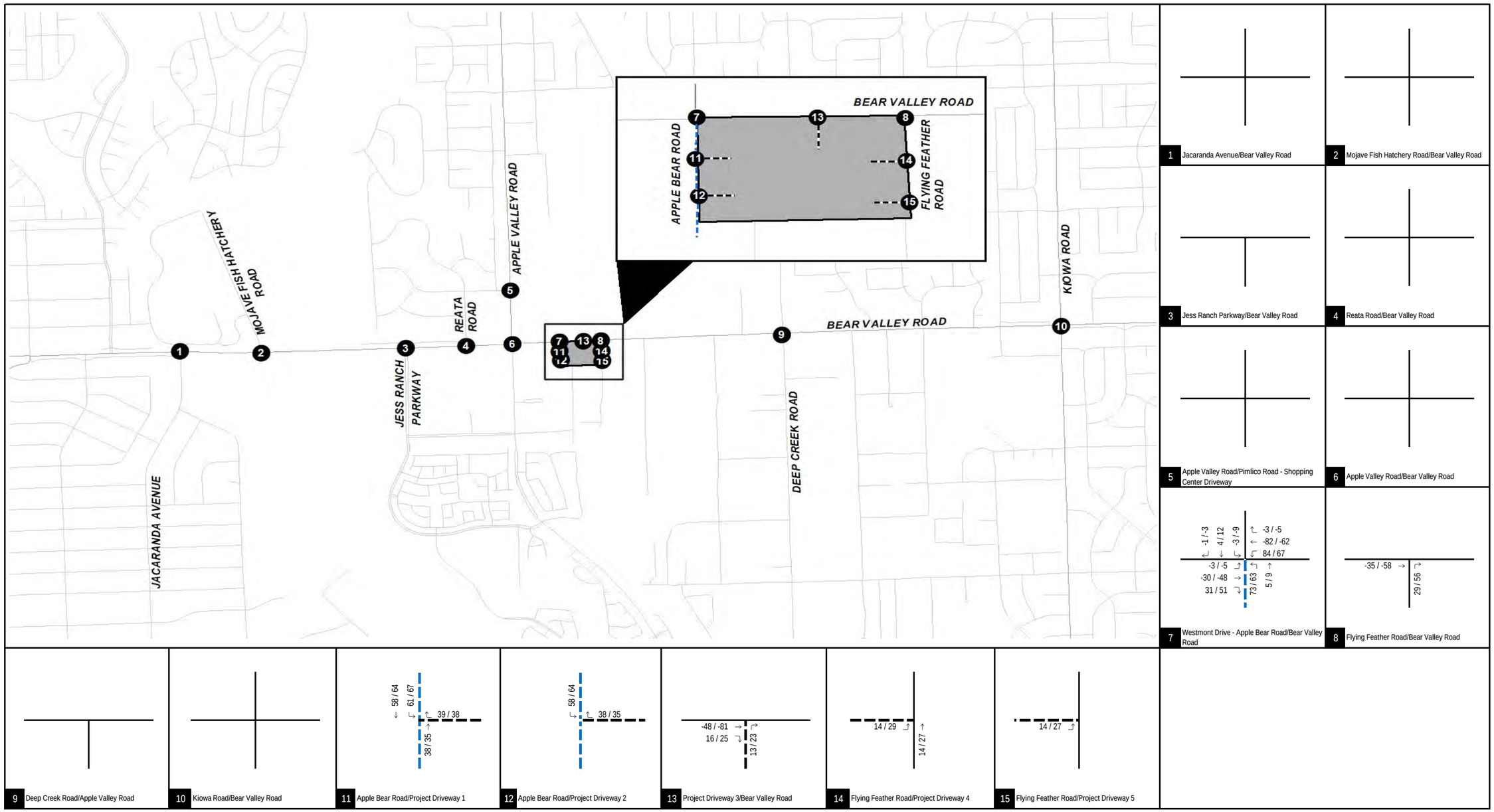

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FIGURE 5-2

XX / YY
AM / PM Peak Hour Trips
Project Driveway
Future Road

Apple Bear Commercial Project
Traffic Impact Study

Project Total Pass-by Trip Assignment

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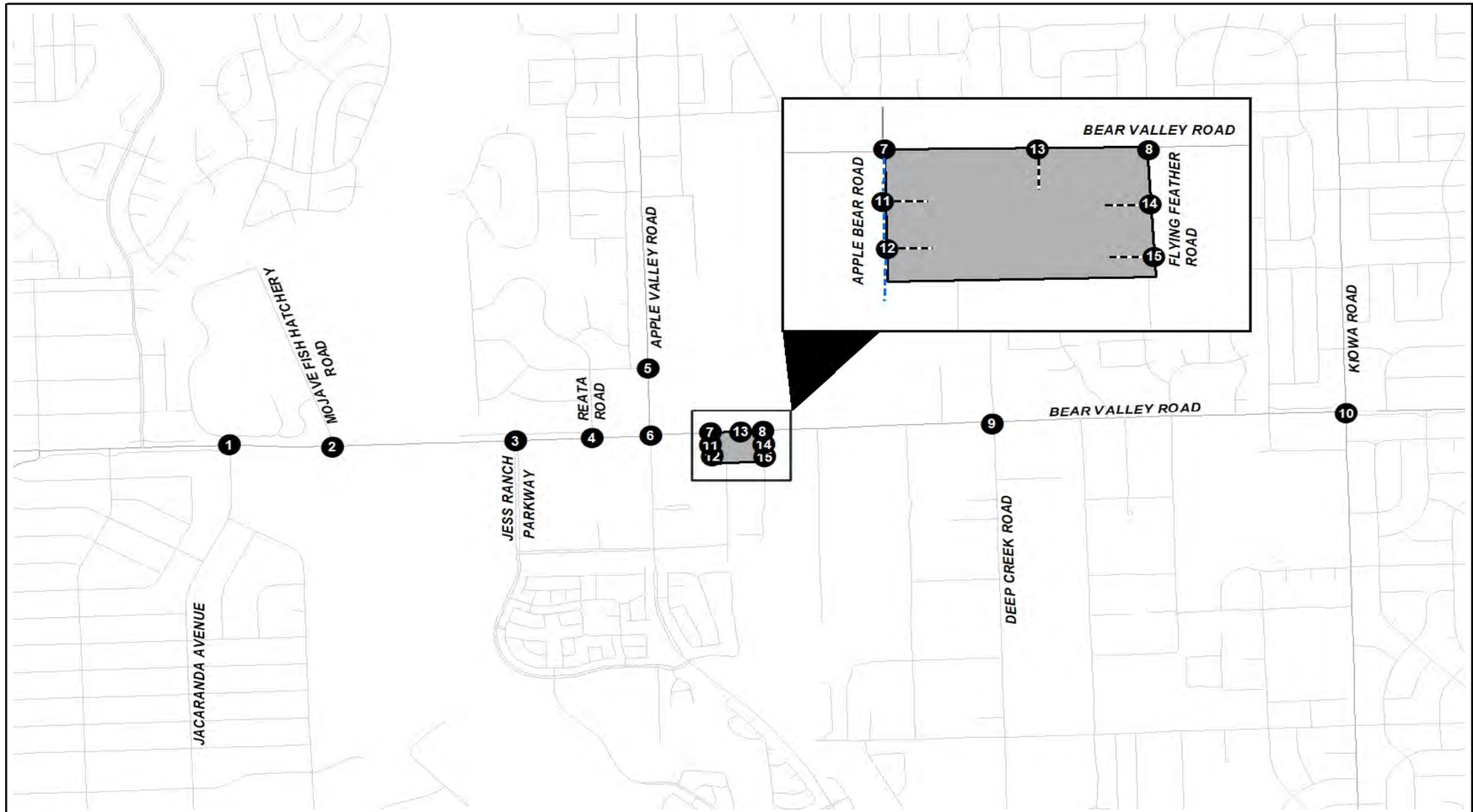
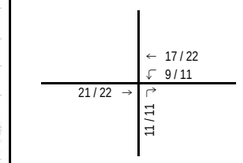
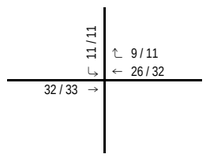
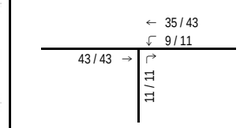




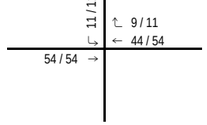
1 Jacaranda Avenue/Bear Valley Road



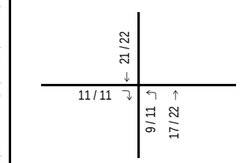
2 Mojave Fish Hatchery Road/Bear Valley Road



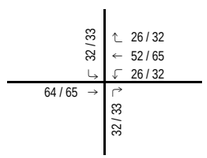
3 Jess Ranch Parkway/Bear Valley Road



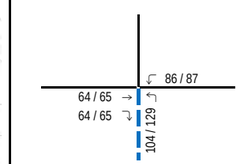
4 Reata Road/Bear Valley Road



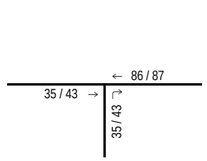
5 Apple Valley Road/Pimlico Road - Shopping Center Driveway



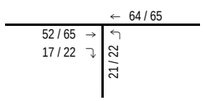
6 Apple Valley Road/Bear Valley Road



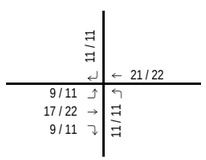
7 Westmont Drive - Apple Bear Road/Bear Valley Road



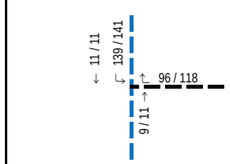
8 Flying Feather Road/Bear Valley Road



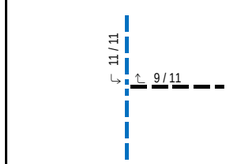
9 Deep Creek Road/Apple Valley Road



10 Kiowa Road/Bear Valley Road



11 Apple Bear Road/Project Driveway 1



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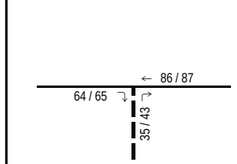
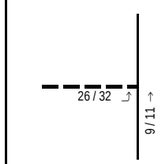
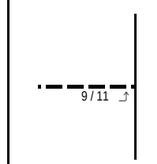


13 Project Driveway 3/Bear Valley Road



14 Flying Feather Road/Project Driveway 4



15 Flying Feather Road/Project Driveway 5

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FIGURE 5-3

XXX / YYY
AM / PM Peak Hour Trips
Project Driveway
Future Road

Apple Bear Commercial Project
Traffic Impact Study
Total Project Trip Assignment

P:\WDN2201_Apple Bear Commercial Project\Technical Studies\Traffic and VMT\Traffic\z45_Assign.xlsx 2/22/2023

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Table 5-A - Project Trip Generation

Land Use		Units	A.M. Peak Hour In	A.M. Peak Hour Out	A.M. Peak Hour Total	P.M. Peak Hour In	P.M. Peak Hour Out	P.M. Peak Hour Total	Daily
Major 1 - Grocery Store	23.26	TSF							
Trips/Unit[1]			1.69	1.17	2.86	4.48	4.47	8.95	93.84
Trip Generation			39	27	66	104	104	208	2,182
Pass-By Trips[2]			0	0	0	(25)	(25)	(50)	(524)
Net Trip Generation			39	27	66	79	79	158	1,658
Pad 2, Pad 3, and Shops 1 - Fast-Food with Drive-Through	7.36	TSF							
Trips/Unit[3]			22.75	21.86	44.61	17.18	15.85	33.03	467.48
Trip Generation			167	161	328	126	117	243	3,439
Pass-By Trips[4]			(84)	(81)	(165)	(69)	(64)	(133)	(1,805)
Net Trip Generation			83	80	163	57	53	110	1,634
Shops 1 - Fast-Food without Drive-Through	3.75	TSF							
Trips/Unit[5]			25.04	18.14	43.18	16.61	16.60	33.21	450.49
Trip Generation			94	68	162	62	62	124	1,689
Pass-By Trips[6]			(47)	(34)	(81)	(34)	(34)	(68)	(887)
Net Trip Generation			47	34	81	28	28	56	802
Pad 1 - Automated Car Wash	131.00	LF							
Trips/Unit[7]			0.38	0.28	0.66	0.62	0.63	1.25	11.87
Trip Generation			50	37	87	81	83	164	1,555
Pass-by Trips[8]			(5)	(4)	(9)	(28)	(28)	(56)	(529)
Net Trip Generation			45	33	78	53	55	108	1,026
Total Gross Trip Generation			**350**	**293**	**643**	**373**	**366**	**739**	**8,865**
Total Pass-By Trips			**(136)**	**(119)**	**(255)**	**(156)**	**(151)**	**(307)**	**(3,745)**
Total Net Trip Generation			**214**	**174**	**388**	**217**	**215**	**432**	**5,120**

Note:

TSF = Thousand Square Feet; LF = Linear Feet

[1] Rates from the Institute of Transportation Engineers (ITE) *Trip Generation Manual* (11th Edition), Land Use 850 - "Supermarket", Setting/Location - "General Urban/Suburban."

[2] Pass-by rates based on Land Use 850 - "Supermarket" from ITE Trip Generation Manual (11th Edition). No a.m. and daily pass-by rates are available. The p.m. pass-by rate used is 24.00%. Since the daily pass-by rate was not available, the p.m. pass-by rate was applied as the daily rate.

[3] Rates based on Land Use 934 - "Fast-Food Restaurant with Drive-Through Window" from ITE *Trip Generation Manual* (11th Edition). Setting/Location - "General Urban/Suburban."

[4] Pass-by rates based on Land Use 934 - "Fast-Food Restaurant with Drive-Through Window" from ITE Trip Generation Manual (11th Edition). The a.m. pass-by rate used is 50%. The p.m. pass-by rate used is 55%. Since the daily pass-by rate was not available, the average of the a.m. and p.m. pass-by rates was applied as the daily rate.

[5] Rates based on Land Use 933 - "Fast-Food Restaurant without Drive-Through Window" from ITE *Trip Generation Manual* (11th Edition). Setting/Location - "General Urban/Suburban."

[6] Pass-by rates for Land Use 933 - "Fast-Food Restaurant without Drive-Through Window" are not available. Therefore, pass-by rates for Land Use 934 - "Fast-Food Resaurant with Drive-Through Window" was used. The a.m. pass-by rate used is 50%. The p.m. pass-by rate used is 55%. Since the daily pass-by rate was not available, the average of the a.m. and p.m. pass-by rates was applied as the daily rate.

[7] Trip generation rates from Linscott, Law & Greenspan, Engineers *Newport Pointe Traffic Impact Analysis Report* , April 2021. Rates based on traffic surveys from the Victorville Speedwash at 12147 Industrial Boulevard, Victorville, CA.

[8] Pass-by rates from Linscott, Law & Greenspan, Engineers *Newport Pointe Traffic Trafic Impact Analysis Report* , April 2021. Pass-by based on ITE *Trip Generation Handbook* , 3rd Edition.

6.0 OPENING YEAR ANALYSIS

6.1 PROJECT DESIGN FEATURES

The project will include the following project design features at the following intersections:

7. Westmont Drive – Apple Bear Road/Bear Valley Road
    - Add a dedicated eastbound right turn lane;
    - Add a dedicated westbound left turn lane (by removing a portion of the existing raised median); and
    - Conversion of the dedicated southbound right turn lane to a through-right turn lane.
8. Flying Feather Road/Bear Valley Road
    - Extension of the existing raised median on Bear Valley Road to extend eastward past the intersection; and
    - Add a dedicated eastbound right turn lane.
13. Project Driveway 3/Bear Valley Road
    - Add an eastbound through-right turn lane.
14. Flying Feather Road/Project Driveway 4
    - Conversion of the northbound through lane to a through-left turn lane; and
    - Conversion of the southbound through lane to a through-right turn lane.
15. Flying Feather Road/Project Driveway 5
    - Conversion of the northbound through lane to a through-left turn lane; and
    - Conversion of the southbound through lane to a through-right turn lane.

Apple Bear Road will be constructed from Bear Valley Road to provide the primary access to and from the project site. Flying Feather Road is currently an unpaved road that will be constructed to allow access to the eastern portion of the project site. Based on discussion with Town staff, the median on Bear Valley Road will be extended eastward past the intersection of Flying Feather Road and Bear Valley Road which will restrict left-turns in and out of Flying Feather Road. The project driveways on Apple Bear Road and Flying Feather Road will be full access driveways. The project driveway on Bear Valley Road will be a RIRO driveway. Figure 6-1 illustrates opening year plus project study intersection geometrics and traffic control.

6.2 OPENING YEAR (2024) NO PROJECT TRAFFIC VOLUMES

As approved during the Town's scoping agreement process (Appendix A), traffic volumes for opening year no project conditions were developed by applying a growth of 2.0 percent per annum to existing traffic volumes and adding trips from approved and pending development projects in the area. This methodology was applied for all study intersections. Information concerning cumulative projects in the vicinity of the proposed project was obtained from Town staff and the nearby

jurisdictions of Victorville, Hesperia, and San Bernardino County. Figure 6-2 illustrates the cumulative project locations. Trip generation for cumulative projects was either obtained from the respective traffic studies prepared for the projects or developed using rates from the ITE *Trip Generation Manual* (11th Edition). Table 6-A lists the cumulative projects included in this analysis and shows the cumulative projects are estimated to generate 1,342 net PCE trips in the a.m. peak hour, 1,535 net PCE trips in the p.m. peak hour, and 15,325 net daily PCE trips.

Cumulative project trips were assigned to the roadway network based on their locations in relation to surrounding land uses and regional arterials. Figure 6-3 illustrates the total peak hour cumulative project trip assignment at study area intersections. Figure 6-4 illustrates the peak hour traffic volumes at study intersections under opening year no project conditions.

Detailed volume development worksheets are included in Appendix C.

6.3 OPENING YEAR (2024) PLUS PROJECT TRAFFIC VOLUMES

Opening year plus project traffic volumes were developed by adding proposed project traffic to the opening year no project traffic volumes. Figure 6-5 illustrates the opening year plus project peak hour traffic volumes at study intersections.

Detailed volume development worksheets are included in Appendix C.

6.4 OPENING YEAR (2024) NO PROJECT LEVELS OF SERVICE

An intersection LOS analysis was conducted for opening year no project conditions using the methodologies previously discussed. Table 6-B summarizes the results of the analysis and shows that the following intersections are forecast to operate at a deficient LOS under opening year no project conditions:

1. Jacaranda Avenue/Bear Valley Road (both a.m. and p.m. peak hours);
2. Mojave Fish Hatchery Road/Bear Valley Road (both a.m. and p.m. peak hours);
6. Apple Valley Road/Bear Valley Road (both a.m. and p.m. peak hours);
8. Flying Feather Road/Bear Valley Road (both a.m. and p.m. peak hours); and
10. Kiowa Road/Bear Valley Road (both a.m. and p.m. peak hours).

All other intersections are forecast to operate at a satisfactory LOS. Detailed LOS worksheets are included in Appendix D.

6.5 OPENING YEAR (2024) PLUS PROJECT LEVELS OF SERVICE

An intersection LOS analysis was conducted for opening year plus project conditions using the methodologies previously discussed. Table 6-B summarizes the results of the analysis and shows that the following intersections are forecast to operate at a deficient LOS under opening year plus project conditions:

1. Jacaranda Avenue/Bear Valley Road (both a.m. and p.m. peak hours);

2. Mojave Fish Hatchery Road/Bear Valley Road (both a.m. and p.m. peak hours);

6. Apple Valley Road/Bear Valley Road (both a.m. and p.m. peak hours); and

10. Kiowa Road/Bear Valley Road (both a.m. and p.m. peak hours).

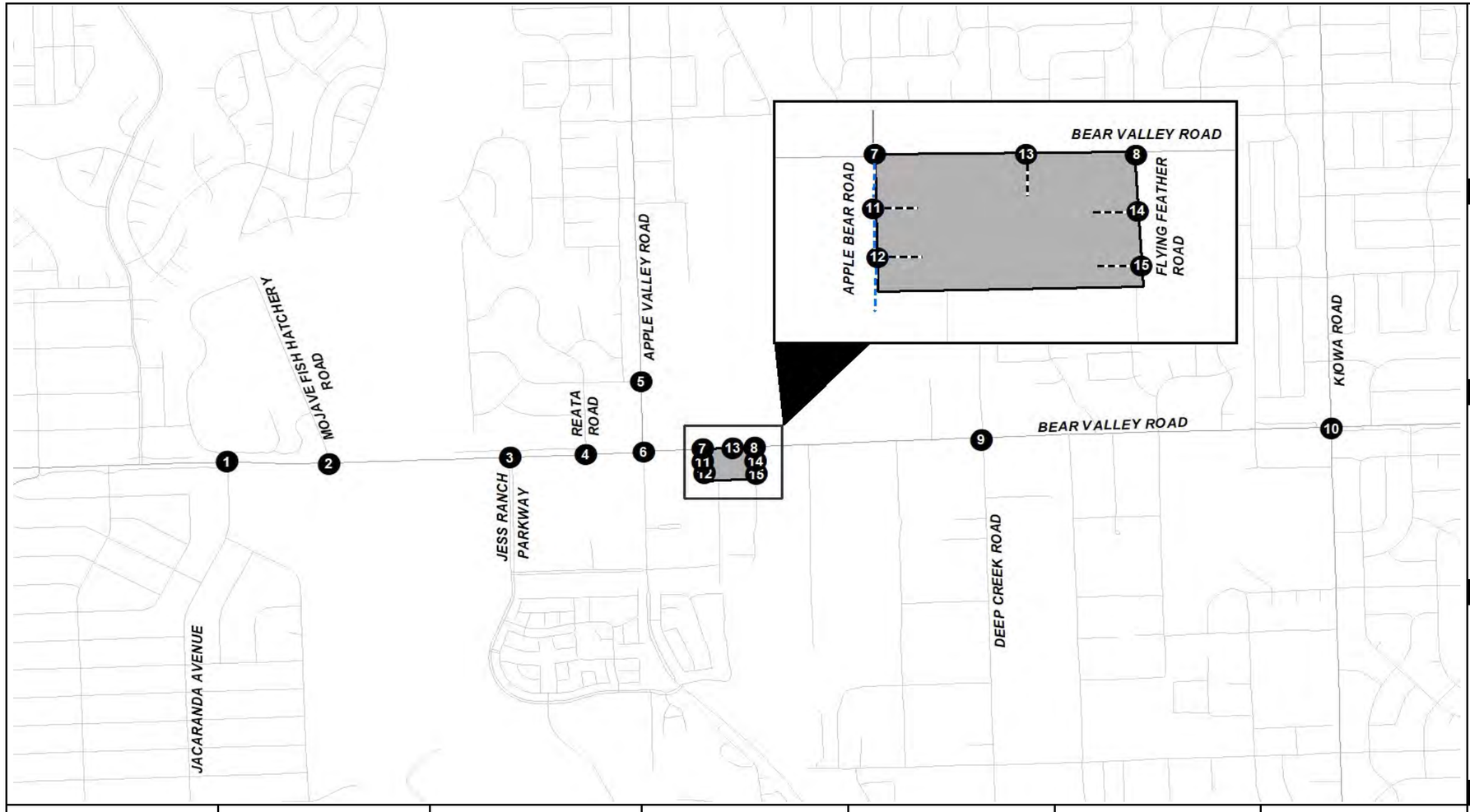
These intersections are also forecast to operate at a deficient LOS even under opening year no project conditions. Therefore, the project would contribute to the forecast deficiency at these intersections. As such, improvements would be required at those intersections.

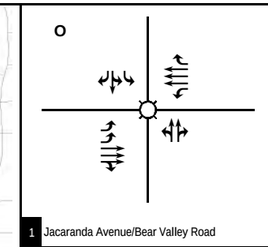
It should be noted that under opening year plus project conditions, intersection 8 – Flying Feather Road/Bear Valley Road is no longer forecast to operate at a deficient LOS upon construction of the proposed project.

All other intersections are forecast to operate at a satisfactory LOS under opening year plus project conditions. Detailed LOS worksheets are included in Appendix D.

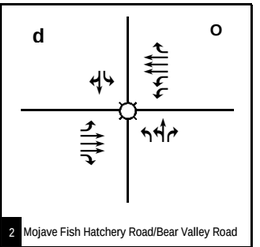
6.6 LIST OF CHAPTER 6.0 FIGURES AND TABLES

- Figure 6-1: Opening Year (2024) Plus Project Study Intersection Geometrics and Traffic Control
- Figure 6-2: Cumulative Project Locations
- Figure 6-3: Cumulative Projects Trip Assignment
- Figure 6-4: Opening Year (2024) No Project Peak Hour Traffic Volumes
- Figure 6-5: Opening Year (2024) Plus Project Peak Hour Traffic Volumes
- Table 6-A: Cumulative Projects Trip Generation
- Table 6-B: Opening Year (2024) Intersection Levels of Service

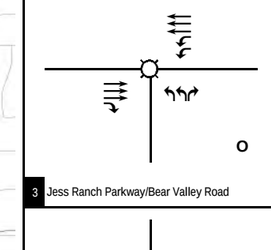




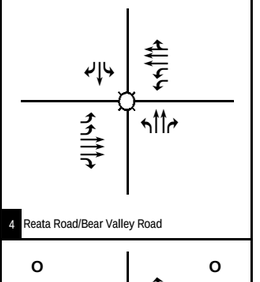
1 Jacaranda Avenue/Bear Valley Road



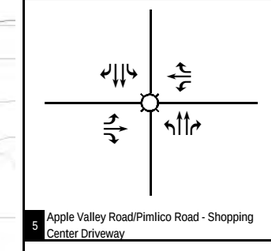
2 Mojave Fish Hatchery Road/Bear Valley Road



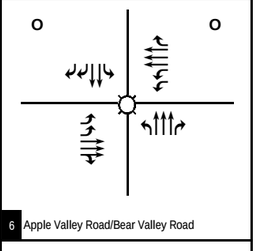
3 Jess Ranch Parkway/Bear Valley Road



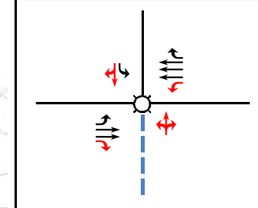
4 Reata Road/Bear Valley Road



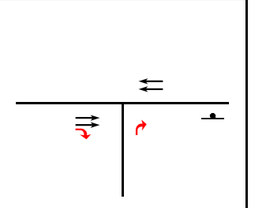
5 Apple Valley Road/Pimlico Road - Shopping Center Driveway



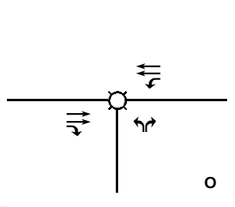
6 Apple Valley Road/Bear Valley Road



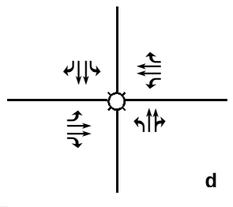
7 Westmont Drive - Apple Bear Road/Bear Valley Road



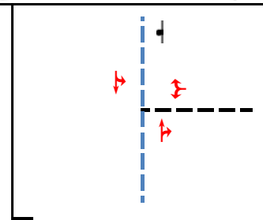
8 Flying Feather Road/Bear Valley Road



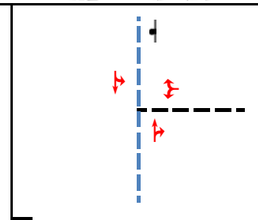
9 Deep Creek Road/Apple Valley Road



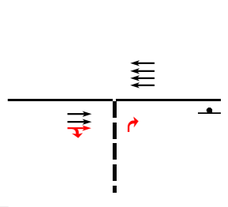
10 Kiowa Road/Bear Valley Road



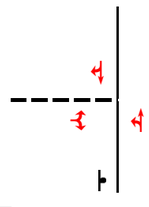
11 Apple Bear Road/Project Driveway 1



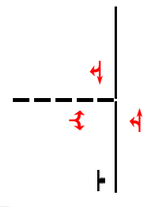
12 Apple Bear Road/Project Driveway 2



13 Project Driveway 3/Bear Valley Road



14 Flying Feather Road/Project Driveway 4



15 Flying Feather Road/Project Driveway 5

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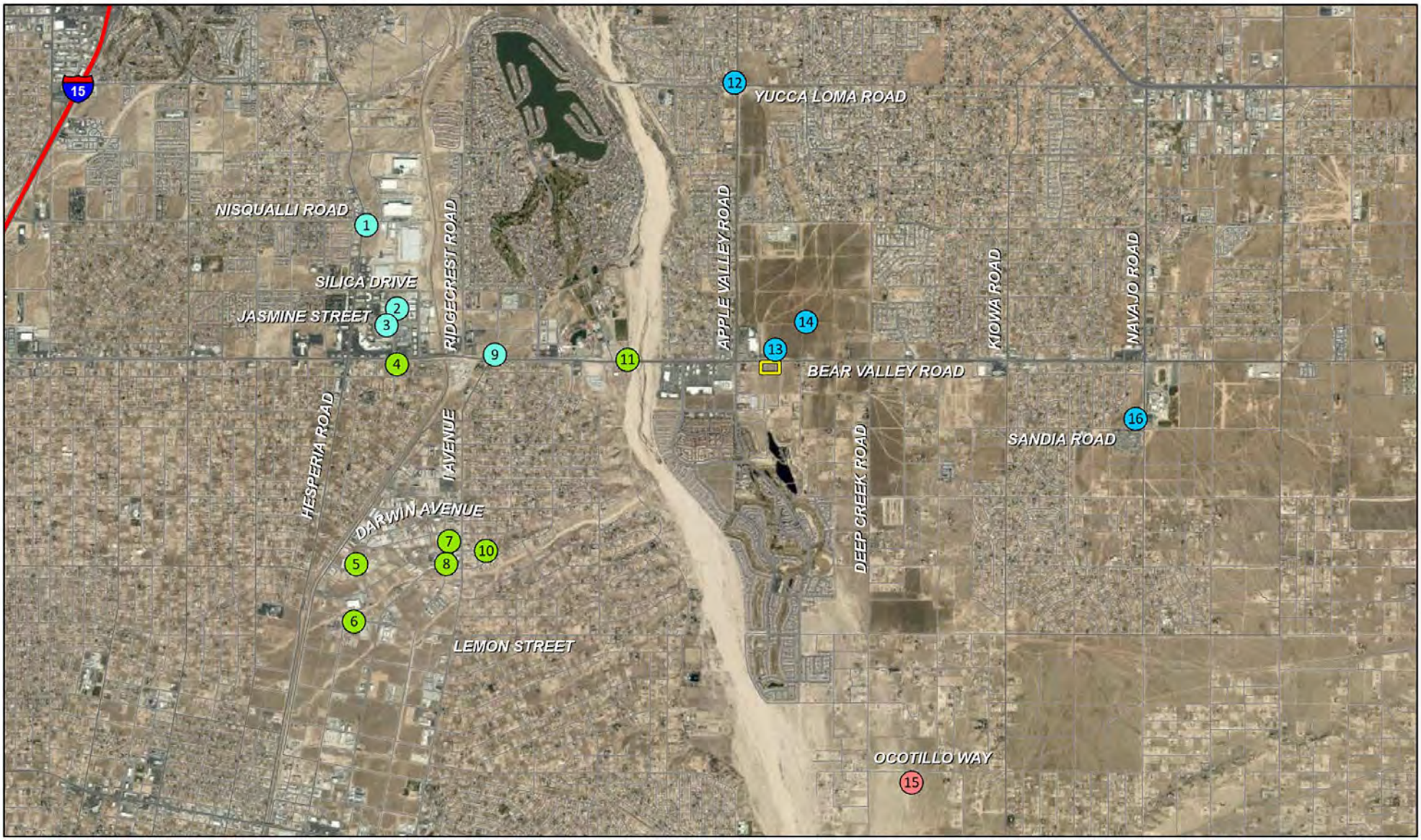
FIGURE 6-1

Legend

- Signal
- Stop Sign
- Future Road
- o Right-Turn Overlap
- d De-facto Right Turn
- Project Driveway
- Project Design Feature

Apple Bear Commercial Project
Traffic Impact Study

Opening Year (2024) Plus Project Study Intersection Geometrics and Traffic Control



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LEGEND

Project Site

Cumulative Projects

- City of Victorville
- City of Hesperia
- Town of Apple Valley
- San Bernardino County

0 2600 5200
FEET

SOURCE: Google Earth, 2021; ESRI Streetmap, 2021

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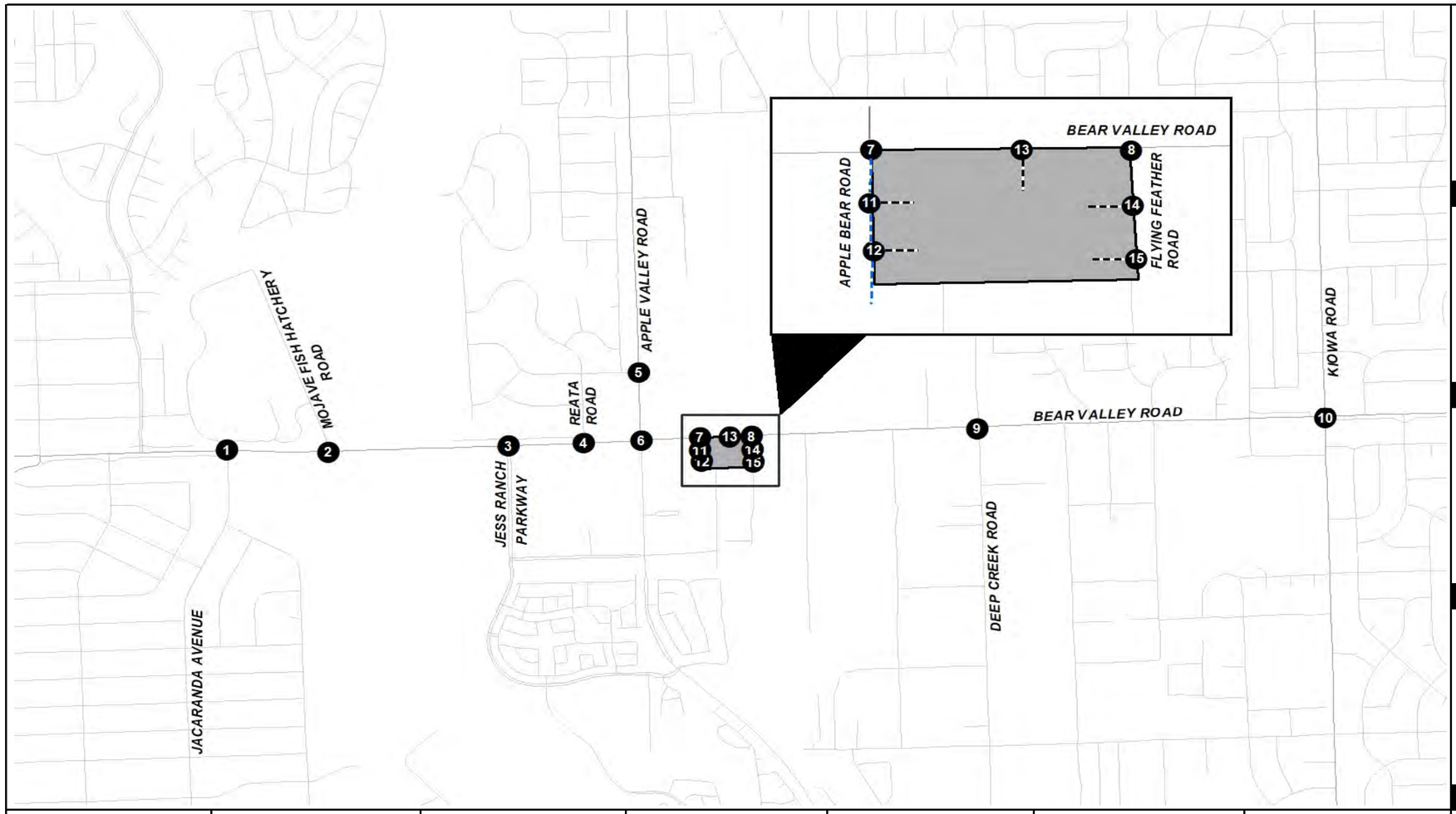
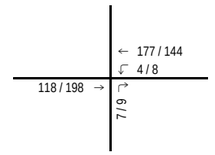
FIGURE 6-2

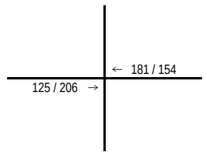
Apple Bear Commercial Project
Traffic Impact Study
Cumulative Project Locations



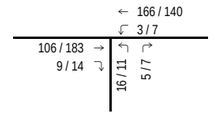
1 Jacaranda Avenue/Bear Valley Road



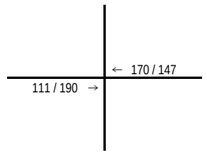
2 Mojave Fish Hatchery Road/Bear Valley Road



3 Jess Ranch Parkway/Bear Valley Road

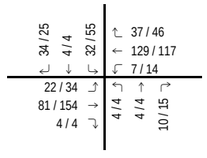


4 Reata Road/Bear Valley Road

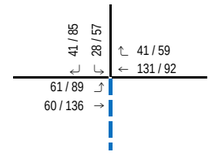


5 Apple Valley Road/Pimlico Road - Shopping Center Driveway

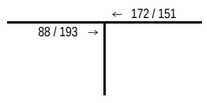
6 Apple Valley Road/Bear Valley Road



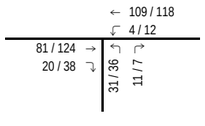
7 Westmont Drive - Apple Bear Road/Bear Valley Road



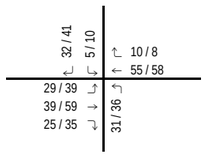
8 Flying Feather Road/Bear Valley Road



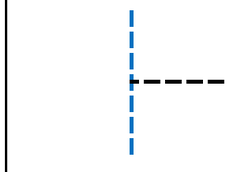
9 Deep Creek Road/Apple Valley Road



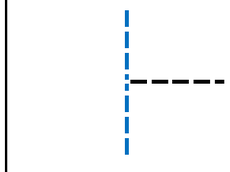
10 Kiowa Road/Bear Valley Road



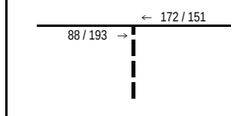
11 Apple Bear Road/Project Driveway 1



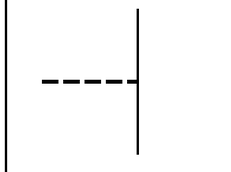
12 Apple Bear Road/Project Driveway 2



13 Project Driveway 3/Bear Valley Road



14 Flying Feather Road/Project Driveway 4



15 Flying Feather Road/Project Driveway 5

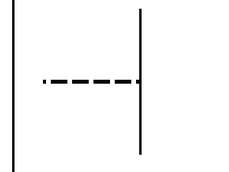


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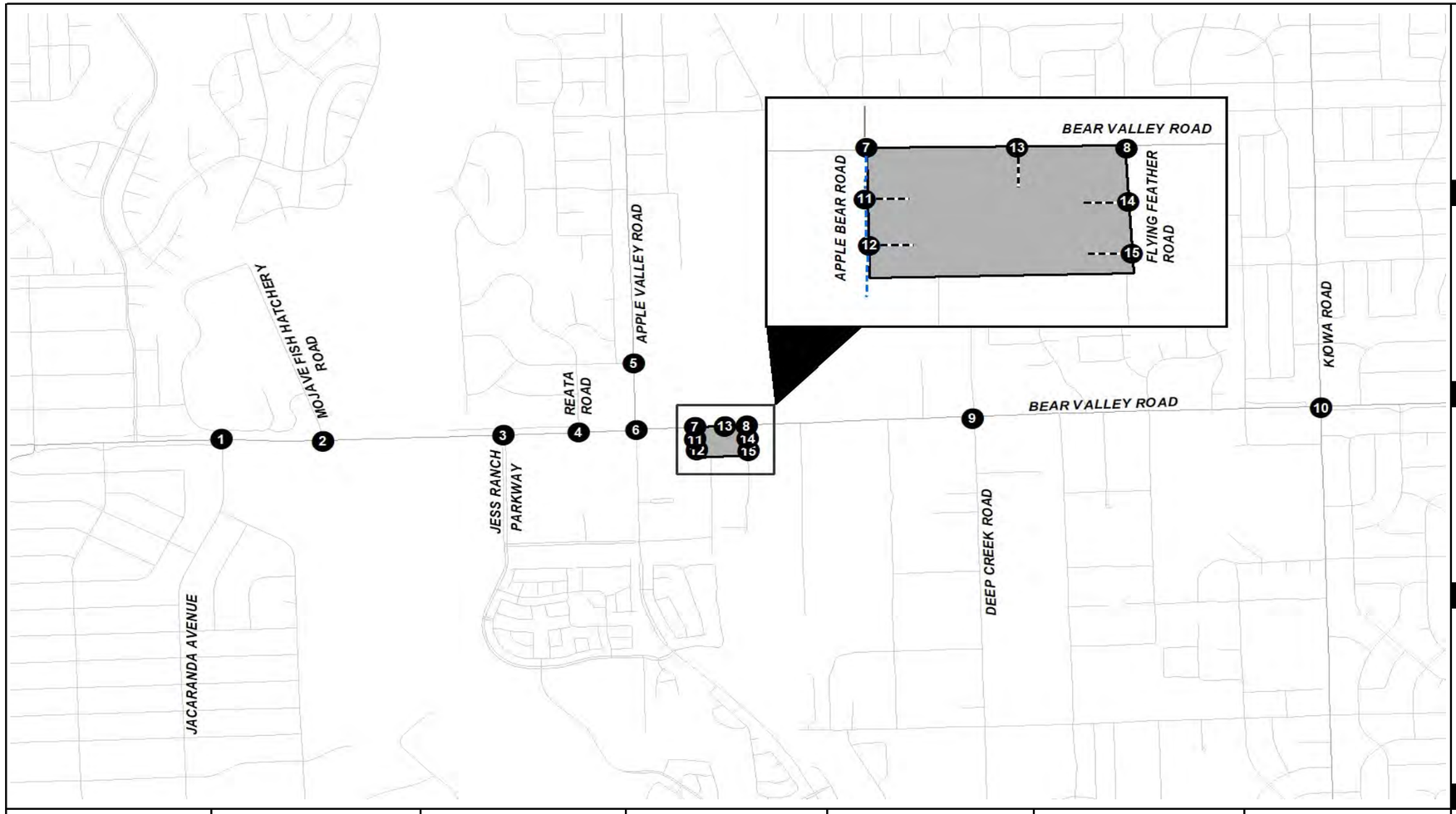
FIGURE 6-3

XXX / YYY
AM / PM Peak Hour Trips
Project Driveway
Future Road

Apple Bear Commercial Project
Traffic Impact Study

Cumulative Project Trip Assignment



1 Jacaranda Avenue/Bear Valley Road

	37 / 37	↰
	16 / 19	←
	15 / 28	↳
132 / 36	↱	45 / 23
1442 / 2030	→	1754 / 1783
66 / 48	↴	230 / 323
81 / 85	↰ ↳	51 / 9 → 282 / 423 ↱

2 Mojave Fish Hatchery Road/Bear Valley Road

	67 / 87	↰
	5 / 5	←
	103 / 120	↳
166 / 59	↱	249 / 94
1513 / 2320	→	1917 / 1936
57 / 101	↴	47 / 120
44 / 108	↰ ↳	6 / 9 → 25 / 67 ↱

3 Jess Ranch Parkway/Bear Valley Road

		← 1922 / 1662
		↰ 81 / 206
1401 / 1984	→	
183 / 344	↴	
292 / 484	↰ ↳	48 / 187 ↱

4 Reata Road/Bear Valley Road

	284 / 270	↰
	41 / 106	←
	20 / 29	↳
211 / 305	↱	16 / 15
1145 / 1713	→	1683 / 1388
48 / 132	↴	61 / 156
36 / 209	↰ ↳	25 / 109 → 29 / 158 ↱

5 Apple Valley Road/Pimlico Road - Shopping Center Driveway

	198 / 255	↰
	859 / 865	←
	67 / 148	↳
153 / 286	↱	32 / 104
36 / 55	→	27 / 47
15 / 40	↴	35 / 83
40 / 73	↰ ↳	660 / 785 → 36 / 92 ↱

6 Apple Valley Road/Bear Valley Road

	442 / 390	↰
	200 / 368	←
	207 / 260	↳
367 / 501	↱	209 / 176
741 / 1264	→	1274 / 1080
46 / 65	↴	111 / 198
78 / 115	↰ ↳	164 / 238 → 56 / 170 ↱

7 Westmont Drive - Apple Bear Road/Bear Valley Road

	59 / 133	↰
	77 / 232	↳
		↰ 99 / 155
		← 1555 / 1288
102 / 177	↳	
834 / 1508	→	

8 Flying Feather Road/Bear Valley Road

		← 1627 / 1410
		↰ 2 / 0
913 / 1723	→	
3 / 1	↴	
3 / 1	↰ ↳	2 / 3 ↱

9 Deep Creek Road/Apple Valley Road

		← 1418 / 1296
		↰ 113 / 124
854 / 1560	→	
73 / 135	↴	
169 / 140	↰ ↳	72 / 129 ↱

10 Kiowa Road/Bear Valley Road

	207 / 173	↰
	145 / 230	←
	54 / 78	↳
119 / 200	↱	55 / 62
551 / 952	→	867 / 865
163 / 257	↴	100 / 128
302 / 253	↰ ↳	145 / 218 → 62 / 119 ↱

11 Apple Bear Road/Project Driveway 1

Future Intersection

12 Apple Bear Road/Project Driveway 2

Future Intersection

13 Project Driveway 3/Bear Valley Road

Future Intersection

14 Flying Feather Road/Project Driveway 4

Future Intersection

15 Flying Feather Road/Project Driveway 5

Future Intersection

LSA

FIGURE 6-4

XXXX / YYYY

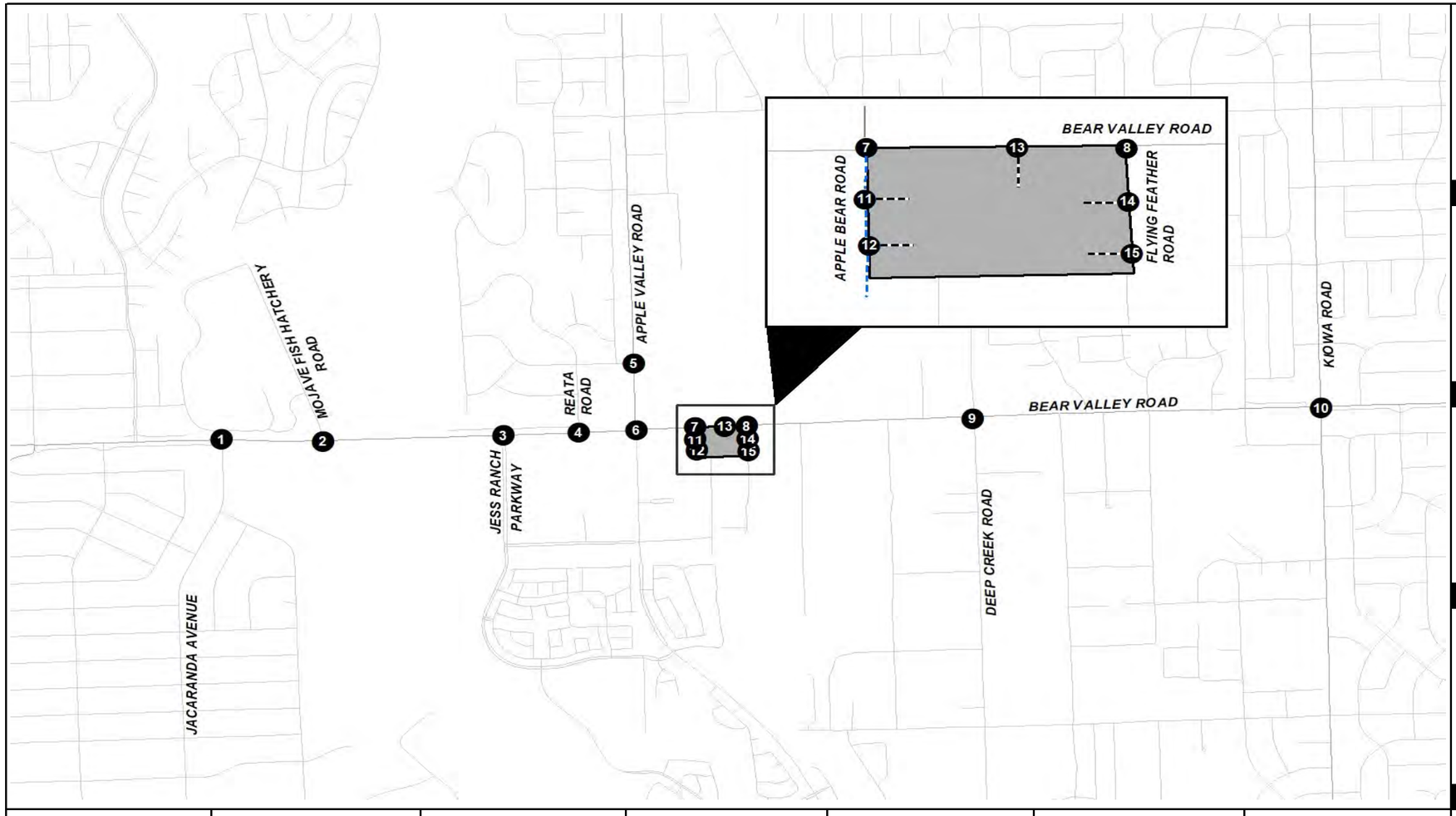
AM / PM Peak Hour PCE Traffic Volumes

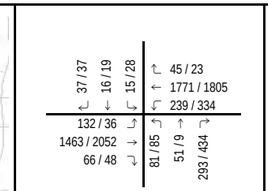
Project Driveway

Future Road

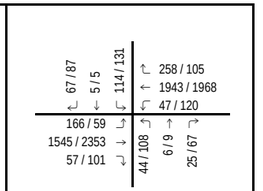
Apple Bear Commercial Project
Traffic Impact Study

Opening Year (2024) No Project Peak Hour Traffic Volumes

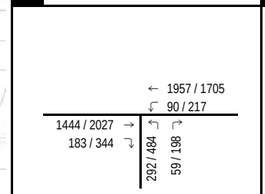




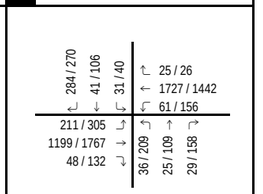
1 Jacaranda Avenue/Bear Valley Road



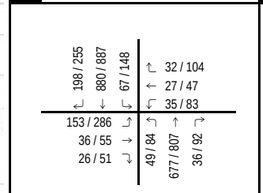
2 Mojave Fish Hatchery Road/Bear Valley Road



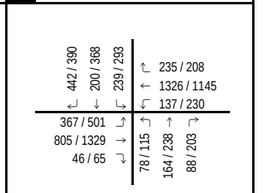
3 Jess Ranch Parkway/Bear Valley Road



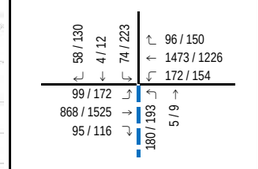
4 Reata Road/Bear Valley Road



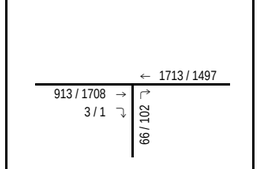
5 Apple Valley Road/Pimlico Road - Shopping Center Driveway



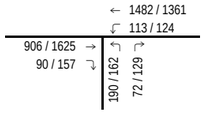
6 Apple Valley Road/Bear Valley Road



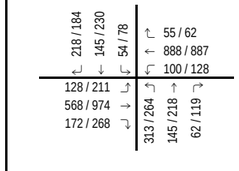
7 Westmont Drive - Apple Bear Road/Bear Valley Road



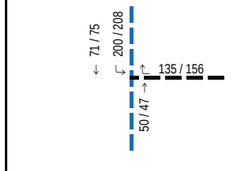
8 Flying Feather Road/Bear Valley Road



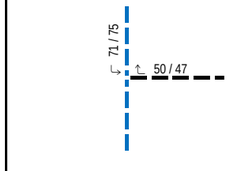
9 Deep Creek Road/Apple Valley Road



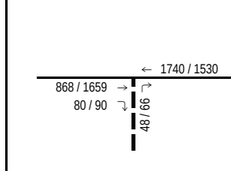
10 Kiowa Road/Bear Valley Road



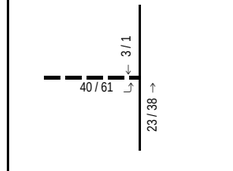
11 Apple Bear Road/Project Driveway 1



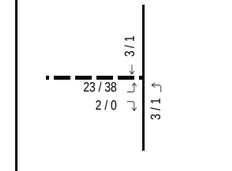
12 Apple Bear Road/Project Driveway 2



13 Project Driveway 3/Bear Valley Road



14 Flying Feather Road/Project Driveway 4



15 Flying Feather Road/Project Driveway 5

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FIGURE 6-5

XXXX / YYYY

AM / PM Peak Hour PCE Traffic Volumes

Project Driveway

Future Road

Apple Bear Commercial Project
Traffic Impact Study

Opening Year (2024) Plus Project Peak Hour Traffic Volumes

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Table 6-A - Cumulative Projects Trip Generation

Project No.	Land Use/Builder/Applicant/Project Name	Units	A.M. Peak Hour In	A.M. Peak Hour Out	A.M. Peak Hour Total	P.M. Peak Hour In	P.M. Peak Hour Out	P.M. Peak Hour Total	Daily
1.	**PLAN20-00006**								
	Southeast corner of Hesperia Road and Nisqualli Road.								
	Convenience Store/Gas Station - GFA (4-5.5k)[1]	16 VFP							
	Trips/Unit		13.52	13.52	27.04	11.38	11.38	22.76	257.13
	Trip Generation		216	216	432	182	182	364	4,114
	Pass-by Trips[2]		(130)	(130)	(259)	(102)	(102)	(204)	(2,386)
	Net New Trips		86	86	173	80	80	160	1,728
	Truck Stop[3]	4 VFP							
	Trips/Unit (Cars)		0.380	0.280	0.660	0.620	0.630	1.250	11.870
	Trips/Unit (2-Axle Trucks)		0.000	0.000	0.000	0.000	0.000	0.000	0.000
	Trips/Unit (3-Axle Trucks)		0.000	0.000	0.000	0.000	0.000	0.000	0.000
	Trips/Unit (4+ Axle Trucks)		0.000	0.000	0.000	0.000	0.000	0.000	0.000
	Trips/Unit (Total)		6.850	7.120	13.970	8.170	7.250	15.420	224.000
	Trip Generation (Cars)		2	1	3	2	3	5	47
	Trip Generation (2-Axle Trucks)		0	0	0	0	0	0	0
	Trip Generation (3-Axle Trucks)		0	0	0	0	0	0	0
	Trip Generation (4+ Axle Trucks)		0	0	0	0	0	0	0
	Trip Generation (Total)		2	1	3	2	3	5	47
	Trip Generation (Cars)		2	1	3	2	3	5	47
	PCE Trip Generation (2-Axle Trucks)		0	0	0	0	0	0	0
	PCE Trip Generation (3-Axle Trucks)		0	0	0	0	0	0	0
	PCE Trip Generation (4+ Axle Trucks)		0	0	0	0	0	0	0
	Total Trip Generation		2	1	3	2	3	5	47
	Auto Trips		2	1	3	2	3	5	47
	Truck PCE Trips		0	0	0	0	0	0	0
	Total PCE Trip Generation		2	1	3	2	3	5	47
		Gross Trip Generation	218	217	435	184	185	369	4,161
		Pass-by Trips	(130)	(130)	(259)	(102)	(102)	(204)	(2,386)
		Net Trip Generation	88	87	176	82	83	165	1,775
2.	**PLAN20-00027**								
	12454 Industrial Center Drive								
	Business Park[4]	32.182 TSF							
	Trips/Unit		1.15	0.20	1.35	0.32	0.90	1.22	12.44
	Trip Generation		37	6	43	10	29	39	400
3.	**PLAN19-00023**								
	East of Yuma Street and west of Apate Lane								
	Medical-Dental Office Building - Stand-Alone[5]	16.500 TSF							
	Trips/Unit		2.45	0.65	3.10	1.18	2.75	3.93	36.00
	Trip Generation		40	11	51	19	45	64	594
4.	**SPR21-00010**								
	Southeast corner of Apatite Avenue and Outer Bear Valley Road								
	General Office Building[6]	25.548 TSF							
	Trips/Unit		1.34	0.18	1.52	0.24	1.20	1.44	10.84
	Trip Generation		34	5	39	6	31	37	277

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Table 6-A - Cumulative Projects Trip Generation

Project No.	Land Use/Builder/Applicant/Project Name	Units	A.M. Peak Hour In	A.M. Peak Hour Out	A.M. Peak Hour Total	P.M. Peak Hour In	P.M. Peak Hour Out	P.M. Peak Hour Total	Daily
5 . SPR20-00006									
	North side of Darwin Avenue, approximately 890' east of Santa Fe Avenue								
	General Light Industrial[7]	26.821 TSF							
	Trips/Unit (Cars)		0.512	0.070	0.582	0.072	0.439	0.511	3.828
	Trips/Unit (2-Axle Trucks)		0.031	0.021	0.052	0.023	0.023	0.045	0.390
	Trips/Unit (3-Axle Trucks)		0.017	0.011	0.028	0.012	0.012	0.025	0.190
	Trips/Unit (4+ Axle Trucks)		0.047	0.031	0.078	0.034	0.034	0.069	0.463
	Trips/Unit (Total)		0.65	0.090	0.740	0.090	0.560	0.650	4.870
	Trip Generation (Cars)		14	2	16	2	12	14	103
	Trip Generation (2-Axle Trucks)		1	0	1	1	0	1	10
	Trip Generation (3-Axle Trucks)		0	1	1	0	1	1	5
	Trip Generation (4+ Axle Trucks)		1	1	2	1	1	2	12
	Trip Generation (Total)		16	4	20	4	14	18	130
	Trip Generation (Cars)		14	2	16	2	12	14	103
	PCE Trip Generation (2-Axle Trucks)		2	0	2	2	0	2	15
	PCE Trip Generation (3-Axle Trucks)		0	2	2	0	2	2	10
	PCE Trip Generation (4+ Axle Trucks)		3	3	6	3	3	6	36
	Total Trip Generation		16	4	20	4	14	18	130
	Auto Trips		14	2	16	2	12	14	103
	Truck PCE Trips		5	5	10	5	5	10	61
	Total PCE Trip Generation		19	7	26	7	17	24	164
6 . CUP22-00018									
	17147 Lemon Street								
	Mini Warehouse[8]	37.500 TSF							
	Trips/Unit		0.05	0.04	0.09	0.07	0.08	0.15	1.45
	Trip Generation		2	2	4	3	3	6	54
	RV Storage[9]	105 Spaces							
	Trips/Unit		0.50	0.50	0.03	0.50	0.50	0.04	0.48
	Trip Generation		53	53	106	53	53	106	50
		Net Trip Generation	55	55	110	56	56	112	104
7 . SPR21-00011									
	11099 G Avenue								
	General Light Industrial[7]	6.000 TSF							
	Trips/Unit (Cars)		0.512	0.070	0.582	0.072	0.439	0.511	3.828
	Trips/Unit (2-Axle Trucks)		0.031	0.021	0.052	0.023	0.023	0.045	0.390
	Trips/Unit (3-Axle Trucks)		0.017	0.011	0.028	0.012	0.012	0.025	0.190
	Trips/Unit (4+ Axle Trucks)		0.047	0.031	0.078	0.034	0.034	0.069	0.463
	Trips/Unit (Total)		0.65	0.090	0.740	0.090	0.560	0.650	4.870
	Trip Generation (Cars)		3	0	3	0	3	3	23
	Trip Generation (2-Axle Trucks)		0	0	0	0	0	0	2
	Trip Generation (3-Axle Trucks)		0	0	0	0	0	0	1
	Trip Generation (4+ Axle Trucks)		0	0	0	0	0	0	3
	Trip Generation (Total)		3	0	3	0	3	3	29
	Trip Generation (Cars)		3	0	3	0	3	3	23
	PCE Trip Generation (2-Axle Trucks)		0	0	0	0	0	0	3
	PCE Trip Generation (3-Axle Trucks)		0	0	0	0	0	0	2
	PCE Trip Generation (4+ Axle Trucks)		0	0	0	0	0	0	9
	Total Trip Generation		3	0	3	0	3	3	29
	Auto Trips		3	0	3	0	3	3	23
	Truck PCE Trips		0	0	0	0	0	0	14
	Total PCE Trip Generation		3	0	3	0	3	3	37

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Table 6-A - Cumulative Projects Trip Generation

Project No.	Land Use/Builder/Applicant/Project Name	Units		A.M. Peak Hour In	A.M. Peak Hour Out	A.M. Peak Hour Total	P.M. Peak Hour In	P.M. Peak Hour Out	P.M. Peak Hour Total	Daily
8.	**SPR22-00001**									
	East of G Avenue, approximately 180 feet north of E Avenue									
	Manufacturing[10]	3.160	TSF							
	Trips/Unit (Cars)			0.406	0.128	0.534	0.180	0.401	0.582	3.734
	Trips/Unit (2-Axle Trucks)			0.027	0.021	0.048	0.021	0.031	0.052	0.380
	Trips/Unit (3-Axle Trucks)			0.015	0.011	0.026	0.012	0.017	0.028	0.185
	Trips/Unit (4+ Axle Trucks)			0.040	0.032	0.072	0.032	0.046	0.078	0.451
	Trips/Unit (Total)			0.52	0.160	0.680	0.230	0.510	0.740	4.750
	Trip Generation (Cars)			1	1	2	1	1	2	12
	Trip Generation (2-Axle Trucks)			0	0	0	0	0	0	1
	Trip Generation (3-Axle Trucks)			0	0	0	0	0	0	1
	Trip Generation (4+ Axle Trucks)			0	0	0	0	0	0	1
	Trip Generation (Total)			1	1	2	1	1	2	15
	Trip Generation (Cars)			1	1	2	1	1	2	12
	PCE Trip Generation (2-Axle Trucks)			0	0	0	0	0	0	2
	PCE Trip Generation (3-Axle Trucks)			0	0	0	0	0	0	2
	PCE Trip Generation (4+ Axle Trucks)			0	0	0	0	0	0	3
	Total Trip Generation			1	1	2	1	1	2	15
	Auto Trips			1	1	2	1	1	2	12
	Truck PCE Trips			0	0	0	0	0	0	7
	Total PCE Trip Generation			1	1	2	1	1	2	19
9.	**PLAN20-00020**									
	17876 Bear Valley Road									
	Convenience Store/Gas Station - GFA (4-5.5k)[1]	16	VFP							
	Trips/Unit			13.52	13.52	27.04	11.38	11.38	22.76	257.13
	Trip Generation			216	216	432	182	182	364	4,114
	Pass-by Trips[2]			(130)	(130)	(259)	(102)	(102)	(204)	(2,386)
	Net New Trips			86	86	173	80	80	160	1,728
10.	**SPR21-00015**									
	South of Mesa Street, approximately 980 feet west of I Avenue									
	General Light Industrial[7]	3.293	TSF							
	Trips/Unit (Cars)			0.512	0.070	0.582	0.072	0.439	0.511	3.828
	Trips/Unit (2-Axle Trucks)			0.031	0.021	0.052	0.023	0.023	0.045	0.390
	Trips/Unit (3-Axle Trucks)			0.017	0.011	0.028	0.012	0.012	0.025	0.190
	Trips/Unit (4+ Axle Trucks)			0.047	0.031	0.078	0.034	0.034	0.069	0.463
	Trips/Unit (Total)			0.65	0.090	0.740	0.090	0.560	0.650	4.870
	Trip Generation (Cars)			2	0	2	0	2	2	13
	Trip Generation (2-Axle Trucks)			0	0	0	0	0	0	1
	Trip Generation (3-Axle Trucks)			0	0	0	0	0	0	1
	Trip Generation (4+ Axle Trucks)			0	0	0	0	0	0	2
	Trip Generation (Total)			2	0	2	0	2	2	17
	Trip Generation (Cars)			2	0	2	0	2	2	13
	PCE Trip Generation (2-Axle Trucks)			0	0	0	0	0	0	2
	PCE Trip Generation (3-Axle Trucks)			0	0	0	0	0	0	2
	PCE Trip Generation (4+ Axle Trucks)			0	0	0	0	0	0	6
	Total Trip Generation			2	0	2	0	2	2	17
	Auto Trips			2	0	2	0	2	2	13
	Truck PCE Trips			0	0	0	0	0	0	10
	Total PCE Trip Generation			**2**	**0**	**2**	**0**	**2**	**2**	**23**

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Table 6-A - Cumulative Projects Trip Generation

Project No.	Land Use/Builder/Applicant/Project Name	Units		A.M. Peak Hour In	A.M. Peak Hour Out	A.M. Peak Hour Total	P.M. Peak Hour In	P.M. Peak Hour Out	P.M. Peak Hour Total	Daily
11.	**CUPR21-00003**									
	South side of Bear Valley, approximately 600 feet east of Fish Hatchery Road									
	Strip Retail Plaza (<40k)[11]	9.600	TSF							
	Trips/Unit			1.42	0.94	2.36	3.30	3.29	6.59	54.45
	Trip Generation			14	9	23	32	32	64	523
	Pass-by Trips[12]			0	0	0	(13)	(13)	(26)	(209)
	Net New Trips			14	9	23	19	19	38	314
	High-Turnover (Sit-Down) Restaurant[13]	3.400	TSF							
	Trips/Unit			5.26	4.31	9.57	5.52	3.53	9.05	107.20
	Trip Generation			18	15	33	19	12	31	364
	Pass-by Trips[14]			0	0	0	(8)	(5)	(13)	(157)
	Net New Trips			18	15	33	11	7	18	207
		Gross Trip Generation		32	24	56	51	44	95	887
		Pass-by Trips		0	0	0	(21)	(18)	(39)	(366)
		Net Trip Generation		32	24	56	30	26	56	521
12.	**New Gas Station**									
	Northwest corner of Yucca Loma and Apple Valley Road									
	Convenience Store/Gas Station - GFA (5.5-10k)[15]	12	VFP							
	Trips/Unit			15.80	15.80	31.60	13.45	13.45	26.90	345.75
	Trip Generation			190	190	380	161	161	322	4,149
	Pass-by Trips[16]			(114)	(114)	(228)	(90)	(90)	(180)	(2,406)
	Net New Trips			76	76	152	71	71	142	1,743
13.	**Grocery Store and Retail**[17]									
	North side of Bear Valley Road, approximately 1,070 feet from Apple Valley Road									
	Major A - Supermarket[18]	43.000	TSF							
	Trips/Unit			2.29	1.53	3.82	4.71	4.53	9.24	106.78
	Trip Generation			98	66	164	203	195	398	4,592
	Pass-by Trips[19]			0	0	0	(64)	(63)	(127)	(1,540)
	Net New Trips			90	57	147	113	112	225	2,737
	Shops - Retail[20]	6.995	TSF							
	Trips/Unit			0.58	0.36	0.94	1.83	1.98	3.81	37.75
	Trip Generation			4	3	7	13	14	27	264
	Pass-by Trips[21]			0	0	0	(4)	(4)	(8)	(85)
	Net New Trips			4	3	7	7	9	16	164
		Gross Trip Generation		102	69	171	216	209	425	4,856
		Pass-by Trips		0	0	0	(68)	(67)	(135)	(1,625)
		Net Trip Generation		102	69	171	148	142	290	3,231
14.	**Residential Project**									
	Northwest of Deep Creek Road and Bear Valley Road.									
	Single-Family Detached Housing[22]	137	DU							
	Trips/Unit			0.18	0.52	0.70	0.59	0.35	0.94	9.43
	Trip Generation			25	71	96	81	48	129	1,292
15.	**PEXT-2021-00020**									
	East of Deep Creek Road and Ocotillo Way									
	Single-Family Detached Housing[22]	202	DU							
	Trips/Unit			0.18	0.52	0.70	0.59	0.35	0.94	9.43
	Trip Generation			36	105	141	119	71	190	1,905

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Table 6-A - Cumulative Projects Trip Generation

Project No.	Land Use/Builder/Applicant/Project Name	Units	A.M. Peak Hour In	A.M. Peak Hour Out	A.M. Peak Hour Total	P.M. Peak Hour In	P.M. Peak Hour Out	P.M. Peak Hour Total	Daily
16 .	**Residential Project**								
	Northwest of Navajo Road and Sandia Road.								
	Single-Family Attached Housing[23]	210 DU							
	Trips/Unit		0.15	0.33	0.48	0.32	0.25	0.57	7.20
	Trip Generation		32	69	101	67	53	120	1,512
	Gross Passenger Vehicle Trip Generation		**1,037**	**1,041**	**2,078**	**1,155**	**1,132**	**2,287**	**24,402**
	Net Pass-By Trips		**(373)**	**(373)**	**(746)**	**(383)**	**(379)**	**(762)**	**(9,169)**
	Net Passenger Vehicle Trip Generation		**664**	**668**	**1,332**	**772**	**753**	**1,525**	**15,233**
	Gross Truck Trip Generation (in PCE)		**5**	**5**	**10**	**5**	**5**	**10**	**92**
	Total Net Trip Generation (in PCE)		**669**	**673**	**1,342**	**777**	**758**	**1,535**	**15,325**

Notes:

DU = Dwelling Units; TSF = Thousand Square Feet; VFP = Vehicle Fueling Positions

[1] Rates from Institute of Transportation Engineers (ITE) Trip Generation Manual, (11th Edition) Land Use 945 - "Convenience Store/Gas Station - GFA (4-5.5k)" , Setting/Location - 'General Urban/Suburban'.

[2] Pass-by rates from the ITE *Trip Generation Manual* (11th Edition) for Land Use 945 - 'Convenience Store/Gas Station - GFA (4-5.5k).' A pass-by rate of 60% was used for the a.m. peak hour and a pass-by rate of 56% was used for the p.m. peak hour. Since daily pass-by rates are not available for this land use in the ITE *Trip Generation Manual*, the average of a.m and p.m. pass-by rate was used as the daily pass-by rate.

[3] Rates from ITE *Trip Generation Manual*, (11th Edition), Land Use 950 - "Truck Stop" , Setting/Location - 'General Urban/Suburban'.

[4] Rates from ITE *Trip Generation Manual*, (11th Edition), Land Use 770 - "Business Park" , Setting/Location - 'General Urban/Suburban'.

[5] Rates from ITE *Trip Generation Manual*, (11th Edition), Land Use 720 - "Medical-Dental Office Building - Stand-Alone" , Setting/Location - 'General Urban/Suburban'.

[6] Rates from ITE *Trip Generation Manual*, (11th Edition), Land Use 710 - "General Office Building" , Setting/Location - 'General Urban/Suburban'.

[7] Rates from ITE *Trip Generation Manual*, (11th Edition), Land Use 110 - "General Light Industrial " , Setting/Location - 'General Urban/Suburban'.

[8] Rates from ITE *Trip Generation Manual*, (11th Edition), Land Use 151 - "Mini Warehouse" , Setting/Location - 'General Urban/Suburban'.

[9] Trip generation taken from "7400 Marine Way RV Storage" access study by LSA Associates, Inc. (October 2021)

[10] Rates from ITE *Trip Generation Manual*, (11th Edition), Land Use 140 - "Manufacturing" , Setting/Location - 'General Urban/Suburban'.

[11] Rates from ITE *Trip Generation Manual*, (11th Edition), Land Use 822 - "Strip Retail Plaza (<40k)" , Setting/Location - 'General Urban/Suburban'.

[12] Pass-by rates from the ITE *Trip Generation Manual* (11th Edition) for Land Use 822 - 'Strip Retail Plaza (<40k).' A pass-by rate of 0% was used for the a.m. peak hour and a pass-by rate of 40% was used for the p.m. peak hour. Since daily pass-by rates are not available for this land use in the ITE *Trip Generation Manual*, the average of a.m and p.m. pass-by rate was used as the daily pass-by rate.

[13] Rates from ITE *Trip Generation Manua*l, (11th Edition), Land Use 932 - "High-Turnover (Sit-Down) Restaurant" , Setting/Location - 'General Urban/Suburban'.

[14] Pass-by rates from the ITE *Trip Generation Manual* (11th Edition) for Land Use 932 - 'High-Turnover (Sit-Down) Restaurant.' A pass-by rate of 0% was used for the a.m. peak hour and a pass-by rate of 43% was used for the p.m. peak hour. Since daily pass-by rates are not available for this land use in the ITE *Trip Generation Manual*, the average of a.m and p.m. pass-by rate was used as the daily pass-by rate.

[15] Rates from ITE *Trip Generation Manual*, (11th Edition), Land Use 945 - "Convenience Store/Gas Station - GFA (5.5-10k)" , Setting/Location - 'General Urban/Suburban'.

[16] Pass-by rates from the ITE *Trip Generation Manual* (11th Edition) for Land Use 945 - 'Convenience Store/Gas Station - GFA (5.5-10k).' A pass-by rate of 60% was used for the a.m. peak hour and a pass-by rate of 56% was used for the p.m. peak hour. Since daily pass-by rates are not available for this land use in the ITE *Trip Generation Manual*, the average of a.m and p.m. pass-by rate was used as the daily pass-by rate.

[17] Trip generation taken from "Apple Valley Commercial Project Focused Traffic Study" memorandum by LSA Associates, Inc. (October 2021)

[18] Rates from ITE *Trip Generation Manual*, (11th Edition), Land Use 850 - "Supermarket" , Setting/Location - 'General Urban/Suburban'.

[19] Pass-by rates from the ITE *Trip Generation Manual* (11th Edition) for Land Use 850 - 'Supermarket.' A pass-by rate of 0% was used for the a.m. peak hour and a pass-by rate of 24% was used for the p.m. peak hour. Since daily pass-by rates are not available for this land use in the ITE *Trip Generation Manual*, the average of a.m and p.m. pass-by rate was used as the daily pass-by rate.

[20] Rates from ITE *Trip Generation Manual*, (11th Edition), Land Use 820 - "Shopping Center (>150k)" , Setting/Location - 'General Urban/Suburban'.

[21] Pass-by rates from the ITE *Trip Generation Manual* (11th Edition) for Land Use 820 - 'Shopping Center (>150k).' A pass-by rate of 0% was used for the a.m. peak hour and a pass-by rate of 29% was used for the p.m. peak hour. Since daily pass-by rates are not available for this land use in the ITE *Trip Generation Manual*, the average of a.m and p.m. pass-by rate was used as the daily pass-by rate.

[22] Rates from ITE Trip Generation Manual, (11th Edition), Land Use 210 - "Single-Family Detached Housing" , Setting/Location - 'General Urban/Suburban'.

[23] Rates from ITE *Trip Generation Manual*, (11th Edition), Land Use 215 - "Single-Family Attached Housing" , Setting/Location - 'General Urban/Suburban'.

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Table 6-B - Opening Year (2024) Intersection Levels of Service

Intersection	Jurisdiction	LOS Standard	No Project					Plus Project					A.M. Peak Hour Increase in Delay (sec.)	P.M. Peak Hour Increase in Delay (sec.)	Improvement Required?
			Control	A.M. Peak Hour Delay (sec.)	A.M. Peak Hour LOS	P.M. Peak Hour Delay (sec.)	P.M. Peak Hour LOS	Control	A.M. Peak Hour Delay (sec.)	A.M. Peak Hour LOS	P.M. Peak Hour Delay (sec.)	P.M. Peak Hour LOS			
1 . Jacaranda Avenue/Bear Valley Road	City of Hesperia/City of Victorville	D	Signal	55.1	**E** *	123.1	**F** *	Signal	57.5	**E** *	128.0	**F** *	2.4	4.9	**Yes**
2 . Mojave Fish Hatchery Road/Bear Valley Road	City of Hesperia/City of Victorville	D	Signal	74.3	**E** *	88.1	**F** *	Signal	77.3	**E** *	92.6	**F** *	3.0	4.5	**Yes**
3 . Jess Ranch Parkway/Bear Valley Road	Town of Apple Valley	C	Signal	20.9	C	27.2	C	Signal	21.3	C	28.1	C	0.4	0.9	No
4 . Reata Road/Bear Valley Road	Town of Apple Valley	C	Signal	30.4	C	33.3	C	Signal	30.7	C	33.6	C	0.3	0.3	No
5 . Apple Valley Road/Pimlico Road - Shopping Center Driveway	Town of Apple Valley	C	Signal	17.4	B	28.1	C	Signal	17.8	B	28.5	C	0.4	0.4	No
6 . Apple Valley Road/Bear Valley Road	Town of Apple Valley	C	Signal	60.7	**E** *	72.0	**E** *	Signal	66.4	**E** *	78.5	**E** *	5.7	6.5	**Yes**
7 . Westmont Drive - Apple Bear Road/Bear Valley Road	Town of Apple Valley	C	Signal	18.7	B	21.4	C	Signal	24.5	C	31.8	C	5.8	10.4	No
8 . Flying Feather Road/Bear Valley Road	Town of Apple Valley	C	OWSC	31.6	**D** *	42.6	**E** *	OWSC	10.6	B	17.3	C	-21.0	-25.3	No
9 . Deep Creek Road/Apple Valley Road	Town of Apple Valley	C	Signal	19.7	B	24.4	C	Signal	20.2	C	25.7	C	0.5	1.3	No
10 . Kiowa Road/Bear Valley Road	Town of Apple Valley	C	Signal	50.6	**D** *	50.0	**D** *	Signal	52.7	**D** *	51.6	**D** *	2.1	1.6	**Yes**
11 . Apple Bear Road/Project Driveway 1	Town of Apple Valley	C	-	*Does Not Exist*		*Does Not Exist*		OWSC	9.1	A	9.2	A	9.1	9.2	No
12 . Apple Bear Road/Project Driveway 2	Town of Apple Valley	C	-	*Does Not Exist*		*Does Not Exist*		OWSC	0.0	A	0.0	A	0.0	0.0	No
13 . Project Driveway 3/Bear Valley Road	Town of Apple Valley	C	-	*Does Not Exist*		*Does Not Exist*		OWSC	10.3	B	12.1	B	10.3	12.1	No
14 . Flying Feather Road/Project Driveway 4	Town of Apple Valley	C	-	*Does Not Exist*		*Does Not Exist*		OWSC	8.8	A	9.0	A	8.8	9.0	No
15 . Flying Feather Road/Project Driveway 5	Town of Apple Valley	C	-	*Does Not Exist*		*Does Not Exist*		OWSC	8.6	A	8.7	A	8.6	8.7	No

Notes:

OWSC = One-Way Stop Control; LOS = Level of Service

Delay = Average control delay in seconds (For OWSC intersections, reported delay is for worst-case movement).

* Exceeds LOS Standard

7.0 CUMULATIVE ANALYSIS

7.1 CUMULATIVE (2045) NO PROJECT TRAFFIC VOLUMES

Traffic volumes for cumulative no project conditions were developed by using forecast traffic volumes obtained from the San Bernardino Transportation Analysis Model (SBTAM). The methodology to develop cumulative no project volumes at study area intersections is consistent with the San Bernardino County Transportation Authority (SBCTA) procedures for post-processing of modeled traffic volumes.

As per the Town's General Plan, there is a planned extension of Deep Creek Road between Bear Valley Road and Sitting Bull Road. For purposes of this analysis, this extension has been included for cumulative conditions. Figure 7-1 illustrates cumulative plus project study intersection geometrics and traffic control. Figure 7-2 illustrates cumulative no project peak hour traffic volumes at study intersections.

Detailed volume development worksheets are included in Appendix C.

7.2 CUMULATIVE (2045) PLUS PROJECT TRAFFIC VOLUMES

Cumulative plus project traffic volumes were developed by adding proposed project traffic to the cumulative no project traffic volumes.

Figure 7-3 illustrates cumulative plus project peak hour traffic volumes at study intersections.

Detailed volume development worksheets are included in Appendix C.

7.3 CUMULATIVE (2045) NO PROJECT LEVELS OF SERVICE

An intersection LOS analysis was conducted for cumulative no project conditions using the methodologies previously discussed. Table 7-A summarizes the results of the analysis and shows that the following intersections are forecast to operate at a deficient LOS under cumulative no project conditions:

1. Jacaranda Avenue/Bear Valley Road (both a.m. and p.m. peak hours);
2. Mojave Fish Hatchery Road/Bear Valley Road (both a.m. and p.m. peak hours);
6. Apple Valley Road/Bear Valley Road (both a.m. and p.m. peak hours);
8. Flying Feather Road/Bear Valley Road (both a.m. and p.m. peak hours); and
10. Kiowa Road/Bear Valley Road (both a.m. and p.m. peak hours).

All other intersections are forecast to operate at a satisfactory LOS. Detailed LOS worksheets are included in Appendix D.

7.4 CUMULATIVE (2045) PLUS PROJECT LEVELS OF SERVICE

An intersection LOS analysis was conducted for cumulative plus project conditions using the methodologies previously discussed. Previously referenced Table 7-A summarizes the results of the

analysis and shows that the following intersections are forecast to operate at a deficient LOS under cumulative plus project conditions:

1. Jacaranda Avenue/Bear Valley Road (both a.m. and p.m. peak hours);

2. Mojave Fish Hatchery Road/Bear Valley Road (both a.m. and p.m. peak hours);

6. Apple Valley Road/Bear Valley Road (both a.m. and p.m. peak hours); and

10. Kiowa Road/Bear Valley Road (both a.m. and p.m. peak hours).

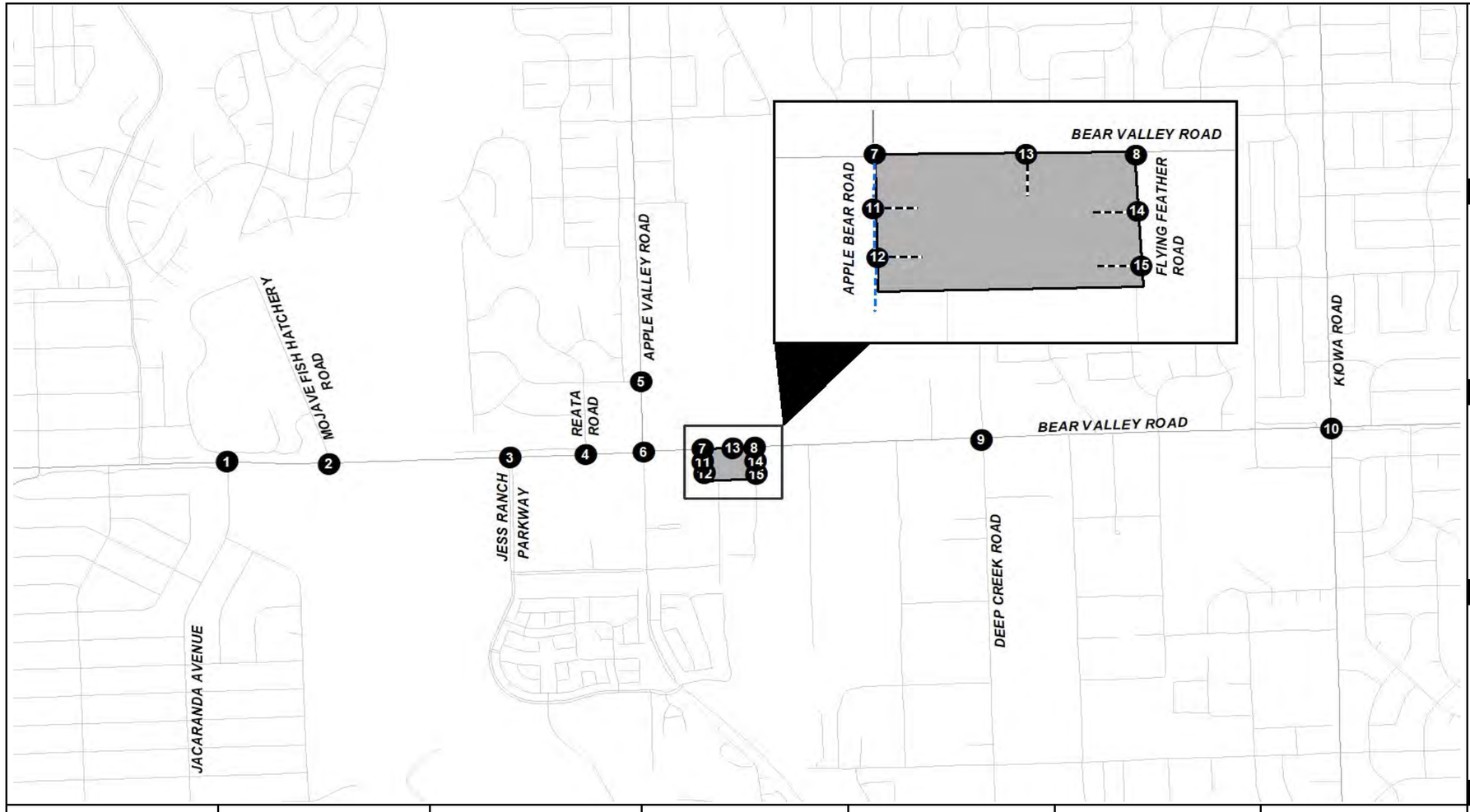
These intersections are forecast to operate at a deficient LOS even under cumulative no project conditions. Therefore, the project would contribute to the forecast deficiency at these intersections. As such, improvements would be required at those intersections.

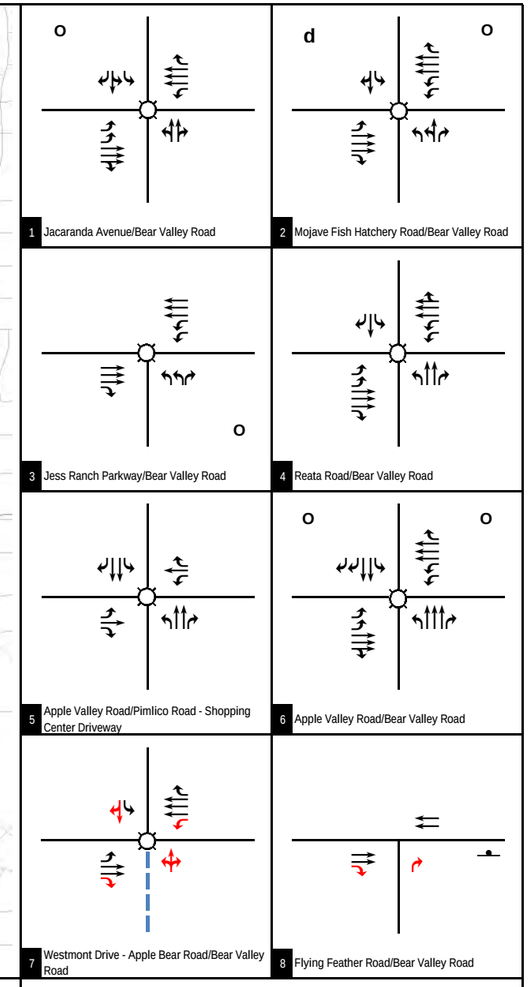
It should be noted that under cumulative plus project conditions, intersection 8 – Flying Feather Road/Bear Valley Road is no longer forecast to operate at a deficient LOS upon construction of the proposed project. All other intersections are forecast to operate at a satisfactory LOS under cumulative plus project conditions.

Detailed LOS worksheets are included in Appendix D.

7.5 LIST OF CHAPTER 7.0 FIGURES AND TABLES

- Figure 7-1: Cumulative (2045) Plus Project Study Intersection Geometrics and Traffic Control
- Figure 7-2: Cumulative (2045) No Project Peak Hour Traffic Volumes
- Figure 7-3: Cumulative (2045) Plus Project Peak Hour Traffic Volumes
- Table 7-A: Cumulative (2045) Intersection Levels of Service





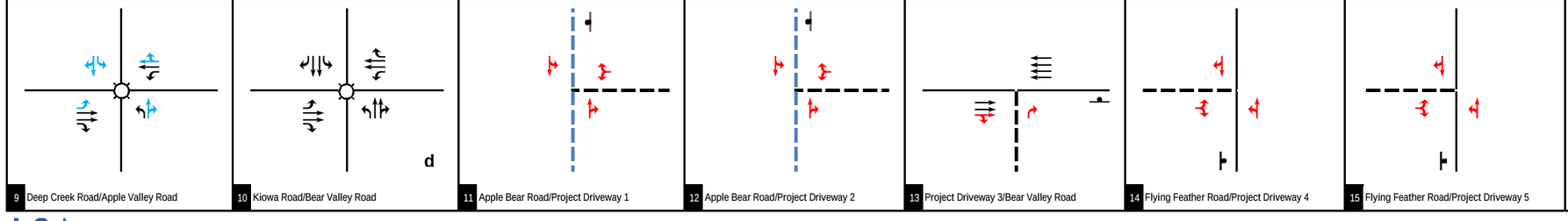


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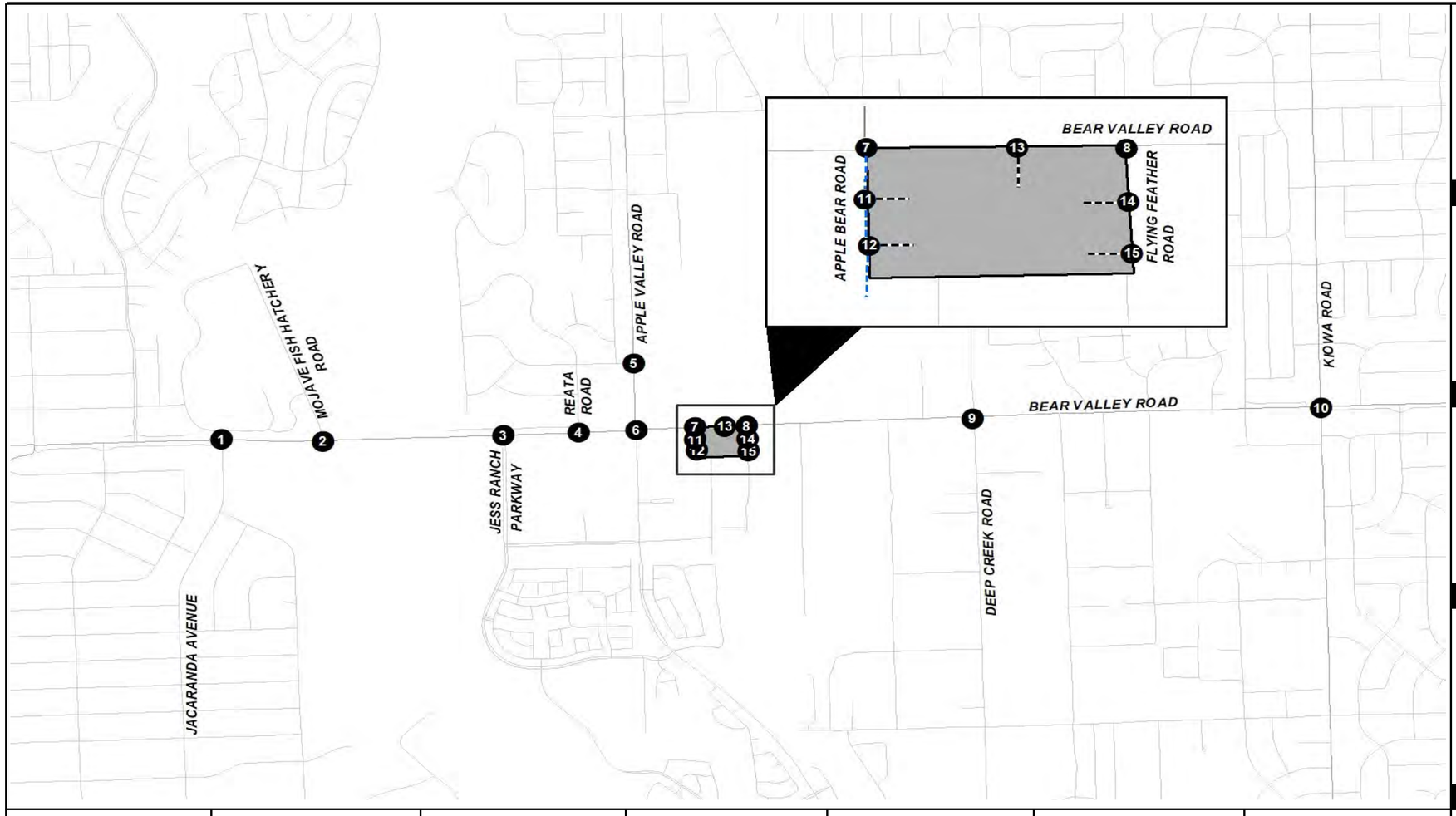
FIGURE 7-1

Legend

- Signal
- Stop Sign
- Future Road
- o Right-Turn Overlap
- d De-facto Right Turn
- Project Driveway
- Project Design Feature
- Deep Creek Road Extension

Apple Bear Commercial Project
Traffic Impact Study

Cumulative (2045) Plus Project Study Intersection Geometrics and Traffic Control



1 Jacaranda Avenue/Bear Valley Road

	↱	47 / 24
40 / 39 ↰	←	1842 / 1874
17 / 20 ↓	↳	242 / 339
17 / 29 ↳		
137 / 38 ↱	↰	85 / 89
1516 / 2131 →	→	54 / 9
69 / 50 ↴	↱	296 / 444

2 Mojave Fish Hatchery Road/Bear Valley Road

	↱	261 / 95
70 / 91 ↰	←	2015 / 2033
5 / 5 ↓	↳	49 / 126
108 / 126 ↳		
173 / 62 ↱	↰	6 / 9
1594 / 2436 →	→	26 / 70
62 / 106 ↴	↱	
46 / 113		

3 Jess Ranch Parkway/Bear Valley Road

	←	2019 / 1746
	↰	85 / 216
1450 / 2083 →	↰	
192 / 361 ↴	→	
306 / 508	↱	
50 / 196		

4 Reata Road/Bear Valley Road

	↱	17 / 16
298 / 284 ↰	←	1768 / 1458
43 / 111 ↓	↰	64 / 159
21 / 30 ↳		
222 / 320 ↱	↰	38 / 219
1202 / 1799 →	→	26 / 114
50 / 139 ↴	↱	30 / 166

5 Apple Valley Road/Pimlico Road - Shopping Center Driveway

	↱	41 / 108
208 / 262 ↰	←	28 / 49
902 / 908 ↓	↰	37 / 87
68 / 167 ↳		
168 / 300 ↱	↰	42 / 77
38 / 58 →	→	663 / 824
16 / 42 ↴	↱	38 / 97

6 Apple Valley Road/Bear Valley Road

	↱	236 / 185
464 / 410 ↰	←	1338 / 1113
210 / 386 ↓	↰	151 / 208
217 / 289 ↳		
385 / 526 ↱	↰	82 / 121
850 / 1327 →	→	172 / 250
48 / 68 ↴	↱	58 / 202

7 Westmont Drive - Apple Bear Road/Bear Valley Road

	↰	104 / 163
62 / 140 ↰	←	1629 / 1367
81 / 244 ↳		
107 / 186 ↱		
975 / 1599 →		

8 Flying Feather Road/Bear Valley Road

	←	1659 / 1428
	↰	2 / 0
1024 / 1751 →	↰	
3 / 1 ↴	→	
3 / 1	↱	
2 / 3		

9 Deep Creek Road/Apple Valley Road

	↰	41 / 36
49 / 59 ↰	←	1489 / 1361
28 / 71 ↓	↰	116 / 135
28 / 55 ↳		
43 / 64 ↱	↰	175 / 147
903 / 1638 →	→	51 / 61
84 / 140 ↴	↱	81 / 136

10 Kiowa Road/Bear Valley Road

	↰	58 / 65
217 / 182 ↰	←	943 / 959
152 / 242 ↓	↰	105 / 153
57 / 82 ↳		
125 / 210 ↱	↰	325 / 266
700 / 1009 →	→	152 / 229
171 / 270 ↴	↱	78 / 131

11 Apple Bear Road/Project Driveway 1

Future Intersection

12 Apple Bear Road/Project Driveway 2

Future Intersection

13 Project Driveway 3/Bear Valley Road

Future Intersection

14 Flying Feather Road/Project Driveway 4

Future Intersection

15 Flying Feather Road/Project Driveway 5

Future Intersection

LSA

FIGURE 7-2

XXXX / YYYY

AM / PM Peak Hour PCE Traffic Volumes

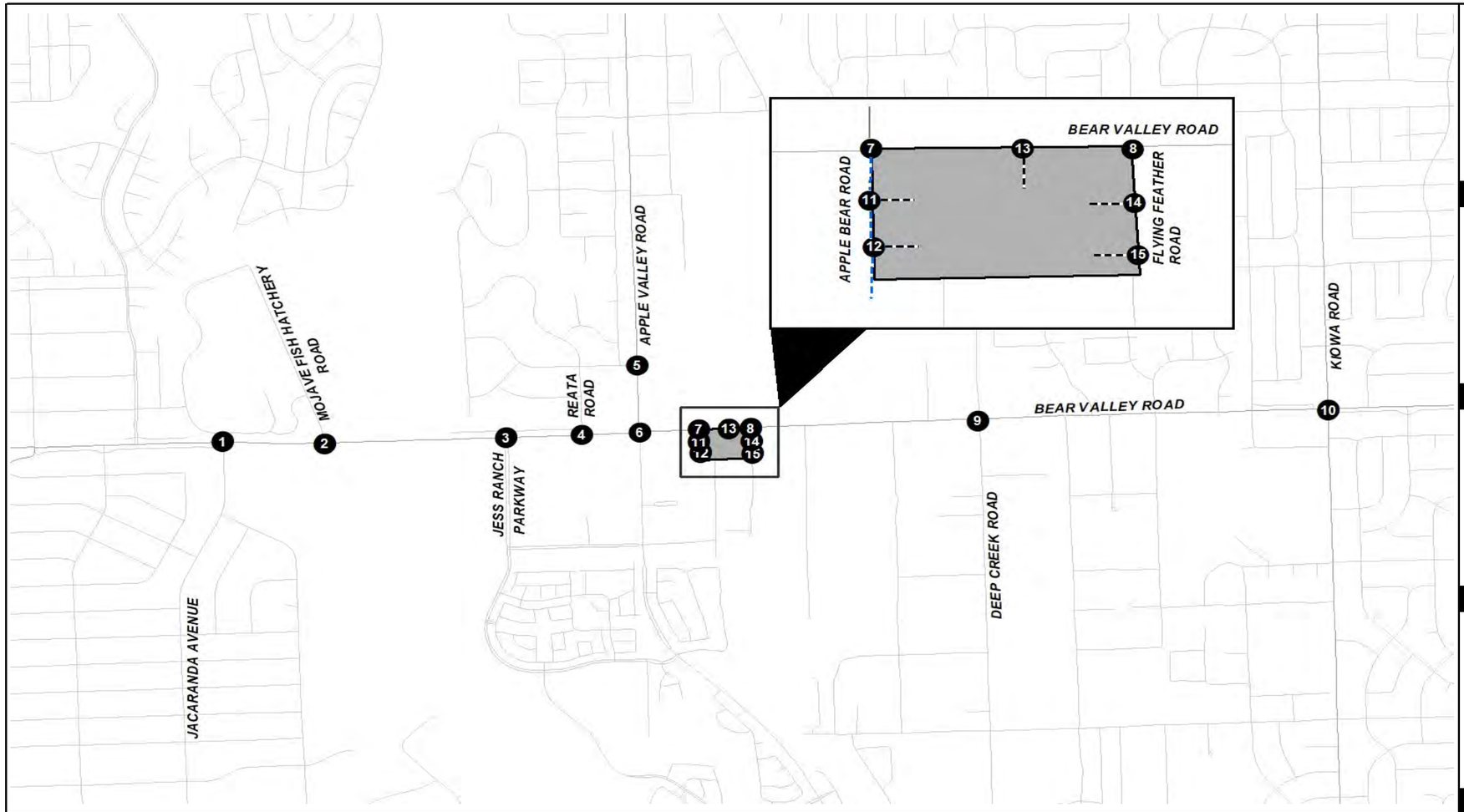
Project Driveway

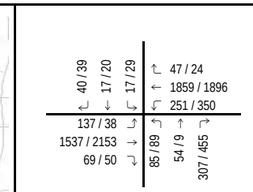
Future Road

Apple Bear Commercial Project
Traffic Impact Study

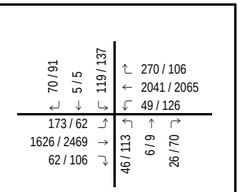
Cumulative (2045) No Project Peak Hour Traffic Volumes

P:\WDN2201_Apple Bear Commercial Project\Technical Studies\Traffic and VMT\Traffic\z45_Vol_zCumul-NP.xlsx 2/24/2023

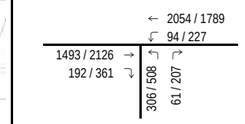




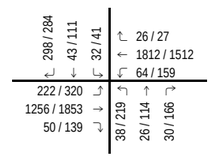
1 Jacaranda Avenue/Bear Valley Road



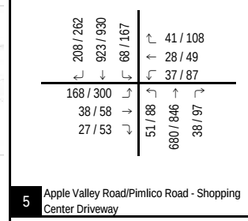
2 Mojave Fish Hatchery Road/Bear Valley Road



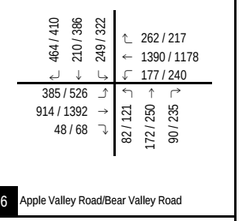
3 Jess Ranch Parkway/Bear Valley Road



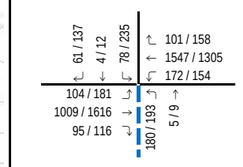
4 Reata Road/Bear Valley Road



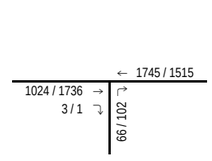
5 Apple Valley Road/Pimlico Road - Shopping Center Driveway



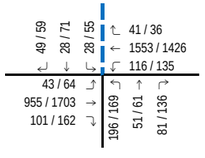
6 Apple Valley Road/Bear Valley Road



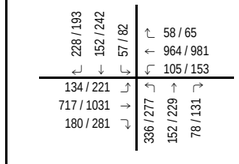
7 Westmont Drive - Apple Bear Road/Bear Valley Road



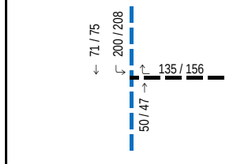
8 Flying Feather Road/Bear Valley Road



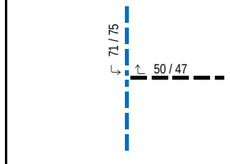
9 Deep Creek Road/Apple Valley Road



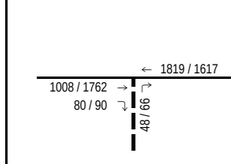
10 Kiowa Road/Bear Valley Road



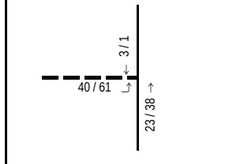
11 Apple Bear Road/Project Driveway 1



12 Apple Bear Road/Project Driveway 2



13 Project Driveway 3/Bear Valley Road



14 Flying Feather Road/Project Driveway 4

15 Flying Feather Road/Project Driveway 5

LSA

FIGURE 7-3

XXXX / YYYY

AM / PM Peak Hour PCE Traffic Volumes

Project Driveway

Future Road

Apple Bear Commercial Project
Traffic Impact Study

Cumulative (2045) Plus Project Peak Hour Traffic Volumes

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Table 7-A - Cumulative (2045) Intersection Levels of Service

Intersection	Jurisdiction	LOS Standard	No Project					Plus Project					A.M. Peak Hour Increase in Delay (sec.)	P.M. Peak Hour Increase in Delay (sec.)	Improvement Required?
			Control	A.M. Peak Hour Delay (sec.)	A.M. Peak Hour LOS	P.M. Peak Hour Delay (sec.)	P.M. Peak Hour LOS	Control	A.M. Peak Hour Delay (sec.)	A.M. Peak Hour LOS	P.M. Peak Hour Delay (sec.)	P.M. Peak Hour LOS			
1 . Jacaranda Avenue/Bear Valley Road	City of Hesperia/City of Victorville	D	Signal	59.3	**E** *	138.8	**F** *	Signal	62.5	**E** *	143.9	**F** *	3.2	5.1	**Yes**
2 . Mojave Fish Hatchery Road/Bear Valley Road	City of Hesperia/City of Victorville	D	Signal	89.0	**F** *	106.8	**F** *	Signal	92.1	**F** *	111.9	**F** *	3.1	5.1	**Yes**
3 . Jess Ranch Parkway/Bear Valley Road	Town of Apple Valley	C	Signal	21.4	C	29.0	C	Signal	21.8	C	30.3	C	0.4	1.3	No
4 . Reata Road/Bear Valley Road	Town of Apple Valley	C	Signal	31.3	C	34.1	C	Signal	31.7	C	34.4	C	0.4	0.3	No
5 . Apple Valley Road/Pimlico Road - Shopping Center Driveway	Town of Apple Valley	C	Signal	18.2	B	29.5	C	Signal	18.6	B	29.8	C	0.4	0.3	No
6 . Apple Valley Road/Bear Valley Road	Town of Apple Valley	C	Signal	61.3	**E** *	77.9	**E** *	Signal	66.8	**E** *	85.2	**F** *	5.5	7.3	**Yes**
7 . Westmont Drive - Apple Bear Road/Bear Valley Road	Town of Apple Valley	C	Signal	18.9	B	22.4	C	Signal	25.3	C	33.3	C	6.4	10.9	No
8 . Flying Feather Road/Bear Valley Road	Town of Apple Valley	C	OWSC	31.9	**D** *	47.4	**E** *	OWSC	10.8	B	18.5	C	-21.1	-28.9	No
9 . Deep Creek Road/Apple Valley Road	Town of Apple Valley	C	Signal	34.0	C	12.6	B	Signal	34.8	C	19.2	B	0.8	6.6	No
10 . Kiowa Road/Bear Valley Road	Town of Apple Valley	C	Signal	53.5	**D** *	53.8	**D** *	Signal	55.8	**E** *	55.9	**E** *	2.3	2.1	**Yes**
11 . Apple Bear Road/Project Driveway 1	Town of Apple Valley	C	-	*Does Not Exist*		*Does Not Exist*		OWSC	9.1	A	9.2	A	9.1	9.2	No
12 . Apple Bear Road/Project Driveway 2	Town of Apple Valley	C	-	*Does Not Exist*		*Does Not Exist*		OWSC	0.0	A	0.0	A	0.0	0.0	No
13 . Project Driveway 3/Bear Valley Road	Town of Apple Valley	C	-	*Does Not Exist*		*Does Not Exist*		OWSC	10.5	B	12.6	B	10.5	12.6	No
14 . Flying Feather Road/Project Driveway 4	Town of Apple Valley	C	-	*Does Not Exist*		*Does Not Exist*		OWSC	8.8	A	9.0	A	8.8	9.0	No
15 . Flying Feather Road/Project Driveway 5	Town of Apple Valley	C	-	*Does Not Exist*		*Does Not Exist*		OWSC	8.6	A	8.7	A	8.6	8.7	No

Notes:

OWSC = One-Way Stop Control; LOS = Level of Service

Delay = Average control delay in seconds (For OWSC intersections, reported delay is for worst-case movement).

* Exceeds LOS Standard

8.0 SITE ACCESS ANALYSIS

8.1 SIGHT DISTANCE ANALYSIS

A sight distance analysis was conducted at Project Driveway 3 and Flying Feather Road along Bear Valley Road to evaluate safe access in and out of the project. Sight distance is the length of the visible roadway a driver can see approaching vehicles before their line of sight is blocked by any object. For purposes of this analysis, both the stopping sight distance and corner sight distance have been evaluated. That is because these are the two sight distance lengths that would affect safe maneuver of ingress/egress traffic from Project Driveway 3 and Flying Feather Road.

According to the Caltrans Highway Design Manual (HDM) (dated July 2020), the stopping sight distance is the minimum sight distance along a roadway required to allow a driver to decrease their speed from the design speed to a complete stop. The corner sight distance is the minimum sight distance in which a driver at a stop-controlled approach can see oncoming traffic on the major street to safely maneuver onto the roadway.

The stopping sight distance was evaluated on the street abutting the project (i.e., Bear Valley Road). The posted speed limit on Bear Valley Road is 55 mph. For purposes of this analysis, the posted speed limit has been considered as the design speed. As stated in Table 201.1 of the HDM, the minimum stopping distance is 500 feet for a design speed of 55 mph. Therefore, the minimum stopping sight distance for Project Driveway 3 and Flying Feather Road have been considered as 500 feet.

As for corner sight distance, Section 405.1 of the HDM states that corner sight distance requirements are not applicable for urban driveways unless signalized. However, as a conservative approach, corner sight distances were also evaluated for Project Driveway 3 and Flying Feather Road. The minimum corner sight distance was based on design speed, time gap and type of vehicles from the minor roads (Project Driveway 3 and Flying Feather Road) to enter the major road (Bear Valley Road). Based on the requirements established in the HDM, it was determined that a minimum corner sight distance of 530 feet would be required for right turns coming out of Project Driveway 3 and Flying Feather Road.

Since the corner sight distance required at the minor roads would be greater than the stopping sight distance (530 feet compared to 500 feet), sight triangle figures were created using corner sight distance as a conservative approach. Figures 8-1 and 8-2 illustrate the sight distance triangles at Project Driveway 3 and Flying Feather Road, respectively, along Bear Valley Road. It should be noted that the electrical poles along Bear Valley Road will partially obstruct vision of oncoming traffic on Bear Valley Road as illustrated in the sight distance triangles in Figures 8-1 and 8-2.

8.2 BICYCLE, PEDESTRIAN, AND TRANSIT ACCESSIBILITY

8.2.1 Bicycle Accessibility

As part of the Town's Bikeway Network, Class II bikeways have been to both directions of Apple Valley Road south of Bear Valley Road and Kiowa Road within the study area. Proposed future Class I bikeways have been planned to be added along the eastbound direction of Bear Valley Road east of

the Mojave River and the northbound direction of Apple Valley Road north of Bear Valley Road within the study area. Proposed future Class II bikeways have been planned to be added along both directions of Bear Valley Road west of the Mojave River and Deep Creek Road within the study area. There are no existing bike facilities along Bear Valley Road or Flying Feather Road. However, since bicycle travel is allowed on all public roadways within the Town, bicyclists will be able to access the project site from Apple Bear Road, Bear Valley Road, and Flying Feather Road.

8.2.2 Pedestrian Accessibility

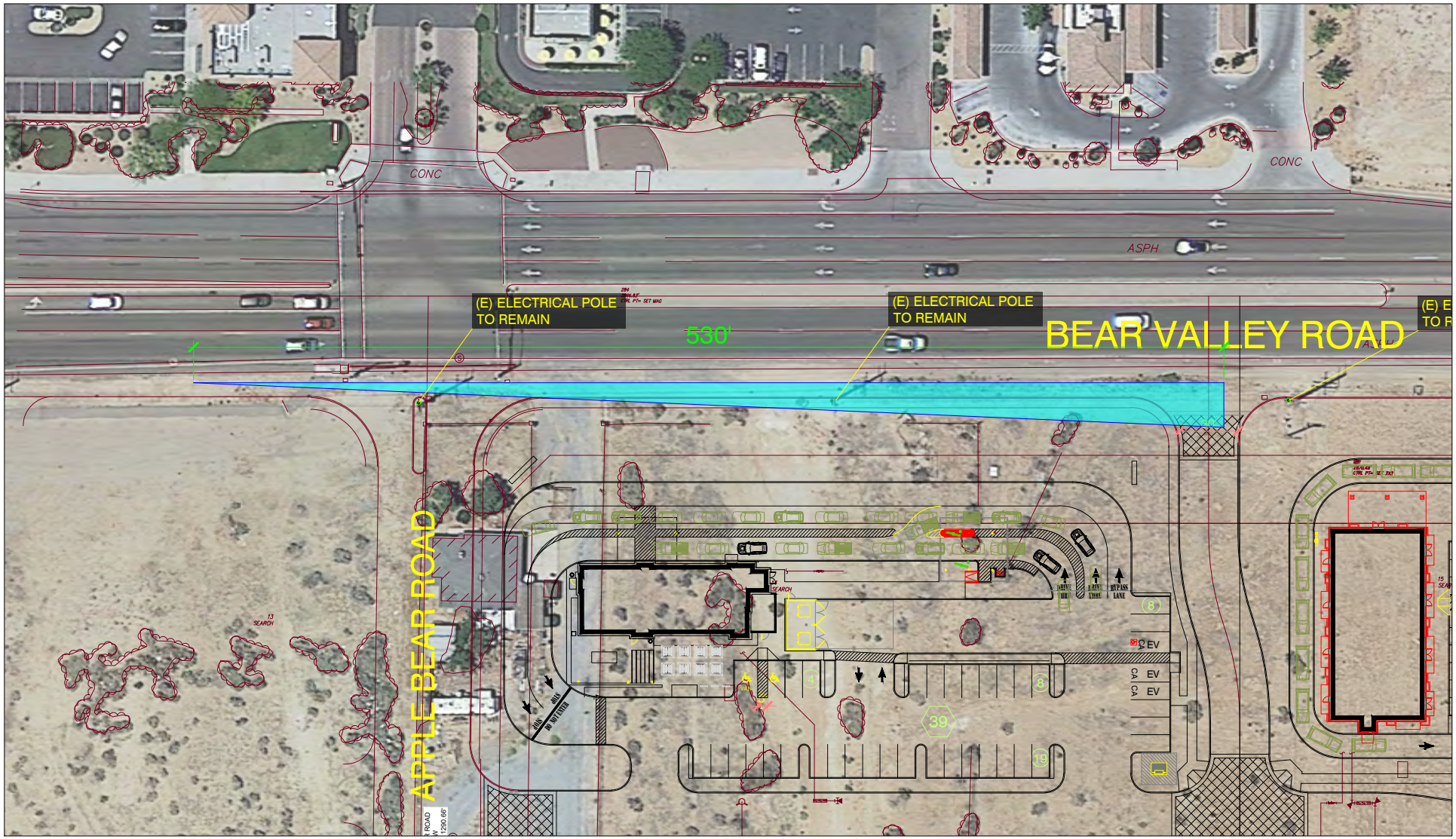
Paved sidewalks are provided along both directions of Bear Valley Road. However, there are currently no existing trails or paved sidewalks on the eastbound direction of Bear Valley Road or either direction of Flying Feather Road directly adjacent to the project site. Per the conceptual site plan previously illustrated in Figure 2-2, paved sidewalks will be added along the project perimeter on Apple Bear Road, Bear Valley Road, and Flying Feather Road. As such, pedestrians will be able to safely access the project site from Apple Bear Road, Bear Valley Road, and Flying Feather Road.

8.2.3 Transit Accessibility

VVTA bus Routes 42 and 43 serve the study area with stops along Apple Valley Road and Bear Valley Road near the project site. Route 42 has an existing bus stop located on the southbound direction of Apple Valley Road approximately 1,400 feet northwest of the project site. Route 43 has an existing bus stop located on the eastbound direction of Bear Valley Road approximately 450 feet west of the project site and another stop located on the eastbound direction of Bear Valley Road approximately 950 feet east of the project site. Routes 42 and 43 share a stop located on the southbound direction of Apple Valley Road approximately 1,100 feet southwest of the project site.

8.3 LIST OF CHAPTER 8.0 FIGURES

- Figure 8-1: Corner Sight Distance at Project Driveway 3
- Figure 8-2: Corner Sight Distance at Flying Feather Road



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LEGEND

Sight Distance Triangle

FIGURE 8-1

Apple Bear Commercial Project
Traffic Impact Study

Corner Sight Distance at Project Driveway 3

SOURCE: MCG Architecture, December 2022

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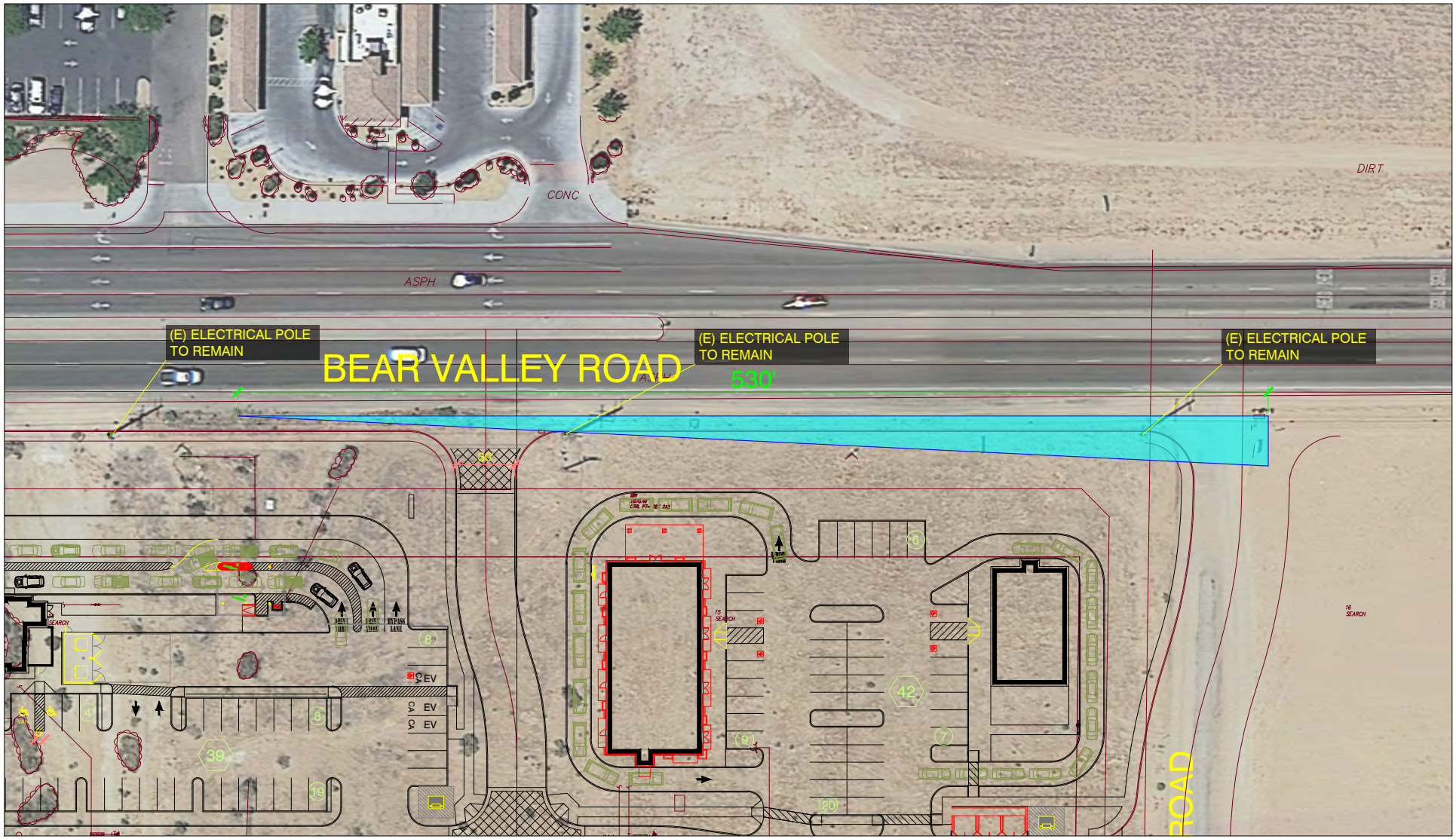

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LEGEND

Sight Distance Triangle

FIGURE 8-2

Apple Bear Commercial Project
Traffic Impact Study

Corner Sight Distance at Flying Feather Road

SOURCE: MCG Architecture, December 2022

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9.0 CEQA ASSESSMENT – VEHICLE MILES TRAVELED ANALYSIS AND ACTIVE TRANSPORTATION AND PUBLIC TRANSIT ANALYSIS

9.1 VEHICLE MILES TRAVELED ANALYSIS

On December 28, 2018, the California Office of Administrative Law cleared the revised CEQA Guidelines for use. Among the changes to the CEQA Guidelines was the removal of vehicle delay and LOS from consideration under CEQA. With the adopted CEQA Guidelines, transportation impacts are to be evaluated based on a project's effect on VMT.

Senate Bill 743 (SB 743) required changes made to CEQA regulations introducing VMT as the new metric for determining project traffic impacts. The Town recommends evaluation of a project screening criteria for purposes of a VMT analysis based on the County's TIS Guidelines. Therefore, the project's VMT screening evaluation will be based on the County's TIS Guidelines. The project can be considered as local-serving retail that has a total square footage less than 50,000 sf. Pursuant to the County's TIS VMT Analysis Guidelines, the project may be screened out from a VMT analysis and can be considered to have a less than significant impact on VMT.

9.2 ACTIVE TRANSPORTATION AND PUBLIC TRANSIT ANALYSIS

According to the County's TIS Guidelines, a significant impact occurs when a project conflicts with adopted plans, policies, or programs regarding active transportation or public transit facilities, or otherwise decreases the performance or safety of such facilities.

Based on the Town's *Plan of Bike Paths*, at present, Class II bikeways have been to both directions of Apple Valley Road south of Bear Valley Road and Kiowa Road within the study area. Proposed future Class I bikeways have been planned to be added along the eastbound direction of Bear Valley Road east of the Mojave River and the northbound direction of Apple Valley Road north of Bear Valley Road within the study area. Proposed future Class II bikeways have been planned to be added along both directions of Bear Valley Road west of the Mojave River and Deep Creek Road within the study area. As such, the project would not decrease the performance or safety of any existing or proposed bicycle facility.

According to the Town of Apple Valley *General Plan Circulation Element*, sidewalks are generally provided on both sides of the streets. Additionally, standard paved trails and non-standard unpaved trails are frequently used by bicyclists and pedestrians in the Town. Some trails are also available for equestrian riders. According to the Town's General Plan, there is a proposed Lifeline Trail for multi-use and equestrian use along Bear Valley Road within the study area. Paved sidewalks are provided on both sides of Bear Valley Road east of the Mojave River, Apple Valley Road, and Kiowa Road. The project would not affect any existing sidewalks. As such, the project would not decrease the performance or safety of any existing or proposed pedestrian facility.

VVTA bus Routes 42, 43, and 47 operate within the study area. Route 42 has stops along Bear Valley Road, Mojave Fish Hatchery Road, Jess Ranch Parkway, and Apple Valley Road within the study area. Route 43 has stops along Bear Valley Road, Mojave Fish Hatchery Road, and Jess Ranch Parkway within the study area. Route 47 has stops along Kiowa Road within the study area. Route 42 has two existing bus stops on the southbound direction of Apple Valley Road near the project site. Route 43

has one existing bus stop on the southbound direction of Apple Valley Road and two existing stops on the eastbound direction of Bear Valley Road near the project site.

The project does not conflict with any existing or proposed bicycle, pedestrian, or public transit facilities. Therefore, it can be considered to conform to all adopted policies, plans, or programs concerning these facilities and would not have a significant impact.

10.0 CIRCULATION IMPROVEMENTS AND FUNDING SOURCES

10.1 RECOMMENDED IMPROVEMENTS

Roadway network circulation improvements have been recommended at study intersections where the project is forecast to create or contribute to operational deficiencies under opening year and cumulative conditions where feasible improvements could be identified. Table 10-A summarizes the recommended improvements for study intersections for all analysis scenarios. Tables 10-B and 10-C summarize the post-improvement intersection levels of service under opening year and cumulative conditions, respectively.

The intersections of Jacaranda Avenue/Bear Valley Road and Mojave Fish Hatchery Road/Bear Valley Road are forecast to operate at a satisfactory LOS under opening year and cumulative conditions with the recommended improvements.

It should be noted that with the implementation of the proposed improvements, the intersections of Apple Valley Road/Bear Valley Road and Kiowa Road/Bear Valley Road are still forecast to operate at a deficient LOS under opening year and cumulative conditions. However, the improvements will improve the delay under plus project conditions to better than the corresponding delay under no project conditions for both intersections.

As summarized in Table 10-A, the intersection of Westmont Drive – Apple Valley Road/Bear Valley Road would require addition of a dedicated eastbound right-turn lane for this intersection to operate at satisfactory LOS. However, Town staff is requiring the project to widen this intersection according to the Town's General Plan Circulation Element requirements for Bear Valley Road. Therefore, the project would be required to widen the eastbound approach of Bear Valley Road at Westmont Drive – Apple Valley Road to include three eastbound through lanes and a dedicated right-turn lane.

Figure 10-1 illustrates the proposed full widening of the eastbound approach of Bear Valley Road at Westmont Drive – Apple Valley Road.

10.2 FUNDING SOURCES AND MECHANISMS

Where there is a funding mechanism (fee program) for the recommended improvements, payment into the fee program may be considered sufficient project obligation to alleviate project-related operational deficiencies. At study intersections where the project adds to or creates a forecast deficiency and there is no funding mechanism in place, the project is responsible for its fair-share payment toward the implementation of the improvements.

10.2.1 SBCTA Nexus Study

The SBCTA Nexus Study identifies the fair share contributions from new development for regional transportation improvements. This program identifies a Nexus Study Network, representing regional roadways in the urbanized areas of San Bernardino County. Roadway improvement projects must be located on this network for their costs to be included in the Nexus Study and to be eligible to receive or expend fair share contributions.

10.2.2 Project Fair Share

In the absence of a fee program, the project shall pay its fair share of the cost required to offset operational deficiencies. Since the recommended improvements at the intersections of Jacaranda Avenue/Bear Valley Road, Mojave Fish Hatchery Road/Bear Valley Road, Apple Valley Road/Bear Valley Road, and Kiowa Road/Bear Valley Road are not covered under the Nexus Study or any other fee program, the project's fair share has been calculated based on project traffic as a percentage of total growth from existing to cumulative conditions. Previously referenced Table 10-A summarizes the project's fair share at the intersections where the project is forecasted to create a deficiency or add to an existing deficiency.

10.3 LIST OF CHAPTER 10.0 FIGURES AND TABLES

- Figure 10-1: Proposed Improvements at Intersection of Westmont Drive – Apple Bear Road/Bear Valley Road
- Table 10-A: Recommended Improvements for Intersections, Funding Mechanism, and Fair Share
- Table 10-B: Opening Year (2024) Plus Project with Recommended Improvements Intersection Levels of Service
- Table 10-C: Cumulative (2045) Plus Project with Recommended Improvements Intersection Levels of Service

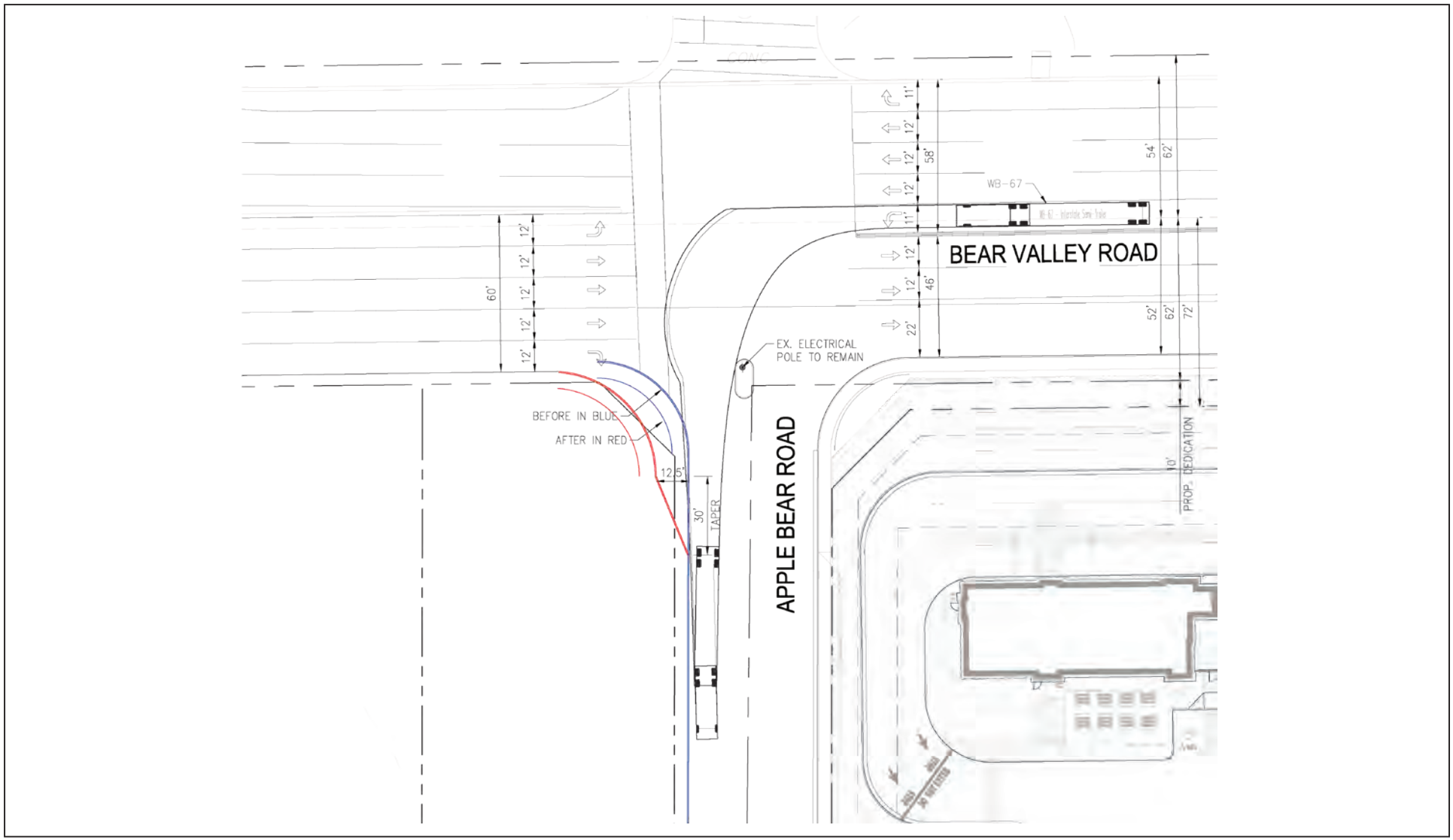

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FIGURE 10-1

N

0 30 60

FEET

Apple Bear Commercial Project
Traffic Impact Study

Proposed Improvements at Intersection of Westmont Drive - Apple Bear Road/Bear Valley Road

SOURCE: MCG Architecture, April 2023.

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Table 10-A - Recommended Improvements for Intersections, Funding Mechanism, and Fair Share

Intersection	Opening Year (2024) Plus Project Improvements	Cumulative (2045) Plus Project Improvements	Funding Mechanism	Improvements Covered by Nexus Study	Improvements Covered by Fair Share	Fair Share Percentage
1 . Jacaranda Avenue/Bear Valley Road	Restripe NBTR to NBR, add right-turn overlap to NBR, optimize signal timings	Restripe NBTR to NBR, add right-turn overlap to NBR, optimize signal timings	Fair Share	-	Restripe NBTR to NBR, add right-turn overlap to NBR, optimize signal timings	7.88%
2 . Mojave Fish Hatchery Road/Bear Valley Road	Restripe NBTL to NBT, change N/S split phasing to protected left-turn phasing, optimize signal timings	Restripe NBTL to NBT, change N/S split phasing to protected left-turn phasing, optimize signal timings	Fair Share	-	Restripe NBTL to NBT, change N/S split phasing to protected left-turn phasing, optimize signal timings	9.97%
6 . Apple Valley Road/Bear Valley Road	Add right-turn overlap to NBR, optimize signal timings	Add right-turn overlap to NBR, optimize signal timings	Fair Share	-	Add right-turn overlap to NBR, optimize signal timings	22.36%
10 . Kiowa Road/Bear Valley Road	Add right-turn overlaps to EBR and SBR, optimize signal timings	Add right-turn overlaps to EBR and SBR, optimize signal timings	Fair Share	-	Add right-turn overlaps to EBR and SBR, optimize signal timings	11.55%

Notes:

N = North; S = South; NBR = North Bound Right-turn; NBT = North Bound Through; NBTR = North Bound Through Right-turn; NBTL = North Bound Through Left-turn; EBR = East Bound Right-turn; SBR = South Bound Right-turn

[1] Project Fair Share Percentage is the highest fair share value of the AM and PM peak hour when both peak hours require improvements, or only in the peak hour that require improvements.

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Table 10-B - Opening Year (2024) Plus Project with Recommended Improvements Intersection Levels of Service

Intersection	Jurisdiction	LOS Standard	No Project Without Improvements						Plus Project Without Improvements						Plus Project With Improvements					
				A.M. Peak Hour			P.M. Peak Hour			A.M. Peak Hour			P.M. Peak Hour			A.M. Peak Hour			P.M. Peak Hour	
			Control	Delay (sec.)	LOS		Delay (sec.)	LOS	Control	Delay (sec.)	LOS		Delay (sec.)	LOS	Control	Delay (sec.)	LOS		Delay (sec.)	LOS	
1 . Jacaranda Avenue/Bear Valley Road	City of Hesperia/City of Victorville	D	Signal	55.1	E	*	123.1	F	*	Signal	57.5	E	*	128.0	F	*	Signal	42.0	D		54.3	D	
2 . Mojave Fish Hatchery Road/Bear Valley Road	City of Hesperia/City of Victorville	D	Signal	74.3	E	*	88.1	F	*	Signal	77.3	E	*	92.6	F	*	Signal	36.8	D		39.3	D	
6 . Apple Valley Road/Bear Valley Road	Town of Apple Valley	C	Signal	60.7	E	*	72.0	E	*	Signal	66.4	E	*	78.5	E	*	Signal	60.3	E	*	65.8	E	*
10 . Kiowa Road/Bear Valley Road	Town of Apple Valley	C	Signal	50.6	D	*	50.0	D	*	Signal	52.7	D	*	51.6	D	*	Signal	47.6	D	*	48.6	D	*

Notes:

OWSC = One-Way Stop Control; LOS = Level of Service

Delay = Average control delay in seconds (For OWSC intersections, reported delay is for worst-case movement).

* Exceeds LOS Standard

LSA

Table 10-C - Cumulative (2045) Plus Project with Recommended Improvements Intersection Levels of Service

Intersection	Jurisdiction	LOS Standard	No Project Without Improvements						Plus Project Without Improvements						Plus Project With Improvements					
				A.M. Peak Hour			P.M. Peak Hour			A.M. Peak Hour			P.M. Peak Hour			A.M. Peak Hour			P.M. Peak Hour	
			Control	Delay (sec.)	LOS		Delay (sec.)	LOS	Control	Delay (sec.)	LOS		Delay (sec.)	LOS	Control	Delay (sec.)	LOS		Delay (sec.)	LOS	
1 . Jacaranda Avenue/Bear Valley Road	City of Hesperia/City of Victorville	D	Signal	55.1	E	*	123.1	F	*	Signal	62.5	E	*	143.9	F	*	Signal	43.2	D		51.8	D	
2 . Mojave Fish Hatchery Road/Bear Valley Road	City of Hesperia/City of Victorville	D	Signal	89.0	F	*	106.8	F	*	Signal	92.1	F	*	111.9	F	*	Signal	38.4	D		43.0	D	
6 . Apple Valley Road/Bear Valley Road	Town of Apple Valley	C	Signal	61.3	E	*	77.9	E	*	Signal	66.8	E	*	85.2	F	*	Signal	60.8	E	*	75.0	E	*
10 . Kiowa Road/Bear Valley Road	Town of Apple Valley	C	Signal	53.5	D	*	53.8	D	*	Signal	55.8	E	*	55.9	E	*	Signal	49.7	D	*	52.3	D	*

Notes:

OWSC = One-Way Stop Control; LOS = Level of Service

Delay = Average control delay in seconds (For OWSC intersections, reported delay is for worst-case movement).

* Exceeds LOS Standard

11.0 TRAFFIC COLLISION ANALYSIS

A traffic collision analysis was conducted for the corridor of Bear Valley Road near Apple Valley Road. Traffic collision data was obtained from the State of California *Statewide Integrated Traffic Records System* (SWITRS) through the University of California, Berkeley *Transportation Injury Mapping System* (TIMS). It should be noted that the SWITRS currently provides collision data dated from December 2021 or earlier. For purposes of this analysis, traffic collision data between January 2015 and December 2021 were examined for this analysis.

According to the data provided by SWITRS, there have been a total of 64 crashes involving at least one vehicle within a 1,200-foot radius of the intersection of Apple Valley Road and Bear Valley Road. These 64 crashes are divided into 5 fatal crashes, 44 crashes that resulted in injury, and 15 unmapped collisions. Among these crashes are one crash involving a bicyclist and three crashes involving a pedestrian, one of which involves a fatality. The majority of these crashes occurred on Bear Valley Road near the intersections of Reata Road/Bear Valley Road and Apple Valley Road/Bear Valley Road.

Detailed collision data extracted from TIMS are included in Appendix E.

APPENDIX A

SCOPING AGREEMENT

CARLSBAD
CLOVIS
IRVINE
LOS ANGELES
PALM SPRINGS
POINT RICHMOND
RIVERSIDE
ROSEVILLE
SAN LUIS OBISPO

December 14, 2022

Richard Pedersen
Deputy Town Engineer
14955 Dale Evans Parkway
Apple Valley, CA 92307

Subject: Apple Bear Commercial Project Traffic Impact Study Scoping Agreement (LSA Project No. WDN2201)

Dear Richard:

LSA is preparing a Traffic Impact Study (TIS) for the proposed Apple Bear Commercial Project (project) to be located on the southeast corner of Bear Valley Road and Apple Bear Road (future road) in the Town of Apple Valley (Town), San Bernardino County on Assessor Parcel Numbers (APNs) 0434-021-10, -34, and -37. The project site is currently vacant. Figure 1 (all figures, tables, and appendices attached) illustrates the regional and project location. The project consists of a 23,256 square-foot (sf) grocery store (Sprouts), a 3,546 sf fast-food restaurant with drive-through (Raising Canes), a 1,310 sf fast-food restaurant with drive-through, a 2,500 sf fast-food restaurant with drive-through (Pad 3), 3,750 sf of quick serve restaurants, and a 5,500 sf car wash with a 131-foot wash tunnel. The total proposed commercial square footage is approximately 39,862 square feet. The project site is designated as General Commercial in the Town's General Plan.

Access to the project will be provided via five driveways: two driveways on Apple Bear Road, one driveway on Bear Valley Road, and two driveways on Flying Feather Road. Apple Bear Road and Flying Feather Road will be constructed from Bear Valley Road in order to provide access to the site. Based on discussion with Town staff, the intersection of Flying Feather Road and Bear Valley Road will restrict left-turns in and out of Flying Feather Road. The project driveways on Apple Bear Road and Flying Feather Road will be full access driveways. The driveway on Bear Valley Road will be a right-in-right-out (RIRO) driveway. Figure 2 illustrates the conceptual site plan for the project.

LSA anticipates that the following scope of work will be required to prepare the TIS for the proposed project.

SCOPE OF WORK: LEVEL OF SERVICE ANALYSIS

The Town recommends preparation of a TIS based on the S*an Bernardino County Transportation Impact Study Guidelines* (dated July 2019). Therefore, the scope of work for the TIS for the project has been prepared based on the County's TIS guidelines. Pursuant to the County's TIS Guidelines, a TIS should have two components: 1) a Level of Service (LOS) Analysis for General Plan consistency requirements and 2) a Vehicle Miles Traveled (VMT) Analysis with an Active Transportation and Public Transit Analysis to meet the California Environmental Quality Act (CEQA) requirements. This section describes the scope of work for preparation of the LOS analysis for inclusion in the TIS. A separate discussion has been provided for preparation of the VMT analysis as part of the TIS.

1500 Iowa Avenue, Suite 200, Riverside, California 92507 951.781.9310 www.lsa.net

Study Intersections

Based on the TIS guidelines, the study area shall generally include all intersections at which the proposed project will add 50 or more peak hour trips. All study intersections will be analyzed during the a.m. and p.m. peak hours. The a.m. peak hour is defined as the one hour of highest traffic volumes occurring between 7:00 a.m. and 9:00 a.m. while the p.m. peak hour is defined as the one hour of highest traffic volumes occurring between 4:00 p.m. and 6:00 p.m. Intersection levels of service (LOS) will be calculated using the *Highway Capacity Manual 6* (HCM 6) analysis methodologies and using Synchro 11 software. As such, LSA proposes to include the following intersections in the study:

1. Jacaranda Avenue/Bear Valley Road (Victorville, Hesperia);
2. Mojave Fish Hatchery Road/Bear Valley Road (Victorville, Hesperia);
3. Jess Ranch Parkway/Bear Valley Road (Apple Valley);
4. Reata Road/Bear Valley Road (Apple Valley);
5. Apple Valley Road/Pimlico Road – Shopping Center Driveway (Apple Valley);
6. Apple Valley Road/Bear Valley Road (Apple Valley);
7. Westmont Drive – Apple Bear Road/Bear Valley Road (Apple Valley);
8. Flying Feather Road/Bear Valley Road (Apple Valley);
9. Deep Creek Road/Apple Valley Road (Apple Valley);
10. Kiowa Road/Bear Valley Road (Apple Valley);
11. Apple Bear Road/Project Driveway 1 (Apple Valley);
12. Apple Bear Road/Project Driveway 2 (Apple Valley);
13. Project Driveway 3/Bear Valley Road (Apple Valley);
14. Flying Feather Road/Project Driveway 4 (Apple Valley); and
15. Flying Feather Road/Project Driveway 5 (Apple Valley).

Figure 3 illustrates the study area intersections.

Trip Generation

The trip generation for the proposed project was developed using rates from the Institute of Transportation Engineers (ITE) *Trip Generation Manual* (11th Edition) for Land Use 850 – "Supermarket," Land Use 933- "Fast-Food Restaurant without Drive-Through Window" and Land Use 934 – "Fast-Food Restaurant with Drive-Through Window." Since the ITE *Trip Generation Manual* does not provide trip generation rates for automated car washes, the trip generation for this facility was developed using the survey rates used in traffic studies for similar automated car wash studies. As such, the following two traffic studies were evaluated:

1. Arbor Car Wash Traffic Impact Analysis (City of Rancho Cucamonga) – using survey rates from Fast5 Xpress car wash in the City of Murrieta; and

2. Newport Pointe Project Traffic Impact Analysis (City of Menifee) – using survey rates from Victorville Speedwash facility located at 12147 Industrial Boulevard.

Since the Victorville Speedwash facility rates were higher, these rates have been used to estimate the trip generation for the automated car wash component of the project. Appendix A includes the trip generation rates for both facilities.

Table A summarizes the daily, a.m., and p.m. peak hour project trip generation. As shown in Table A, the project is anticipated to generate 8,865 gross daily trips, with 643 gross trips occurring during the a.m. peak hour and 739 gross trips occurring during the p.m. peak hour.

Supermarkets, fast-food restaurants, and automated car wash facilities will typically draw some trips from the traffic passing the site on an adjacent street or from traffic on other roadways within the vicinity. These trips are not "new" trips made for the sole purpose of visiting the site, but are trips made as an intermediate stop en route to a final destination. Trips from traffic passing the site on an adjacent street are referred to as "pass-by" trips and will only affect traffic at project driveways and on streets adjacent to the project.

Pass-by trip percentages for the supermarket, fast-food restaurants, and automated car wash were obtained from the ITE *Trip Generation Manual*. Total pass-by trips were subtracted from the gross external trips to obtain the net external trips for the project. After accounting for pass-by trips, the project is anticipated to generate 5,120 net daily trips, with 388 net trips occurring during the a.m. peak hour and 432 net trips occurring during the p.m. peak hour.

The distribution of project trips is based on the regional roadway network and the location of residential, employment and commercial centers in relation to the proposed project. Figure 4 illustrates the project trip distribution. The project net trip generation was applied to the trip distribution patterns to develop the project net trip assignment. The project net trip assignment is illustrated in Figure 5.

Analysis Scenarios

The TIS will examine traffic operations in the following scenarios:

- Existing Conditions;
- Opening Year No Project Conditions;
- Opening Year Plus Project Conditions;
- Cumulative No Project Conditions; and
- Cumulative Plus Project Conditions.

The project's opening year is anticipated to be Year 2024. According to the County's TIS guidelines, the cumulative scenario needs to be consistent with the San Bernardino Transportation Analysis

Model (SBTAM) future year scenario, which is Year 2040. Based on discussion with Town staff, Town staff recommended analysis of Year 2045 conditions for purposes of this analysis.

Volume Development and Analysis Methodology

Existing a.m. and p.m. peak hour traffic conditions and levels of service (LOS) will be assessed for the intersections identified for examination. Intersection LOS will be calculated using the appropriate HCM 6 analysis methodologies using Synchro 11 software.

Traffic volumes for opening year conditions will be developed by applying a per annum growth rate to existing traffic volumes and adding trips from approved and pending projects within the project vicinity. LSA will confirm with Town staff the appropriate growth rate to be used. Cumulative project information was obtained from the Town and the neighboring jurisdictions of Victorville, Hesperia, and San Bernardino County. Figure 6 illustrates the cumulative project locations. Table B summarizes the list of cumulative projects within the vicinity of the project. The resulting intersection LOS will be calculated using the previously discussed methodologies.

Traffic volumes for cumulative year without project conditions will be developed by using forecast traffic volumes obtained from SBTAM. The methodology to develop cumulative year without project traffic volumes at study area intersections will be consistent with the San Bernardino County Transportation Authority (SBCTA) procedures for post-processing of modeled traffic volumes. The resulting intersection LOS will be calculated using the previously discussed methodologies.

Opening year and cumulative plus project volumes will be developed by adding project traffic to the corresponding no project scenario traffic volumes. The resulting intersection LOS will be calculated using the previously discussed methodologies.

Analysis of Traffic Operations and Recommended Circulation Improvements

Intersection LOS without the project will be compared to the intersection LOS with the project for each of the analysis scenarios to determine operational deficiencies. Furthermore, necessary improvements will be recommended to offset these deficiencies, if any. Improvements may include intersection turn lanes, signalization, and segment lane additions. The LOS with the proposed improvements will be calculated and summarized, along with a comparison of the LOS without improvements.

Signal Warrant Analysis

A signal warrant analysis will be conducted at an unsignalized study intersection under opening year (if applicable) and cumulative year conditions. Peak hour approach volumes for the study intersections will be examined to determine whether signalization may be warranted per the criteria defined in the California supplement of the *Manual on Uniform Traffic Control Devices* (CA-MUTCD).

Fair Share Contributions

LSA will evaluate whether the mitigation measures identified in the TIA are included in the Town's *Capital Improvement Plan* program or in the SBCTA Nexus Study Fee program. If it is determined that the improvement is not covered through either of these programs, then the project's fair share

contribution will be calculated based on the project traffic as a percentage of total growth from existing to cumulative conditions.

Site Access

The TIS guidelines recommend analysis examining operations at the project driveways to identify potential safety concerns associated with the proposed project. As such, the analysis will examine intersection sight distance, driveway length, and corner clearance.

Project Driveway Right-Turn Lane Analysis

The TIS will examine if the primary project driveways will need to provide right-turn lanes. The TIS will examine if a right-turn deceleration lane is required for access to the project site. The analysis will be conducted based on the methodology outlined in the Caltrans Highway Design Manual.

Project Design Feature – Bear Valley Road Raised Median

Based on discussion with Town staff, the existing raised median on Bear Valley Road will need to be extended eastward. The raised median is currently built along Bear Valley Road, between Westmont Drive – Apple Bear Road and the Sonic Drive-In eastern driveway. The raised median shall extend eastward past the intersection of Flying Feather Road and Bear Valley Road. Therefore, traffic access at the intersection of Flying Feather Road and Bear Valley Road will be converted from a full access intersection to a right-in-right-out access only.

Traffic Collision Analysis

Based on discussion with Town staff, a traffic collision analysis was requested for the corridor of Bear Valley Road within the proximity of the proposed project near Apple Valley Road. The analysis will use collision data acquired through the Transportation Injury Mapping System.

Evaluation of Transit, Bicycle and Pedestrian Facilities

Per County's TIS guidelines, the TIS should include assessment of the project's impact on transit, bicycle, and pedestrian facilities adjacent to the project site. This qualitative assessment will examine the project's consistency with the Town's applicable goals and policies set forth in the Town's General Plan.

SCOPE OF WORK: CEQA TRANSPORTATION ASSESSMENT

Project VMT Analysis

Senate Bill 743 (SB 743) required changes be made to CEQA regulations introducing Vehicle Miles Traveled (VMT) as the new metric for determining project traffic impacts. The Town recommends evaluation of a project screening criteria for purposes of a VMT analysis based on the County's TIS guidelines. Therefore, the project's VMT screening evaluation will be based on the County's TIS Guidelines. The project has a total square footage less than the 50,000 sf. As pursuant to the County's VMT Analysis Guidelines, it is anticipated that the project may be screened out from a VMT analysis.

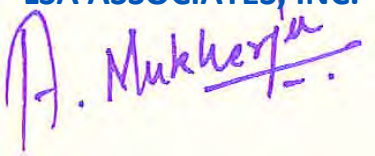
Active Transportation and Public Transit Analysis

The TIS will evaluate potential project impacts on public transit, bicycle, and pedestrian facilities in the vicinity of the project. The analysis will determine whether the project conflicts with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decreases the performance or safety of such facilities.

Should you have any questions, please do not hesitate to contact me at (951) 781-9310 or email me at Ambarish.Mukherjee@lsa.net.

Sincerely,

LSA ASSOCIATES, INC.



Ambarish Mukherjee, AICP, PE
Principal

ATTACHMENTS

Table A: Project Trip Generation
Table B: Cumulative Projects
Figure 1: Regional and Project Location
Figure 2: Conceptual Site Plan
Figure 3: Study Area Intersections
Figure 4: Project Trip Distribution
Figure 5: Project Trip Assignment
Figure 6: Cumulative Project Locations
Appendix A: Automated Car Wash Trip Generation Rates

TABLES

LSA

Table A - Project Trip Generation

Land Use		Units	A.M. Peak Hour In	A.M. Peak Hour Out	A.M. Peak Hour Total	P.M. Peak Hour In	P.M. Peak Hour Out	P.M. Peak Hour Total	Daily
Major 1 - Grocery Store	23.26	TSF							
Trips/Unit[1]			1.69	1.17	2.86	4.48	4.47	8.95	93.84
Trip Generation			39	27	66	104	104	208	2,182
Pass-By Trips[2]			0	0	0	(25)	(25)	(50)	(524)
Net Trip Generation			39	27	66	79	79	158	1,658
Pad 2, Pad 3, and Shops 1 - Fast-Food with Drive-Through	7.36	TSF							
Trips/Unit[3]			22.75	21.86	44.61	17.18	15.85	33.03	467.48
Trip Generation			167	161	328	126	117	243	3,439
Pass-By Trips[4]			(84)	(81)	(165)	(69)	(64)	(133)	(1,805)
Net Trip Generation			83	80	163	57	53	110	1,634
Shops 1 - Fast-Food without Drive-Through	3.75	TSF							
Trips/Unit[5]			25.04	18.14	43.18	16.61	16.60	33.21	450.49
Trip Generation			94	68	162	62	62	124	1,689
Pass-By Trips[6]			(47)	(34)	(81)	(34)	(34)	(68)	(887)
Net Trip Generation			47	34	81	28	28	56	802
Pad 1 - Automated Car Wash	131.00	LF							
Trips/Unit[7]			0.38	0.28	0.66	0.62	0.63	1.25	11.87
Trip Generation			50	37	87	81	83	164	1,555
Pass-by Trips[8]			(5)	(4)	(9)	(28)	(28)	(56)	(529)
Net Trip Generation			45	33	78	53	55	108	1,026
Total Gross Trip Generation			**350**	**293**	**643**	**373**	**366**	**739**	**8,865**
Total Pass-By Trips			**(136)**	**(119)**	**(255)**	**(156)**	**(151)**	**(307)**	**(3,745)**
Total Net Trip Generation			**214**	**174**	**388**	**217**	**215**	**432**	**5,120**

Note:

TSF = Thousand Square Feet; LF = Linear Feet

[1] Rates from the Institute of Transportation Engineers (ITE) *Trip Generation Manual* (11th Edition), Land Use 850 - "Supermarket", Setting/Location - "General Urban/Suburban."

[2] Pass-by rates based on Land Use 850 - "Supermarket" from ITE Trip Generation Manual (11th Edition). No a.m. and daily pass-by rates are available. The p.m. pass-by rate used is 24.00%. Since the daily pass-by rate was not available, the p.m. pass-by rate was applied as the daily rate.

[3] Rates based on Land Use 934 - "Fast-Food Restaurant with Drive-Through Window" from ITE *Trip Generation Manual* (11th Edition). Setting/Location - "General Urban/Suburban."

[4] Pass-by rates based on Land Use 934 - "Fast-Food Restaurant with Drive-Through Window" from ITE Trip Generation Manual (11th Edition). The a.m. pass-by rate used is 50%. The p.m. pass-by rate used is 55%. Since the daily pass-by rate was not available, the average of the a.m. and p.m. pass-by rates was applied as the daily rate.

[5] Rates based on Land Use 933 - "Fast-Food Restaurant without Drive-Through Window" from ITE *Trip Generation Manual* (11th Edition). Setting/Location - "General Urban/Suburban."

[6] Pass-by rates for Land Use 933 - "Fast-Food Restaurant without Drive-Through Window" are not available. Therefore, pass-by rates for Land Use 934 - "Fast-Food Resaurant with Drive-Through Window" was used. The a.m. pass-by rate used is 50%. The p.m. pass-by rate used is 55%. Since the daily pass-by rate was not available, the average of the a.m. and p.m. pass-by rates was applied as the daily rate.

[7] Trip generation rates from Linscott, Law & Greenspan, Engineers *Newport Pointe Traffic Impact Analysis Report* , April 2021. Rates based on traffic surveys from the Victorville Speedwash at 12147 Industrial Boulevard, Victorville, CA.

[8] Pass-by rates from Linscott, Law & Greenspan, Engineers *Newport Pointe Traffic Trafic Impact Analysis Report* , April 2021. Pass-by based on ITE *Trip Generation Handbook* , 3rd Edition.

Table B - Cumulative Projects

ID	Jurisdiction	Project Name/Reference	Address/Location	Project Description	Project Units/Area/Other
1	Victorville	PLAN20-00006	Southeast corner of Hesperia Road and Nisqualli Road.	A site plan and contional use permit with an environmental exemption to allow for the development of a fueling station with accessory carwash and convenience store, a conditional use permit to allow for alchol sales and a tentative parcel map to allow for the creation of two parcels from one vacant parcel located on the southeast corner of Hesperia Road and Nisqualli Road.	
2	Victorville	PLAN20-00010	17300 Silica Road	A conditional permit with an environmental exemption to allow for the temporary storage of truck trailers and trailer mounted shipping containers on a partially improved site located at the 17300 Silica Dr.	
3	Victorville	ADMN20-00057	12421 E Hesperia Road W #11	A minor conditional use permit with an environmental exemption to allow a social service organization for foster children to occupy suites #11-#15 within an existing building on property zoned C-1 neighborhood service commercial located at 12421 Hesperia Road.	
4	Victorville	PLAN20-00027	12454 Industrial Center Drive	A site plan and contional use permit with an environmental exeption to allow for a new multi-tenant commercial concrete tilt-up building on a vacant and undeveloped 2.75 acre property zoned C-M located west of and abutting Industrial Center Drive approximately 250 Ft. north of Jasmine Street.	
5	Victorville	PLAN19-00023	APN 3091-271-38	A site plan with an environmental exemption to allow for the contruction of an approximately 16,500 square foot two-story medical office building on property located south of and abutting Jasmine Street, east of Yuma Street and west of Apate Lane.	16.5 TSF
6	Hesperia	SPR21-00010	Southeast corner of Apatite Avenue and Outer Bear Valley Road	Consideration of Site Plan Review SPR21-00010 to construct a 3 building office/retail complex on 5 existing parcels totaling 3 acres within the C2 General Commercial zone located on the southeast corner of Apatite Avenue and Outer Bear Valley Road (Applicant: CJC Holdings, LLC; APN: 0415-021-01 thru 05).	
7	Hesperia	SPR20-00006	North side of Darwin Avenue, approximately 890’ east of Santa Fe Avenue	Consideration of Site Plan Review SPR20-00006 to construct a 26,821 square foot industrial building on 2 gross acres within the General Manufacturing (I2) zone located on the north side of Darwin Avenue, approximately 890’ east of Santa Fe Avenue (Applicant: MTH2 Engineering, Inc.; APN: 0415-251-08).	26.821 TSF industrial building
8	Hesperia	CUP22-00018	17147 Lemon Street	Consideration of Conditional Use Permit CUP22-00018 to allow for an expansion of an existing self-storage facility, consisting of the construction of three self-storage buildings totaling approximately 37,500 square feet with 106 exterior RV storage spaces on 5.4 acres within the General Industrial (GI) zone of the Main Street and Freeway Corridor Specific Plan located south of Lemon Street, approximately 300 feet east of C Avenue - 17147 Lemon Street (Applicant: Billy Phong; APN: 0410-011-32 & -33).	Self Storage building 37.5 TSF, 105 RV spaces
9	Hesperia	SPR21-00011	11099 G Avenue	Consideration of Site Plan Review SPR21-00011 to construct a 6,000 square foot industrial warehouse building on a 1.32-acre parcel within the I1 Limited Manufacturing zone located south of and adjacent to Ecology Auto Dismantling at 11099 G Avenue with a categorical exemption as an infill project (Applicant: Rodolfo Palacios; APN: 0415-231-06).	6 TSF industrial warehouse building

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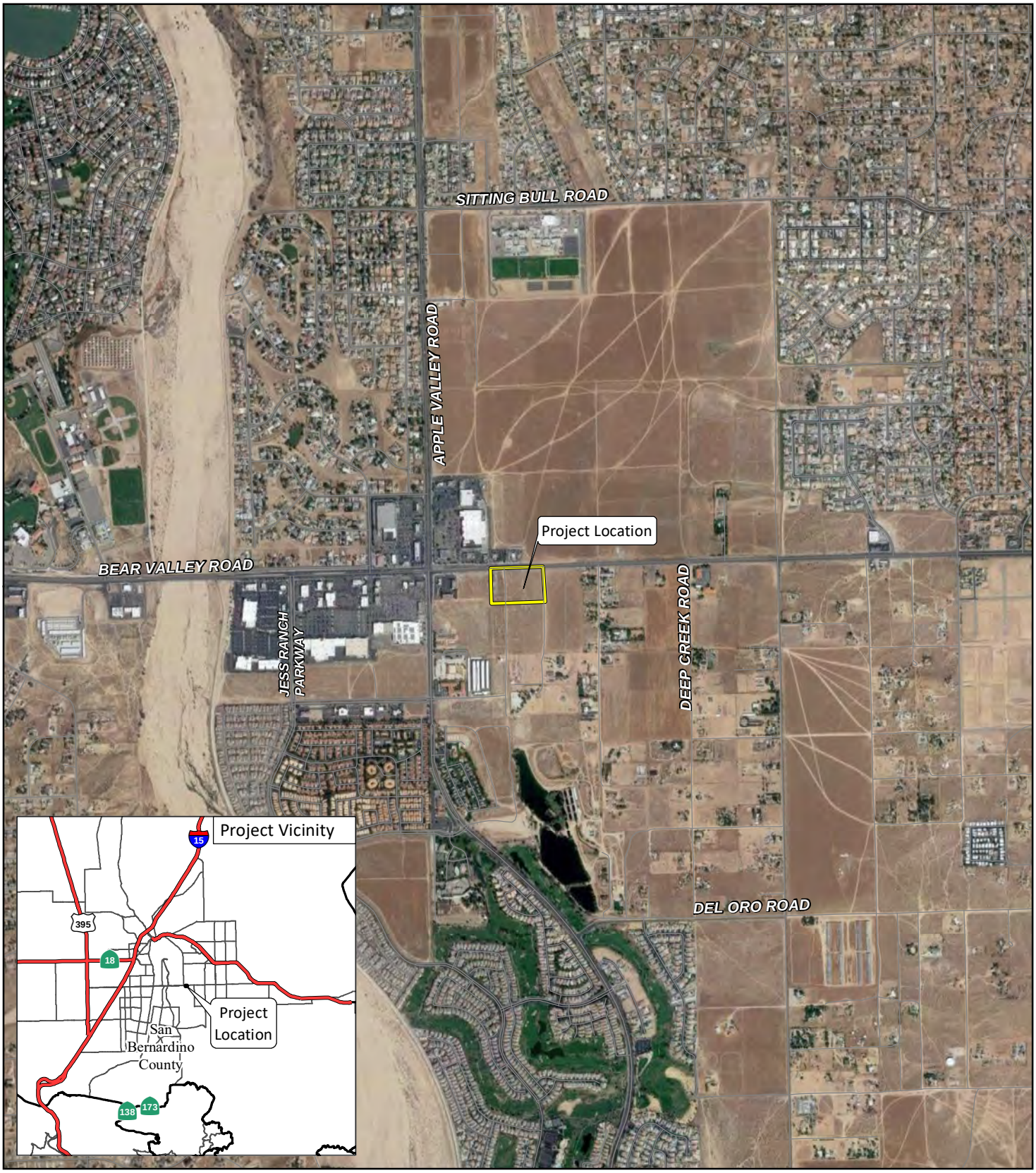
Table B - Cumulative Projects

ID	Jurisdiction	Project Name/Reference	Address/Location	Project Description	Project Units/Area/Other
10	Hesperia	SPR22-00001	East of G Avenue, approximately 180 feet north of E Avenue	Consideration of Site Plan Review SPR22-00001 to construct a pallet manufacturing storage facility on 1.24 gross acres within the Limited Manufacturing (I1) zone located east of "G" Avenue, approximately 180 feet north of "E" Avenue (Applicant:Luciano Perez Martinez ; APNs: 0415-231-02).	
11	Victorville	PLAN20-00020	17876 Bear Valey Road	A site plan and conditional use permit with an environmnetal exemption to allow for the development of a fueling station with an accessory convenience store and carwash, and a conditional use permit to allow for associated alcohol sales on vacant C-1 (Neighborhood Servivice) Zone property located a the northwest corner of Bear Valley Road and Tamarisk Road.	
12	Hesperia	SPR21-00015	South of Mesa Street, approximately 980 feet west of I Avenue	Consideration of Site Plan Review SPR21-00015 to construct a pallet repair and storage facility on 2.42 gross acres within the General Manufacturing (I2) zone located south of Mesa Street, approximately 980 feet west of "I" Avenue (Applicant: Yvetth Gasca; APNs: 0415-191-17).	
13	Hesperia	CUPR21-00003	South side of Bear Valley, approximately 600 feet east of Fish Hatchery Road	Consideration of Revised Conditional Use Permit CUPR21-00003 to modify a previously approved site plan (CUP18-00003) to add a 9,600 square foot retail building and a 3,400 square foot restaurant on 2.6 gross acres within the C2 zone located on the south side of Bear Valley, approximately 600 feet east of Fish Hatchery Road (Applicant: 18667 Hesperia LLC; APN: 0399-011-78).	9.6 TSF retail building, 3.4 TSF restaurant
14	Apple Valley	New Gas Station	Northwest corner of Yucca Loma and Apple Valley Road	New fuel station with a 4,999 sf convenience store located at northwest corner of Yucca Loma and Apple Valley Road.	4.999 TSF Convinience store; gas station with
15	Apple Valley	Grocery Store and Retail	North side of Bear Valley Road, approximately 1,070 feet from Apple Valley Road (APNs: 3087-171-15 & 16)	43,000 square foot grocery store and 6,995 square feet of retail businesses (total 49,995 square feet) on six acres located on the north side of Bear Valley Road, approximately 1,070 feet from Apple Valley Road (APNs: 3087-171-15 & 16).	43 TSF Grocery; 6.995 TSF Retail
16	Apple Valley	Residential Project	Northwest of Deep Crek Road and Bear Valley Road.	Approved Frontier Communities, a 137-home tract near Deep Creek and Bear Valley roads (APN: 3087-171-07).	137 SFR DU
17	San Bernardino County	PEXT-2021-00020	East of Deep Creek Road and Ocotillo Way	Tentative Tract Map 16569 is approved to subdivide 249 acres into 202 residential lots and six lettered lots and may be recorded and in compliance with the approved stamped tentative tract map, the following conditions of approval, all other required and approved reports and displays (e.g. elevations). The TTM approval incorporates the required Composite Development Plan, the Covenants Conditions and Restrictions (CC & R's) required of the TTM, the proposed environmental determination, and Environmental Impact Report (EIR). Project Number PH1180103B, APNs 0438-012-59, 0438-163-01, 02, 20, 31 and 32.	202 Single-family DU
18	Apple Valley	Residential Project	Northwest of Navajo Road and Sandia Road.	Approved 32-acre, 210-unit project at Navajo and Sandia roads (APN: 0434-063-02).	210 DU

Notes:

SFDU = Single-Family Dwelling Units; MFDU = Multi-Family Dwelling Units; TSF = Thousand Square Feet; RM = Rooms.

FIGURES



LSA

FIGURE 1

N

0 1000 2000

FEET

SOURCE: ESRI Streetmap, 2021; Google Earth, 2020.

Apple Bear Commercial
Traffic Impact Study

Regional and Project Location

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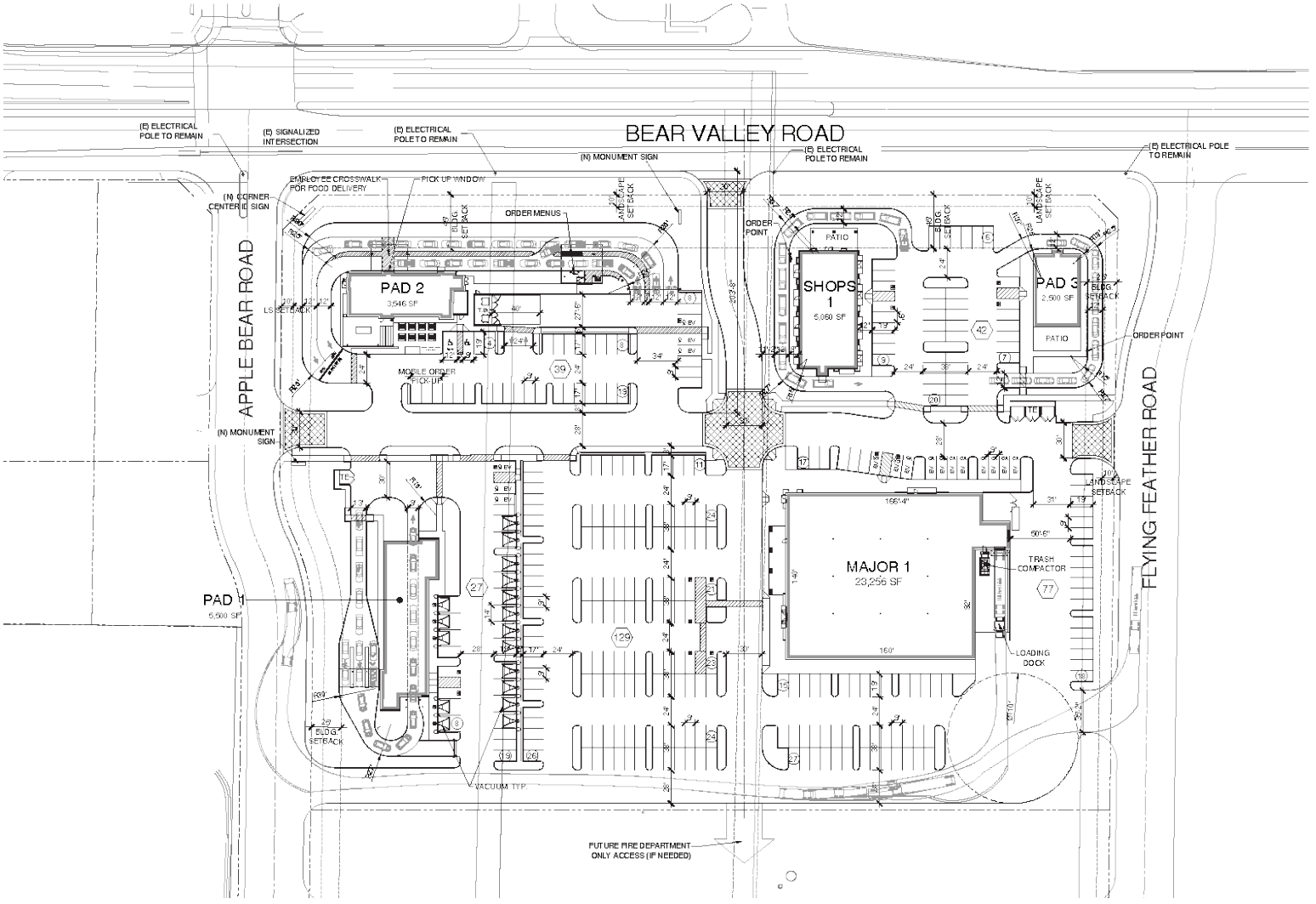

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FIGURE 2

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0 50 100

FEET

Apple Bear Commercial
Traffic Impact Study

Conceptual Site Plan

SOURCE: MCG Architecture, August 2022.

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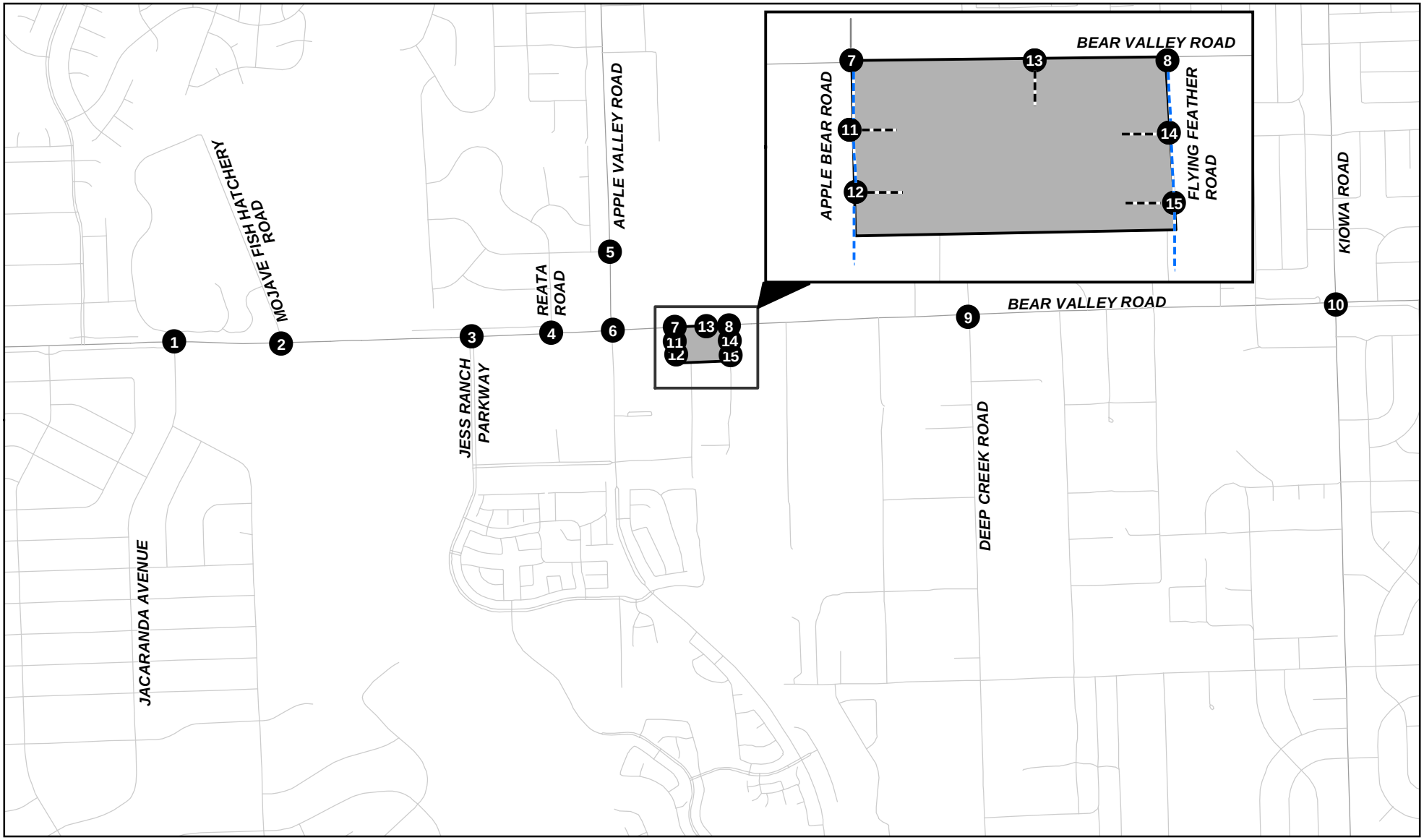

LSA

LEGEND

- Project Location
- Study Area Intersections
- Project Driveway
- Future Road

0 1000 2000
FEET

SOURCE: ESRI Streetmap, 2021.

FIGURE 3

Apple Bear Commercial
Traffic Impact Study
Study Area Intersections

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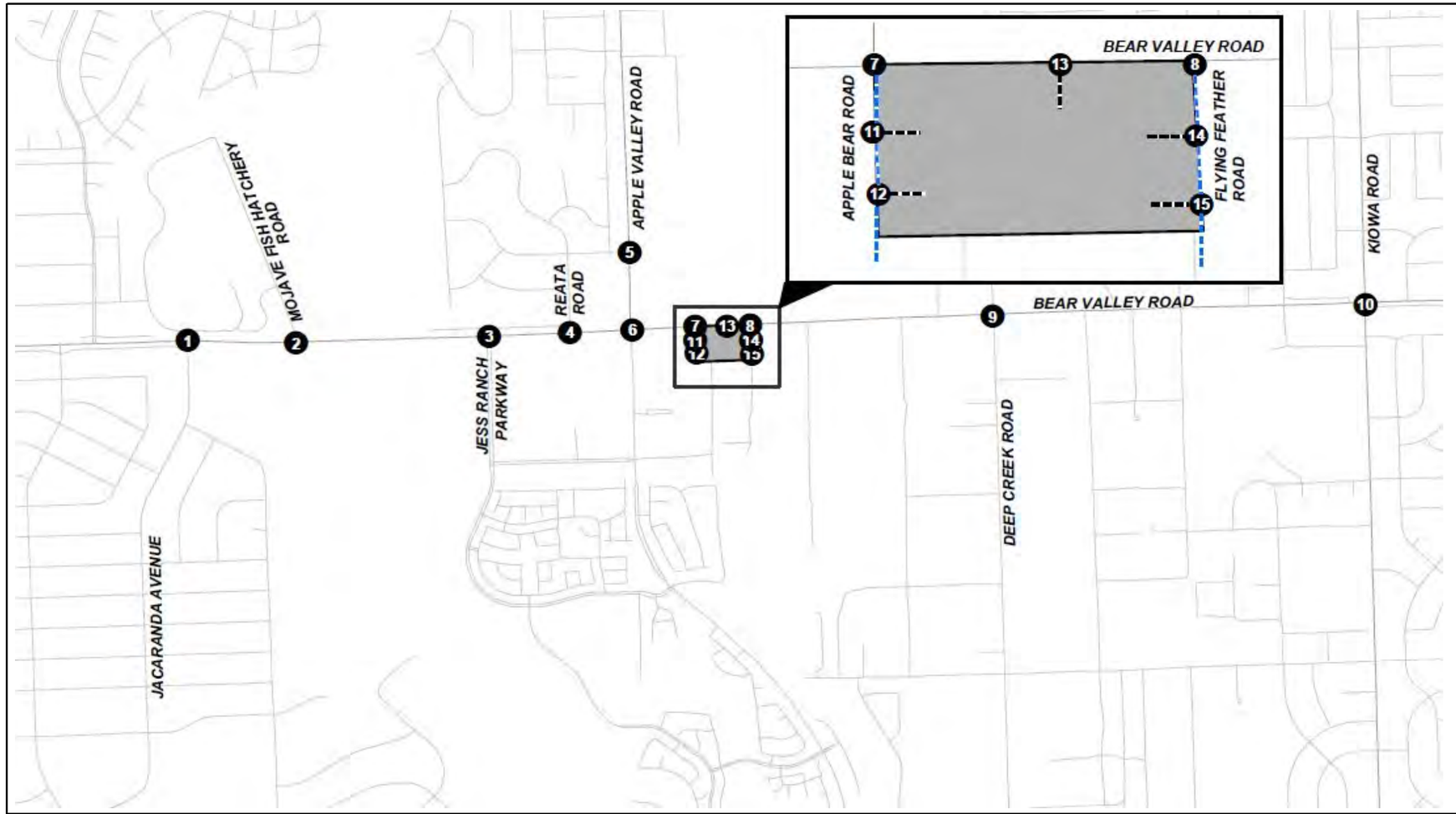
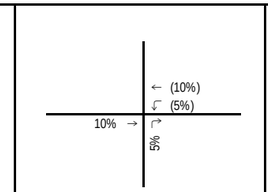
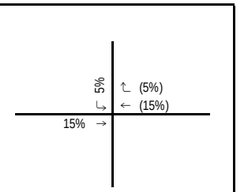
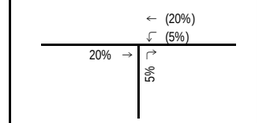




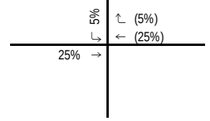
1 Jacaranda Avenue/ Bear Valley Road



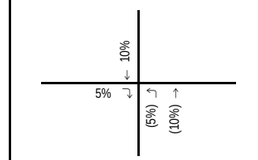
2 Mojave Fish Hatchery Road/Bear Valley Road



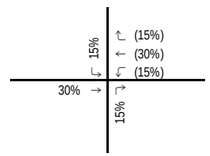
3 Jess Ranch Parkway/Bear Valley Road



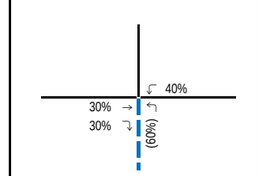
4 Reata Road/ Bear Valley Road



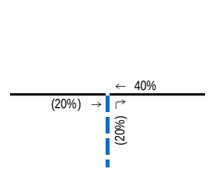
5 Apple Valley Road/ Pimlico Road-Shopping Center Driveway



6 Apple Valley Road/Bear Valley Road



7 Westmont Drive-Apple Bear Road/Bear Valley Road



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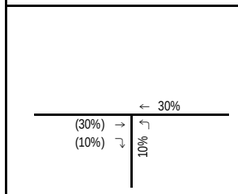

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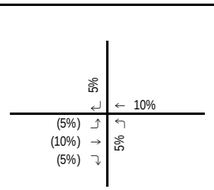

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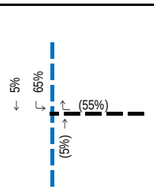
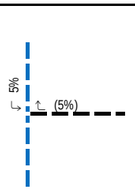


11 Apple Bear Road/ Project Driveway 1



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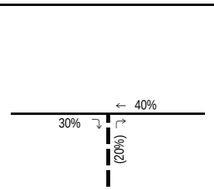

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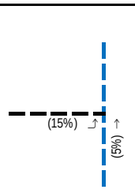

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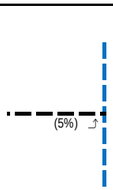

15 Flying Feather Road /Project Driveway 5

LSA

FIGURE 4

XX% (YY%)
Inbound (Outbound) Distribution
Project Driveway
Future Road

Apple Bear Commercial Traffic Impact Study

Project Trip Distribution

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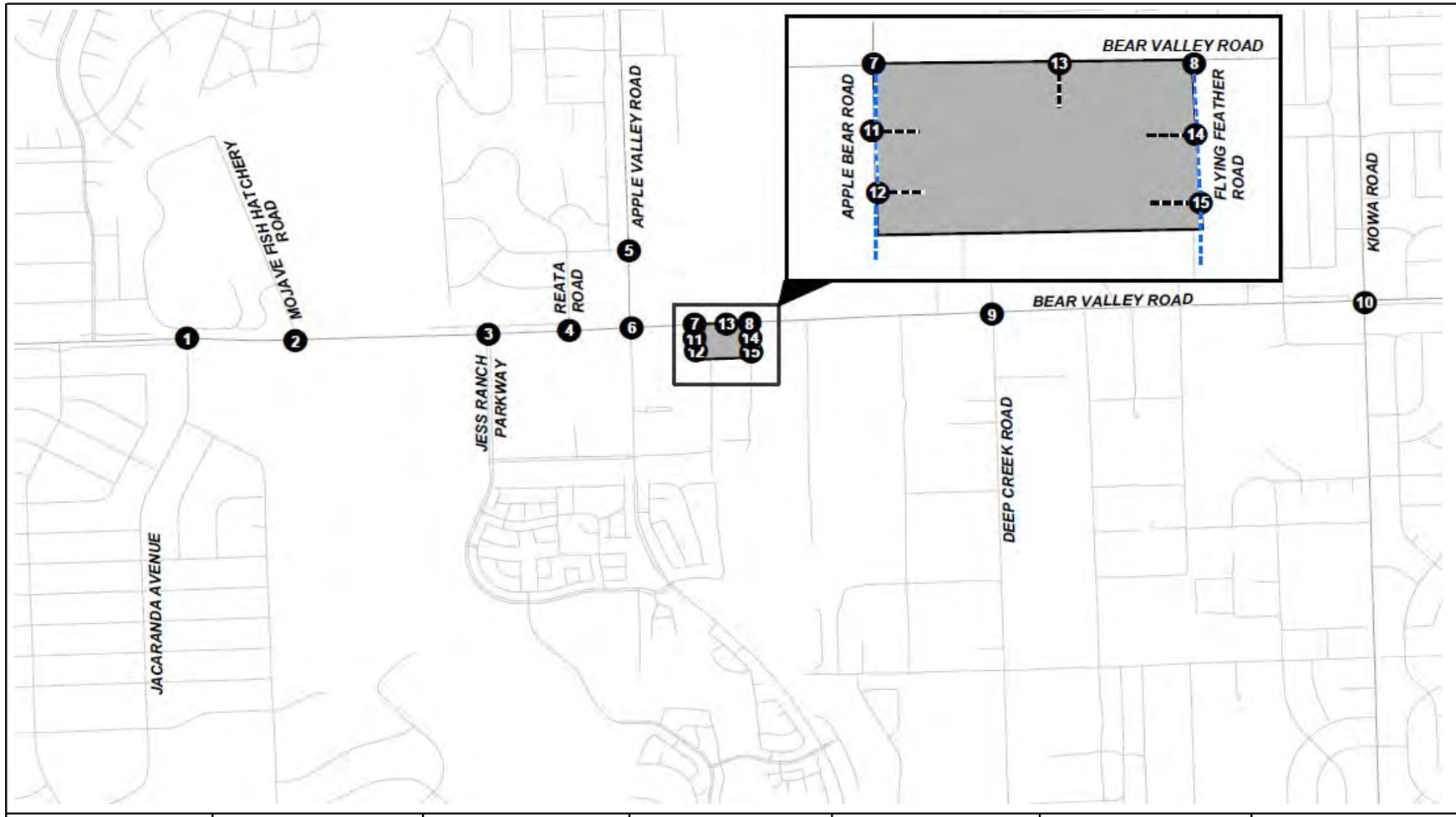
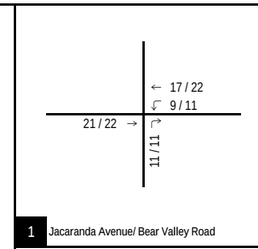
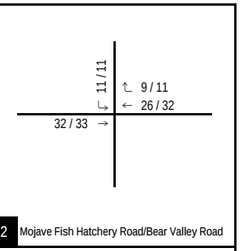




1 Jacaranda Avenue/ Bear Valley Road



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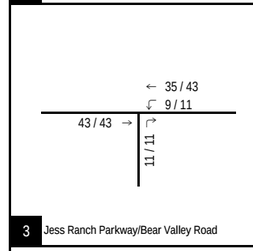

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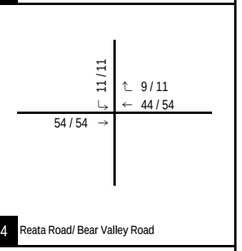

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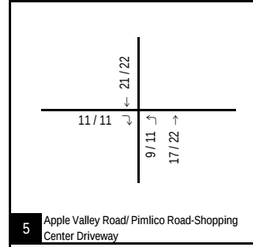
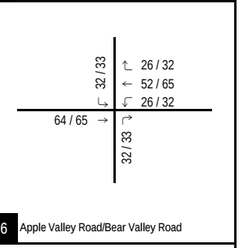


5 Apple Valley Road/ Pimlico Road-Shopping Center Driveway



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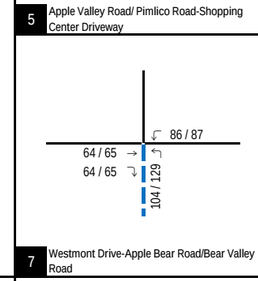
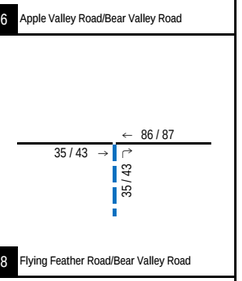


7 Westmont Drive-Apple Bear Road/Bear Valley Road



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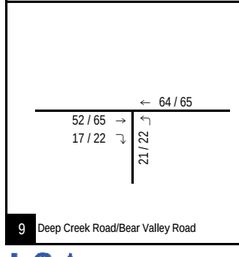

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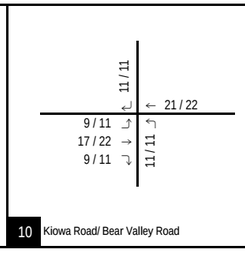

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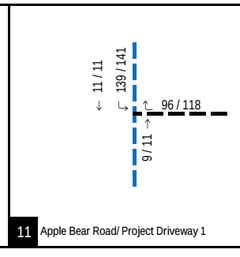

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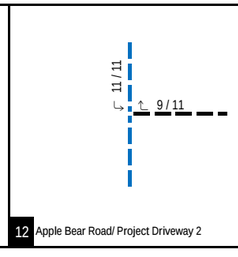

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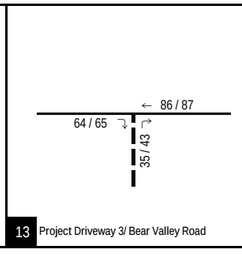

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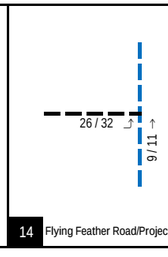

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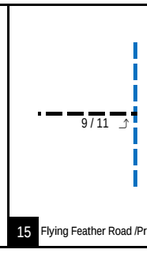

15 Flying Feather Road /Project Driveway 5

LSA

FIGURE 5

XXX / YYY

AM / PM Peak Hour Traffic Volumes

Project Driveway

Future Road

Apple Bear Commercial
Traffic Impact Study

Net Project Trip Assignment

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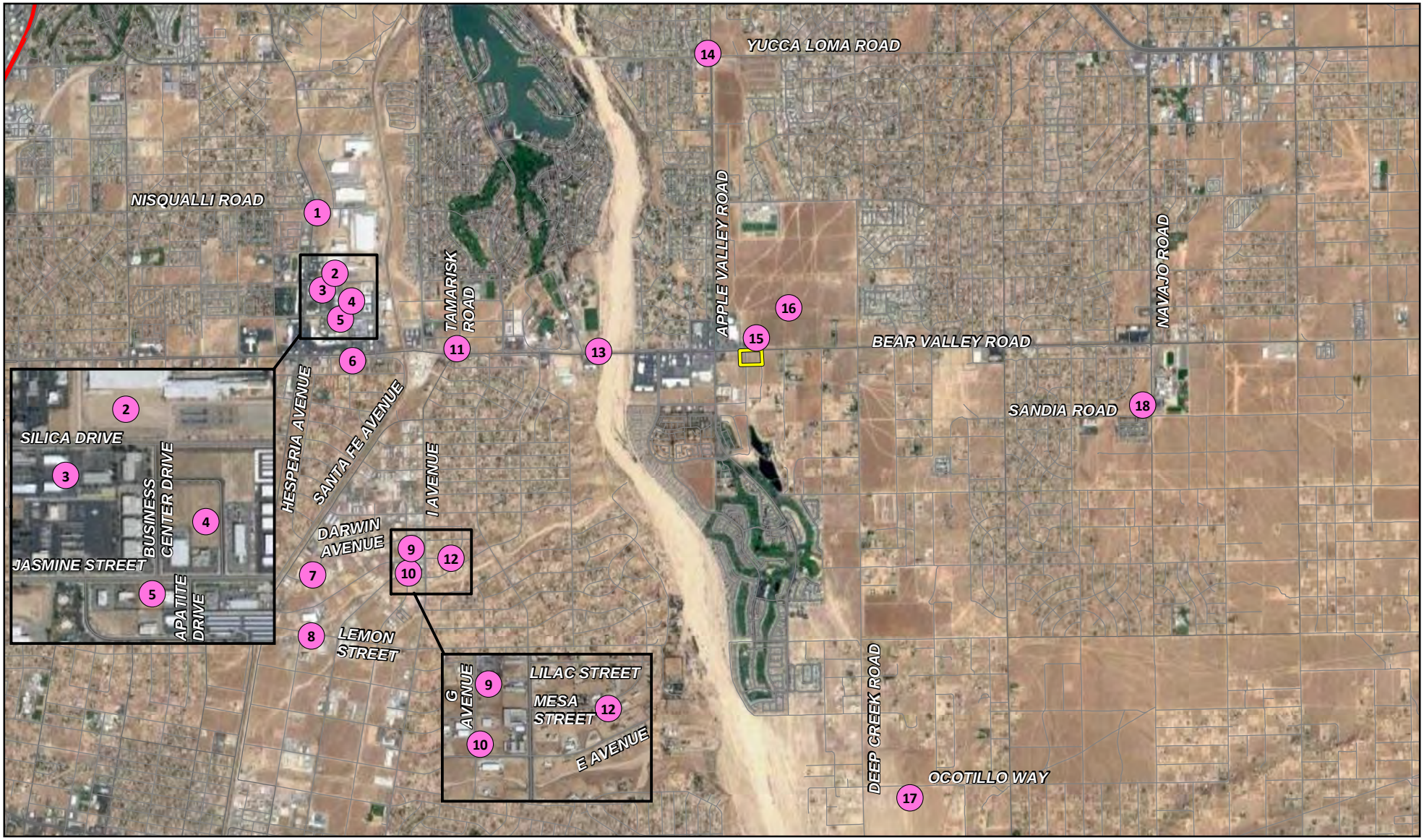

LSA

LEGEND

Project Site

Cumulative Project

0 2500 5000

FEET

SOURCE: Google Earth, 2021; ESRI Streetmap, 2021.

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FIGURE 6

Apple Bear Commercial
Traffic Impact Study

Cumulative Project Locations

APPENDIX A

AUTOMATED CAR WASH TRIP GENERATION RATES

ARBOR CAR WASH
TRAFFIC IMPACT ANALYSIS
RANCHO CUCAMONGA, CALIFORNIA

SEPTEMBER 24, 2018

Prepared for:

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Southwest Design Group
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Rancho Cucamonga, CA 91739

Prepared by:

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TRAMES SOLUTIONS INC.

(0301-0001-03)

4.0 PROJECTED FUTURE TRAFFIC

This section of the report quantifies the number of trips generated by the proposed project and other known developments in the area.

A. Project Traffic

1. Ambient Growth Rate

Some traffic volume increases on roadways can be attributed to vehicles originating outside of the study area. These types of trips either end up within the study area or pass-through onto an outside destination. Therefore, to account for these trips (termed "ambient growth"), a growth rate can be applied to existing traffic volumes.

A 2% ambient growth rate that has been used in this study to account for traffic not attributed to the project or other planned developments within the study area. The City of Rancho Cucamonga Transportation Department staff has previously reviewed and approved this rate.

2. Project Trip Generation

Trip generation represents the amount of traffic which is attracted and produced by a development. The trip generation for the project is based upon the specific land use which has been planned for this development. For the purpose of this analysis, the following land use assumption is evaluated:

- An automated car wash facility with a 140 foot long tunnel

The amount of vehicular trips generated by a project is typically determined from the trip rates included in the ITE **Trip Generation** manual. The latest version (10th edition) only provides the PM peak hour rate for one observation. Therefore, due to the small data set collected by ITE for an automated car wash, empirical count data has been collected at a Fast 5 Xpress car wash in the City of Murrieta (Murrieta Hot Springs Road at Jackson Ave.) to determine the amount of peak hour and daily vehicles that occur at this facility. Trip generation rates for the proposed development are driven by the amount of cars that can be washed during the peak hour. It is our understanding that a higher number of cars can be washed as the length of the service tunnel is increased. Therefore, the peak hour and daily trip rates shown in Table 4-1 were based on tunnel length.

The daily and peak hour trip generations for the proposed project are shown on Table 4-2. The proposed development is projected to generate a total of approximately 710 new trip-ends per day with 37 new vehicle trips per hour during the AM peak hour and 66 new vehicle trips per hour during the PM peak hour. It should be noted that a pass by reduction (AM-37%, PM-35%) and a 5% internal trip

reduction was assumed. The pass-by reduction percentages were based on a survey conducted at the Lighting Express Car Wash (17111 Hawthorne Blvd., Lawndale, CA).

TABLE 4-1

PROJECT TRIP GENERATION RATES

LAND USE	SOURCE	QUANTITY	PEAK HOUR TRIP RATES[1]						DAILY
			AM			PM			
			IN	OUT	TOTAL	IN	OUT	TOTAL	
Automated Car Wash	Empirical Data	140 Feet	0.25	0.21	0.46	0.38	0.41	0.79	8.45

[1] Source: Fast 5 Xpress car wash in the City of Murrieta (Murrieta Hot Springs Road at Jackson Ave.)

TABLE 4-2

PROJECT TRIP GENERATION SUMMARY

LAND USE	QUANTITY	PEAK HOUR						DAILY
		AM			PM			
		IN	OUT	TOTAL	IN	OUT	TOTAL	
Arbor Car Wash	140 Feet	35	29	64	53	57	111	1,183
Pass-by Reduction (AM–37%:PM–35%)[1]		*-13*	*-11*	*-24*	*-19*	*-20*	*-39*	*-414*
Internal Trip Reduction (5%)		*-2*	*-1*	*-3*	*-3*	*-3*	*-6*	*-59*
TOTAL PROJECT TRIPS		20	17	37	31	34	66	710

[1] Pass-by reduction percentages were based on surveys at Lightning Express Car Wash, 17111 Hawthorne Blvd, Lawndale, CA

3. Project Trip Distribution and Assignment

Trip distribution represents the directional orientation of traffic to and from the project site. The project's trip distribution patterns are based on the proximity of the project to the proposed driveway locations, the surrounding trip attractors, and the regional freeway interchanges. The trip distribution pattern for the project is illustrated on Figure 4-A.

4. Other Trip Generation Factors

The project land use is comprised of primary, pass-by and internal traffic. Primary traffic refers to trips that are intending to go to the project as their primary destination. Pass-by traffic consists of vehicles that stop at the site on their way to a primary destination. Internal traffic consists of trips that are anticipated to occur between the future gas station and those that go to the project. A 5% reduction in traffic has been assumed for these trips.

LINSCOTT LAW & GREENSPAN engineers

TRAFFIC IMPACT ANALYSIS REPORT

NEWPORT POINTE

Menifee, California

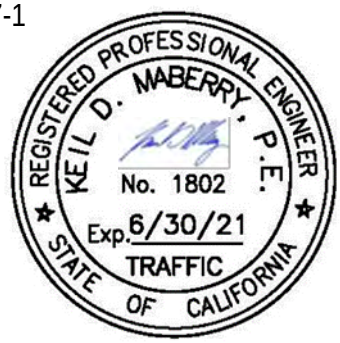
April 28, 2021

(Update of the April 5, 2021 Report)

Prepared for:

Salim Development Group, LLC
1307 W. 6th Street, Suite 202
Corona, CA 92882

LLG Ref. 2-18-3987-1



Prepared by:

Zawwar Saiyed, P.E.
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&
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Under the Supervision of:

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5.0 PROJECT TRAFFIC CHARACTERISTICS

5.1 Project Trip Generation Forecast

Trip generation is expressed in vehicle trip ends, defined as one-way vehicular movements, either entering or exiting the generating land use. Generation equations and/or rates used in the traffic forecasting procedure are found in the 10th Edition of *Trip Generation*, published by the Institute of Transportation Engineers (ITE) [Washington D.C., 2017].

Table 5-1 summarizes the trip generation rates used in forecasting the vehicular trips generated by the proposed Project. As shown in *Table 5-1*, the trip generation potential for the proposed Project was estimated using ITE Land Use Code 492: Health Fitness Club rates, ITE Land Use Code 565: Day Care Center rates, ITE Land Use Code 850: Supermarket rates, ITE Land Use Code 930: Fast Casual Restaurant rates, ITE Land Use Code 934: Fast-Food Restaurant with Drive-Thru Window rates, and Express Car Wash rates derived from traffic counts conducted on Friday, February 7, 2014 at the Victorville Speedwash located at 12147 Industrial Boulevard. *Appendix B* also contains the traffic count data for the Victorville Speedwash.

Table 5-2 presents the daily and peak hour Project traffic volume forecast for a "typical" weekday. The bottom portion of *Table 5-2* indicates that the proposed Project is forecast to generate 5,518 daily trips, with 246 trips (141 inbound, 105 outbound) produced in the AM peak hour and 456 trips (240 inbound, 216 outbound) produced in the PM peak hour.

Please note that the aforementioned overall project trip generation includes adjustments for internal capture and for pass-by as recommended by ITE. The Project trip generation for the grocery store, fast-food restaurant, express car wash, and fast casual restaurant project components include adjustments for pass-by trips per the *Trip Generation Handbook, 3rd Edition*, published by ITE (2014), to account for trips that are already in the everyday traffic stream on the adjoining streets (i.e. Newport Road) and will stop as they pass by the Project site as a matter of convenience on their path to another destination. Per the *Trip Generation Handbook,* pass-by reduction factors for the express car wash land use are not provided, thus pass-by reduction factors for ITE Land Use 820: Shopping Center were utilized, which has a PM peak hour pass-by percentage of 34%. The daily and AM peak hour pass-by percentages for the express car wash land use were estimated to be 10%. The daily and AM peak hour pass-by percentages were estimated to be 10% for the express car wash land use. The *Trip Generation Handbook* recommends a PM peak hour pass-by percentage of 36% for the grocery store land use. The daily and AM peak hour pass-by percentages were estimated to be 10% for the grocery store land use. The *Trip Generation Handbook* recommends an AM peak hour pass-by percentage of 49% and a PM peak hour pass-by percentage of 50% for the fast-food restaurant land use. The daily pass-by percentage was estimated to be 25% for the fast-food restaurant land use. Given that the *Trip Generation Handbook, 3rd Edition* does not provide pass-by reduction factors for the fast casual restaurant land use, pass-by reduction factors for ITE Land Use 932: High-Turnover (Sit-Down) Restaurant were utilized, which has a PM peak hour pass-by percentage of 43%. The daily and AM peak hour pass-by percentages for the fast casual restaurant land use were estimated to be 10%.

The trip generation methodology and forecasts were approved by City of Menifee staff prior to proceeding with further analysis.

5.2 Project Trip Distribution and Assignment

The general, directional trip distribution pattern for the proposed Project is presented in ***Figure 5-1.*** Project traffic volumes both entering and exiting the site have been distributed and assigned to the adjacent street system based on the following considerations:

- the site's proximity to major traffic carriers (i.e. Newport Road, the I-215 Freeway, etc.),
- expected localized traffic flow patterns based on adjacent street channelization and presence of traffic signals,
- ingress/egress availability at the Project site, and
- input from City of Menifee staff.

The anticipated AM and PM peak hour Project volumes associated with the proposed Project are presented in ***Figures 5-2*** and ***5-3***, respectively. In addition, *Figure 5-3* also presents the daily traffic volumes for the key study roadway segments. The traffic volume assignments presented in *Figures 5-2* and *5-3* reflect the trip distribution characteristics shown in *Figure 5-1* and the trip generation forecast presented in *Table 5-1*.

TABLE 5-1

PROJECT TRIP GENERATION RATES[8]

ITE Land Use Code / Project Description	Daily 2-Way	AM Peak Hour			PM Peak Hour		
		Enter	Exit	Total	Enter	Exit	Total
Project Trip Generation Factors:							
▪ 492: Health Fitness Club (TE/TSF)	34.50[9]	0.67	0.64	1.31	1.97	1.48	3.45
▪ 565: Day Care Center (TE/Student)	4.09	0.41	0.37	0.78	0.37	0.42	0.79
▪ 850: Supermarket (TE/TSF)	106.78	2.29	1.53	3.82	4.71	4.53	9.24
▪ 930: Fast Casual Restaurant (TE/TSF)	315.17	1.39	0.68	2.07	7.77	6.36	14.13
▪ 934: Fast-Food Restaurant with Drive-Thru Window (TE/TSF)	470.95	20.50	19.69	40.19	16.99	15.68	32.67
▪ Express Car Wash (TW/LFWT)[10]	11.87	0.38	0.28	0.66	0.62	0.63	1.25

Note:

- TE/Student = trip end per student
- TE/TSF = trip end per thousand square feet
- TE/LFWT = trip end per linear foot of wash tunnel

[8] Source*: Trip Generation, 10th Edition*, Institute of Transportation Engineers, (ITE) [Washington, D.C. (2017)].

[9] *Trip Generation, 10th Edition* does not include the daily trip generation rate for the health fitness club land use. As such, the daily trip rate is assumed to be 10 times the PM peak hour rate.

[10] *Trip Generation, 10th Edition* does not include trip generation rates for the express car wash land use. The trip rates are derived from traffic counts on Friday, February 7, 2014 at the Victorville Speedwash located at 12147 Industrial Boulevard. ***Appendix B*** contains the traffic count data for the Victorville Speedwash.

TABLE 5-2

PROJECT TRIP GENERATION FORECAST[11]

ITE Land Use Code / Project Description	Daily 2-Way	AM Peak Hour			PM Peak Hour		
		Enter	Exit	Total	Enter	Exit	Total
Project Trip Generation Forecast:							
▪ Fast Casual Restaurants (10,370 SF)	3,268	14	7	21	81	66	147
Internal Capture Reduction (Daily: 36%, AM: 48%, PM: 37%)[12]	*-1,172*	*-7*	*-3*	*-10*	*-25*	*-29*	*-54*
Subtotal	2,096	7	4	11	56	37	93
Pass-By Reduction (Daily: 10%, AM: 10%, PM: 43%)[13]	*-210*	*-1*	*0*	*-1*	*-24*	*-16*	*-40*
Fast Casual Restaurants Total	1,886	6	4	10	32	21	53
▪ Grocery Store (18,041 SF)	1,926	41	28	69	85	82	167
Internal Capture Reduction (Daily: 43%, AM: 28%, PM: 25%)[12]	*-821*	*-13*	*-6*	*-19*	*-24*	*-17*	*-41*
Subtotal	1,105	28	22	50	61	65	126
Pass-By Reduction (Daily: 10%, AM: 10%, PM: 36%)[13]	*-111*	*-3*	*-2*	*-5*	*-22*	*-23*	*-45*
Grocery Store Total	994	25	20	45	39	42	81
▪ Fast-Food Restaurant with Drive-Through (800 SF)	377	16	16	32	14	12	26
Internal Capture Reduction (Daily: 36%, AM: 47%, PM: 39%)[12]	*-135*	*-8*	*-7*	*-15*	*-5*	*-5*	*-10*
Subtotal	242	8	9	17	9	7	16
Pass-By Reduction (Daily: 25%, AM: 49%, PM: 50%)[13]	*-61*	*-4*	*-4*	*-8*	*-5*	*-3*	*-8*
Grocery Store Total	181	4	5	9	4	4	8
▪ Day Care Center (160 Students)	654	66	59	125	59	67	126
Internal Capture Reduction (Daily: 12%, AM: 24%, PM: 7%)[12]	*-81*	*-8*	*-22*	*-30*	*-2*	*-7*	*-9*
Day Care Center Total	573	58	37	95	57	60	117
▪ Express Car Wash (110 Linear Feet of Wash Tunnel)	1,306	41	31	72	68	70	138
Internal Capture Reduction (Daily: 43%, AM: 28%, PM: 25%)[12]	*-556*	*-14*	*-6*	*-20*	*-20*	*-14*	*-34*
Subtotal	750	27	25	52	48	56	104
Pass-By Reduction (Daily: 10%, AM: 10%, PM: 34%)[13]	*-75*	*-3*	*-2*	*-5*	*-16*	*-19*	*-35*
Express Car Wash Total	675	24	23	47	32	37	69
▪ Health Fitness Club (40,000 SF)	1,380	27	25	52	79	59	138
Internal Capture Reduction (Daily: 12%, AM: 23%, PM: 7%)[12]	*-171*	*-3*	*-9*	*-12*	*-3*	*-7*	*-10*
Health Fitness Club Total	1,209	24	16	40	76	52	128
Gross Project Trip Generation (No Reductions)	**8,911**	**205**	**166**	**371**	**386**	**356**	**742**
Net Driveway Trip Generation (Internal Capture Reduction Only)	**5,975**	**152**	**113**	**265**	**307**	**277**	**584**
Total Net Project Trip Generation (Int. Cap. & Pass-By Reductions)	**5,518**	**141**	**105**	**246**	**240**	**216**	**456**

[11] Source: *Trip Generation, 10th Edition*, Institute of Transportation Engineers, (ITE) [Washington, D.C. (2017)].

[12] Consistent with the *Trip Generation Handbook,* published by ITE (2014), Project trip generation was adjusted to account for internal capture between the retail, grocery store, restaurant, day care, car wash, gas station, and oil/lube service station components of the Project.

[13] Source: *Trip Generation Handbook, 3rd Edition*, published by ITE (2014). Pass-by trips are trips made as intermediate stops on the way from an origin to a primary trip destination. Pass-by trips are attracted from traffic passing the site on adjacent streets, which contain direct access to the generator.

APPENDIX B

TRAFFIC COUNT SHEETS AND SIGNAL TIMING SHEETS

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
(951)268-6268

City of Hesperia
N/S: Jacaranda Avenue
E/W: Bear Valley Road
Weather: Clear

File Name : 01_HES_Jac_BV AM
Site Code : 221022
Start Date : 11/17/2022
Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	Jacaranda Avenue Southbound				Bear Valley Road Westbound				Jacaranda Avenue Northbound				Bear Valley Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	25	297	2	324	16	0	33	49	7	190	9	206	579
07:15 AM	0	0	7	7	31	269	3	303	20	1	50	71	7	172	8	187	568
07:30 AM	0	2	6	8	33	365	5	403	22	11	68	101	16	319	5	340	852
07:45 AM	6	4	17	27	54	393	21	468	21	19	67	107	40	287	16	343	945
Total	6	6	30	42	143	1324	31	1498	79	31	218	328	70	968	38	1076	2944
08:00 AM	4	5	9	18	60	358	6	424	20	15	69	104	32	294	26	352	898
08:15 AM	4	4	4	12	66	330	11	407	13	4	58	75	39	297	16	352	846
08:30 AM	2	1	5	8	39	339	3	381	15	4	62	81	15	336	15	366	836
08:45 AM	2	0	3	5	42	344	4	390	22	4	62	88	15	333	12	360	843
Total	12	10	21	43	207	1371	24	1602	70	27	251	348	101	1260	69	1430	3423
Grand Total	18	16	51	85	350	2695	55	3100	149	58	469	676	171	2228	107	2506	6367
Apprch %	21.2	18.8	60		11.3	86.9	1.8		22	8.6	69.4		6.8	88.9	4.3		
Total %	0.3	0.3	0.8	1.3	5.5	42.3	0.9	48.7	2.3	0.9	7.4	10.6	2.7	35	1.7	39.4	
Passenger Vehicles	18	16	51	85	343	2563	55	2961	144	58	455	657	171	2099	106	2376	6079
% Passenger Vehicles	100	100	100	100	98	95.1	100	95.5	96.6	100	97	97.2	100	94.2	99.1	94.8	95.5
Large 2 Axle Vehicles	0	0	0	0	6	75	0	81	4	0	11	15	0	56	1	57	153
% Large 2 Axle Vehicles	0	0	0	0	1.7	2.8	0	2.6	2.7	0	2.3	2.2	0	2.5	0.9	2.3	2.4
3 Axle Vehicles	0	0	0	0	0	11	0	11	1	0	3	4	0	17	0	17	32
% 3 Axle Vehicles	0	0	0	0	0	0.4	0	0.4	0.7	0	0.6	0.6	0	0.8	0	0.7	0.5
4+ Axle Trucks	0	0	0	0	1	46	0	47	0	0	0	0	0	56	0	56	103
% 4+ Axle Trucks	0	0	0	0	0.3	1.7	0	1.5	0	0	0	0	0	2.5	0	2.2	1.6

	Jacaranda Avenue Southbound				Bear Valley Road Westbound				Jacaranda Avenue Northbound				Bear Valley Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	0	2	6	8	33	365	5	403	**22**	11	68	101	16	**319**	5	340	852
07:45 AM	**6**	4	**17**	**27**	54	**393**	**21**	**468**	21	**19**	67	**107**	**40**	287	16	343	**945**
08:00 AM	4	**5**	9	18	60	358	6	424	20	15	**69**	104	32	294	**26**	**352**	898
08:15 AM	4	4	4	12	**66**	330	11	407	13	4	58	75	39	297	16	352	846
Total Volume	14	15	36	65	213	1446	43	1702	76	49	262	387	127	1197	63	1387	3541
% App. Total	21.5	23.1	55.4		12.5	85	2.5		19.6	12.7	67.7		9.2	86.3	4.5		
PHF	.583	.750	.529	.602	.807	.920	.512	.909	.864	.645	.949	.904	.794	.938	.606	.985	.937

Counts Unlimited, Inc.
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City of Hesperia
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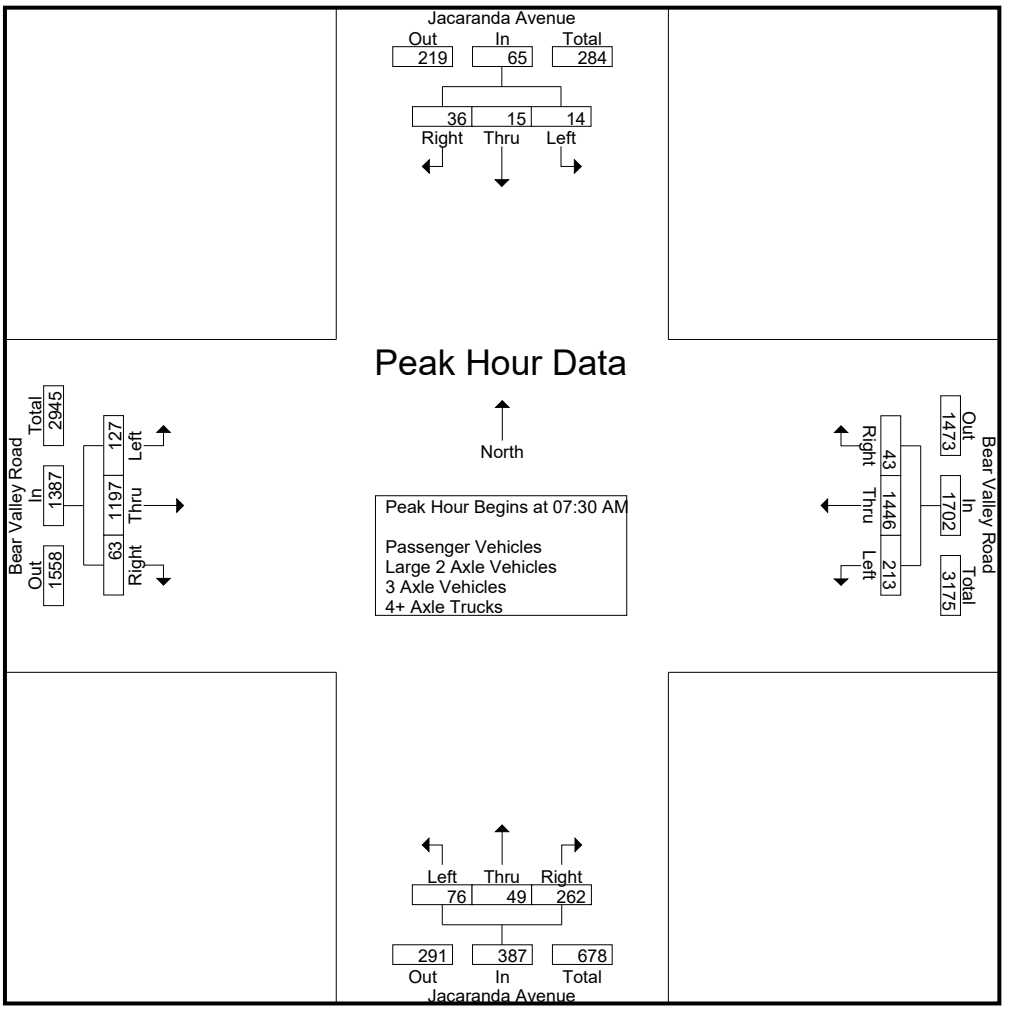
File Name : 01_HES_Jac_BV AM
Site Code : 221022
Start Date : 11/17/2022
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:30 AM				07:30 AM				07:30 AM				08:00 AM			
+0 mins.	0	2	6	8	33	365	5	403	**22**	11	68	101	32	294	**26**	352
+15 mins.	**6**	4	**17**	**27**	54	**393**	**21**	**468**	21	**19**	67	**107**	**39**	297	16	352
+30 mins.	4	**5**	9	18	60	358	6	424	20	15	**69**	104	15	**336**	15	**366**
+45 mins.	4	4	4	12	**66**	330	11	407	13	4	58	75	15	333	12	360
Total Volume	14	15	36	65	213	1446	43	1702	76	49	262	387	101	1260	69	1430
% App. Total	21.5	23.1	55.4		12.5	85	2.5		19.6	12.7	67.7		7.1	88.1	4.8	
PHF	.583	.750	.529	.602	.807	.920	.512	.909	.864	.645	.949	.904	.647	.938	.663	.977

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City of Hesperia
N/S: Jacaranda Avenue
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Weather: Clear

File Name : 01_HES_Jac_BV AM
Site Code : 221022
Start Date : 11/17/2022
Page No : 1

Groups Printed- Passenger Vehicles

	Jacaranda Avenue Southbound				Bear Valley Road Westbound				Jacaranda Avenue Northbound				Bear Valley Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	24	280	2	306	15	0	32	47	7	170	9	186	539
07:15 AM	0	0	7	7	31	252	3	286	20	1	46	67	7	156	8	171	531
07:30 AM	0	2	6	8	33	352	5	390	21	11	67	99	16	301	5	322	819
07:45 AM	6	4	17	27	53	381	21	455	20	19	67	106	40	279	16	335	923
Total	6	6	30	42	141	1265	31	1437	76	31	212	319	70	906	38	1014	2812
08:00 AM	4	5	9	18	59	335	6	400	20	15	69	104	32	276	26	334	856
08:15 AM	4	4	4	12	64	313	11	388	12	4	56	72	39	275	16	330	802
08:30 AM	2	1	5	8	37	321	3	361	14	4	58	76	15	323	14	352	797
08:45 AM	2	0	3	5	42	329	4	375	22	4	60	86	15	319	12	346	812
Total	12	10	21	43	202	1298	24	1524	68	27	243	338	101	1193	68	1362	3267
Grand Total	18	16	51	85	343	2563	55	2961	144	58	455	657	171	2099	106	2376	6079
Apprch %	21.2	18.8	60		11.6	86.6	1.9		21.9	8.8	69.3		7.2	88.3	4.5		
Total %	0.3	0.3	0.8	1.4	5.6	42.2	0.9	48.7	2.4	1	7.5	10.8	2.8	34.5	1.7	39.1	

	Jacaranda Avenue Southbound				Bear Valley Road Westbound				Jacaranda Avenue Northbound				Bear Valley Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	0	2	6	8	33	352	5	390	**21**	11	67	99	16	**301**	5	322	819
07:45 AM	**6**	4	**17**	**27**	53	**381**	**21**	**455**	20	**19**	67	**106**	**40**	279	16	**335**	**923**
08:00 AM	4	**5**	9	18	59	335	6	400	20	15	**69**	104	32	276	**26**	334	856
08:15 AM	4	4	4	12	**64**	313	11	388	12	4	56	72	39	275	16	330	802
Total Volume	14	15	36	65	209	1381	43	1633	73	49	259	381	127	1131	63	1321	3400
% App. Total	21.5	23.1	55.4		12.8	84.6	2.6		19.2	12.9	68		9.6	85.6	4.8		
PHF	.583	.750	.529	.602	.816	.906	.512	.897	.869	.645	.938	.899	.794	.939	.606	.986	.921

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File Name : 01_HES_Jac_BV AM
Site Code : 221022
Start Date : 11/17/2022
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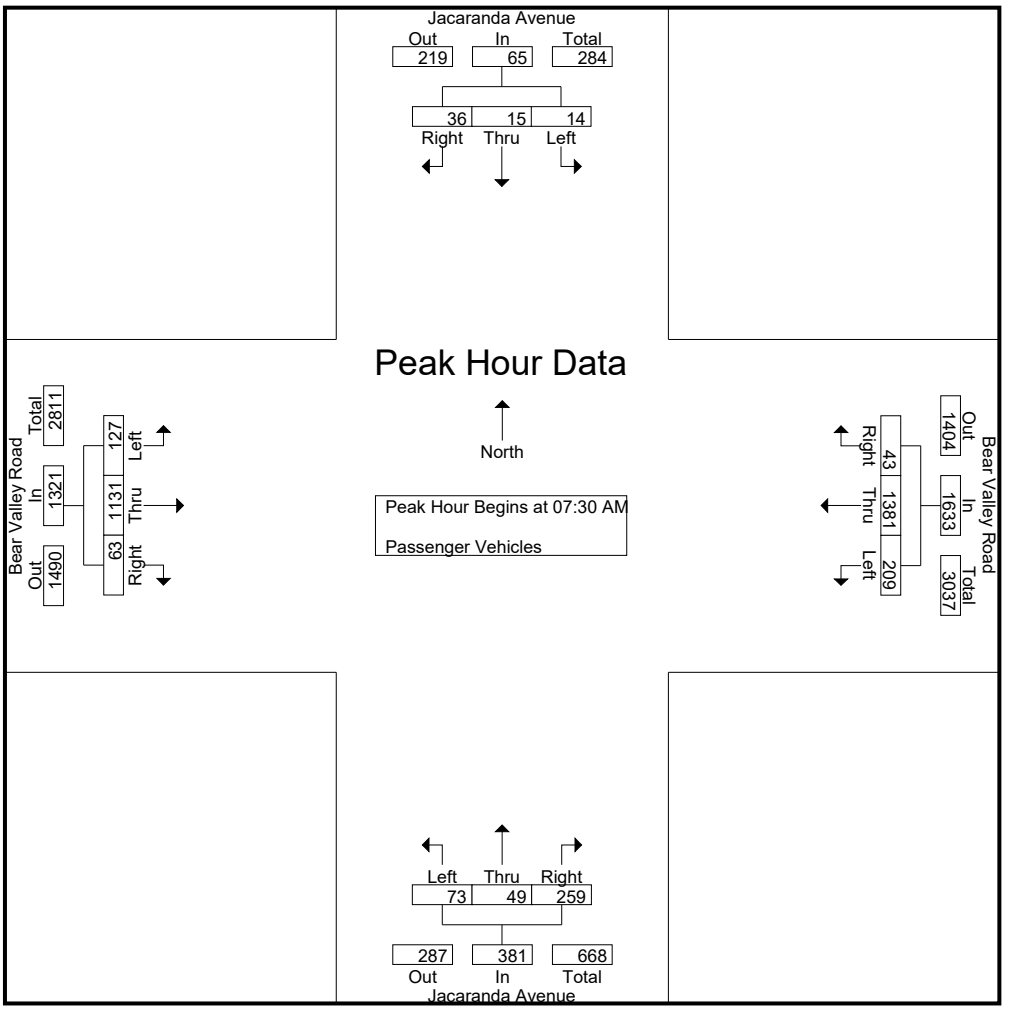

Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:30 AM				07:30 AM				07:30 AM				07:30 AM			
+0 mins.	0	2	6	8	33	352	5	390	**21**	11	67	99	16	**301**	5	322
+15 mins.	**6**	4	**17**	**27**	53	**381**	**21**	**455**	20	**19**	67	**106**	**40**	279	16	**335**
+30 mins.	4	**5**	9	18	59	335	6	400	20	15	**69**	104	32	276	**26**	334
+45 mins.	4	4	4	12	**64**	313	11	388	12	4	56	72	39	275	16	330
Total Volume	14	15	36	65	209	1381	43	1633	73	49	259	381	127	1131	63	1321
% App. Total	21.5	23.1	55.4		12.8	84.6	2.6		19.2	12.9	68		9.6	85.6	4.8	
PHF	.583	.750	.529	.602	.816	.906	.512	.897	.869	.645	.938	.899	.794	.939	.606	.986

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City of Hesperia
N/S: Jacaranda Avenue
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Weather: Clear

File Name : 01_HES_Jac_BV AM
Site Code : 221022
Start Date : 11/17/2022
Page No : 1

Groups Printed- Large 2 Axle Vehicles

	Jacaranda Avenue Southbound				Bear Valley Road Westbound				Jacaranda Avenue Northbound				Bear Valley Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	1	9	0	10	1	0	1	2	0	3	0	3	15
07:15 AM	0	0	0	0	0	10	0	10	0	0	3	3	0	10	0	10	23
07:30 AM	0	0	0	0	0	10	0	10	0	0	1	1	0	10	0	10	21
07:45 AM	0	0	0	0	1	8	0	9	1	0	0	1	0	4	0	4	14
Total	0	0	0	0	2	37	0	39	2	0	5	7	0	27	0	27	73
08:00 AM	0	0	0	0	1	9	0	10	0	0	0	0	0	8	0	8	18
08:15 AM	0	0	0	0	1	9	0	10	1	0	2	3	0	11	0	11	24
08:30 AM	0	0	0	0	2	13	0	15	1	0	2	3	0	4	1	5	23
08:45 AM	0	0	0	0	0	7	0	7	0	0	2	2	0	6	0	6	15
Total	0	0	0	0	4	38	0	42	2	0	6	8	0	29	1	30	80
Grand Total	0	0	0	0	6	75	0	81	4	0	11	15	0	56	1	57	153
Apprch %	0	0	0		7.4	92.6	0		26.7	0	73.3		0	98.2	1.8		
Total %	0	0	0	0	3.9	49	0	52.9	2.6	0	7.2	9.8	0	36.6	0.7	37.3	

	Jacaranda Avenue Southbound				Bear Valley Road Westbound				Jacaranda Avenue Northbound				Bear Valley Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	0	0	0	0	0	**10**	0	**10**	0	0	1	1	0	10	0	10	21
07:45 AM	0	0	0	0	**1**	8	0	9	**1**	0	0	1	0	4	0	4	14
08:00 AM	0	0	0	0	1	9	0	10	0	0	0	0	0	8	0	8	18
08:15 AM	0	0	0	0	1	9	0	10	1	0	**2**	**3**	0	**11**	0	**11**	**24**
Total Volume	0	0	0	0	3	36	0	39	2	0	3	5	0	33	0	33	77
% App. Total	0	0	0		7.7	92.3	0		40	0	60		0	100	0		
PHF	.000	.000	.000	.000	.750	.900	.000	.975	.500	.000	.375	.417	.000	.750	.000	.750	.802

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Site Code : 221022
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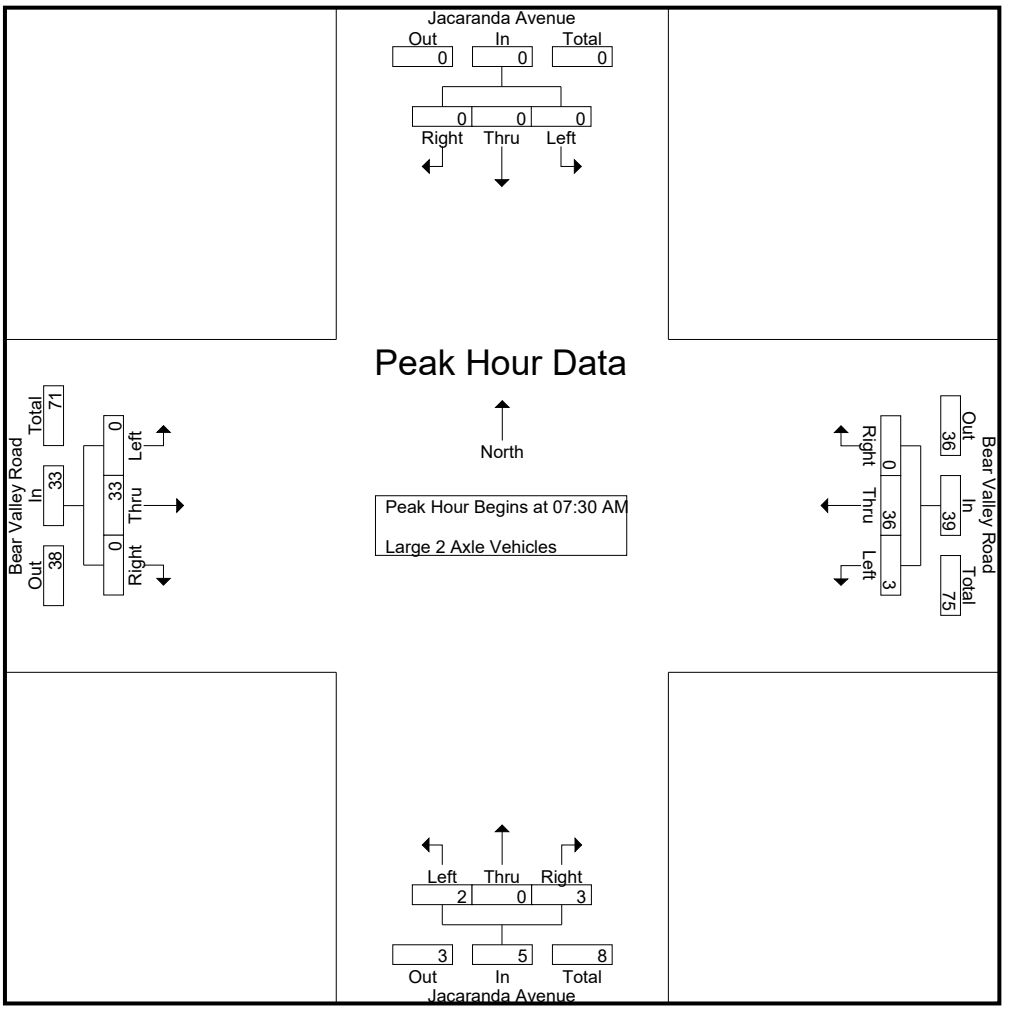

Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:30 AM				07:30 AM				07:30 AM				07:30 AM			
+0 mins.	0	0	0	0	0	**10**	0	**10**	0	0	1	1	0	10	0	10
+15 mins.	0	0	0	0	**1**	8	0	9	**1**	0	0	1	0	4	0	4
+30 mins.	0	0	0	0	1	9	0	10	0	0	0	0	0	8	0	8
+45 mins.	0	0	0	0	1	9	0	10	1	0	**2**	**3**	0	**11**	0	**11**
Total Volume	0	0	0	0	3	36	0	39	2	0	3	5	0	33	0	33
% App. Total	0	0	0		7.7	92.3	0		40	0	60		0	100	0	
PHF	.000	.000	.000	.000	.750	.900	.000	.975	.500	.000	.375	.417	.000	.750	.000	.750

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City of Hesperia
N/S: Jacaranda Avenue
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Weather: Clear

File Name : 01_HES_Jac_BV AM
Site Code : 221022
Start Date : 11/17/2022
Page No : 1

Groups Printed- 3 Axle Vehicles

	Jacaranda Avenue Southbound				Bear Valley Road Westbound				Jacaranda Avenue Northbound				Bear Valley Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	4	0	4	5
07:15 AM	0	0	0	0	0	1	0	1	0	0	1	1	0	3	0	3	5
07:30 AM	0	0	0	0	0	0	0	0	1	0	0	1	0	1	0	1	2
07:45 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	2	0	2	3
Total	0	0	0	0	0	3	0	3	1	0	1	2	0	10	0	10	15
08:00 AM	0	0	0	0	0	3	0	3	0	0	0	0	0	2	0	2	5
08:15 AM	0	0	0	0	0	2	0	2	0	0	0	0	0	2	0	2	4
08:30 AM	0	0	0	0	0	0	0	0	0	0	2	2	0	2	0	2	4
08:45 AM	0	0	0	0	0	3	0	3	0	0	0	0	0	1	0	1	4
Total	0	0	0	0	0	8	0	8	0	0	2	2	0	7	0	7	17
Grand Total	0	0	0	0	0	11	0	11	1	0	3	4	0	17	0	17	32
Apprch %	0	0	0		0	100	0		25	0	75		0	100	0		
Total %	0	0	0	0	0	34.4	0	34.4	3.1	0	9.4	12.5	0	53.1	0	53.1	

	Jacaranda Avenue Southbound				Bear Valley Road Westbound				Jacaranda Avenue Northbound				Bear Valley Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	0	0	0	0	0	0	0	0	**1**	0	0	**1**	0	1	0	1	2
07:45 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	**2**	0	**2**	3
08:00 AM	0	0	0	0	0	**3**	0	**3**	0	0	0	0	0	2	0	2	**5**
08:15 AM	0	0	0	0	0	2	0	2	0	0	0	0	0	2	0	2	4
Total Volume	0	0	0	0	0	6	0	6	1	0	0	1	0	7	0	7	14
% App. Total	0	0	0		0	100	0		100	0	0		0	100	0		
PHF	.000	.000	.000	.000	.000	.500	.000	.500	.250	.000	.000	.250	.000	.875	.000	.875	.700

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File Name : 01_HES_Jac_BV AM
Site Code : 221022
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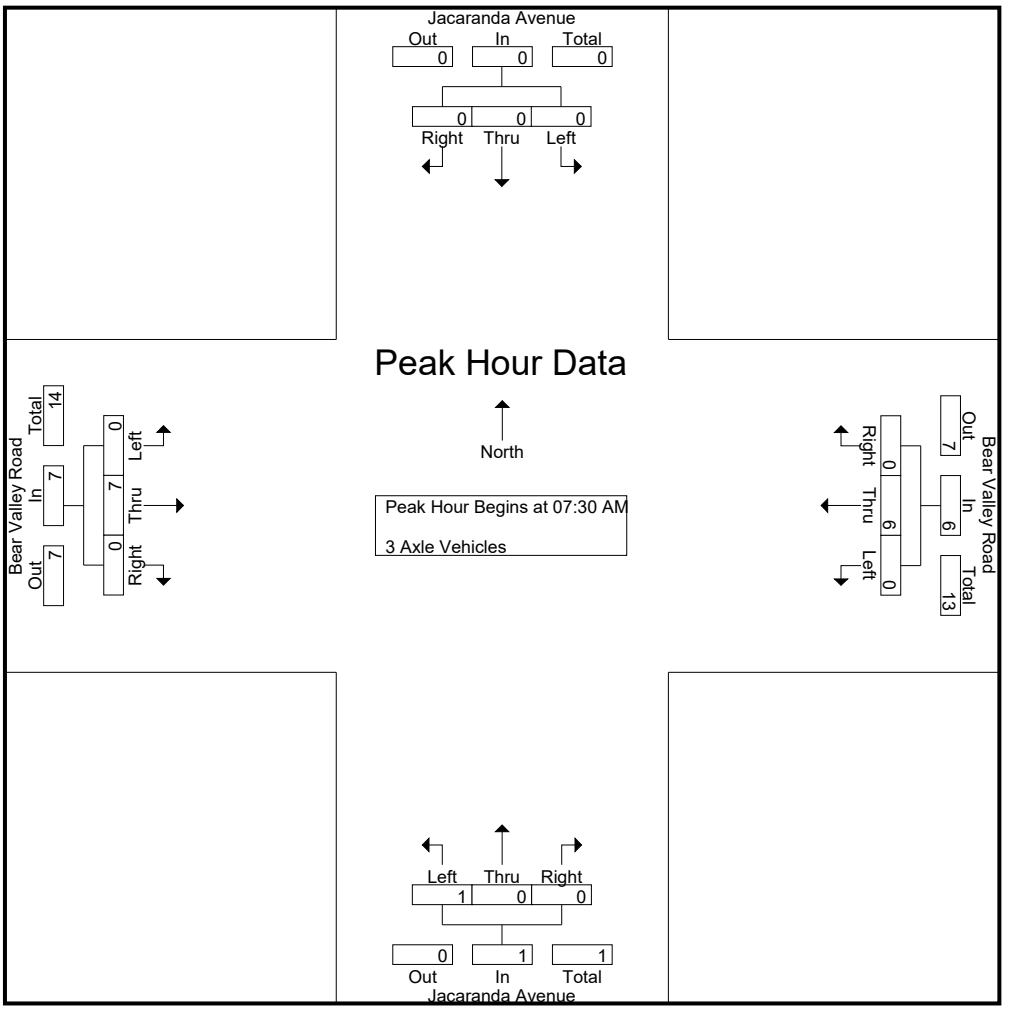

Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:30 AM				07:30 AM				07:30 AM				07:30 AM			
+0 mins.	0	0	0	0	0	0	0	0	**1**	0	0	**1**	0	1	0	1
+15 mins.	0	0	0	0	0	1	0	1	0	0	0	0	0	**2**	0	**2**
+30 mins.	0	0	0	0	0	**3**	0	**3**	0	0	0	0	0	2	0	2
+45 mins.	0	0	0	0	0	2	0	2	0	0	0	0	0	2	0	2
Total Volume	0	0	0	0	0	6	0	6	1	0	0	1	0	7	0	7
% App. Total	0	0	0		0	100	0		100	0	0		0	100	0	
PHF	.000	.000	.000	.000	.000	.500	.000	.500	.250	.000	.000	.250	.000	.875	.000	.875

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City of Hesperia
N/S: Jacaranda Avenue
E/W: Bear Valley Road
Weather: Clear

File Name : 01_HES_Jac_BV AM
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Groups Printed- 4+ Axle Trucks

	Jacaranda Avenue Southbound				Bear Valley Road Westbound				Jacaranda Avenue Northbound				Bear Valley Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	0	7	0	7	0	0	0	0	0	13	0	13	20
07:15 AM	0	0	0	0	0	6	0	6	0	0	0	0	0	3	0	3	9
07:30 AM	0	0	0	0	0	3	0	3	0	0	0	0	0	7	0	7	10
07:45 AM	0	0	0	0	0	3	0	3	0	0	0	0	0	2	0	2	5
Total	0	0	0	0	0	19	0	19	0	0	0	0	0	25	0	25	44
08:00 AM	0	0	0	0	0	11	0	11	0	0	0	0	0	8	0	8	19
08:15 AM	0	0	0	0	1	6	0	7	0	0	0	0	0	9	0	9	16
08:30 AM	0	0	0	0	0	5	0	5	0	0	0	0	0	7	0	7	12
08:45 AM	0	0	0	0	0	5	0	5	0	0	0	0	0	7	0	7	12
Total	0	0	0	0	1	27	0	28	0	0	0	0	0	31	0	31	59
Grand Total	0	0	0	0	1	46	0	47	0	0	0	0	0	56	0	56	103
Apprch %	0	0	0		2.1	97.9	0		0	0	0		0	100	0		
Total %	0	0	0	0	1	44.7	0	45.6	0	0	0	0	0	54.4	0	54.4	

	Jacaranda Avenue Southbound				Bear Valley Road Westbound				Jacaranda Avenue Northbound				Bear Valley Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	0	0	0	0	0	3	0	3	0	0	0	0	0	7	0	7	10
07:45 AM	0	0	0	0	0	3	0	3	0	0	0	0	0	2	0	2	5
08:00 AM	0	0	0	0	0	**11**	0	**11**	0	0	0	0	0	8	0	8	**19**
08:15 AM	0	0	0	0	**1**	6	0	7	0	0	0	0	0	**9**	0	**9**	16
Total Volume	0	0	0	0	1	23	0	24	0	0	0	0	0	26	0	26	50
% App. Total	0	0	0		4.2	95.8	0		0	0	0		0	100	0		
PHF	.000	.000	.000	.000	.250	.523	.000	.545	.000	.000	.000	.000	.000	.722	.000	.722	.658

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City of Hesperia
N/S: Jacaranda Avenue
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File Name : 01_HES_Jac_BV AM
Site Code : 221022
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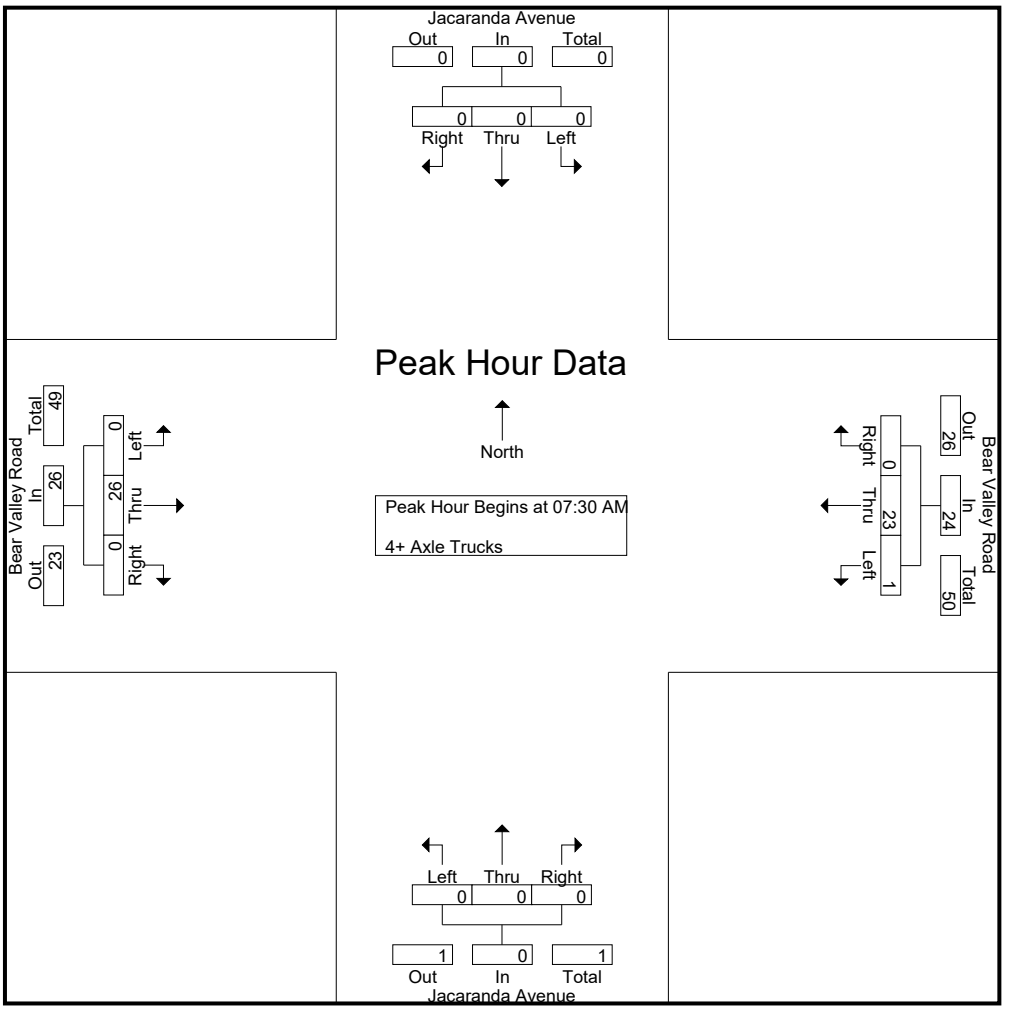

Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:30 AM				07:30 AM				07:30 AM				07:30 AM			
+0 mins.	0	0	0	0	0	3	0	3	0	0	0	0	0	7	0	7
+15 mins.	0	0	0	0	0	3	0	3	0	0	0	0	0	2	0	2
+30 mins.	0	0	0	0	0	**11**	0	**11**	0	0	0	0	0	8	0	8
+45 mins.	0	0	0	0	**1**	6	0	7	0	0	0	0	0	**9**	0	**9**
Total Volume	0	0	0	0	1	23	0	24	0	0	0	0	0	26	0	26
% App. Total	0	0	0		4.2	95.8	0		0	0	0		0	100	0	
PHF	.000	.000	.000	.000	.250	.523	.000	.545	.000	.000	.000	.000	.000	.722	.000	.722

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City of Hesperia
N/S: Jacaranda Avenue
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Weather: Clear

File Name : 01_HES_Jac_BV PM
Site Code : 221022
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Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	Jacaranda Avenue Southbound				Bear Valley Road Westbound				Jacaranda Avenue Northbound				Bear Valley Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	2	5	10	17	66	394	5	465	26	3	100	129	8	455	14	477	1088
04:15 PM	3	6	10	19	68	348	5	421	14	3	100	117	9	429	19	457	1014
04:30 PM	8	3	6	17	78	400	6	484	22	1	95	118	5	441	11	457	1076
04:45 PM	7	3	10	20	79	376	4	459	12	0	87	99	12	431	12	455	1033
Total	20	17	36	73	291	1518	20	1829	74	7	382	463	34	1756	56	1846	4211
05:00 PM	8	6	8	22	70	393	3	466	22	3	112	137	5	431	16	452	1077
05:15 PM	4	6	12	22	75	366	9	450	25	5	103	133	13	423	7	443	1048
05:30 PM	7	3	6	16	69	389	17	475	14	12	80	106	16	360	15	391	988
05:45 PM	6	5	10	21	64	322	8	394	16	8	77	101	10	442	15	467	983
Total	25	20	36	81	278	1470	37	1785	77	28	372	477	44	1656	53	1753	4096
Grand Total	45	37	72	154	569	2988	57	3614	151	35	754	940	78	3412	109	3599	8307
Apprch %	29.2	24	46.8		15.7	82.7	1.6		16.1	3.7	80.2		2.2	94.8	3		
Total %	0.5	0.4	0.9	1.9	6.8	36	0.7	43.5	1.8	0.4	9.1	11.3	0.9	41.1	1.3	43.3	
Passenger Vehicles	45	37	72	154	563	2913	57	3533	150	35	748	933	78	3349	105	3532	8152
% Passenger Vehicles	100	100	100	100	98.9	97.5	100	97.8	99.3	100	99.2	99.3	100	98.2	96.3	98.1	98.1
Large 2 Axle Vehicles	0	0	0	0	4	48	0	52	1	0	5	6	0	36	3	39	97
% Large 2 Axle Vehicles	0	0	0	0	0.7	1.6	0	1.4	0.7	0	0.7	0.6	0	1.1	2.8	1.1	1.2
3 Axle Vehicles	0	0	0	0	2	3	0	5	0	0	0	0	0	6	1	7	12
% 3 Axle Vehicles	0	0	0	0	0.4	0.1	0	0.1	0	0	0	0	0	0.2	0.9	0.2	0.1
4+ Axle Trucks	0	0	0	0	0	24	0	24	0	0	1	1	0	21	0	21	46
% 4+ Axle Trucks	0	0	0	0	0	0.8	0	0.7	0	0	0.1	0.1	0	0.6	0	0.6	0.6

	Jacaranda Avenue Southbound				Bear Valley Road Westbound				Jacaranda Avenue Northbound				Bear Valley Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	**8**	3	6	17	78	**400**	6	**484**	22	1	95	118	5	**441**	11	**457**	1076
04:45 PM	7	3	10	20	**79**	376	4	459	12	0	87	99	12	431	12	455	1033
05:00 PM	8	**6**	8	**22**	70	393	3	466	22	3	**112**	**137**	5	431	**16**	452	**1077**
05:15 PM	4	6	**12**	22	75	366	**9**	450	**25**	**5**	103	133	**13**	423	7	443	1048
Total Volume	27	18	36	81	302	1535	22	1859	81	9	397	487	35	1726	46	1807	4234
% App. Total	33.3	22.2	44.4		16.2	82.6	1.2		16.6	1.8	81.5		1.9	95.5	2.5		
PHF	.844	.750	.750	.920	.956	.959	.611	.960	.810	.450	.886	.889	.673	.978	.719	.989	.983

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City of Hesperia
N/S: Jacaranda Avenue
E/W: Bear Valley Road
Weather: Clear

File Name : 01_HES_Jac_BV PM
Site Code : 221022
Start Date : 11/17/2022
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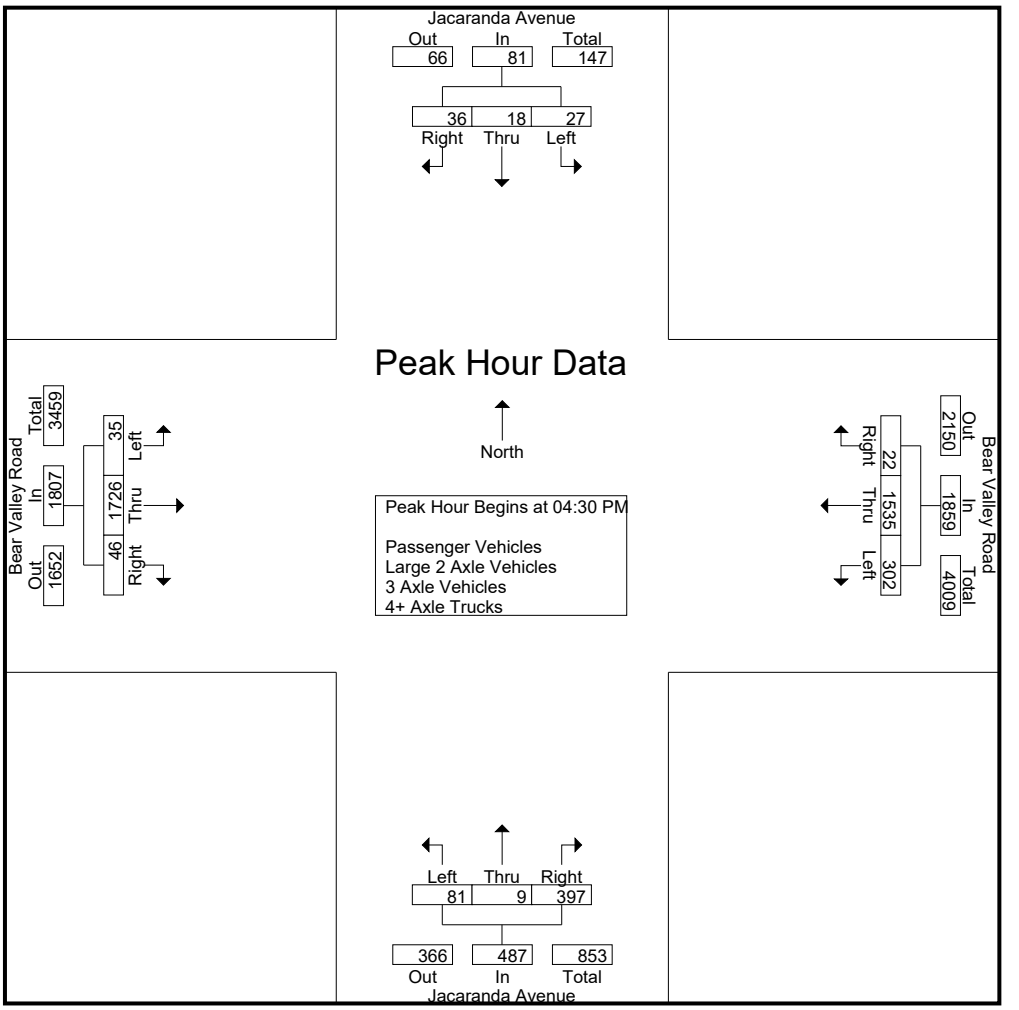

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM				04:30 PM				04:30 PM				04:00 PM			
+0 mins.	**8**	3	6	17	78	**400**	6	**484**	22	1	95	118	8	**455**	14	**477**
+15 mins.	7	3	10	20	**79**	376	4	459	12	0	87	99	9	429	**19**	457
+30 mins.	8	**6**	8	**22**	70	393	3	466	22	3	**112**	**137**	5	441	11	457
+45 mins.	4	6	**12**	22	75	366	**9**	450	**25**	**5**	103	133	**12**	431	12	455
Total Volume	27	18	36	81	302	1535	22	1859	81	9	397	487	34	1756	56	1846
% App. Total	33.3	22.2	44.4		16.2	82.6	1.2		16.6	1.8	81.5		1.8	95.1	3	
PHF	.844	.750	.750	.920	.956	.959	.611	.960	.810	.450	.886	.889	.708	.965	.737	.968

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City of Hesperia
N/S: Jacaranda Avenue
E/W: Bear Valley Road
Weather: Clear

File Name : 01_HES_Jac_BV PM
Site Code : 221022
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Groups Printed- Passenger Vehicles

	Jacaranda Avenue Southbound				Bear Valley Road Westbound				Jacaranda Avenue Northbound				Bear Valley Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	2	5	10	17	64	382	5	451	26	3	98	127	8	442	13	463	1058
04:15 PM	3	6	10	19	67	337	5	409	14	3	99	116	9	420	17	446	990
04:30 PM	8	3	6	17	77	385	6	468	21	1	95	117	5	431	11	447	1049
04:45 PM	7	3	10	20	79	367	4	450	12	0	87	99	12	421	12	445	1014
Total	20	17	36	73	287	1471	20	1778	73	7	379	459	34	1714	53	1801	4111
05:00 PM	8	6	8	22	69	386	3	458	22	3	111	136	5	427	16	448	1064
05:15 PM	4	6	12	22	75	356	9	440	25	5	103	133	13	418	7	438	1033
05:30 PM	7	3	6	16	68	385	17	470	14	12	80	106	16	357	14	387	979
05:45 PM	6	5	10	21	64	315	8	387	16	8	75	99	10	433	15	458	965
Total	25	20	36	81	276	1442	37	1755	77	28	369	474	44	1635	52	1731	4041
Grand Total	45	37	72	154	563	2913	57	3533	150	35	748	933	78	3349	105	3532	8152
Apprch %	29.2	24	46.8		15.9	82.5	1.6		16.1	3.8	80.2		2.2	94.8	3		
Total %	0.6	0.5	0.9	1.9	6.9	35.7	0.7	43.3	1.8	0.4	9.2	11.4	1	41.1	1.3	43.3	

	Jacaranda Avenue Southbound				Bear Valley Road Westbound				Jacaranda Avenue Northbound				Bear Valley Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	**8**	3	6	17	77	385	6	**468**	21	1	95	117	5	**431**	11	447	1049
04:45 PM	7	3	10	20	**79**	367	4	450	12	0	87	99	12	421	12	445	1014
05:00 PM	8	**6**	8	**22**	69	**386**	3	458	22	3	**111**	**136**	5	427	**16**	**448**	**1064**
05:15 PM	4	6	**12**	22	75	356	**9**	440	**25**	**5**	103	133	**13**	418	7	438	1033
Total Volume	27	18	36	81	300	1494	22	1816	80	9	396	485	35	1697	46	1778	4160
% App. Total	33.3	22.2	44.4		16.5	82.3	1.2		16.5	1.9	81.6		2	95.4	2.6		
PHF	.844	.750	.750	.920	.949	.968	.611	.970	.800	.450	.892	.892	.673	.984	.719	.992	.977

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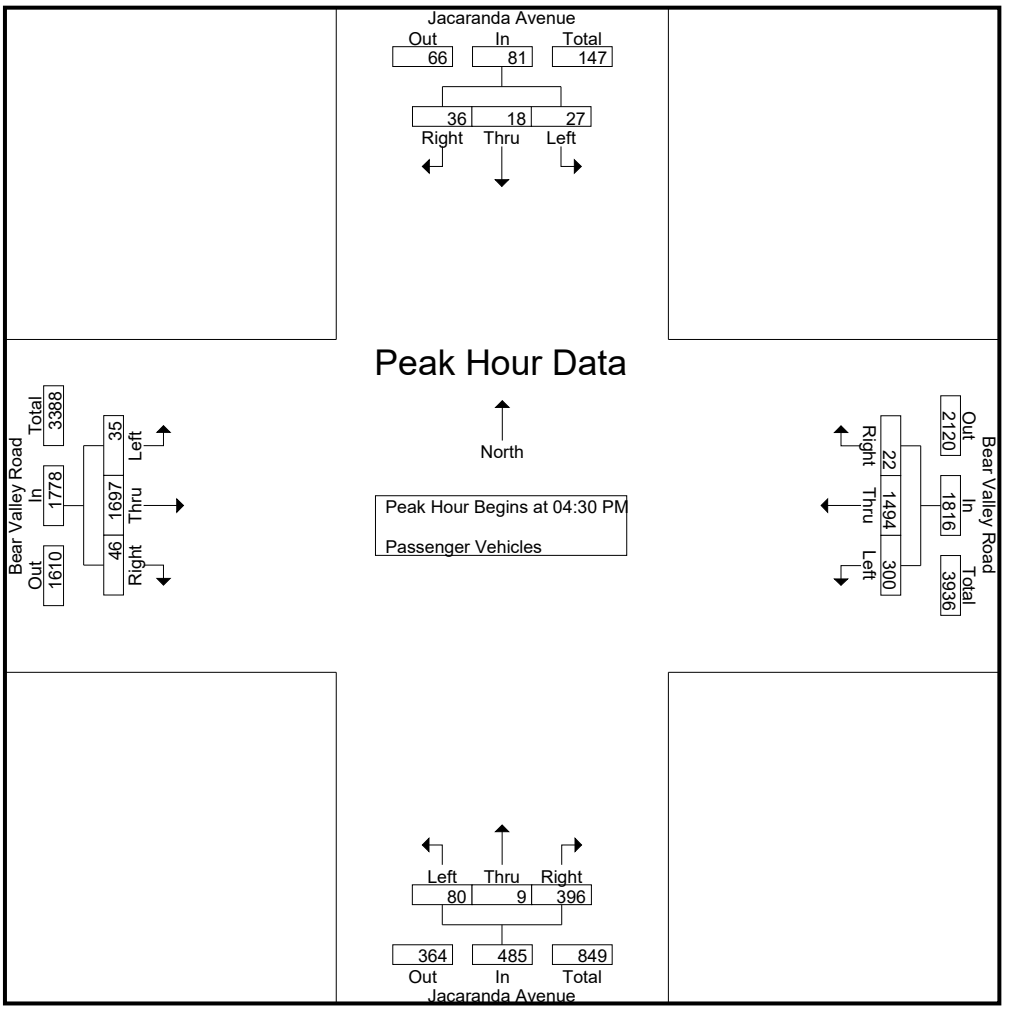

Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM				04:30 PM				04:30 PM				04:30 PM			
+0 mins.	**8**	3	6	17	77	385	6	**468**	21	1	95	117	5	**431**	11	447
+15 mins.	7	3	10	20	**79**	367	4	450	12	0	87	99	12	421	12	445
+30 mins.	8	**6**	8	**22**	69	**386**	3	458	22	3	**111**	**136**	5	427	**16**	**448**
+45 mins.	4	6	**12**	22	75	356	**9**	440	**25**	**5**	103	133	**13**	418	7	438
Total Volume	27	18	36	81	300	1494	22	1816	80	9	396	485	35	1697	46	1778
% App. Total	33.3	22.2	44.4		16.5	82.3	1.2		16.5	1.9	81.6		2	95.4	2.6	
PHF	.844	.750	.750	.920	.949	.968	.611	.970	.800	.450	.892	.892	.673	.984	.719	.992

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City of Hesperia
N/S: Jacaranda Avenue
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File Name : 01_HES_Jac_BV PM
Site Code : 221022
Start Date : 11/17/2022
Page No : 1

Groups Printed- Large 2 Axle Vehicles

	Jacaranda Avenue Southbound				Bear Valley Road Westbound				Jacaranda Avenue Northbound				Bear Valley Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	2	6	0	8	0	0	1	1	0	9	0	9	18
04:15 PM	0	0	0	0	0	8	0	8	0	0	1	1	0	6	2	8	17
04:30 PM	0	0	0	0	1	8	0	9	1	0	0	1	0	5	0	5	15
04:45 PM	0	0	0	0	0	4	0	4	0	0	0	0	0	3	0	3	7
Total	0	0	0	0	3	26	0	29	1	0	2	3	0	23	2	25	57
05:00 PM	0	0	0	0	1	5	0	6	0	0	1	1	0	4	0	4	11
05:15 PM	0	0	0	0	0	10	0	10	0	0	0	0	0	1	0	1	11
05:30 PM	0	0	0	0	0	2	0	2	0	0	0	0	0	2	1	3	5
05:45 PM	0	0	0	0	0	5	0	5	0	0	2	2	0	6	0	6	13
Total	0	0	0	0	1	22	0	23	0	0	3	3	0	13	1	14	40
Grand Total	0	0	0	0	4	48	0	52	1	0	5	6	0	36	3	39	97
Apprch %	0	0	0		7.7	92.3	0		16.7	0	83.3		0	92.3	7.7		
Total %	0	0	0	0	4.1	49.5	0	53.6	1	0	5.2	6.2	0	37.1	3.1	40.2	

	Jacaranda Avenue Southbound				Bear Valley Road Westbound				Jacaranda Avenue Northbound				Bear Valley Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	0	0	0	0	**1**	8	0	9	**1**	0	0	**1**	0	**5**	0	**5**	**15**
04:45 PM	0	0	0	0	0	4	0	4	0	0	0	0	0	3	0	3	7
05:00 PM	0	0	0	0	1	5	0	6	0	0	**1**	1	0	4	0	4	11
05:15 PM	0	0	0	0	0	**10**	0	**10**	0	0	0	0	0	1	0	1	11
Total Volume	0	0	0	0	2	27	0	29	1	0	1	2	0	13	0	13	44
% App. Total	0	0	0		6.9	93.1	0		50	0	50		0	100	0		
PHF	.000	.000	.000	.000	.500	.675	.000	.725	.250	.000	.250	.500	.000	.650	.000	.650	.733

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File Name : 01_HES_Jac_BV PM
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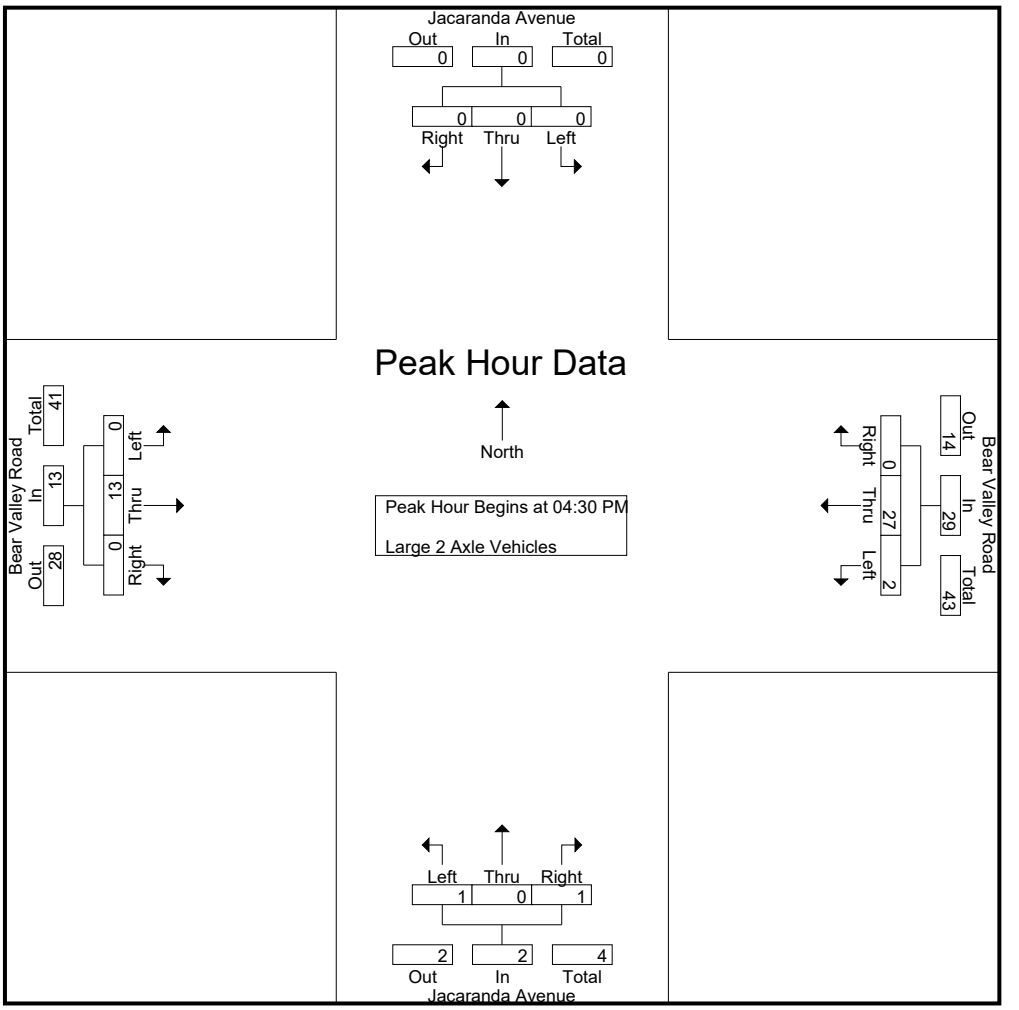

Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM				04:30 PM				04:30 PM				04:30 PM			
+0 mins.	0	0	0	0	**1**	8	0	9	**1**	0	0	**1**	0	**5**	0	**5**
+15 mins.	0	0	0	0	0	4	0	4	0	0	0	0	0	3	0	3
+30 mins.	0	0	0	0	1	5	0	6	0	0	**1**	1	0	4	0	4
+45 mins.	0	0	0	0	0	**10**	0	**10**	0	0	0	0	0	1	0	1
Total Volume	0	0	0	0	2	27	0	29	1	0	1	2	0	13	0	13
% App. Total	0	0	0		6.9	93.1	0		50	0	50		0	100	0	
PHF	.000	.000	.000	.000	.500	.675	.000	.725	.250	.000	.250	.500	.000	.650	.000	.650

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Groups Printed- 3 Axle Vehicles

	Jacaranda Avenue Southbound				Bear Valley Road Westbound				Jacaranda Avenue Northbound				Bear Valley Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	2	0	2	0	0	0	0	0	1	1	2	4
04:15 PM	0	0	0	0	1	0	0	1	0	0	0	0	0	1	0	1	2
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	2
04:45 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	1	2
Total	0	0	0	0	1	3	0	4	0	0	0	0	0	5	1	6	10
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
Total	0	0	0	0	1	0	0	1	0	0	0	0	0	1	0	1	2
Grand Total	0	0	0	0	2	3	0	5	0	0	0	0	0	6	1	7	12
Apprch %	0	0	0		40	60	0		0	0	0		0	85.7	14.3		
Total %	0	0	0	0	16.7	25	0	41.7	0	0	0	0	0	50	8.3	58.3	

	Jacaranda Avenue Southbound				Bear Valley Road Westbound				Jacaranda Avenue Northbound				Bear Valley Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	**2**	0	**2**	**2**
04:45 PM	0	0	0	0	0	**1**	0	**1**	0	0	0	0	0	1	0	1	2
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	1	0	1	0	0	0	0	0	3	0	3	4
% App. Total	0	0	0		0	100	0		0	0	0		0	100	0		
PHF	.000	.000	.000	.000	.000	.250	.000	.250	.000	.000	.000	.000	.000	.375	.000	.375	.500

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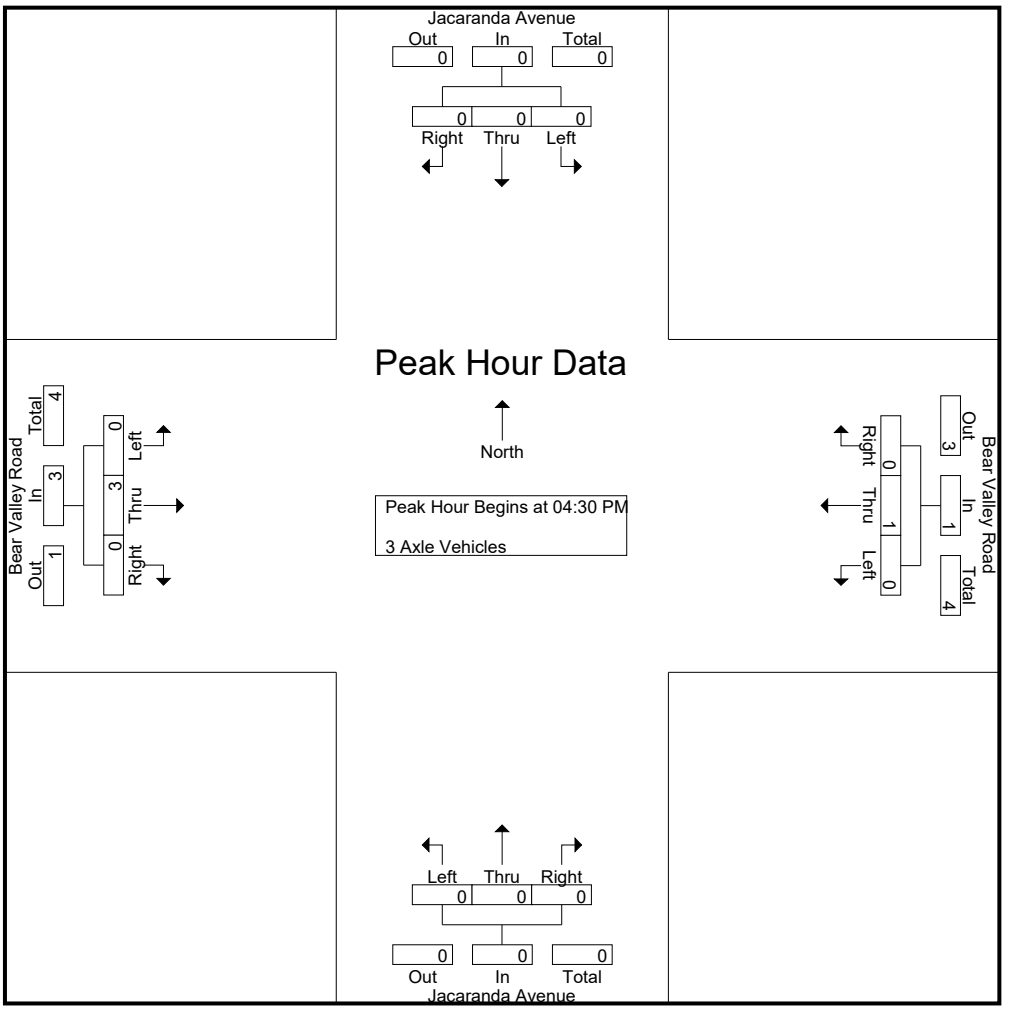
City of Hesperia
N/S: Jacaranda Avenue
E/W: Bear Valley Road
Weather: Clear

File Name : 01_HES_Jac_BV PM
Site Code : 221022
Start Date : 11/17/2022
Page No : 2



Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM				04:30 PM				04:30 PM				04:30 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	**2**	0	**2**
+15 mins.	0	0	0	0	0	**1**	0	**1**	0	0	0	0	0	1	0	1
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	1	0	1	0	0	0	0	0	3	0	3
% App. Total	0	0	0		0	100	0		0	0	0		0	100	0	
PHF	.000	.000	.000	.000	.000	.250	.000	.250	.000	.000	.000	.000	.000	.375	.000	.375

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City of Hesperia
N/S: Jacaranda Avenue
E/W: Bear Valley Road
Weather: Clear

File Name : 01_HES_Jac_BV PM
Site Code : 221022
Start Date : 11/17/2022
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Groups Printed- 4+ Axle Trucks

	Jacaranda Avenue Southbound				Bear Valley Road Westbound				Jacaranda Avenue Northbound				Bear Valley Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	4	0	4	0	0	1	1	0	3	0	3	8
04:15 PM	0	0	0	0	0	3	0	3	0	0	0	0	0	2	0	2	5
04:30 PM	0	0	0	0	0	7	0	7	0	0	0	0	0	3	0	3	10
04:45 PM	0	0	0	0	0	4	0	4	0	0	0	0	0	6	0	6	10
Total	0	0	0	0	0	18	0	18	0	0	1	1	0	14	0	14	33
05:00 PM	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	2
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	4	4
05:30 PM	0	0	0	0	0	2	0	2	0	0	0	0	0	1	0	1	3
05:45 PM	0	0	0	0	0	2	0	2	0	0	0	0	0	2	0	2	4
Total	0	0	0	0	0	6	0	6	0	0	0	0	0	7	0	7	13
Grand Total	0	0	0	0	0	24	0	24	0	0	1	1	0	21	0	21	46
Apprch %	0	0	0		0	100	0		0	0	100		0	100	0		
Total %	0	0	0	0	0	52.2	0	52.2	0	0	2.2	2.2	0	45.7	0	45.7	

	Jacaranda Avenue Southbound				Bear Valley Road Westbound				Jacaranda Avenue Northbound				Bear Valley Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	0	0	0	0	0	**7**	0	**7**	0	0	0	0	0	3	0	3	**10**
04:45 PM	0	0	0	0	0	4	0	4	0	0	0	0	0	**6**	0	**6**	10
05:00 PM	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	2
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	4	4
Total Volume	0	0	0	0	0	13	0	13	0	0	0	0	0	13	0	13	26
% App. Total	0	0	0		0	100	0		0	0	0		0	100	0		
PHF	.000	.000	.000	.000	.000	.464	.000	.464	.000	.000	.000	.000	.000	.542	.000	.542	.650

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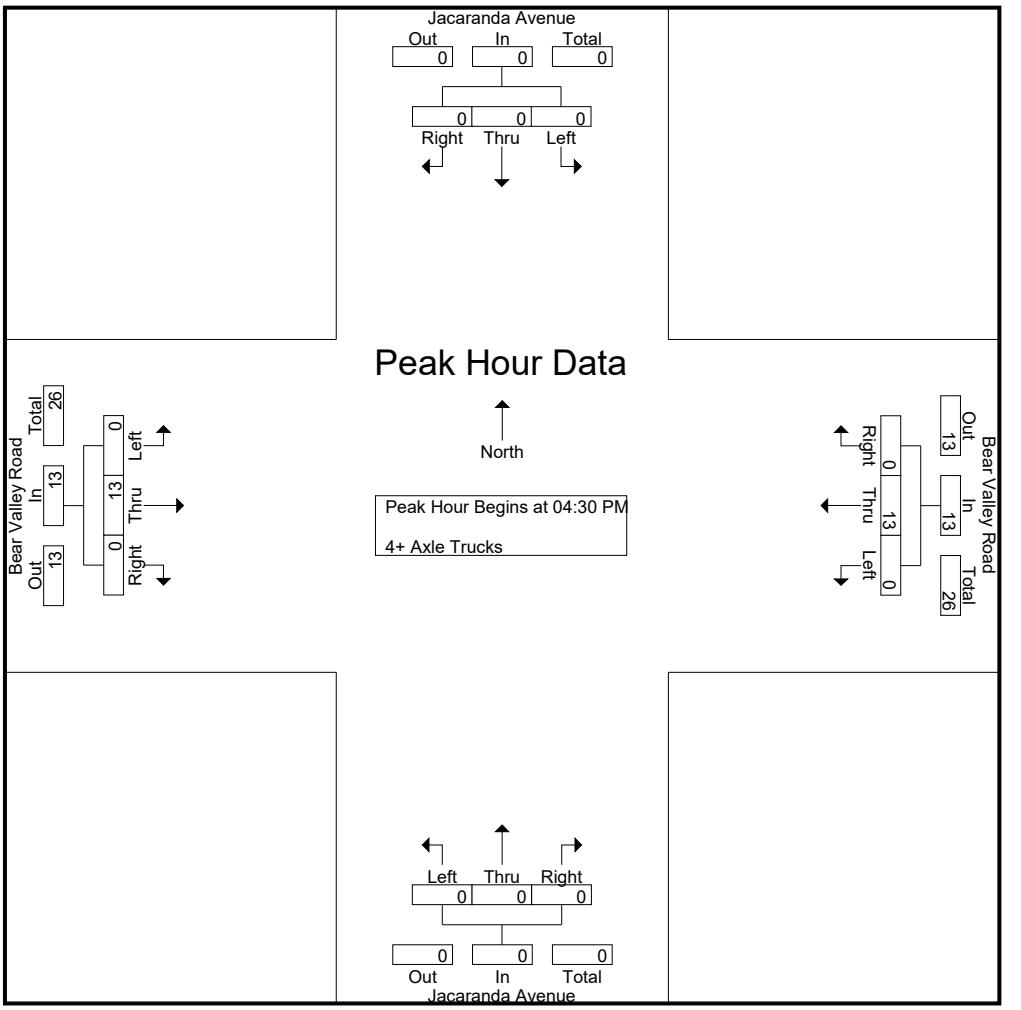
City of Hesperia
N/S: Jacaranda Avenue
E/W: Bear Valley Road
Weather: Clear

File Name : 01_HES_Jac_BV PM
Site Code : 221022
Start Date : 11/17/2022
Page No : 2



Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM				04:30 PM				04:30 PM				04:30 PM			
+0 mins.	0	0	0	0	0	**7**	0	**7**	0	0	0	0	0	3	0	3
+15 mins.	0	0	0	0	0	4	0	4	0	0	0	0	0	**6**	0	**6**
+30 mins.	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	4
Total Volume	0	0	0	0	0	13	0	13	0	0	0	0	0	13	0	13
% App. Total	0	0	0		0	100	0		0	0	0		0	100	0	
PHF	.000	.000	.000	.000	.000	.464	.000	.464	.000	.000	.000	.000	.000	.542	.000	.542

Location: Hesperia
N/S: Jacaranda Avenue
E/W: Bear Valley Road

Date: 11/17/2022
Day: Thursday

PEDESTRIANS

	North Leg Jacaranda Avenue	East Leg Bear Valley Road	South Leg Jacaranda Avenue	West Leg Bear Valley Road	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	1	0	0	1	2
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	1	0	0	1	2

	North Leg Jacaranda Avenue	East Leg Bear Valley Road	South Leg Jacaranda Avenue	West Leg Bear Valley Road	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
4:00 PM	0	0	0	4	4
4:15 PM	1	0	0	0	1
4:30 PM	2	0	0	0	2
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	1	1
TOTAL VOLUMES:	3	0	0	5	8

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Location: Hesperia
N/S: Jacaranda Avenue
E/W: Bear Valley Road

Date: 11/17/2022
Day: Thursday

BICYCLES

	Southbound Jacaranda Avenue			Westbound Bear Valley Road			Northbound Jacaranda Avenue			Eastbound Bear Valley Road			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0	0	0	0	0	0	0	0	0

	Southbound Jacaranda Avenue			Westbound Bear Valley Road			Northbound Jacaranda Avenue			Eastbound Bear Valley Road			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0	0	0	0	0	0	0	0	0

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City of Hesperia
N/S: Mojave Fish Hatchery Road
E/W: Bear Valley Road
Weather: Clear

File Name : 02_HES_MFH_BV AM
Site Code : 221022
Start Date : 11/17/2022
Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	Mojave Fish Hatchery Road Southbound				Bear Valley Road Westbound				Mojave Fish Hatchery Road Northbound				Bear Valley Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	2	0	4	6	11	314	8	333	9	1	2	12	21	188	10	219	570
07:15 AM	1	0	6	7	8	291	14	313	6	0	4	10	10	214	5	229	559
07:30 AM	5	0	8	13	11	399	33	443	7	0	6	13	11	336	12	359	828
07:45 AM	12	0	9	21	16	417	55	488	15	1	2	18	34	314	11	359	886
Total	20	0	27	47	46	1421	110	1577	37	2	14	53	76	1052	38	1166	2843
08:00 AM	17	0	12	29	6	388	53	447	8	2	2	12	38	311	15	364	852
08:15 AM	26	2	18	46	8	374	73	455	8	2	8	18	40	306	9	355	874
08:30 AM	40	3	19	62	15	330	55	400	8	1	12	21	46	334	20	400	883
08:45 AM	29	7	23	59	21	350	38	409	5	1	6	12	33	346	16	395	875
Total	112	12	72	196	50	1442	219	1711	29	6	28	63	157	1297	60	1514	3484
Grand Total	132	12	99	243	96	2863	329	3288	66	8	42	116	233	2349	98	2680	6327
Apprch %	54.3	4.9	40.7		2.9	87.1	10		56.9	6.9	36.2		8.7	87.6	3.7		
Total %	2.1	0.2	1.6	3.8	1.5	45.3	5.2	52	1	0.1	0.7	1.8	3.7	37.1	1.5	42.4	
Passenger Vehicles	125	12	88	225	96	2750	326	3172	64	8	42	114	228	2217	97	2542	6053
% Passenger Vehicles	94.7	100	88.9	92.6	100	96.1	99.1	96.5	97	100	100	98.3	97.9	94.4	99	94.9	95.7
Large 2 Axle Vehicles	5	0	11	16	0	56	1	57	2	0	0	2	4	59	1	64	139
% Large 2 Axle Vehicles	3.8	0	11.1	6.6	0	2	0.3	1.7	3	0	0	1.7	1.7	2.5	1	2.4	2.2
3 Axle Vehicles	0	0	0	0	0	11	0	11	0	0	0	0	1	21	0	22	33
% 3 Axle Vehicles	0	0	0	0	0	0.4	0	0.3	0	0	0	0	0.4	0.9	0	0.8	0.5
4+ Axle Trucks	2	0	0	2	0	46	2	48	0	0	0	0	0	52	0	52	102
% 4+ Axle Trucks	1.5	0	0	0.8	0	1.6	0.6	1.5	0	0	0	0	0	2.2	0	1.9	1.6

	Mojave Fish Hatchery Road Southbound				Bear Valley Road Westbound				Mojave Fish Hatchery Road Northbound				Bear Valley Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	12	0	9	21	**16**	**417**	55	**488**	**15**	1	2	18	34	314	11	359	**886**
08:00 AM	17	0	12	29	6	388	53	447	8	**2**	2	12	38	311	15	364	852
08:15 AM	26	2	18	46	8	374	**73**	455	8	2	8	18	40	306	9	355	874
08:30 AM	**40**	**3**	**19**	**62**	15	330	55	400	8	1	**12**	**21**	**46**	**334**	**20**	**400**	883
Total Volume	95	5	58	158	45	1509	236	1790	39	6	24	69	158	1265	55	1478	3495
% App. Total	60.1	3.2	36.7		2.5	84.3	13.2		56.5	8.7	34.8		10.7	85.6	3.7		
PHF	.594	.417	.763	.637	.703	.905	.808	.917	.650	.750	.500	.821	.859	.947	.688	.924	.986

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City of Hesperia
N/S: Mojave Fish Hatchery Road
E/W: Bear Valley Road
Weather: Clear

File Name : 02_HES_MFH_BV AM
Site Code : 221022
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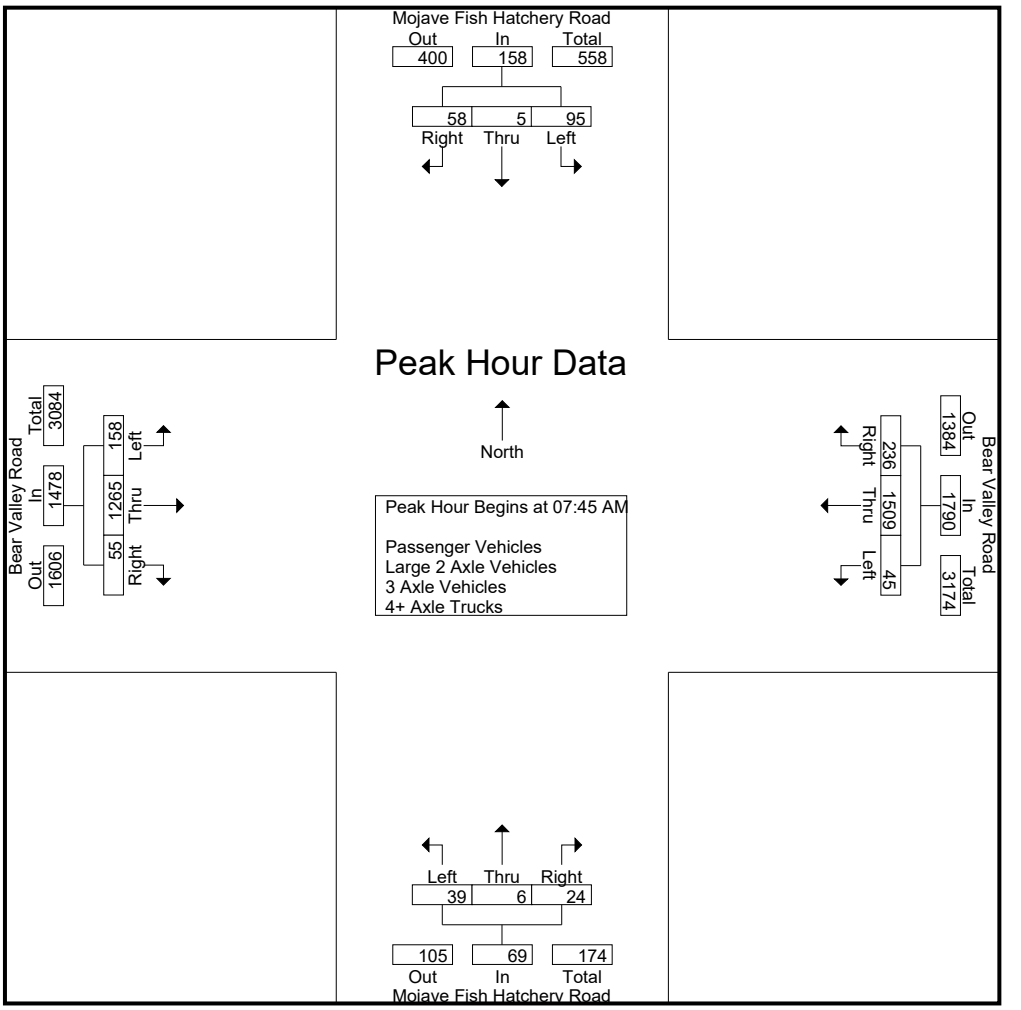

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00 AM				07:30 AM				07:45 AM				08:00 AM			
+0 mins.	17	0	12	29	11	399	33	443	**15**	1	2	18	38	311	15	364
+15 mins.	26	2	18	46	**16**	**417**	55	**488**	8	**2**	2	12	40	306	9	355
+30 mins.	**40**	3	19	**62**	6	388	53	447	8	2	8	18	**46**	334	**20**	**400**
+45 mins.	29	**7**	**23**	59	8	374	**73**	455	8	1	**12**	**21**	33	**346**	16	395
Total Volume	112	12	72	196	41	1578	214	1833	39	6	24	69	157	1297	60	1514
% App. Total	57.1	6.1	36.7		2.2	86.1	11.7		56.5	8.7	34.8		10.4	85.7	4	
PHF	.700	.429	.783	.790	.641	.946	.733	.939	.650	.750	.500	.821	.853	.937	.750	.946

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City of Hesperia
N/S: Mojave Fish Hatchery Road
E/W: Bear Valley Road
Weather: Clear

File Name : 02_HES_MFH_BV AM
Site Code : 221022
Start Date : 11/17/2022
Page No : 1

Groups Printed- Passenger Vehicles

	Mojave Fish Hatchery Road Southbound				Bear Valley Road Westbound				Mojave Fish Hatchery Road Northbound				Bear Valley Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	2	0	3	5	11	298	8	317	9	1	2	12	20	165	10	195	529
07:15 AM	1	0	5	6	8	277	13	298	5	0	4	9	10	197	5	212	525
07:30 AM	3	0	5	8	11	390	33	434	7	0	6	13	11	318	11	340	795
07:45 AM	11	0	6	17	16	408	55	479	14	1	2	17	34	308	11	353	866
Total	17	0	19	36	46	1373	109	1528	35	2	14	51	75	988	37	1100	2715
08:00 AM	16	0	12	28	6	370	52	428	8	2	2	12	36	297	15	348	816
08:15 AM	26	2	17	45	8	355	73	436	8	2	8	18	40	284	9	333	832
08:30 AM	38	3	18	59	15	317	54	386	8	1	12	21	45	318	20	383	849
08:45 AM	28	7	22	57	21	335	38	394	5	1	6	12	32	330	16	378	841
Total	108	12	69	189	50	1377	217	1644	29	6	28	63	153	1229	60	1442	3338
Grand Total	125	12	88	225	96	2750	326	3172	64	8	42	114	228	2217	97	2542	6053
Apprch %	55.6	5.3	39.1		3	86.7	10.3		56.1	7	36.8		9	87.2	3.8		
Total %	2.1	0.2	1.5	3.7	1.6	45.4	5.4	52.4	1.1	0.1	0.7	1.9	3.8	36.6	1.6	42	

	Mojave Fish Hatchery Road Southbound				Bear Valley Road Westbound				Mojave Fish Hatchery Road Northbound				Bear Valley Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	11	0	6	17	**16**	**408**	55	**479**	**14**	1	2	17	34	308	11	353	**866**
08:00 AM	16	0	12	28	6	370	52	428	8	**2**	2	12	36	297	15	348	816
08:15 AM	26	2	17	45	8	355	**73**	436	8	2	8	18	40	284	9	333	832
08:30 AM	**38**	**3**	**18**	**59**	15	317	54	386	8	1	**12**	**21**	**45**	**318**	**20**	**383**	849
Total Volume	91	5	53	149	45	1450	234	1729	38	6	24	68	155	1207	55	1417	3363
% App. Total	61.1	3.4	35.6		2.6	83.9	13.5		55.9	8.8	35.3		10.9	85.2	3.9		
PHF	.599	.417	.736	.631	.703	.888	.801	.902	.679	.750	.500	.810	.861	.949	.688	.925	.971

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City of Hesperia
N/S: Mojave Fish Hatchery Road
E/W: Bear Valley Road
Weather: Clear

File Name : 02_HES_MFH_BV AM
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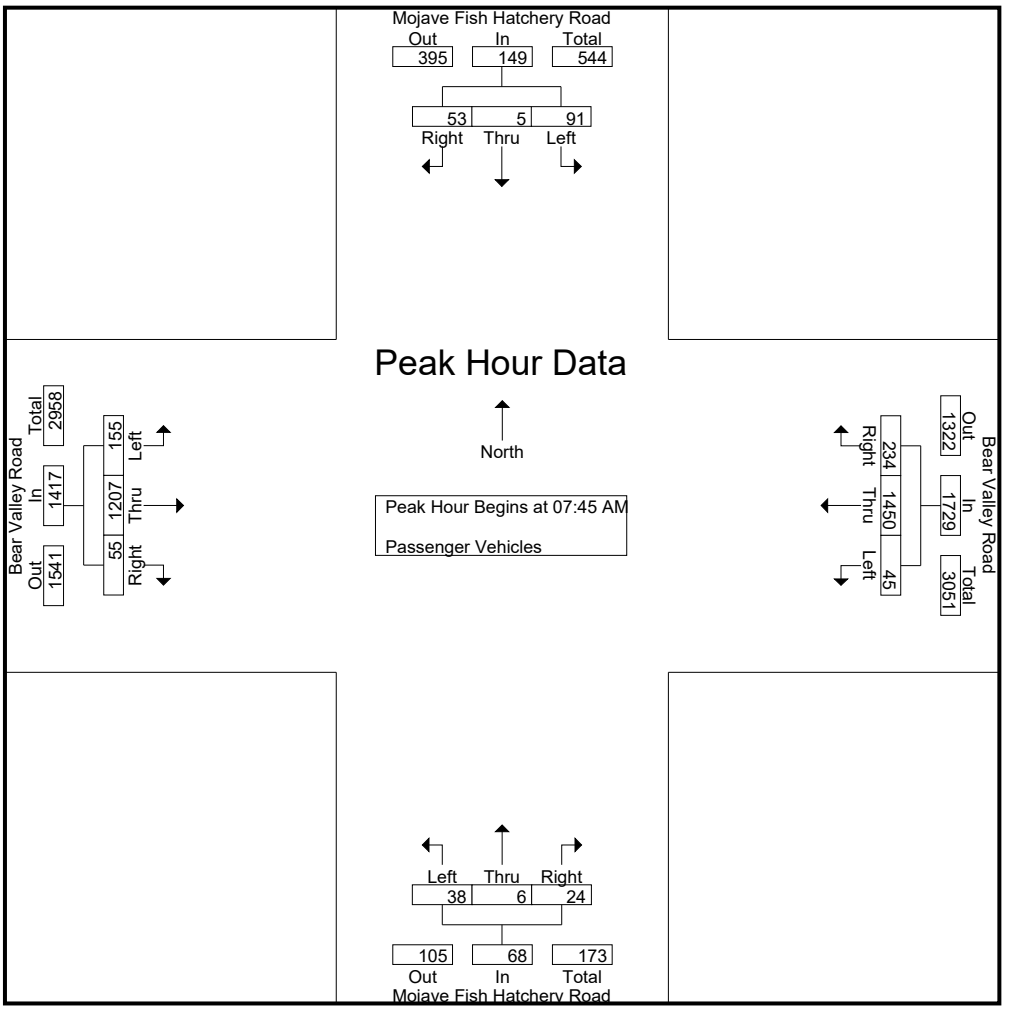

Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:45 AM				07:45 AM				07:45 AM				07:45 AM			
+0 mins.	11	0	6	17	**16**	**408**	55	**479**	**14**	1	2	17	34	308	11	353
+15 mins.	16	0	12	28	6	370	52	428	8	**2**	2	12	36	297	15	348
+30 mins.	26	2	17	45	8	355	**73**	436	8	2	8	18	40	284	9	333
+45 mins.	**38**	**3**	**18**	**59**	15	317	54	386	8	1	**12**	**21**	**45**	**318**	**20**	**383**
Total Volume	91	5	53	149	45	1450	234	1729	38	6	24	68	155	1207	55	1417
% App. Total	61.1	3.4	35.6		2.6	83.9	13.5		55.9	8.8	35.3		10.9	85.2	3.9	
PHF	.599	.417	.736	.631	.703	.888	.801	.902	.679	.750	.500	.810	.861	.949	.688	.925

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City of Hesperia
N/S: Mojave Fish Hatchery Road
E/W: Bear Valley Road
Weather: Clear

File Name : 02_HES_MFH_BV AM
Site Code : 221022
Start Date : 11/17/2022

Groups Printed- Large 2 Axle Vehicles

	Mojave Fish Hatchery Road Southbound				Bear Valley Road Westbound				Mojave Fish Hatchery Road Northbound				Bear Valley Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	1	1	0	8	0	8	0	0	0	0	1	5	0	6	15
07:15 AM	0	0	1	1	0	7	0	7	1	0	0	1	0	12	0	12	21
07:30 AM	2	0	3	5	0	5	0	5	0	0	0	0	0	9	1	10	20
07:45 AM	0	0	3	3	0	6	0	6	1	0	0	1	0	3	0	3	13
Total	2	0	8	10	0	26	0	26	2	0	0	2	1	29	1	31	69
08:00 AM	1	0	0	1	0	4	1	5	0	0	0	0	2	5	0	7	13
08:15 AM	0	0	1	1	0	9	0	9	0	0	0	0	0	11	0	11	21
08:30 AM	2	0	1	3	0	9	0	9	0	0	0	0	0	7	0	7	19
08:45 AM	0	0	1	1	0	8	0	8	0	0	0	0	1	7	0	8	17
Total	3	0	3	6	0	30	1	31	0	0	0	0	3	30	0	33	70
Grand Total	5	0	11	16	0	56	1	57	2	0	0	2	4	59	1	64	139
Apprch %	31.2	0	68.8		0	98.2	1.8		100	0	0		6.2	92.2	1.6		
Total %	3.6	0	7.9	11.5	0	40.3	0.7	41	1.4	0	0	1.4	2.9	42.4	0.7	46	

	Mojave Fish Hatchery Road Southbound				Bear Valley Road Westbound				Mojave Fish Hatchery Road Northbound				Bear Valley Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	0	0	**3**	**3**	0	6	0	6	**1**	0	0	**1**	0	3	0	3	13
08:00 AM	1	0	0	1	0	4	**1**	5	0	0	0	0	**2**	5	0	7	13
08:15 AM	0	0	1	1	0	**9**	0	**9**	0	0	0	0	0	**11**	0	**11**	**21**
08:30 AM	**2**	0	1	3	0	9	0	9	0	0	0	0	0	7	0	7	19
Total Volume	3	0	5	8	0	28	1	29	1	0	0	1	2	26	0	28	66
% App. Total	37.5	0	62.5		0	96.6	3.4		100	0	0		7.1	92.9	0		
PHF	.375	.000	.417	.667	.000	.778	.250	.806	.250	.000	.000	.250	.250	.591	.000	.636	.786

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City of Hesperia
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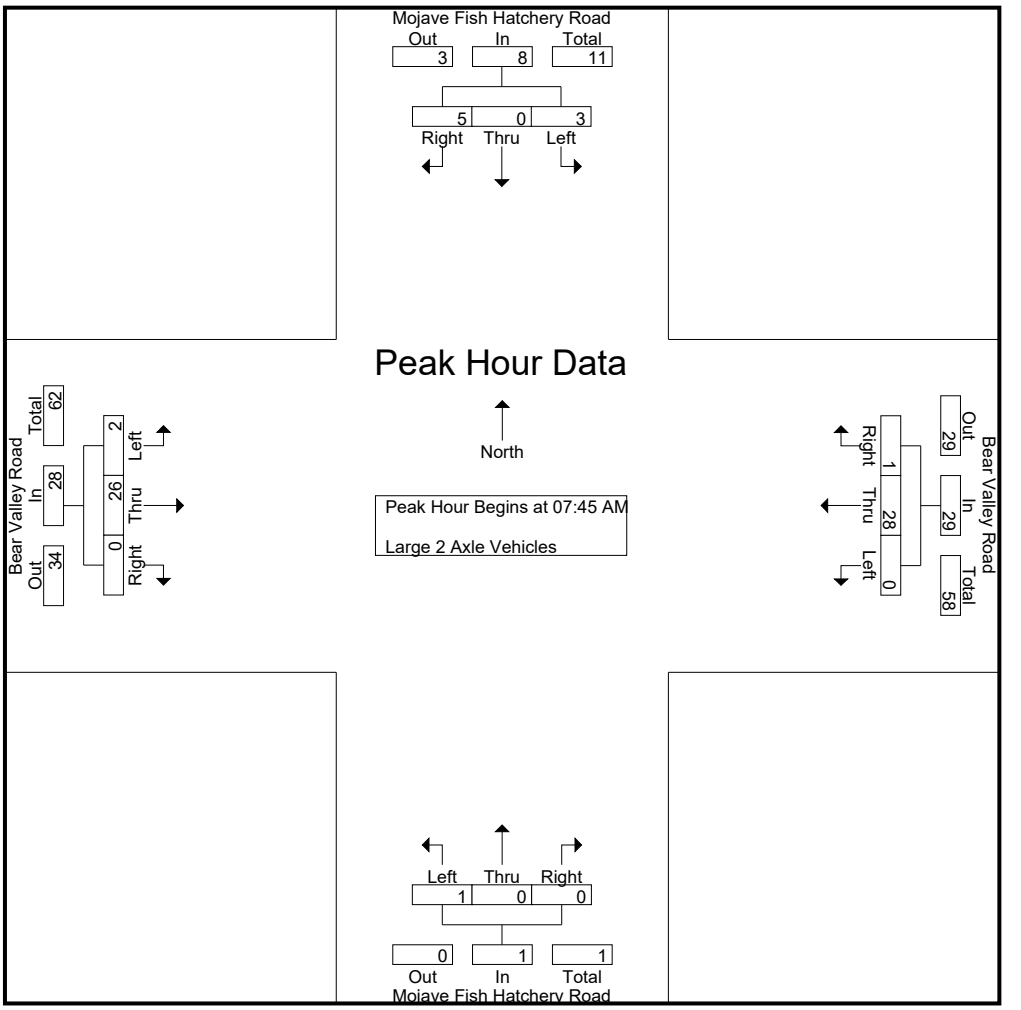

Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:45 AM				07:45 AM				07:45 AM				07:45 AM			
+0 mins.	0	0	**3**	**3**	0	6	0	6	**1**	0	0	**1**	0	3	0	3
+15 mins.	1	0	0	1	0	4	**1**	5	0	0	0	0	**2**	5	0	7
+30 mins.	0	0	1	1	0	**9**	0	**9**	0	0	0	0	0	**11**	0	**11**
+45 mins.	**2**	0	1	3	0	9	0	9	0	0	0	0	0	7	0	7
Total Volume	3	0	5	8	0	28	1	29	1	0	0	1	2	26	0	28
% App. Total	37.5	0	62.5		0	96.6	3.4		100	0	0		7.1	92.9	0	
PHF	.375	.000	.417	.667	.000	.778	.250	.806	.250	.000	.000	.250	.250	.591	.000	.636

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City of Hesperia
N/S: Mojave Fish Hatchery Road
E/W: Bear Valley Road
Weather: Clear

File Name : 02_HES_MFH_BV AM
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Groups Printed- 3 Axle Vehicles

	Mojave Fish Hatchery Road Southbound				Bear Valley Road Westbound				Mojave Fish Hatchery Road Northbound				Bear Valley Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	4	0	4	5
07:15 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	3	0	3	4
07:30 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	3	0	3	4
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	2
Total	0	0	0	0	0	3	0	3	0	0	0	0	0	12	0	12	15
08:00 AM	0	0	0	0	0	3	0	3	0	0	0	0	0	3	0	3	6
08:15 AM	0	0	0	0	0	2	0	2	0	0	0	0	0	1	0	1	3
08:30 AM	0	0	0	0	0	1	0	1	0	0	0	0	1	4	0	5	6
08:45 AM	0	0	0	0	0	2	0	2	0	0	0	0	0	1	0	1	3
Total	0	0	0	0	0	8	0	8	0	0	0	0	1	9	0	10	18
Grand Total	0	0	0	0	0	11	0	11	0	0	0	0	1	21	0	22	33
Apprch %	0	0	0		0	100	0		0	0	0		4.5	95.5	0		
Total %	0	0	0	0	0	33.3	0	33.3	0	0	0	0	3	63.6	0	66.7	

	Mojave Fish Hatchery Road Southbound				Bear Valley Road Westbound				Mojave Fish Hatchery Road Northbound				Bear Valley Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	2
08:00 AM	0	0	0	0	0	**3**	0	**3**	0	0	0	0	0	3	0	3	**6**
08:15 AM	0	0	0	0	0	2	0	2	0	0	0	0	0	1	0	1	3
08:30 AM	0	0	0	0	0	1	0	1	0	0	0	0	**1**	**4**	0	**5**	6
Total Volume	0	0	0	0	0	6	0	6	0	0	0	0	1	10	0	11	17
% App. Total	0	0	0		0	100	0		0	0	0		9.1	90.9	0		
PHF	.000	.000	.000	.000	.000	.500	.000	.500	.000	.000	.000	.000	.250	.625	.000	.550	.708

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City of Hesperia
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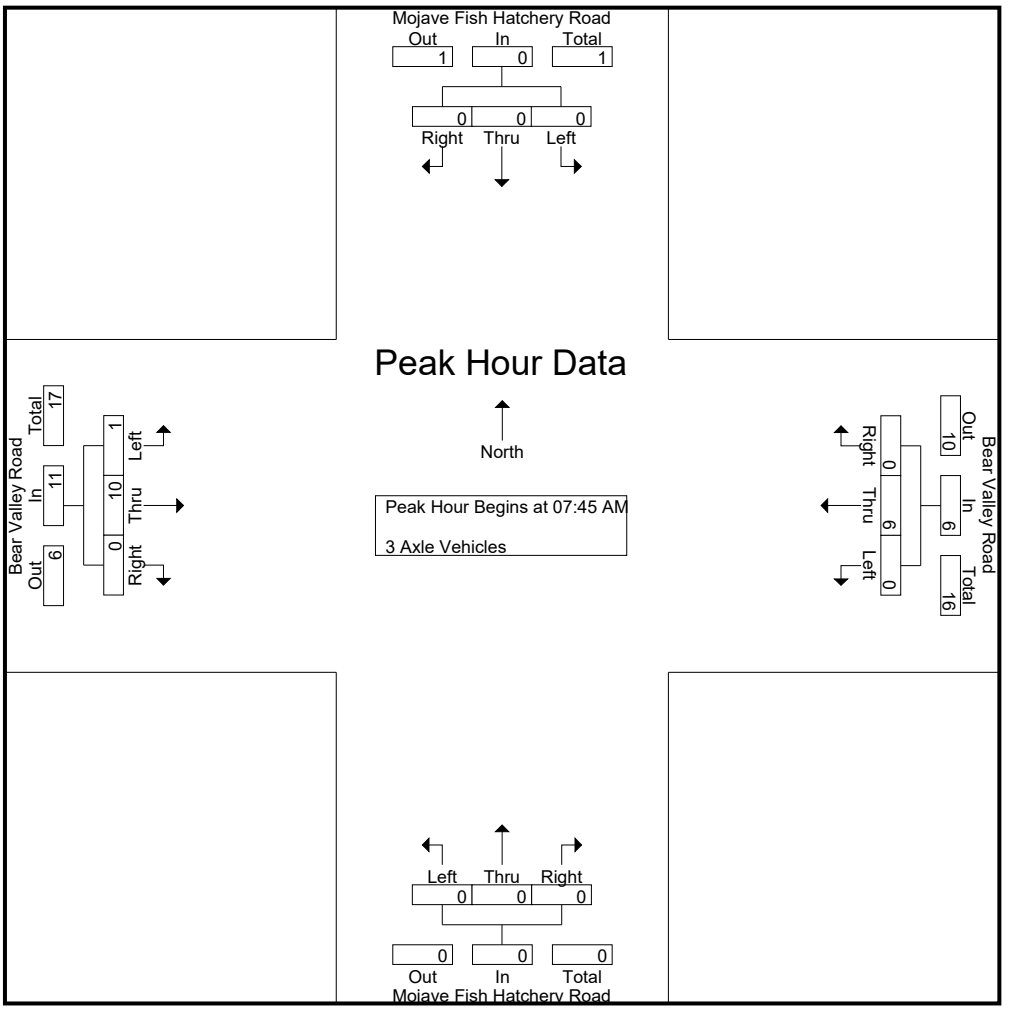

Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:45 AM				07:45 AM				07:45 AM				07:45 AM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2
+15 mins.	0	0	0	0	0	**3**	0	**3**	0	0	0	0	0	3	0	3
+30 mins.	0	0	0	0	0	2	0	2	0	0	0	0	0	1	0	1
+45 mins.	0	0	0	0	0	1	0	1	0	0	0	0	**1**	**4**	0	**5**
Total Volume	0	0	0	0	0	6	0	6	0	0	0	0	1	10	0	11
% App. Total	0	0	0		0	100	0		0	0	0		9.1	90.9	0	
PHF	.000	.000	.000	.000	.000	.500	.000	.500	.000	.000	.000	.000	.250	.625	.000	.550

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City of Hesperia
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File Name : 02_HES_MFH_BV AM
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Groups Printed- 4+ Axle Trucks

	Mojave Fish Hatchery Road Southbound				Bear Valley Road Westbound				Mojave Fish Hatchery Road Northbound				Bear Valley Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	0	7	0	7	0	0	0	0	0	14	0	14	21
07:15 AM	0	0	0	0	0	6	1	7	0	0	0	0	0	2	0	2	9
07:30 AM	0	0	0	0	0	3	0	3	0	0	0	0	0	6	0	6	9
07:45 AM	1	0	0	1	0	3	0	3	0	0	0	0	0	1	0	1	5
Total	1	0	0	1	0	19	1	20	0	0	0	0	0	23	0	23	44
08:00 AM	0	0	0	0	0	11	0	11	0	0	0	0	0	6	0	6	17
08:15 AM	0	0	0	0	0	8	0	8	0	0	0	0	0	10	0	10	18
08:30 AM	0	0	0	0	0	3	1	4	0	0	0	0	0	5	0	5	9
08:45 AM	1	0	0	1	0	5	0	5	0	0	0	0	0	8	0	8	14
Total	1	0	0	1	0	27	1	28	0	0	0	0	0	29	0	29	58
Grand Total	2	0	0	2	0	46	2	48	0	0	0	0	0	52	0	52	102
Apprch %	100	0	0		0	95.8	4.2		0	0	0		0	100	0		
Total %	2	0	0	2	0	45.1	2	47.1	0	0	0	0	0	51	0	51	

	Mojave Fish Hatchery Road Southbound				Bear Valley Road Westbound				Mojave Fish Hatchery Road Northbound				Bear Valley Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	**1**	0	0	**1**	0	3	0	3	0	0	0	0	0	1	0	1	5
08:00 AM	0	0	0	0	0	**11**	0	**11**	0	0	0	0	0	6	0	6	17
08:15 AM	0	0	0	0	0	8	0	8	0	0	0	0	0	**10**	0	**10**	**18**
08:30 AM	0	0	0	0	0	3	**1**	4	0	0	0	0	0	5	0	5	9
Total Volume	1	0	0	1	0	25	1	26	0	0	0	0	0	22	0	22	49
% App. Total	100	0	0		0	96.2	3.8		0	0	0		0	100	0		
PHF	.250	.000	.000	.250	.000	.568	.250	.591	.000	.000	.000	.000	.000	.550	.000	.550	.681

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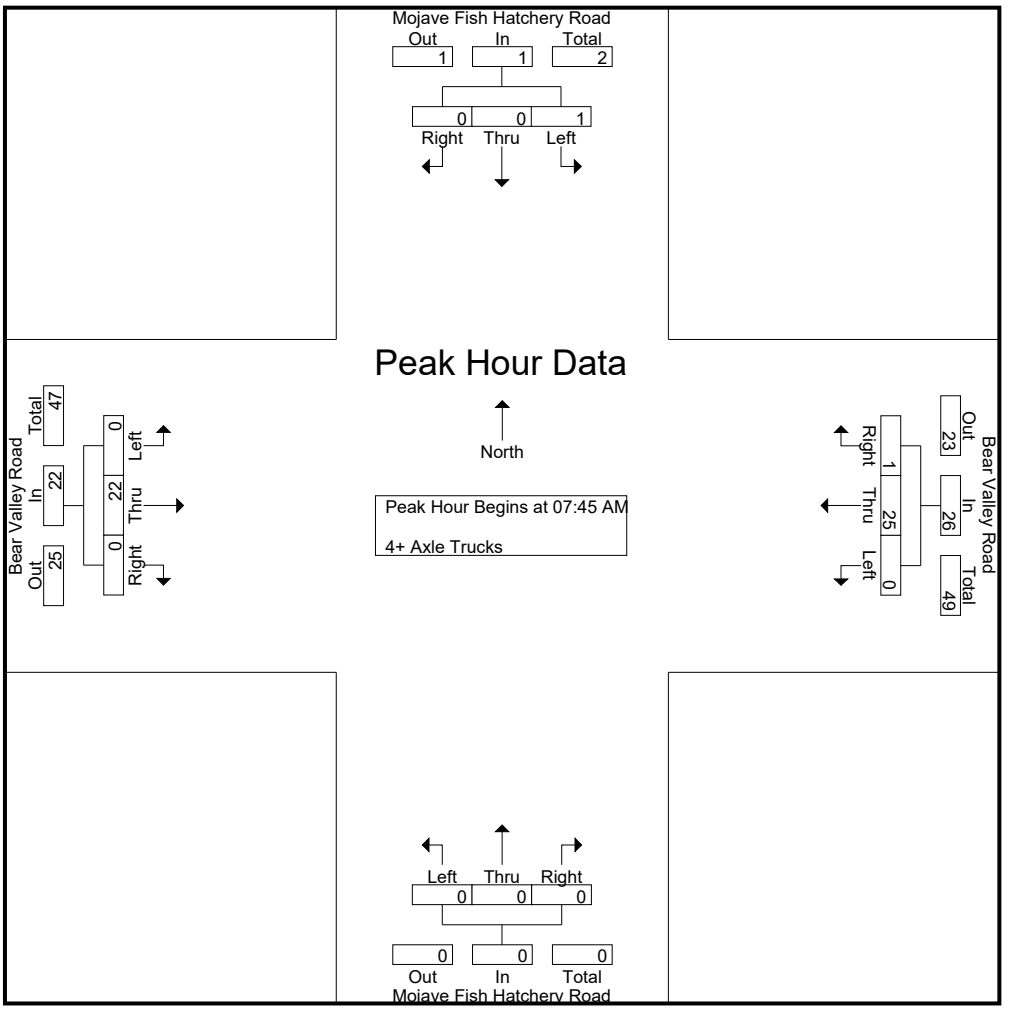

Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:45 AM				07:45 AM				07:45 AM				07:45 AM			
+0 mins.	**1**	0	0	**1**	0	3	0	3	0	0	0	0	0	1	0	1
+15 mins.	0	0	0	0	0	**11**	0	**11**	0	0	0	0	0	6	0	6
+30 mins.	0	0	0	0	0	8	0	8	0	0	0	0	0	**10**	0	**10**
+45 mins.	0	0	0	0	0	3	**1**	4	0	0	0	0	0	5	0	5
Total Volume	1	0	0	1	0	25	1	26	0	0	0	0	0	22	0	22
% App. Total	100	0	0		0	96.2	3.8		0	0	0		0	100	0	
PHF	.250	.000	.000	.250	.000	.568	.250	.591	.000	.000	.000	.000	.000	.550	.000	.550

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City of Hesperia
N/S: Mojave Fish Hatchery Road
E/W: Bear Valley Road
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Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	Mojave Fish Hatchery Road Southbound				Bear Valley Road Westbound				Mojave Fish Hatchery Road Northbound				Bear Valley Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	22	3	22	47	23	388	11	422	32	0	24	56	9	490	28	527	1052
04:15 PM	9	2	11	22	25	400	9	434	27	1	26	54	10	471	38	519	1029
04:30 PM	32	2	18	52	29	426	19	474	23	3	17	43	12	478	22	512	1081
04:45 PM	14	0	10	24	29	410	22	461	36	3	19	58	12	496	19	527	1070
Total	77	7	61	145	106	1624	61	1791	118	7	86	211	43	1935	107	2085	4232
05:00 PM	38	2	26	66	26	395	20	441	21	1	14	36	5	499	25	529	1072
05:15 PM	30	1	25	56	29	390	29	448	21	2	13	36	26	446	26	498	1038
05:30 PM	10	2	33	45	22	393	14	429	18	4	22	44	17	445	23	485	1003
05:45 PM	8	2	11	21	20	338	20	378	22	2	16	40	20	457	22	499	938
Total	86	7	95	188	97	1516	83	1696	82	9	65	156	68	1847	96	2011	4051
Grand Total	163	14	156	333	203	3140	144	3487	200	16	151	367	111	3782	203	4096	8283
Apprch %	48.9	4.2	46.8		5.8	90	4.1		54.5	4.4	41.1		2.7	92.3	5		
Total %	2	0.2	1.9	4	2.5	37.9	1.7	42.1	2.4	0.2	1.8	4.4	1.3	45.7	2.5	49.5	
Passenger Vehicles	159	14	146	319	200	3077	144	3421	200	16	150	366	110	3727	201	4038	8144
% Passenger Vehicles	97.5	100	93.6	95.8	98.5	98	100	98.1	100	100	99.3	99.7	99.1	98.5	99	98.6	98.3
Large 2 Axle Vehicles	4	0	9	13	3	37	0	40	0	0	1	1	0	32	1	33	87
% Large 2 Axle Vehicles	2.5	0	5.8	3.9	1.5	1.2	0	1.1	0	0	0.7	0.3	0	0.8	0.5	0.8	1.1
3 Axle Vehicles	0	0	0	0	0	3	0	3	0	0	0	0	0	3	1	4	7
% 3 Axle Vehicles	0	0	0	0	0	0.1	0	0.1	0	0	0	0	0	0.1	0.5	0.1	0.1
4+ Axle Trucks	0	0	1	1	0	23	0	23	0	0	0	0	1	20	0	21	45
% 4+ Axle Trucks	0	0	0.6	0.3	0	0.7	0	0.7	0	0	0	0	0.9	0.5	0	0.5	0.5

	Mojave Fish Hatchery Road Southbound				Bear Valley Road Westbound				Mojave Fish Hatchery Road Northbound				Bear Valley Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	32	**2**	18	52	**29**	**426**	19	**474**	23	**3**	17	43	12	478	22	512	**1081**
04:45 PM	14	0	10	24	29	410	22	461	**36**	3	**19**	**58**	12	496	19	527	1070
05:00 PM	**38**	2	**26**	**66**	26	395	20	441	21	1	14	36	5	**499**	25	**529**	1072
05:15 PM	30	1	25	56	29	390	**29**	448	21	2	13	36	**26**	446	**26**	498	1038
Total Volume	114	5	79	198	113	1621	90	1824	101	9	63	173	55	1919	92	2066	4261
% App. Total	57.6	2.5	39.9		6.2	88.9	4.9		58.4	5.2	36.4		2.7	92.9	4.5		
PHF	.750	.625	.760	.750	.974	.951	.776	.962	.701	.750	.829	.746	.529	.961	.885	.976	.985

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City of Hesperia
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Weather: Clear

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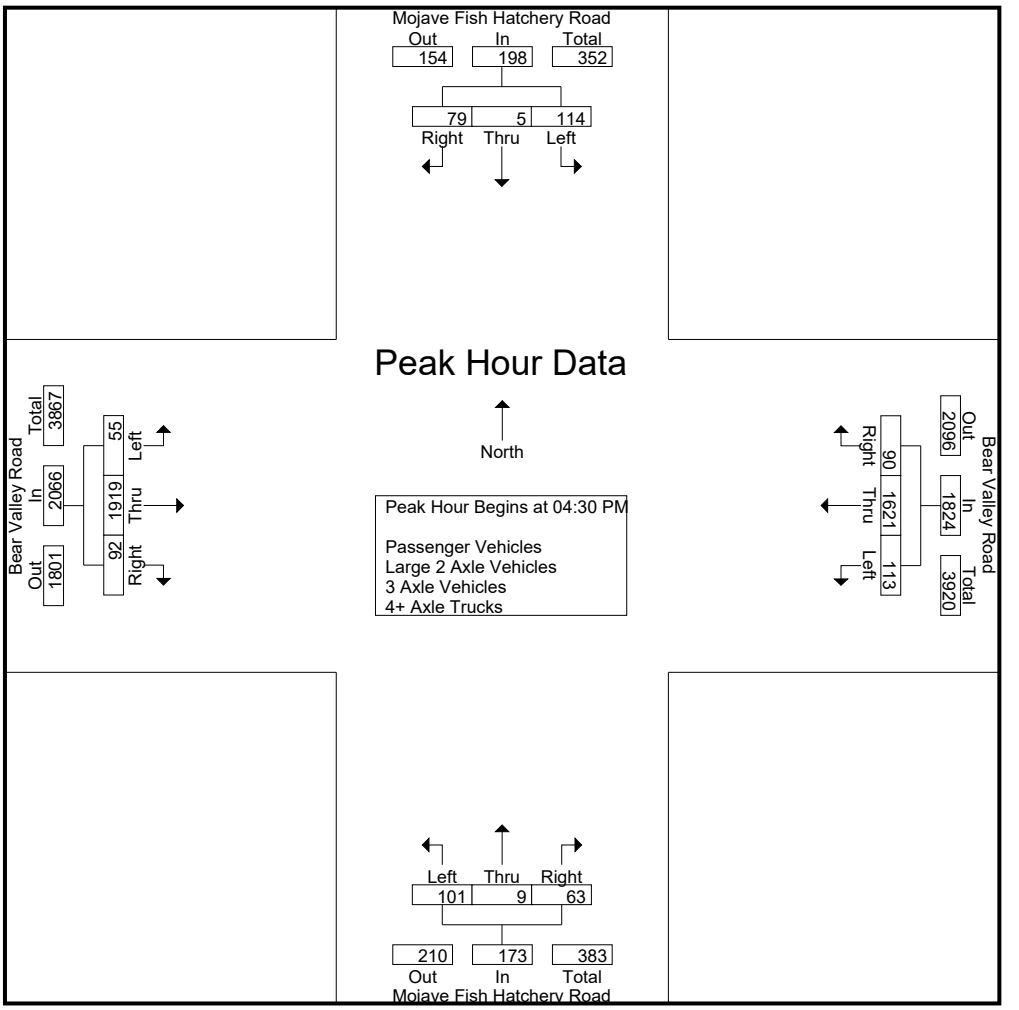

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM				04:30 PM				04:00 PM				04:15 PM			
+0 mins.	32	**2**	18	52	**29**	**426**	19	**474**	32	0	24	56	10	471	**38**	519
+15 mins.	14	0	10	24	29	410	22	461	27	1	**26**	54	**12**	478	22	512
+30 mins.	**38**	2	**26**	**66**	26	395	20	441	23	**3**	17	43	12	496	19	527
+45 mins.	30	1	25	56	29	390	**29**	448	**36**	3	19	**58**	5	**499**	25	**529**
Total Volume	114	5	79	198	113	1621	90	1824	118	7	86	211	39	1944	104	2087
% App. Total	57.6	2.5	39.9		6.2	88.9	4.9		55.9	3.3	40.8		1.9	93.1	5	
PHF	.750	.625	.760	.750	.974	.951	.776	.962	.819	.583	.827	.909	.813	.974	.684	.986

Counts Unlimited, Inc.
PO Box 1178
Corona, CA 92878
(951)268-6268

City of Hesperia
N/S: Mojave Fish Hatchery Road
E/W: Bear Valley Road
Weather: Clear

File Name : 02_HES_MFH_BV PM
Site Code : 221022
Start Date : 11/17/2022
Page No : 1

Groups Printed- Passenger Vehicles

	Mojave Fish Hatchery Road Southbound				Bear Valley Road Westbound				Mojave Fish Hatchery Road Northbound				Bear Valley Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	22	3	19	44	23	377	11	411	32	0	24	56	8	481	28	517	1028
04:15 PM	9	2	10	21	25	388	9	422	27	1	26	54	10	465	37	512	1009
04:30 PM	30	2	16	48	29	412	19	460	23	3	16	42	12	467	21	500	1050
04:45 PM	14	0	9	23	28	405	22	455	36	3	19	58	12	488	19	519	1055
Total	75	7	54	136	105	1582	61	1748	118	7	85	210	42	1901	105	2048	4142
05:00 PM	38	2	26	66	26	388	20	434	21	1	14	36	5	491	25	521	1057
05:15 PM	30	1	24	55	27	381	29	437	21	2	13	36	26	441	26	493	1021
05:30 PM	8	2	32	42	22	390	14	426	18	4	22	44	17	443	23	483	995
05:45 PM	8	2	10	20	20	336	20	376	22	2	16	40	20	451	22	493	929
Total	84	7	92	183	95	1495	83	1673	82	9	65	156	68	1826	96	1990	4002
Grand Total	159	14	146	319	200	3077	144	3421	200	16	150	366	110	3727	201	4038	8144
Apprch %	49.8	4.4	45.8		5.8	89.9	4.2		54.6	4.4	41		2.7	92.3	5		
Total %	2	0.2	1.8	3.9	2.5	37.8	1.8	42	2.5	0.2	1.8	4.5	1.4	45.8	2.5	49.6	

	Mojave Fish Hatchery Road Southbound				Bear Valley Road Westbound				Mojave Fish Hatchery Road Northbound				Bear Valley Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	30	**2**	16	48	**29**	**412**	19	**460**	23	**3**	16	42	12	467	21	500	1050
04:45 PM	14	0	9	23	28	405	22	455	**36**	3	**19**	**58**	12	488	19	519	1055
05:00 PM	**38**	2	**26**	**66**	26	388	20	434	21	1	14	36	5	**491**	25	**521**	**1057**
05:15 PM	30	1	24	55	27	381	**29**	437	21	2	13	36	**26**	441	**26**	493	1021
Total Volume	112	5	75	192	110	1586	90	1786	101	9	62	172	55	1887	91	2033	4183
% App. Total	58.3	2.6	39.1		6.2	88.8	5		58.7	5.2	36		2.7	92.8	4.5		
PHF	.737	.625	.721	.727	.948	.962	.776	.971	.701	.750	.816	.741	.529	.961	.875	.976	.989

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City of Hesperia
N/S: Mojave Fish Hatchery Road
E/W: Bear Valley Road
Weather: Clear

File Name : 02_HES_MFH_BV PM
Site Code : 221022
Start Date : 11/17/2022
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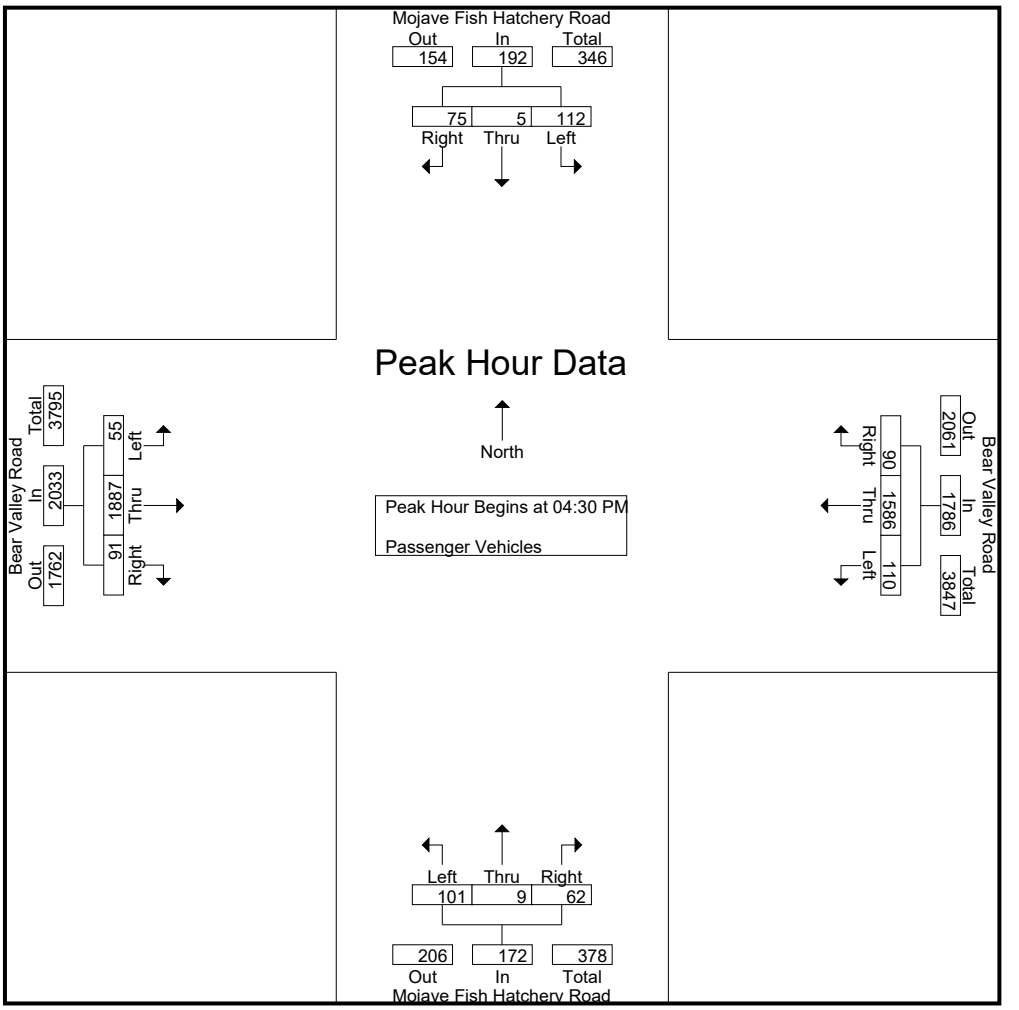

Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM				04:30 PM				04:30 PM				04:30 PM			
+0 mins.	30	**2**	16	48	**29**	**412**	19	**460**	23	**3**	16	42	12	467	21	500
+15 mins.	14	0	9	23	28	405	22	455	**36**	3	**19**	**58**	12	488	19	519
+30 mins.	**38**	2	**26**	**66**	26	388	20	434	21	1	14	36	5	**491**	25	**521**
+45 mins.	30	1	24	55	27	381	**29**	437	21	2	13	36	**26**	441	**26**	493
Total Volume	112	5	75	192	110	1586	90	1786	101	9	62	172	55	1887	91	2033
% App. Total	58.3	2.6	39.1		6.2	88.8	5		58.7	5.2	36		2.7	92.8	4.5	
PHF	.737	.625	.721	.727	.948	.962	.776	.971	.701	.750	.816	.741	.529	.961	.875	.976

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City of Hesperia
N/S: Mojave Fish Hatchery Road
E/W: Bear Valley Road
Weather: Clear

File Name : 02_HES_MFH_BV PM
Site Code : 221022
Start Date : 11/17/2022
Page No : 1

Groups Printed- Large 2 Axle Vehicles

	Mojave Fish Hatchery Road Southbound				Bear Valley Road Westbound				Mojave Fish Hatchery Road Northbound				Bear Valley Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	3	3	0	5	0	5	0	0	0	0	0	6	0	6	14
04:15 PM	0	0	0	0	0	8	0	8	0	0	0	0	0	4	1	5	13
04:30 PM	2	0	2	4	0	7	0	7	0	0	1	1	0	7	0	7	19
04:45 PM	0	0	1	1	1	2	0	3	0	0	0	0	0	2	0	2	6
Total	2	0	6	8	1	22	0	23	0	0	1	1	0	19	1	20	52
05:00 PM	0	0	0	0	0	5	0	5	0	0	0	0	0	6	0	6	11
05:15 PM	0	0	1	1	2	8	0	10	0	0	0	0	0	1	0	1	12
05:30 PM	2	0	1	3	0	1	0	1	0	0	0	0	0	1	0	1	5
05:45 PM	0	0	1	1	0	1	0	1	0	0	0	0	0	5	0	5	7
Total	2	0	3	5	2	15	0	17	0	0	0	0	0	13	0	13	35
Grand Total	4	0	9	13	3	37	0	40	0	0	1	1	0	32	1	33	87
Apprch %	30.8	0	69.2		7.5	92.5	0		0	0	100		0	97	3		
Total %	4.6	0	10.3	14.9	3.4	42.5	0	46	0	0	1.1	1.1	0	36.8	1.1	37.9	

	Mojave Fish Hatchery Road Southbound				Bear Valley Road Westbound				Mojave Fish Hatchery Road Northbound				Bear Valley Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	**2**	0	**2**	**4**	0	7	0	7	0	0	**1**	**1**	0	**7**	0	**7**	**19**
04:45 PM	0	0	1	1	1	2	0	3	0	0	0	0	0	2	0	2	6
05:00 PM	0	0	0	0	0	5	0	5	0	0	0	0	0	6	0	6	11
05:15 PM	0	0	1	1	**2**	**8**	0	**10**	0	0	0	0	0	1	0	1	12
Total Volume	2	0	4	6	3	22	0	25	0	0	1	1	0	16	0	16	48
% App. Total	33.3	0	66.7		12	88	0		0	0	100		0	100	0		
PHF	.250	.000	.500	.375	.375	.688	.000	.625	.000	.000	.250	.250	.000	.571	.000	.571	.632

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City of Hesperia
N/S: Mojave Fish Hatchery Road
E/W: Bear Valley Road
Weather: Clear

File Name : 02_HES_MFH_BV PM
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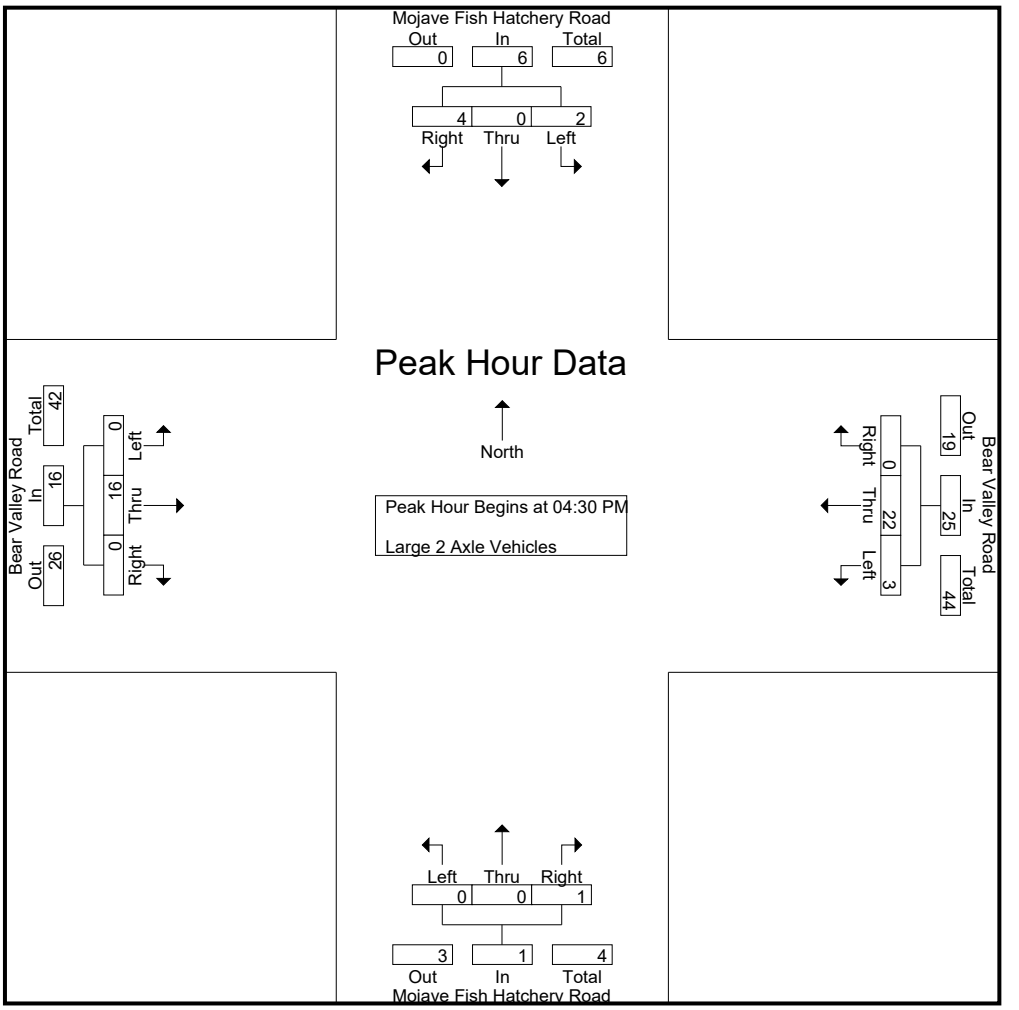

Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM				04:30 PM				04:30 PM				04:30 PM			
+0 mins.	**2**	0	**2**	**4**	0	7	0	7	0	0	**1**	**1**	0	**7**	0	**7**
+15 mins.	0	0	1	1	1	2	0	3	0	0	0	0	0	2	0	2
+30 mins.	0	0	0	0	0	5	0	5	0	0	0	0	0	6	0	6
+45 mins.	0	0	1	1	**2**	**8**	0	**10**	0	0	0	0	0	1	0	1
Total Volume	2	0	4	6	3	22	0	25	0	0	1	1	0	16	0	16
% App. Total	33.3	0	66.7		12	88	0		0	0	100		0	100	0	
PHF	.250	.000	.500	.375	.375	.688	.000	.625	.000	.000	.250	.250	.000	.571	.000	.571

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City of Hesperia
N/S: Mojave Fish Hatchery Road
E/W: Bear Valley Road
Weather: Clear

File Name : 02_HES_MFH_BV PM
Site Code : 221022
Start Date : 11/17/2022
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Groups Printed- 3 Axle Vehicles

	Mojave Fish Hatchery Road Southbound				Bear Valley Road Westbound				Mojave Fish Hatchery Road Northbound				Bear Valley Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	2
04:15 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2	2
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
Total	0	0	0	0	0	3	0	3	0	0	0	0	0	2	1	3	6
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
Grand Total	0	0	0	0	0	3	0	3	0	0	0	0	0	3	1	4	7
Apprch %	0	0	0		0	100	0		0	0	0		0	75	25		
Total %	0	0	0	0	0	42.9	0	42.9	0	0	0	0	0	42.9	14.3	57.1	

	Mojave Fish Hatchery Road Southbound				Bear Valley Road Westbound				Mojave Fish Hatchery Road Northbound				Bear Valley Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	**1**	**1**	**2**	**2**
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	3	1	4	4
% App. Total	0	0	0		0	0	0		0	0	0		0	75	25		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.750	.250	.500	.500

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City of Hesperia
N/S: Mojave Fish Hatchery Road
E/W: Bear Valley Road
Weather: Clear

File Name : 02_HES_MFH_BV PM
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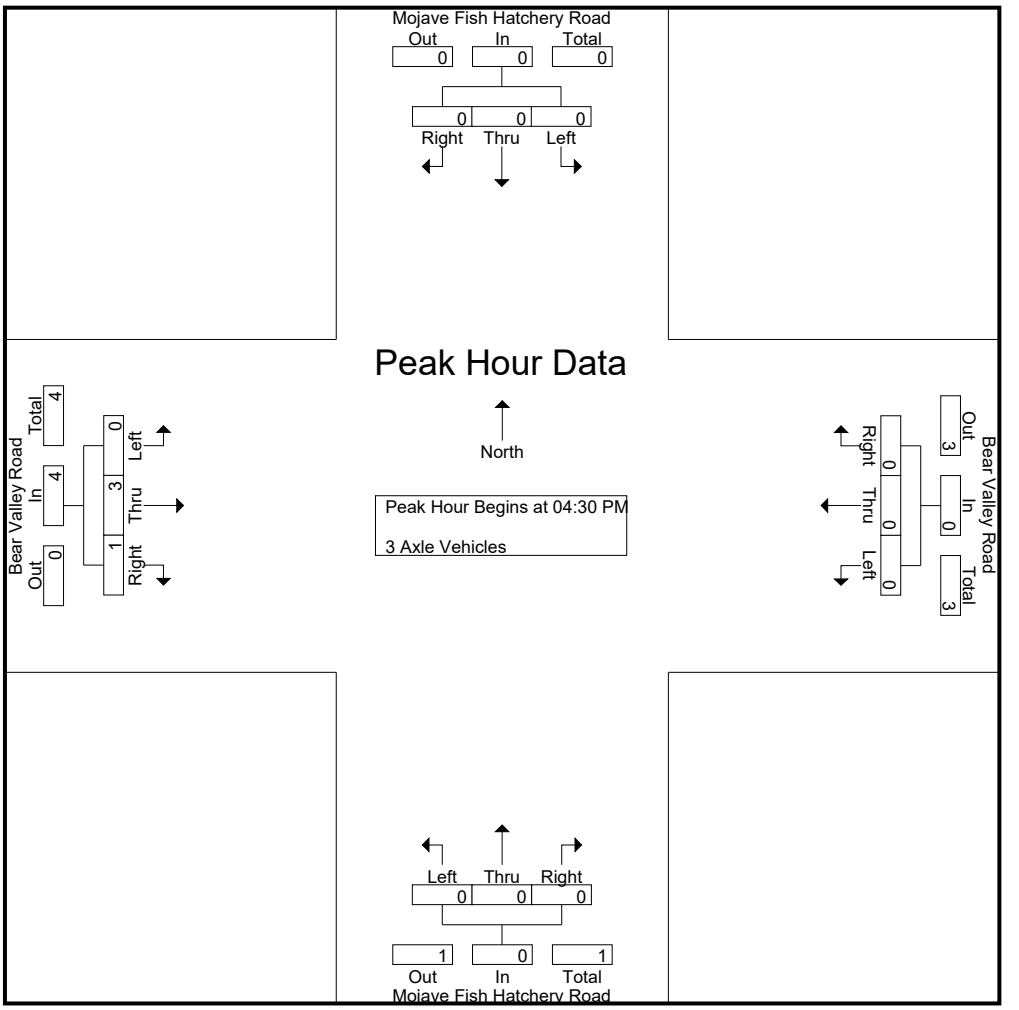

Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM				04:30 PM				04:30 PM				04:30 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	**1**	**1**	**2**
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	3	1	4
% App. Total	0	0	0		0	0	0		0	0	0		0	75	25	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.750	.250	.500

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City of Hesperia
N/S: Mojave Fish Hatchery Road
E/W: Bear Valley Road
Weather: Clear

File Name : 02_HES_MFH_BV PM
Site Code : 221022
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Groups Printed- 4+ Axle Trucks

	Mojave Fish Hatchery Road Southbound				Bear Valley Road Westbound				Mojave Fish Hatchery Road Northbound				Bear Valley Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	4	0	4	0	0	0	0	1	3	0	4	8
04:15 PM	0	0	1	1	0	3	0	3	0	0	0	0	0	2	0	2	6
04:30 PM	0	0	0	0	0	7	0	7	0	0	0	0	0	3	0	3	10
04:45 PM	0	0	0	0	0	3	0	3	0	0	0	0	0	5	0	5	8
Total	0	0	1	1	0	17	0	17	0	0	0	0	1	13	0	14	32
05:00 PM	0	0	0	0	0	2	0	2	0	0	0	0	0	1	0	1	3
05:15 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	4	0	4	5
05:30 PM	0	0	0	0	0	2	0	2	0	0	0	0	0	1	0	1	3
05:45 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	1	2
Total	0	0	0	0	0	6	0	6	0	0	0	0	0	7	0	7	13
Grand Total	0	0	1	1	0	23	0	23	0	0	0	0	1	20	0	21	45
Apprch %	0	0	100		0	100	0		0	0	0		4.8	95.2	0		
Total %	0	0	2.2	2.2	0	51.1	0	51.1	0	0	0	0	2.2	44.4	0	46.7	

	Mojave Fish Hatchery Road Southbound				Bear Valley Road Westbound				Mojave Fish Hatchery Road Northbound				Bear Valley Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	0	0	0	0	0	**7**	0	**7**	0	0	0	0	0	3	0	3	**10**
04:45 PM	0	0	0	0	0	3	0	3	0	0	0	0	0	**5**	0	**5**	8
05:00 PM	0	0	0	0	0	2	0	2	0	0	0	0	0	1	0	1	3
05:15 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	4	0	4	5
Total Volume	0	0	0	0	0	13	0	13	0	0	0	0	0	13	0	13	26
% App. Total	0	0	0		0	100	0		0	0	0		0	100	0		
PHF	.000	.000	.000	.000	.000	.464	.000	.464	.000	.000	.000	.000	.000	.650	.000	.650	.650

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City of Hesperia
N/S: Mojave Fish Hatchery Road
E/W: Bear Valley Road
Weather: Clear

File Name : 02_HES_MFH_BV PM
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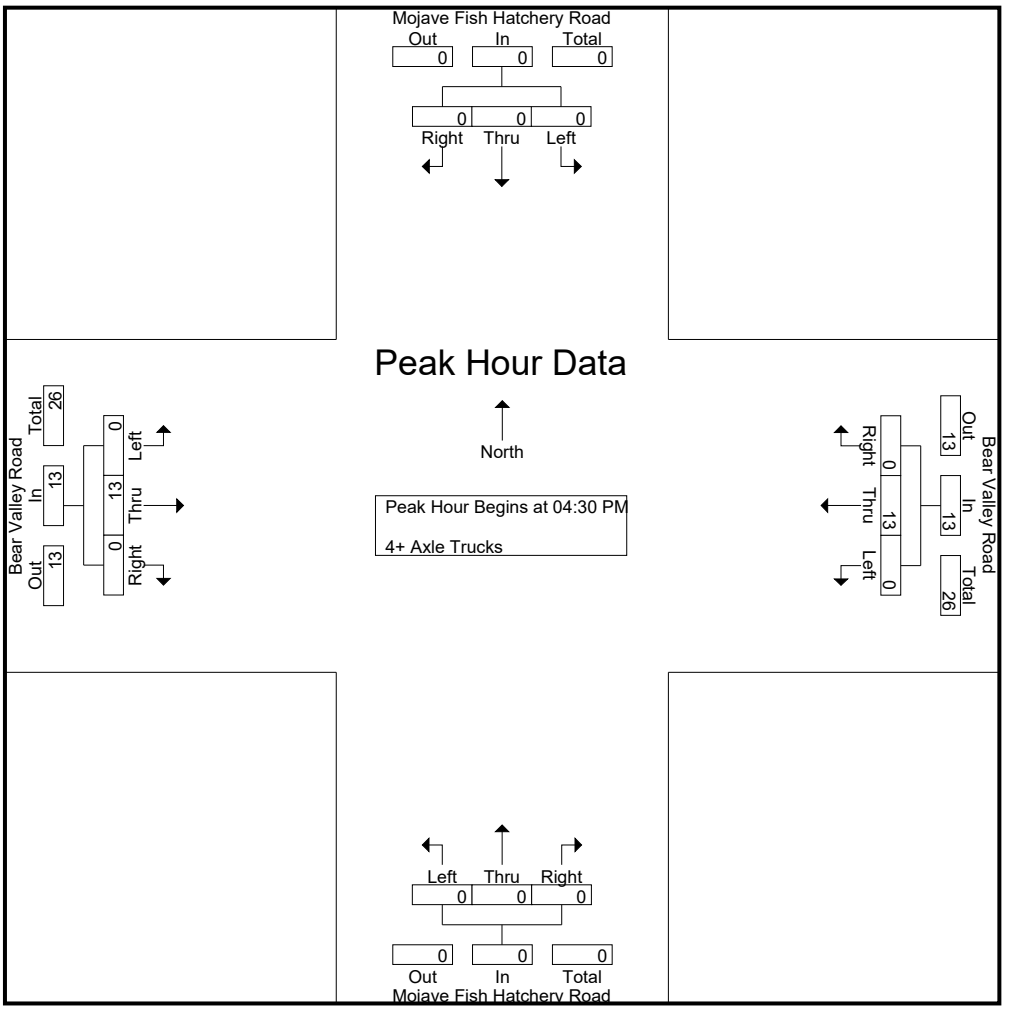

Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM				04:30 PM				04:30 PM				04:30 PM			
+0 mins.	0	0	0	0	0	**7**	0	**7**	0	0	0	0	0	3	0	3
+15 mins.	0	0	0	0	0	3	0	3	0	0	0	0	0	**5**	0	**5**
+30 mins.	0	0	0	0	0	2	0	2	0	0	0	0	0	1	0	1
+45 mins.	0	0	0	0	0	1	0	1	0	0	0	0	0	4	0	4
Total Volume	0	0	0	0	0	13	0	13	0	0	0	0	0	13	0	13
% App. Total	0	0	0		0	100	0		0	0	0		0	100	0	
PHF	.000	.000	.000	.000	.000	.464	.000	.464	.000	.000	.000	.000	.000	.650	.000	.650

Location: Hesperia
N/S: Mojave Fish Hatchery Rd
E/W: Bear Valley Road

Date: 11/17/2022
Day: Thursday

PEDESTRIANS

	North Leg Mojave Fish Hatchery Rd	East Leg Bear Valley Road	South Leg Mojave Fish Hatchery Rd	West Leg Bear Valley Road	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

	North Leg Mojave Fish Hatchery Rd	East Leg Bear Valley Road	South Leg Mojave Fish Hatchery Rd	West Leg Bear Valley Road	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
4:00 PM	0	1	0	0	1
4:15 PM	1	3	0	0	4
4:30 PM	4	3	0	0	7
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	1	0	0	1
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	5	8	0	0	13

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Location: Hesperia
N/S: Mojave Fish Hatchery Rd
E/W: Bear Valley Road

Date: 11/17/2022
Day: Thursday

BICYCLES

	Southbound Mojave Fish Hatchery Rd			Westbound Bear Valley Road			Northbound Mojave Fish Hatchery Rd			Eastbound Bear Valley Road			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0	0	0	0	0	0	0	0	0

	Southbound Mojave Fish Hatchery Rd			Westbound Bear Valley Road			Northbound Mojave Fish Hatchery Rd			Eastbound Bear Valley Road			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0	0	0	0	0	0	0	0	0

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City of Apple Valley
N/S: Jess Ranch Parkway
E/W: Bear Valley Road
Weather: Clear

File Name : 03_APV_Jess_BV AM
Site Code : 221022
Start Date : 11/17/2022
Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	Bear Valley Road Westbound			Jess Ranch Parkway Northbound			Bear Valley Road Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
07:00 AM	10	281	291	42	11	53	173	15	188	532
07:15 AM	7	293	300	50	4	54	209	14	223	577
07:30 AM	10	367	377	52	6	58	297	31	328	763
07:45 AM	19	445	464	49	5	54	298	34	332	850
Total	46	1386	1432	193	26	219	977	94	1071	2722
08:00 AM	12	381	393	67	13	80	268	56	324	797
08:15 AM	18	376	394	60	12	72	288	42	330	796
08:30 AM	26	324	350	73	11	84	319	33	352	786
08:45 AM	31	347	378	62	15	77	312	58	370	825
Total	87	1428	1515	262	51	313	1187	189	1376	3204
Grand Total	133	2814	2947	455	77	532	2164	283	2447	5926
Apprch %	4.5	95.5		85.5	14.5		88.4	11.6		
Total %	2.2	47.5	49.7	7.7	1.3	9	36.5	4.8	41.3	
Passenger Vehicles	133	2699	2832	446	77	523	2020	274	2294	5649
% Passenger Vehicles	100	95.9	96.1	98	100	98.3	93.3	96.8	93.7	95.3
Large 2 Axle Vehicles	0	60	60	7	0	7	71	8	79	146
% Large 2 Axle Vehicles	0	2.1	2	1.5	0	1.3	3.3	2.8	3.2	2.5
3 Axle Vehicles	0	13	13	0	0	0	17	1	18	31
% 3 Axle Vehicles	0	0.5	0.4	0	0	0	0.8	0.4	0.7	0.5
4+ Axle Trucks	0	42	42	2	0	2	56	0	56	100
% 4+ Axle Trucks	0	1.5	1.4	0.4	0	0.4	2.6	0	2.3	1.7

	Bear Valley Road Westbound			Jess Ranch Parkway Northbound			Bear Valley Road Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:45 AM										
07:45 AM	19	**445**	**464**	49	5	54	298	34	332	**850**
08:00 AM	12	381	393	67	**13**	80	268	**56**	324	797
08:15 AM	18	376	394	60	12	72	288	42	330	796
08:30 AM	**26**	324	350	**73**	11	**84**	**319**	33	**352**	786
Total Volume	75	1526	1601	249	41	290	1173	165	1338	3229
% App. Total	4.7	95.3		85.9	14.1		87.7	12.3		
PHF	.721	.857	.863	.853	.788	.863	.919	.737	.950	.950

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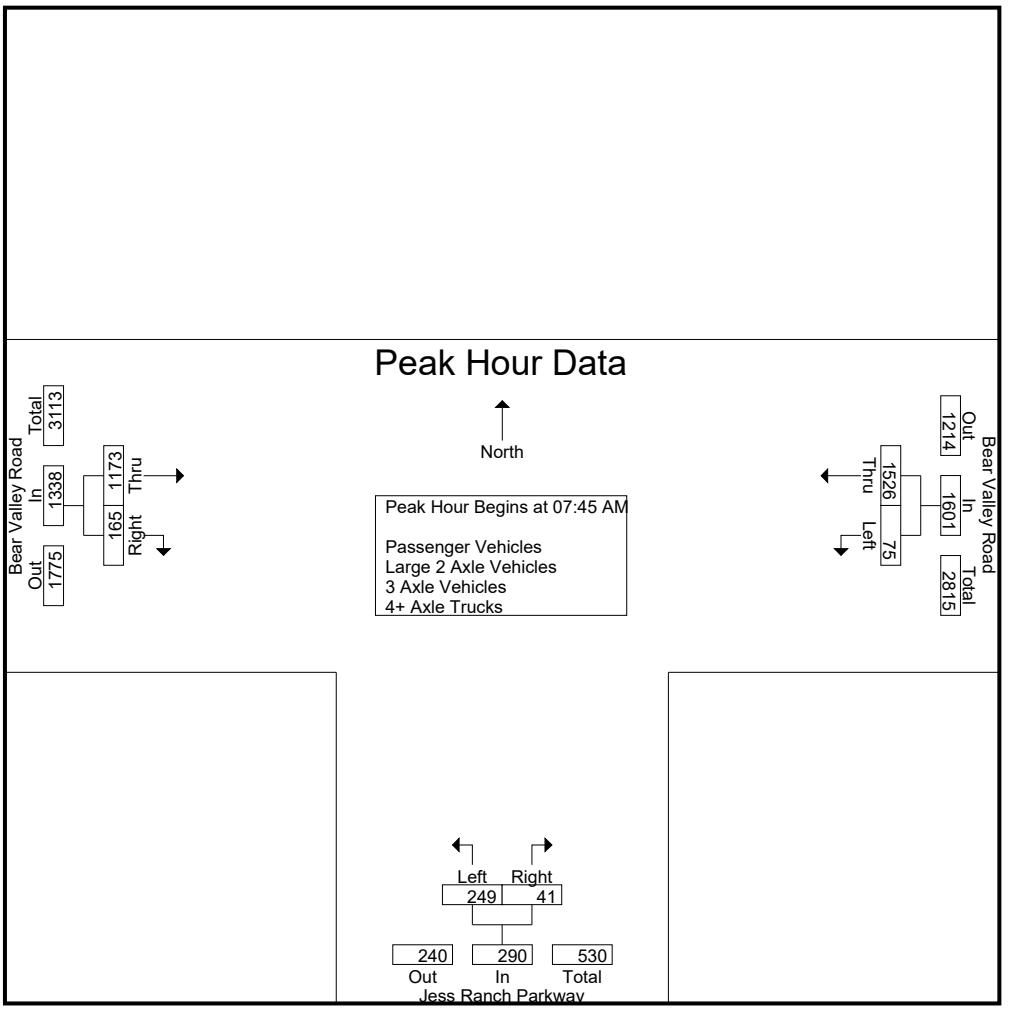
Weather: Clear

File Name : 03_APV_Jess_BV AM
Site Code : 221022
Start Date : 11/17/2022



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:30 AM			08:00 AM			08:00 AM		
+0 mins.	10	367	377	67	13	80	268	56	324
+15 mins.	**19**	**445**	**464**	60	12	72	288	42	330
+30 mins.	12	381	393	**73**	11	**84**	**319**	33	352
+45 mins.	18	376	394	62	**15**	77	312	**58**	**370**
Total Volume	59	1569	1628	262	51	313	1187	189	1376
% App. Total	3.6	96.4		83.7	16.3		86.3	13.7	
PHF	.776	.881	.877	.897	.850	.932	.930	.815	.930

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File Name : 03_APV_Jess_BV AM
Site Code : 221022
Start Date : 11/17/2022
Page No : 1

Groups Printed- Passenger Vehicles

	Bear Valley Road Westbound			Jess Ranch Parkway Northbound			Bear Valley Road Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
07:00 AM	10	264	274	41	11	52	150	15	165	491
07:15 AM	7	281	288	47	4	51	191	12	203	542
07:30 AM	10	357	367	52	6	58	280	27	307	732
07:45 AM	19	432	451	48	5	53	290	33	323	827
Total	46	1334	1380	188	26	214	911	87	998	2592
08:00 AM	12	362	374	65	13	78	249	55	304	756
08:15 AM	18	360	378	59	12	71	266	42	308	757
08:30 AM	26	306	332	73	11	84	302	32	334	750
08:45 AM	31	337	368	61	15	76	292	58	350	794
Total	87	1365	1452	258	51	309	1109	187	1296	3057
Grand Total	133	2699	2832	446	77	523	2020	274	2294	5649
Apprch %	4.7	95.3		85.3	14.7		88.1	11.9		
Total %	2.4	47.8	50.1	7.9	1.4	9.3	35.8	4.9	40.6	

	Bear Valley Road Westbound			Jess Ranch Parkway Northbound			Bear Valley Road Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:45 AM										
07:45 AM	19	**432**	**451**	48	5	53	290	33	323	**827**
08:00 AM	12	362	374	65	**13**	78	249	**55**	304	756
08:15 AM	18	360	378	59	12	71	266	42	308	757
08:30 AM	**26**	306	332	**73**	11	**84**	**302**	32	**334**	750
Total Volume	75	1460	1535	245	41	286	1107	162	1269	3090
% App. Total	4.9	95.1		85.7	14.3		87.2	12.8		
PHF	.721	.845	.851	.839	.788	.851	.916	.736	.950	.934

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File Name : 03_APV_Jess_BV AM
Site Code : 221022
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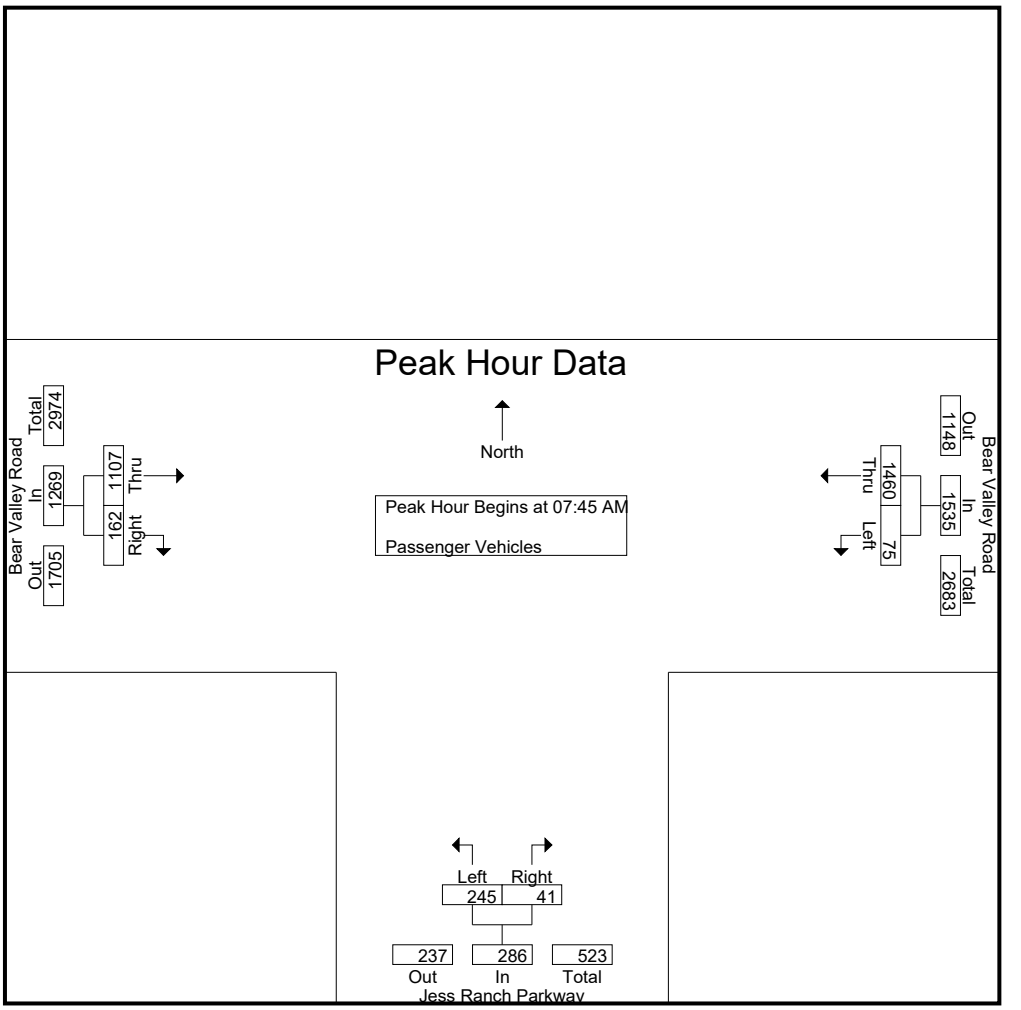

Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:45 AM			07:45 AM			07:45 AM		
+0 mins.	19	**432**	**451**	48	5	53	290	33	323
+15 mins.	12	362	374	65	**13**	78	249	**55**	304
+30 mins.	18	360	378	59	12	71	266	42	308
+45 mins.	**26**	306	332	**73**	11	**84**	**302**	32	**334**
Total Volume	75	1460	1535	245	41	286	1107	162	1269
% App. Total	4.9	95.1		85.7	14.3		87.2	12.8	
PHF	.721	.845	.851	.839	.788	.851	.916	.736	.950

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City of Apple Valley
N/S: Jess Ranch Parkway
E/W: Bear Valley Road
Weather: Clear

File Name : 03_APV_Jess_BV AM
Site Code : 221022
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Page No : 1

Groups Printed- Large 2 Axle Vehicles

	Bear Valley Road Westbound			Jess Ranch Parkway Northbound			Bear Valley Road Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
07:00 AM	0	9	9	0	0	0	5	0	5	14
07:15 AM	0	4	4	2	0	2	13	1	14	20
07:30 AM	0	6	6	0	0	0	7	4	11	17
07:45 AM	0	8	8	1	0	1	4	1	5	14
Total	0	27	27	3	0	3	29	6	35	65
08:00 AM	0	7	7	2	0	2	10	1	11	20
08:15 AM	0	8	8	1	0	1	12	0	12	21
08:30 AM	0	12	12	0	0	0	8	1	9	21
08:45 AM	0	6	6	1	0	1	12	0	12	19
Total	0	33	33	4	0	4	42	2	44	81
Grand Total	0	60	60	7	0	7	71	8	79	146
Apprch %	0	100		100	0		89.9	10.1		
Total %	0	41.1	41.1	4.8	0	4.8	48.6	5.5	54.1	

	Bear Valley Road Westbound			Jess Ranch Parkway Northbound			Bear Valley Road Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:45 AM										
07:45 AM	0	8	8	1	0	1	4	**1**	5	14
08:00 AM	0	7	7	**2**	0	**2**	10	1	11	20
08:15 AM	0	8	8	1	0	1	**12**	0	**12**	**21**
08:30 AM	0	**12**	**12**	0	0	0	8	1	9	21
Total Volume	0	35	35	4	0	4	34	3	37	76
% App. Total	0	100		100	0		91.9	8.1		
PHF	.000	.729	.729	.500	.000	.500	.708	.750	.771	.905

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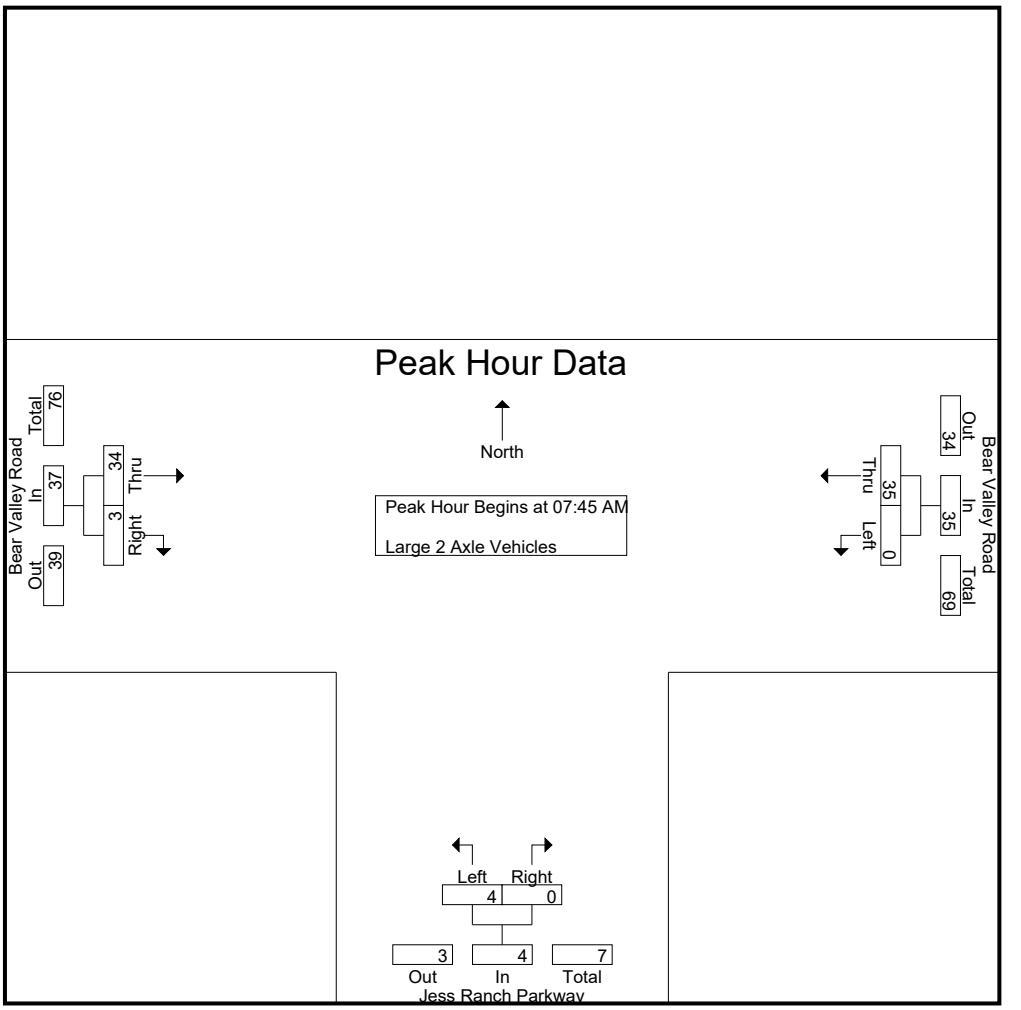

Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:45 AM			07:45 AM			07:45 AM		
+0 mins.	0	8	8	1	0	1	4	**1**	5
+15 mins.	0	7	7	**2**	0	**2**	10	1	11
+30 mins.	0	8	8	1	0	1	**12**	0	**12**
+45 mins.	0	**12**	**12**	0	0	0	8	1	9
Total Volume	0	35	35	4	0	4	34	3	37
% App. Total	0	100		100	0		91.9	8.1	
PHF	.000	.729	.729	.500	.000	.500	.708	.750	.771

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City of Apple Valley
N/S: Jess Ranch Parkway
E/W: Bear Valley Road
Weather: Clear

File Name : 03_APV_Jess_BV AM
Site Code : 221022
Start Date : 11/17/2022
Page No : 1

Groups Printed- 3 Axle Vehicles

	Bear Valley Road Westbound			Jess Ranch Parkway Northbound			Bear Valley Road Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
07:00 AM	0	2	2	0	0	0	3	0	3	5
07:15 AM	0	1	1	0	0	0	1	1	2	3
07:30 AM	0	1	1	0	0	0	3	0	3	4
07:45 AM	0	0	0	0	0	0	2	0	2	2
Total	0	4	4	0	0	0	9	1	10	14
08:00 AM	0	3	3	0	0	0	2	0	2	5
08:15 AM	0	2	2	0	0	0	1	0	1	3
08:30 AM	0	1	1	0	0	0	4	0	4	5
08:45 AM	0	3	3	0	0	0	1	0	1	4
Total	0	9	9	0	0	0	8	0	8	17
Grand Total	0	13	13	0	0	0	17	1	18	31
Apprch %	0	100		0	0		94.4	5.6		
Total %	0	41.9	41.9	0	0	0	54.8	3.2	58.1	

	Bear Valley Road Westbound			Jess Ranch Parkway Northbound			Bear Valley Road Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:45 AM										
07:45 AM	0	0	0	0	0	0	2	0	2	2
08:00 AM	0	**3**	**3**	0	0	0	2	0	2	**5**
08:15 AM	0	2	2	0	0	0	1	0	1	3
08:30 AM	0	1	1	0	0	0	**4**	0	**4**	5
Total Volume	0	6	6	0	0	0	9	0	9	15
% App. Total	0	100		0	0		100	0		
PHF	.000	.500	.500	.000	.000	.000	.563	.000	.563	.750

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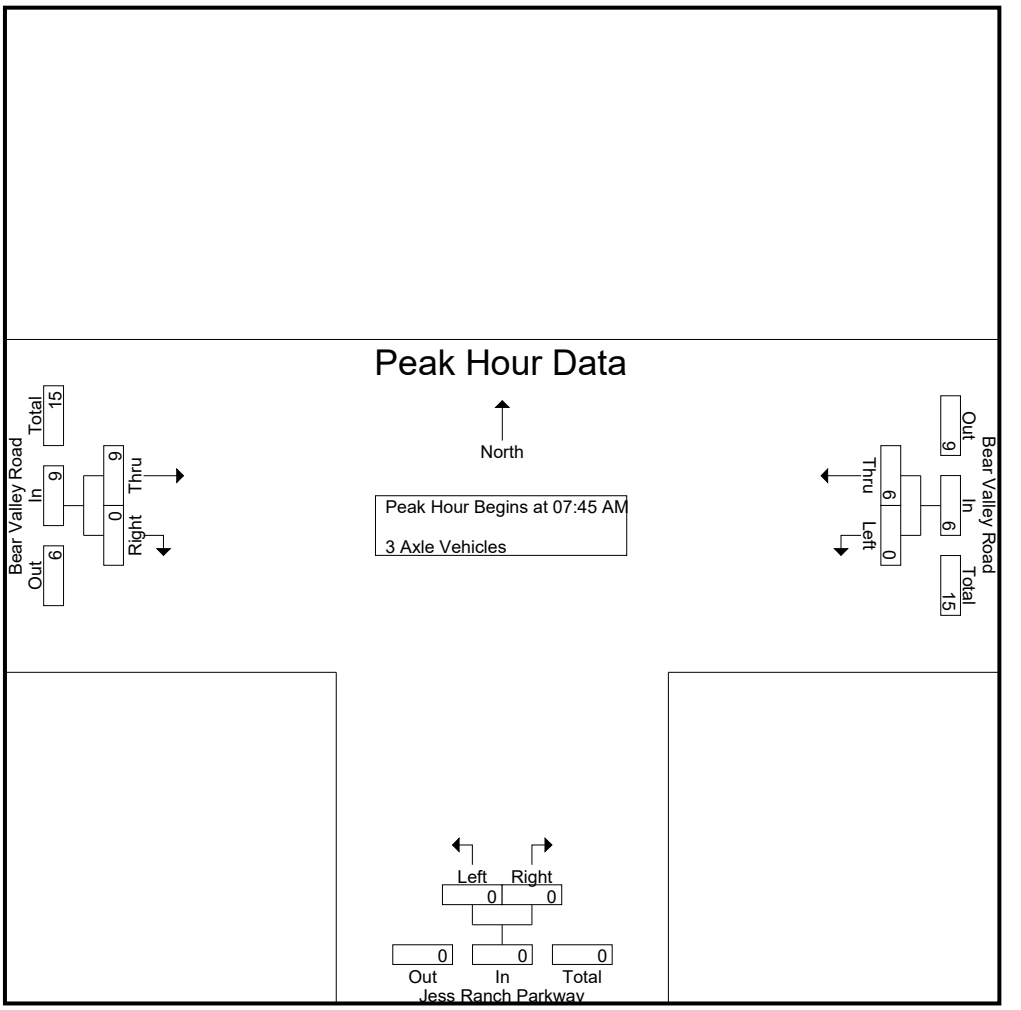

Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:45 AM			07:45 AM			07:45 AM		
+0 mins.	0	0	0	0	0	0	2	0	2
+15 mins.	0	**3**	**3**	0	0	0	2	0	2
+30 mins.	0	2	2	0	0	0	1	0	1
+45 mins.	0	1	1	0	0	0	**4**	0	**4**
Total Volume	0	6	6	0	0	0	9	0	9
% App. Total	0	100		0	0		100	0	
PHF	.000	.500	.500	.000	.000	.000	.563	.000	.563

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File Name : 03_APV_Jess_BV AM
Site Code : 221022
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Groups Printed- 4+ Axle Trucks

	Bear Valley Road Westbound			Jess Ranch Parkway Northbound			Bear Valley Road Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
07:00 AM	0	6	6	1	0	1	15	0	15	22
07:15 AM	0	7	7	1	0	1	4	0	4	12
07:30 AM	0	3	3	0	0	0	7	0	7	10
07:45 AM	0	5	5	0	0	0	2	0	2	7
Total	0	21	21	2	0	2	28	0	28	51
08:00 AM	0	9	9	0	0	0	7	0	7	16
08:15 AM	0	6	6	0	0	0	9	0	9	15
08:30 AM	0	5	5	0	0	0	5	0	5	10
08:45 AM	0	1	1	0	0	0	7	0	7	8
Total	0	21	21	0	0	0	28	0	28	49
Grand Total	0	42	42	2	0	2	56	0	56	100
Apprch %	0	100		100	0		100	0		
Total %	0	42	42	2	0	2	56	0	56	

	Bear Valley Road Westbound			Jess Ranch Parkway Northbound			Bear Valley Road Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:45 AM										
07:45 AM	0	5	5	0	0	0	2	0	2	7
08:00 AM	0	**9**	**9**	0	0	0	7	0	7	**16**
08:15 AM	0	6	6	0	0	0	**9**	0	**9**	15
08:30 AM	0	5	5	0	0	0	5	0	5	10
Total Volume	0	25	25	0	0	0	23	0	23	48
% App. Total	0	100		0	0		100	0		
PHF	.000	.694	.694	.000	.000	.000	.639	.000	.639	.750

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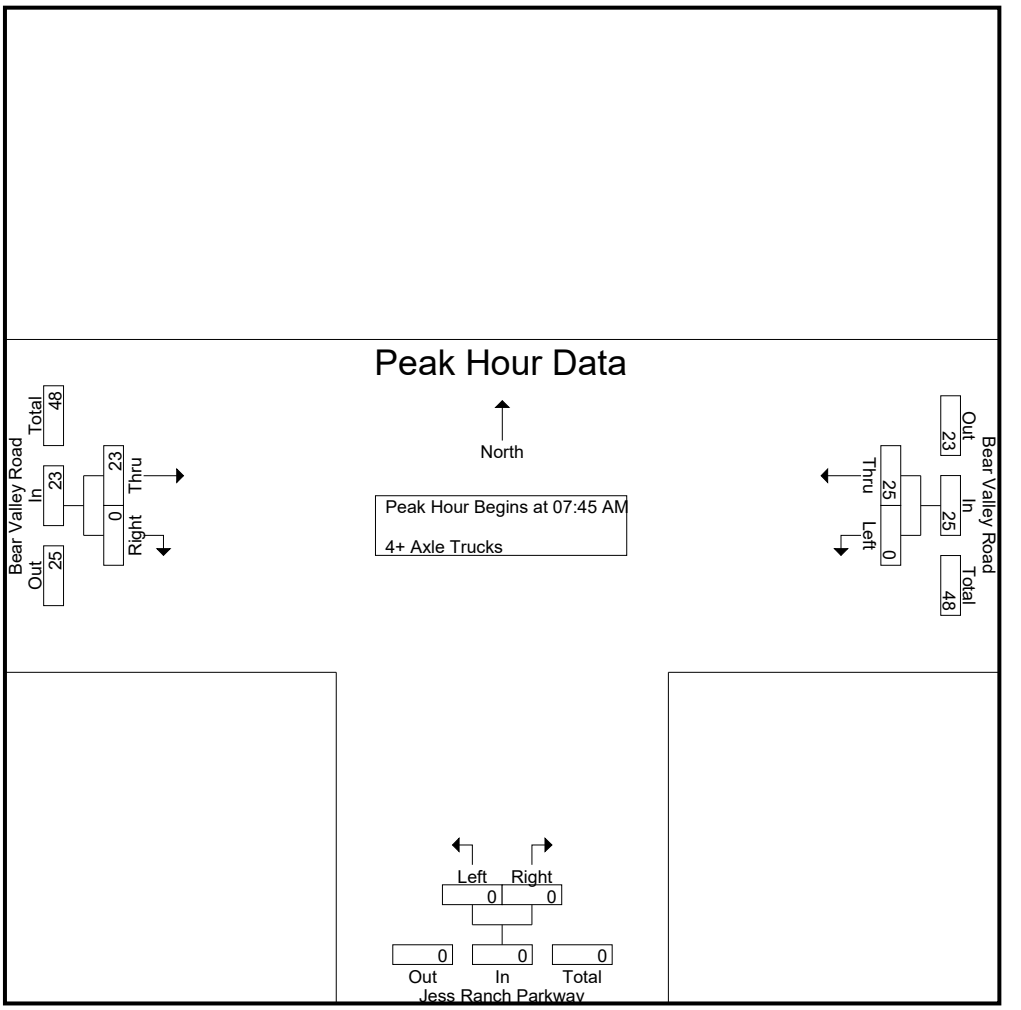

Peak Hour Analysis From 07:45 AM to 08:30 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:45 AM			07:45 AM			07:45 AM		
+0 mins.	0	5	5	0	0	0	2	0	2
+15 mins.	0	**9**	**9**	0	0	0	7	0	7
+30 mins.	0	6	6	0	0	0	**9**	0	**9**
+45 mins.	0	5	5	0	0	0	5	0	5
Total Volume	0	25	25	0	0	0	23	0	23
% App. Total	0	100		0	0		100	0	
PHF	.000	.694	.694	.000	.000	.000	.639	.000	.639

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Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	Bear Valley Road Westbound			Jess Ranch Parkway Northbound			Bear Valley Road Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
04:00 PM	38	332	370	87	50	137	437	78	515	1022
04:15 PM	39	338	377	82	30	112	427	84	511	1000
04:30 PM	49	361	410	101	42	143	402	76	478	1031
04:45 PM	42	329	371	97	44	141	428	77	505	1017
Total	168	1360	1528	367	166	533	1694	315	2009	4070
05:00 PM	57	316	373	126	38	164	421	82	503	1040
05:15 PM	43	350	393	107	48	155	441	80	521	1069
05:30 PM	48	331	379	97	40	137	376	89	465	981
05:45 PM	31	271	302	107	44	151	394	64	458	911
Total	179	1268	1447	437	170	607	1632	315	1947	4001
Grand Total	347	2628	2975	804	336	1140	3326	630	3956	8071
Apprch %	11.7	88.3		70.5	29.5		84.1	15.9		
Total %	4.3	32.6	36.9	10	4.2	14.1	41.2	7.8	49	
Passenger Vehicles	347	2563	2910	799	334	1133	3262	626	3888	7931
% Passenger Vehicles	100	97.5	97.8	99.4	99.4	99.4	98.1	99.4	98.3	98.3
Large 2 Axle Vehicles	0	41	41	4	2	6	41	4	45	92
% Large 2 Axle Vehicles	0	1.6	1.4	0.5	0.6	0.5	1.2	0.6	1.1	1.1
3 Axle Vehicles	0	3	3	0	0	0	3	0	3	6
% 3 Axle Vehicles	0	0.1	0.1	0	0	0	0.1	0	0.1	0.1
4+ Axle Trucks	0	21	21	1	0	1	20	0	20	42
% 4+ Axle Trucks	0	0.8	0.7	0.1	0	0.1	0.6	0	0.5	0.5

	Bear Valley Road Westbound			Jess Ranch Parkway Northbound			Bear Valley Road Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:30 PM										
04:30 PM	49	**361**	**410**	101	42	143	402	76	478	1031
04:45 PM	42	329	371	97	44	141	428	77	505	1017
05:00 PM	**57**	316	373	**126**	38	**164**	421	**82**	503	1040
05:15 PM	43	350	393	107	**48**	155	**441**	80	**521**	**1069**
Total Volume	191	1356	1547	431	172	603	1692	315	2007	4157
% App. Total	12.3	87.7		71.5	28.5		84.3	15.7		
PHF	.838	.939	.943	.855	.896	.919	.959	.960	.963	.972

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City of Apple Valley
N/S: Jess Ranch Parkway
E/W: Bear Valley Road
Weather: Clear

File Name : 03_APV_Jess_BV PM
Site Code : 221022
Start Date : 11/17/2022
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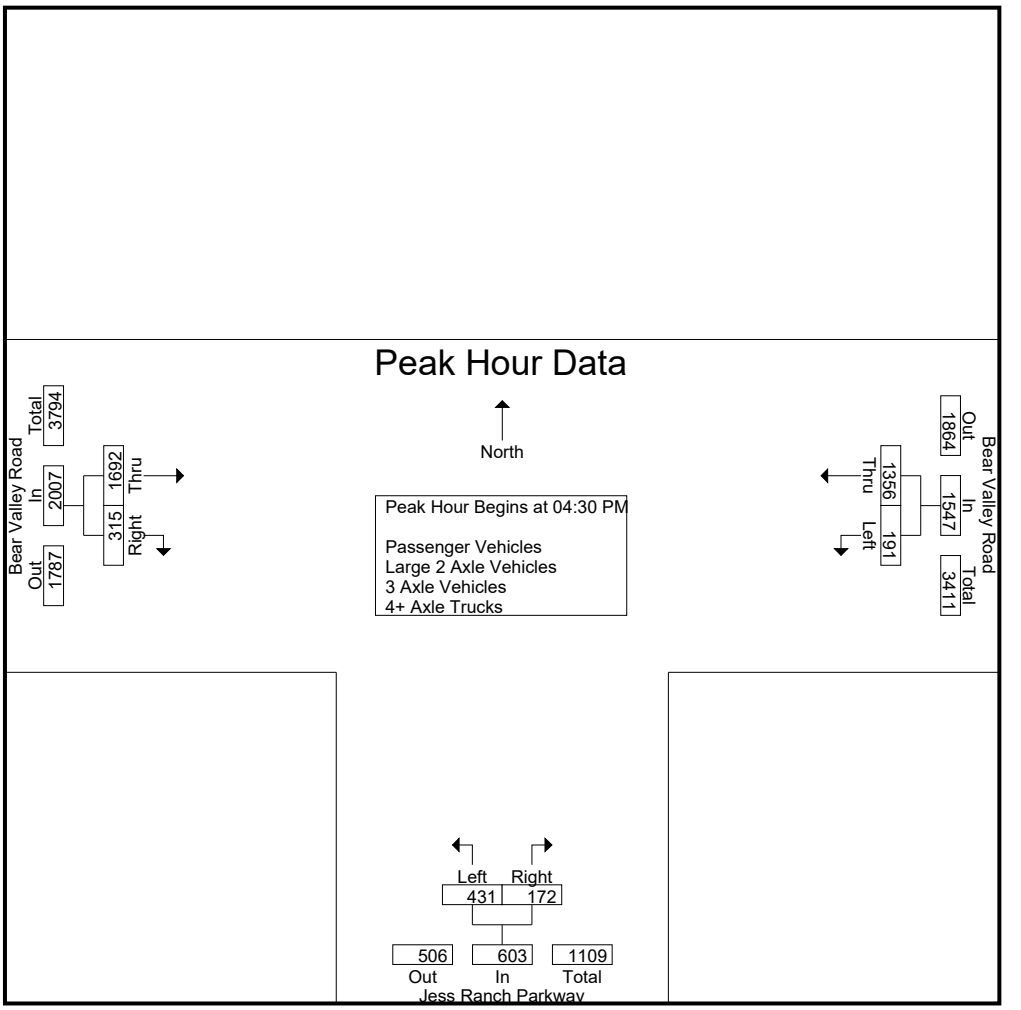

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM			05:00 PM			04:00 PM		
+0 mins.	49	**361**	**410**	**126**	38	**164**	**437**	78	**515**
+15 mins.	42	329	371	107	**48**	155	427	**84**	511
+30 mins.	**57**	316	373	97	40	137	402	76	478
+45 mins.	43	350	393	107	44	151	428	77	505
Total Volume	191	1356	1547	437	170	607	1694	315	2009
% App. Total	12.3	87.7		72	28		84.3	15.7	
PHF	.838	.939	.943	.867	.885	.925	.969	.938	.975

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City of Apple Valley
N/S: Jess Ranch Parkway
E/W: Bear Valley Road
Weather: Clear

File Name : 03_APV_Jess_BV PM
Site Code : 221022
Start Date : 11/17/2022
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Groups Printed- Passenger Vehicles

	Bear Valley Road Westbound			Jess Ranch Parkway Northbound			Bear Valley Road Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
04:00 PM	38	322	360	87	50	137	426	78	504	1001
04:15 PM	39	324	363	78	29	107	421	84	505	975
04:30 PM	49	353	402	101	42	143	390	75	465	1010
04:45 PM	42	322	364	97	44	141	419	76	495	1000
Total	168	1321	1489	363	165	528	1656	313	1969	3986
05:00 PM	57	309	366	126	38	164	415	81	496	1026
05:15 PM	43	339	382	106	47	153	433	80	513	1048
05:30 PM	48	327	375	97	40	137	371	88	459	971
05:45 PM	31	267	298	107	44	151	387	64	451	900
Total	179	1242	1421	436	169	605	1606	313	1919	3945
Grand Total	347	2563	2910	799	334	1133	3262	626	3888	7931
Apprch %	11.9	88.1		70.5	29.5		83.9	16.1		
Total %	4.4	32.3	36.7	10.1	4.2	14.3	41.1	7.9	49	

	Bear Valley Road Westbound			Jess Ranch Parkway Northbound			Bear Valley Road Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:30 PM										
04:30 PM	49	**353**	**402**	101	42	143	390	75	465	1010
04:45 PM	42	322	364	97	44	141	419	76	495	1000
05:00 PM	**57**	309	366	**126**	38	**164**	415	**81**	496	1026
05:15 PM	43	339	382	106	**47**	153	**433**	80	**513**	**1048**
Total Volume	191	1323	1514	430	171	601	1657	312	1969	4084
% App. Total	12.6	87.4		71.5	28.5		84.2	15.8		
PHF	.838	.937	.942	.853	.910	.916	.957	.963	.960	.974

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City of Apple Valley
N/S: Jess Ranch Parkway
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Weather: Clear

File Name : 03_APV_Jess_BV PM
Site Code : 221022
Start Date : 11/17/2022
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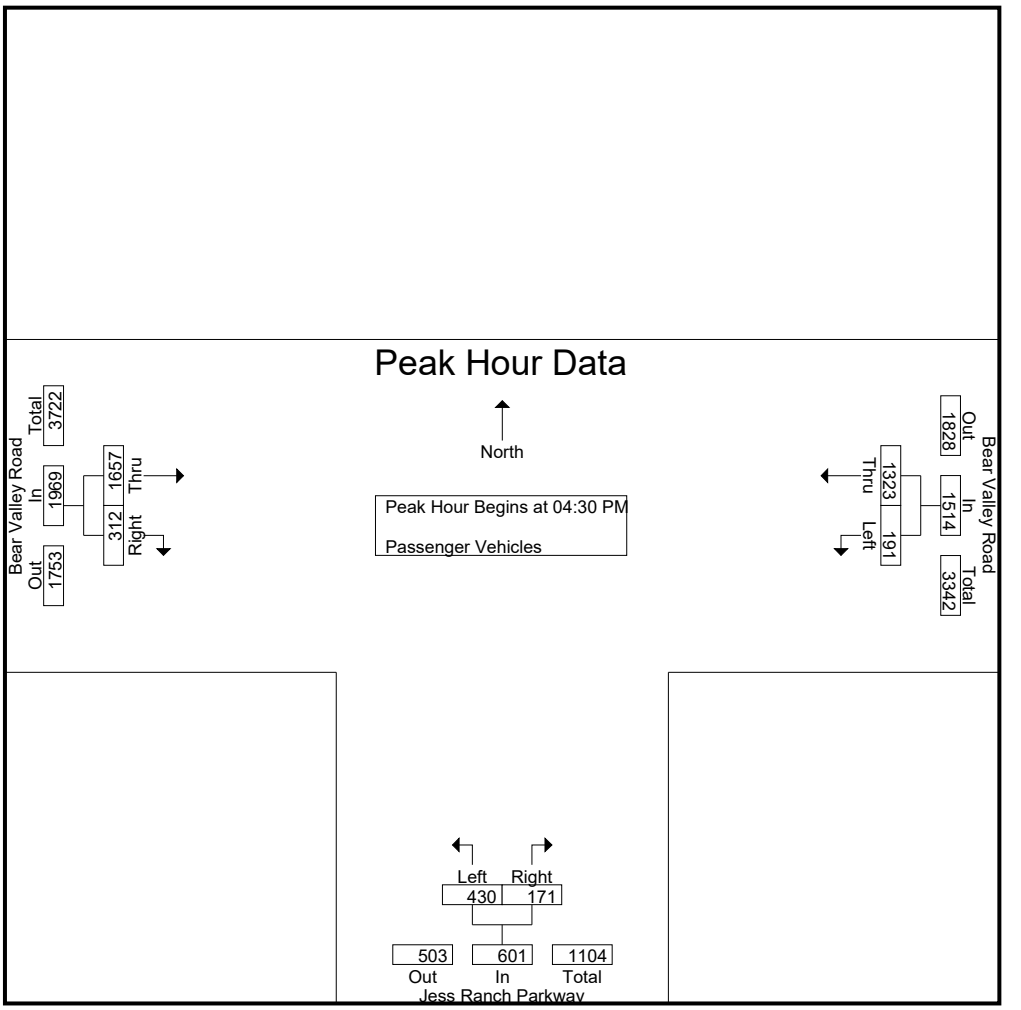

Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM			04:30 PM			04:30 PM		
+0 mins.	49	**353**	**402**	101	42	143	390	75	465
+15 mins.	42	322	364	97	44	141	419	76	495
+30 mins.	**57**	309	366	**126**	38	**164**	415	**81**	496
+45 mins.	43	339	382	106	**47**	153	**433**	80	**513**
Total Volume	191	1323	1514	430	171	601	1657	312	1969
% App. Total	12.6	87.4		71.5	28.5		84.2	15.8	
PHF	.838	.937	.942	.853	.910	.916	.957	.963	.960

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City of Apple Valley
N/S: Jess Ranch Parkway
E/W: Bear Valley Road
Weather: Clear

File Name : 03_APV_Jess_BV PM
Site Code : 221022
Start Date : 11/17/2022

Groups Printed- Large 2 Axle Vehicles

	Bear Valley Road Westbound			Jess Ranch Parkway Northbound			Bear Valley Road Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
04:00 PM	0	5	5	0	0	0	8	0	8	13
04:15 PM	0	9	9	3	1	4	5	0	5	18
04:30 PM	0	2	2	0	0	0	7	1	8	10
04:45 PM	0	5	5	0	0	0	4	1	5	10
Total	0	21	21	3	1	4	24	2	26	51
05:00 PM	0	5	5	0	0	0	3	1	4	9
05:15 PM	0	9	9	1	1	2	4	0	4	15
05:30 PM	0	3	3	0	0	0	4	1	5	8
05:45 PM	0	3	3	0	0	0	6	0	6	9
Total	0	20	20	1	1	2	17	2	19	41
Grand Total	0	41	41	4	2	6	41	4	45	92
Apprch %	0	100		66.7	33.3		91.1	8.9		
Total %	0	44.6	44.6	4.3	2.2	6.5	44.6	4.3	48.9	

	Bear Valley Road Westbound			Jess Ranch Parkway Northbound			Bear Valley Road Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:30 PM										
04:30 PM	0	2	2	0	0	0	**7**	**1**	**8**	10
04:45 PM	0	5	5	0	0	0	4	1	5	10
05:00 PM	0	5	5	0	0	0	3	1	4	9
05:15 PM	0	**9**	**9**	**1**	**1**	**2**	4	0	4	**15**
Total Volume	0	21	21	1	1	2	18	3	21	44
% App. Total	0	100		50	50		85.7	14.3		
PHF	.000	.583	.583	.250	.250	.250	.643	.750	.656	.733

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City of Apple Valley
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E/W: Bear Valley Road
Weather: Clear

File Name : 03_APV_Jess_BV PM
Site Code : 221022
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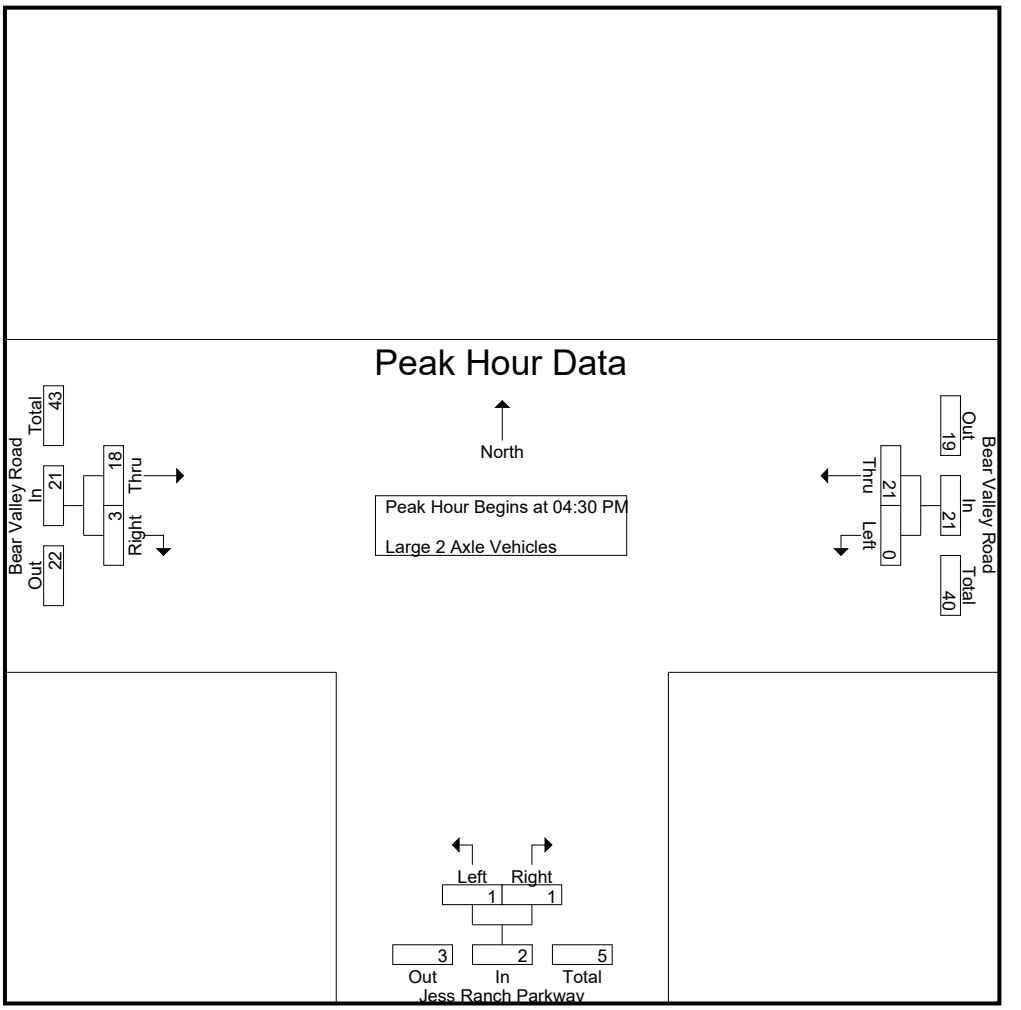

Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM			04:30 PM			04:30 PM		
+0 mins.	0	2	2	0	0	0	**7**	**1**	**8**
+15 mins.	0	5	5	0	0	0	4	1	5
+30 mins.	0	5	5	0	0	0	3	1	4
+45 mins.	0	**9**	**9**	**1**	**1**	**2**	4	0	4
Total Volume	0	21	21	1	1	2	18	3	21
% App. Total	0	100		50	50		85.7	14.3	
PHF	.000	.583	.583	.250	.250	.250	.643	.750	.656

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City of Apple Valley
N/S: Jess Ranch Parkway
E/W: Bear Valley Road
Weather: Clear

File Name : 03_APV_Jess_BV PM
Site Code : 221022
Start Date : 11/17/2022

Groups Printed- 3 Axle Vehicles

	Bear Valley Road Westbound			Jess Ranch Parkway Northbound			Bear Valley Road Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
04:00 PM	0	1	1	0	0	0	0	0	0	1
04:15 PM	0	2	2	0	0	0	0	0	0	2
04:30 PM	0	0	0	0	0	0	1	0	1	1
04:45 PM	0	0	0	0	0	0	1	0	1	1
Total	0	3	3	0	0	0	2	0	2	5
05:00 PM	0	0	0	0	0	0	1	0	1	1
05:15 PM	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	1	0	1	1
Grand Total	0	3	3	0	0	0	3	0	3	6
Apprch %	0	100		0	0		100	0		
Total %	0	50	50	0	0	0	50	0	50	

	Bear Valley Road Westbound			Jess Ranch Parkway Northbound			Bear Valley Road Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:30 PM										
04:30 PM	0	0	0	0	0	0	**1**	0	**1**	**1**
04:45 PM	0	0	0	0	0	0	1	0	1	1
05:00 PM	0	0	0	0	0	0	1	0	1	1
05:15 PM	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	3	0	3	3
% App. Total	0	0		0	0		100	0		
PHF	.000	.000	.000	.000	.000	.000	.750	.000	.750	.750

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City of Apple Valley
N/S: Jess Ranch Parkway
E/W: Bear Valley Road
Weather: Clear

File Name : 03_APV_Jess_BV PM
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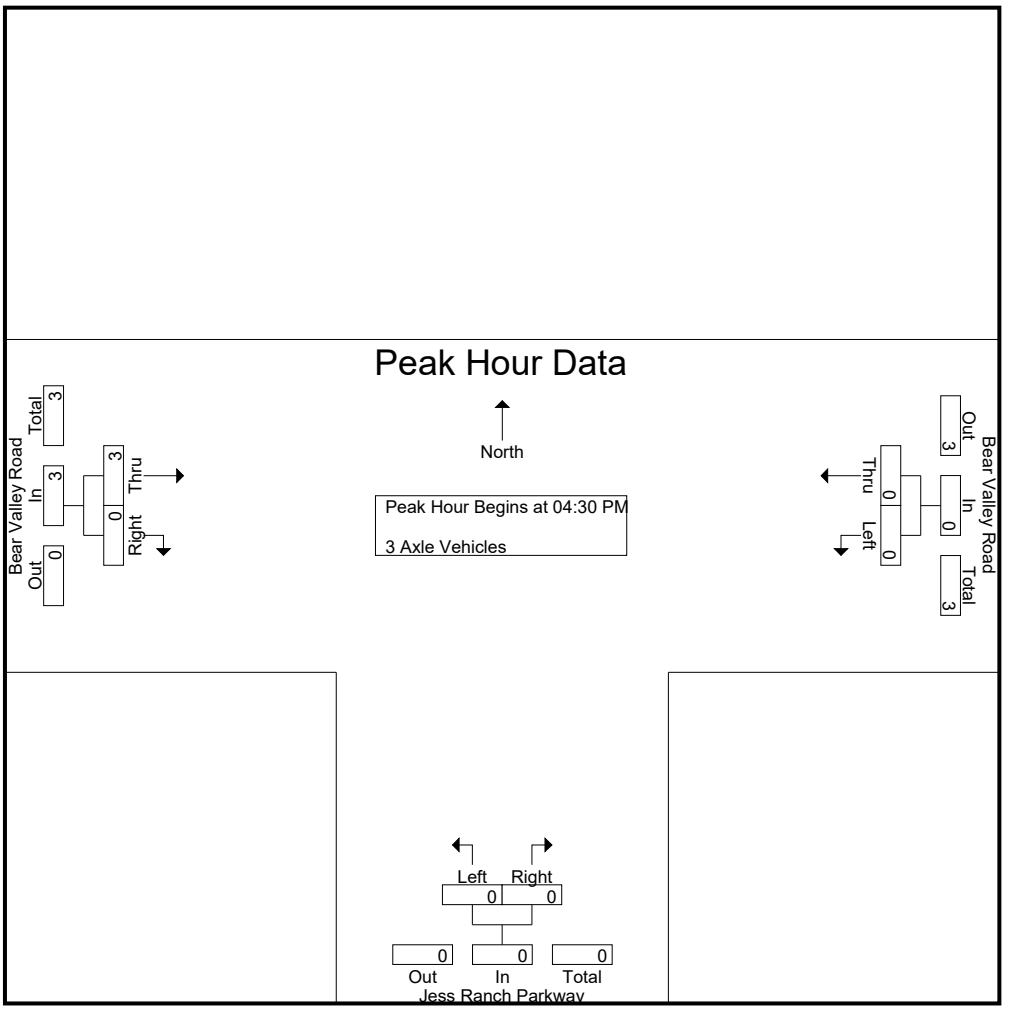

Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM			04:30 PM			04:30 PM		
+0 mins.	0	0	0	0	0	0	**1**	0	**1**
+15 mins.	0	0	0	0	0	0	1	0	1
+30 mins.	0	0	0	0	0	0	1	0	1
+45 mins.	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	3	0	3
% App. Total	0	0		0	0		100	0	
PHF	.000	.000	.000	.000	.000	.000	.750	.000	.750

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City of Apple Valley
N/S: Jess Ranch Parkway
E/W: Bear Valley Road
Weather: Clear

File Name : 03_APV_Jess_BV PM
Site Code : 221022
Start Date : 11/17/2022
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Groups Printed- 4+ Axle Trucks

	Bear Valley Road Westbound			Jess Ranch Parkway Northbound			Bear Valley Road Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
04:00 PM	0	4	4	0	0	0	3	0	3	7
04:15 PM	0	3	3	1	0	1	1	0	1	5
04:30 PM	0	6	6	0	0	0	4	0	4	10
04:45 PM	0	2	2	0	0	0	4	0	4	6
Total	0	15	15	1	0	1	12	0	12	28
05:00 PM	0	2	2	0	0	0	2	0	2	4
05:15 PM	0	2	2	0	0	0	4	0	4	6
05:30 PM	0	1	1	0	0	0	1	0	1	2
05:45 PM	0	1	1	0	0	0	1	0	1	2
Total	0	6	6	0	0	0	8	0	8	14
Grand Total	0	21	21	1	0	1	20	0	20	42
Apprch %	0	100		100	0		100	0		
Total %	0	50	50	2.4	0	2.4	47.6	0	47.6	

	Bear Valley Road Westbound			Jess Ranch Parkway Northbound			Bear Valley Road Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:30 PM										
04:30 PM	0	**6**	**6**	0	0	0	**4**	0	**4**	**10**
04:45 PM	0	2	2	0	0	0	4	0	4	6
05:00 PM	0	2	2	0	0	0	2	0	2	4
05:15 PM	0	2	2	0	0	0	4	0	4	6
Total Volume	0	12	12	0	0	0	14	0	14	26
% App. Total	0	100		0	0		100	0		
PHF	.000	.500	.500	.000	.000	.000	.875	.000	.875	.650

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City of Apple Valley
N/S: Jess Ranch Parkway
E/W: Bear Valley Road
Weather: Clear

File Name : 03_APV_Jess_BV PM
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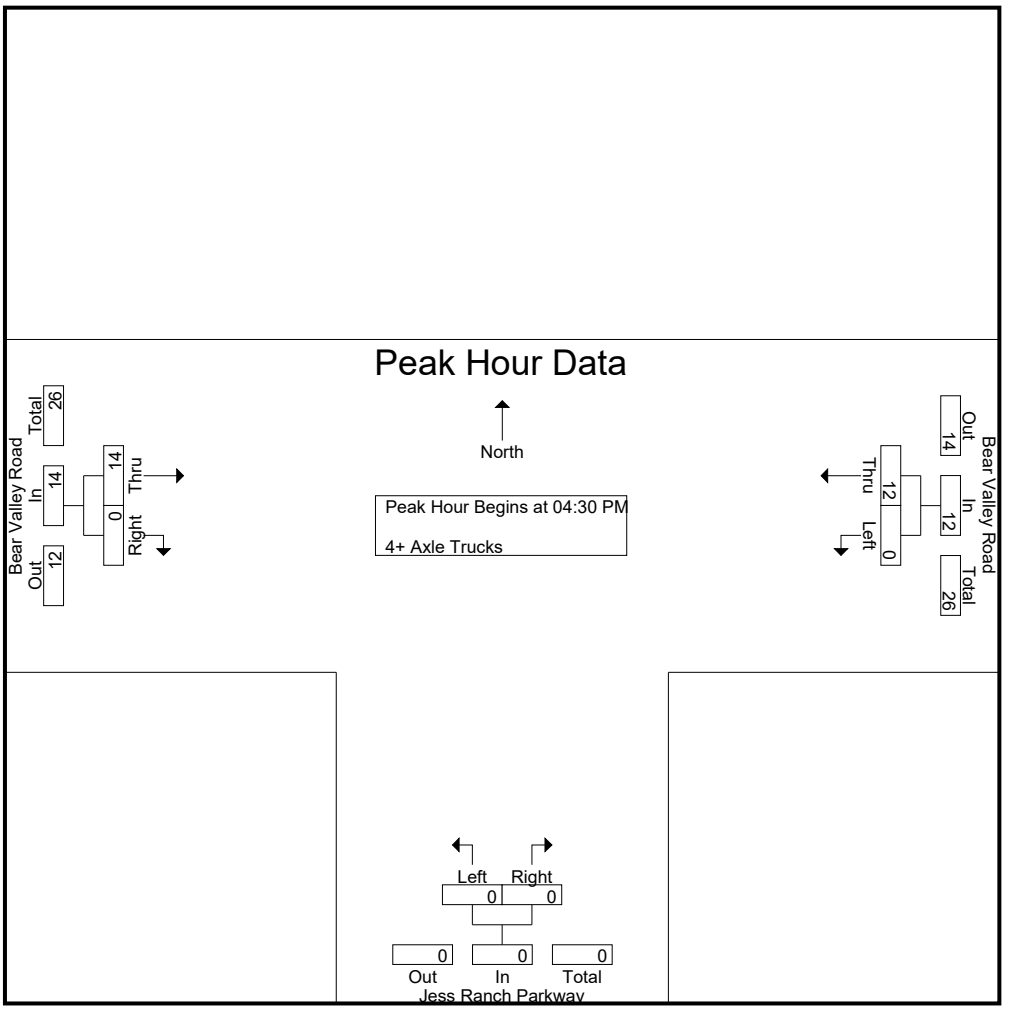

Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM			04:30 PM			04:30 PM		
+0 mins.	0	**6**	**6**	0	0	0	**4**	0	**4**
+15 mins.	0	2	2	0	0	0	4	0	4
+30 mins.	0	2	2	0	0	0	2	0	2
+45 mins.	0	2	2	0	0	0	4	0	4
Total Volume	0	12	12	0	0	0	14	0	14
% App. Total	0	100		0	0		100	0	
PHF	.000	.500	.500	.000	.000	.000	.875	.000	.875

Location: Apple Valley
N/S: Jess Ranch Parkway
E/W: Bear Valley Road

Date: 11/17/2022
Day: Thursday

PEDESTRIANS

	North Leg Jess Ranch Parkway	East Leg Bear Valley Road	South Leg Jess Ranch Parkway	West Leg Bear Valley Road	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	1	0	1
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	0	0	1	0	1

	North Leg Jess Ranch Parkway	East Leg Bear Valley Road	South Leg Jess Ranch Parkway	West Leg Bear Valley Road	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
4:00 PM	0	0	0	0	0
4:15 PM	0	0	4	0	4
4:30 PM	0	1	0	0	1
4:45 PM	0	1	1	0	2
5:00 PM	0	0	3	0	3
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	0	2	8	0	10

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Location: Apple Valley
N/S: Jess Ranch Parkway
E/W: Bear Valley Road

Date: 11/17/2022
Day: Thursday

BICYCLES

	Southbound Jess Ranch Parkway			Westbound Bear Valley Road			Northbound Jess Ranch Parkway			Eastbound Bear Valley Road			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0	0	0	0	0	0	0	0	0

	Southbound Jess Ranch Parkway			Westbound Bear Valley Road			Northbound Jess Ranch Parkway			Eastbound Bear Valley Road			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4:00 PM	0	0	0	0	0	0	0	0	0	0	1	1	2
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0	0	0	0	0	0	1	1	2

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City of Apple Valley
N/S: Reata Road
E/W: Bear Valley Road
Weather: Clear

File Name : 04_APV_Reata_BV AM
Site Code : 221022
Start Date : 11/17/2022
Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	Reata Road Southbound				Bear Valley Road Westbound				Reata Road Northbound				Bear Valley Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	6	4	34	44	5	261	8	274	2	2	5	9	45	157	3	205	532
07:15 AM	5	4	38	47	11	243	3	257	7	4	0	11	44	167	2	213	528
07:30 AM	7	8	66	81	10	336	2	348	2	6	8	16	43	249	7	299	744
07:45 AM	1	8	69	78	11	399	6	416	5	6	3	14	49	235	11	295	803
Total	19	24	207	250	37	1239	19	1295	16	18	16	50	181	808	23	1012	2607
08:00 AM	6	11	66	83	27	300	4	331	9	3	9	21	49	212	9	270	705
08:15 AM	3	12	65	80	9	327	2	338	18	8	6	32	59	228	18	305	755
08:30 AM	4	13	63	80	16	292	5	313	19	14	4	37	64	227	17	308	738
08:45 AM	3	11	68	82	24	285	7	316	12	7	12	31	77	223	27	327	756
Total	16	47	262	325	76	1204	18	1298	58	32	31	121	249	890	71	1210	2954
Grand Total	35	71	469	575	113	2443	37	2593	74	50	47	171	430	1698	94	2222	5561
Apprch %	6.1	12.3	81.6		4.4	94.2	1.4		43.3	29.2	27.5		19.4	76.4	4.2		
Total %	0.6	1.3	8.4	10.3	2	43.9	0.7	46.6	1.3	0.9	0.8	3.1	7.7	30.5	1.7	40	
Passenger Vehicles	33	71	466	570	112	2329	36	2477	73	49	43	165	425	1568	93	2086	5298
% Passenger Vehicles	94.3	100	99.4	99.1	99.1	95.3	97.3	95.5	98.6	98	91.5	96.5	98.8	92.3	98.9	93.9	95.3
Large 2 Axle Vehicles	1	0	1	2	0	57	1	58	1	0	3	4	2	57	1	60	124
% Large 2 Axle Vehicles	2.9	0	0.2	0.3	0	2.3	2.7	2.2	1.4	0	6.4	2.3	0.5	3.4	1.1	2.7	2.2
3 Axle Vehicles	0	0	1	1	0	11	0	11	0	1	1	2	1	18	0	19	33
% 3 Axle Vehicles	0	0	0.2	0.2	0	0.5	0	0.4	0	2	2.1	1.2	0.2	1.1	0	0.9	0.6
4+ Axle Trucks	1	0	1	2	1	46	0	47	0	0	0	0	2	55	0	57	106
% 4+ Axle Trucks	2.9	0	0.2	0.3	0.9	1.9	0	1.8	0	0	0	0	0.5	3.2	0	2.6	1.9

	Reata Road Southbound				Bear Valley Road Westbound				Reata Road Northbound				Bear Valley Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	**7**	8	66	81	10	336	2	348	2	6	8	16	43	**249**	7	299	744
07:45 AM	1	8	**69**	78	11	**399**	**6**	**416**	5	6	3	14	49	235	11	295	**803**
08:00 AM	6	11	66	**83**	**27**	300	4	331	9	3	**9**	21	49	212	9	270	705
08:15 AM	3	**12**	65	80	9	327	2	338	**18**	**8**	6	**32**	**59**	228	**18**	**305**	755
Total Volume	17	39	266	322	57	1362	14	1433	34	23	26	83	200	924	45	1169	3007
% App. Total	5.3	12.1	82.6		4	95	1		41	27.7	31.3		17.1	79	3.8		
PHF	.607	.813	.964	.970	.528	.853	.583	.861	.472	.719	.722	.648	.847	.928	.625	.958	.936

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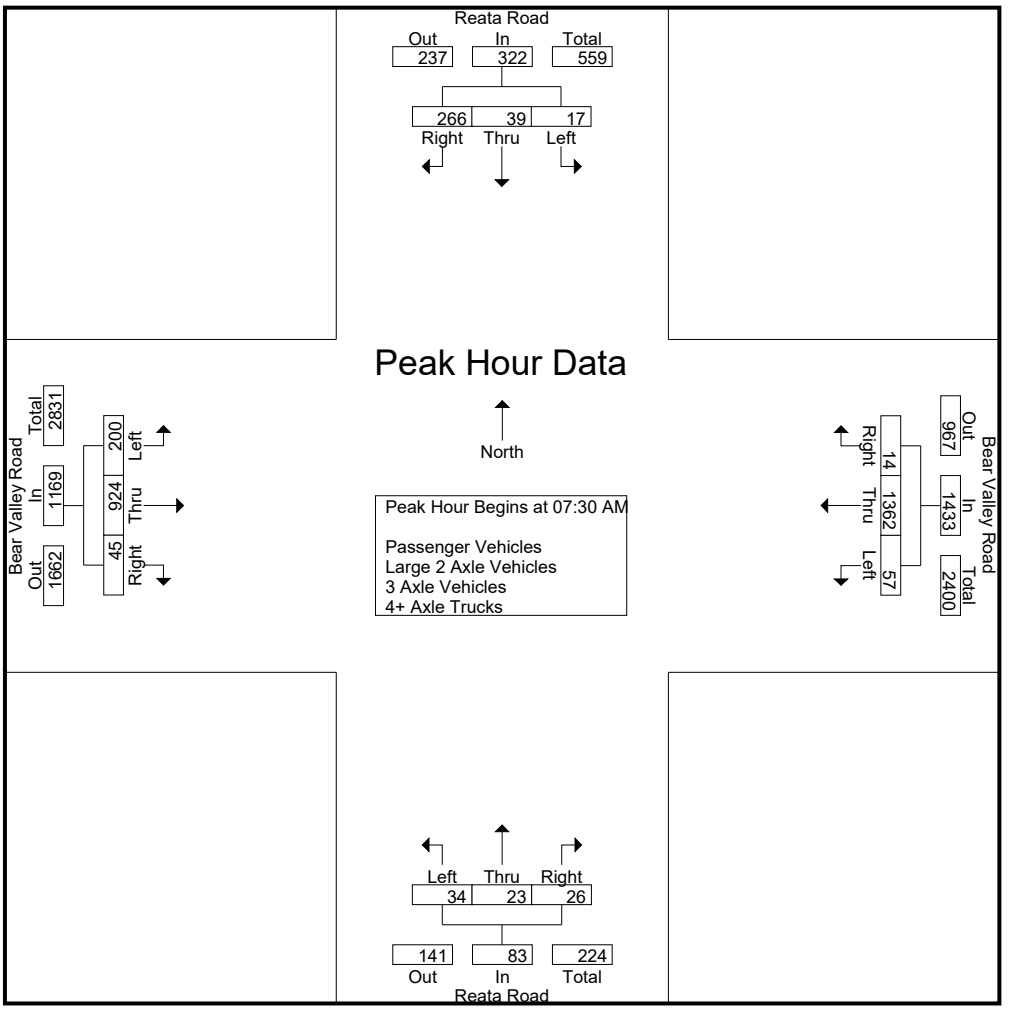
City of Apple Valley
N/S: Reata Road
E/W: Bear Valley Road
Weather: Clear

File Name : 04_APV_Reata_BV AM
Site Code : 221022
Start Date : 11/17/2022
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	08:00 AM				07:30 AM				08:00 AM				08:00 AM			
+0 mins.	**6**	11	66	**83**	10	336	2	348	9	3	9	21	49	212	9	270
+15 mins.	3	12	65	80	11	**399**	**6**	**416**	18	8	6	32	59	**228**	18	305
+30 mins.	4	**13**	63	80	**27**	300	4	331	**19**	**14**	4	**37**	64	227	17	308
+45 mins.	3	11	**68**	82	9	327	2	338	12	7	**12**	31	**77**	223	**27**	**327**
Total Volume	16	47	262	325	57	1362	14	1433	58	32	31	121	249	890	71	1210
% App. Total	4.9	14.5	80.6		4	95	1		47.9	26.4	25.6		20.6	73.6	5.9	
PHF	.667	.904	.963	.979	.528	.853	.583	.861	.763	.571	.646	.818	.808	.976	.657	.925

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City of Apple Valley
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Weather: Clear

File Name : 04_APV_Reata_BV AM
Site Code : 221022
Start Date : 11/17/2022
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Groups Printed- Passenger Vehicles

	Reata Road Southbound				Bear Valley Road Westbound				Reata Road Northbound				Bear Valley Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	6	4	33	43	5	246	8	259	2	2	5	9	45	132	3	180	491
07:15 AM	4	4	38	46	11	229	3	243	7	4	0	11	42	152	2	196	496
07:30 AM	7	8	65	80	9	328	1	338	2	5	6	13	43	233	7	283	714
07:45 AM	0	8	69	77	11	385	6	402	5	6	3	14	49	227	11	287	780
Total	17	24	205	246	36	1188	18	1242	16	17	14	47	179	744	23	946	2481
08:00 AM	6	11	65	82	27	285	4	316	9	3	8	20	49	198	8	255	673
08:15 AM	3	12	65	80	9	312	2	323	18	8	6	32	57	207	18	282	717
08:30 AM	4	13	63	80	16	275	5	296	18	14	3	35	63	213	17	293	704
08:45 AM	3	11	68	82	24	269	7	300	12	7	12	31	77	206	27	310	723
Total	16	47	261	324	76	1141	18	1235	57	32	29	118	246	824	70	1140	2817
Grand Total	33	71	466	570	112	2329	36	2477	73	49	43	165	425	1568	93	2086	5298
Apprch %	5.8	12.5	81.8		4.5	94	1.5		44.2	29.7	26.1		20.4	75.2	4.5		
Total %	0.6	1.3	8.8	10.8	2.1	44	0.7	46.8	1.4	0.9	0.8	3.1	8	29.6	1.8	39.4	

	Reata Road Southbound				Bear Valley Road Westbound				Reata Road Northbound				Bear Valley Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	**7**	8	65	80	9	328	1	338	2	5	6	13	43	**233**	7	283	714
07:45 AM	0	8	**69**	77	11	**385**	**6**	**402**	5	6	3	14	49	227	11	**287**	**780**
08:00 AM	6	11	65	**82**	**27**	285	4	316	9	3	**8**	20	49	198	8	255	673
08:15 AM	3	**12**	65	80	9	312	2	323	**18**	**8**	6	**32**	**57**	207	**18**	282	717
Total Volume	16	39	264	319	56	1310	13	1379	34	22	23	79	198	865	44	1107	2884
% App. Total	5	12.2	82.8		4.1	95	0.9		43	27.8	29.1		17.9	78.1	4		
PHF	.571	.813	.957	.973	.519	.851	.542	.858	.472	.688	.719	.617	.868	.928	.611	.964	.924

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City of Apple Valley
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File Name : 04_APV_Reata_BV AM
Site Code : 221022
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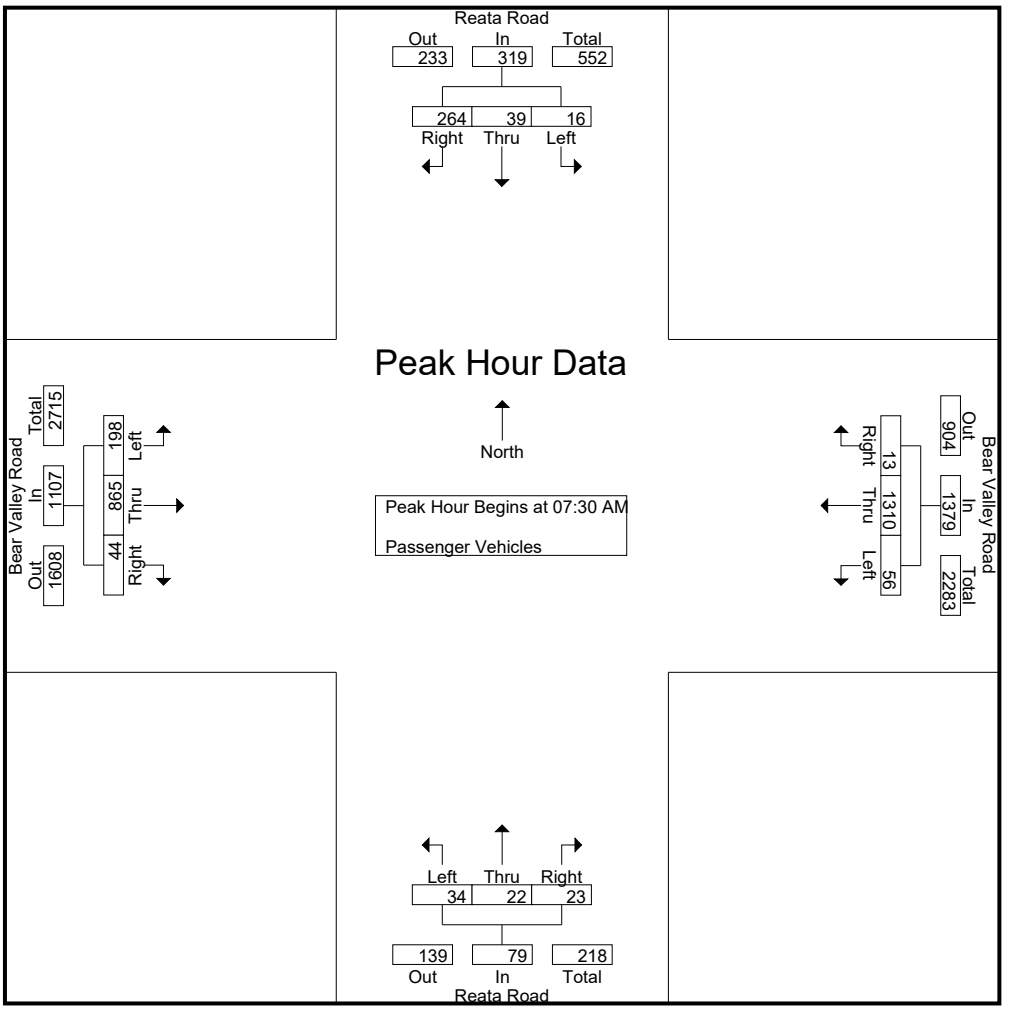

Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:30 AM				07:30 AM				07:30 AM				07:30 AM			
+0 mins.	**7**	8	65	80	9	328	1	338	2	5	6	13	43	**233**	7	283
+15 mins.	0	8	**69**	77	11	**385**	**6**	**402**	5	6	3	14	49	227	11	**287**
+30 mins.	6	11	65	**82**	**27**	285	4	316	9	3	**8**	20	49	198	8	255
+45 mins.	3	**12**	65	80	9	312	2	323	**18**	**8**	6	**32**	**57**	207	**18**	282
Total Volume	16	39	264	319	56	1310	13	1379	34	22	23	79	198	865	44	1107
% App. Total	5	12.2	82.8		4.1	95	0.9		43	27.8	29.1		17.9	78.1	4	
PHF	.571	.813	.957	.973	.519	.851	.542	.858	.472	.688	.719	.617	.868	.928	.611	.964

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City of Apple Valley
N/S: Reata Road
E/W: Bear Valley Road
Weather: Clear

File Name : 04_APV_Reata_BV AM
Site Code : 221022
Start Date : 11/17/2022
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Groups Printed- Large 2 Axle Vehicles

	Reata Road Southbound				Bear Valley Road Westbound				Reata Road Northbound				Bear Valley Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	0	9	0	9	0	0	0	0	0	6	0	6	15
07:15 AM	1	0	0	1	0	7	0	7	0	0	0	0	1	11	0	12	20
07:30 AM	0	0	1	1	0	4	1	5	0	0	1	1	0	7	0	7	14
07:45 AM	0	0	0	0	0	6	0	6	0	0	0	0	0	3	0	3	9
Total	1	0	1	2	0	26	1	27	0	0	1	1	1	27	0	28	58
08:00 AM	0	0	0	0	0	4	0	4	0	0	1	1	0	6	1	7	12
08:15 AM	0	0	0	0	0	8	0	8	0	0	0	0	1	11	0	12	20
08:30 AM	0	0	0	0	0	12	0	12	1	0	1	2	0	6	0	6	20
08:45 AM	0	0	0	0	0	7	0	7	0	0	0	0	0	7	0	7	14
Total	0	0	0	0	0	31	0	31	1	0	2	3	1	30	1	32	66
Grand Total	1	0	1	2	0	57	1	58	1	0	3	4	2	57	1	60	124
Apprch %	50	0	50		0	98.3	1.7		25	0	75		3.3	95	1.7		
Total %	0.8	0	0.8	1.6	0	46	0.8	46.8	0.8	0	2.4	3.2	1.6	46	0.8	48.4	

	Reata Road Southbound				Bear Valley Road Westbound				Reata Road Northbound				Bear Valley Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	0	0	**1**	**1**	0	4	**1**	5	0	0	**1**	**1**	0	7	0	7	14
07:45 AM	0	0	0	0	0	6	0	6	0	0	0	0	0	3	0	3	9
08:00 AM	0	0	0	0	0	4	0	4	0	0	1	1	0	6	**1**	7	12
08:15 AM	0	0	0	0	0	**8**	0	**8**	0	0	0	0	**1**	**11**	0	**12**	**20**
Total Volume	0	0	1	1	0	22	1	23	0	0	2	2	1	27	1	29	55
% App. Total	0	0	100		0	95.7	4.3		0	0	100		3.4	93.1	3.4		
PHF	.000	.000	.250	.250	.000	.688	.250	.719	.000	.000	.500	.500	.250	.614	.250	.604	.688

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City of Apple Valley
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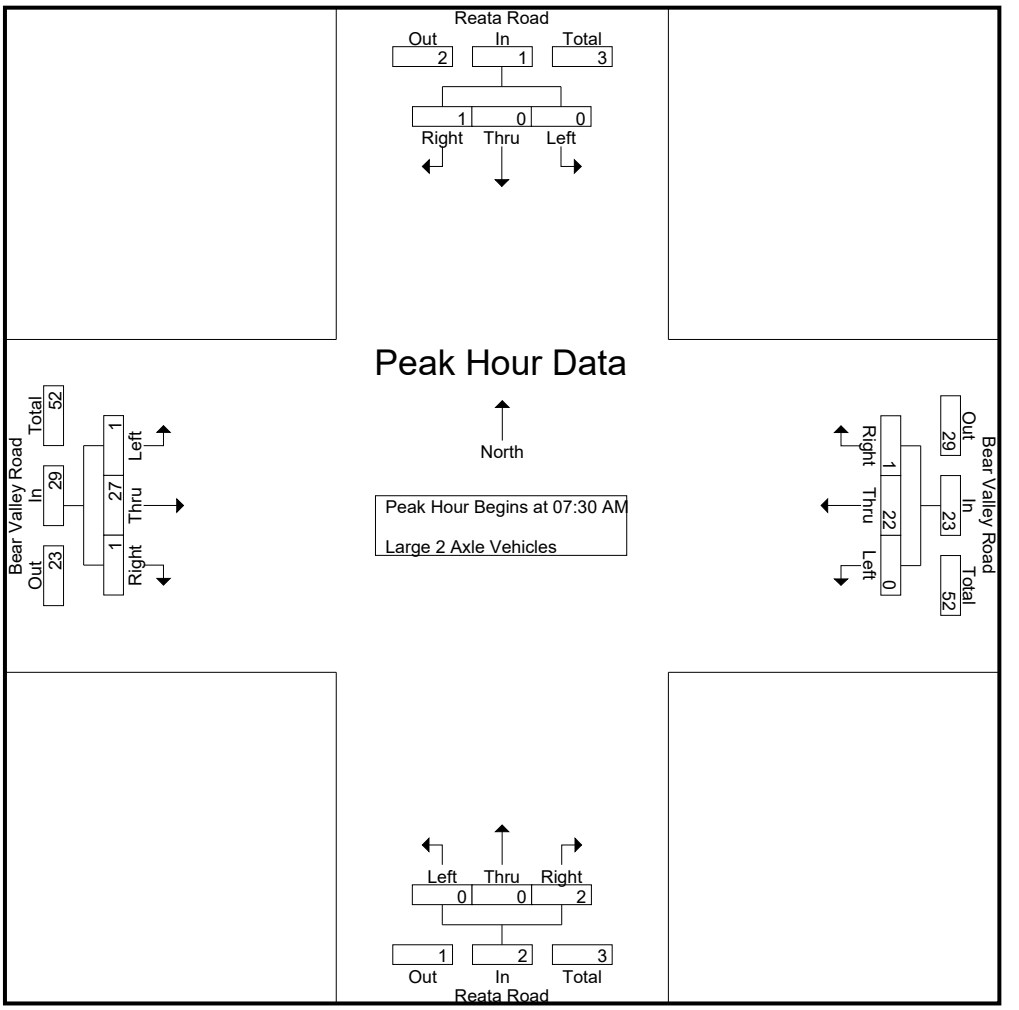

Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:30 AM				07:30 AM				07:30 AM				07:30 AM			
+0 mins.	0	0	**1**	**1**	0	4	**1**	5	0	0	**1**	**1**	0	7	0	7
+15 mins.	0	0	0	0	0	6	0	6	0	0	0	0	0	3	0	3
+30 mins.	0	0	0	0	0	4	0	4	0	0	1	1	0	6	**1**	7
+45 mins.	0	0	0	0	0	**8**	0	**8**	0	0	0	0	**1**	**11**	0	**12**
Total Volume	0	0	1	1	0	22	1	23	0	0	2	2	1	27	1	29
% App. Total	0	0	100		0	95.7	4.3		0	0	100		3.4	93.1	3.4	
PHF	.000	.000	.250	.250	.000	.688	.250	.719	.000	.000	.500	.500	.250	.614	.250	.604

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Groups Printed- 3 Axle Vehicles

	Reata Road Southbound				Bear Valley Road Westbound				Reata Road Northbound				Bear Valley Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	4	0	4	5
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	2
07:30 AM	0	0	0	0	0	1	0	1	0	1	1	2	0	3	0	3	6
07:45 AM	0	0	0	0	0	2	0	2	0	0	0	0	0	2	0	2	4
Total	0	0	0	0	0	4	0	4	0	1	1	2	0	11	0	11	17
08:00 AM	0	0	1	1	0	1	0	1	0	0	0	0	0	2	0	2	4
08:15 AM	0	0	0	0	0	2	0	2	0	0	0	0	0	1	0	1	3
08:30 AM	0	0	0	0	0	2	0	2	0	0	0	0	1	3	0	4	6
08:45 AM	0	0	0	0	0	2	0	2	0	0	0	0	0	1	0	1	3
Total	0	0	1	1	0	7	0	7	0	0	0	0	1	7	0	8	16
Grand Total	0	0	1	1	0	11	0	11	0	1	1	2	1	18	0	19	33
Apprch %	0	0	100		0	100	0		0	50	50		5.3	94.7	0		
Total %	0	0	3	3	0	33.3	0	33.3	0	3	3	6.1	3	54.5	0	57.6	

	Reata Road Southbound				Bear Valley Road Westbound				Reata Road Northbound				Bear Valley Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	0	0	0	0	0	1	0	1	0	**1**	**1**	**2**	0	**3**	0	**3**	**6**
07:45 AM	0	0	0	0	0	**2**	0	**2**	0	0	0	0	0	2	0	2	4
08:00 AM	0	0	**1**	**1**	0	1	0	1	0	0	0	0	0	2	0	2	4
08:15 AM	0	0	0	0	0	2	0	2	0	0	0	0	0	1	0	1	3
Total Volume	0	0	1	1	0	6	0	6	0	1	1	2	0	8	0	8	17
% App. Total	0	0	100		0	100	0		0	50	50		0	100	0		
PHF	.000	.000	.250	.250	.000	.750	.000	.750	.000	.250	.250	.250	.000	.667	.000	.667	.708

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City of Apple Valley
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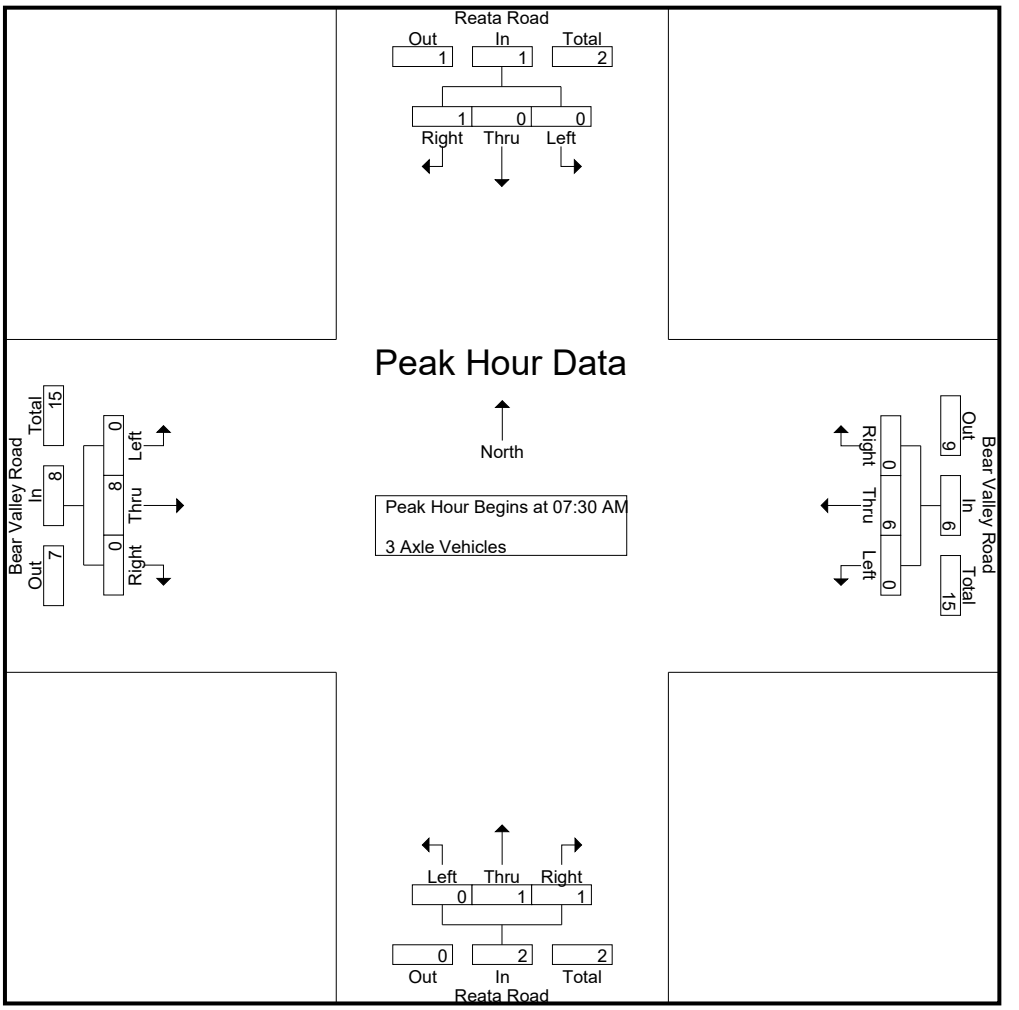

Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:30 AM				07:30 AM				07:30 AM				07:30 AM			
+0 mins.	0	0	0	0	0	1	0	1	0	**1**	**1**	**2**	0	**3**	0	**3**
+15 mins.	0	0	0	0	0	**2**	0	**2**	0	0	0	0	0	2	0	2
+30 mins.	0	0	**1**	**1**	0	1	0	1	0	0	0	0	0	2	0	2
+45 mins.	0	0	0	0	0	2	0	2	0	0	0	0	0	1	0	1
Total Volume	0	0	1	1	0	6	0	6	0	1	1	2	0	8	0	8
% App. Total	0	0	100		0	100	0		0	50	50		0	100	0	
PHF	.000	.000	.250	.250	.000	.750	.000	.750	.000	.250	.250	.250	.000	.667	.000	.667

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City of Apple Valley
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Weather: Clear

File Name : 04_APV_Reata_BV AM
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Groups Printed- 4+ Axle Trucks

	Reata Road Southbound				Bear Valley Road Westbound				Reata Road Northbound				Bear Valley Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	1	1	0	5	0	5	0	0	0	0	0	15	0	15	21
07:15 AM	0	0	0	0	0	7	0	7	0	0	0	0	1	2	0	3	10
07:30 AM	0	0	0	0	1	3	0	4	0	0	0	0	0	6	0	6	10
07:45 AM	1	0	0	1	0	6	0	6	0	0	0	0	0	3	0	3	10
Total	1	0	1	2	1	21	0	22	0	0	0	0	1	26	0	27	51
08:00 AM	0	0	0	0	0	10	0	10	0	0	0	0	0	6	0	6	16
08:15 AM	0	0	0	0	0	5	0	5	0	0	0	0	1	9	0	10	15
08:30 AM	0	0	0	0	0	3	0	3	0	0	0	0	0	5	0	5	8
08:45 AM	0	0	0	0	0	7	0	7	0	0	0	0	0	9	0	9	16
Total	0	0	0	0	0	25	0	25	0	0	0	0	1	29	0	30	55
Grand Total	1	0	1	2	1	46	0	47	0	0	0	0	2	55	0	57	106
Apprch %	50	0	50		2.1	97.9	0		0	0	0		3.5	96.5	0		
Total %	0.9	0	0.9	1.9	0.9	43.4	0	44.3	0	0	0	0	1.9	51.9	0	53.8	

	Reata Road Southbound				Bear Valley Road Westbound				Reata Road Northbound				Bear Valley Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	0	0	0	0	**1**	3	0	4	0	0	0	0	0	6	0	6	10
07:45 AM	**1**	0	0	**1**	0	6	0	6	0	0	0	0	0	3	0	3	10
08:00 AM	0	0	0	0	0	**10**	0	**10**	0	0	0	0	0	6	0	6	**16**
08:15 AM	0	0	0	0	0	5	0	5	0	0	0	0	**1**	**9**	0	**10**	15
Total Volume	1	0	0	1	1	24	0	25	0	0	0	0	1	24	0	25	51
% App. Total	100	0	0		4	96	0		0	0	0		4	96	0		
PHF	.250	.000	.000	.250	.250	.600	.000	.625	.000	.000	.000	.000	.250	.667	.000	.625	.797

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City of Apple Valley
N/S: Reata Road
E/W: Bear Valley Road
Weather: Clear

File Name : 04_APV_Reata_BV AM
Site Code : 221022
Start Date : 11/17/2022
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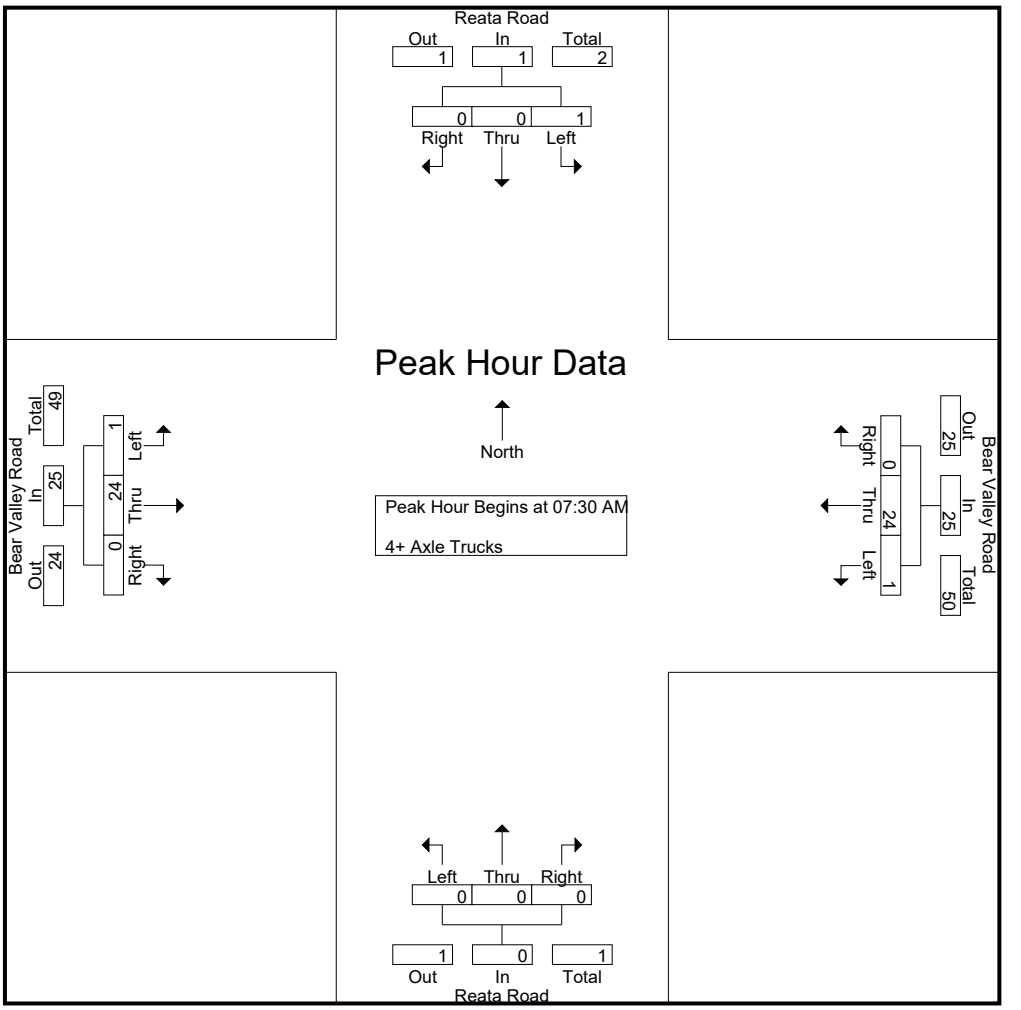

Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:30 AM				07:30 AM				07:30 AM				07:30 AM			
+0 mins.	0	0	0	0	**1**	3	0	4	0	0	0	0	0	6	0	6
+15 mins.	**1**	0	0	**1**	0	6	0	6	0	0	0	0	0	3	0	3
+30 mins.	0	0	0	0	0	**10**	0	**10**	0	0	0	0	0	6	0	6
+45 mins.	0	0	0	0	0	5	0	5	0	0	0	0	**1**	**9**	0	**10**
Total Volume	1	0	0	1	1	24	0	25	0	0	0	0	1	24	0	25
% App. Total	100	0	0		4	96	0		0	0	0		4	96	0	
PHF	.250	.000	.000	.250	.250	.600	.000	.625	.000	.000	.000	.000	.250	.667	.000	.625

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City of Apple Valley
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Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	Reata Road Southbound				Bear Valley Road Westbound				Reata Road Northbound				Bear Valley Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	5	19	68	92	47	248	5	300	53	26	38	117	89	338	33	460	969
04:15 PM	5	20	83	108	39	251	3	293	43	23	44	110	75	336	31	442	953
04:30 PM	10	27	82	119	27	304	2	333	40	23	46	109	70	349	33	452	1013
04:45 PM	4	29	53	86	39	292	5	336	50	20	41	111	72	359	41	472	1005
Total	24	95	286	405	152	1095	15	1262	186	92	169	447	306	1382	138	1826	3940
05:00 PM	9	28	64	101	50	246	4	300	65	30	40	135	73	324	25	422	958
05:15 PM	5	17	60	82	34	313	2	349	45	32	25	102	78	392	27	497	1030
05:30 PM	5	18	62	85	29	247	6	282	59	25	38	122	57	295	41	393	882
05:45 PM	5	13	51	69	38	217	6	261	51	13	33	97	71	326	39	436	863
Total	24	76	237	337	151	1023	18	1192	220	100	136	456	279	1337	132	1748	3733
Grand Total	48	171	523	742	303	2118	33	2454	406	192	305	903	585	2719	270	3574	7673
Apprch %	6.5	23	70.5		12.3	86.3	1.3		45	21.3	33.8		16.4	76.1	7.6		
Total %	0.6	2.2	6.8	9.7	3.9	27.6	0.4	32	5.3	2.5	4	11.8	7.6	35.4	3.5	46.6	
Passenger Vehicles	48	170	519	737	302	2051	32	2385	405	192	305	902	585	2659	269	3513	7537
% Passenger Vehicles	100	99.4	99.2	99.3	99.7	96.8	97	97.2	99.8	100	100	99.9	100	97.8	99.6	98.3	98.2
Large 2 Axle Vehicles	0	1	4	5	1	41	1	43	1	0	0	1	0	37	1	38	87
% Large 2 Axle Vehicles	0	0.6	0.8	0.7	0.3	1.9	3	1.8	0.2	0	0	0.1	0	1.4	0.4	1.1	1.1
3 Axle Vehicles	0	0	0	0	0	4	0	4	0	0	0	0	0	2	0	2	6
% 3 Axle Vehicles	0	0	0	0	0	0.2	0	0.2	0	0	0	0	0	0.1	0	0.1	0.1
4+ Axle Trucks	0	0	0	0	0	22	0	22	0	0	0	0	0	21	0	21	43
% 4+ Axle Trucks	0	0	0	0	0	1	0	0.9	0	0	0	0	0	0.8	0	0.6	0.6

	Reata Road Southbound				Bear Valley Road Westbound				Reata Road Northbound				Bear Valley Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	**10**	27	**82**	**119**	27	304	2	333	40	23	**46**	109	70	349	33	452	1013
04:45 PM	4	**29**	53	86	39	292	**5**	336	50	20	41	111	72	359	**41**	472	1005
05:00 PM	9	28	64	101	**50**	246	4	300	**65**	30	40	**135**	73	324	25	422	958
05:15 PM	5	17	60	82	34	**313**	2	**349**	45	**32**	25	102	**78**	**392**	27	**497**	**1030**
Total Volume	28	101	259	388	150	1155	13	1318	200	105	152	457	293	1424	126	1843	4006
% App. Total	7.2	26	66.8		11.4	87.6	1		43.8	23	33.3		15.9	77.3	6.8		
PHF	.700	.871	.790	.815	.750	.923	.650	.944	.769	.820	.826	.846	.939	.908	.768	.927	.972

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File Name : 04_APV_Reata_BV PM
Site Code : 221022
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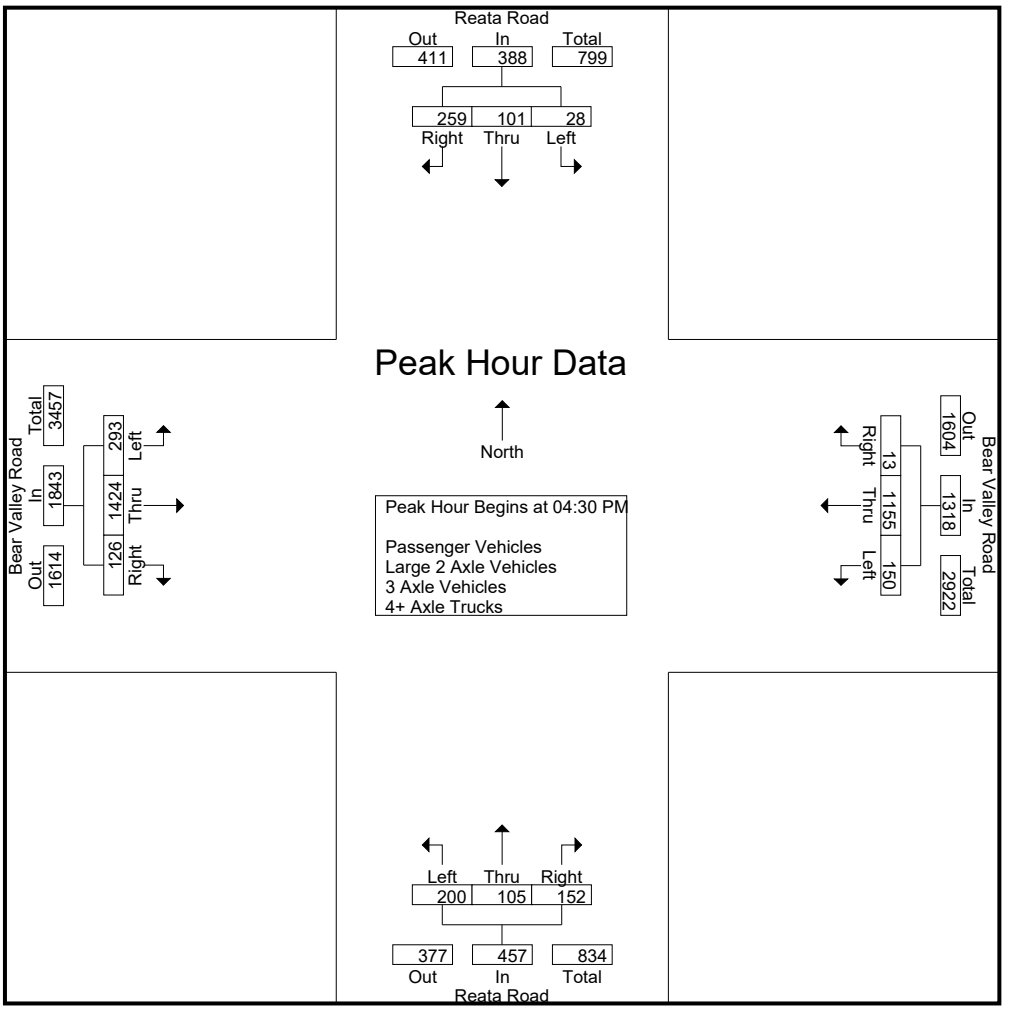

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:15 PM				04:30 PM				04:45 PM				04:30 PM			
+0 mins.	5	20	**83**	108	27	304	2	333	50	20	**41**	111	70	349	33	452
+15 mins.	**10**	27	82	**119**	39	292	**5**	336	**65**	30	40	**135**	72	359	**41**	472
+30 mins.	4	**29**	53	86	**50**	246	4	300	45	**32**	25	102	73	324	25	422
+45 mins.	9	28	64	101	34	**313**	2	**349**	59	25	38	122	**78**	**392**	27	**497**
Total Volume	28	104	282	414	150	1155	13	1318	219	107	144	470	293	1424	126	1843
% App. Total	6.8	25.1	68.1		11.4	87.6	1		46.6	22.8	30.6		15.9	77.3	6.8	
PHF	.700	.897	.849	.870	.750	.923	.650	.944	.842	.836	.878	.870	.939	.908	.768	.927

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Groups Printed- Passenger Vehicles

	Reata Road Southbound				Bear Valley Road Westbound				Reata Road Northbound				Bear Valley Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	5	19	68	92	46	239	5	290	53	26	38	117	89	328	33	450	949
04:15 PM	5	20	80	105	39	239	3	281	43	23	44	110	75	329	31	435	931
04:30 PM	10	27	82	119	27	293	2	322	40	23	46	109	70	335	33	438	988
04:45 PM	4	28	52	84	39	287	4	330	50	20	41	111	72	351	41	464	989
Total	24	94	282	400	151	1058	14	1223	186	92	169	447	306	1343	138	1787	3857
05:00 PM	9	28	64	101	50	239	4	293	64	30	40	134	73	321	24	418	946
05:15 PM	5	17	60	82	34	302	2	338	45	32	25	102	78	385	27	490	1012
05:30 PM	5	18	62	85	29	239	6	274	59	25	38	122	57	291	41	389	870
05:45 PM	5	13	51	69	38	213	6	257	51	13	33	97	71	319	39	429	852
Total	24	76	237	337	151	993	18	1162	219	100	136	455	279	1316	131	1726	3680
Grand Total	48	170	519	737	302	2051	32	2385	405	192	305	902	585	2659	269	3513	7537
Apprch %	6.5	23.1	70.4		12.7	86	1.3		44.9	21.3	33.8		16.7	75.7	7.7		
Total %	0.6	2.3	6.9	9.8	4	27.2	0.4	31.6	5.4	2.5	4	12	7.8	35.3	3.6	46.6	

	Reata Road Southbound				Bear Valley Road Westbound				Reata Road Northbound				Bear Valley Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	**10**	27	**82**	**119**	27	293	2	322	40	23	**46**	109	70	335	33	438	988
04:45 PM	4	**28**	52	84	39	287	**4**	330	50	20	41	111	72	351	**41**	464	989
05:00 PM	9	28	64	101	**50**	239	4	293	**64**	30	40	**134**	73	321	24	418	946
05:15 PM	5	17	60	82	34	**302**	2	**338**	45	**32**	25	102	**78**	**385**	27	**490**	**1012**
Total Volume	28	100	258	386	150	1121	12	1283	199	105	152	456	293	1392	125	1810	3935
% App. Total	7.3	25.9	66.8		11.7	87.4	0.9		43.6	23	33.3		16.2	76.9	6.9		
PHF	.700	.893	.787	.811	.750	.928	.750	.949	.777	.820	.826	.851	.939	.904	.762	.923	.972

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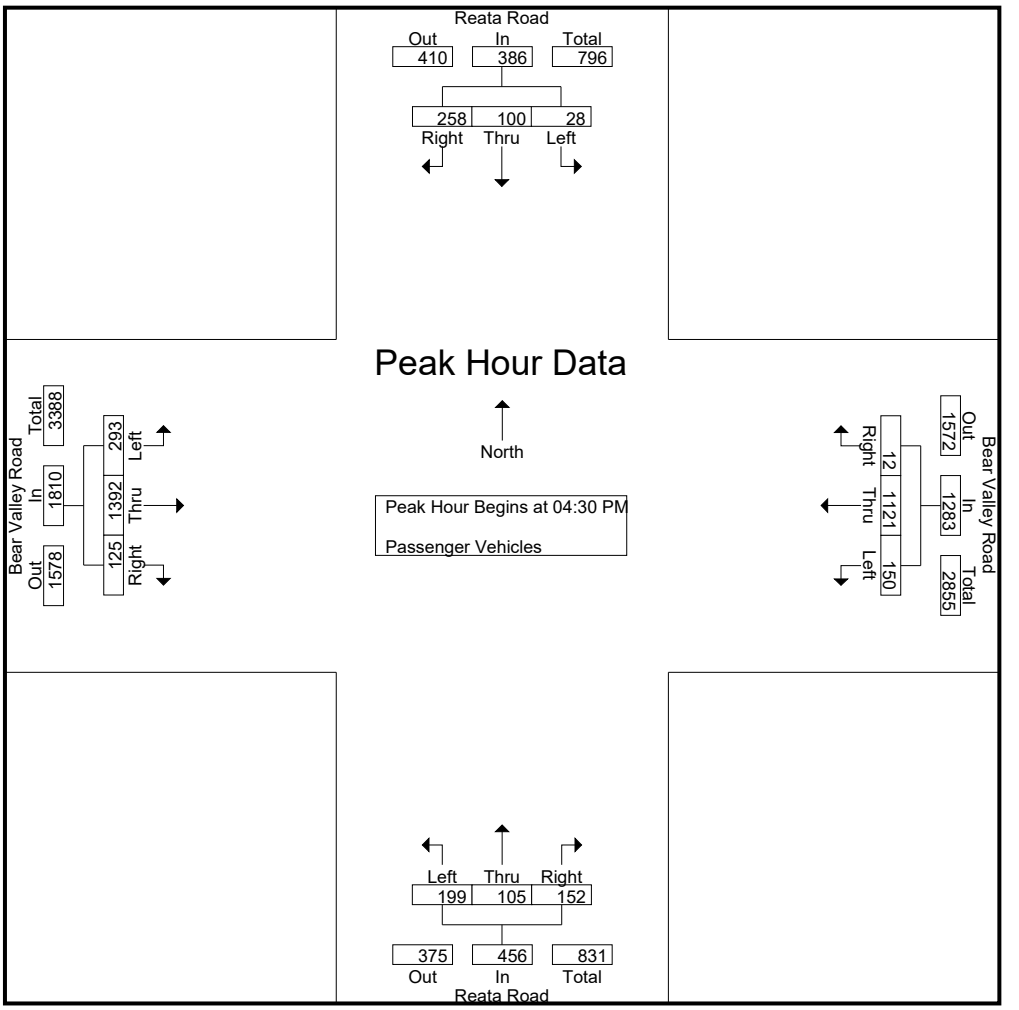

Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM				04:30 PM				04:30 PM				04:30 PM			
+0 mins.	**10**	27	**82**	**119**	27	293	2	322	40	23	**46**	109	70	335	33	438
+15 mins.	4	**28**	52	84	39	287	**4**	330	50	20	41	111	72	351	**41**	464
+30 mins.	9	28	64	101	**50**	239	4	293	**64**	30	40	**134**	73	321	24	418
+45 mins.	5	17	60	82	34	**302**	2	**338**	45	**32**	25	102	**78**	**385**	27	**490**
Total Volume	28	100	258	386	150	1121	12	1283	199	105	152	456	293	1392	125	1810
% App. Total	7.3	25.9	66.8		11.7	87.4	0.9		43.6	23	33.3		16.2	76.9	6.9	
PHF	.700	.893	.787	.811	.750	.928	.750	.949	.777	.820	.826	.851	.939	.904	.762	.923

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Groups Printed- Large 2 Axle Vehicles

	Reata Road Southbound				Bear Valley Road Westbound				Reata Road Northbound				Bear Valley Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	1	4	0	5	0	0	0	0	0	7	0	7	12
04:15 PM	0	0	3	3	0	6	0	6	0	0	0	0	0	7	0	7	16
04:30 PM	0	0	0	0	0	5	0	5	0	0	0	0	0	8	0	8	13
04:45 PM	0	1	1	2	0	3	1	4	0	0	0	0	0	3	0	3	9
Total	0	1	4	5	1	18	1	20	0	0	0	0	0	25	0	25	50
05:00 PM	0	0	0	0	0	4	0	4	1	0	0	1	0	1	1	2	7
05:15 PM	0	0	0	0	0	9	0	9	0	0	0	0	0	3	0	3	12
05:30 PM	0	0	0	0	0	6	0	6	0	0	0	0	0	3	0	3	9
05:45 PM	0	0	0	0	0	4	0	4	0	0	0	0	0	5	0	5	9
Total	0	0	0	0	0	23	0	23	1	0	0	1	0	12	1	13	37
Grand Total	0	1	4	5	1	41	1	43	1	0	0	1	0	37	1	38	87
Apprch %	0	20	80		2.3	95.3	2.3		100	0	0		0	97.4	2.6		
Total %	0	1.1	4.6	5.7	1.1	47.1	1.1	49.4	1.1	0	0	1.1	0	42.5	1.1	43.7	

	Reata Road Southbound				Bear Valley Road Westbound				Reata Road Northbound				Bear Valley Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	0	0	0	0	0	5	0	5	0	0	0	0	0	**8**	0	**8**	**13**
04:45 PM	0	**1**	**1**	**2**	0	3	**1**	4	0	0	0	0	0	3	0	3	9
05:00 PM	0	0	0	0	0	4	0	4	**1**	0	0	**1**	0	1	**1**	2	7
05:15 PM	0	0	0	0	0	**9**	0	**9**	0	0	0	0	0	3	0	3	12
Total Volume	0	1	1	2	0	21	1	22	1	0	0	1	0	15	1	16	41
% App. Total	0	50	50		0	95.5	4.5		100	0	0		0	93.8	6.2		
PHF	.000	.250	.250	.250	.000	.583	.250	.611	.250	.000	.000	.250	.000	.469	.250	.500	.788

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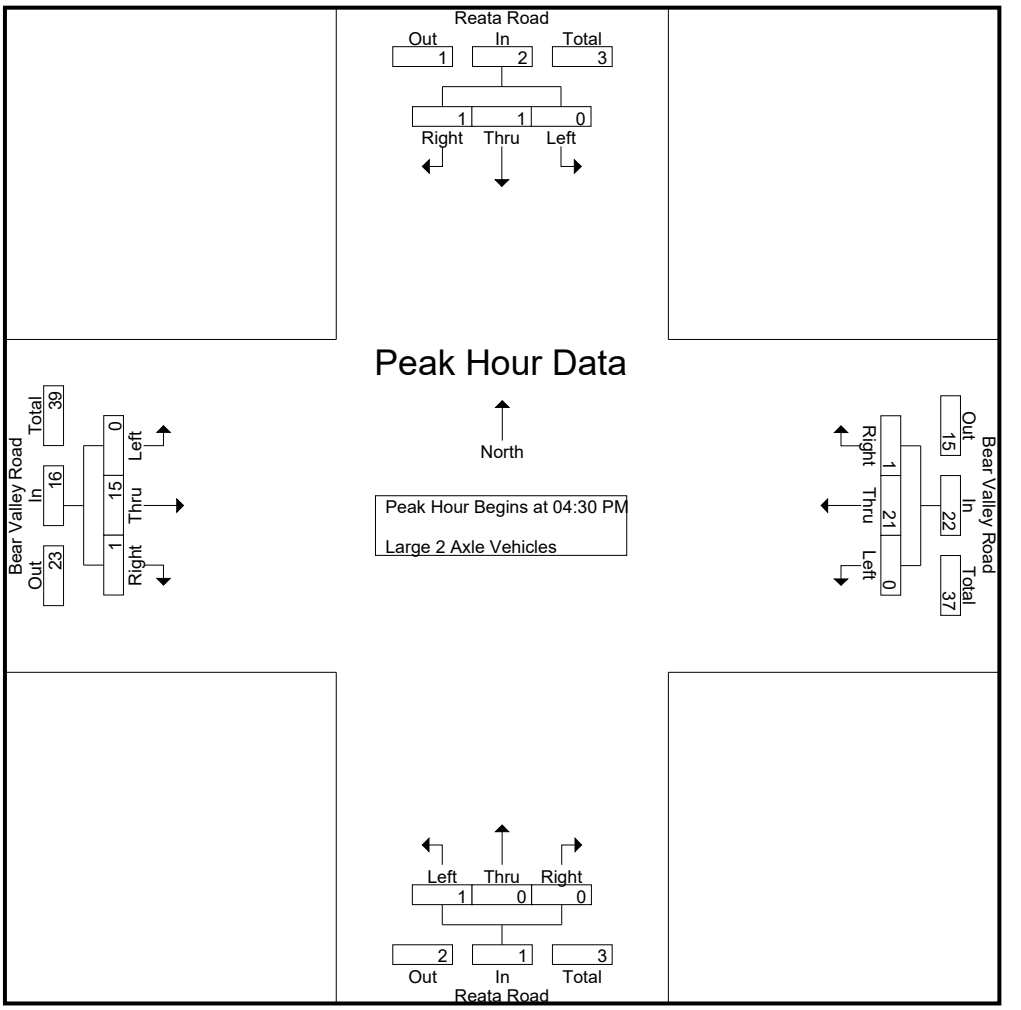

Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM				04:30 PM				04:30 PM				04:30 PM			
+0 mins.	0	0	0	0	0	5	0	5	0	0	0	0	0	**8**	0	**8**
+15 mins.	0	**1**	**1**	**2**	0	3	**1**	4	0	0	0	0	0	3	0	3
+30 mins.	0	0	0	0	0	4	0	4	**1**	0	0	**1**	0	1	**1**	2
+45 mins.	0	0	0	0	0	**9**	0	**9**	0	0	0	0	0	3	0	3
Total Volume	0	1	1	2	0	21	1	22	1	0	0	1	0	15	1	16
% App. Total	0	50	50		0	95.5	4.5		100	0	0		0	93.8	6.2	
PHF	.000	.250	.250	.250	.000	.583	.250	.611	.250	.000	.000	.250	.000	.469	.250	.500

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Groups Printed- 3 Axle Vehicles

	Reata Road Southbound				Bear Valley Road Westbound				Reata Road Northbound				Bear Valley Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	2
04:15 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
Total	0	0	0	0	0	3	0	3	0	0	0	0	0	2	0	2	5
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
Grand Total	0	0	0	0	0	4	0	4	0	0	0	0	0	2	0	2	6
Apprch %	0	0	0		0	100	0		0	0	0		0	100	0		
Total %	0	0	0	0	0	66.7	0	66.7	0	0	0	0	0	33.3	0	33.3	

	Reata Road Southbound				Bear Valley Road Westbound				Reata Road Northbound				Bear Valley Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	**1**	0	**1**	**1**
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	2
% App. Total	0	0	0		0	0	0		0	0	0		0	100	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.500	.000	.500	.500

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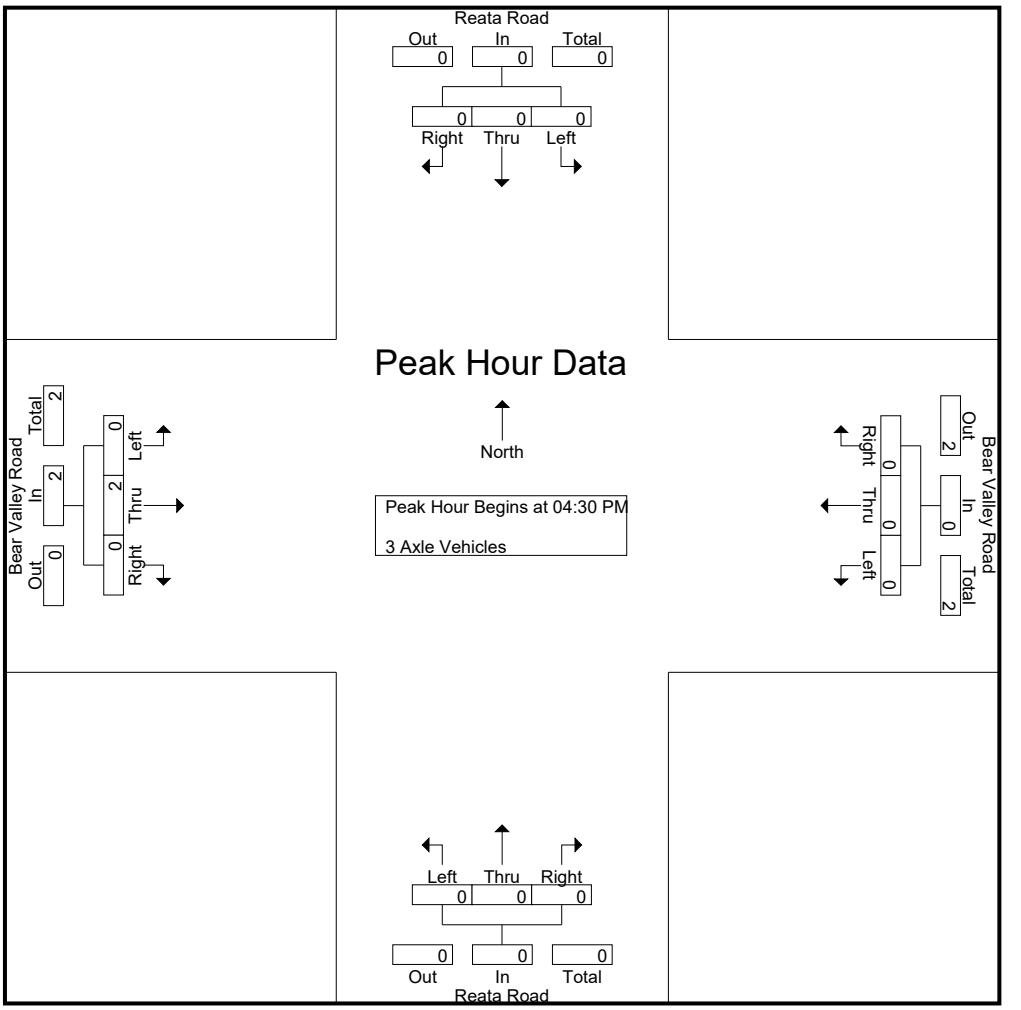

Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM				04:30 PM				04:30 PM				04:30 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	**1**	0	**1**
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2
% App. Total	0	0	0		0	0	0		0	0	0		0	100	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.500	.000	.500

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City of Apple Valley
N/S: Reata Road
E/W: Bear Valley Road
Weather: Clear

File Name : 04_APV_Reata_BV PM
Site Code : 221022
Start Date : 11/17/2022
Page No : 1

Groups Printed- 4+ Axle Trucks

	Reata Road Southbound				Bear Valley Road Westbound				Reata Road Northbound				Bear Valley Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	3	0	3	0	0	0	0	0	3	0	3	6
04:15 PM	0	0	0	0	0	5	0	5	0	0	0	0	0	0	0	0	5
04:30 PM	0	0	0	0	0	6	0	6	0	0	0	0	0	5	0	5	11
04:45 PM	0	0	0	0	0	2	0	2	0	0	0	0	0	4	0	4	6
Total	0	0	0	0	0	16	0	16	0	0	0	0	0	12	0	12	28
05:00 PM	0	0	0	0	0	3	0	3	0	0	0	0	0	2	0	2	5
05:15 PM	0	0	0	0	0	2	0	2	0	0	0	0	0	4	0	4	6
05:30 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	1	2
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	2
Total	0	0	0	0	0	6	0	6	0	0	0	0	0	9	0	9	15
Grand Total	0	0	0	0	0	22	0	22	0	0	0	0	0	21	0	21	43
Apprch %	0	0	0		0	100	0		0	0	0		0	100	0		
Total %	0	0	0	0	0	51.2	0	51.2	0	0	0	0	0	48.8	0	48.8	

	Reata Road Southbound				Bear Valley Road Westbound				Reata Road Northbound				Bear Valley Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	0	0	0	0	0	**6**	0	**6**	0	0	0	0	0	**5**	0	**5**	**11**
04:45 PM	0	0	0	0	0	2	0	2	0	0	0	0	0	4	0	4	6
05:00 PM	0	0	0	0	0	3	0	3	0	0	0	0	0	2	0	2	5
05:15 PM	0	0	0	0	0	2	0	2	0	0	0	0	0	4	0	4	6
Total Volume	0	0	0	0	0	13	0	13	0	0	0	0	0	15	0	15	28
% App. Total	0	0	0		0	100	0		0	0	0		0	100	0		
PHF	.000	.000	.000	.000	.000	.542	.000	.542	.000	.000	.000	.000	.000	.750	.000	.750	.636

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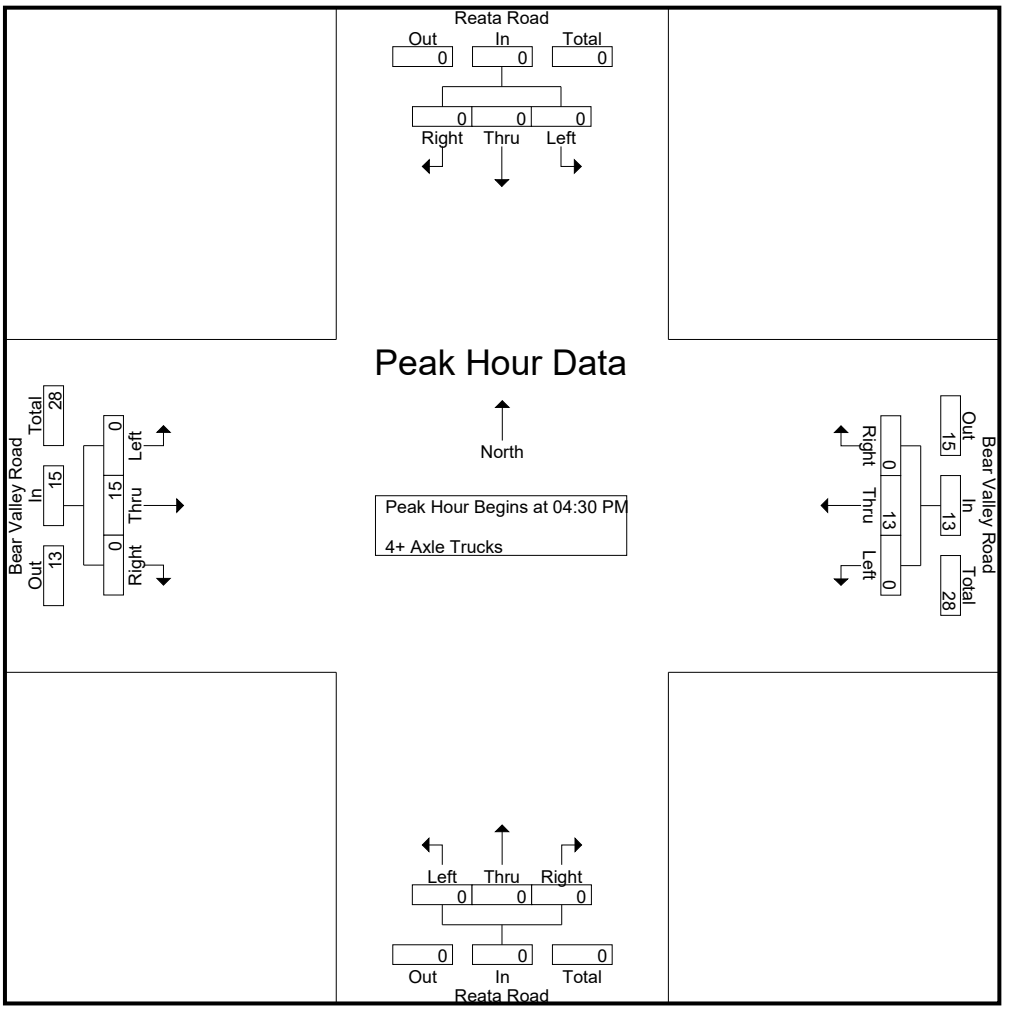
City of Apple Valley
N/S: Reata Road
E/W: Bear Valley Road
Weather: Clear

File Name : 04_APV_Reata_BV PM
Site Code : 221022
Start Date : 11/17/2022
Page No : 2



Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM				04:30 PM				04:30 PM				04:30 PM			
+0 mins.	0	0	0	0	0	**6**	0	**6**	0	0	0	0	0	**5**	0	**5**
+15 mins.	0	0	0	0	0	2	0	2	0	0	0	0	0	4	0	4
+30 mins.	0	0	0	0	0	3	0	3	0	0	0	0	0	2	0	2
+45 mins.	0	0	0	0	0	2	0	2	0	0	0	0	0	4	0	4
Total Volume	0	0	0	0	0	13	0	13	0	0	0	0	0	15	0	15
% App. Total	0	0	0		0	100	0		0	0	0		0	100	0	
PHF	.000	.000	.000	.000	.000	.542	.000	.542	.000	.000	.000	.000	.000	.750	.000	.750

Location: Apple Valley
N/S: Reata Road
E/W: Bear Valley Road

Date: 11/17/2022
Day: Thursday

PEDESTRIANS

	North Leg Reata Road Pedestrians	East Leg Bear Valley Road Pedestrians	South Leg Reata Road Pedestrians	West Leg Bear Valley Road Pedestrians	
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	1	0	1	0	2
7:45 AM	0	0	0	0	0
8:00 AM	0	1	0	0	1
8:15 AM	0	0	0	0	0
8:30 AM	3	1	0	0	4
8:45 AM	0	1	0	0	1
TOTAL VOLUMES:	4	3	1	0	8

	North Leg Reata Road Pedestrians	East Leg Bear Valley Road Pedestrians	South Leg Reata Road Pedestrians	West Leg Bear Valley Road Pedestrians	
4:00 PM	1	1	0	1	3
4:15 PM	1	0	0	0	1
4:30 PM	0	0	0	0	0
4:45 PM	2	0	0	1	3
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	1	0	0	1
TOTAL VOLUMES:	4	2	0	2	8

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Location: Apple Valley
N/S: Reata Road
E/W: Bear Valley Road

Date: 11/17/2022
Day: Thursday

BICYCLES

	Southbound Reata Road			Westbound Bear Valley Road			Northbound Reata Road			Eastbound Bear Valley Road			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	1	0	0	0	0	0	0	0	0	0	0	1
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	1	0	0	0	0	0	0	0	0	0	0	1

	Southbound Reata Road			Westbound Bear Valley Road			Northbound Reata Road			Eastbound Bear Valley Road			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4:00 PM	0	0	0	0	0	0	0	0	0	1	0	0	1
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0	0	0	0	0	1	0	0	1

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City of Apple Valley
N/S: Apple Valley Road
E/W: Pimlico Road
Weather: Clear

File Name : 05_APV_AV_Pim AM
Site Code : 221022
Start Date : 11/17/2022
Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	Apple Valley Road Southbound				Apple Valley Towne Center Driveway Westbound				Apple Valley Road Northbound				Pimlico Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	7	94	19	120	3	1	5	9	6	78	5	89	35	5	2	42	260
07:15 AM	9	102	30	141	9	2	4	15	5	91	7	103	32	6	7	45	304
07:30 AM	14	163	36	213	6	5	9	20	10	159	6	175	36	10	1	47	455
07:45 AM	16	191	46	253	8	10	5	23	9	163	10	182	36	5	4	45	503
Total	46	550	131	727	26	18	23	67	30	491	28	549	139	26	14	179	1522
08:00 AM	22	200	48	270	5	7	9	21	9	103	13	125	29	5	3	37	453
08:15 AM	12	194	59	265	14	1	8	23	9	128	6	143	38	14	4	56	487
08:30 AM	12	140	52	204	12	15	12	39	12	124	11	147	48	6	9	63	453
08:45 AM	22	173	47	242	8	5	11	24	17	109	9	135	38	7	11	56	457
Total	68	707	206	981	39	28	40	107	47	464	39	550	153	32	27	212	1850
Grand Total	114	1257	337	1708	65	46	63	174	77	955	67	1099	292	58	41	391	3372
Apprch %	6.7	73.6	19.7		37.4	26.4	36.2		7	86.9	6.1		74.7	14.8	10.5		
Total %	3.4	37.3	10	50.7	1.9	1.4	1.9	5.2	2.3	28.3	2	32.6	8.7	1.7	1.2	11.6	
Passenger Vehicles	114	1225	335	1674	64	44	63	171	73	916	67	1056	283	56	35	374	3275
% Passenger Vehicles	100	97.5	99.4	98	98.5	95.7	100	98.3	94.8	95.9	100	96.1	96.9	96.6	85.4	95.7	97.1
Large 2 Axle Vehicles	0	21	2	23	1	1	0	2	4	19	0	23	6	2	3	11	59
% Large 2 Axle Vehicles	0	1.7	0.6	1.3	1.5	2.2	0	1.1	5.2	2	0	2.1	2.1	3.4	7.3	2.8	1.7
3 Axle Vehicles	0	3	0	3	0	0	0	0	0	5	0	5	0	0	2	2	10
% 3 Axle Vehicles	0	0.2	0	0.2	0	0	0	0	0	0.5	0	0.5	0	0	4.9	0.5	0.3
4+ Axle Trucks	0	8	0	8	0	1	0	1	0	15	0	15	3	0	1	4	28
% 4+ Axle Trucks	0	0.6	0	0.5	0	2.2	0	0.6	0	1.6	0	1.4	1	0	2.4	1	0.8

	Apple Valley Road Southbound				Apple Valley Towne Center Driveway Westbound				Apple Valley Road Northbound				Pimlico Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	14	163	36	213	6	5	**9**	20	**10**	159	6	175	36	10	1	47	455
07:45 AM	16	191	46	253	8	**10**	5	**23**	9	**163**	10	**182**	36	5	**4**	45	**503**
08:00 AM	**22**	**200**	48	**270**	5	7	9	21	9	103	**13**	125	29	5	3	37	453
08:15 AM	12	194	**59**	265	**14**	1	8	23	9	128	6	143	**38**	**14**	4	**56**	487
Total Volume	64	748	189	1001	33	23	31	87	37	553	35	625	139	34	12	185	1898
% App. Total	6.4	74.7	18.9		37.9	26.4	35.6		5.9	88.5	5.6		75.1	18.4	6.5		
PHF	.727	.935	.801	.927	.589	.575	.861	.946	.925	.848	.673	.859	.914	.607	.750	.826	.943

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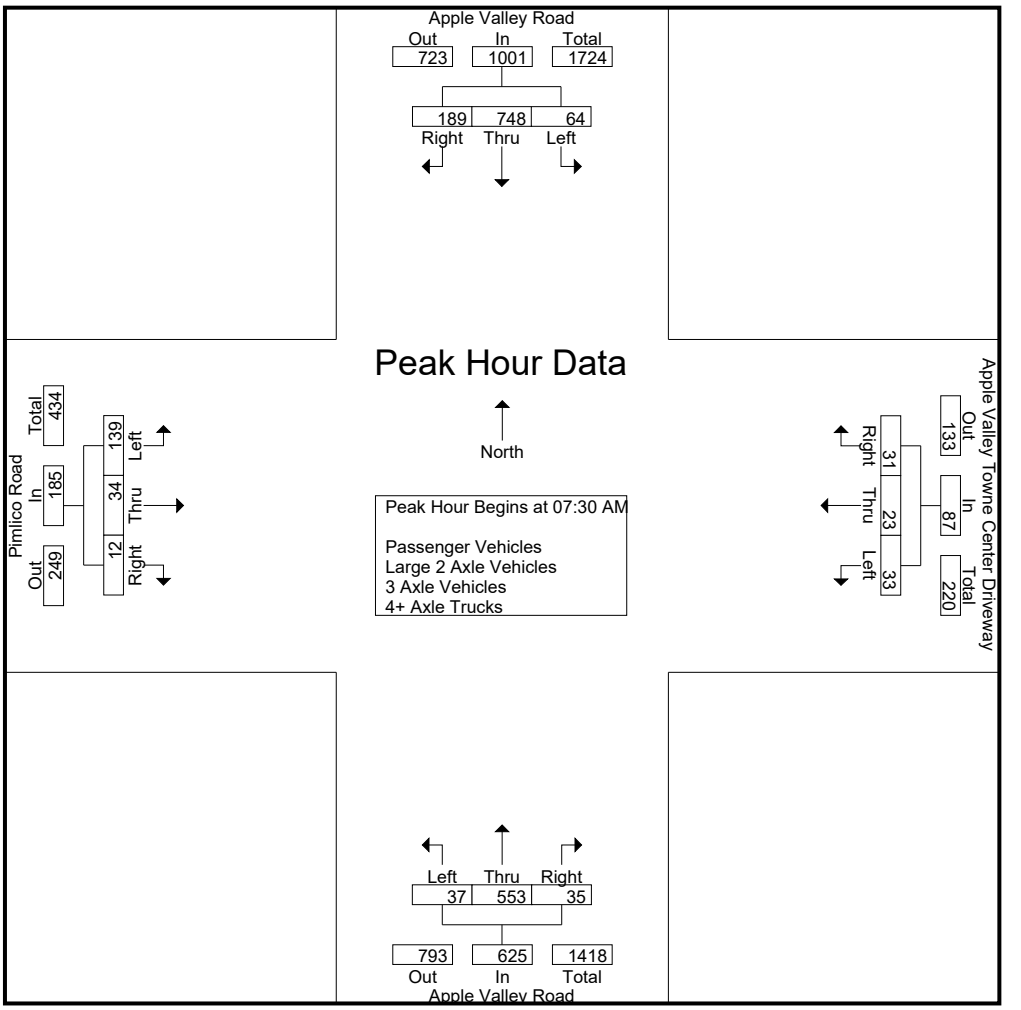
City of Apple Valley
N/S: Apple Valley Road
E/W: Pimlico Road
Weather: Clear

File Name : 05_APV_AV_Pim AM
Site Code : 221022
Start Date : 11/17/2022
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:30 AM				08:00 AM				07:30 AM				08:00 AM			
+0 mins.	14	163	36	213	5	7	9	21	**10**	159	6	175	29	5	3	37
+15 mins.	16	191	46	253	**14**	1	8	23	9	**163**	10	**182**	38	**14**	4	56
+30 mins.	**22**	**200**	48	**270**	12	**15**	**12**	**39**	9	103	**13**	125	**48**	6	9	**63**
+45 mins.	12	194	**59**	265	8	5	11	24	9	128	6	143	38	7	**11**	56
Total Volume	64	748	189	1001	39	28	40	107	37	553	35	625	153	32	27	212
% App. Total	6.4	74.7	18.9		36.4	26.2	37.4		5.9	88.5	5.6		72.2	15.1	12.7	
PHF	.727	.935	.801	.927	.696	.467	.833	.686	.925	.848	.673	.859	.797	.571	.614	.841

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City of Apple Valley
N/S: Apple Valley Road
E/W: Pimlico Road
Weather: Clear

File Name : 05_APV_AV_Pim AM
Site Code : 221022
Start Date : 11/17/2022
Page No : 1

Groups Printed- Passenger Vehicles

	Apple Valley Road Southbound				Apple Valley Towne Center Driveway Westbound				Apple Valley Road Northbound				Pimlico Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	7	90	19	116	3	1	5	9	5	71	5	81	34	5	2	41	247
07:15 AM	9	98	30	137	9	2	4	15	4	86	7	97	32	6	6	44	293
07:30 AM	14	159	36	209	6	5	9	20	9	152	6	167	35	9	1	45	441
07:45 AM	16	188	46	250	7	9	5	21	9	159	10	178	32	5	3	40	489
Total	46	535	131	712	25	17	23	65	27	468	28	523	133	25	12	170	1470
08:00 AM	22	196	48	266	5	6	9	20	9	97	13	119	28	5	3	36	441
08:15 AM	12	190	57	259	14	1	8	23	9	124	6	139	37	14	2	53	474
08:30 AM	12	137	52	201	12	15	12	39	11	119	11	141	48	6	7	61	442
08:45 AM	22	167	47	236	8	5	11	24	17	108	9	134	37	6	11	54	448
Total	68	690	204	962	39	27	40	106	46	448	39	533	150	31	23	204	1805
Grand Total	114	1225	335	1674	64	44	63	171	73	916	67	1056	283	56	35	374	3275
Apprch %	6.8	73.2	20		37.4	25.7	36.8		6.9	86.7	6.3		75.7	15	9.4		
Total %	3.5	37.4	10.2	51.1	2	1.3	1.9	5.2	2.2	28	2	32.2	8.6	1.7	1.1	11.4	

	Apple Valley Road Southbound				Apple Valley Towne Center Driveway Westbound				Apple Valley Road Northbound				Pimlico Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	14	159	36	209	6	5	**9**	20	**9**	152	6	167	35	9	1	45	441
07:45 AM	16	188	46	250	7	**9**	5	21	9	**159**	10	**178**	32	5	**3**	40	**489**
08:00 AM	**22**	**196**	48	**266**	5	6	9	20	9	97	**13**	119	28	5	3	36	441
08:15 AM	12	190	**57**	259	**14**	1	8	**23**	9	124	6	139	**37**	**14**	2	**53**	474
Total Volume	64	733	187	984	32	21	31	84	36	532	35	603	132	33	9	174	1845
% App. Total	6.5	74.5	19		38.1	25	36.9		6	88.2	5.8		75.9	19	5.2		
PHF	.727	.935	.820	.925	.571	.583	.861	.913	1.00	.836	.673	.847	.892	.589	.750	.821	.943

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City of Apple Valley
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File Name : 05_APV_AV_Pim AM
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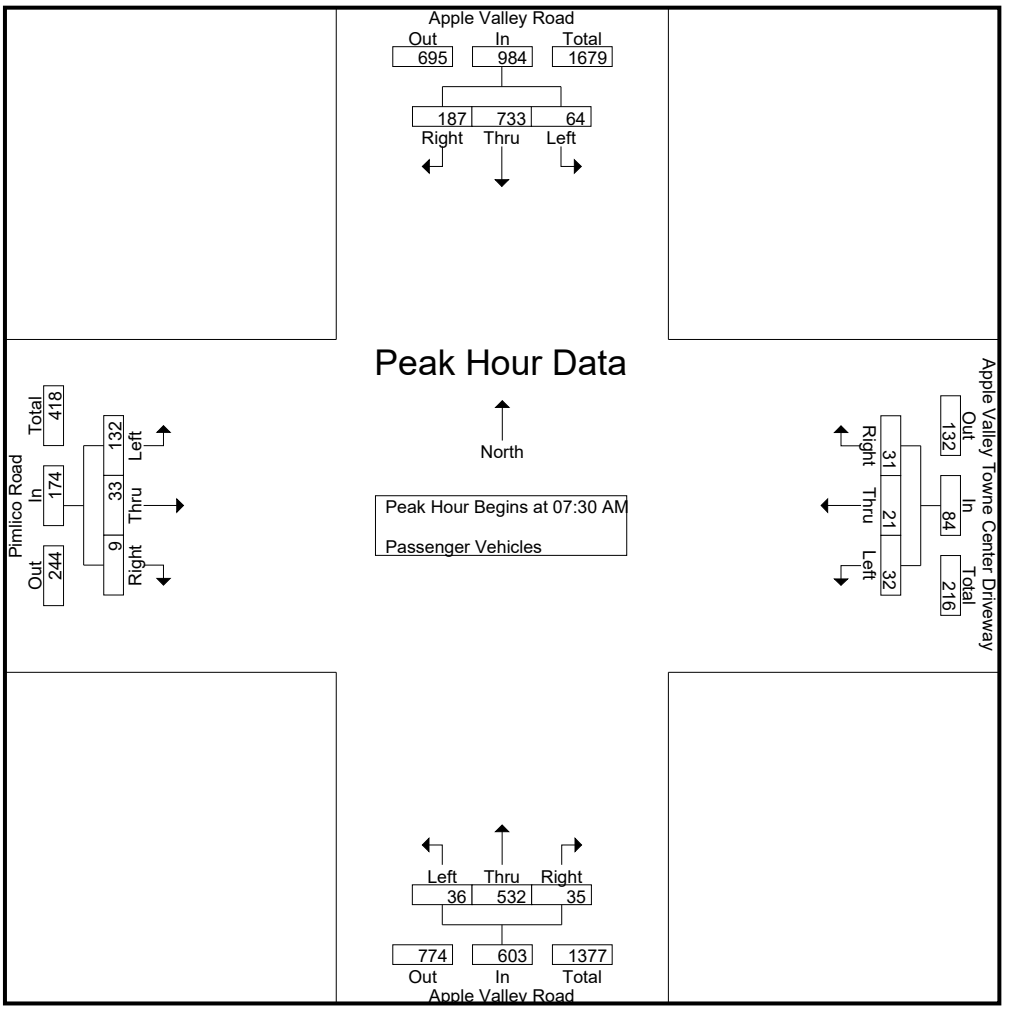

Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:30 AM				07:30 AM				07:30 AM				07:30 AM			
+0 mins.	14	159	36	209	6	5	**9**	20	**9**	152	6	167	35	9	1	45
+15 mins.	16	188	46	250	7	**9**	5	21	9	**159**	10	**178**	32	5	**3**	40
+30 mins.	**22**	**196**	48	**266**	5	6	9	20	9	97	**13**	119	28	5	3	36
+45 mins.	12	190	**57**	259	**14**	1	8	**23**	9	124	6	139	**37**	**14**	2	**53**
Total Volume	64	733	187	984	32	21	31	84	36	532	35	603	132	33	9	174
% App. Total	6.5	74.5	19		38.1	25	36.9		6	88.2	5.8		75.9	19	5.2	
PHF	.727	.935	.820	.925	.571	.583	.861	.913	1.000	.836	.673	.847	.892	.589	.750	.821

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City of Apple Valley
N/S: Apple Valley Road
E/W: Pimlico Road
Weather: Clear

File Name : 05_APV_AV_Pim AM
Site Code : 221022
Start Date : 11/17/2022
Page No : 1

Groups Printed- Large 2 Axle Vehicles

	Apple Valley Road Southbound				Apple Valley Towne Center Driveway Westbound				Apple Valley Road Northbound				Pimlico Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	3	0	3	0	0	0	0	1	3	0	4	1	0	0	1	8
07:15 AM	0	1	0	1	0	0	0	0	1	1	0	2	0	0	1	1	4
07:30 AM	0	3	0	3	0	0	0	0	1	4	0	5	0	1	0	1	9
07:45 AM	0	3	0	3	1	0	0	1	0	2	0	2	3	0	0	3	9
Total	0	10	0	10	1	0	0	1	3	10	0	13	4	1	1	6	30
08:00 AM	0	3	0	3	0	1	0	1	0	4	0	4	0	0	0	0	8
08:15 AM	0	3	2	5	0	0	0	0	0	1	0	1	1	0	2	3	9
08:30 AM	0	2	0	2	0	0	0	0	1	3	0	4	0	0	0	0	6
08:45 AM	0	3	0	3	0	0	0	0	0	1	0	1	1	1	0	2	6
Total	0	11	2	13	0	1	0	1	1	9	0	10	2	1	2	5	29
Grand Total	0	21	2	23	1	1	0	2	4	19	0	23	6	2	3	11	59
Apprch %	0	91.3	8.7		50	50	0		17.4	82.6	0		54.5	18.2	27.3		
Total %	0	35.6	3.4	39	1.7	1.7	0	3.4	6.8	32.2	0	39	10.2	3.4	5.1	18.6	

	Apple Valley Road Southbound				Apple Valley Towne Center Driveway Westbound				Apple Valley Road Northbound				Pimlico Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	0	**3**	0	3	0	0	0	0	**1**	**4**	0	**5**	0	**1**	0	1	**9**
07:45 AM	0	3	0	3	**1**	0	0	**1**	0	2	0	2	**3**	0	0	**3**	9
08:00 AM	0	3	0	3	0	**1**	0	1	0	4	0	4	0	0	0	0	8
08:15 AM	0	3	**2**	**5**	0	0	0	0	0	1	0	1	1	0	**2**	3	9
Total Volume	0	12	2	14	1	1	0	2	1	11	0	12	4	1	2	7	35
% App. Total	0	85.7	14.3		50	50	0		8.3	91.7	0		57.1	14.3	28.6		
PHF	.000	1.00	.250	.700	.250	.250	.000	.500	.250	.688	.000	.600	.333	.250	.250	.583	.972

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File Name : 05_APV_AV_Pim AM
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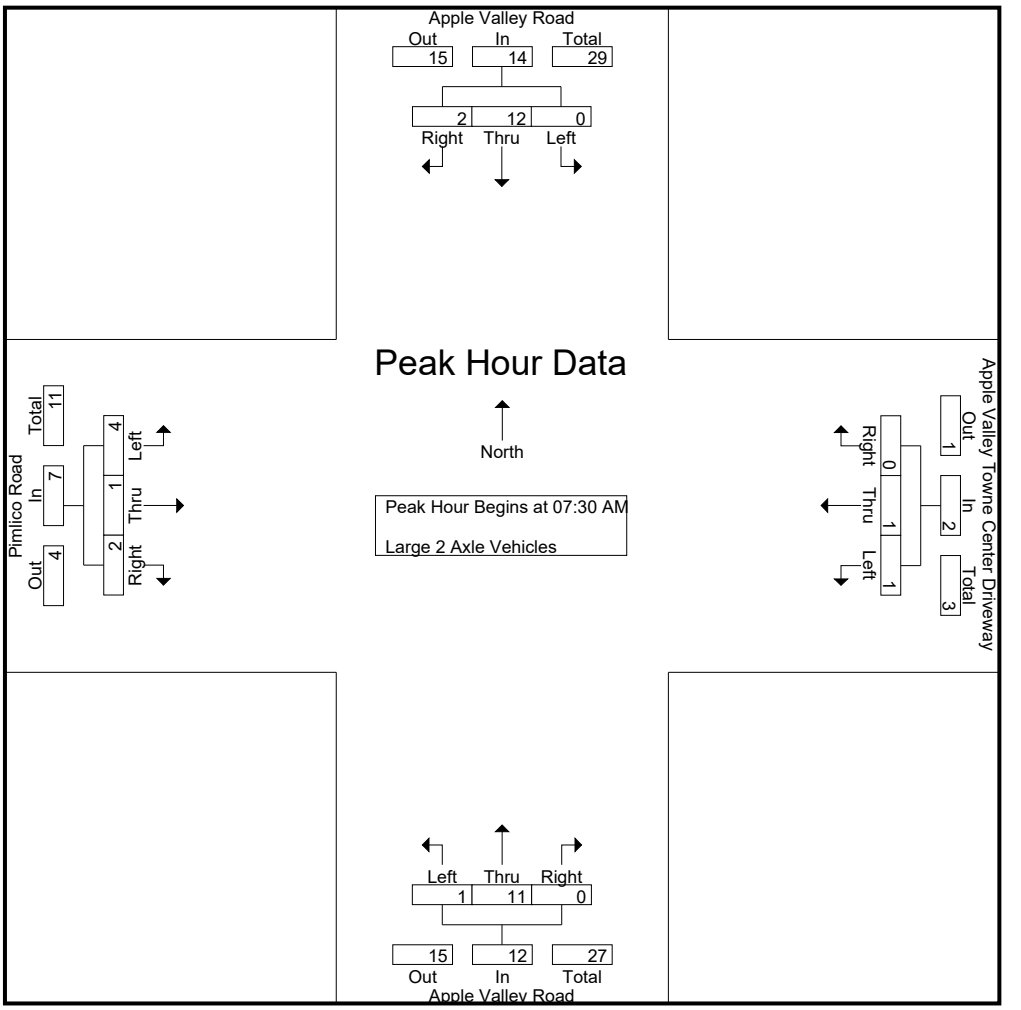

Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:30 AM				07:30 AM				07:30 AM				07:30 AM			
+0 mins.	0	**3**	0	3	0	0	0	0	**1**	**4**	0	**5**	0	**1**	0	1
+15 mins.	0	3	0	3	**1**	0	0	**1**	0	2	0	2	**3**	0	0	**3**
+30 mins.	0	3	0	3	0	**1**	0	1	0	4	0	4	0	0	0	0
+45 mins.	0	3	**2**	**5**	0	0	0	0	0	1	0	1	1	0	**2**	3
Total Volume	0	12	2	14	1	1	0	2	1	11	0	12	4	1	2	7
% App. Total	0	85.7	14.3		50	50	0		8.3	91.7	0		57.1	14.3	28.6	
PHF	.000	1.000	.250	.700	.250	.250	.000	.500	.250	.688	.000	.600	.333	.250	.250	.583

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Groups Printed- 3 Axle Vehicles

	Apple Valley Road Southbound				Apple Valley Towne Center Driveway Westbound				Apple Valley Road Northbound				Pimlico Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
07:15 AM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
07:30 AM	0	0	0	0	0	0	0	0	0	3	0	3	0	0	0	0	3
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
Total	0	1	0	1	0	0	0	0	0	3	0	3	0	0	1	1	5
08:00 AM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
08:30 AM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	1	1	2
08:45 AM	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
Total	0	2	0	2	0	0	0	0	0	2	0	2	0	0	1	1	5
Grand Total	0	3	0	3	0	0	0	0	0	5	0	5	0	0	2	2	10
Apprch %	0	100	0		0	0	0		0	100	0		0	0	100		
Total %	0	30	0	30	0	0	0	0	0	50	0	50	0	0	20	20	

	Apple Valley Road Southbound				Apple Valley Towne Center Driveway Westbound				Apple Valley Road Northbound				Pimlico Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	0	0	0	0	0	0	0	0	0	**3**	0	**3**	0	0	0	0	**3**
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**1**	**1**	1
08:00 AM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
08:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	4	0	4	0	0	1	1	5
% App. Total	0	0	0		0	0	0		0	100	0		0	0	100		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.333	.000	.333	.000	.000	.250	.250	.417

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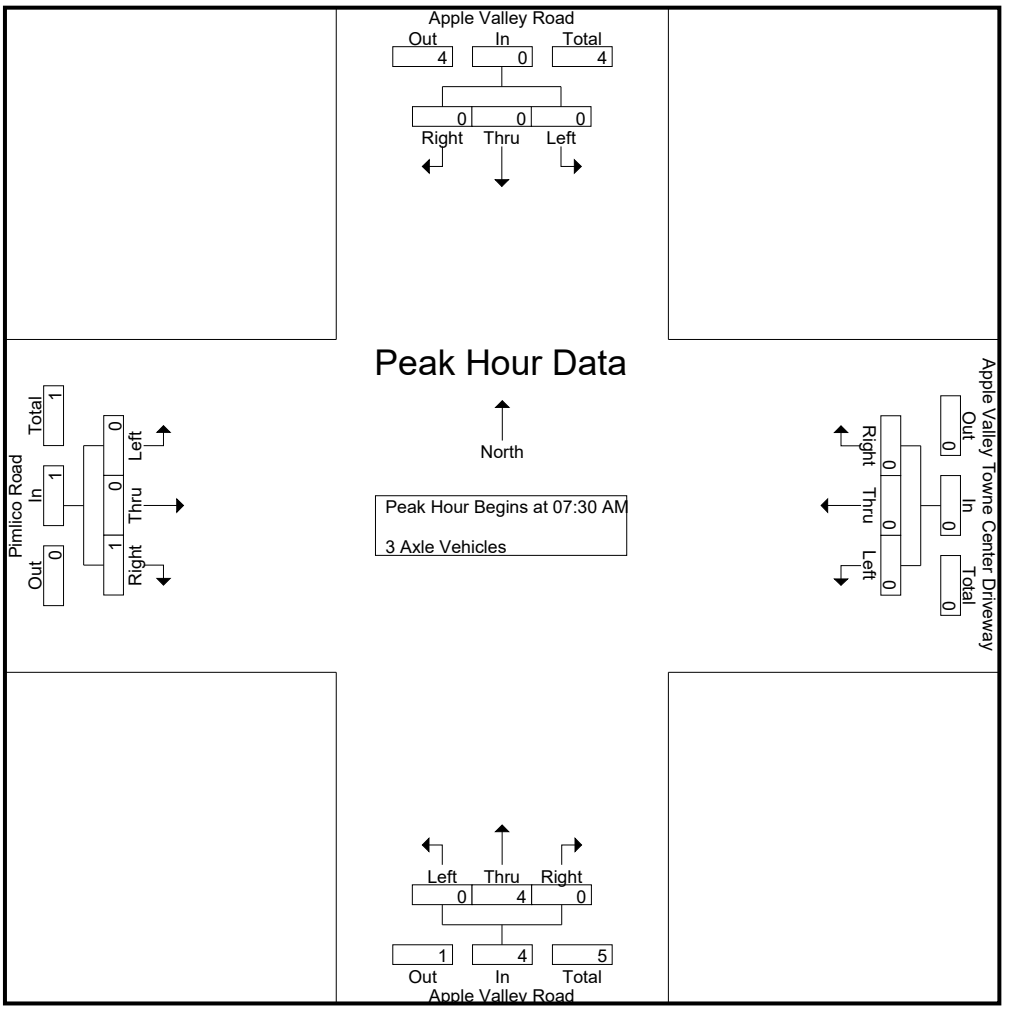

Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:30 AM				07:30 AM				07:30 AM				07:30 AM			
+0 mins.	0	0	0	0	0	0	0	0	0	**3**	0	**3**	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	**1**	**1**
+30 mins.	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	4	0	4	0	0	1	1
% App. Total	0	0	0		0	0	0		0	100	0		0	0	100	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.333	.000	.333	.000	.000	.250	.250

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Groups Printed- 4+ Axle Trucks

	Apple Valley Road Southbound				Apple Valley Towne Center Driveway Westbound				Apple Valley Road Northbound				Pimlico Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	1	0	1	0	0	0	0	0	4	0	4	0	0	0	0	5
07:15 AM	0	2	0	2	0	0	0	0	0	4	0	4	0	0	0	0	6
07:30 AM	0	1	0	1	0	0	0	0	0	0	0	0	1	0	0	1	2
07:45 AM	0	0	0	0	0	1	0	1	0	2	0	2	1	0	0	1	4
Total	0	4	0	4	0	1	0	1	0	10	0	10	2	0	0	2	17
08:00 AM	0	1	0	1	0	0	0	0	0	1	0	1	1	0	0	1	3
08:15 AM	0	1	0	1	0	0	0	0	0	3	0	3	0	0	0	0	4
08:30 AM	0	1	0	1	0	0	0	0	0	1	0	1	0	0	1	1	3
08:45 AM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	4	0	4	0	0	0	0	0	5	0	5	1	0	1	2	11
Grand Total	0	8	0	8	0	1	0	1	0	15	0	15	3	0	1	4	28
Apprch %	0	100	0		0	100	0		0	100	0		75	0	25		
Total %	0	28.6	0	28.6	0	3.6	0	3.6	0	53.6	0	53.6	10.7	0	3.6	14.3	

	Apple Valley Road Southbound				Apple Valley Towne Center Driveway Westbound				Apple Valley Road Northbound				Pimlico Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	0	**1**	0	**1**	0	0	0	0	0	0	0	0	**1**	0	0	**1**	2
07:45 AM	0	0	0	0	0	**1**	0	**1**	0	2	0	2	1	0	0	1	**4**
08:00 AM	0	1	0	1	0	0	0	0	0	1	0	1	1	0	0	1	3
08:15 AM	0	1	0	1	0	0	0	0	0	**3**	0	**3**	0	0	0	0	4
Total Volume	0	3	0	3	0	1	0	1	0	6	0	6	3	0	0	3	13
% App. Total	0	100	0		0	100	0		0	100	0		100	0	0		
PHF	.000	.750	.000	.750	.000	.250	.000	.250	.000	.500	.000	.500	.750	.000	.000	.750	.813

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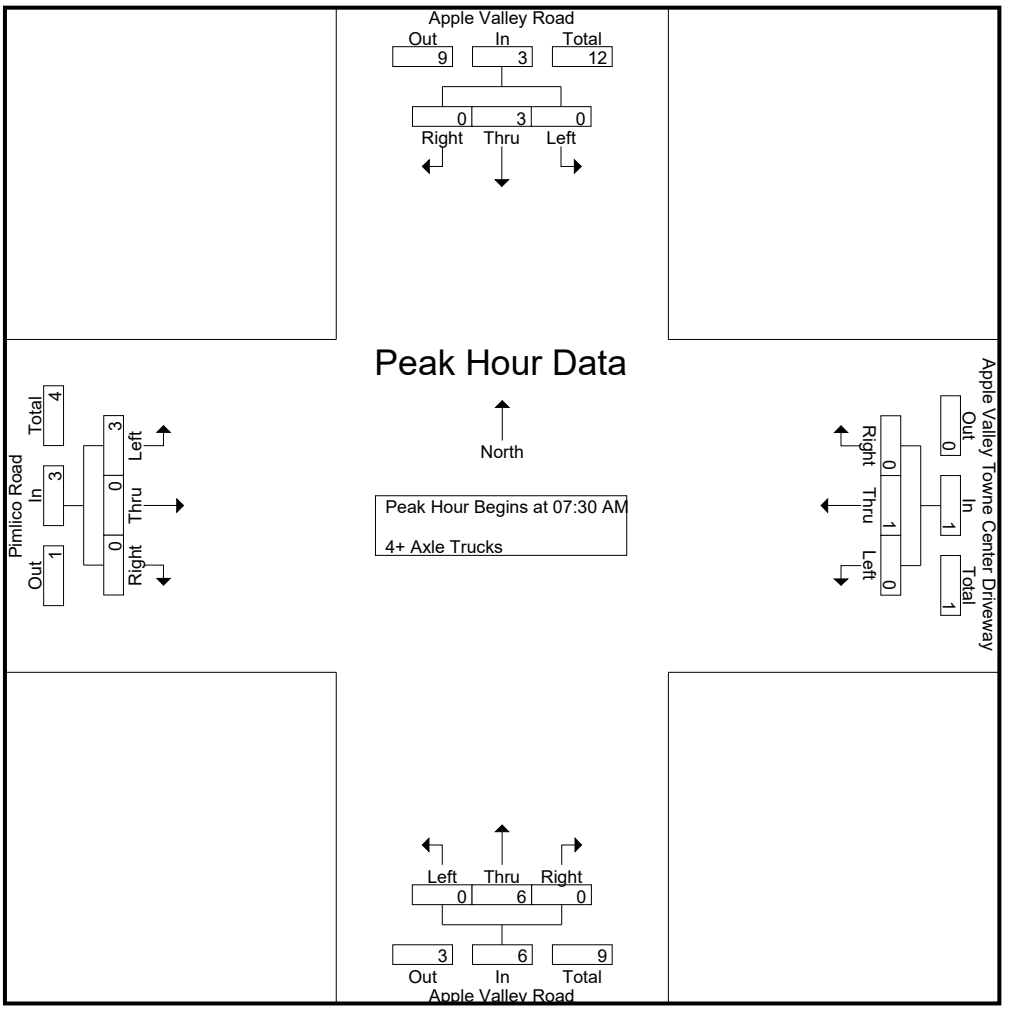

Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:30 AM				07:30 AM				07:30 AM				07:30 AM			
+0 mins.	0	**1**	0	**1**	0	0	0	0	0	0	0	0	**1**	0	0	**1**
+15 mins.	0	0	0	0	0	**1**	0	**1**	0	2	0	2	1	0	0	1
+30 mins.	0	1	0	1	0	0	0	0	0	1	0	1	1	0	0	1
+45 mins.	0	1	0	1	0	0	0	0	0	**3**	0	**3**	0	0	0	0
Total Volume	0	3	0	3	0	1	0	1	0	6	0	6	3	0	0	3
% App. Total	0	100	0		0	100	0		0	100	0		100	0	0	
PHF	.000	.750	.000	.750	.000	.250	.000	.250	.000	.500	.000	.500	.750	.000	.000	.750

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File Name : 05_APV_AV_Pim PM
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Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	Apple Valley Road Southbound				Apple Valley Towne Center Driveway Westbound				Apple Valley Road Northbound				Pimlico Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	42	186	50	278	19	21	27	67	24	151	20	195	58	16	4	78	618
04:15 PM	36	202	58	296	25	14	27	66	19	133	22	174	69	16	6	91	627
04:30 PM	34	183	69	286	25	10	25	60	16	166	19	201	66	16	7	89	636
04:45 PM	34	196	53	283	24	13	29	66	11	152	23	186	60	9	12	81	616
Total	146	767	230	1143	93	58	108	259	70	602	84	756	253	57	29	339	2497
05:00 PM	39	188	66	293	20	10	17	47	19	164	23	206	68	17	13	98	644
05:15 PM	34	175	55	264	11	12	29	52	23	188	23	234	79	11	6	96	646
05:30 PM	34	149	49	232	24	12	20	56	16	124	16	156	65	10	6	81	525
05:45 PM	30	156	41	227	13	10	28	51	19	134	20	173	57	9	13	79	530
Total	137	668	211	1016	68	44	94	206	77	610	82	769	269	47	38	354	2345
Grand Total	283	1435	441	2159	161	102	202	465	147	1212	166	1525	522	104	67	693	4842
Apprch %	13.1	66.5	20.4		34.6	21.9	43.4		9.6	79.5	10.9		75.3	15	9.7		
Total %	5.8	29.6	9.1	44.6	3.3	2.1	4.2	9.6	3	25	3.4	31.5	10.8	2.1	1.4	14.3	
Passenger Vehicles	282	1415	435	2132	159	101	202	462	145	1201	164	1510	517	103	66	686	4790
% Passenger Vehicles	99.6	98.6	98.6	98.7	98.8	99	100	99.4	98.6	99.1	98.8	99	99	99	98.5	99	98.9
Large 2 Axle Vehicles	0	14	6	20	2	1	0	3	2	9	2	13	4	1	1	6	42
% Large 2 Axle Vehicles	0	1	1.4	0.9	1.2	1	0	0.6	1.4	0.7	1.2	0.9	0.8	1	1.5	0.9	0.9
3 Axle Vehicles	1	1	0	2	0	0	0	0	0	1	0	1	1	0	0	1	4
% 3 Axle Vehicles	0.4	0.1	0	0.1	0	0	0	0	0	0.1	0	0.1	0.2	0	0	0.1	0.1
4+ Axle Trucks	0	5	0	5	0	0	0	0	0	1	0	1	0	0	0	0	6
% 4+ Axle Trucks	0	0.3	0	0.2	0	0	0	0	0	0.1	0	0.1	0	0	0	0	0.1

	Apple Valley Road Southbound				Apple Valley Towne Center Driveway Westbound				Apple Valley Road Northbound				Pimlico Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	34	183	**69**	286	**25**	10	25	60	16	166	19	201	66	16	7	89	636
04:45 PM	34	**196**	53	283	24	**13**	**29**	**66**	11	152	**23**	186	60	9	12	81	616
05:00 PM	**39**	188	66	**293**	20	10	17	47	19	164	23	206	68	**17**	**13**	**98**	644
05:15 PM	34	175	55	264	11	12	29	52	**23**	**188**	23	**234**	**79**	11	6	96	**646**
Total Volume	141	742	243	1126	80	45	100	225	69	670	88	827	273	53	38	364	2542
% App. Total	12.5	65.9	21.6		35.6	20	44.4		8.3	81	10.6		75	14.6	10.4		
PHF	.904	.946	.880	.961	.800	.865	.862	.852	.750	.891	.957	.884	.864	.779	.731	.929	.984

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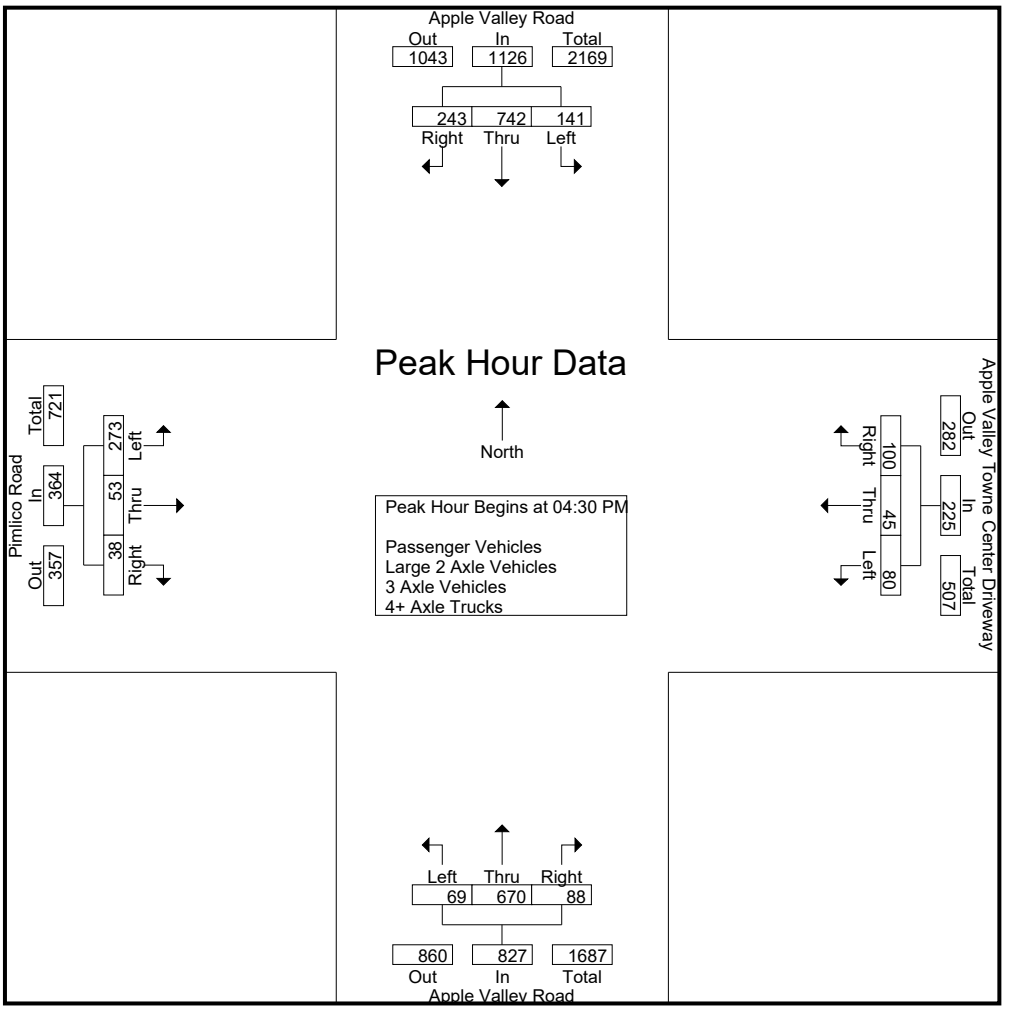

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:15 PM				04:00 PM				04:30 PM				04:30 PM			
+0 mins.	36	**202**	58	**296**	19	**21**	27	**67**	16	166	19	201	66	16	7	89
+15 mins.	34	183	**69**	286	**25**	14	27	66	11	152	**23**	186	60	9	12	81
+30 mins.	34	196	53	283	25	10	25	60	19	164	23	206	68	**17**	**13**	**98**
+45 mins.	**39**	188	66	293	24	13	**29**	66	**23**	**188**	23	**234**	**79**	11	6	96
Total Volume	143	769	246	1158	93	58	108	259	69	670	88	827	273	53	38	364
% App. Total	12.3	66.4	21.2		35.9	22.4	41.7		8.3	81	10.6		75	14.6	10.4	
PHF	.917	.952	.891	.978	.930	.690	.931	.966	.750	.891	.957	.884	.864	.779	.731	.929

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Groups Printed- Passenger Vehicles

	Apple Valley Road Southbound				Apple Valley Towne Center Driveway Westbound				Apple Valley Road Northbound				Pimlico Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	42	182	50	274	18	21	27	66	24	149	18	191	56	15	4	75	606
04:15 PM	36	199	56	291	24	13	27	64	19	133	22	174	69	16	6	91	620
04:30 PM	34	181	69	284	25	10	25	60	16	164	19	199	65	16	7	88	631
04:45 PM	34	193	51	278	24	13	29	66	11	150	23	184	60	9	12	81	609
Total	146	755	226	1127	91	57	108	256	70	596	82	748	250	56	29	335	2466
05:00 PM	38	186	66	290	20	10	17	47	18	163	23	204	68	17	13	98	639
05:15 PM	34	171	53	258	11	12	29	52	22	187	23	232	77	11	6	94	636
05:30 PM	34	147	49	230	24	12	20	56	16	122	16	154	65	10	6	81	521
05:45 PM	30	156	41	227	13	10	28	51	19	133	20	172	57	9	12	78	528
Total	136	660	209	1005	68	44	94	206	75	605	82	762	267	47	37	351	2324
Grand Total	282	1415	435	2132	159	101	202	462	145	1201	164	1510	517	103	66	686	4790
Apprch %	13.2	66.4	20.4		34.4	21.9	43.7		9.6	79.5	10.9		75.4	15	9.6		
Total %	5.9	29.5	9.1	44.5	3.3	2.1	4.2	9.6	3	25.1	3.4	31.5	10.8	2.2	1.4	14.3	

	Apple Valley Road Southbound				Apple Valley Towne Center Driveway Westbound				Apple Valley Road Northbound				Pimlico Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	34	181	**69**	284	**25**	10	25	60	16	164	19	199	65	16	7	88	631
04:45 PM	34	**193**	51	278	24	**13**	**29**	**66**	11	150	**23**	184	60	9	12	81	609
05:00 PM	**38**	186	66	**290**	20	10	17	47	18	163	23	204	68	**17**	**13**	**98**	**639**
05:15 PM	34	171	53	258	11	12	29	52	**22**	**187**	23	**232**	**77**	11	6	94	636
Total Volume	140	731	239	1110	80	45	100	225	67	664	88	819	270	53	38	361	2515
% App. Total	12.6	65.9	21.5		35.6	20	44.4		8.2	81.1	10.7		74.8	14.7	10.5		
PHF	.921	.947	.866	.957	.800	.865	.862	.852	.761	.888	.957	.883	.877	.779	.731	.921	.984

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City of Apple Valley
N/S: Apple Valley Road
E/W: Pimlico Road
Weather: Clear

File Name : 05_APV_AV_Pim PM
Site Code : 221022
Start Date : 11/17/2022
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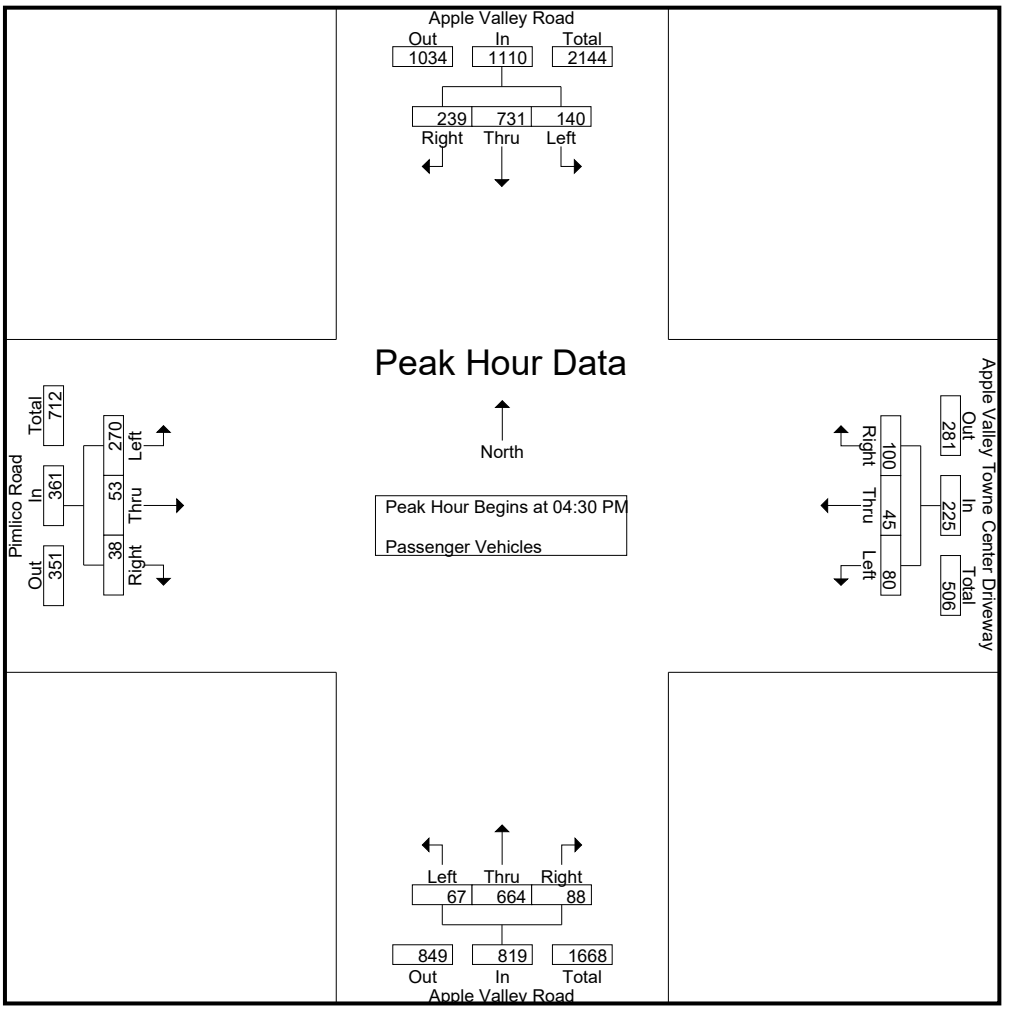

Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM				04:30 PM				04:30 PM				04:30 PM			
+0 mins.	34	181	**69**	284	**25**	10	25	60	16	164	19	199	65	16	7	88
+15 mins.	34	**193**	51	278	24	**13**	**29**	**66**	11	150	**23**	184	60	9	12	81
+30 mins.	**38**	186	66	**290**	20	10	17	47	18	163	23	204	68	**17**	**13**	**98**
+45 mins.	34	171	53	258	11	12	29	52	**22**	**187**	23	**232**	**77**	11	6	94
Total Volume	140	731	239	1110	80	45	100	225	67	664	88	819	270	53	38	361
% App. Total	12.6	65.9	21.5		35.6	20	44.4		8.2	81.1	10.7		74.8	14.7	10.5	
PHF	.921	.947	.866	.957	.800	.865	.862	.852	.761	.888	.957	.883	.877	.779	.731	.921

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City of Apple Valley
N/S: Apple Valley Road
E/W: Pimlico Road
Weather: Clear

File Name : 05_APV_AV_Pim PM
Site Code : 221022
Start Date : 11/17/2022
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Groups Printed- Large 2 Axle Vehicles

	Apple Valley Road Southbound				Apple Valley Towne Center Driveway Westbound				Apple Valley Road Northbound				Pimlico Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	2	0	2	1	0	0	1	0	1	2	3	2	1	0	3	9
04:15 PM	0	3	2	5	1	1	0	2	0	0	0	0	0	0	0	0	7
04:30 PM	0	2	0	2	0	0	0	0	0	2	0	2	1	0	0	1	5
04:45 PM	0	2	2	4	0	0	0	0	0	2	0	2	0	0	0	0	6
Total	0	9	4	13	2	1	0	3	0	5	2	7	3	1	0	4	27
05:00 PM	0	0	0	0	0	0	0	0	1	1	0	2	0	0	0	0	2
05:15 PM	0	4	2	6	0	0	0	0	1	0	0	1	1	0	0	1	8
05:30 PM	0	1	0	1	0	0	0	0	0	2	0	2	0	0	0	0	3
05:45 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	1	1	2
Total	0	5	2	7	0	0	0	0	2	4	0	6	1	0	1	2	15
Grand Total	0	14	6	20	2	1	0	3	2	9	2	13	4	1	1	6	42
Apprch %	0	70	30		66.7	33.3	0		15.4	69.2	15.4		66.7	16.7	16.7		
Total %	0	33.3	14.3	47.6	4.8	2.4	0	7.1	4.8	21.4	4.8	31	9.5	2.4	2.4	14.3	

	Apple Valley Road Southbound				Apple Valley Towne Center Driveway Westbound				Apple Valley Road Northbound				Pimlico Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	0	2	0	2	0	0	0	0	0	**2**	0	**2**	**1**	0	0	**1**	5
04:45 PM	0	2	**2**	4	0	0	0	0	0	2	0	2	0	0	0	0	6
05:00 PM	0	0	0	0	0	0	0	0	**1**	1	0	2	0	0	0	0	2
05:15 PM	0	**4**	2	**6**	0	0	0	0	1	0	0	1	1	0	0	1	**8**
Total Volume	0	8	4	12	0	0	0	0	2	5	0	7	2	0	0	2	21
% App. Total	0	66.7	33.3		0	0	0		28.6	71.4	0		100	0	0		
PHF	.000	.500	.500	.500	.000	.000	.000	.000	.500	.625	.000	.875	.500	.000	.000	.500	.656

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City of Apple Valley
N/S: Apple Valley Road
E/W: Pimlico Road
Weather: Clear

File Name : 05_APV_AV_Pim PM
Site Code : 221022
Start Date : 11/17/2022
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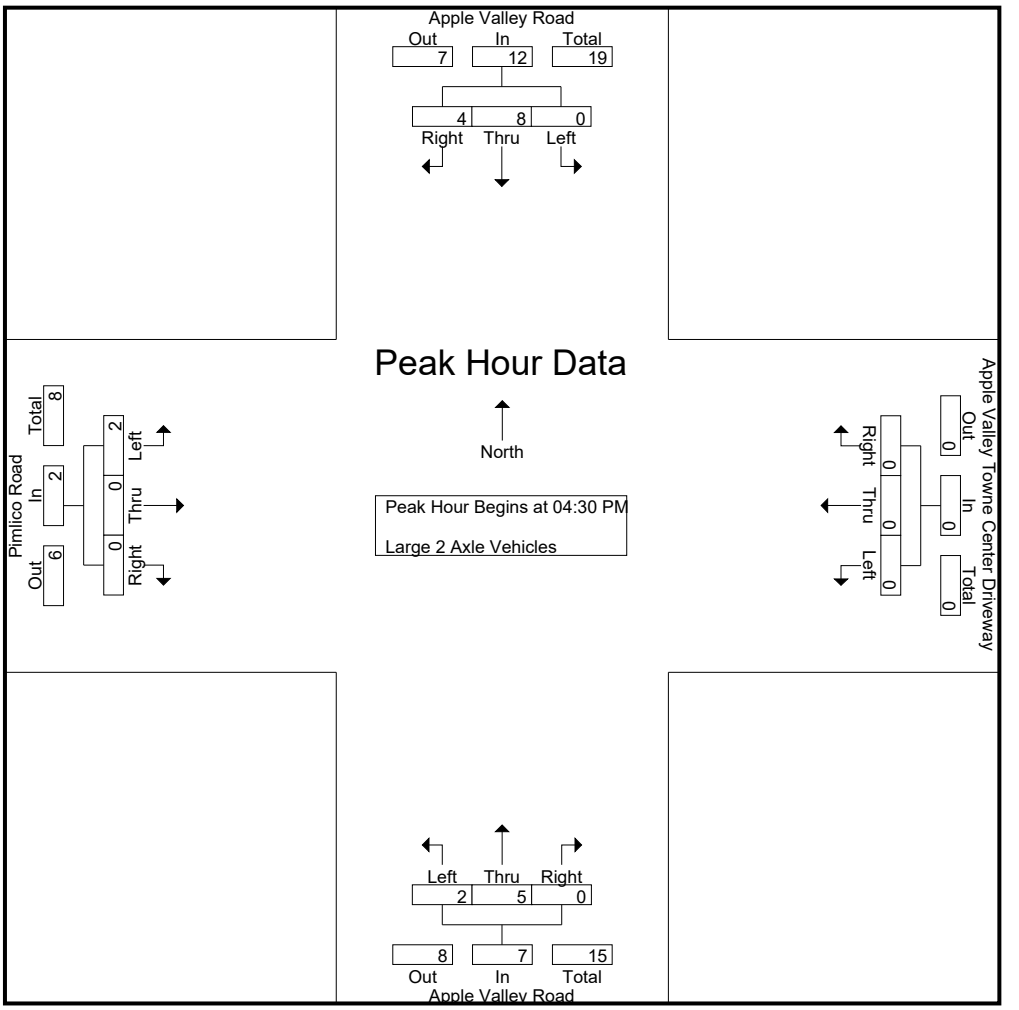

Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM				04:30 PM				04:30 PM				04:30 PM			
+0 mins.	0	2	0	2	0	0	0	0	0	**2**	0	**2**	**1**	0	0	**1**
+15 mins.	0	2	**2**	4	0	0	0	0	0	2	0	2	0	0	0	0
+30 mins.	0	0	0	0	0	0	0	0	**1**	1	0	2	0	0	0	0
+45 mins.	0	**4**	2	**6**	0	0	0	0	1	0	0	1	1	0	0	1
Total Volume	0	8	4	12	0	0	0	0	2	5	0	7	2	0	0	2
% App. Total	0	66.7	33.3		0	0	0		28.6	71.4	0		100	0	0	
PHF	.000	.500	.500	.500	.000	.000	.000	.000	.500	.625	.000	.875	.500	.000	.000	.500

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City of Apple Valley
N/S: Apple Valley Road
E/W: Pimlico Road
Weather: Clear

File Name : 05_APV_AV_Pim PM
Site Code : 221022
Start Date : 11/17/2022
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Groups Printed- 3 Axle Vehicles

	Apple Valley Road Southbound				Apple Valley Towne Center Driveway Westbound				Apple Valley Road Northbound				Pimlico Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
05:00 PM	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
05:30 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	1	1	0	2	0	0	0	0	0	0	0	0	1	0	0	1	3
Grand Total	1	1	0	2	0	0	0	0	0	1	0	1	1	0	0	1	4
Apprch %	50	50	0		0	0	0		0	100	0		100	0	0		
Total %	25	25	0	50	0	0	0	0	0	25	0	25	25	0	0	25	

	Apple Valley Road Southbound				Apple Valley Towne Center Driveway Westbound				Apple Valley Road Northbound				Pimlico Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	**1**	0	0	**1**	0	0	0	0	0	0	0	0	0	0	0	0	**1**
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	**1**	0	0	**1**	1
Total Volume	1	0	0	1	0	0	0	0	0	0	0	0	1	0	0	1	2
% App. Total	100	0	0		0	0	0		0	0	0		100	0	0		
PHF	.250	.000	.000	.250	.000	.000	.000	.000	.000	.000	.000	.000	.250	.000	.000	.250	.500

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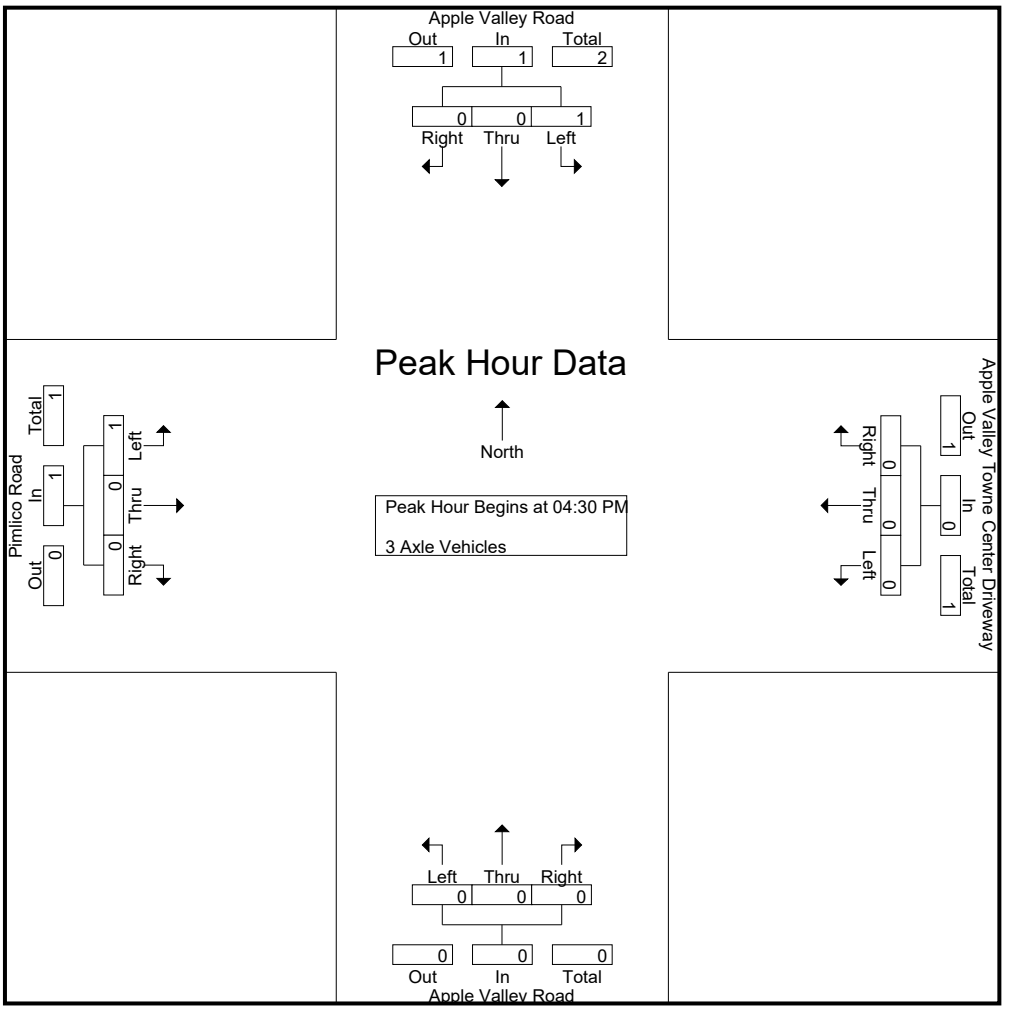
City of Apple Valley
N/S: Apple Valley Road
E/W: Pimlico Road
Weather: Clear

File Name : 05_APV_AV_Pim PM
Site Code : 221022
Start Date : 11/17/2022
Page No : 2



Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM				04:30 PM				04:30 PM				04:30 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	**1**	0	0	**1**	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	**1**	0	0	**1**
Total Volume	1	0	0	1	0	0	0	0	0	0	0	0	1	0	0	1
% App. Total	100	0	0		0	0	0		0	0	0		100	0	0	
PHF	.250	.000	.000	.250	.000	.000	.000	.000	.000	.000	.000	.000	.250	.000	.000	.250

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City of Apple Valley
N/S: Apple Valley Road
E/W: Pimlico Road
Weather: Clear

File Name : 05_APV_AV_Pim PM
Site Code : 221022
Start Date : 11/17/2022
Page No : 1

Groups Printed- 4+ Axle Trucks

	Apple Valley Road Southbound				Apple Valley Towne Center Driveway Westbound				Apple Valley Road Northbound				Pimlico Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
Total	0	3	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3
05:00 PM	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
05:15 PM	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	1
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	2	0	2	0	0	0	0	0	1	0	1	0	0	0	0	3
Grand Total	0	5	0	5	0	0	0	0	0	1	0	1	0	0	0	0	6
Apprch %	0	100	0		0	0	0		0	100	0		0	0	0		
Total %	0	83.3	0	83.3	0	0	0	0	0	16.7	0	16.7	0	0	0	0	

	Apple Valley Road Southbound				Apple Valley Towne Center Driveway Westbound				Apple Valley Road Northbound				Pimlico Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
05:00 PM	0	**2**	0	**2**	0	0	0	0	0	0	0	0	0	0	0	0	**2**
05:15 PM	0	0	0	0	0	0	0	0	0	**1**	0	**1**	0	0	0	0	1
Total Volume	0	3	0	3	0	0	0	0	0	1	0	1	0	0	0	0	4
% App. Total	0	100	0		0	0	0		0	100	0		0	0	0		
PHF	.000	.375	.000	.375	.000	.000	.000	.000	.000	.250	.000	.250	.000	.000	.000	.000	.500

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City of Apple Valley
N/S: Apple Valley Road
E/W: Pimlico Road
Weather: Clear

File Name : 05_APV_AV_Pim PM
Site Code : 221022
Start Date : 11/17/2022
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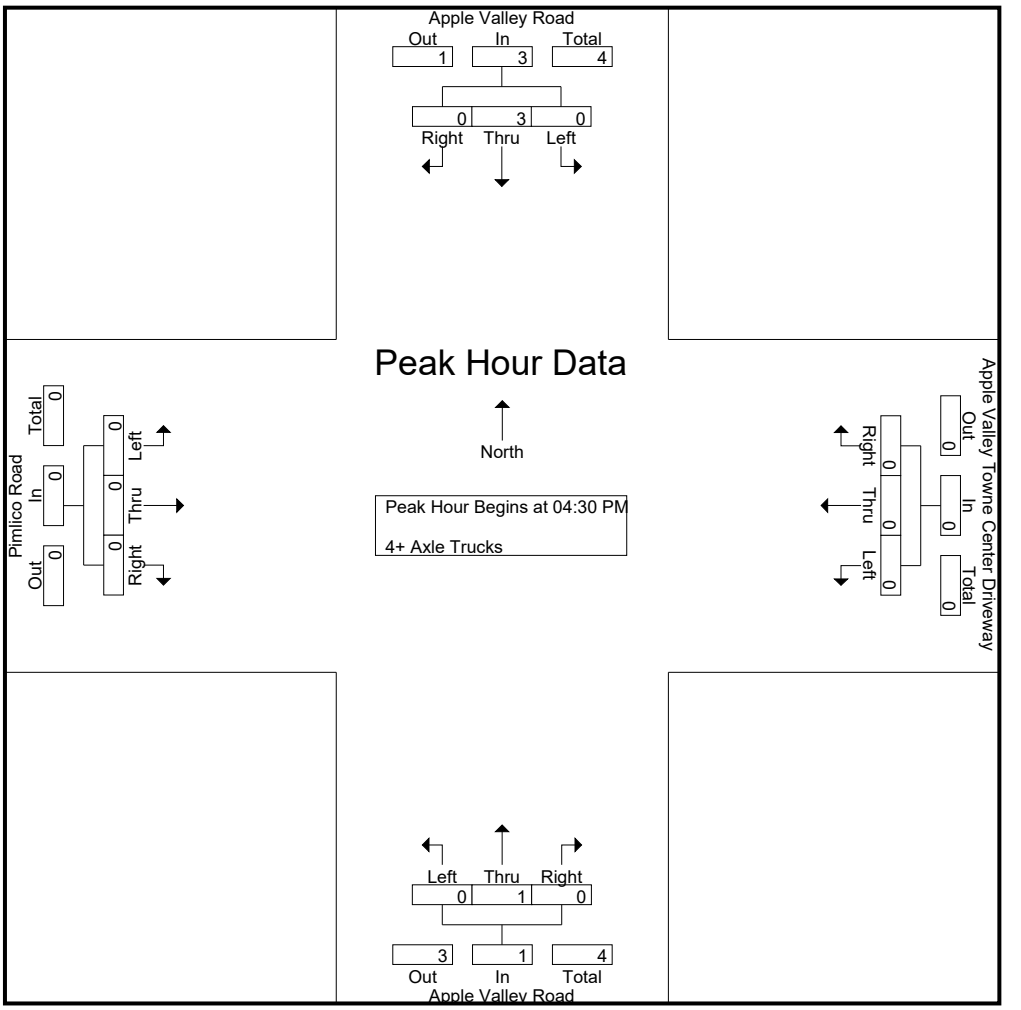

Peak Hour Analysis From 04:30 PM to 05:15 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM				04:30 PM				04:30 PM				04:30 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0
+30 mins.	0	**2**	0	**2**	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	0	**1**	0	**1**	0	0	0	0
Total Volume	0	3	0	3	0	0	0	0	0	1	0	1	0	0	0	0
% App. Total	0	100	0		0	0	0		0	100	0		0	0	0	
PHF	.000	.375	.000	.375	.000	.000	.000	.000	.000	.250	.000	.250	.000	.000	.000	.000

Location: Apple Valley
N/S: Apple Valley Road
E/W: Pimlico Road

Date: 11/17/2022
Day: Thursday

PEDESTRIANS

	North Leg Apple Valley Road	East Leg AV Towne Center DW	South Leg Apple Valley Road	West Leg Pimlico Road	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	1	0	0	1
TOTAL VOLUMES:	0	1	0	0	1

	North Leg Apple Valley Road	East Leg AV Towne Center DW	South Leg Apple Valley Road	West Leg Pimlico Road	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	1	1	0	0	2
4:45 PM	0	0	0	1	1
5:00 PM	0	0	0	1	1
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	1	1	0	2	4

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Location: Apple Valley
N/S: Apple Valley Road
E/W: Pimlico Road

Date: 11/17/2022
Day: Thursday

BICYCLES

	Southbound Apple Valley Road			Westbound AV Towne Center DW			Northbound Apple Valley Road			Eastbound Pimlico Road			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	1	0	0	0	0	1
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0	0	0	1	0	0	0	0	1

	Southbound Apple Valley Road			Westbound AV Towne Center DW			Northbound Apple Valley Road			Eastbound Pimlico Road			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0	0	0	0	0	0	0	0	0

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City of Apple Valley
N/S: Apple Valley Road
E/W: Bear Valley Road
Weather: Clear

File Name : 06_APV_AV_BV AM
Site Code : 221022
Start Date : 11/17/2022
Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	Apple Valley Road Southbound				Bear Valley Road Westbound				Apple Valley Road Northbound				Bear Valley Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	23	19	55	97	8	205	39	252	18	18	8	44	40	103	8	151	544
07:15 AM	35	24	58	117	7	202	38	247	13	23	5	41	43	119	8	170	575
07:30 AM	40	33	91	164	10	250	48	308	16	39	12	67	90	157	6	253	792
07:45 AM	30	48	101	179	34	305	55	394	13	41	5	59	85	150	11	246	878
Total	128	124	305	557	59	962	180	1201	60	121	30	211	258	529	33	820	2789
08:00 AM	46	57	101	204	26	236	34	296	22	44	15	81	49	148	12	209	790
08:15 AM	49	47	90	186	29	250	24	303	19	27	11	57	92	127	11	230	776
08:30 AM	51	44	80	175	28	216	24	268	21	63	13	97	69	128	16	213	753
08:45 AM	41	56	80	177	37	233	32	302	20	41	22	83	73	146	18	237	799
Total	187	204	351	742	120	935	114	1169	82	175	61	318	283	549	57	889	3118
Grand Total	315	328	656	1299	179	1897	294	2370	142	296	91	529	541	1078	90	1709	5907
Apprch %	24.2	25.3	50.5		7.6	80	12.4		26.8	56	17.2		31.7	63.1	5.3		
Total %	5.3	5.6	11.1	22	3	32.1	5	40.1	2.4	5	1.5	9	9.2	18.2	1.5	28.9	
Passenger Vehicles	304	322	641	1267	176	1800	283	2259	138	288	87	513	519	967	89	1575	5614
% Passenger Vehicles	96.5	98.2	97.7	97.5	98.3	94.9	96.3	95.3	97.2	97.3	95.6	97	95.9	89.7	98.9	92.2	95
Large 2 Axle Vehicles	10	6	9	25	3	43	7	53	3	6	3	12	4	56	1	61	151
% Large 2 Axle Vehicles	3.2	1.8	1.4	1.9	1.7	2.3	2.4	2.2	2.1	2	3.3	2.3	0.7	5.2	1.1	3.6	2.6
3 Axle Vehicles	1	0	2	3	0	10	1	11	0	1	0	1	7	11	0	18	33
% 3 Axle Vehicles	0.3	0	0.3	0.2	0	0.5	0.3	0.5	0	0.3	0	0.2	1.3	1	0	1.1	0.6
4+ Axle Trucks	0	0	4	4	0	44	3	47	1	1	1	3	11	44	0	55	109
% 4+ Axle Trucks	0	0	0.6	0.3	0	2.3	1	2	0.7	0.3	1.1	0.6	2	4.1	0	3.2	1.8

	Apple Valley Road Southbound				Bear Valley Road Westbound				Apple Valley Road Northbound				Bear Valley Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	40	33	91	164	10	250	48	308	16	39	12	67	90	**157**	6	**253**	792
07:45 AM	30	48	**101**	179	**34**	**305**	**55**	**394**	13	41	5	59	85	150	11	246	**878**
08:00 AM	46	**57**	101	**204**	26	236	34	296	**22**	**44**	**15**	**81**	49	148	**12**	209	790
08:15 AM	**49**	47	90	186	29	250	24	303	19	27	11	57	**92**	127	11	230	776
Total Volume	165	185	383	733	99	1041	161	1301	70	151	43	264	316	582	40	938	3236
% App. Total	22.5	25.2	52.3		7.6	80	12.4		26.5	57.2	16.3		33.7	62	4.3		
PHF	.842	.811	.948	.898	.728	.853	.732	.826	.795	.858	.717	.815	.859	.927	.833	.927	.921

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City of Apple Valley
N/S: Apple Valley Road
E/W: Bear Valley Road
Weather: Clear

File Name : 06_APV_AV_BV AM
Site Code : 221022
Start Date : 11/17/2022
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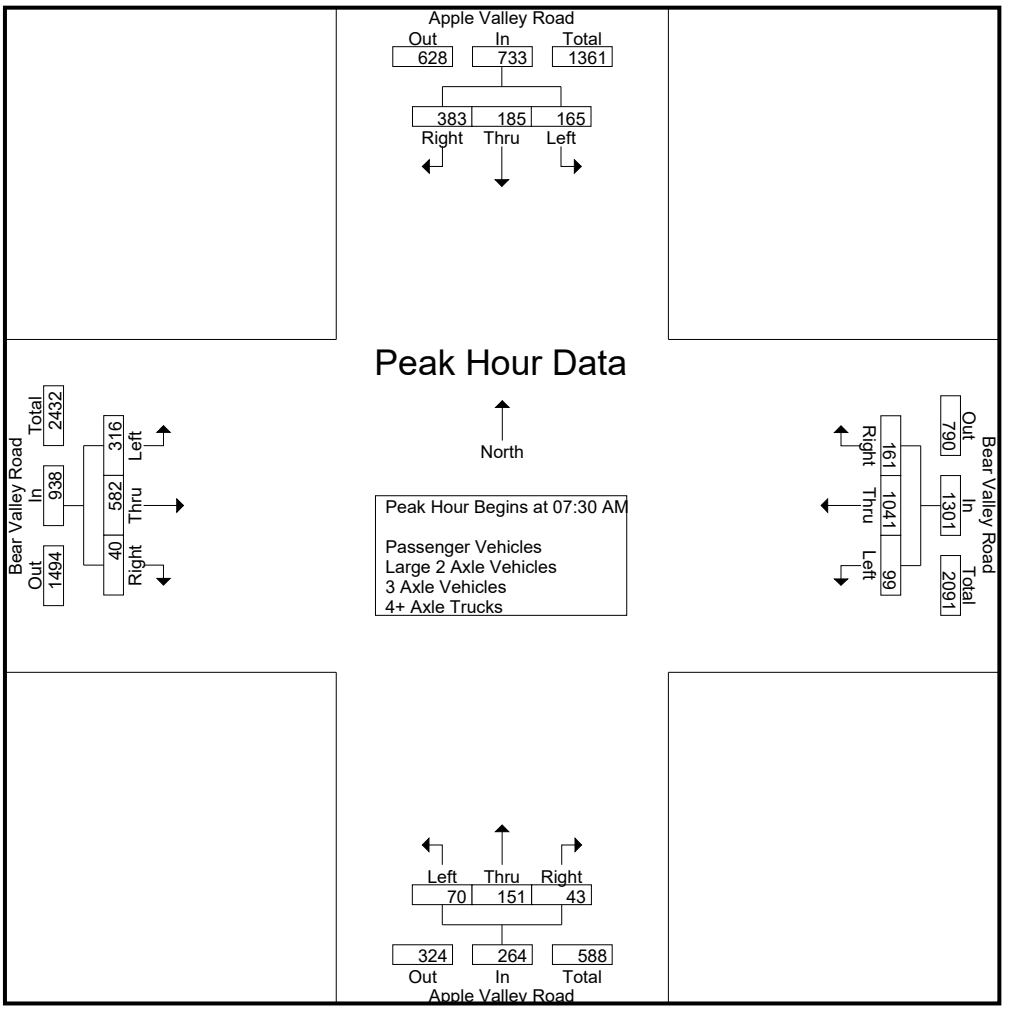

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:45 AM				07:30 AM				08:00 AM				07:30 AM			
+0 mins.	30	48	**101**	179	10	250	48	308	**22**	44	15	81	90	**157**	6	**253**
+15 mins.	46	**57**	101	**204**	**34**	**305**	**55**	**394**	19	27	11	57	85	150	11	246
+30 mins.	49	47	90	186	26	236	34	296	21	**63**	13	**97**	49	148	**12**	209
+45 mins.	**51**	44	80	175	29	250	24	303	20	41	**22**	83	**92**	127	11	230
Total Volume	176	196	372	744	99	1041	161	1301	82	175	61	318	316	582	40	938
% App. Total	23.7	26.3	50		7.6	80	12.4		25.8	55	19.2		33.7	62	4.3	
PHF	.863	.860	.921	.912	.728	.853	.732	.826	.932	.694	.693	.820	.859	.927	.833	.927

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City of Apple Valley
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File Name : 06_APV_AV_BV AM
Site Code : 221022
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Groups Printed- Passenger Vehicles

	Apple Valley Road Southbound				Bear Valley Road Westbound				Apple Valley Road Northbound				Bear Valley Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	23	18	55	96	8	193	36	237	17	17	7	41	35	86	8	129	503
07:15 AM	34	24	56	114	6	192	35	233	12	23	4	39	43	102	7	152	538
07:30 AM	38	33	87	158	10	246	47	303	15	36	12	63	86	145	6	237	761
07:45 AM	29	47	99	175	33	290	53	376	13	41	5	59	84	142	11	237	847
Total	124	122	297	543	57	921	171	1149	57	117	28	202	248	475	32	755	2649
08:00 AM	45	54	99	198	25	223	33	281	22	43	15	80	47	136	12	195	754
08:15 AM	47	46	88	181	29	233	24	286	19	27	10	56	88	111	11	210	733
08:30 AM	49	44	78	171	28	204	23	255	20	62	13	95	64	117	16	197	718
08:45 AM	39	56	79	174	37	219	32	288	20	39	21	80	72	128	18	218	760
Total	180	200	344	724	119	879	112	1110	81	171	59	311	271	492	57	820	2965
Grand Total	304	322	641	1267	176	1800	283	2259	138	288	87	513	519	967	89	1575	5614
Apprch %	24	25.4	50.6		7.8	79.7	12.5		26.9	56.1	17		33	61.4	5.7		
Total %	5.4	5.7	11.4	22.6	3.1	32.1	5	40.2	2.5	5.1	1.5	9.1	9.2	17.2	1.6	28.1	

	Apple Valley Road Southbound				Bear Valley Road Westbound				Apple Valley Road Northbound				Bear Valley Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	38	33	87	158	10	246	47	303	15	36	12	63	86	**145**	6	**237**	761
07:45 AM	29	47	**99**	175	**33**	**290**	**53**	**376**	13	41	5	59	84	142	11	237	**847**
08:00 AM	45	**54**	99	**198**	25	223	33	281	**22**	**43**	**15**	**80**	47	136	**12**	195	754
08:15 AM	**47**	46	88	181	29	233	24	286	19	27	10	56	**88**	111	11	210	733
Total Volume	159	180	373	712	97	992	157	1246	69	147	42	258	305	534	40	879	3095
% App. Total	22.3	25.3	52.4		7.8	79.6	12.6		26.7	57	16.3		34.7	60.8	4.6		
PHF	.846	.833	.942	.899	.735	.855	.741	.828	.784	.855	.700	.806	.866	.921	.833	.927	.914

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City of Apple Valley
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File Name : 06_APV_AV_BV AM
Site Code : 221022
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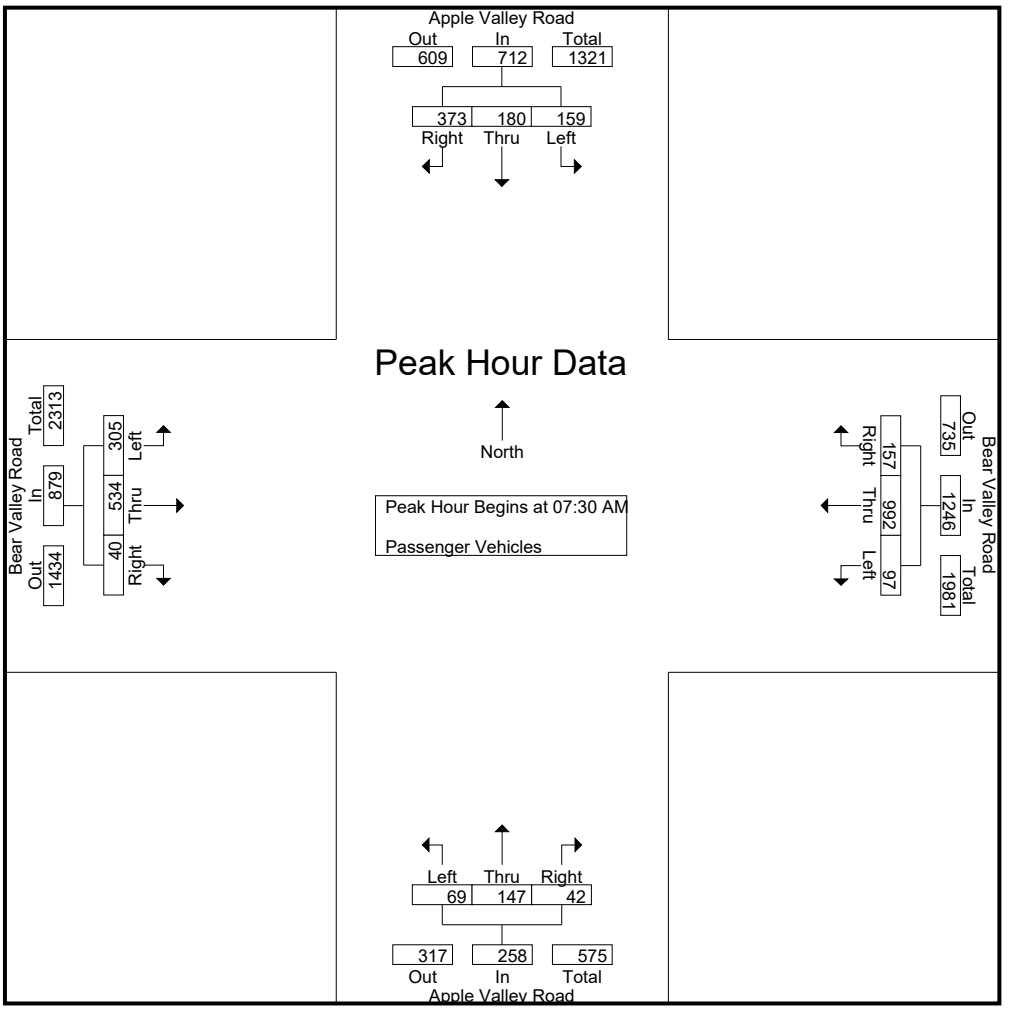

Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:30 AM				07:30 AM				07:30 AM				07:30 AM			
+0 mins.	38	33	87	158	10	246	47	303	15	36	12	63	86	**145**	6	**237**
+15 mins.	29	47	**99**	175	**33**	**290**	**53**	**376**	13	41	5	59	84	142	11	237
+30 mins.	45	**54**	99	**198**	25	223	33	281	**22**	**43**	**15**	**80**	47	136	**12**	195
+45 mins.	**47**	46	88	181	29	233	24	286	19	27	10	56	**88**	111	11	210
Total Volume	159	180	373	712	97	992	157	1246	69	147	42	258	305	534	40	879
% App. Total	22.3	25.3	52.4		7.8	79.6	12.6		26.7	57	16.3		34.7	60.8	4.6	
PHF	.846	.833	.942	.899	.735	.855	.741	.828	.784	.855	.700	.806	.866	.921	.833	.927

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City of Apple Valley
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Site Code : 221022
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Groups Printed- Large 2 Axle Vehicles

	Apple Valley Road Southbound				Bear Valley Road Westbound				Apple Valley Road Northbound				Bear Valley Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	1	0	1	0	6	2	8	1	1	1	3	0	6	0	6	18
07:15 AM	1	0	1	2	1	3	1	5	0	0	0	0	0	10	1	11	18
07:30 AM	2	0	3	5	0	1	1	2	1	3	0	4	0	6	0	6	17
07:45 AM	1	1	2	4	1	7	1	9	0	0	0	0	0	3	0	3	16
Total	4	2	6	12	2	17	5	24	2	4	1	7	0	25	1	26	69
08:00 AM	1	3	1	5	1	4	1	6	0	0	0	0	0	7	0	7	18
08:15 AM	2	1	1	4	0	10	0	10	0	0	1	1	1	10	0	11	26
08:30 AM	1	0	1	2	0	6	1	7	1	1	0	2	3	4	0	7	18
08:45 AM	2	0	0	2	0	6	0	6	0	1	1	2	0	10	0	10	20
Total	6	4	3	13	1	26	2	29	1	2	2	5	4	31	0	35	82
Grand Total	10	6	9	25	3	43	7	53	3	6	3	12	4	56	1	61	151
Apprch %	40	24	36		5.7	81.1	13.2		25	50	25		6.6	91.8	1.6		
Total %	6.6	4	6	16.6	2	28.5	4.6	35.1	2	4	2	7.9	2.6	37.1	0.7	40.4	

	Apple Valley Road Southbound				Bear Valley Road Westbound				Apple Valley Road Northbound				Bear Valley Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	**2**	0	**3**	**5**	0	1	**1**	2	**1**	**3**	0	**4**	0	6	0	6	17
07:45 AM	1	1	2	4	**1**	7	1	9	0	0	0	0	0	3	0	3	16
08:00 AM	1	**3**	1	5	1	4	1	6	0	0	0	0	0	7	0	7	18
08:15 AM	2	1	1	4	0	**10**	0	**10**	0	0	**1**	1	**1**	**10**	0	**11**	**26**
Total Volume	6	5	7	18	2	22	3	27	1	3	1	5	1	26	0	27	77
% App. Total	33.3	27.8	38.9		7.4	81.5	11.1		20	60	20		3.7	96.3	0		
PHF	.750	.417	.583	.900	.500	.550	.750	.675	.250	.250	.250	.313	.250	.650	.000	.614	.740

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City of Apple Valley
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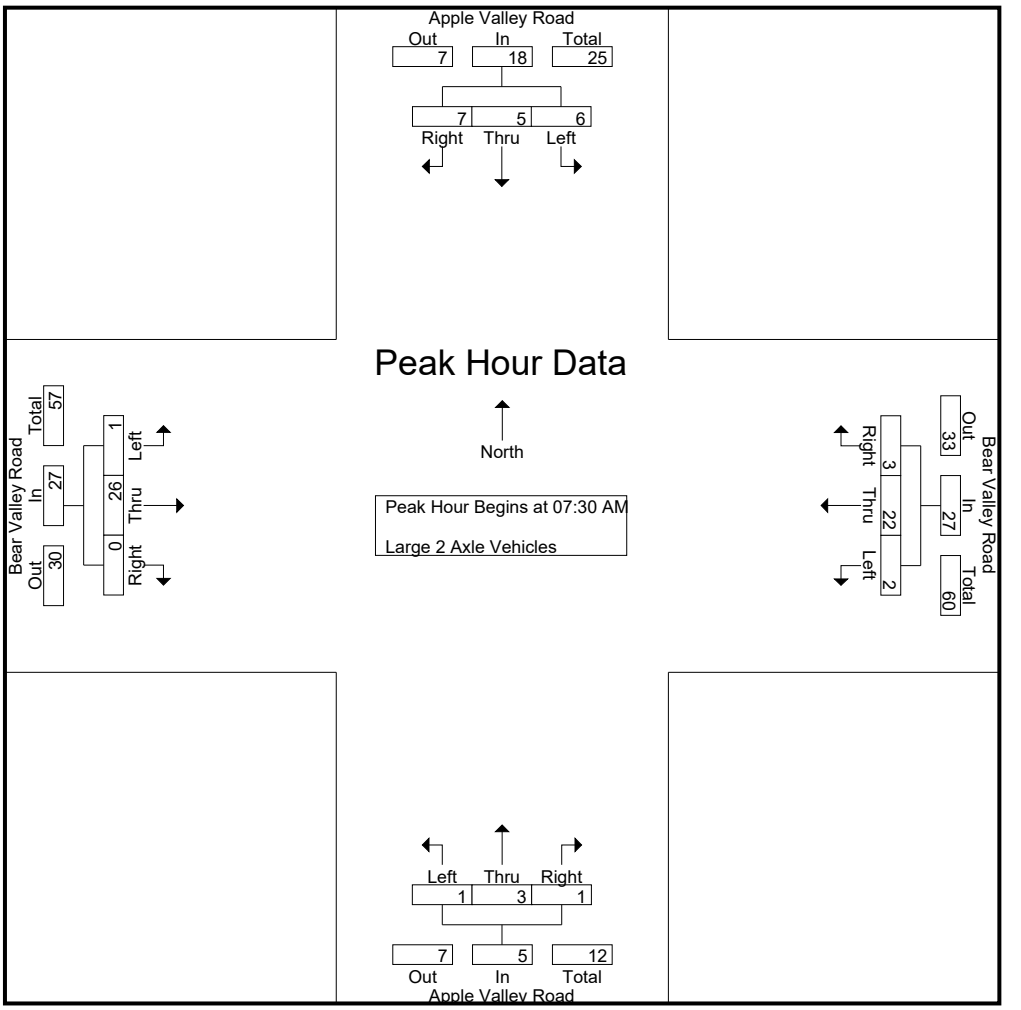
File Name : 06_APV_AV_BV AM
Site Code : 221022
Start Date : 11/17/2022



Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:30 AM				07:30 AM				07:30 AM				07:30 AM			
+0 mins.	**2**	0	**3**	**5**	0	1	**1**	2	**1**	**3**	0	**4**	0	6	0	6
+15 mins.	1	1	2	4	**1**	7	1	9	0	0	0	0	0	3	0	3
+30 mins.	1	**3**	1	5	1	4	1	6	0	0	0	0	0	7	0	7
+45 mins.	2	1	1	4	0	**10**	0	**10**	0	0	**1**	1	**1**	**10**	0	**11**
Total Volume	6	5	7	18	2	22	3	27	1	3	1	5	1	26	0	27
% App. Total	33.3	27.8	38.9		7.4	81.5	11.1		20	60	20		3.7	96.3	0	
PHF	.750	.417	.583	.900	.500	.550	.750	.675	.250	.250	.250	.313	.250	.650	.000	.614

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Site Code : 221022
Start Date : 11/17/2022
Page No : 1

Groups Printed- 3 Axle Vehicles

	Apple Valley Road Southbound				Bear Valley Road Westbound				Apple Valley Road Northbound				Bear Valley Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	0	1	1	2	0	0	0	0	1	3	0	4	6
07:15 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	2	0	2	3
07:30 AM	0	0	0	0	0	1	0	1	0	0	0	0	4	0	0	4	5
07:45 AM	0	0	0	0	0	2	0	2	0	0	0	0	0	2	0	2	4
Total	0	0	0	0	0	5	1	6	0	0	0	0	5	7	0	12	18
08:00 AM	0	0	0	0	0	1	0	1	0	1	0	1	1	1	0	2	4
08:15 AM	0	0	1	1	0	1	0	1	0	0	0	0	0	1	0	1	3
08:30 AM	1	0	0	1	0	2	0	2	0	0	0	0	1	2	0	3	6
08:45 AM	0	0	1	1	0	1	0	1	0	0	0	0	0	0	0	0	2
Total	1	0	2	3	0	5	0	5	0	1	0	1	2	4	0	6	15
Grand Total	1	0	2	3	0	10	1	11	0	1	0	1	7	11	0	18	33
Apprch %	33.3	0	66.7		0	90.9	9.1		0	100	0		38.9	61.1	0		
Total %	3	0	6.1	9.1	0	30.3	3	33.3	0	3	0	3	21.2	33.3	0	54.5	

	Apple Valley Road Southbound				Bear Valley Road Westbound				Apple Valley Road Northbound				Bear Valley Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	0	0	0	0	0	1	0	1	0	0	0	0	**4**	0	0	**4**	**5**
07:45 AM	0	0	0	0	0	**2**	0	**2**	0	0	0	0	0	**2**	0	2	4
08:00 AM	0	0	0	0	0	1	0	1	0	**1**	0	**1**	1	1	0	2	4
08:15 AM	0	0	**1**	**1**	0	1	0	1	0	0	0	0	0	1	0	1	3
Total Volume	0	0	1	1	0	5	0	5	0	1	0	1	5	4	0	9	16
% App. Total	0	0	100		0	100	0		0	100	0		55.6	44.4	0		
PHF	.000	.000	.250	.250	.000	.625	.000	.625	.000	.250	.000	.250	.313	.500	.000	.563	.800

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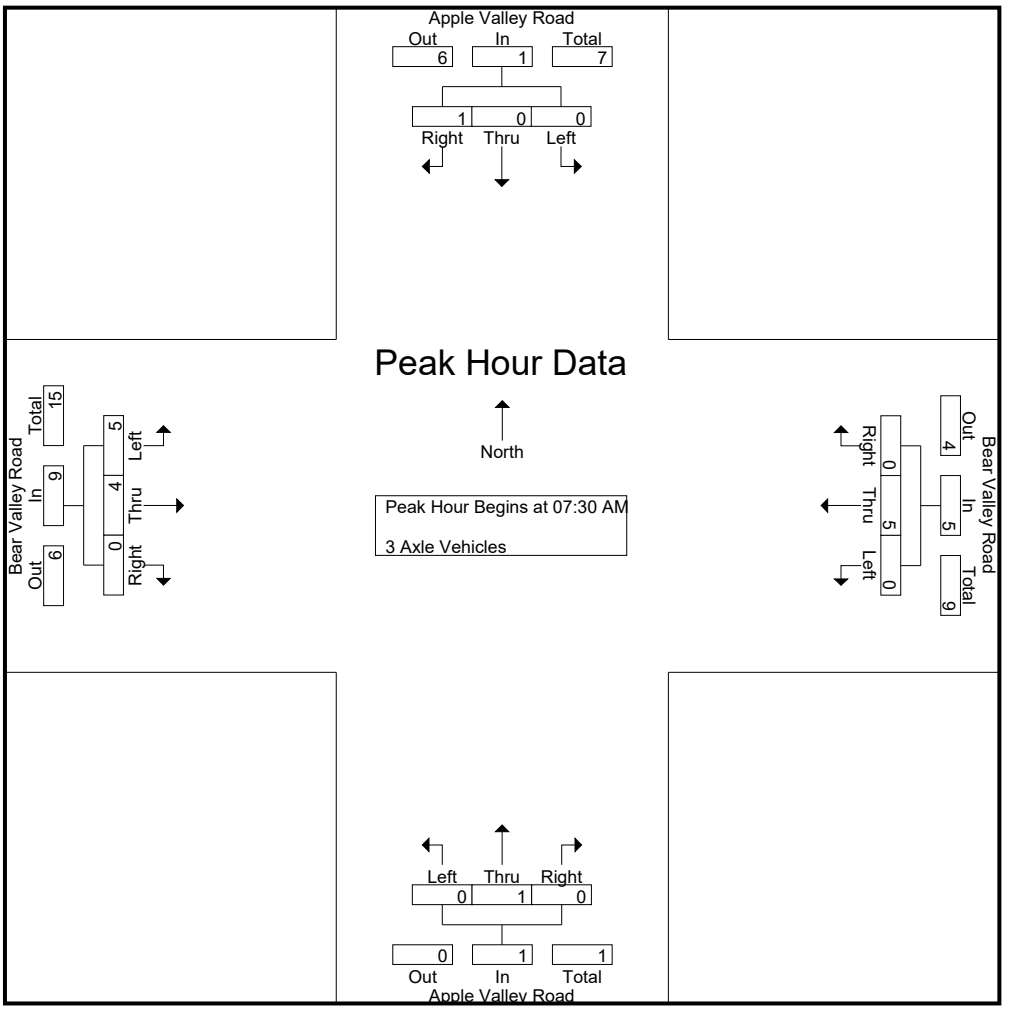

Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:30 AM				07:30 AM				07:30 AM				07:30 AM			
+0 mins.	0	0	0	0	0	1	0	1	0	0	0	0	**4**	0	0	**4**
+15 mins.	0	0	0	0	0	**2**	0	**2**	0	0	0	0	0	**2**	0	2
+30 mins.	0	0	0	0	0	1	0	1	0	**1**	0	**1**	1	1	0	2
+45 mins.	0	0	**1**	**1**	0	1	0	1	0	0	0	0	0	1	0	1
Total Volume	0	0	1	1	0	5	0	5	0	1	0	1	5	4	0	9
% App. Total	0	0	100		0	100	0		0	100	0		55.6	44.4	0	
PHF	.000	.000	.250	.250	.000	.625	.000	.625	.000	.250	.000	.250	.313	.500	.000	.563

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City of Apple Valley
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Site Code : 221022
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Groups Printed- 4+ Axle Trucks

	Apple Valley Road Southbound				Bear Valley Road Westbound				Apple Valley Road Northbound				Bear Valley Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	0	5	0	5	0	0	0	0	4	8	0	12	17
07:15 AM	0	0	1	1	0	6	2	8	1	0	1	2	0	5	0	5	16
07:30 AM	0	0	1	1	0	2	0	2	0	0	0	0	0	6	0	6	9
07:45 AM	0	0	0	0	0	6	1	7	0	0	0	0	1	3	0	4	11
Total	0	0	2	2	0	19	3	22	1	0	1	2	5	22	0	27	53
08:00 AM	0	0	1	1	0	8	0	8	0	0	0	0	1	4	0	5	14
08:15 AM	0	0	0	0	0	6	0	6	0	0	0	0	3	5	0	8	14
08:30 AM	0	0	1	1	0	4	0	4	0	0	0	0	1	5	0	6	11
08:45 AM	0	0	0	0	0	7	0	7	0	1	0	1	1	8	0	9	17
Total	0	0	2	2	0	25	0	25	0	1	0	1	6	22	0	28	56
Grand Total	0	0	4	4	0	44	3	47	1	1	1	3	11	44	0	55	109
Apprch %	0	0	100		0	93.6	6.4		33.3	33.3	33.3		20	80	0		
Total %	0	0	3.7	3.7	0	40.4	2.8	43.1	0.9	0.9	0.9	2.8	10.1	40.4	0	50.5	

	Apple Valley Road Southbound				Bear Valley Road Westbound				Apple Valley Road Northbound				Bear Valley Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	0	0	**1**	**1**	0	2	0	2	0	0	0	0	0	**6**	0	6	9
07:45 AM	0	0	0	0	0	6	**1**	7	0	0	0	0	1	3	0	4	11
08:00 AM	0	0	1	1	0	**8**	0	**8**	0	0	0	0	1	4	0	5	**14**
08:15 AM	0	0	0	0	0	6	0	6	0	0	0	0	**3**	5	0	**8**	14
Total Volume	0	0	2	2	0	22	1	23	0	0	0	0	5	18	0	23	48
% App. Total	0	0	100		0	95.7	4.3		0	0	0		21.7	78.3	0		
PHF	.000	.000	.500	.500	.000	.688	.250	.719	.000	.000	.000	.000	.417	.750	.000	.719	.857

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Weather: Clear

File Name : 06_APV_AV_BV AM
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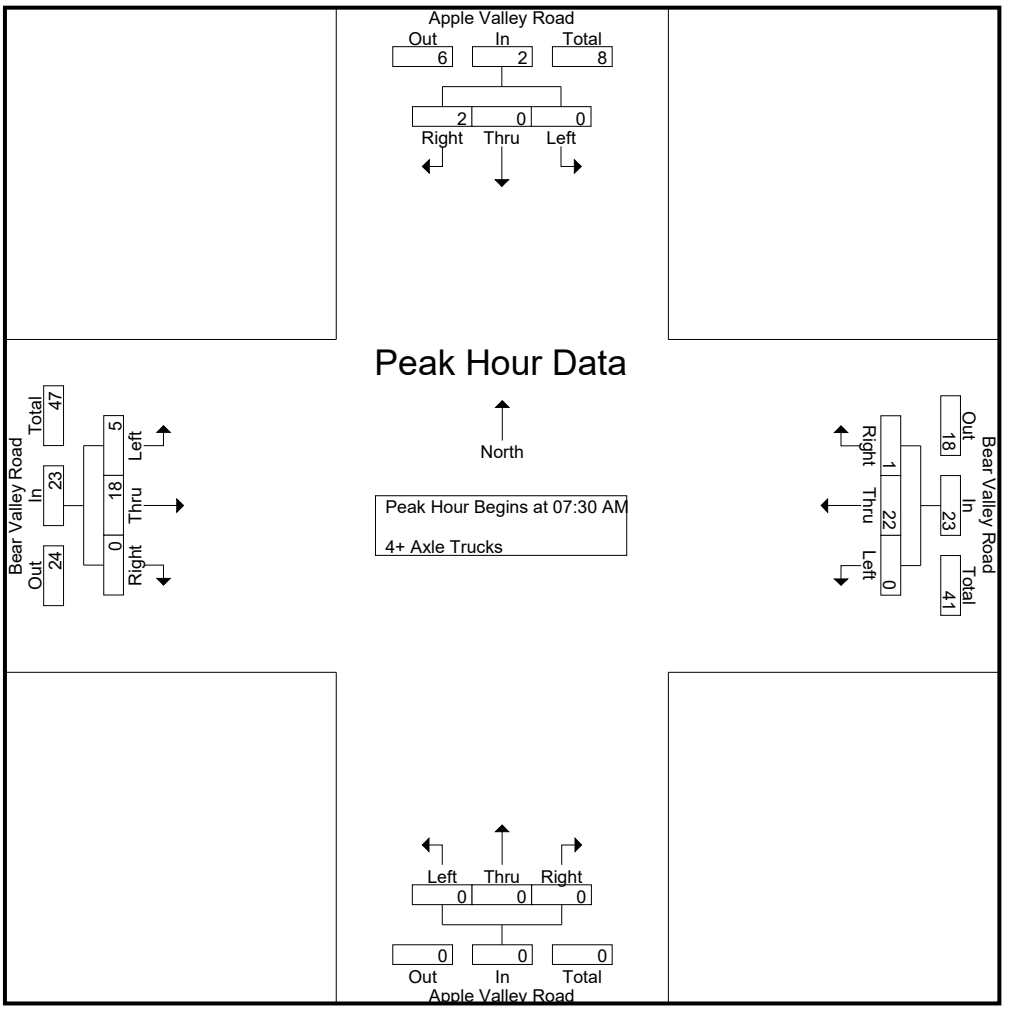

Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:30 AM				07:30 AM				07:30 AM				07:30 AM			
+0 mins.	0	0	**1**	**1**	0	2	0	2	0	0	0	0	0	**6**	0	6
+15 mins.	0	0	0	0	0	6	**1**	7	0	0	0	0	1	3	0	4
+30 mins.	0	0	1	1	0	**8**	0	**8**	0	0	0	0	1	4	0	5
+45 mins.	0	0	0	0	0	6	0	6	0	0	0	0	**3**	5	0	**8**
Total Volume	0	0	2	2	0	22	1	23	0	0	0	0	5	18	0	23
% App. Total	0	0	100		0	95.7	4.3		0	0	0		21.7	78.3	0	
PHF	.000	.000	.500	.500	.000	.688	.250	.719	.000	.000	.000	.000	.417	.750	.000	.719

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Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	Apple Valley Road Southbound				Bear Valley Road Westbound				Apple Valley Road Northbound				Bear Valley Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	63	74	79	216	45	193	21	259	32	58	36	126	113	233	15	361	962
04:15 PM	48	74	85	207	49	230	28	307	25	40	31	96	119	270	18	407	1017
04:30 PM	54	97	83	234	33	203	32	268	28	56	22	106	111	238	13	362	970
04:45 PM	42	104	99	245	45	228	31	304	34	78	42	154	86	267	16	369	1072
Total	207	349	346	902	172	854	112	1138	119	232	131	482	429	1008	62	1499	4021
05:00 PM	50	71	79	200	48	235	33	316	19	49	53	121	131	258	12	401	1038
05:15 PM	57	54	89	200	43	211	38	292	37	49	32	118	122	248	10	380	990
05:30 PM	36	58	82	176	32	190	24	246	21	37	40	98	99	210	12	321	841
05:45 PM	54	66	86	206	36	155	26	217	27	65	42	134	84	228	10	322	879
Total	197	249	336	782	159	791	121	1071	104	200	167	471	436	944	44	1424	3748
Grand Total	404	598	682	1684	331	1645	233	2209	223	432	298	953	865	1952	106	2923	7769
Apprch %	24	35.5	40.5		15	74.5	10.5		23.4	45.3	31.3		29.6	66.8	3.6		
Total %	5.2	7.7	8.8	21.7	4.3	21.2	3	28.4	2.9	5.6	3.8	12.3	11.1	25.1	1.4	37.6	
Passenger Vehicles	398	592	668	1658	327	1608	231	2166	222	426	296	944	859	1898	106	2863	7631
% Passenger Vehicles	98.5	99	97.9	98.5	98.8	97.8	99.1	98.1	99.6	98.6	99.3	99.1	99.3	97.2	100	97.9	98.2
Large 2 Axle Vehicles	4	5	10	19	4	17	1	22	1	5	2	8	6	30	0	36	85
% Large 2 Axle Vehicles	1	0.8	1.5	1.1	1.2	1	0.4	1	0.4	1.2	0.7	0.8	0.7	1.5	0	1.2	1.1
3 Axle Vehicles	0	0	2	2	0	2	1	3	0	1	0	1	0	4	0	4	10
% 3 Axle Vehicles	0	0	0.3	0.1	0	0.1	0.4	0.1	0	0.2	0	0.1	0	0.2	0	0.1	0.1
4+ Axle Trucks	2	1	2	5	0	18	0	18	0	0	0	0	0	20	0	20	43
% 4+ Axle Trucks	0.5	0.2	0.3	0.3	0	1.1	0	0.8	0	0	0	0	0	1	0	0.7	0.6

	Apple Valley Road Southbound				Bear Valley Road Westbound				Apple Valley Road Northbound				Bear Valley Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	48	74	85	207	**49**	230	28	307	25	40	31	96	119	**270**	**18**	**407**	1017
04:30 PM	**54**	97	83	234	33	203	32	268	28	56	22	106	111	238	13	362	970
04:45 PM	42	**104**	**99**	**245**	45	228	31	304	**34**	**78**	42	**154**	86	267	16	369	**1072**
05:00 PM	50	71	79	200	48	**235**	**33**	**316**	19	49	**53**	121	**131**	258	12	401	1038
Total Volume	194	346	346	886	175	896	124	1195	106	223	148	477	447	1033	59	1539	4097
% App. Total	21.9	39.1	39.1		14.6	75	10.4		22.2	46.8	31		29	67.1	3.8		
PHF	.898	.832	.874	.904	.893	.953	.939	.945	.779	.715	.698	.774	.853	.956	.819	.945	.955

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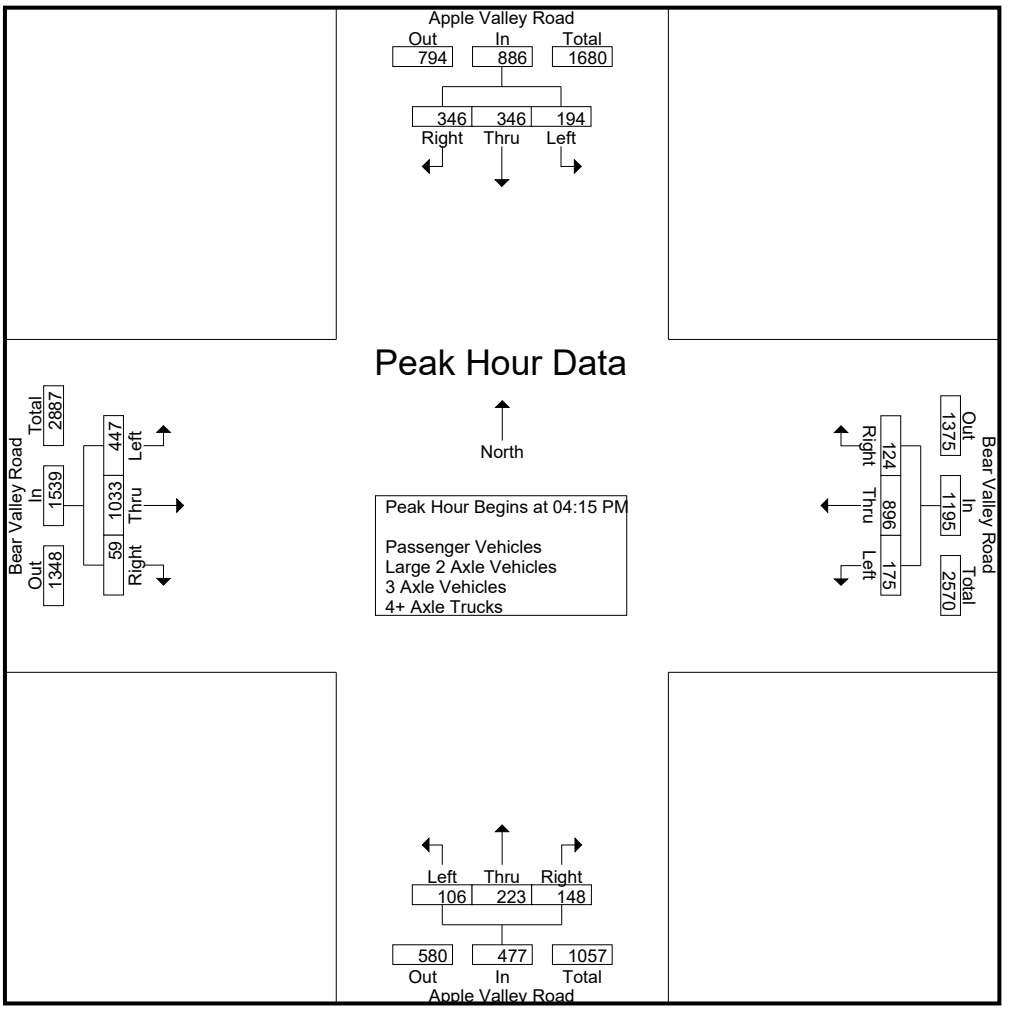

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM				04:15 PM				04:30 PM				04:15 PM			
+0 mins.	**63**	74	79	216	**49**	230	28	307	28	56	22	106	119	**270**	**18**	**407**
+15 mins.	48	74	85	207	33	203	32	268	34	**78**	42	**154**	111	238	13	362
+30 mins.	54	97	83	234	45	228	31	304	19	49	**53**	121	86	267	16	369
+45 mins.	42	**104**	**99**	**245**	48	**235**	**33**	**316**	**37**	49	32	118	**131**	258	12	401
Total Volume	207	349	346	902	175	896	124	1195	118	232	149	499	447	1033	59	1539
% App. Total	22.9	38.7	38.4		14.6	75	10.4		23.6	46.5	29.9		29	67.1	3.8	
PHF	.821	.839	.874	.920	.893	.953	.939	.945	.797	.744	.703	.810	.853	.956	.819	.945

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Groups Printed- Passenger Vehicles

	Apple Valley Road Southbound				Bear Valley Road Westbound				Apple Valley Road Northbound				Bear Valley Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	62	73	76	211	45	185	21	251	32	56	36	124	111	224	15	350	936
04:15 PM	47	71	82	200	47	222	28	297	25	40	31	96	118	265	18	401	994
04:30 PM	54	97	81	232	33	197	32	262	28	55	22	105	110	227	13	350	949
04:45 PM	41	103	98	242	44	226	31	301	33	77	42	152	85	256	16	357	1052
Total	204	344	337	885	169	830	112	1111	118	228	131	477	424	972	62	1458	3931
05:00 PM	49	71	78	198	48	230	32	310	19	48	52	119	131	254	12	397	1024
05:15 PM	56	53	86	195	42	207	37	286	37	49	32	118	122	243	10	375	974
05:30 PM	36	58	81	175	32	188	24	244	21	37	40	98	98	207	12	317	834
05:45 PM	53	66	86	205	36	153	26	215	27	64	41	132	84	222	10	316	868
Total	194	248	331	773	158	778	119	1055	104	198	165	467	435	926	44	1405	3700
Grand Total	398	592	668	1658	327	1608	231	2166	222	426	296	944	859	1898	106	2863	7631
Apprch %	24	35.7	40.3		15.1	74.2	10.7		23.5	45.1	31.4		30	66.3	3.7		
Total %	5.2	7.8	8.8	21.7	4.3	21.1	3	28.4	2.9	5.6	3.9	12.4	11.3	24.9	1.4	37.5	

	Apple Valley Road Southbound				Bear Valley Road Westbound				Apple Valley Road Northbound				Bear Valley Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	47	71	82	200	47	222	28	297	25	40	31	96	118	**265**	**18**	**401**	994
04:30 PM	**54**	97	81	232	33	197	**32**	262	28	55	22	105	110	227	13	350	949
04:45 PM	41	**103**	**98**	**242**	44	226	31	301	**33**	**77**	42	**152**	85	256	16	357	**1052**
05:00 PM	49	71	78	198	**48**	**230**	32	**310**	19	48	**52**	119	**131**	254	12	397	1024
Total Volume	191	342	339	872	172	875	123	1170	105	220	147	472	444	1002	59	1505	4019
% App. Total	21.9	39.2	38.9		14.7	74.8	10.5		22.2	46.6	31.1		29.5	66.6	3.9		
PHF	.884	.830	.865	.901	.896	.951	.961	.944	.795	.714	.707	.776	.847	.945	.819	.938	.955

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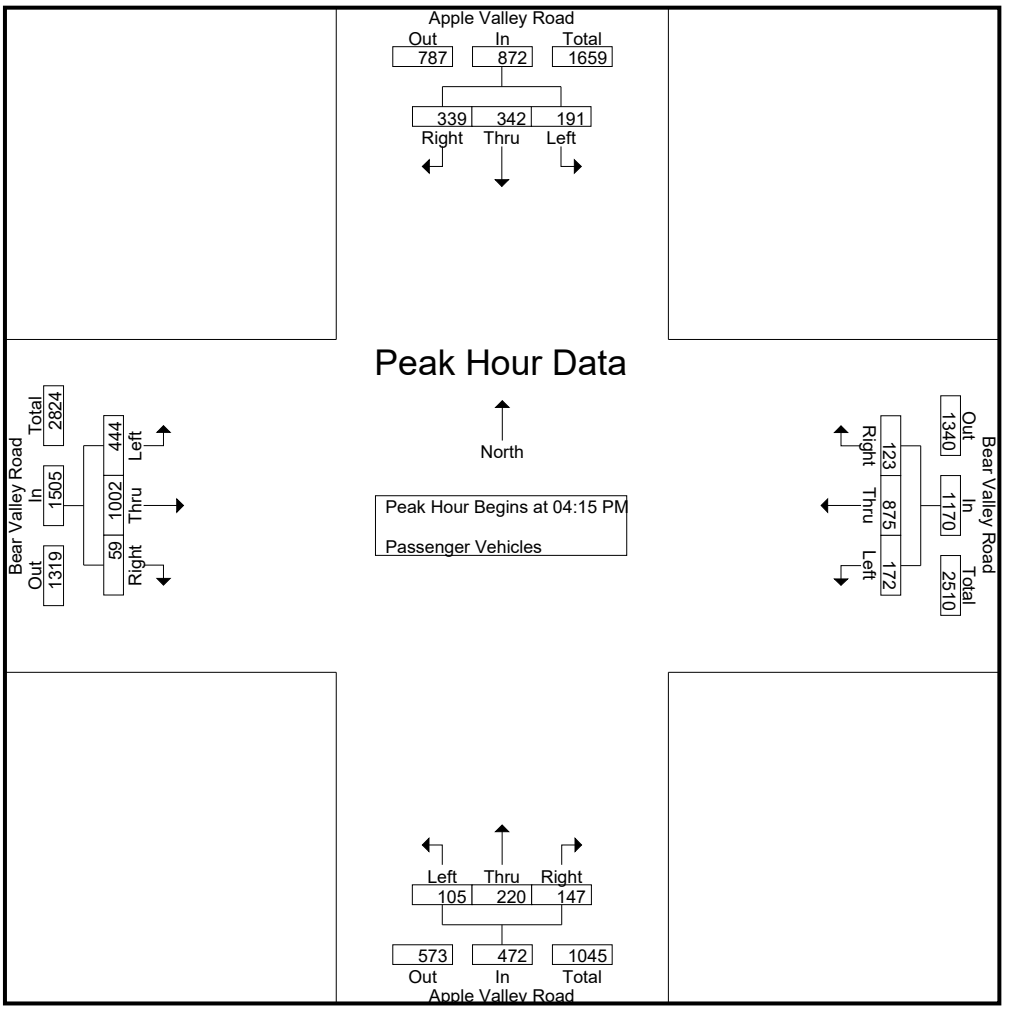

Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:15 PM				04:15 PM				04:15 PM				04:15 PM			
+0 mins.	47	71	82	200	47	222	28	297	25	40	31	96	118	**265**	**18**	**401**
+15 mins.	**54**	97	81	232	33	197	**32**	262	28	55	22	105	110	227	13	350
+30 mins.	41	**103**	**98**	**242**	44	226	31	301	**33**	**77**	42	**152**	85	256	16	357
+45 mins.	49	71	78	198	**48**	**230**	32	**310**	19	48	**52**	119	**131**	254	12	397
Total Volume	191	342	339	872	172	875	123	1170	105	220	147	472	444	1002	59	1505
% App. Total	21.9	39.2	38.9		14.7	74.8	10.5		22.2	46.6	31.1		29.5	66.6	3.9	
PHF	.884	.830	.865	.901	.896	.951	.961	.944	.795	.714	.707	.776	.847	.945	.819	.938

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Groups Printed- Large 2 Axle Vehicles

	Apple Valley Road Southbound				Bear Valley Road Westbound				Apple Valley Road Northbound				Bear Valley Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	1	1	1	3	0	4	0	4	0	1	0	1	2	6	0	8	16
04:15 PM	1	2	2	5	2	3	0	5	0	0	0	0	1	5	0	6	16
04:30 PM	0	0	2	2	0	1	0	1	0	1	0	1	1	5	0	6	10
04:45 PM	1	1	0	2	1	1	0	2	1	1	0	2	1	5	0	6	12
Total	3	4	5	12	3	9	0	12	1	3	0	4	5	21	0	26	54
05:00 PM	0	0	1	1	0	3	1	4	0	1	1	2	0	1	0	1	8
05:15 PM	0	1	3	4	1	2	0	3	0	0	0	0	0	1	0	1	8
05:30 PM	0	0	1	1	0	1	0	1	0	0	0	0	1	2	0	3	5
05:45 PM	1	0	0	1	0	2	0	2	0	1	1	2	0	5	0	5	10
Total	1	1	5	7	1	8	1	10	0	2	2	4	1	9	0	10	31
Grand Total	4	5	10	19	4	17	1	22	1	5	2	8	6	30	0	36	85
Apprch %	21.1	26.3	52.6		18.2	77.3	4.5		12.5	62.5	25		16.7	83.3	0		
Total %	4.7	5.9	11.8	22.4	4.7	20	1.2	25.9	1.2	5.9	2.4	9.4	7.1	35.3	0	42.4	

	Apple Valley Road Southbound				Bear Valley Road Westbound				Apple Valley Road Northbound				Bear Valley Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	**1**	**2**	**2**	**5**	**2**	**3**	0	**5**	0	0	0	0	**1**	**5**	0	**6**	**16**
04:30 PM	0	0	2	2	0	1	0	1	0	**1**	0	1	1	5	0	6	10
04:45 PM	1	1	0	2	1	1	0	2	**1**	1	0	**2**	1	5	0	6	12
05:00 PM	0	0	1	1	0	3	**1**	4	0	1	**1**	2	0	1	0	1	8
Total Volume	2	3	5	10	3	8	1	12	1	3	1	5	3	16	0	19	46
% App. Total	20	30	50		25	66.7	8.3		20	60	20		15.8	84.2	0		
PHF	.500	.375	.625	.500	.375	.667	.250	.600	.250	.750	.250	.625	.750	.800	.000	.792	.719

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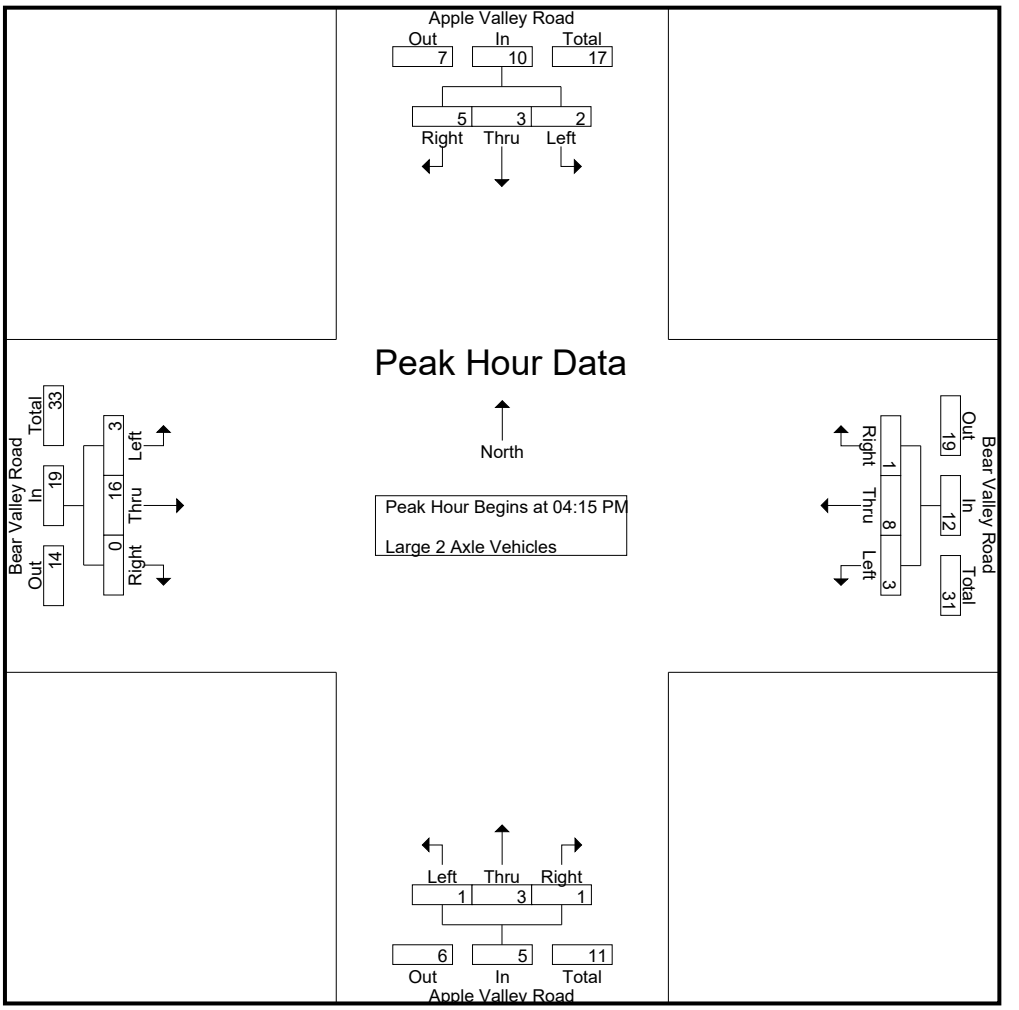

Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:15 PM				04:15 PM				04:15 PM				04:15 PM			
+0 mins.	**1**	**2**	**2**	**5**	**2**	**3**	0	**5**	0	0	0	0	**1**	**5**	0	**6**
+15 mins.	0	0	2	2	0	1	0	1	0	**1**	0	1	1	5	0	6
+30 mins.	1	1	0	2	1	1	0	2	**1**	1	0	**2**	1	5	0	6
+45 mins.	0	0	1	1	0	3	**1**	4	0	1	**1**	2	0	1	0	1
Total Volume	2	3	5	10	3	8	1	12	1	3	1	5	3	16	0	19
% App. Total	20	30	50		25	66.7	8.3		20	60	20		15.8	84.2	0	
PHF	.500	.375	.625	.500	.375	.667	.250	.600	.250	.750	.250	.625	.750	.800	.000	.792

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Groups Printed- 3 Axle Vehicles

	Apple Valley Road Southbound				Bear Valley Road Westbound				Apple Valley Road Northbound				Bear Valley Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	2	0	2	0	1	0	1	0	0	0	0	3
04:15 PM	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	1
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	2
04:45 PM	0	0	1	1	0	0	0	0	0	0	0	0	0	1	0	1	2
Total	0	0	2	2	0	2	0	2	0	1	0	1	0	3	0	3	8
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
05:15 PM	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	1
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	1	1	0	0	0	0	0	1	0	1	2
Grand Total	0	0	2	2	0	2	1	3	0	1	0	1	0	4	0	4	10
Apprch %	0	0	100		0	66.7	33.3		0	100	0		0	100	0		
Total %	0	0	20	20	0	20	10	30	0	10	0	10	0	40	0	40	

	Apple Valley Road Southbound				Bear Valley Road Westbound				Apple Valley Road Northbound				Bear Valley Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	0	0	**1**	**1**	0	0	0	0	0	0	0	0	0	0	0	0	1
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	**2**	0	**2**	**2**
04:45 PM	0	0	1	1	0	0	0	0	0	0	0	0	0	1	0	1	2
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
Total Volume	0	0	2	2	0	0	0	0	0	0	0	0	0	4	0	4	6
% App. Total	0	0	100		0	0	0		0	0	0		0	100	0		
PHF	.000	.000	.500	.500	.000	.000	.000	.000	.000	.000	.000	.000	.000	.500	.000	.500	.750

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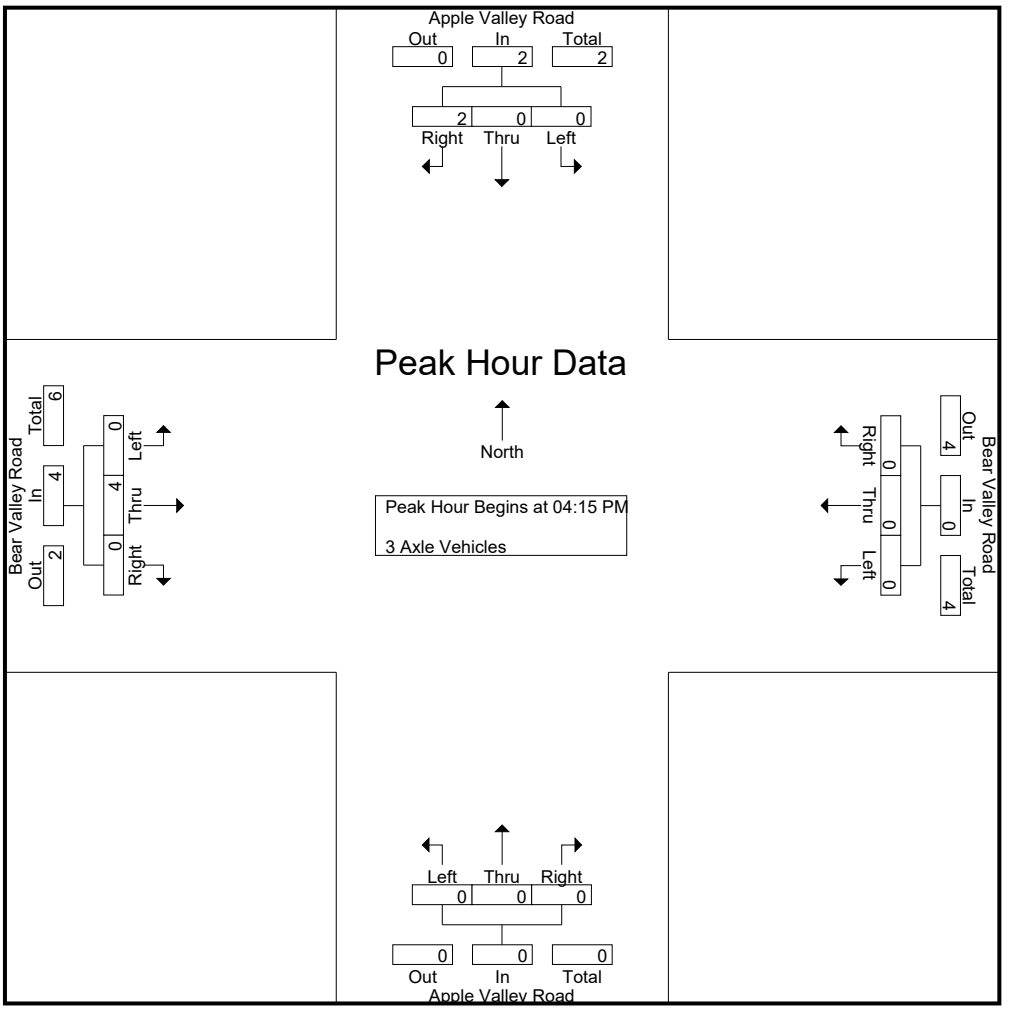

Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:15 PM				04:15 PM				04:15 PM				04:15 PM			
+0 mins.	0	0	**1**	**1**	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	**2**	0	**2**
+30 mins.	0	0	1	1	0	0	0	0	0	0	0	0	0	1	0	1
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
Total Volume	0	0	2	2	0	0	0	0	0	0	0	0	0	4	0	4
% App. Total	0	0	100		0	0	0		0	0	0		0	100	0	
PHF	.000	.000	.500	.500	.000	.000	.000	.000	.000	.000	.000	.000	.000	.500	.000	.500

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City of Apple Valley
N/S: Apple Valley Road
E/W: Bear Valley Road
Weather: Clear

File Name : 06_APV_AV_BV PM
Site Code : 221022
Start Date : 11/17/2022
Page No : 1

Groups Printed- 4+ Axle Trucks

	Apple Valley Road Southbound				Bear Valley Road Westbound				Apple Valley Road Northbound				Bear Valley Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	2	2	0	2	0	2	0	0	0	0	0	3	0	3	7
04:15 PM	0	1	0	1	0	5	0	5	0	0	0	0	0	0	0	0	6
04:30 PM	0	0	0	0	0	5	0	5	0	0	0	0	0	4	0	4	9
04:45 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	5	0	5	6
Total	0	1	2	3	0	13	0	13	0	0	0	0	0	12	0	12	28
05:00 PM	1	0	0	1	0	2	0	2	0	0	0	0	0	2	0	2	5
05:15 PM	1	0	0	1	0	2	0	2	0	0	0	0	0	4	0	4	7
05:30 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	1	2
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
Total	2	0	0	2	0	5	0	5	0	0	0	0	0	8	0	8	15
Grand Total	2	1	2	5	0	18	0	18	0	0	0	0	0	20	0	20	43
Apprch %	40	20	40		0	100	0		0	0	0		0	100	0		
Total %	4.7	2.3	4.7	11.6	0	41.9	0	41.9	0	0	0	0	0	46.5	0	46.5	

	Apple Valley Road Southbound				Bear Valley Road Westbound				Apple Valley Road Northbound				Bear Valley Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	0	**1**	0	**1**	0	**5**	0	**5**	0	0	0	0	0	0	0	0	6
04:30 PM	0	0	0	0	0	5	0	5	0	0	0	0	0	4	0	4	**9**
04:45 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	**5**	0	**5**	6
05:00 PM	**1**	0	0	1	0	2	0	2	0	0	0	0	0	2	0	2	5
Total Volume	1	1	0	2	0	13	0	13	0	0	0	0	0	11	0	11	26
% App. Total	50	50	0		0	100	0		0	0	0		0	100	0		
PHF	.250	.250	.000	.500	.000	.650	.000	.650	.000	.000	.000	.000	.000	.550	.000	.550	.722

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Site Code : 221022
Start Date : 11/17/2022
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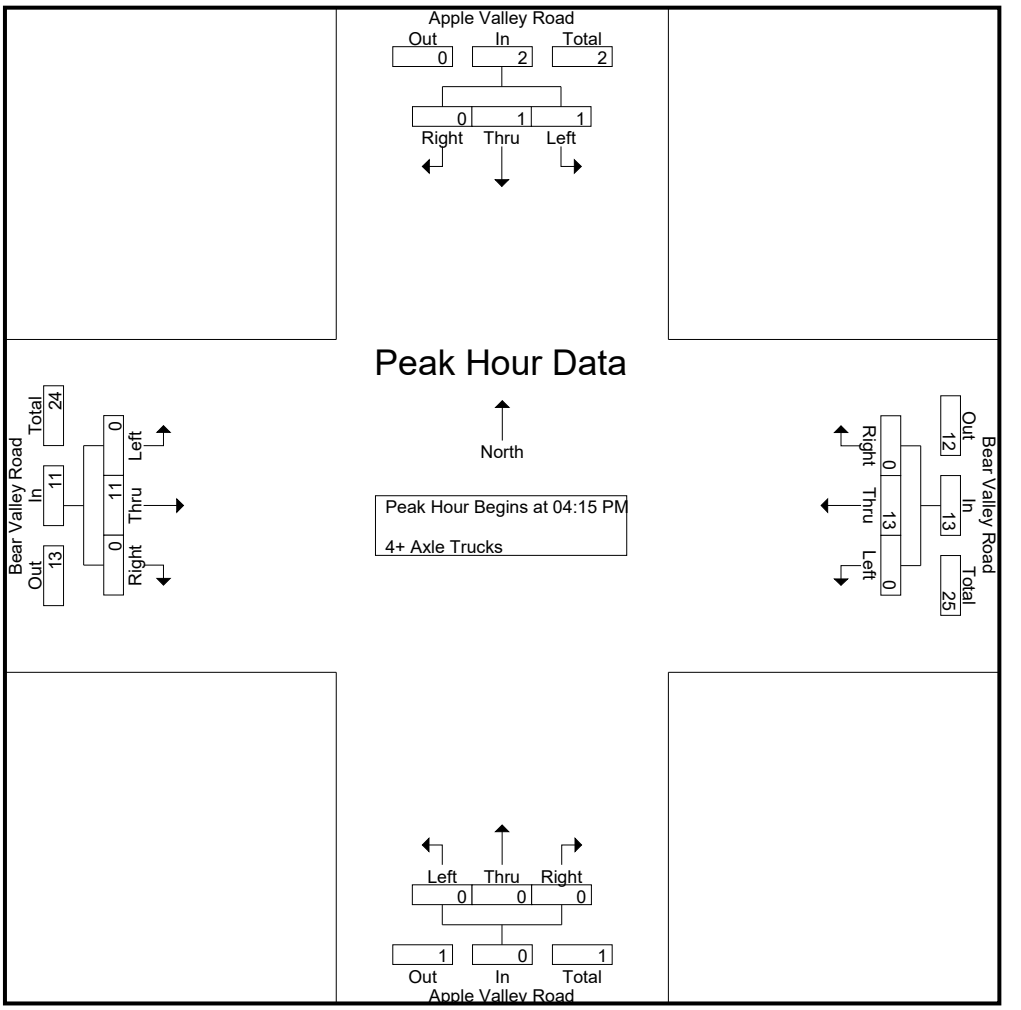

Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:15 PM				04:15 PM				04:15 PM				04:15 PM			
+0 mins.	0	**1**	0	**1**	0	**5**	0	**5**	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	5	0	5	0	0	0	0	0	4	0	4
+30 mins.	0	0	0	0	0	1	0	1	0	0	0	0	0	**5**	0	**5**
+45 mins.	**1**	0	0	1	0	2	0	2	0	0	0	0	0	2	0	2
Total Volume	1	1	0	2	0	13	0	13	0	0	0	0	0	11	0	11
% App. Total	50	50	0		0	100	0		0	0	0		0	100	0	
PHF	.250	.250	.000	.500	.000	.650	.000	.650	.000	.000	.000	.000	.000	.550	.000	.550

Location: Apple Valley
N/S: Apple Valley Road
E/W: Bear Valley Road

Date: 11/17/2022
Day: Thursday

PEDESTRIANS

	North Leg Apple Valley Road	East Leg Bear Valley Road	South Leg Apple Valley Road	West Leg Bear Valley Road	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	1	1
8:00 AM	0	1	0	0	1
8:15 AM	0	1	1	0	2
8:30 AM	0	0	0	0	0
8:45 AM	2	1	0	3	6
TOTAL VOLUMES:	2	3	1	4	10

	North Leg Apple Valley Road	East Leg Bear Valley Road	South Leg Apple Valley Road	West Leg Bear Valley Road	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
4:00 PM	3	0	1	4	8
4:15 PM	1	0	0	0	1
4:30 PM	1	0	0	1	2
4:45 PM	1	0	0	0	1
5:00 PM	2	1	1	3	7
5:15 PM	1	0	0	0	1
5:30 PM	0	0	0	1	1
5:45 PM	0	0	1	0	1
TOTAL VOLUMES:	9	1	3	9	22

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Location: Apple Valley
N/S: Apple Valley Road
E/W: Bear Valley Road

Date: 11/17/2022
Day: Thursday

BICYCLES

	Southbound Apple Valley Road			Westbound Bear Valley Road			Northbound Apple Valley Road			Eastbound Bear Valley Road			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	1	0	0	0	0	1
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0	0	0	1	0	0	0	0	1

	Southbound Apple Valley Road			Westbound Bear Valley Road			Northbound Apple Valley Road			Eastbound Bear Valley Road			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0	0	0	0	0	0	0	0	0

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City of Apple Valley
N/S: Westmont Drive
E/W: Bear Valley Road
Weather: Clear

File Name : 07_APV_West_BV AM
Site Code : 221022
Start Date : 11/17/2022
Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	Westmont Drive Southbound				Bear Valley Road Westbound				Westmont Drive Northbound				Bear Valley Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	3	0	1	4	0	260	8	268	0	0	0	0	3	126	0	129	401
07:15 AM	8	0	0	8	0	254	6	260	0	0	0	0	1	154	0	155	423
07:30 AM	6	0	4	10	0	330	15	345	0	0	0	0	8	185	0	193	548
07:45 AM	13	0	1	14	0	372	16	388	0	0	0	0	8	167	0	175	577
Total	30	0	6	36	0	1216	45	1261	0	0	0	0	20	632	0	652	1949
08:00 AM	11	0	5	16	0	313	10	323	0	0	0	0	9	188	0	197	536
08:15 AM	12	0	4	16	0	302	11	313	0	0	0	0	9	155	0	164	493
08:30 AM	16	0	6	22	0	274	15	289	0	0	0	0	12	183	0	195	506
08:45 AM	8	0	1	9	0	278	14	292	0	0	0	0	17	171	0	188	489
Total	47	0	16	63	0	1167	50	1217	0	0	0	0	47	697	0	744	2024
Grand Total	77	0	22	99	0	2383	95	2478	0	0	0	0	67	1329	0	1396	3973
Apprch %	77.8	0	22.2		0	96.2	3.8		0	0	0		4.8	95.2	0		
Total %	1.9	0	0.6	2.5	0	60	2.4	62.4	0	0	0	0	1.7	33.5	0	35.1	
Passenger Vehicles	69	0	16	85	0	2275	90	2365	0	0	0	0	59	1217	0	1276	3726
% Passenger Vehicles	89.6	0	72.7	85.9	0	95.5	94.7	95.4	0	0	0	0	88.1	91.6	0	91.4	93.8
Large 2 Axle Vehicles	5	0	2	7	0	61	4	65	0	0	0	0	5	70	0	75	147
% Large 2 Axle Vehicles	6.5	0	9.1	7.1	0	2.6	4.2	2.6	0	0	0	0	7.5	5.3	0	5.4	3.7
3 Axle Vehicles	3	0	1	4	0	10	0	10	0	0	0	0	0	12	0	12	26
% 3 Axle Vehicles	3.9	0	4.5	4	0	0.4	0	0.4	0	0	0	0	0	0.9	0	0.9	0.7
4+ Axle Trucks	0	0	3	3	0	37	1	38	0	0	0	0	3	30	0	33	74
% 4+ Axle Trucks	0	0	13.6	3	0	1.6	1.1	1.5	0	0	0	0	4.5	2.3	0	2.4	1.9

	Westmont Drive Southbound				Bear Valley Road Westbound				Westmont Drive Northbound				Bear Valley Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	6	0	4	10	0	330	15	345	0	0	0	0	8	185	0	193	548
07:45 AM	**13**	0	1	14	0	**372**	**16**	**388**	0	0	0	0	8	167	0	175	**577**
08:00 AM	11	0	**5**	**16**	0	313	10	323	0	0	0	0	**9**	**188**	0	**197**	536
08:15 AM	12	0	4	16	0	302	11	313	0	0	0	0	9	155	0	164	493
Total Volume	42	0	14	56	0	1317	52	1369	0	0	0	0	34	695	0	729	2154
% App. Total	75	0	25		0	96.2	3.8		0	0	0		4.7	95.3	0		
PHF	.808	.000	.700	.875	.000	.885	.813	.882	.000	.000	.000	.000	.944	.924	.000	.925	.933

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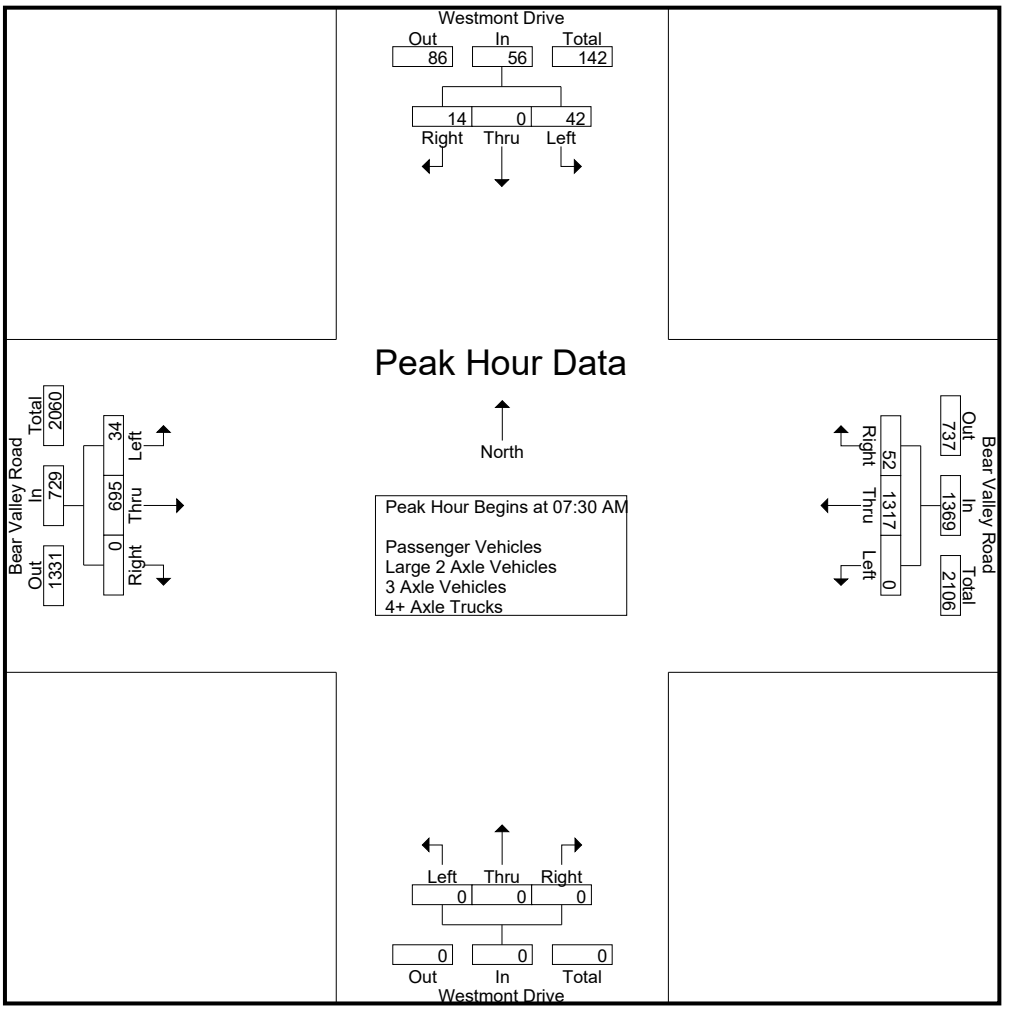
City of Apple Valley
N/S: Westmont Drive
E/W: Bear Valley Road
Weather: Clear

File Name : 07_APV_West_BV AM
Site Code : 221022
Start Date : 11/17/2022
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:45 AM				07:30 AM				07:00 AM				08:00 AM			
+0 mins.	13	0	1	14	0	330	15	345	0	0	0	0	9	**188**	0	**197**
+15 mins.	11	0	5	16	0	**372**	**16**	**388**	0	0	0	0	9	155	0	164
+30 mins.	12	0	4	16	0	313	10	323	0	0	0	0	12	183	0	195
+45 mins.	**16**	0	**6**	**22**	0	302	11	313	0	0	0	0	**17**	171	0	188
Total Volume	52	0	16	68	0	1317	52	1369	0	0	0	0	47	697	0	744
% App. Total	76.5	0	23.5		0	96.2	3.8		0	0	0		6.3	93.7	0	
PHF	.813	.000	.667	.773	.000	.885	.813	.882	.000	.000	.000	.000	.691	.927	.000	.944

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City of Apple Valley
N/S: Westmont Drive
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Weather: Clear

File Name : 07_APV_West_BV AM
Site Code : 221022
Start Date : 11/17/2022
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Groups Printed- Passenger Vehicles

	Westmont Drive Southbound				Bear Valley Road Westbound				Westmont Drive Northbound				Bear Valley Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	3	0	0	3	0	243	8	251	0	0	0	0	2	110	0	112	366
07:15 AM	7	0	0	7	0	242	6	248	0	0	0	0	1	136	0	137	392
07:30 AM	5	0	4	9	0	322	15	337	0	0	0	0	8	171	0	179	525
07:45 AM	11	0	1	12	0	351	13	364	0	0	0	0	7	159	0	166	542
Total	26	0	5	31	0	1158	42	1200	0	0	0	0	18	576	0	594	1825
08:00 AM	10	0	4	14	0	305	9	314	0	0	0	0	7	174	0	181	509
08:15 AM	10	0	3	13	0	288	10	298	0	0	0	0	8	137	0	145	456
08:30 AM	15	0	3	18	0	260	15	275	0	0	0	0	11	171	0	182	475
08:45 AM	8	0	1	9	0	264	14	278	0	0	0	0	15	159	0	174	461
Total	43	0	11	54	0	1117	48	1165	0	0	0	0	41	641	0	682	1901
Grand Total	69	0	16	85	0	2275	90	2365	0	0	0	0	59	1217	0	1276	3726
Apprch %	81.2	0	18.8		0	96.2	3.8		0	0	0		4.6	95.4	0		
Total %	1.9	0	0.4	2.3	0	61.1	2.4	63.5	0	0	0	0	1.6	32.7	0	34.2	

	Westmont Drive Southbound				Bear Valley Road Westbound				Westmont Drive Northbound				Bear Valley Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	5	0	**4**	9	0	322	**15**	337	0	0	0	0	**8**	171	0	179	525
07:45 AM	**11**	0	1	12	0	**351**	13	**364**	0	0	0	0	7	159	0	166	**542**
08:00 AM	10	0	4	**14**	0	305	9	314	0	0	0	0	7	**174**	0	**181**	509
08:15 AM	10	0	3	13	0	288	10	298	0	0	0	0	8	137	0	145	456
Total Volume	36	0	12	48	0	1266	47	1313	0	0	0	0	30	641	0	671	2032
% App. Total	75	0	25		0	96.4	3.6		0	0	0		4.5	95.5	0		
PHF	.818	.000	.750	.857	.000	.902	.783	.902	.000	.000	.000	.000	.938	.921	.000	.927	.937

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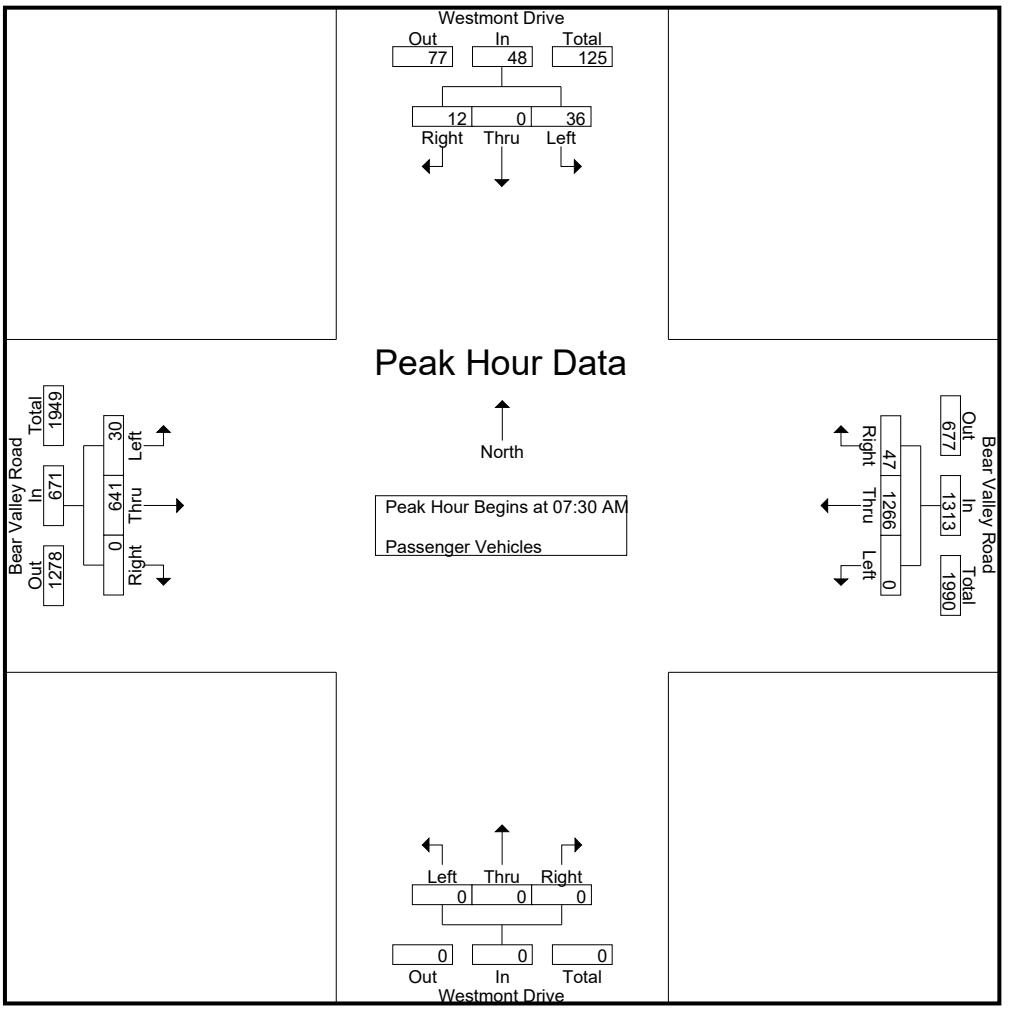

Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:30 AM				07:30 AM				07:30 AM				07:30 AM			
+0 mins.	5	0	**4**	9	0	322	**15**	337	0	0	0	0	**8**	171	0	179
+15 mins.	**11**	0	1	12	0	**351**	13	**364**	0	0	0	0	7	159	0	166
+30 mins.	10	0	4	**14**	0	305	9	314	0	0	0	0	7	**174**	0	**181**
+45 mins.	10	0	3	13	0	288	10	298	0	0	0	0	8	137	0	145
Total Volume	36	0	12	48	0	1266	47	1313	0	0	0	0	30	641	0	671
% App. Total	75	0	25		0	96.4	3.6		0	0	0		4.5	95.5	0	
PHF	.818	.000	.750	.857	.000	.902	.783	.902	.000	.000	.000	.000	.938	.921	.000	.927

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City of Apple Valley
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File Name : 07_APV_West_BV AM
Site Code : 221022
Start Date : 11/17/2022
Page No : 1

Groups Printed- Large 2 Axle Vehicles

	Westmont Drive Southbound				Bear Valley Road Westbound				Westmont Drive Northbound				Bear Valley Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	0	9	0	9	0	0	0	0	1	5	0	6	15
07:15 AM	1	0	0	1	0	5	0	5	0	0	0	0	0	11	0	11	17
07:30 AM	0	0	0	0	0	4	0	4	0	0	0	0	0	8	0	8	12
07:45 AM	1	0	0	1	0	11	2	13	0	0	0	0	0	4	0	4	18
Total	2	0	0	2	0	29	2	31	0	0	0	0	1	28	0	29	62
08:00 AM	1	0	0	1	0	5	1	6	0	0	0	0	1	9	0	10	17
08:15 AM	1	0	0	1	0	10	1	11	0	0	0	0	1	14	0	15	27
08:30 AM	1	0	2	3	0	7	0	7	0	0	0	0	0	9	0	9	19
08:45 AM	0	0	0	0	0	10	0	10	0	0	0	0	2	10	0	12	22
Total	3	0	2	5	0	32	2	34	0	0	0	0	4	42	0	46	85
Grand Total	5	0	2	7	0	61	4	65	0	0	0	0	5	70	0	75	147
Apprch %	71.4	0	28.6		0	93.8	6.2		0	0	0		6.7	93.3	0		
Total %	3.4	0	1.4	4.8	0	41.5	2.7	44.2	0	0	0	0	3.4	47.6	0	51	

	Westmont Drive Southbound				Bear Valley Road Westbound				Westmont Drive Northbound				Bear Valley Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	0	0	0	0	0	4	0	4	0	0	0	0	0	8	0	8	12
07:45 AM	**1**	0	0	**1**	0	**11**	**2**	**13**	0	0	0	0	0	4	0	4	18
08:00 AM	1	0	0	1	0	5	1	6	0	0	0	0	**1**	9	0	10	17
08:15 AM	1	0	0	1	0	10	1	11	0	0	0	0	1	**14**	0	**15**	**27**
Total Volume	3	0	0	3	0	30	4	34	0	0	0	0	2	35	0	37	74
% App. Total	100	0	0		0	88.2	11.8		0	0	0		5.4	94.6	0		
PHF	.750	.000	.000	.750	.000	.682	.500	.654	.000	.000	.000	.000	.500	.625	.000	.617	.685

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City of Apple Valley
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Weather: Clear

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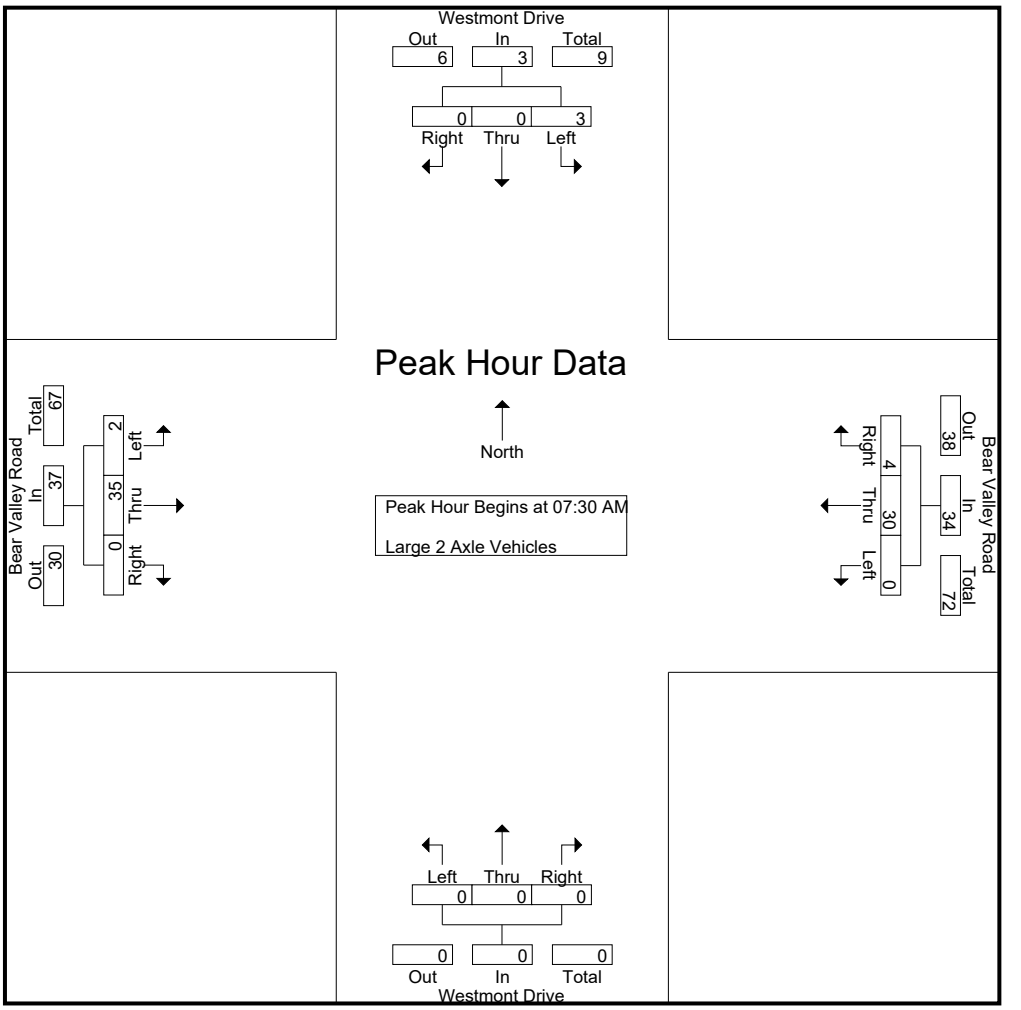
Site Code : 221022
Start Date : 11/17/2022



Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:30 AM				07:30 AM				07:30 AM				07:30 AM			
+0 mins.	0	0	0	0	0	4	0	4	0	0	0	0	0	8	0	8
+15 mins.	**1**	0	0	**1**	0	**11**	**2**	**13**	0	0	0	0	0	4	0	4
+30 mins.	1	0	0	1	0	5	1	6	0	0	0	0	**1**	9	0	10
+45 mins.	1	0	0	1	0	10	1	11	0	0	0	0	1	**14**	0	**15**
Total Volume	3	0	0	3	0	30	4	34	0	0	0	0	2	35	0	37
% App. Total	100	0	0		0	88.2	11.8		0	0	0		5.4	94.6	0	
PHF	.750	.000	.000	.750	.000	.682	.500	.654	.000	.000	.000	.000	.500	.625	.000	.617

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Groups Printed- 3 Axle Vehicles

	Westmont Drive Southbound				Bear Valley Road Westbound				Westmont Drive Northbound				Bear Valley Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	2	0	2	3
07:15 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	2	0	2	3
07:30 AM	1	0	0	1	0	2	0	2	0	0	0	0	0	0	0	0	3
07:45 AM	1	0	0	1	0	2	0	2	0	0	0	0	0	3	0	3	6
Total	2	0	0	2	0	6	0	6	0	0	0	0	0	7	0	7	15
08:00 AM	0	0	1	1	0	0	0	0	0	0	0	0	0	2	0	2	3
08:15 AM	1	0	0	1	0	1	0	1	0	0	0	0	0	2	0	2	4
08:30 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
08:45 AM	0	0	0	0	0	2	0	2	0	0	0	0	0	1	0	1	3
Total	1	0	1	2	0	4	0	4	0	0	0	0	0	5	0	5	11
Grand Total	3	0	1	4	0	10	0	10	0	0	0	0	0	12	0	12	26
Apprch %	75	0	25		0	100	0		0	0	0		0	100	0		
Total %	11.5	0	3.8	15.4	0	38.5	0	38.5	0	0	0	0	0	46.2	0	46.2	

	Westmont Drive Southbound				Bear Valley Road Westbound				Westmont Drive Northbound				Bear Valley Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	**1**	0	0	**1**	0	**2**	0	**2**	0	0	0	0	0	0	0	0	3
07:45 AM	1	0	0	1	0	2	0	2	0	0	0	0	0	**3**	0	**3**	**6**
08:00 AM	0	0	**1**	1	0	0	0	0	0	0	0	0	0	2	0	2	3
08:15 AM	1	0	0	1	0	1	0	1	0	0	0	0	0	2	0	2	4
Total Volume	3	0	1	4	0	5	0	5	0	0	0	0	0	7	0	7	16
% App. Total	75	0	25		0	100	0		0	0	0		0	100	0		
PHF	.750	.000	.250	1.00	.000	.625	.000	.625	.000	.000	.000	.000	.000	.583	.000	.583	.667

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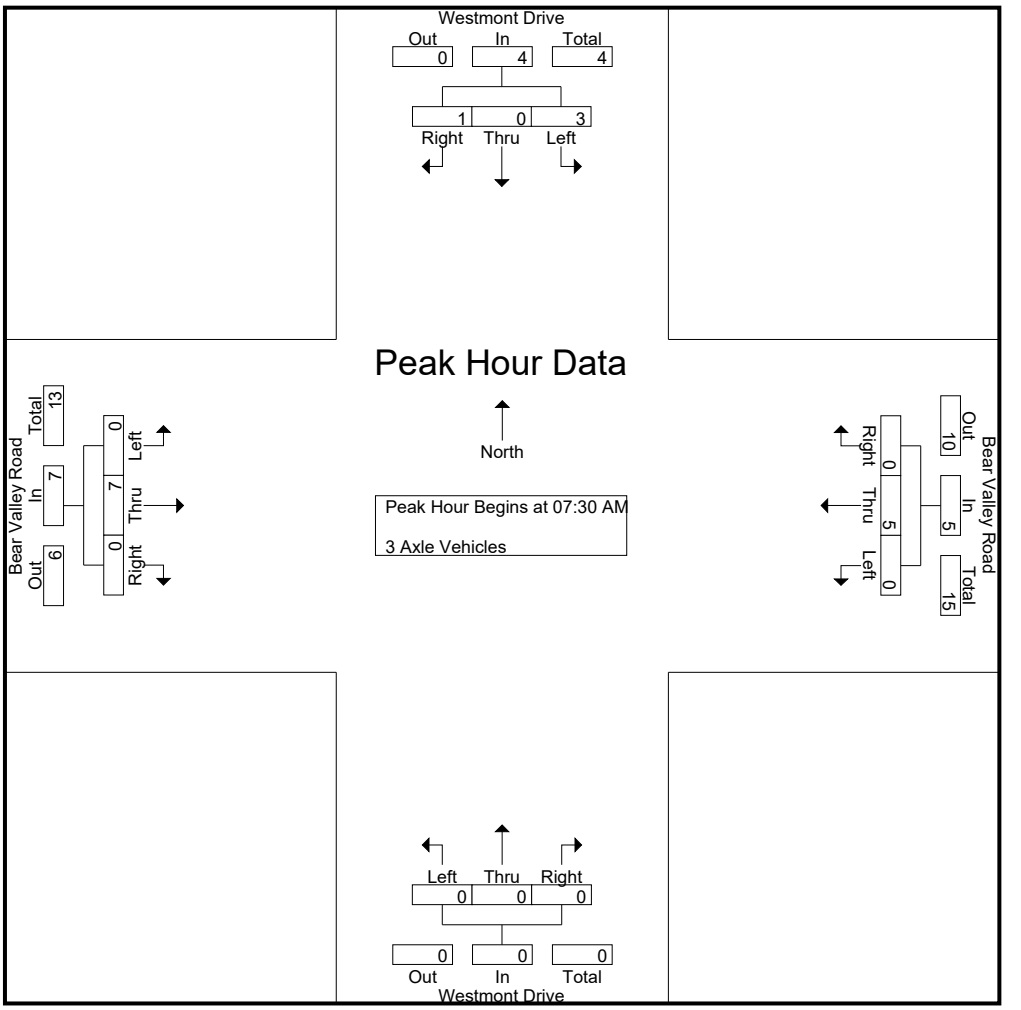

Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:30 AM				07:30 AM				07:30 AM				07:30 AM			
+0 mins.	**1**	0	0	**1**	0	**2**	0	**2**	0	0	0	0	0	0	0	0
+15 mins.	1	0	0	1	0	2	0	2	0	0	0	0	0	**3**	0	**3**
+30 mins.	0	0	**1**	1	0	0	0	0	0	0	0	0	0	2	0	2
+45 mins.	1	0	0	1	0	1	0	1	0	0	0	0	0	2	0	2
Total Volume	3	0	1	4	0	5	0	5	0	0	0	0	0	7	0	7
% App. Total	75	0	25		0	100	0		0	0	0		0	100	0	
PHF	.750	.000	.250	1.000	.000	.625	.000	.625	.000	.000	.000	.000	.000	.583	.000	.583

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Groups Printed- 4+ Axle Trucks

	Westmont Drive Southbound				Bear Valley Road Westbound				Westmont Drive Northbound				Bear Valley Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	1	1	0	7	0	7	0	0	0	0	0	9	0	9	17
07:15 AM	0	0	0	0	0	6	0	6	0	0	0	0	0	5	0	5	11
07:30 AM	0	0	0	0	0	2	0	2	0	0	0	0	0	6	0	6	8
07:45 AM	0	0	0	0	0	8	1	9	0	0	0	0	1	1	0	2	11
Total	0	0	1	1	0	23	1	24	0	0	0	0	1	21	0	22	47
08:00 AM	0	0	0	0	0	3	0	3	0	0	0	0	1	3	0	4	7
08:15 AM	0	0	1	1	0	3	0	3	0	0	0	0	0	2	0	2	6
08:30 AM	0	0	1	1	0	6	0	6	0	0	0	0	1	3	0	4	11
08:45 AM	0	0	0	0	0	2	0	2	0	0	0	0	0	1	0	1	3
Total	0	0	2	2	0	14	0	14	0	0	0	0	2	9	0	11	27
Grand Total	0	0	3	3	0	37	1	38	0	0	0	0	3	30	0	33	74
Apprch %	0	0	100		0	97.4	2.6		0	0	0		9.1	90.9	0		
Total %	0	0	4.1	4.1	0	50	1.4	51.4	0	0	0	0	4.1	40.5	0	44.6	

	Westmont Drive Southbound				Bear Valley Road Westbound				Westmont Drive Northbound				Bear Valley Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	0	0	0	0	0	2	0	2	0	0	0	0	0	**6**	0	**6**	8
07:45 AM	0	0	0	0	0	**8**	**1**	**9**	0	0	0	0	**1**	1	0	2	**11**
08:00 AM	0	0	0	0	0	3	0	3	0	0	0	0	1	3	0	4	7
08:15 AM	0	0	**1**	**1**	0	3	0	3	0	0	0	0	0	2	0	2	6
Total Volume	0	0	1	1	0	16	1	17	0	0	0	0	2	12	0	14	32
% App. Total	0	0	100		0	94.1	5.9		0	0	0		14.3	85.7	0		
PHF	.000	.000	.250	.250	.000	.500	.250	.472	.000	.000	.000	.000	.500	.500	.000	.583	.727

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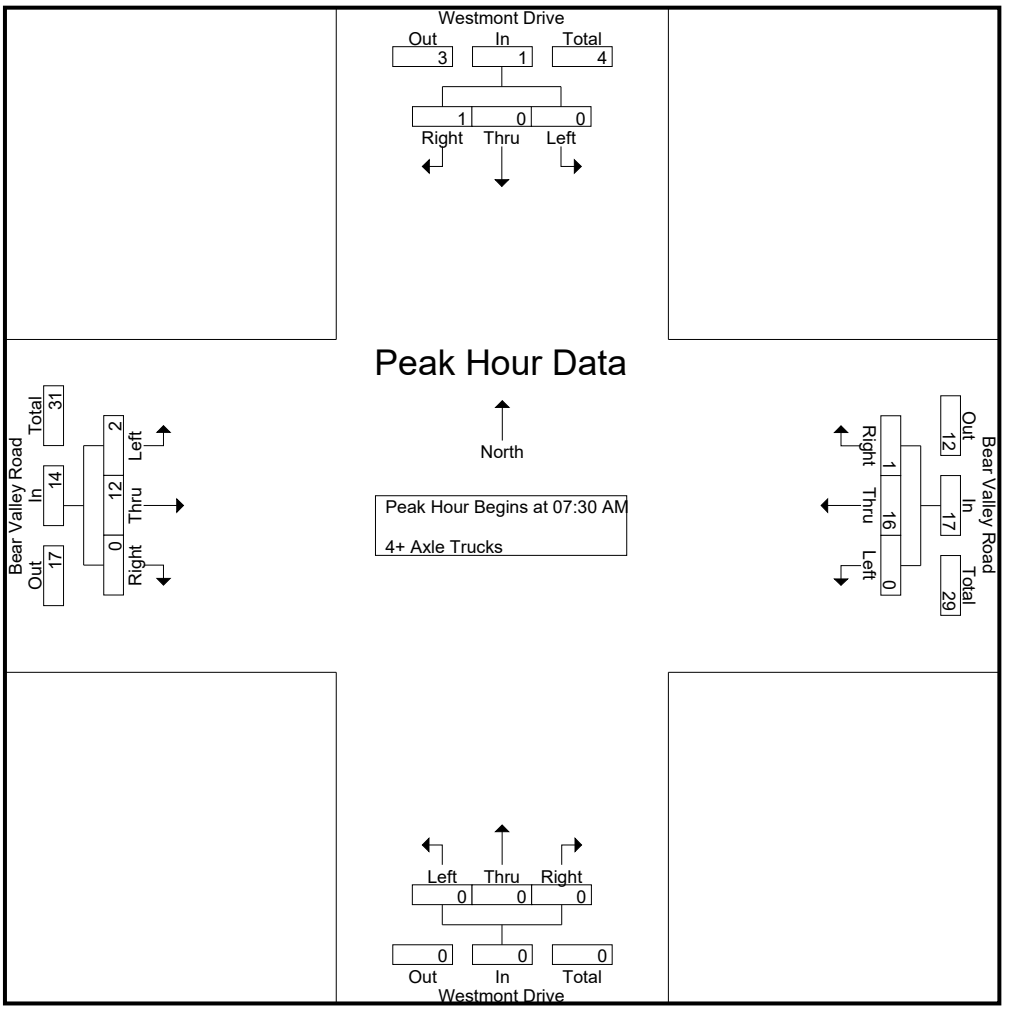

Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:30 AM				07:30 AM				07:30 AM				07:30 AM			
+0 mins.	0	0	0	0	0	2	0	2	0	0	0	0	0	**6**	0	**6**
+15 mins.	0	0	0	0	0	**8**	**1**	**9**	0	0	0	0	**1**	1	0	2
+30 mins.	0	0	0	0	0	3	0	3	0	0	0	0	1	3	0	4
+45 mins.	0	0	**1**	**1**	0	3	0	3	0	0	0	0	0	2	0	2
Total Volume	0	0	1	1	0	16	1	17	0	0	0	0	2	12	0	14
% App. Total	0	0	100		0	94.1	5.9		0	0	0		14.3	85.7	0	
PHF	.000	.000	.250	.250	.000	.500	.250	.472	.000	.000	.000	.000	.500	.500	.000	.583

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City of Apple Valley
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File Name : 07_APV_West_BV PM
Site Code : 221022
Start Date : 11/17/2022
Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	Westmont Drive Southbound				Bear Valley Road Westbound				Westmont Drive Northbound				Bear Valley Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	46	0	12	58	0	247	31	278	0	0	0	0	34	294	0	328	664
04:15 PM	38	0	19	57	0	265	20	285	0	0	0	0	23	326	0	349	691
04:30 PM	46	0	8	54	0	258	26	284	0	0	0	0	18	303	0	321	659
04:45 PM	43	0	7	50	0	288	23	311	0	0	0	0	22	328	0	350	711
Total	173	0	46	219	0	1058	100	1158	0	0	0	0	97	1251	0	1348	2725
05:00 PM	39	0	11	50	0	302	21	323	0	0	0	0	22	325	0	347	720
05:15 PM	26	0	10	36	0	268	24	292	0	0	0	0	29	321	0	350	678
05:30 PM	37	0	5	42	0	238	18	256	0	0	0	0	23	293	0	316	614
05:45 PM	40	0	10	50	0	215	13	228	0	0	0	0	14	277	0	291	569
Total	142	0	36	178	0	1023	76	1099	0	0	0	0	88	1216	0	1304	2581
Grand Total	315	0	82	397	0	2081	176	2257	0	0	0	0	185	2467	0	2652	5306
Apprch %	79.3	0	20.7		0	92.2	7.8		0	0	0		7	93	0		
Total %	5.9	0	1.5	7.5	0	39.2	3.3	42.5	0	0	0	0	3.5	46.5	0	50	
Passenger Vehicles	311	0	80	391	0	2021	172	2193	0	0	0	0	185	2399	0	2584	5168
% Passenger Vehicles	98.7	0	97.6	98.5	0	97.1	97.7	97.2	0	0	0	0	100	97.2	0	97.4	97.4
Large 2 Axle Vehicles	4	0	2	6	0	36	4	40	0	0	0	0	0	43	0	43	89
% Large 2 Axle Vehicles	1.3	0	2.4	1.5	0	1.7	2.3	1.8	0	0	0	0	0	1.7	0	1.6	1.7
3 Axle Vehicles	0	0	0	0	0	3	0	3	0	0	0	0	0	4	0	4	7
% 3 Axle Vehicles	0	0	0	0	0	0.1	0	0.1	0	0	0	0	0	0.2	0	0.2	0.1
4+ Axle Trucks	0	0	0	0	0	21	0	21	0	0	0	0	0	21	0	21	42
% 4+ Axle Trucks	0	0	0	0	0	1	0	0.9	0	0	0	0	0	0.9	0	0.8	0.8

	Westmont Drive Southbound				Bear Valley Road Westbound				Westmont Drive Northbound				Bear Valley Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	38	0	**19**	**57**	0	265	20	285	0	0	0	0	**23**	326	0	349	691
04:30 PM	**46**	0	8	54	0	258	**26**	284	0	0	0	0	18	303	0	321	659
04:45 PM	43	0	7	50	0	288	23	311	0	0	0	0	22	**328**	0	**350**	711
05:00 PM	39	0	11	50	0	**302**	21	**323**	0	0	0	0	22	325	0	347	**720**
Total Volume	166	0	45	211	0	1113	90	1203	0	0	0	0	85	1282	0	1367	2781
% App. Total	78.7	0	21.3		0	92.5	7.5		0	0	0		6.2	93.8	0		
PHF	.902	.000	.592	.925	.000	.921	.865	.931	.000	.000	.000	.000	.924	.977	.000	.976	.966

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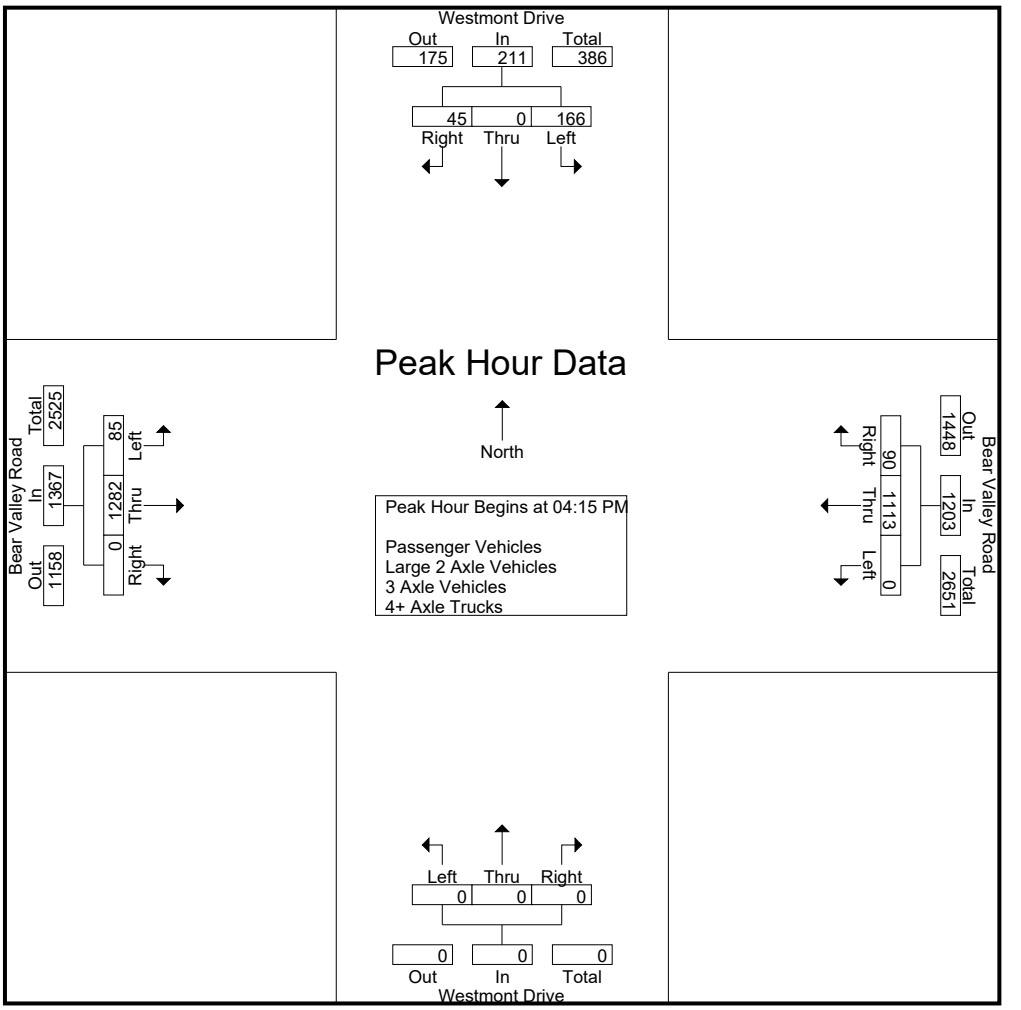

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM				04:30 PM				04:00 PM				04:30 PM			
+0 mins.	**46**	0	12	**58**	0	258	**26**	284	0	0	0	0	18	303	0	321
+15 mins.	38	0	**19**	57	0	288	23	311	0	0	0	0	22	**328**	0	**350**
+30 mins.	46	0	8	54	0	**302**	21	**323**	0	0	0	0	22	325	0	347
+45 mins.	43	0	7	50	0	268	24	292	0	0	0	0	**29**	321	0	350
Total Volume	173	0	46	219	0	1116	94	1210	0	0	0	0	91	1277	0	1368
% App. Total	79	0	21		0	92.2	7.8		0	0	0		6.7	93.3	0	
PHF	.940	.000	.605	.944	.000	.924	.904	.937	.000	.000	.000	.000	.784	.973	.000	.977

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Groups Printed- Passenger Vehicles

	Westmont Drive Southbound				Bear Valley Road Westbound				Westmont Drive Northbound				Bear Valley Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	45	0	12	57	0	234	31	265	0	0	0	0	34	284	0	318	640
04:15 PM	37	0	19	56	0	256	20	276	0	0	0	0	23	318	0	341	673
04:30 PM	45	0	7	52	0	250	25	275	0	0	0	0	18	291	0	309	636
04:45 PM	43	0	7	50	0	285	23	308	0	0	0	0	22	316	0	338	696
Total	170	0	45	215	0	1025	99	1124	0	0	0	0	97	1209	0	1306	2645
05:00 PM	38	0	11	49	0	291	19	310	0	0	0	0	22	319	0	341	700
05:15 PM	26	0	10	36	0	261	24	285	0	0	0	0	29	314	0	343	664
05:30 PM	37	0	5	42	0	234	18	252	0	0	0	0	23	285	0	308	602
05:45 PM	40	0	9	49	0	210	12	222	0	0	0	0	14	272	0	286	557
Total	141	0	35	176	0	996	73	1069	0	0	0	0	88	1190	0	1278	2523
Grand Total	311	0	80	391	0	2021	172	2193	0	0	0	0	185	2399	0	2584	5168
Apprch %	79.5	0	20.5		0	92.2	7.8		0	0	0		7.2	92.8	0		
Total %	6	0	1.5	7.6	0	39.1	3.3	42.4	0	0	0	0	3.6	46.4	0	50	

	Westmont Drive Southbound				Bear Valley Road Westbound				Westmont Drive Northbound				Bear Valley Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	37	0	**19**	**56**	0	256	20	276	0	0	0	0	**23**	318	0	**341**	673
04:30 PM	**45**	0	7	52	0	250	**25**	275	0	0	0	0	18	291	0	309	636
04:45 PM	43	0	7	50	0	285	23	308	0	0	0	0	22	316	0	338	696
05:00 PM	38	0	11	49	0	**291**	19	**310**	0	0	0	0	22	**319**	0	341	**700**
Total Volume	163	0	44	207	0	1082	87	1169	0	0	0	0	85	1244	0	1329	2705
% App. Total	78.7	0	21.3		0	92.6	7.4		0	0	0		6.4	93.6	0		
PHF	.906	.000	.579	.924	.000	.930	.870	.943	.000	.000	.000	.000	.924	.975	.000	.974	.966

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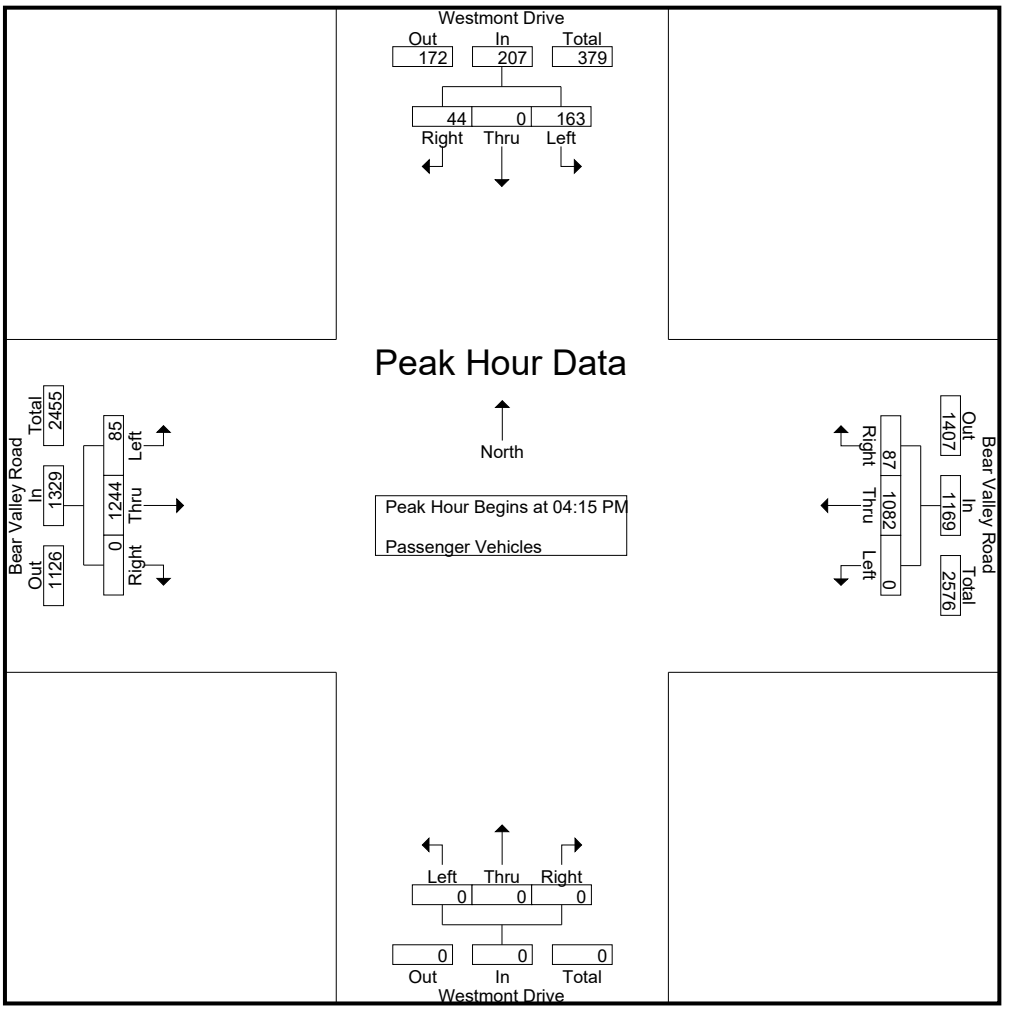

Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:15 PM				04:15 PM				04:15 PM				04:15 PM			
+0 mins.	37	0	**19**	**56**	0	256	20	276	0	0	0	0	**23**	318	0	**341**
+15 mins.	**45**	0	7	52	0	250	**25**	275	0	0	0	0	18	291	0	309
+30 mins.	43	0	7	50	0	285	23	308	0	0	0	0	22	316	0	338
+45 mins.	38	0	11	49	0	**291**	19	**310**	0	0	0	0	22	**319**	0	341
Total Volume	163	0	44	207	0	1082	87	1169	0	0	0	0	85	1244	0	1329
% App. Total	78.7	0	21.3		0	92.6	7.4		0	0	0		6.4	93.6	0	
PHF	.906	.000	.579	.924	.000	.930	.870	.943	.000	.000	.000	.000	.924	.975	.000	.974

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City of Apple Valley
N/S: Westmont Drive
E/W: Bear Valley Road
Weather: Clear

File Name : 07_APV_West_BV PM
Site Code : 221022
Start Date : 11/17/2022
Page No : 1

Groups Printed- Large 2 Axle Vehicles

	Westmont Drive Southbound				Bear Valley Road Westbound				Westmont Drive Northbound				Bear Valley Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	1	0	0	1	0	9	0	9	0	0	0	0	0	7	0	7	17
04:15 PM	1	0	0	1	0	4	0	4	0	0	0	0	0	8	0	8	13
04:30 PM	1	0	1	2	0	3	1	4	0	0	0	0	0	6	0	6	12
04:45 PM	0	0	0	0	0	2	0	2	0	0	0	0	0	6	0	6	8
Total	3	0	1	4	0	18	1	19	0	0	0	0	0	27	0	27	50
05:00 PM	1	0	0	1	0	7	2	9	0	0	0	0	0	4	0	4	14
05:15 PM	0	0	0	0	0	7	0	7	0	0	0	0	0	3	0	3	10
05:30 PM	0	0	0	0	0	3	0	3	0	0	0	0	0	6	0	6	9
05:45 PM	0	0	1	1	0	1	1	2	0	0	0	0	0	3	0	3	6
Total	1	0	1	2	0	18	3	21	0	0	0	0	0	16	0	16	39
Grand Total	4	0	2	6	0	36	4	40	0	0	0	0	0	43	0	43	89
Apprch %	66.7	0	33.3		0	90	10		0	0	0		0	100	0		
Total %	4.5	0	2.2	6.7	0	40.4	4.5	44.9	0	0	0	0	0	48.3	0	48.3	

	Westmont Drive Southbound				Bear Valley Road Westbound				Westmont Drive Northbound				Bear Valley Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	**1**	0	0	1	0	4	0	4	0	0	0	0	0	**8**	0	**8**	13
04:30 PM	1	0	**1**	**2**	0	3	1	4	0	0	0	0	0	6	0	6	12
04:45 PM	0	0	0	0	0	2	0	2	0	0	0	0	0	6	0	6	8
05:00 PM	1	0	0	1	0	**7**	**2**	**9**	0	0	0	0	0	4	0	4	**14**
Total Volume	3	0	1	4	0	16	3	19	0	0	0	0	0	24	0	24	47
% App. Total	75	0	25		0	84.2	15.8		0	0	0		0	100	0		
PHF	.750	.000	.250	.500	.000	.571	.375	.528	.000	.000	.000	.000	.000	.750	.000	.750	.839

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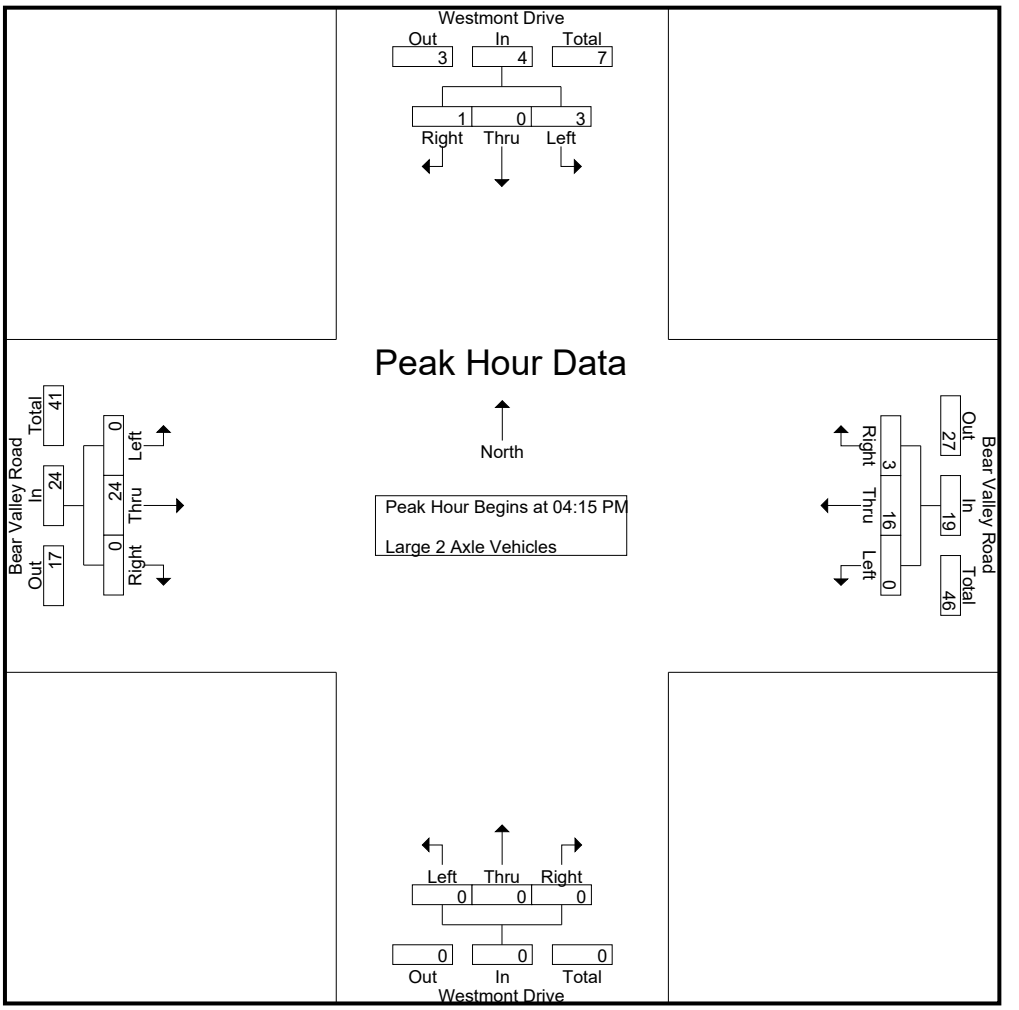
City of Apple Valley
N/S: Westmont Drive
E/W: Bear Valley Road
Weather: Clear

File Name : 07_APV_West_BV PM
Site Code : 221022
Start Date : 11/17/2022
Page No : 2



Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:15 PM				04:15 PM				04:15 PM				04:15 PM			
+0 mins.	**1**	0	0	1	0	4	0	4	0	0	0	0	0	**8**	0	**8**
+15 mins.	1	0	**1**	**2**	0	3	1	4	0	0	0	0	0	6	0	6
+30 mins.	0	0	0	0	0	2	0	2	0	0	0	0	0	6	0	6
+45 mins.	1	0	0	1	0	**7**	**2**	**9**	0	0	0	0	0	4	0	4
Total Volume	3	0	1	4	0	16	3	19	0	0	0	0	0	24	0	24
% App. Total	75	0	25		0	84.2	15.8		0	0	0		0	100	0	
PHF	.750	.000	.250	.500	.000	.571	.375	.528	.000	.000	.000	.000	.000	.750	.000	.750

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City of Apple Valley
N/S: Westmont Drive
E/W: Bear Valley Road
Weather: Clear

File Name : 07_APV_West_BV PM
Site Code : 221022
Start Date : 11/17/2022
Page No : 1

Groups Printed- 3 Axle Vehicles

	Westmont Drive Southbound				Bear Valley Road Westbound				Westmont Drive Northbound				Bear Valley Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	2
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	2
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
Total	0	0	0	0	0	2	0	2	0	0	0	0	0	3	0	3	5
05:00 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	1	2
Grand Total	0	0	0	0	0	3	0	3	0	0	0	0	0	4	0	4	7
Apprch %	0	0	0		0	100	0		0	0	0		0	100	0		
Total %	0	0	0	0	0	42.9	0	42.9	0	0	0	0	0	57.1	0	57.1	

	Westmont Drive Southbound				Bear Valley Road Westbound				Westmont Drive Northbound				Bear Valley Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	**2**	0	**2**	**2**
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
05:00 PM	0	0	0	0	0	**1**	0	**1**	0	0	0	0	0	0	0	0	1
Total Volume	0	0	0	0	0	1	0	1	0	0	0	0	0	3	0	3	4
% App. Total	0	0	0		0	100	0		0	0	0		0	100	0		
PHF	.000	.000	.000	.000	.000	.250	.000	.250	.000	.000	.000	.000	.000	.375	.000	.375	.500

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City of Apple Valley
N/S: Westmont Drive
E/W: Bear Valley Road
Weather: Clear

File Name : 07_APV_West_BV PM
Site Code : 221022
Start Date : 11/17/2022
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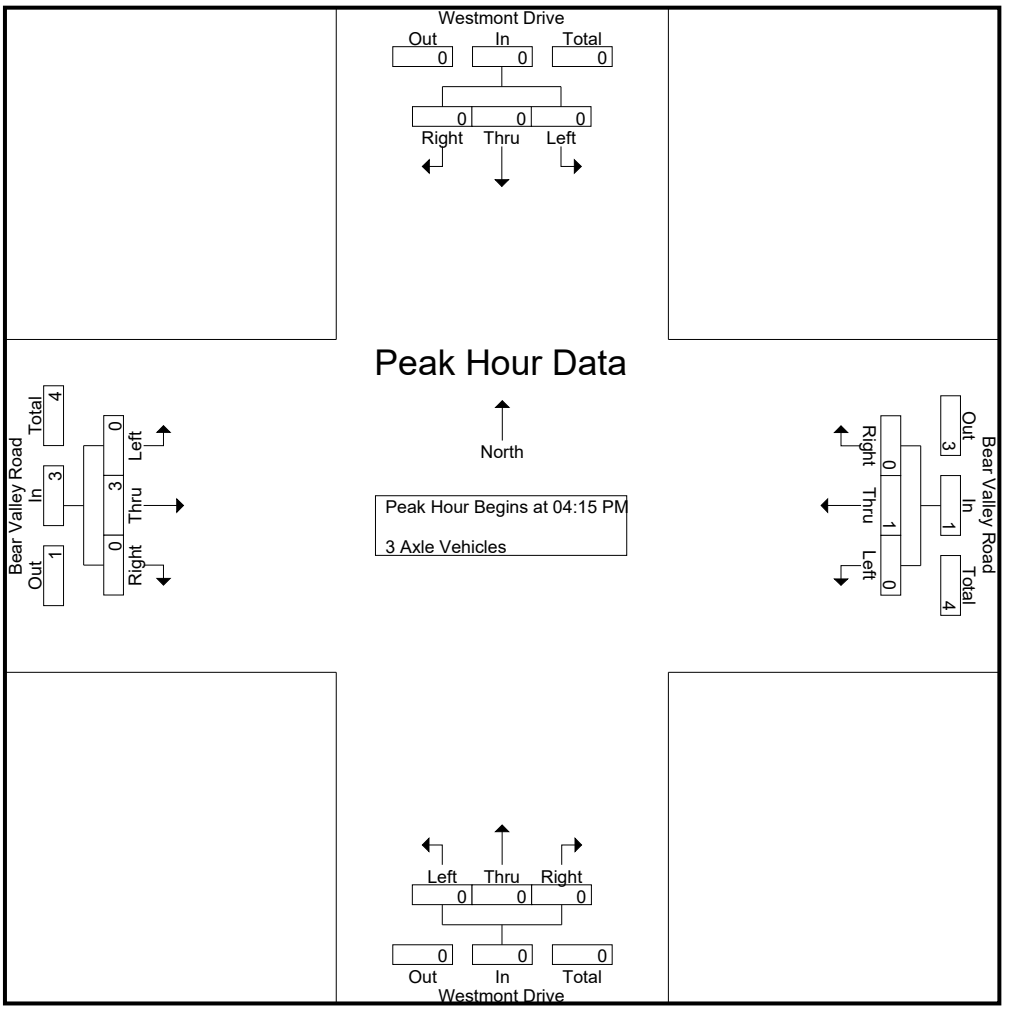

Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:15 PM				04:15 PM				04:15 PM				04:15 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	**2**	0	**2**
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
+45 mins.	0	0	0	0	0	**1**	0	**1**	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	1	0	1	0	0	0	0	0	3	0	3
% App. Total	0	0	0		0	100	0		0	0	0		0	100	0	
PHF	.000	.000	.000	.000	.000	.250	.000	.250	.000	.000	.000	.000	.000	.375	.000	.375

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City of Apple Valley
N/S: Westmont Drive
E/W: Bear Valley Road
Weather: Clear

File Name : 07_APV_West_BV PM
Site Code : 221022
Start Date : 11/17/2022
Page No : 1

Groups Printed- 4+ Axle Trucks

	Westmont Drive Southbound				Bear Valley Road Westbound				Westmont Drive Northbound				Bear Valley Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	2	0	2	0	0	0	0	0	3	0	3	5
04:15 PM	0	0	0	0	0	5	0	5	0	0	0	0	0	0	0	0	5
04:30 PM	0	0	0	0	0	5	0	5	0	0	0	0	0	4	0	4	9
04:45 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	5	0	5	6
Total	0	0	0	0	0	13	0	13	0	0	0	0	0	12	0	12	25
05:00 PM	0	0	0	0	0	3	0	3	0	0	0	0	0	2	0	2	5
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3	3
05:30 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	2	0	2	3
05:45 PM	0	0	0	0	0	4	0	4	0	0	0	0	0	2	0	2	6
Total	0	0	0	0	0	8	0	8	0	0	0	0	0	9	0	9	17
Grand Total	0	0	0	0	0	21	0	21	0	0	0	0	0	21	0	21	42
Apprch %	0	0	0		0	100	0		0	0	0		0	100	0		
Total %	0	0	0	0	0	50	0	50	0	0	0	0	0	50	0	50	

	Westmont Drive Southbound				Bear Valley Road Westbound				Westmont Drive Northbound				Bear Valley Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	0	0	0	0	0	**5**	0	**5**	0	0	0	0	0	0	0	0	5
04:30 PM	0	0	0	0	0	5	0	5	0	0	0	0	0	4	0	4	**9**
04:45 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	**5**	0	**5**	6
05:00 PM	0	0	0	0	0	3	0	3	0	0	0	0	0	2	0	2	5
Total Volume	0	0	0	0	0	14	0	14	0	0	0	0	0	11	0	11	25
% App. Total	0	0	0		0	100	0		0	0	0		0	100	0		
PHF	.000	.000	.000	.000	.000	.700	.000	.700	.000	.000	.000	.000	.000	.550	.000	.550	.694

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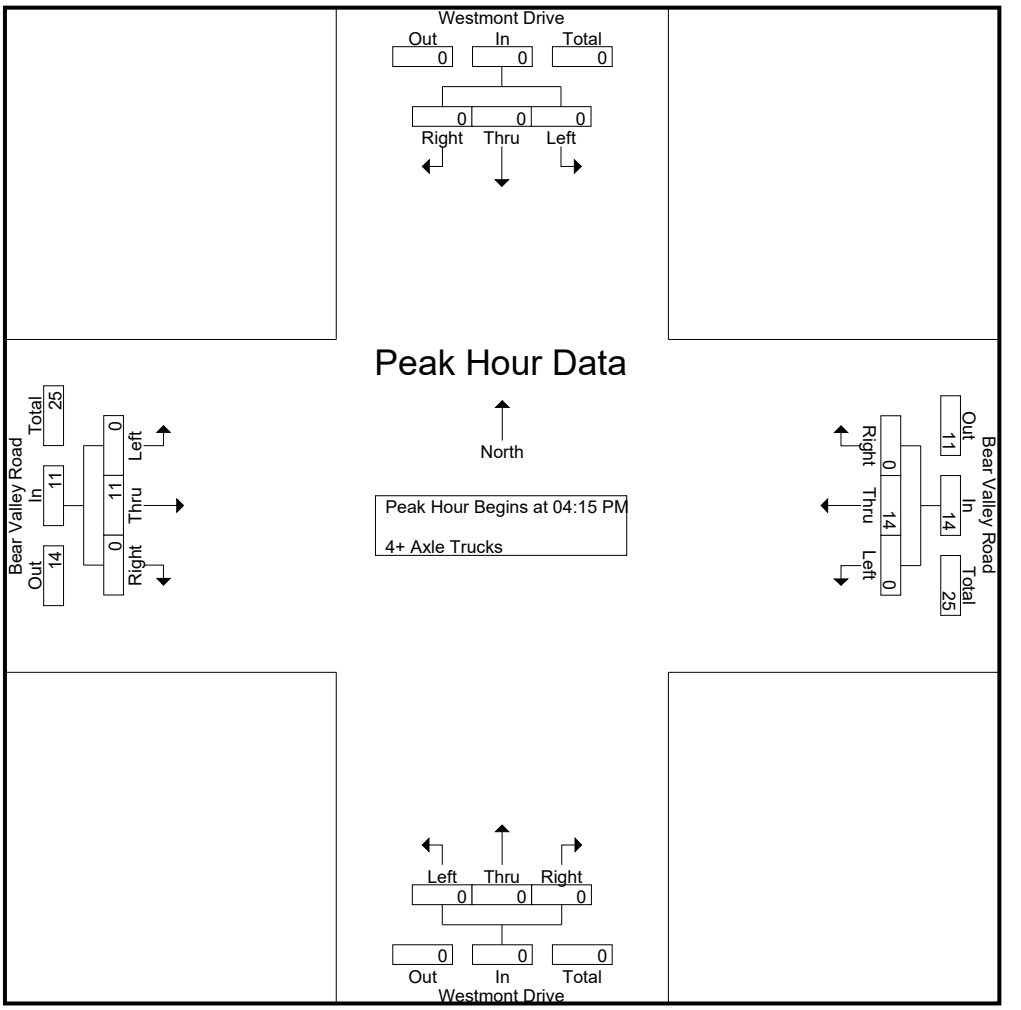
City of Apple Valley
N/S: Westmont Drive
E/W: Bear Valley Road
Weather: Clear

File Name : 07_APV_West_BV PM
Site Code : 221022
Start Date : 11/17/2022
Page No : 2



Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:15 PM				04:15 PM				04:15 PM				04:15 PM			
+0 mins.	0	0	0	0	0	**5**	0	**5**	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	5	0	5	0	0	0	0	0	4	0	4
+30 mins.	0	0	0	0	0	1	0	1	0	0	0	0	0	**5**	0	**5**
+45 mins.	0	0	0	0	0	3	0	3	0	0	0	0	0	2	0	2
Total Volume	0	0	0	0	0	14	0	14	0	0	0	0	0	11	0	11
% App. Total	0	0	0		0	100	0		0	0	0		0	100	0	
PHF	.000	.000	.000	.000	.000	.700	.000	.700	.000	.000	.000	.000	.000	.550	.000	.550

Location: Apple Valley
N/S: Westmont Drive
E/W: Bear Valley Road

Date: 11/17/2022
Day: Thursday

PEDESTRIANS

	North Leg Westmont Drive	East Leg Bear Valley Road	South Leg Westmont Drive	West Leg Bear Valley Road	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

	North Leg Westmont Drive	East Leg Bear Valley Road	South Leg Westmont Drive	West Leg Bear Valley Road	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

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Location: Apple Valley
N/S: Westmont Drive
E/W: Bear Valley Road

Date: 11/17/2022
Day: Thursday

BICYCLES

	Southbound Westmont Drive			Westbound Bear Valley Road			Northbound Westmont Drive			Eastbound Bear Valley Road			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	1	0	0	0	0	0	0	0	0	0	0	0	1
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	1	0	0	0	0	0	0	0	0	0	0	0	1

	Southbound Westmont Drive			Westbound Bear Valley Road			Northbound Westmont Drive			Eastbound Bear Valley Road			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4:00 PM	0	0	0	0	0	0	0	0	0	0	1	0	1
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0	0	0	0	0	0	1	0	1

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City of Apple Valley
N/S: Flying Feather Road
E/W: Bear Valley Road
Weather: Clear

File Name : 08_APV_FF_BV AM
Site Code : 221022
Start Date : 11/17/2022
Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	Bear Valley Road Westbound			Flying Feather Road Northbound			Bear Valley Road Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
07:00 AM	2	262	264	1	0	1	125	0	125	390
07:15 AM	1	256	257	1	1	2	158	0	158	417
07:30 AM	0	319	319	2	0	2	200	1	201	522
07:45 AM	0	408	408	0	1	1	174	1	175	584
Total	3	1245	1248	4	2	6	657	2	659	1913
08:00 AM	1	316	317	0	1	1	198	1	199	517
08:15 AM	1	303	304	1	0	1	168	0	168	473
08:30 AM	1	283	284	2	1	3	203	0	203	490
08:45 AM	1	306	307	0	0	0	196	0	196	503
Total	4	1208	1212	3	2	5	765	1	766	1983
Grand Total	7	2453	2460	7	4	11	1422	3	1425	3896
Apprch %	0.3	99.7		63.6	36.4		99.8	0.2		
Total %	0.2	63	63.1	0.2	0.1	0.3	36.5	0.1	36.6	
Passenger Vehicles	7	2363	2370	7	4	11	1302	3	1305	3686
% Passenger Vehicles	100	96.3	96.3	100	100	100	91.6	100	91.6	94.6
Large 2 Axle Vehicles	0	39	39	0	0	0	61	0	61	100
% Large 2 Axle Vehicles	0	1.6	1.6	0	0	0	4.3	0	4.3	2.6
3 Axle Vehicles	0	11	11	0	0	0	15	0	15	26
% 3 Axle Vehicles	0	0.4	0.4	0	0	0	1.1	0	1.1	0.7
4+ Axle Trucks	0	40	40	0	0	0	44	0	44	84
% 4+ Axle Trucks	0	1.6	1.6	0	0	0	3.1	0	3.1	2.2

	Bear Valley Road Westbound			Flying Feather Road Northbound			Bear Valley Road Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:30 AM										
07:30 AM	0	319	319	**2**	0	**2**	**200**	**1**	**201**	522
07:45 AM	0	**408**	**408**	0	**1**	1	174	1	175	**584**
08:00 AM	**1**	316	317	0	1	1	198	1	199	517
08:15 AM	1	303	304	1	0	1	168	0	168	473
Total Volume	2	1346	1348	3	2	5	740	3	743	2096
% App. Total	0.1	99.9		60	40		99.6	0.4		
PHF	.500	.825	.826	.375	.500	.625	.925	.750	.924	.897

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City of Apple Valley
N/S: Flying Feather Road
E/W: Bear Valley Road
Weather: Clear

File Name : 08_APV_FF_BV AM
Site Code : 221022
Start Date : 11/17/2022
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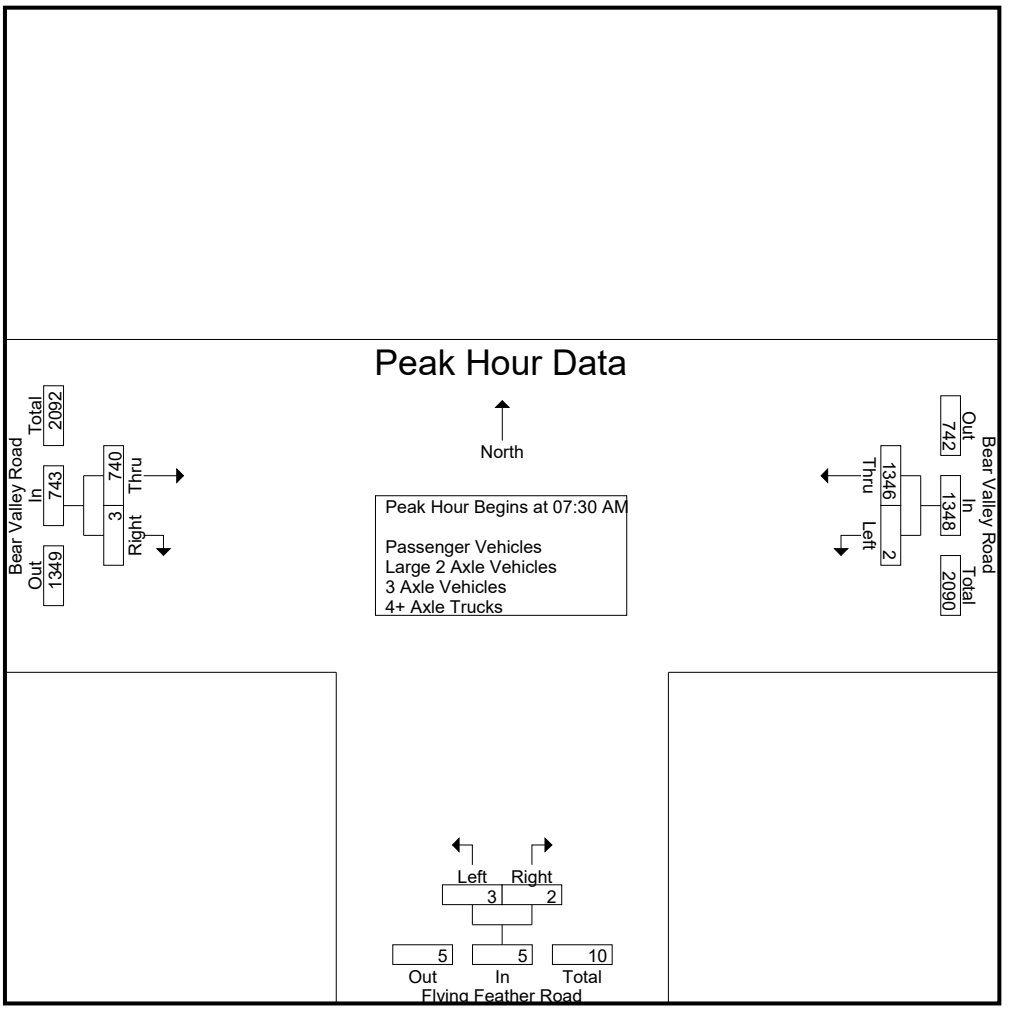

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:30 AM			07:00 AM			08:00 AM		
+0 mins.	0	319	319	1	0	1	198	**1**	199
+15 mins.	0	**408**	**408**	1	**1**	**2**	168	0	168
+30 mins.	**1**	316	317	**2**	0	2	**203**	0	**203**
+45 mins.	1	303	304	0	1	1	196	0	196
Total Volume	2	1346	1348	4	2	6	765	1	766
% App. Total	0.1	99.9		66.7	33.3		99.9	0.1	
PHF	.500	.825	.826	.500	.500	.750	.942	.250	.943

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City of Apple Valley
N/S: Flying Feather Road
E/W: Bear Valley Road
Weather: Clear

File Name : 08_APV_FF_BV AM
Site Code : 221022
Start Date : 11/17/2022

Groups Printed- Passenger Vehicles

	Bear Valley Road Westbound			Flying Feather Road Northbound			Bear Valley Road Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
07:00 AM	2	251	253	1	0	1	110	0	110	364
07:15 AM	1	245	246	1	1	2	138	0	138	386
07:30 AM	0	314	314	2	0	2	186	1	187	503
07:45 AM	0	395	395	0	1	1	167	1	168	564
Total	3	1205	1208	4	2	6	601	2	603	1817
08:00 AM	1	304	305	0	1	1	186	1	187	493
08:15 AM	1	290	291	1	0	1	150	0	150	442
08:30 AM	1	270	271	2	1	3	189	0	189	463
08:45 AM	1	294	295	0	0	0	176	0	176	471
Total	4	1158	1162	3	2	5	701	1	702	1869
Grand Total	7	2363	2370	7	4	11	1302	3	1305	3686
Apprch %	0.3	99.7		63.6	36.4		99.8	0.2		
Total %	0.2	64.1	64.3	0.2	0.1	0.3	35.3	0.1	35.4	

	Bear Valley Road Westbound			Flying Feather Road Northbound			Bear Valley Road Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:30 AM										
07:30 AM	0	314	314	**2**	0	**2**	**186**	**1**	**187**	503
07:45 AM	0	**395**	**395**	0	**1**	1	167	1	168	**564**
08:00 AM	**1**	304	305	0	1	1	186	1	187	493
08:15 AM	1	290	291	1	0	1	150	0	150	442
Total Volume	2	1303	1305	3	2	5	689	3	692	2002
% App. Total	0.2	99.8		60	40		99.6	0.4		
PHF	.500	.825	.826	.375	.500	.625	.926	.750	.925	.887

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File Name : 08_APV_FF_BV AM
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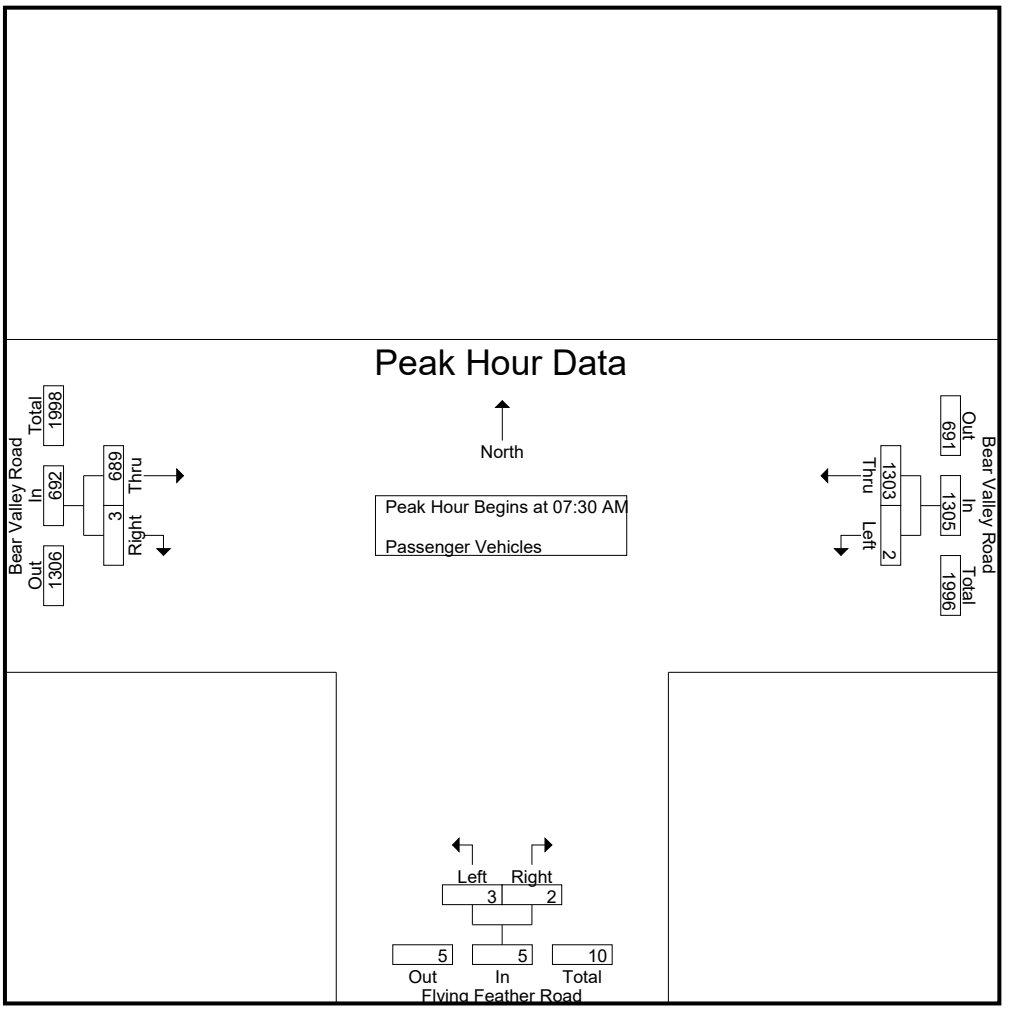

Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:30 AM			07:30 AM			07:30 AM		
+0 mins.	0	314	314	**2**	0	**2**	**186**	**1**	**187**
+15 mins.	0	**395**	**395**	0	**1**	1	167	1	168
+30 mins.	**1**	304	305	0	1	1	186	1	187
+45 mins.	1	290	291	1	0	1	150	0	150
Total Volume	2	1303	1305	3	2	5	689	3	692
% App. Total	0.2	99.8		60	40		99.6	0.4	
PHF	.500	.825	.826	.375	.500	.625	.926	.750	.925

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File Name : 08_APV_FF_BV AM
Site Code : 221022
Start Date : 11/17/2022

Groups Printed- Large 2 Axle Vehicles

	Bear Valley Road Westbound			Flying Feather Road Northbound			Bear Valley Road Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
07:00 AM	0	5	5	0	0	0	4	0	4	9
07:15 AM	0	4	4	0	0	0	12	0	12	16
07:30 AM	0	2	2	0	0	0	7	0	7	9
07:45 AM	0	7	7	0	0	0	3	0	3	10
Total	0	18	18	0	0	0	26	0	26	44
08:00 AM	0	4	4	0	0	0	7	0	7	11
08:15 AM	0	6	6	0	0	0	11	0	11	17
08:30 AM	0	8	8	0	0	0	6	0	6	14
08:45 AM	0	3	3	0	0	0	11	0	11	14
Total	0	21	21	0	0	0	35	0	35	56
Grand Total	0	39	39	0	0	0	61	0	61	100
Apprch %	0	100		0	0		100	0		
Total %	0	39	39	0	0	0	61	0	61	

	Bear Valley Road Westbound			Flying Feather Road Northbound			Bear Valley Road Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:30 AM										
07:30 AM	0	2	2	0	0	0	7	0	7	9
07:45 AM	0	**7**	**7**	0	0	0	3	0	3	10
08:00 AM	0	4	4	0	0	0	7	0	7	11
08:15 AM	0	6	6	0	0	0	**11**	0	**11**	**17**
Total Volume	0	19	19	0	0	0	28	0	28	47
% App. Total	0	100		0	0		100	0		
PHF	.000	.679	.679	.000	.000	.000	.636	.000	.636	.691

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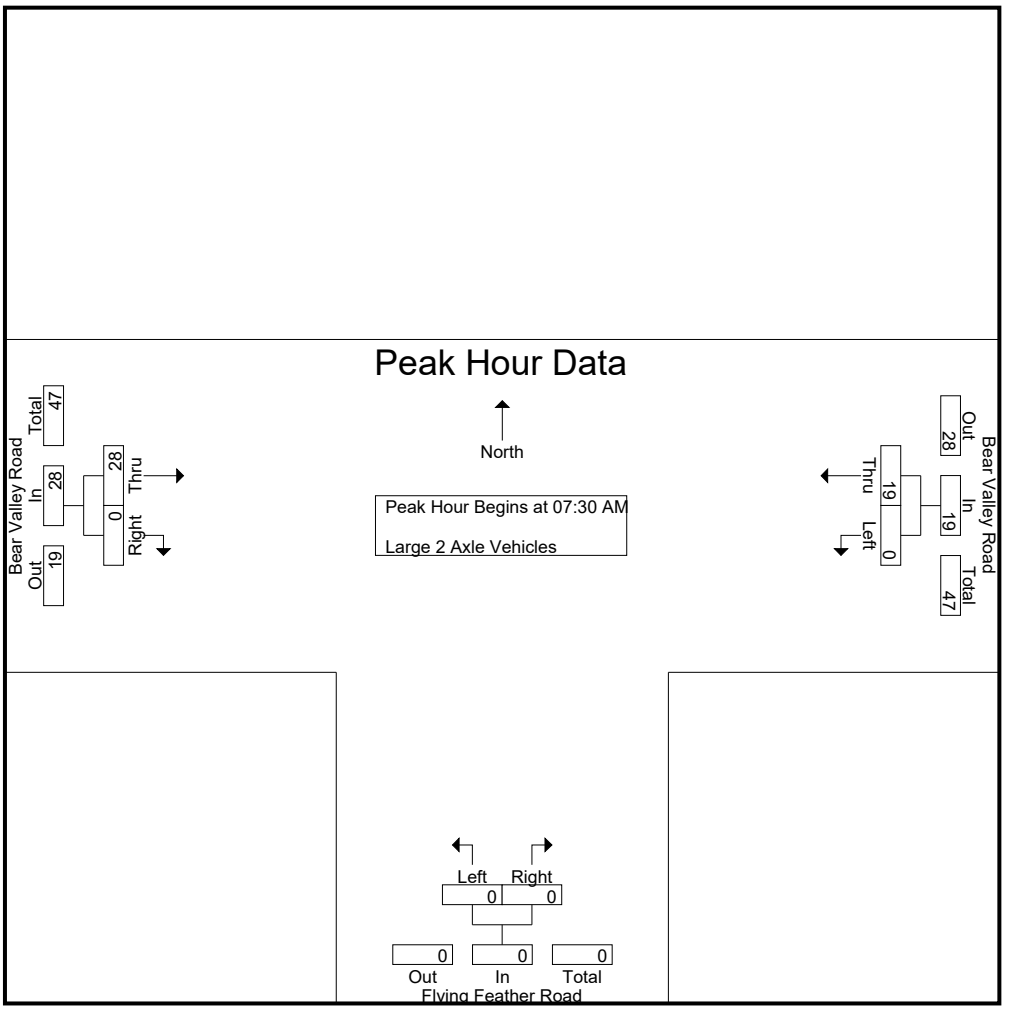

Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:30 AM			07:30 AM			07:30 AM		
+0 mins.	0	2	2	0	0	0	7	0	7
+15 mins.	0	**7**	**7**	0	0	0	3	0	3
+30 mins.	0	4	4	0	0	0	7	0	7
+45 mins.	0	6	6	0	0	0	**11**	0	**11**
Total Volume	0	19	19	0	0	0	28	0	28
% App. Total	0	100		0	0		100	0	
PHF	.000	.679	.679	.000	.000	.000	.636	.000	.636

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Groups Printed- 3 Axle Vehicles

	Bear Valley Road Westbound			Flying Feather Road Northbound			Bear Valley Road Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
07:00 AM	0	2	2	0	0	0	4	0	4	6
07:15 AM	0	1	1	0	0	0	1	0	1	2
07:30 AM	0	1	1	0	0	0	1	0	1	2
07:45 AM	0	2	2	0	0	0	2	0	2	4
Total	0	6	6	0	0	0	8	0	8	14
08:00 AM	0	1	1	0	0	0	2	0	2	3
08:15 AM	0	1	1	0	0	0	2	0	2	3
08:30 AM	0	1	1	0	0	0	3	0	3	4
08:45 AM	0	2	2	0	0	0	0	0	0	2
Total	0	5	5	0	0	0	7	0	7	12
Grand Total	0	11	11	0	0	0	15	0	15	26
Apprch %	0	100		0	0		100	0		
Total %	0	42.3	42.3	0	0	0	57.7	0	57.7	

	Bear Valley Road Westbound			Flying Feather Road Northbound			Bear Valley Road Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:30 AM										
07:30 AM	0	1	1	0	0	0	1	0	1	2
07:45 AM	0	**2**	**2**	0	0	0	**2**	0	**2**	**4**
08:00 AM	0	1	1	0	0	0	2	0	2	3
08:15 AM	0	1	1	0	0	0	2	0	2	3
Total Volume	0	5	5	0	0	0	7	0	7	12
% App. Total	0	100		0	0		100	0		
PHF	.000	.625	.625	.000	.000	.000	.875	.000	.875	.750

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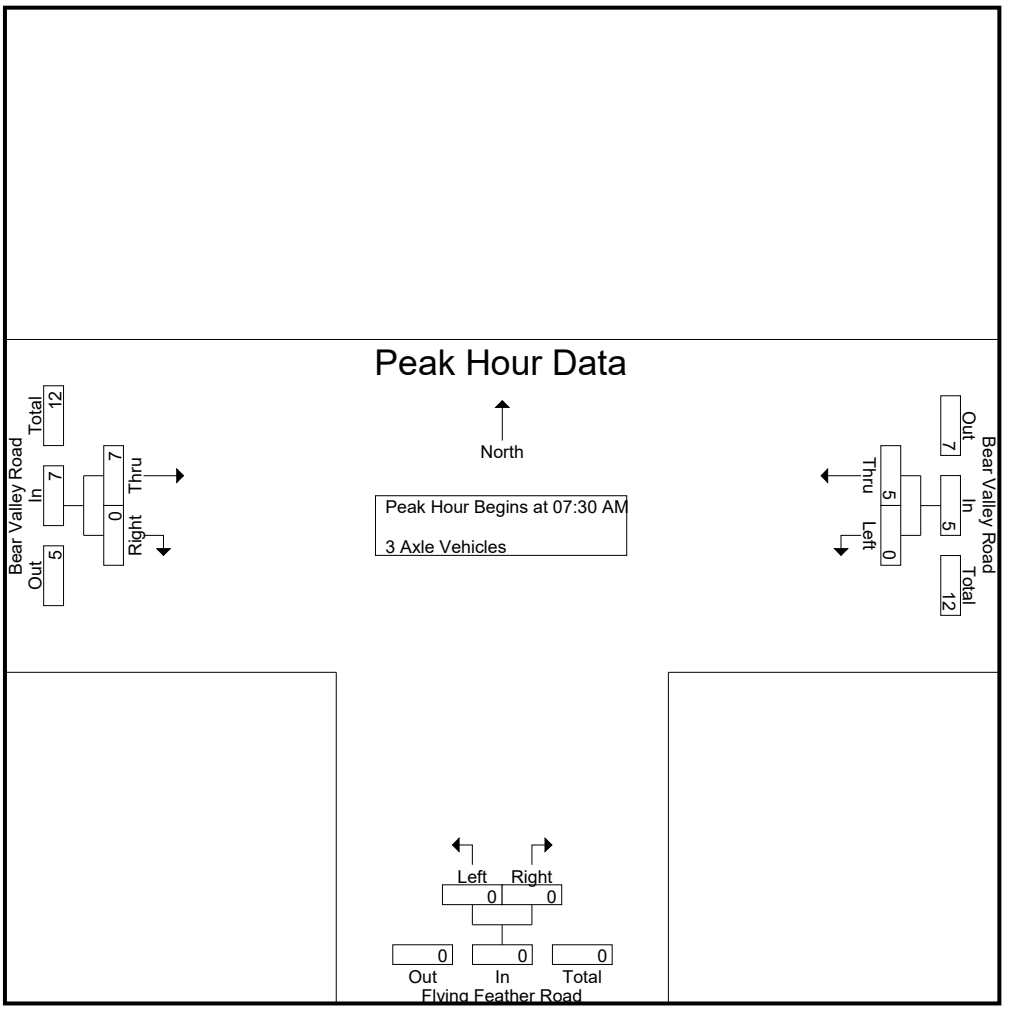

Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:30 AM			07:30 AM			07:30 AM		
+0 mins.	0	1	1	0	0	0	1	0	1
+15 mins.	0	**2**	**2**	0	0	0	**2**	0	**2**
+30 mins.	0	1	1	0	0	0	2	0	2
+45 mins.	0	1	1	0	0	0	2	0	2
Total Volume	0	5	5	0	0	0	7	0	7
% App. Total	0	100		0	0		100	0	
PHF	.000	.625	.625	.000	.000	.000	.875	.000	.875

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Groups Printed- 4+ Axle Trucks

	Bear Valley Road Westbound			Flying Feather Road Northbound			Bear Valley Road Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
07:00 AM	0	4	4	0	0	0	7	0	7	11
07:15 AM	0	6	6	0	0	0	7	0	7	13
07:30 AM	0	2	2	0	0	0	6	0	6	8
07:45 AM	0	4	4	0	0	0	2	0	2	6
Total	0	16	16	0	0	0	22	0	22	38
08:00 AM	0	7	7	0	0	0	3	0	3	10
08:15 AM	0	6	6	0	0	0	5	0	5	11
08:30 AM	0	4	4	0	0	0	5	0	5	9
08:45 AM	0	7	7	0	0	0	9	0	9	16
Total	0	24	24	0	0	0	22	0	22	46
Grand Total	0	40	40	0	0	0	44	0	44	84
Apprch %	0	100		0	0		100	0		
Total %	0	47.6	47.6	0	0	0	52.4	0	52.4	

	Bear Valley Road Westbound			Flying Feather Road Northbound			Bear Valley Road Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 07:30 AM										
07:30 AM	0	2	2	0	0	0	**6**	0	**6**	8
07:45 AM	0	4	4	0	0	0	2	0	2	6
08:00 AM	0	**7**	**7**	0	0	0	3	0	3	10
08:15 AM	0	6	6	0	0	0	5	0	5	**11**
Total Volume	0	19	19	0	0	0	16	0	16	35
% App. Total	0	100		0	0		100	0		
PHF	.000	.679	.679	.000	.000	.000	.667	.000	.667	.795

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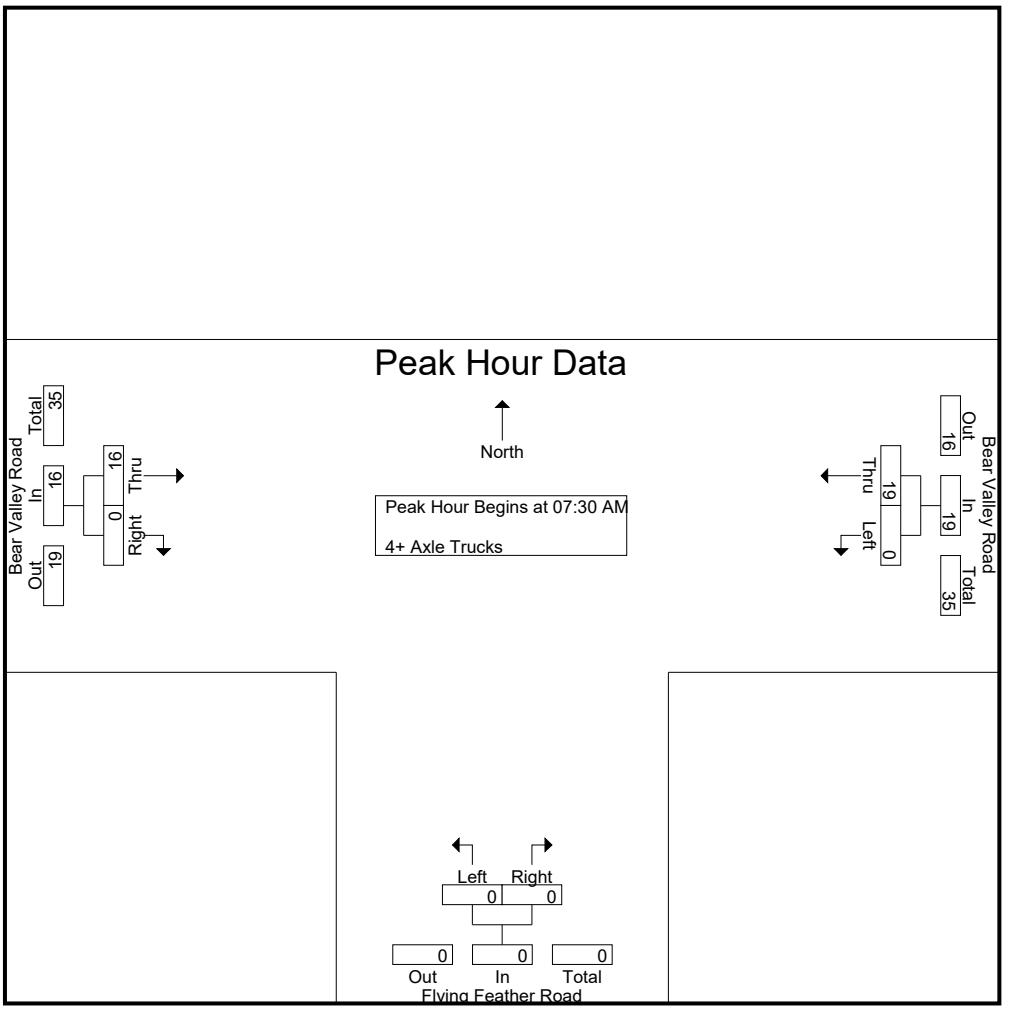

Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:30 AM			07:30 AM			07:30 AM		
+0 mins.	0	2	2	0	0	0	**6**	0	**6**
+15 mins.	0	4	4	0	0	0	2	0	2
+30 mins.	0	**7**	**7**	0	0	0	3	0	3
+45 mins.	0	6	6	0	0	0	5	0	5
Total Volume	0	19	19	0	0	0	16	0	16
% App. Total	0	100		0	0		100	0	
PHF	.000	.679	.679	.000	.000	.000	.667	.000	.667

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Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	Bear Valley Road Westbound			Flying Feather Road Northbound			Bear Valley Road Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
04:00 PM	0	270	270	0	0	0	341	1	342	612
04:15 PM	0	275	275	0	0	0	369	0	369	644
04:30 PM	0	283	283	0	0	0	336	0	336	619
04:45 PM	0	307	307	0	0	0	376	1	377	684
Total	0	1135	1135	0	0	0	1422	2	1424	2559
05:00 PM	0	322	322	1	3	4	358	0	358	684
05:15 PM	0	287	287	2	1	3	341	3	344	634
05:30 PM	0	254	254	0	0	0	320	0	320	574
05:45 PM	0	213	213	2	0	2	322	0	322	537
Total	0	1076	1076	5	4	9	1341	3	1344	2429
Grand Total	0	2211	2211	5	4	9	2763	5	2768	4988
Apprch %	0	100		55.6	44.4		99.8	0.2		
Total %	0	44.3	44.3	0.1	0.1	0.2	55.4	0.1	55.5	
Passenger Vehicles	0	2178	2178	5	4	9	2707	5	2712	4899
% Passenger Vehicles	0	98.5	98.5	100	100	100	98	100	98	98.2
Large 2 Axle Vehicles	0	15	15	0	0	0	31	0	31	46
% Large 2 Axle Vehicles	0	0.7	0.7	0	0	0	1.1	0	1.1	0.9
3 Axle Vehicles	0	3	3	0	0	0	4	0	4	7
% 3 Axle Vehicles	0	0.1	0.1	0	0	0	0.1	0	0.1	0.1
4+ Axle Trucks	0	15	15	0	0	0	21	0	21	36
% 4+ Axle Trucks	0	0.7	0.7	0	0	0	0.8	0	0.8	0.7

	Bear Valley Road Westbound			Flying Feather Road Northbound			Bear Valley Road Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:15 PM										
04:15 PM	0	275	275	0	0	0	369	0	369	644
04:30 PM	0	283	283	0	0	0	336	0	336	619
04:45 PM	0	307	307	0	0	0	**376**	**1**	**377**	**684**
05:00 PM	0	**322**	**322**	**1**	**3**	**4**	358	0	358	684
Total Volume	0	1187	1187	1	3	4	1439	1	1440	2631
% App. Total	0	100		25	75		99.9	0.1		
PHF	.000	.922	.922	.250	.250	.250	.957	.250	.955	.962

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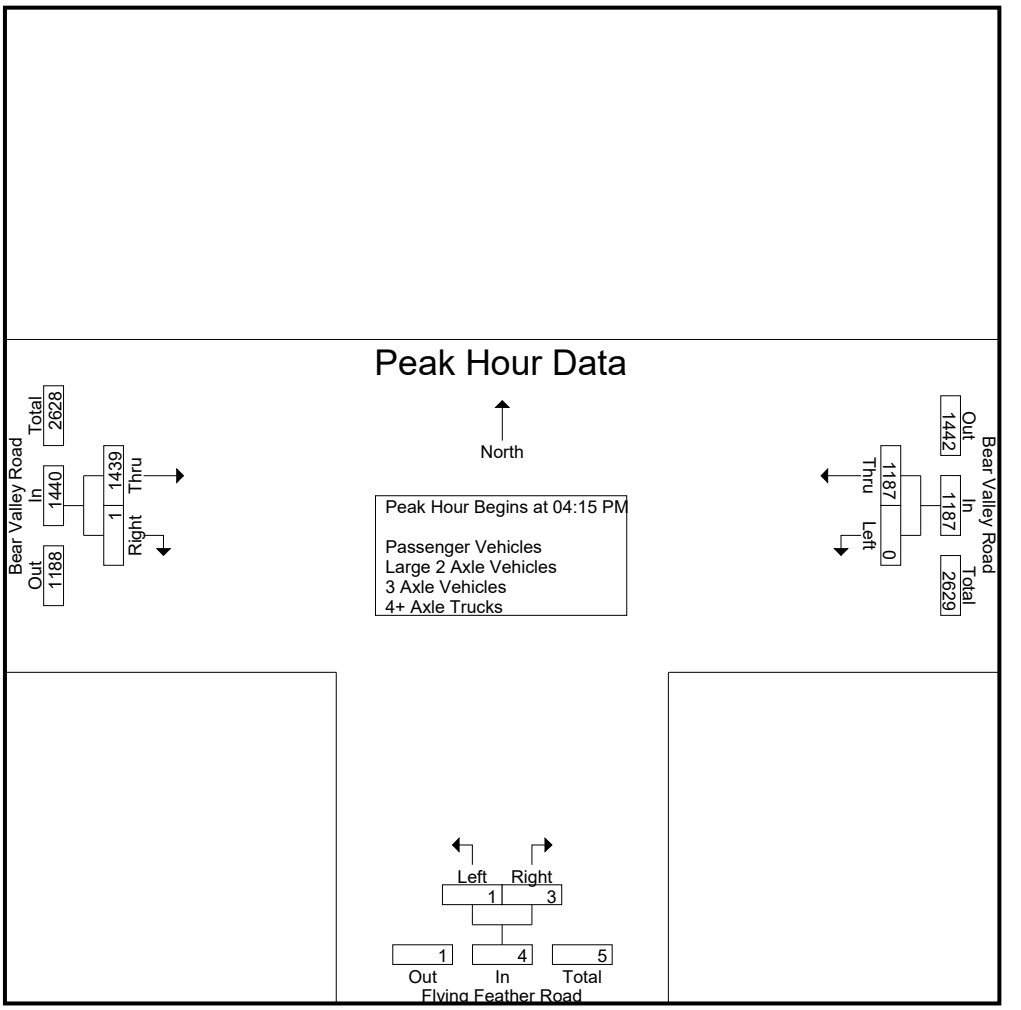

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:30 PM			05:00 PM			04:15 PM		
+0 mins.	0	283	283	1	**3**	**4**	369	0	369
+15 mins.	0	307	307	**2**	1	3	336	0	336
+30 mins.	0	**322**	**322**	0	0	0	**376**	**1**	**377**
+45 mins.	0	287	287	2	0	2	358	0	358
Total Volume	0	1199	1199	5	4	9	1439	1	1440
% App. Total	0	100		55.6	44.4		99.9	0.1	
PHF	.000	.931	.931	.625	.333	.563	.957	.250	.955

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Groups Printed- Passenger Vehicles

	Bear Valley Road Westbound			Flying Feather Road Northbound			Bear Valley Road Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
04:00 PM	0	262	262	0	0	0	333	1	334	596
04:15 PM	0	270	270	0	0	0	363	0	363	633
04:30 PM	0	278	278	0	0	0	326	0	326	604
04:45 PM	0	306	306	0	0	0	368	1	369	675
Total	0	1116	1116	0	0	0	1390	2	1392	2508
05:00 PM	0	316	316	1	3	4	352	0	352	672
05:15 PM	0	283	283	2	1	3	333	3	336	622
05:30 PM	0	252	252	0	0	0	318	0	318	570
05:45 PM	0	211	211	2	0	2	314	0	314	527
Total	0	1062	1062	5	4	9	1317	3	1320	2391
Grand Total	0	2178	2178	5	4	9	2707	5	2712	4899
Apprch %	0	100		55.6	44.4		99.8	0.2		
Total %	0	44.5	44.5	0.1	0.1	0.2	55.3	0.1	55.4	

	Bear Valley Road Westbound			Flying Feather Road Northbound			Bear Valley Road Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:15 PM										
04:15 PM	0	270	270	0	0	0	363	0	363	633
04:30 PM	0	278	278	0	0	0	326	0	326	604
04:45 PM	0	306	306	0	0	0	**368**	**1**	**369**	**675**
05:00 PM	0	**316**	**316**	**1**	**3**	**4**	352	0	352	672
Total Volume	0	1170	1170	1	3	4	1409	1	1410	2584
% App. Total	0	100		25	75		99.9	0.1		
PHF	.000	.926	.926	.250	.250	.250	.957	.250	.955	.957

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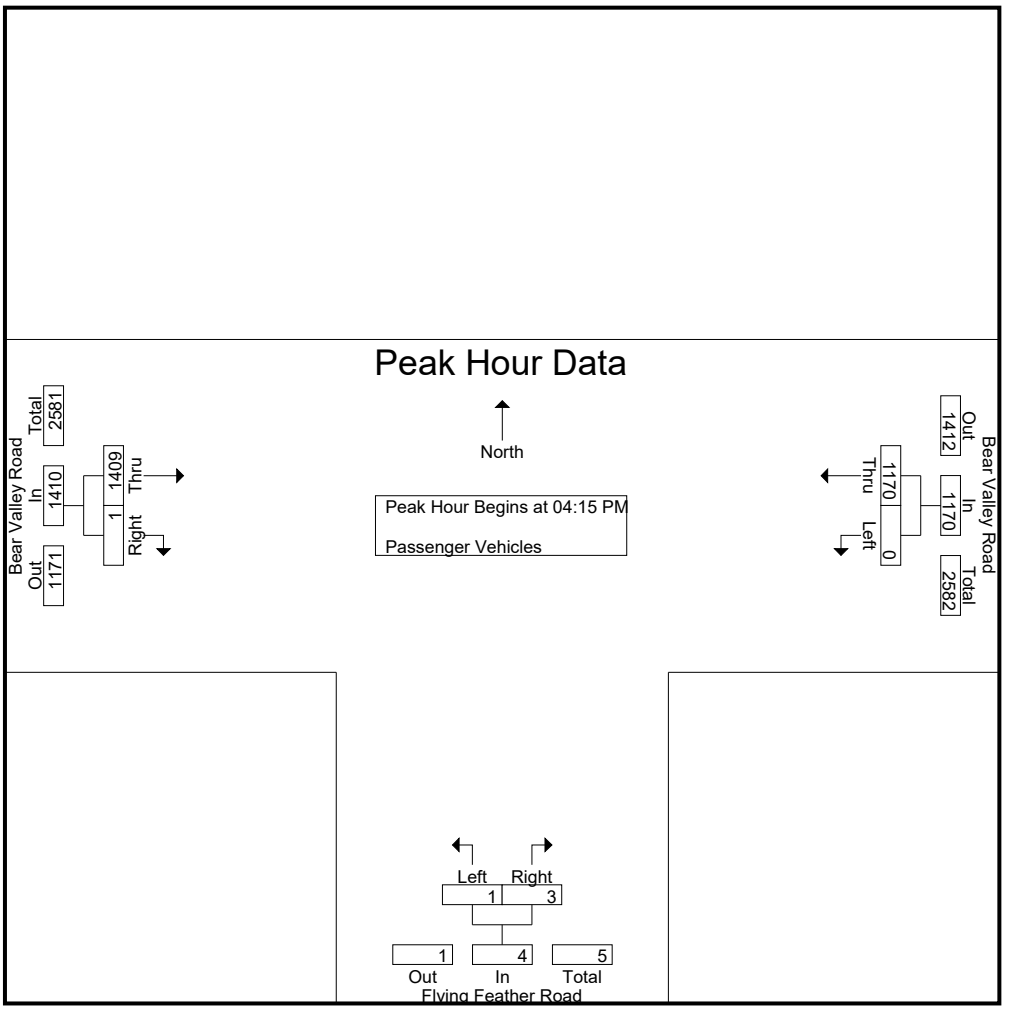

Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:15 PM			04:15 PM			04:15 PM		
+0 mins.	0	270	270	0	0	0	363	0	363
+15 mins.	0	278	278	0	0	0	326	0	326
+30 mins.	0	306	306	0	0	0	**368**	**1**	**369**
+45 mins.	0	**316**	**316**	**1**	**3**	**4**	352	0	352
Total Volume	0	1170	1170	1	3	4	1409	1	1410
% App. Total	0	100		25	75		99.9	0.1	
PHF	.000	.926	.926	.250	.250	.250	.957	.250	.955

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City of Apple Valley
N/S: Flying Feather Road
E/W: Bear Valley Road
Weather: Clear

File Name : 08_APV_FF_BV PM
Site Code : 221022
Start Date : 11/17/2022

Groups Printed- Large 2 Axle Vehicles

	Bear Valley Road Westbound			Flying Feather Road Northbound			Bear Valley Road Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
04:00 PM	0	4	4	0	0	0	5	0	5	9
04:15 PM	0	2	2	0	0	0	6	0	6	8
04:30 PM	0	0	0	0	0	0	5	0	5	5
04:45 PM	0	0	0	0	0	0	5	0	5	5
Total	0	6	6	0	0	0	21	0	21	27
05:00 PM	0	5	5	0	0	0	1	0	1	6
05:15 PM	0	1	1	0	0	0	2	0	2	3
05:30 PM	0	1	1	0	0	0	1	0	1	2
05:45 PM	0	2	2	0	0	0	6	0	6	8
Total	0	9	9	0	0	0	10	0	10	19
Grand Total	0	15	15	0	0	0	31	0	31	46
Apprch %	0	100		0	0		100	0		
Total %	0	32.6	32.6	0	0	0	67.4	0	67.4	

	Bear Valley Road Westbound			Flying Feather Road Northbound			Bear Valley Road Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:15 PM										
04:15 PM	0	2	2	0	0	0	**6**	0	**6**	**8**
04:30 PM	0	0	0	0	0	0	5	0	5	5
04:45 PM	0	0	0	0	0	0	5	0	5	5
05:00 PM	0	**5**	**5**	0	0	0	1	0	1	6
Total Volume	0	7	7	0	0	0	17	0	17	24
% App. Total	0	100		0	0		100	0		
PHF	.000	.350	.350	.000	.000	.000	.708	.000	.708	.750

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City of Apple Valley
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File Name : 08_APV_FF_BV PM
Site Code : 221022
Start Date : 11/17/2022
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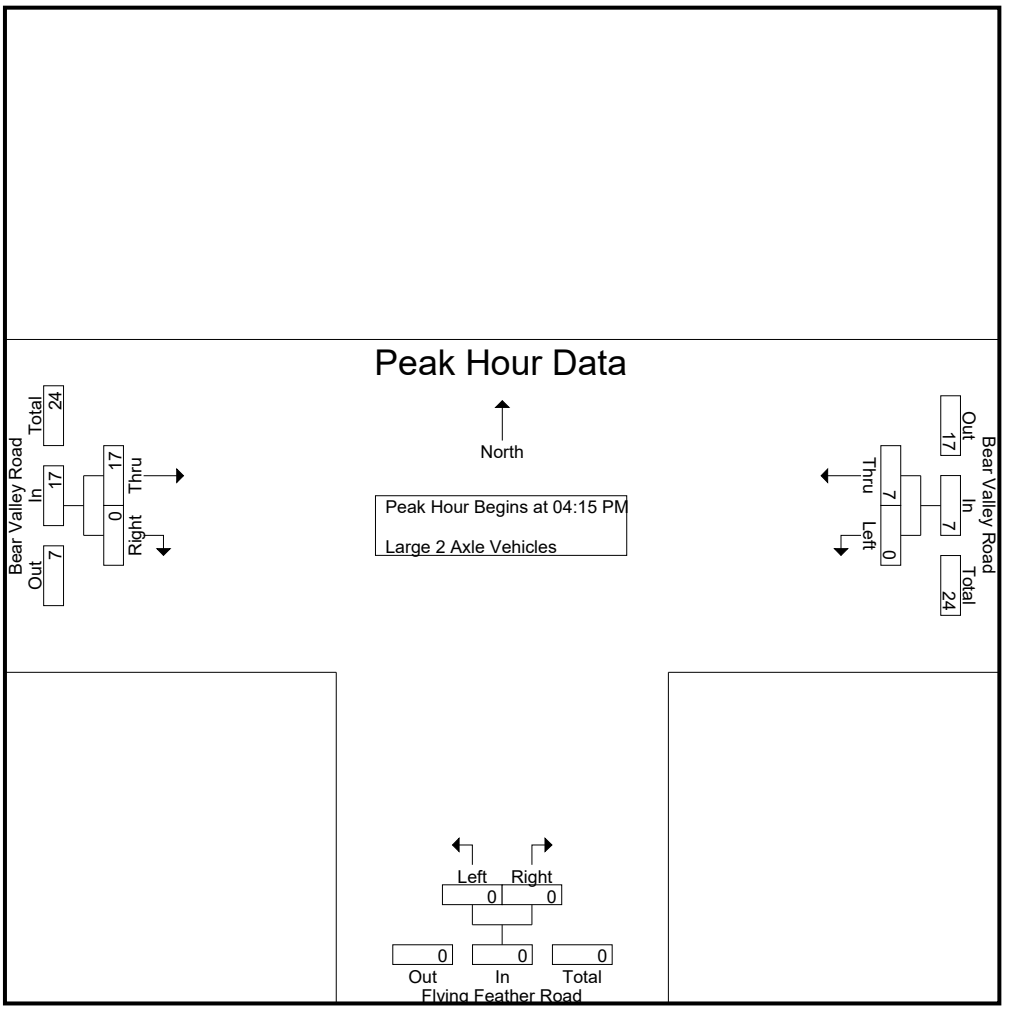

Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:15 PM			04:15 PM			04:15 PM		
+0 mins.	0	2	2	0	0	0	**6**	0	**6**
+15 mins.	0	0	0	0	0	0	5	0	5
+30 mins.	0	0	0	0	0	0	5	0	5
+45 mins.	0	**5**	**5**	0	0	0	1	0	1
Total Volume	0	7	7	0	0	0	17	0	17
% App. Total	0	100		0	0		100	0	
PHF	.000	.350	.350	.000	.000	.000	.708	.000	.708

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City of Apple Valley
N/S: Flying Feather Road
E/W: Bear Valley Road
Weather: Clear

File Name : 08_APV_FF_BV PM
Site Code : 221022
Start Date : 11/17/2022
Page No : 1

Groups Printed- 3 Axle Vehicles

	Bear Valley Road Westbound			Flying Feather Road Northbound			Bear Valley Road Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
04:00 PM	0	2	2	0	0	0	0	0	0	2
04:15 PM	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	1	0	1	1
04:45 PM	0	0	0	0	0	0	0	0	0	0
Total	0	2	2	0	0	0	1	0	1	3
05:00 PM	0	0	0	0	0	0	2	0	2	2
05:15 PM	0	1	1	0	0	0	1	0	1	2
05:30 PM	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0
Total	0	1	1	0	0	0	3	0	3	4
Grand Total	0	3	3	0	0	0	4	0	4	7
Apprch %	0	100		0	0		100	0		
Total %	0	42.9	42.9	0	0	0	57.1	0	57.1	

	Bear Valley Road Westbound			Flying Feather Road Northbound			Bear Valley Road Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:15 PM										
04:15 PM	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	1	0	1	1
04:45 PM	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	**2**	0	**2**	**2**
Total Volume	0	0	0	0	0	0	3	0	3	3
% App. Total	0	0		0	0		100	0		
PHF	.000	.000	.000	.000	.000	.000	.375	.000	.375	.375

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City of Apple Valley
N/S: Flying Feather Road
E/W: Bear Valley Road
Weather: Clear

File Name : 08_APV_FF_BV PM
Site Code : 221022
Start Date : 11/17/2022
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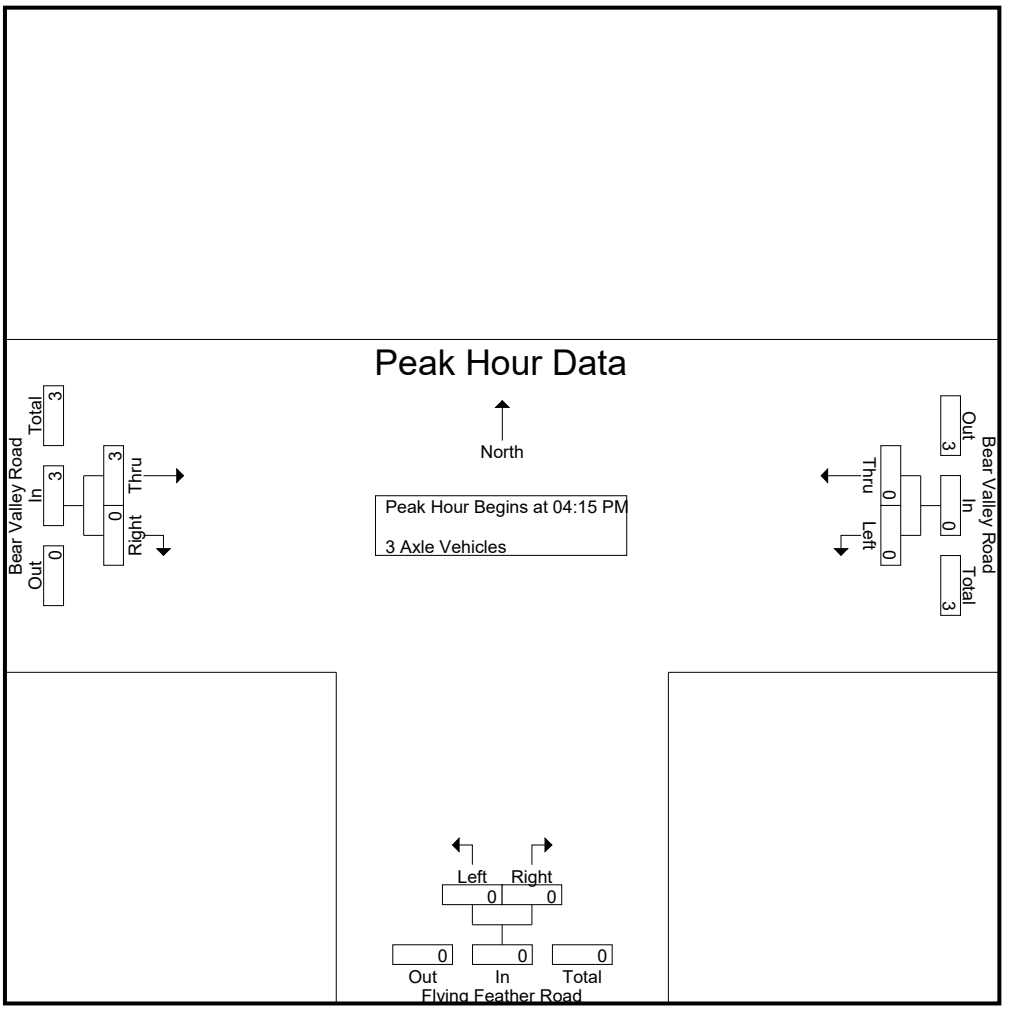

Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:15 PM			04:15 PM			04:15 PM		
+0 mins.	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	1	0	1
+30 mins.	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	**2**	0	**2**
Total Volume	0	0	0	0	0	0	3	0	3
% App. Total	0	0		0	0		100	0	
PHF	.000	.000	.000	.000	.000	.000	.375	.000	.375

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City of Apple Valley
N/S: Flying Feather Road
E/W: Bear Valley Road
Weather: Clear

File Name : 08_APV_FF_BV PM
Site Code : 221022
Start Date : 11/17/2022

Groups Printed- 4+ Axle Trucks

	Bear Valley Road Westbound			Flying Feather Road Northbound			Bear Valley Road Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
04:00 PM	0	2	2	0	0	0	3	0	3	5
04:15 PM	0	3	3	0	0	0	0	0	0	3
04:30 PM	0	5	5	0	0	0	4	0	4	9
04:45 PM	0	1	1	0	0	0	3	0	3	4
Total	0	11	11	0	0	0	10	0	10	21
05:00 PM	0	1	1	0	0	0	3	0	3	4
05:15 PM	0	2	2	0	0	0	5	0	5	7
05:30 PM	0	1	1	0	0	0	1	0	1	2
05:45 PM	0	0	0	0	0	0	2	0	2	2
Total	0	4	4	0	0	0	11	0	11	15
Grand Total	0	15	15	0	0	0	21	0	21	36
Apprch %	0	100		0	0		100	0		
Total %	0	41.7	41.7	0	0	0	58.3	0	58.3	

	Bear Valley Road Westbound			Flying Feather Road Northbound			Bear Valley Road Eastbound			
Start Time	Left	Thru	App. Total	Left	Right	App. Total	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1										
Peak Hour for Entire Intersection Begins at 04:15 PM										
04:15 PM	0	3	3	0	0	0	0	0	0	3
04:30 PM	0	**5**	**5**	0	0	0	**4**	0	**4**	**9**
04:45 PM	0	1	1	0	0	0	3	0	3	4
05:00 PM	0	1	1	0	0	0	3	0	3	4
Total Volume	0	10	10	0	0	0	10	0	10	20
% App. Total	0	100		0	0		100	0		
PHF	.000	.500	.500	.000	.000	.000	.625	.000	.625	.556

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City of Apple Valley
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Weather: Clear

File Name : 08_APV_FF_BV PM
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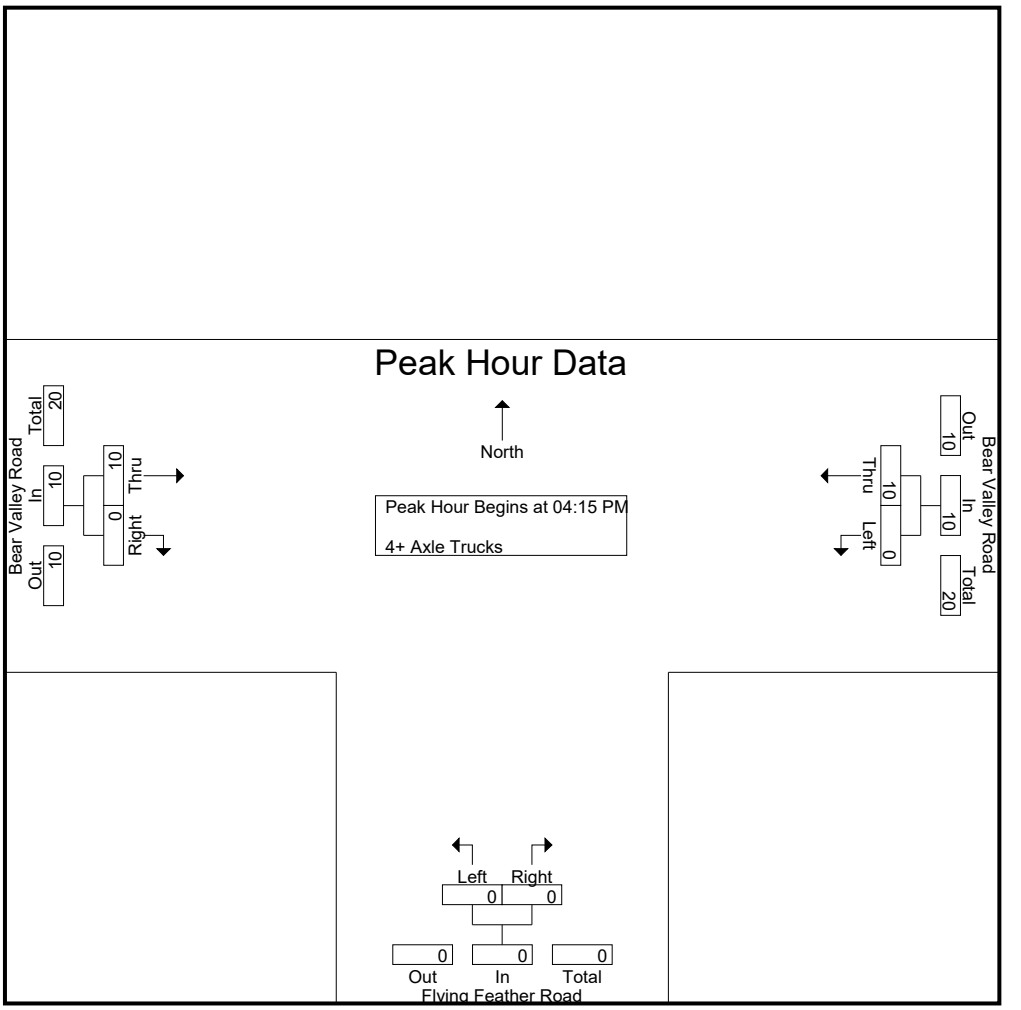

Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:15 PM			04:15 PM			04:15 PM		
+0 mins.	0	3	3	0	0	0	0	0	0
+15 mins.	0	**5**	**5**	0	0	0	**4**	0	**4**
+30 mins.	0	1	1	0	0	0	3	0	3
+45 mins.	0	1	1	0	0	0	3	0	3
Total Volume	0	10	10	0	0	0	10	0	10
% App. Total	0	100		0	0		100	0	
PHF	.000	.500	.500	.000	.000	.000	.625	.000	.625

Location: Apple Valley
N/S: Flying Feather Road
E/W: Bear Valley Road

Date: 11/17/2022
Day: Thursday

PEDESTRIANS

	North Leg Dead End	East Leg Bear Valley Road	South Leg Flying Feather Road	West Leg Bear Valley Road	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

	North Leg Dead End	East Leg Bear Valley Road	South Leg Flying Feather Road	West Leg Bear Valley Road	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

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Location: Apple Valley
N/S: Flying Feather Road
E/W: Bear Valley Road

Date: 11/17/2022
Day: Thursday

BICYCLES

	Southbound Dead End			Westbound Bear Valley Road			Northbound Flying Feather Road			Eastbound Bear Valley Road			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0	0	0	0	0	0	0	0	0

	Southbound Dead End			Westbound Bear Valley Road			Northbound Flying Feather Road			Eastbound Bear Valley Road			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	1	1
4:30 PM	0	0	0	0	2	0	0	0	0	0	0	0	2
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	2	0	0	0	0	0	0	1	3

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City of Apple Valley
N/S: Deep Creek Road
E/W: Bear Valley Road
Weather: Clear

File Name : 09_APV_DC_BV AM
Site Code : 221022
Start Date : 11/17/2022
Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	Deep Creek Road Southbound				Bear Valley Road Westbound				Deep Creek Road Northbound				Bear Valley Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	28	222	0	250	31	0	5	36	0	112	10	122	408
07:15 AM	0	0	0	0	36	245	0	281	26	0	11	37	0	151	15	166	484
07:30 AM	0	0	0	0	24	300	0	324	32	0	14	46	0	190	8	198	568
07:45 AM	0	0	0	0	25	335	0	360	49	0	13	62	0	160	9	169	591
Total	0	0	0	0	113	1102	0	1215	138	0	43	181	0	613	42	655	2051
08:00 AM	0	0	0	0	24	294	0	318	27	0	14	41	0	187	12	199	558
08:15 AM	0	0	0	0	26	277	0	303	21	0	17	38	0	154	19	173	514
08:30 AM	0	0	0	0	26	272	0	298	23	0	16	39	0	190	10	200	537
08:45 AM	0	0	0	0	26	260	0	286	34	0	18	52	0	184	6	190	528
Total	0	0	0	0	102	1103	0	1205	105	0	65	170	0	715	47	762	2137
Grand Total	0	0	0	0	215	2205	0	2420	243	0	108	351	0	1328	89	1417	4188
Apprch %	0	0	0		8.9	91.1	0		69.2	0	30.8		0	93.7	6.3		
Total %	0	0	0	0	5.1	52.7	0	57.8	5.8	0	2.6	8.4	0	31.7	2.1	33.8	
Passenger Vehicles	0	0	0	0	199	2111	0	2310	233	0	105	338	0	1209	85	1294	3942
% Passenger Vehicles	0	0	0	0	92.6	95.7	0	95.5	95.9	0	97.2	96.3	0	91	95.5	91.3	94.1
Large 2 Axle Vehicles	0	0	0	0	10	45	0	55	5	0	1	6	0	62	3	65	126
% Large 2 Axle Vehicles	0	0	0	0	4.7	2	0	2.3	2.1	0	0.9	1.7	0	4.7	3.4	4.6	3
3 Axle Vehicles	0	0	0	0	0	9	0	9	1	0	1	2	0	15	0	15	26
% 3 Axle Vehicles	0	0	0	0	0	0.4	0	0.4	0.4	0	0.9	0.6	0	1.1	0	1.1	0.6
4+ Axle Trucks	0	0	0	0	6	40	0	46	4	0	1	5	0	42	1	43	94
% 4+ Axle Trucks	0	0	0	0	2.8	1.8	0	1.9	1.6	0	0.9	1.4	0	3.2	1.1	3	2.2

	Deep Creek Road Southbound				Bear Valley Road Westbound				Deep Creek Road Northbound				Bear Valley Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	0	0	0	0	24	300	0	324	32	0	14	46	0	**190**	8	198	568
07:45 AM	0	0	0	0	25	**335**	0	**360**	**49**	0	13	**62**	0	160	9	169	**591**
08:00 AM	0	0	0	0	24	294	0	318	27	0	14	41	0	187	12	**199**	558
08:15 AM	0	0	0	0	**26**	277	0	303	21	0	**17**	38	0	154	**19**	173	514
Total Volume	0	0	0	0	99	1206	0	1305	129	0	58	187	0	691	48	739	2231
% App. Total	0	0	0		7.6	92.4	0		69	0	31		0	93.5	6.5		
PHF	.000	.000	.000	.000	.952	.900	.000	.906	.658	.000	.853	.754	.000	.909	.632	.928	.944

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City of Apple Valley
N/S: Deep Creek Road
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File Name : 09_APV_DC_BV AM
Site Code : 221022
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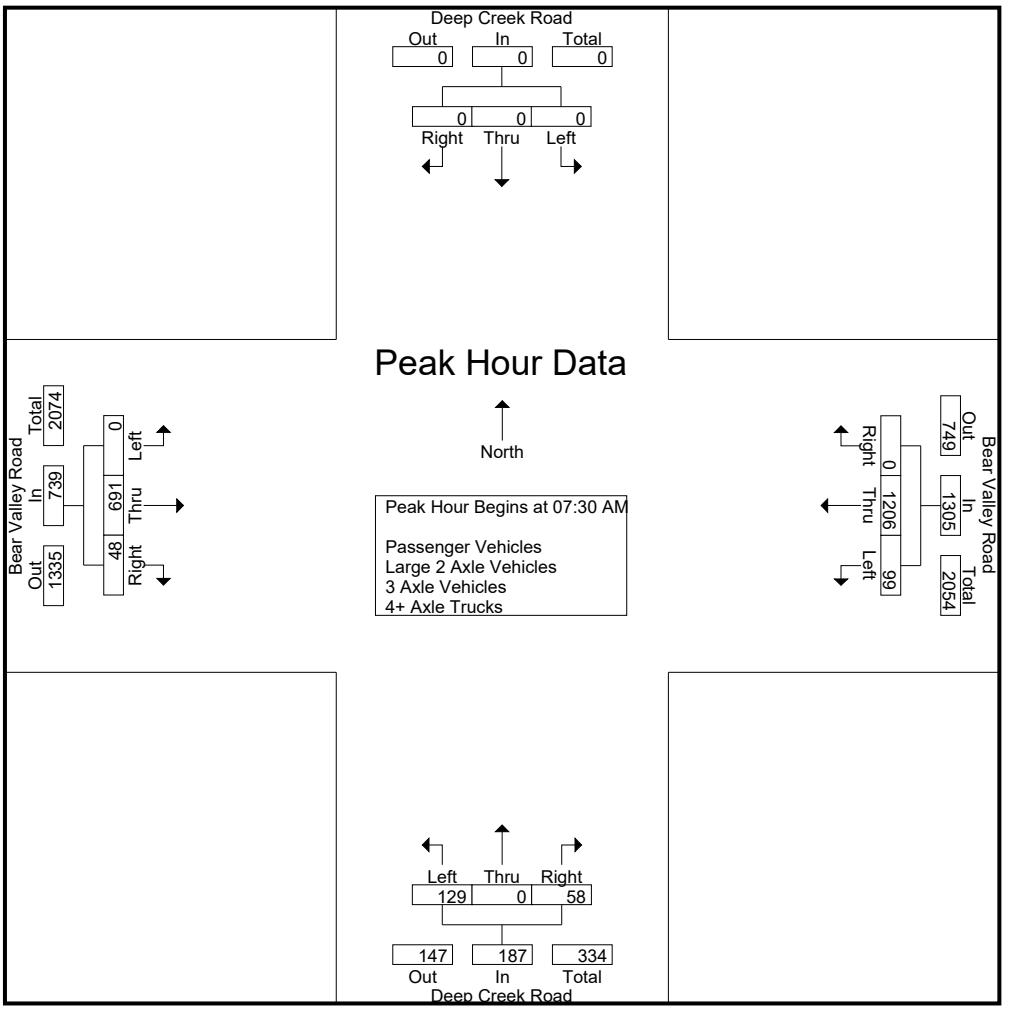

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:00 AM				07:30 AM				07:30 AM				08:00 AM			
+0 mins.	0	0	0	0	24	300	0	324	32	0	14	46	0	187	12	199
+15 mins.	0	0	0	0	25	**335**	0	**360**	**49**	0	13	**62**	0	154	**19**	173
+30 mins.	0	0	0	0	24	294	0	318	27	0	14	41	0	**190**	10	**200**
+45 mins.	0	0	0	0	**26**	277	0	303	21	0	**17**	38	0	184	6	190
Total Volume	0	0	0	0	99	1206	0	1305	129	0	58	187	0	715	47	762
% App. Total	0	0	0		7.6	92.4	0		69	0	31		0	93.8	6.2	
PHF	.000	.000	.000	.000	.952	.900	.000	.906	.658	.000	.853	.754	.000	.941	.618	.953

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City of Apple Valley
N/S: Deep Creek Road
E/W: Bear Valley Road
Weather: Clear

File Name : 09_APV_DC_BV AM
Site Code : 221022
Start Date : 11/17/2022
Page No : 1

Groups Printed- Passenger Vehicles

	Deep Creek Road Southbound				Bear Valley Road Westbound				Deep Creek Road Northbound				Bear Valley Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	24	210	0	234	29	0	5	34	0	97	10	107	375
07:15 AM	0	0	0	0	32	235	0	267	25	0	11	36	0	135	13	148	451
07:30 AM	0	0	0	0	23	294	0	317	32	0	14	46	0	176	7	183	546
07:45 AM	0	0	0	0	24	319	0	343	46	0	13	59	0	152	9	161	563
Total	0	0	0	0	103	1058	0	1161	132	0	43	175	0	560	39	599	1935
08:00 AM	0	0	0	0	23	285	0	308	25	0	14	39	0	174	12	186	533
08:15 AM	0	0	0	0	23	262	0	285	21	0	16	37	0	138	18	156	478
08:30 AM	0	0	0	0	24	258	0	282	21	0	14	35	0	174	10	184	501
08:45 AM	0	0	0	0	26	248	0	274	34	0	18	52	0	163	6	169	495
Total	0	0	0	0	96	1053	0	1149	101	0	62	163	0	649	46	695	2007
Grand Total	0	0	0	0	199	2111	0	2310	233	0	105	338	0	1209	85	1294	3942
Apprch %	0	0	0		8.6	91.4	0		68.9	0	31.1		0	93.4	6.6		
Total %	0	0	0	0	5	53.6	0	58.6	5.9	0	2.7	8.6	0	30.7	2.2	32.8	

	Deep Creek Road Southbound				Bear Valley Road Westbound				Deep Creek Road Northbound				Bear Valley Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	0	0	0	0	23	294	0	317	32	0	14	46	0	**176**	7	183	546
07:45 AM	0	0	0	0	**24**	**319**	0	**343**	**46**	0	13	**59**	0	152	9	161	**563**
08:00 AM	0	0	0	0	23	285	0	308	25	0	14	39	0	174	12	**186**	533
08:15 AM	0	0	0	0	23	262	0	285	21	0	**16**	37	0	138	**18**	156	478
Total Volume	0	0	0	0	93	1160	0	1253	124	0	57	181	0	640	46	686	2120
% App. Total	0	0	0		7.4	92.6	0		68.5	0	31.5		0	93.3	6.7		
PHF	.000	.000	.000	.000	.969	.909	.000	.913	.674	.000	.891	.767	.000	.909	.639	.922	.941

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N/S: Deep Creek Road
E/W: Bear Valley Road
Weather: Clear

File Name : 09_APV_DC_BV AM
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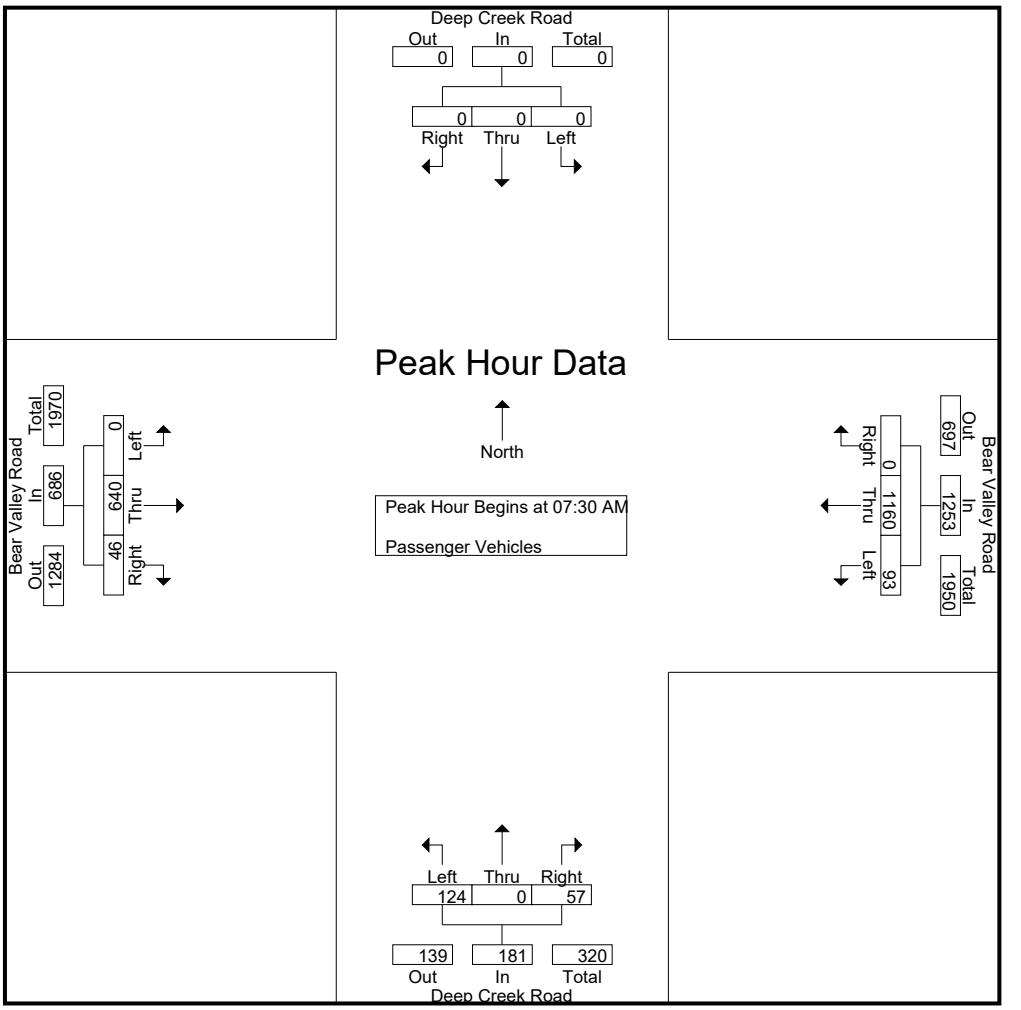

Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:30 AM				07:30 AM				07:30 AM				07:30 AM			
+0 mins.	0	0	0	0	23	294	0	317	32	0	14	46	0	**176**	7	183
+15 mins.	0	0	0	0	**24**	**319**	0	**343**	**46**	0	13	**59**	0	152	9	161
+30 mins.	0	0	0	0	23	285	0	308	25	0	14	39	0	174	12	**186**
+45 mins.	0	0	0	0	23	262	0	285	21	0	**16**	37	0	138	**18**	156
Total Volume	0	0	0	0	93	1160	0	1253	124	0	57	181	0	640	46	686
% App. Total	0	0	0		7.4	92.6	0		68.5	0	31.5		0	93.3	6.7	
PHF	.000	.000	.000	.000	.969	.909	.000	.913	.674	.000	.891	.767	.000	.909	.639	.922

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Groups Printed- Large 2 Axle Vehicles

	Deep Creek Road Southbound				Bear Valley Road Westbound				Deep Creek Road Northbound				Bear Valley Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	2	7	0	9	0	0	0	0	0	4	0	4	13
07:15 AM	0	0	0	0	3	3	0	6	0	0	0	0	0	9	2	11	17
07:30 AM	0	0	0	0	1	3	0	4	0	0	0	0	0	7	1	8	12
07:45 AM	0	0	0	0	1	8	0	9	2	0	0	2	0	4	0	4	15
Total	0	0	0	0	7	21	0	28	2	0	0	2	0	24	3	27	57
08:00 AM	0	0	0	0	0	3	0	3	2	0	0	2	0	8	0	8	13
08:15 AM	0	0	0	0	2	8	0	10	0	0	1	1	0	10	0	10	21
08:30 AM	0	0	0	0	1	8	0	9	1	0	0	1	0	9	0	9	19
08:45 AM	0	0	0	0	0	5	0	5	0	0	0	0	0	11	0	11	16
Total	0	0	0	0	3	24	0	27	3	0	1	4	0	38	0	38	69
Grand Total	0	0	0	0	10	45	0	55	5	0	1	6	0	62	3	65	126
Apprch %	0	0	0		18.2	81.8	0		83.3	0	16.7		0	95.4	4.6		
Total %	0	0	0	0	7.9	35.7	0	43.7	4	0	0.8	4.8	0	49.2	2.4	51.6	

	Deep Creek Road Southbound				Bear Valley Road Westbound				Deep Creek Road Northbound				Bear Valley Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	0	0	0	0	1	3	0	4	0	0	0	0	0	7	**1**	8	12
07:45 AM	0	0	0	0	1	**8**	0	9	**2**	0	0	**2**	0	4	0	4	15
08:00 AM	0	0	0	0	0	3	0	3	2	0	0	2	0	8	0	8	13
08:15 AM	0	0	0	0	**2**	8	0	**10**	0	0	**1**	1	0	**10**	0	**10**	**21**
Total Volume	0	0	0	0	4	22	0	26	4	0	1	5	0	29	1	30	61
% App. Total	0	0	0		15.4	84.6	0		80	0	20		0	96.7	3.3		
PHF	.000	.000	.000	.000	.500	.688	.000	.650	.500	.000	.250	.625	.000	.725	.250	.750	.726

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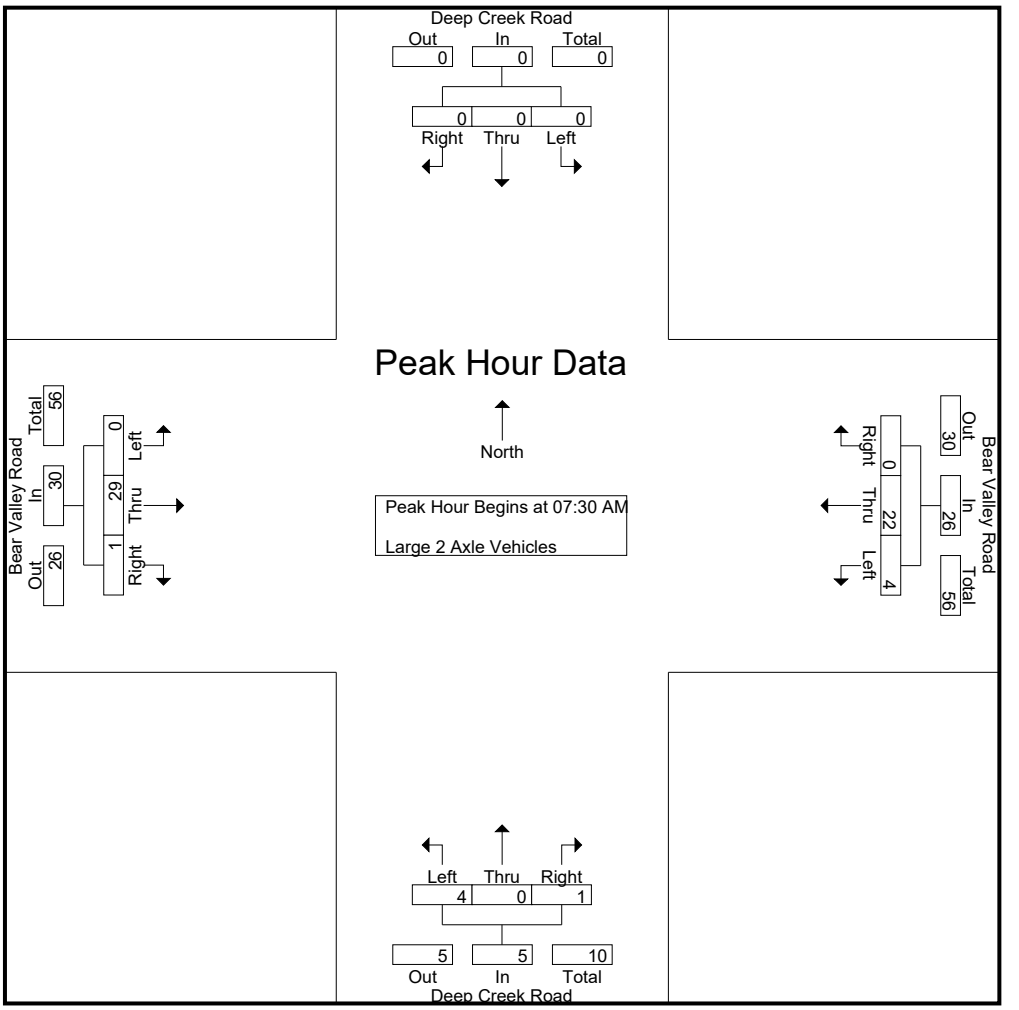

Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:30 AM				07:30 AM				07:30 AM				07:30 AM			
+0 mins.	0	0	0	0	1	3	0	4	0	0	0	0	0	7	**1**	8
+15 mins.	0	0	0	0	1	**8**	0	9	**2**	0	0	**2**	0	4	0	4
+30 mins.	0	0	0	0	0	3	0	3	2	0	0	2	0	8	0	8
+45 mins.	0	0	0	0	**2**	8	0	**10**	0	0	**1**	1	0	**10**	0	**10**
Total Volume	0	0	0	0	4	22	0	26	4	0	1	5	0	29	1	30
% App. Total	0	0	0		15.4	84.6	0		80	0	20		0	96.7	3.3	
PHF	.000	.000	.000	.000	.500	.688	.000	.650	.500	.000	.250	.625	.000	.725	.250	.750

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Groups Printed- 3 Axle Vehicles

	Deep Creek Road Southbound				Bear Valley Road Westbound				Deep Creek Road Northbound				Bear Valley Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	1	0	0	1	0	3	0	3	4
07:15 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	2	0	2	3
07:30 AM	0	0	0	0	0	2	0	2	0	0	0	0	0	1	0	1	3
07:45 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	2	0	2	3
Total	0	0	0	0	0	4	0	4	1	0	0	1	0	8	0	8	13
08:00 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	2	0	2	3
08:15 AM	0	0	0	0	0	2	0	2	0	0	0	0	0	2	0	2	4
08:30 AM	0	0	0	0	0	1	0	1	0	0	1	1	0	3	0	3	5
08:45 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
Total	0	0	0	0	0	5	0	5	0	0	1	1	0	7	0	7	13
Grand Total	0	0	0	0	0	9	0	9	1	0	1	2	0	15	0	15	26
Apprch %	0	0	0		0	100	0		50	0	50		0	100	0		
Total %	0	0	0	0	0	34.6	0	34.6	3.8	0	3.8	7.7	0	57.7	0	57.7	

	Deep Creek Road Southbound				Bear Valley Road Westbound				Deep Creek Road Northbound				Bear Valley Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	0	0	0	0	0	**2**	0	**2**	0	0	0	0	0	1	0	1	3
07:45 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	**2**	0	**2**	3
08:00 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	2	0	2	3
08:15 AM	0	0	0	0	0	2	0	2	0	0	0	0	0	2	0	2	**4**
Total Volume	0	0	0	0	0	6	0	6	0	0	0	0	0	7	0	7	13
% App. Total	0	0	0		0	100	0		0	0	0		0	100	0		
PHF	.000	.000	.000	.000	.000	.750	.000	.750	.000	.000	.000	.000	.000	.875	.000	.875	.813

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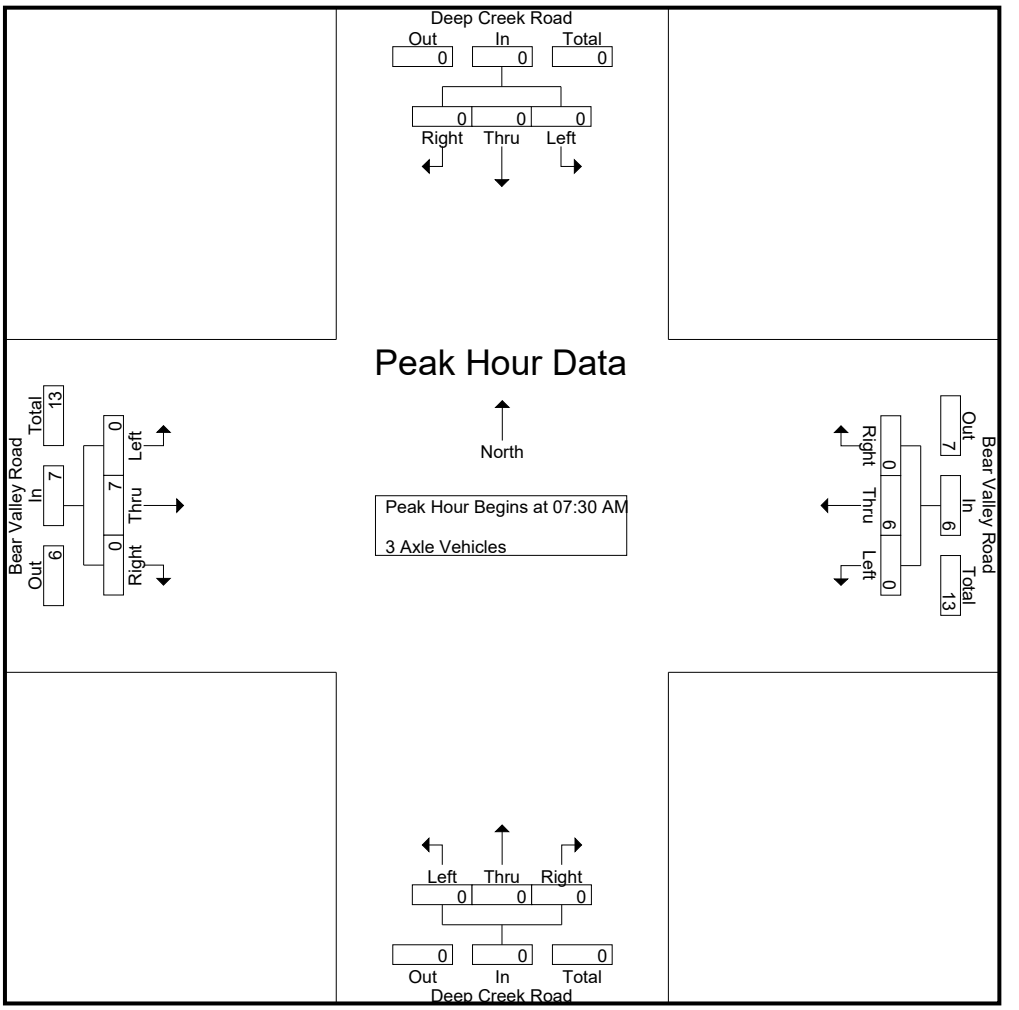

Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:30 AM				07:30 AM				07:30 AM				07:30 AM			
+0 mins.	0	0	0	0	0	**2**	0	**2**	0	0	0	0	0	1	0	1
+15 mins.	0	0	0	0	0	1	0	1	0	0	0	0	0	**2**	0	**2**
+30 mins.	0	0	0	0	0	1	0	1	0	0	0	0	0	2	0	2
+45 mins.	0	0	0	0	0	2	0	2	0	0	0	0	0	2	0	2
Total Volume	0	0	0	0	0	6	0	6	0	0	0	0	0	7	0	7
% App. Total	0	0	0		0	100	0		0	0	0		0	100	0	
PHF	.000	.000	.000	.000	.000	.750	.000	.750	.000	.000	.000	.000	.000	.875	.000	.875

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City of Apple Valley
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Groups Printed- 4+ Axle Trucks

	Deep Creek Road Southbound				Bear Valley Road Westbound				Deep Creek Road Northbound				Bear Valley Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	2	5	0	7	1	0	0	1	0	8	0	8	16
07:15 AM	0	0	0	0	1	6	0	7	1	0	0	1	0	5	0	5	13
07:30 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	6	0	6	7
07:45 AM	0	0	0	0	0	7	0	7	1	0	0	1	0	2	0	2	10
Total	0	0	0	0	3	19	0	22	3	0	0	3	0	21	0	21	46
08:00 AM	0	0	0	0	1	5	0	6	0	0	0	0	0	3	0	3	9
08:15 AM	0	0	0	0	1	5	0	6	0	0	0	0	0	4	1	5	11
08:30 AM	0	0	0	0	1	5	0	6	1	0	1	2	0	4	0	4	12
08:45 AM	0	0	0	0	0	6	0	6	0	0	0	0	0	10	0	10	16
Total	0	0	0	0	3	21	0	24	1	0	1	2	0	21	1	22	48
Grand Total	0	0	0	0	6	40	0	46	4	0	1	5	0	42	1	43	94
Apprch %	0	0	0		13	87	0		80	0	20		0	97.7	2.3		
Total %	0	0	0	0	6.4	42.6	0	48.9	4.3	0	1.1	5.3	0	44.7	1.1	45.7	

	Deep Creek Road Southbound				Bear Valley Road Westbound				Deep Creek Road Northbound				Bear Valley Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	**6**	0	**6**	7
07:45 AM	0	0	0	0	0	**7**	0	**7**	**1**	0	0	**1**	0	2	0	2	10
08:00 AM	0	0	0	0	**1**	5	0	6	0	0	0	0	0	3	0	3	9
08:15 AM	0	0	0	0	1	5	0	6	0	0	0	0	0	4	**1**	5	**11**
Total Volume	0	0	0	0	2	18	0	20	1	0	0	1	0	15	1	16	37
% App. Total	0	0	0		10	90	0		100	0	0		0	93.8	6.2		
PHF	.000	.000	.000	.000	.500	.643	.000	.714	.250	.000	.000	.250	.000	.625	.250	.667	.841

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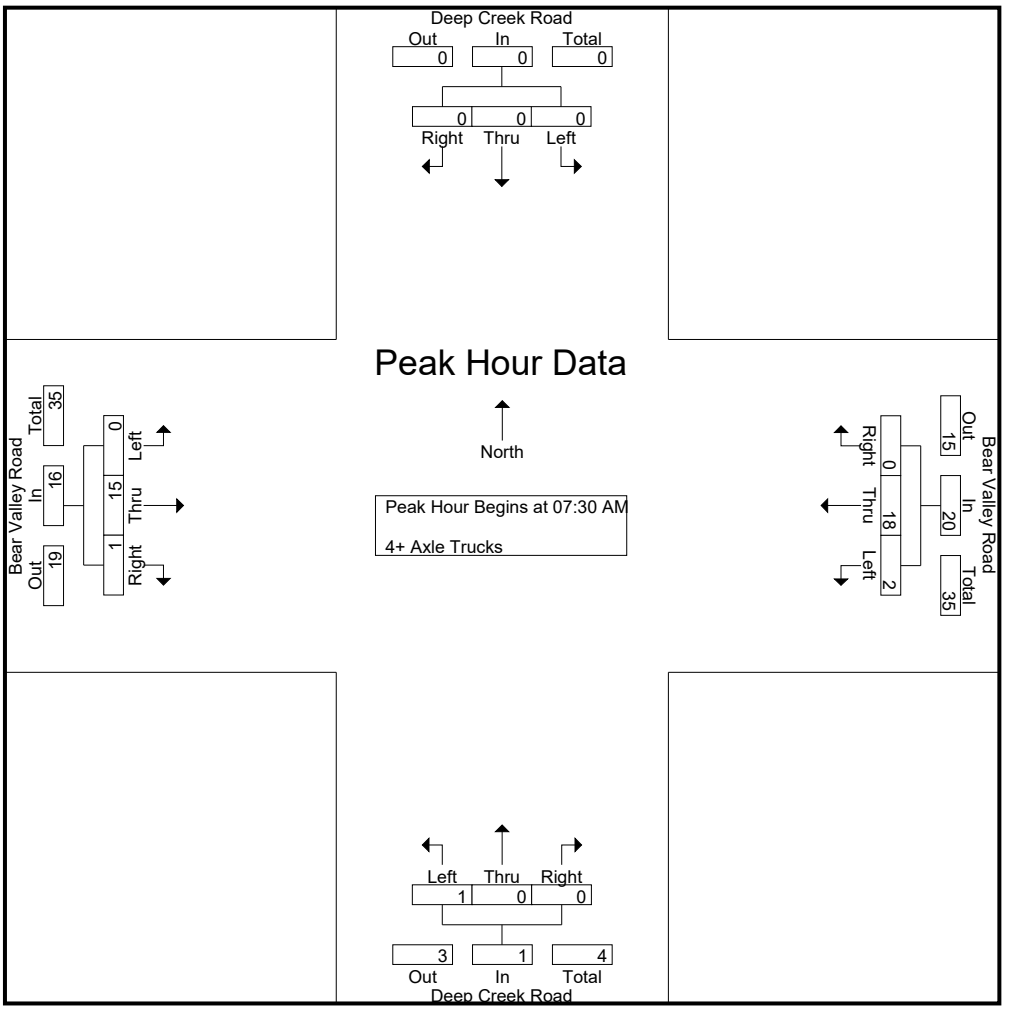

Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:30 AM				07:30 AM				07:30 AM				07:30 AM			
+0 mins.	0	0	0	0	0	1	0	1	0	0	0	0	0	**6**	0	**6**
+15 mins.	0	0	0	0	0	**7**	0	**7**	**1**	0	0	**1**	0	2	0	2
+30 mins.	0	0	0	0	**1**	5	0	6	0	0	0	0	0	3	0	3
+45 mins.	0	0	0	0	1	5	0	6	0	0	0	0	0	4	**1**	5
Total Volume	0	0	0	0	2	18	0	20	1	0	0	1	0	15	1	16
% App. Total	0	0	0		10	90	0		100	0	0		0	93.8	6.2	
PHF	.000	.000	.000	.000	.500	.643	.000	.714	.250	.000	.000	.250	.000	.625	.250	.667

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File Name : 09_APV_DC_BV PM
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Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	Deep Creek Road Southbound				Bear Valley Road Westbound				Deep Creek Road Northbound				Bear Valley Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	31	239	0	270	18	0	20	38	0	310	34	344	652
04:15 PM	0	0	0	0	28	269	0	297	17	0	40	57	0	339	26	365	719
04:30 PM	0	0	0	0	34	272	0	306	27	0	21	48	0	324	23	347	701
04:45 PM	0	0	0	0	18	268	0	286	28	0	29	57	0	341	20	361	704
Total	0	0	0	0	111	1048	0	1159	90	0	110	200	0	1314	103	1417	2776
05:00 PM	0	0	0	0	25	290	0	315	27	0	23	50	0	343	21	364	729
05:15 PM	0	0	0	0	35	255	0	290	24	0	30	54	0	313	24	337	681
05:30 PM	0	0	0	0	21	238	0	259	19	0	36	55	0	299	25	324	638
05:45 PM	0	0	0	0	18	189	0	207	22	0	21	43	0	308	20	328	578
Total	0	0	0	0	99	972	0	1071	92	0	110	202	0	1263	90	1353	2626
Grand Total	0	0	0	0	210	2020	0	2230	182	0	220	402	0	2577	193	2770	5402
Apprch %	0	0	0		9.4	90.6	0		45.3	0	54.7		0	93	7		
Total %	0	0	0	0	3.9	37.4	0	41.3	3.4	0	4.1	7.4	0	47.7	3.6	51.3	
Passenger Vehicles	0	0	0	0	202	1978	0	2180	181	0	214	395	0	2516	190	2706	5281
% Passenger Vehicles	0	0	0	0	96.2	97.9	0	97.8	99.5	0	97.3	98.3	0	97.6	98.4	97.7	97.8
Large 2 Axle Vehicles	0	0	0	0	5	21	0	26	1	0	4	5	0	38	2	40	71
% Large 2 Axle Vehicles	0	0	0	0	2.4	1	0	1.2	0.5	0	1.8	1.2	0	1.5	1	1.4	1.3
3 Axle Vehicles	0	0	0	0	1	2	0	3	0	0	0	0	0	4	0	4	7
% 3 Axle Vehicles	0	0	0	0	0.5	0.1	0	0.1	0	0	0	0	0	0.2	0	0.1	0.1
4+ Axle Trucks	0	0	0	0	2	19	0	21	0	0	2	2	0	19	1	20	43
% 4+ Axle Trucks	0	0	0	0	1	0.9	0	0.9	0	0	0.9	0.5	0	0.7	0.5	0.7	0.8

	Deep Creek Road Southbound				Bear Valley Road Westbound				Deep Creek Road Northbound				Bear Valley Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	0	0	0	0	28	269	0	297	17	0	**40**	**57**	0	339	**26**	**365**	719
04:30 PM	0	0	0	0	**34**	272	0	306	27	0	21	48	0	324	23	347	701
04:45 PM	0	0	0	0	18	268	0	286	**28**	0	29	57	0	341	20	361	704
05:00 PM	0	0	0	0	25	**290**	0	**315**	27	0	23	50	0	**343**	21	364	**729**
Total Volume	0	0	0	0	105	1099	0	1204	99	0	113	212	0	1347	90	1437	2853
% App. Total	0	0	0		8.7	91.3	0		46.7	0	53.3		0	93.7	6.3		
PHF	.000	.000	.000	.000	.772	.947	.000	.956	.884	.000	.706	.930	.000	.982	.865	.984	.978

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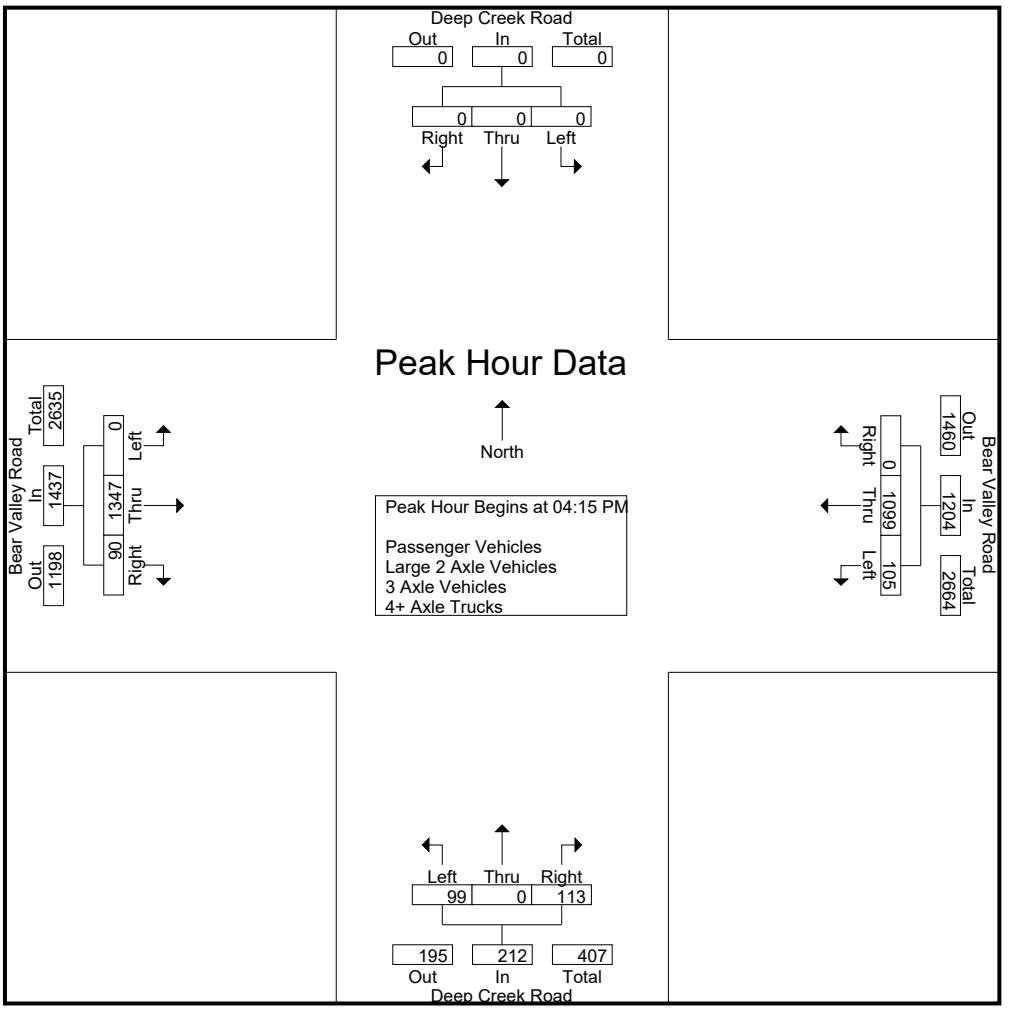
City of Apple Valley
N/S: Deep Creek Road
E/W: Bear Valley Road
Weather: Clear

File Name : 09_APV_DC_BV PM
Site Code : 221022
Start Date : 11/17/2022
Page No : 2



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM				04:15 PM				04:45 PM				04:15 PM			
+0 mins.	0	0	0	0	28	269	0	297	**28**	0	29	**57**	0	339	**26**	**365**
+15 mins.	0	0	0	0	**34**	272	0	306	27	0	23	50	0	324	23	347
+30 mins.	0	0	0	0	18	268	0	286	24	0	30	54	0	341	20	361
+45 mins.	0	0	0	0	25	**290**	0	**315**	19	0	**36**	55	0	**343**	21	364
Total Volume	0	0	0	0	105	1099	0	1204	98	0	118	216	0	1347	90	1437
% App. Total	0	0	0		8.7	91.3	0		45.4	0	54.6		0	93.7	6.3	
PHF	.000	.000	.000	.000	.772	.947	.000	.956	.875	.000	.819	.947	.000	.982	.865	.984

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City of Apple Valley
N/S: Deep Creek Road
E/W: Bear Valley Road
Weather: Clear

File Name : 09_APV_DC_BV PM
Site Code : 221022
Start Date : 11/17/2022
Page No : 1

Groups Printed- Passenger Vehicles

	Deep Creek Road Southbound				Bear Valley Road Westbound				Deep Creek Road Northbound				Bear Valley Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	28	231	0	259	18	0	19	37	0	299	34	333	629
04:15 PM	0	0	0	0	27	260	0	287	17	0	39	56	0	332	25	357	700
04:30 PM	0	0	0	0	32	266	0	298	27	0	21	48	0	313	22	335	681
04:45 PM	0	0	0	0	18	267	0	285	28	0	28	56	0	331	20	351	692
Total	0	0	0	0	105	1024	0	1129	90	0	107	197	0	1275	101	1376	2702
05:00 PM	0	0	0	0	25	281	0	306	26	0	23	49	0	337	20	357	712
05:15 PM	0	0	0	0	34	251	0	285	24	0	28	52	0	307	24	331	668
05:30 PM	0	0	0	0	20	236	0	256	19	0	35	54	0	298	25	323	633
05:45 PM	0	0	0	0	18	186	0	204	22	0	21	43	0	299	20	319	566
Total	0	0	0	0	97	954	0	1051	91	0	107	198	0	1241	89	1330	2579
Grand Total	0	0	0	0	202	1978	0	2180	181	0	214	395	0	2516	190	2706	5281
Apprch %	0	0	0		9.3	90.7	0		45.8	0	54.2		0	93	7		
Total %	0	0	0	0	3.8	37.5	0	41.3	3.4	0	4.1	7.5	0	47.6	3.6	51.2	

	Deep Creek Road Southbound				Bear Valley Road Westbound				Deep Creek Road Northbound				Bear Valley Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	0	0	0	0	27	260	0	287	17	0	**39**	**56**	0	332	**25**	**357**	700
04:30 PM	0	0	0	0	**32**	266	0	298	27	0	21	48	0	313	22	335	681
04:45 PM	0	0	0	0	18	267	0	285	**28**	0	28	56	0	331	20	351	692
05:00 PM	0	0	0	0	25	**281**	0	**306**	26	0	23	49	0	**337**	20	357	**712**
Total Volume	0	0	0	0	102	1074	0	1176	98	0	111	209	0	1313	87	1400	2785
% App. Total	0	0	0		8.7	91.3	0		46.9	0	53.1		0	93.8	6.2		
PHF	.000	.000	.000	.000	.797	.956	.000	.961	.875	.000	.712	.933	.000	.974	.870	.980	.978

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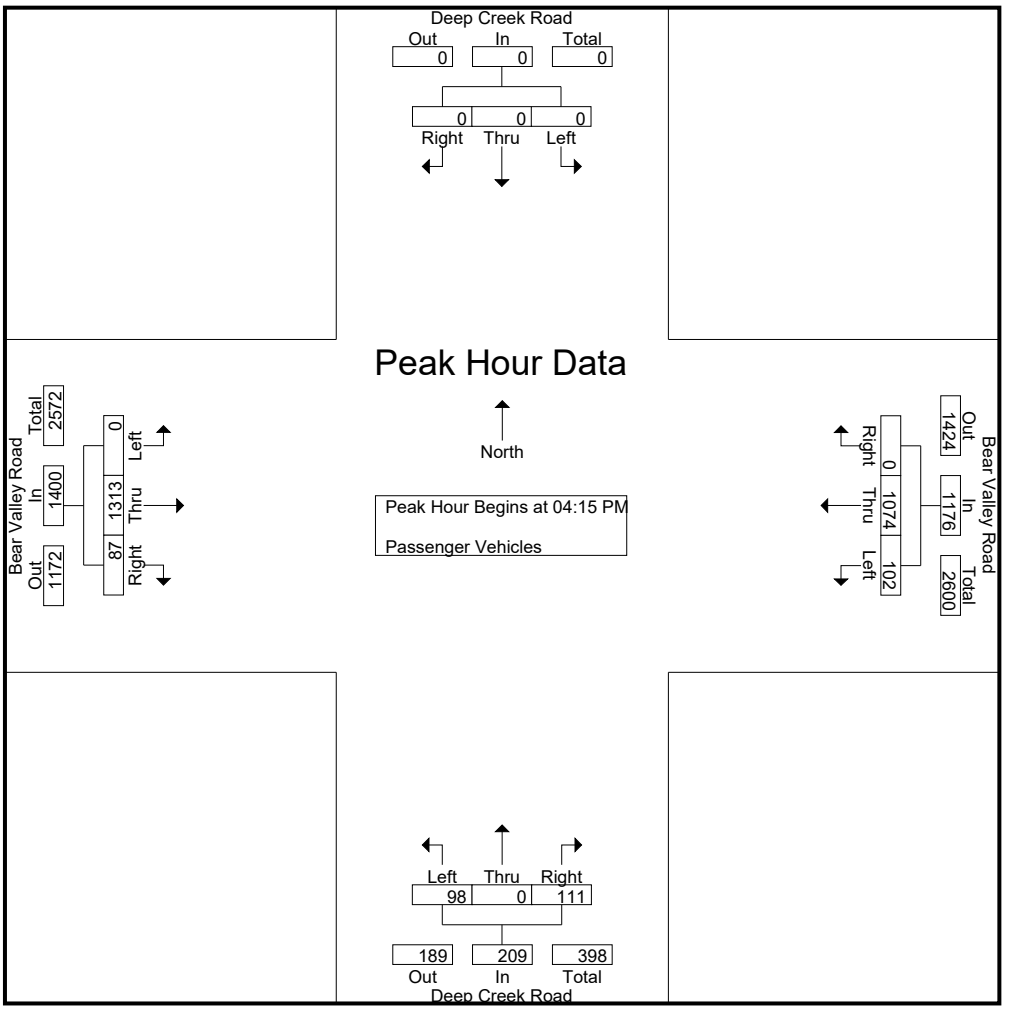
City of Apple Valley
N/S: Deep Creek Road
E/W: Bear Valley Road
Weather: Clear

File Name : 09_APV_DC_BV PM
Site Code : 221022
Start Date : 11/17/2022
Page No : 2



Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:15 PM				04:15 PM				04:15 PM				04:15 PM			
+0 mins.	0	0	0	0	27	260	0	287	17	0	**39**	**56**	0	332	**25**	**357**
+15 mins.	0	0	0	0	**32**	266	0	298	27	0	21	48	0	313	22	335
+30 mins.	0	0	0	0	18	267	0	285	**28**	0	28	56	0	331	20	351
+45 mins.	0	0	0	0	25	**281**	0	**306**	26	0	23	49	0	**337**	20	357
Total Volume	0	0	0	0	102	1074	0	1176	98	0	111	209	0	1313	87	1400
% App. Total	0	0	0		8.7	91.3	0		46.9	0	53.1		0	93.8	6.2	
PHF	.000	.000	.000	.000	.797	.956	.000	.961	.875	.000	.712	.933	.000	.974	.870	.980

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City of Apple Valley
N/S: Deep Creek Road
E/W: Bear Valley Road
Weather: Clear

File Name : 09_APV_DC_BV PM
Site Code : 221022
Start Date : 11/17/2022
Page No : 1

Groups Printed- Large 2 Axle Vehicles

	Deep Creek Road Southbound				Bear Valley Road Westbound				Deep Creek Road Northbound				Bear Valley Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	3	5	0	8	0	0	1	1	0	8	0	8	17
04:15 PM	0	0	0	0	1	4	0	5	0	0	0	0	0	7	1	8	13
04:30 PM	0	0	0	0	1	1	0	2	0	0	0	0	0	6	0	6	8
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	6	6
Total	0	0	0	0	5	10	0	15	0	0	1	1	0	27	1	28	44
05:00 PM	0	0	0	0	0	6	0	6	1	0	0	1	0	1	1	2	9
05:15 PM	0	0	0	0	0	2	0	2	0	0	2	2	0	2	0	2	6
05:30 PM	0	0	0	0	0	1	0	1	0	0	1	1	0	1	0	1	3
05:45 PM	0	0	0	0	0	2	0	2	0	0	0	0	0	7	0	7	9
Total	0	0	0	0	0	11	0	11	1	0	3	4	0	11	1	12	27
Grand Total	0	0	0	0	5	21	0	26	1	0	4	5	0	38	2	40	71
Apprch %	0	0	0		19.2	80.8	0		20	0	80		0	95	5		
Total %	0	0	0	0	7	29.6	0	36.6	1.4	0	5.6	7	0	53.5	2.8	56.3	

	Deep Creek Road Southbound				Bear Valley Road Westbound				Deep Creek Road Northbound				Bear Valley Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	0	0	0	0	**1**	4	0	5	0	0	0	0	0	**7**	**1**	**8**	**13**
04:30 PM	0	0	0	0	1	1	0	2	0	0	0	0	0	6	0	6	8
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	6	6
05:00 PM	0	0	0	0	0	**6**	0	**6**	**1**	0	0	**1**	0	1	1	2	9
Total Volume	0	0	0	0	2	11	0	13	1	0	0	1	0	20	2	22	36
% App. Total	0	0	0		15.4	84.6	0		100	0	0		0	90.9	9.1		
PHF	.000	.000	.000	.000	.500	.458	.000	.542	.250	.000	.000	.250	.000	.714	.500	.688	.692

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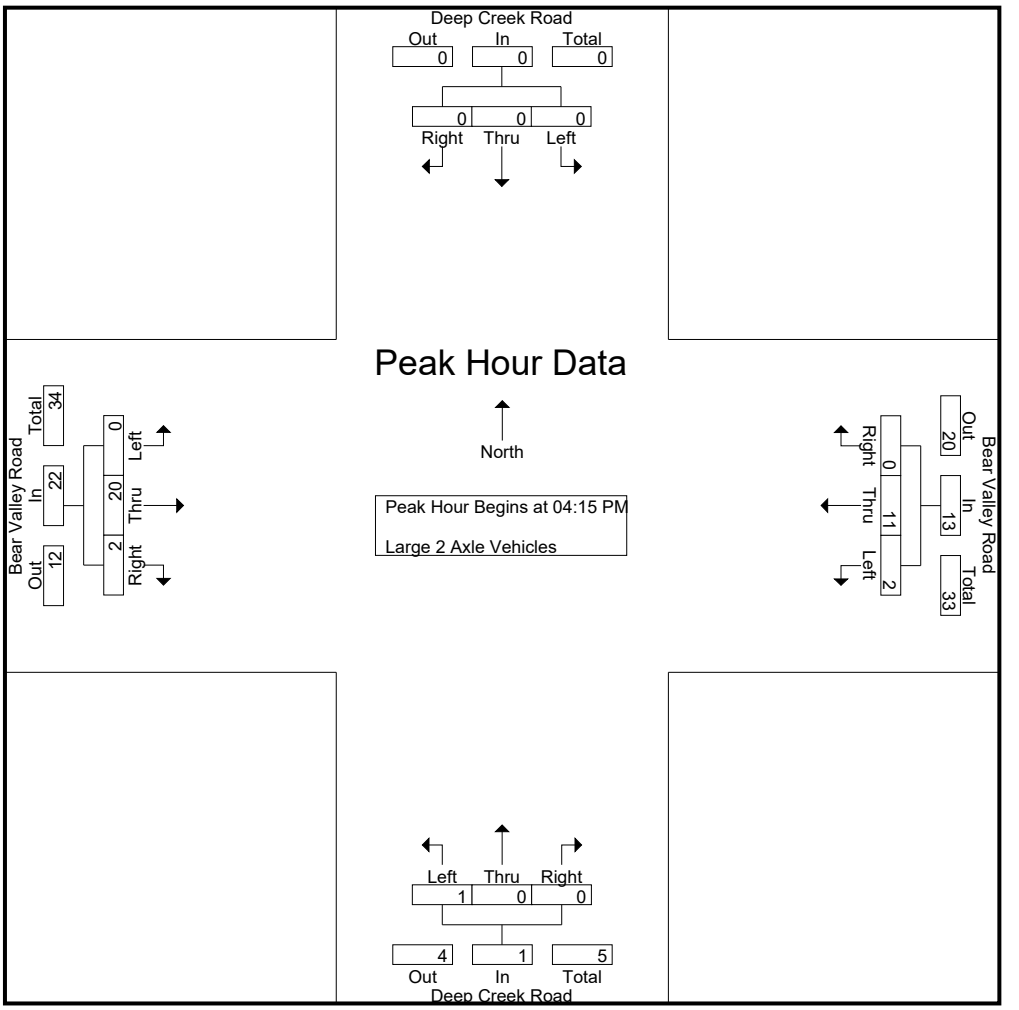
City of Apple Valley
N/S: Deep Creek Road
E/W: Bear Valley Road
Weather: Clear

File Name : 09_APV_DC_BV PM
Site Code : 221022
Start Date : 11/17/2022



Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:15 PM				04:15 PM				04:15 PM				04:15 PM			
+0 mins.	0	0	0	0	**1**	4	0	5	0	0	0	0	0	**7**	**1**	**8**
+15 mins.	0	0	0	0	1	1	0	2	0	0	0	0	0	6	0	6
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	6
+45 mins.	0	0	0	0	0	**6**	0	**6**	**1**	0	0	**1**	0	1	1	2
Total Volume	0	0	0	0	2	11	0	13	1	0	0	1	0	20	2	22
% App. Total	0	0	0		15.4	84.6	0		100	0	0		0	90.9	9.1	
PHF	.000	.000	.000	.000	.500	.458	.000	.542	.250	.000	.000	.250	.000	.714	.500	.688

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City of Apple Valley
N/S: Deep Creek Road
E/W: Bear Valley Road
Weather: Clear

File Name : 09_APV_DC_BV PM
Site Code : 221022
Start Date : 11/17/2022
Page No : 1

Groups Printed- 3 Axle Vehicles

	Deep Creek Road Southbound				Bear Valley Road Westbound				Deep Creek Road Northbound				Bear Valley Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	2
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	2
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
Total	0	0	0	0	0	2	0	2	0	0	0	0	0	3	0	3	5
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	1	0	0	1	0	0	0	0	0	1	0	1	2
Grand Total	0	0	0	0	1	2	0	3	0	0	0	0	0	4	0	4	7
Apprch %	0	0	0		33.3	66.7	0		0	0	0		0	100	0		
Total %	0	0	0	0	14.3	28.6	0	42.9	0	0	0	0	0	57.1	0	57.1	

	Deep Creek Road Southbound				Bear Valley Road Westbound				Deep Creek Road Northbound				Bear Valley Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	**2**	0	**2**	**2**
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	4	4
% App. Total	0	0	0		0	0	0		0	0	0		0	100	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.500	.000	.500	.500

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City of Apple Valley
N/S: Deep Creek Road
E/W: Bear Valley Road
Weather: Clear

File Name : 09_APV_DC_BV PM
Site Code : 221022
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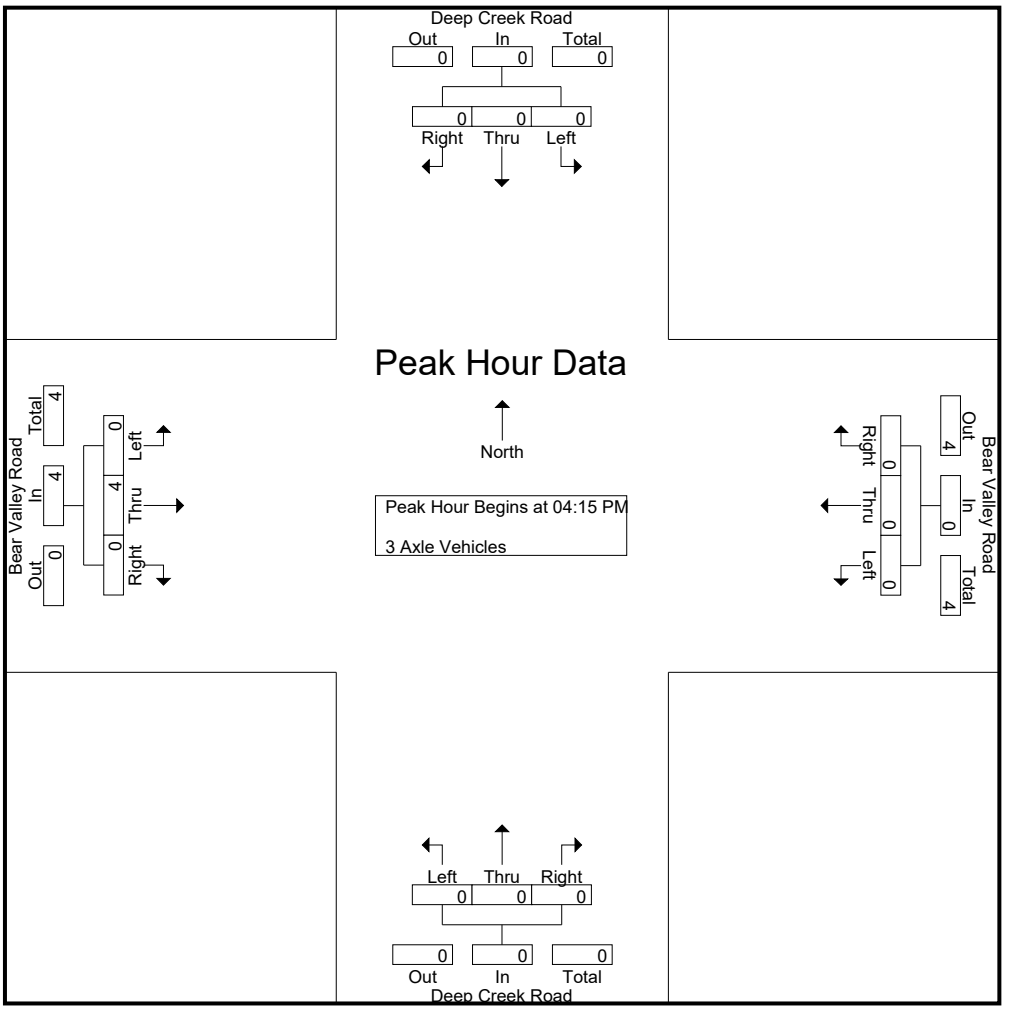

Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:15 PM				04:15 PM				04:15 PM				04:15 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	**2**	0	**2**
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
+45 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	4
% App. Total	0	0	0		0	0	0		0	0	0		0	100	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.500	.000	.500

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City of Apple Valley
N/S: Deep Creek Road
E/W: Bear Valley Road
Weather: Clear

File Name : 09_APV_DC_BV PM
Site Code : 221022
Start Date : 11/17/2022
Page No : 1

Groups Printed- 4+ Axle Trucks

	Deep Creek Road Southbound				Bear Valley Road Westbound				Deep Creek Road Northbound				Bear Valley Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	3	0	3	4
04:15 PM	0	0	0	0	0	5	0	5	0	0	1	1	0	0	0	0	6
04:30 PM	0	0	0	0	1	5	0	6	0	0	0	0	0	3	1	4	10
04:45 PM	0	0	0	0	0	1	0	1	0	0	1	1	0	3	0	3	5
Total	0	0	0	0	1	12	0	13	0	0	2	2	0	9	1	10	25
05:00 PM	0	0	0	0	0	3	0	3	0	0	0	0	0	4	0	4	7
05:15 PM	0	0	0	0	1	2	0	3	0	0	0	0	0	4	0	4	7
05:30 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
05:45 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	2	0	2	3
Total	0	0	0	0	1	7	0	8	0	0	0	0	0	10	0	10	18
Grand Total	0	0	0	0	2	19	0	21	0	0	2	2	0	19	1	20	43
Apprch %	0	0	0		9.5	90.5	0		0	0	100		0	95	5		
Total %	0	0	0	0	4.7	44.2	0	48.8	0	0	4.7	4.7	0	44.2	2.3	46.5	

	Deep Creek Road Southbound				Bear Valley Road Westbound				Deep Creek Road Northbound				Bear Valley Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	0	0	0	0	0	**5**	0	5	0	0	**1**	**1**	0	0	0	0	6
04:30 PM	0	0	0	0	**1**	5	0	**6**	0	0	0	0	0	3	**1**	**4**	**10**
04:45 PM	0	0	0	0	0	1	0	1	0	0	1	1	0	3	0	3	5
05:00 PM	0	0	0	0	0	3	0	3	0	0	0	0	0	**4**	0	4	7
Total Volume	0	0	0	0	1	14	0	15	0	0	2	2	0	10	1	11	28
% App. Total	0	0	0		6.7	93.3	0		0	0	100		0	90.9	9.1		
PHF	.000	.000	.000	.000	.250	.700	.000	.625	.000	.000	.500	.500	.000	.625	.250	.688	.700

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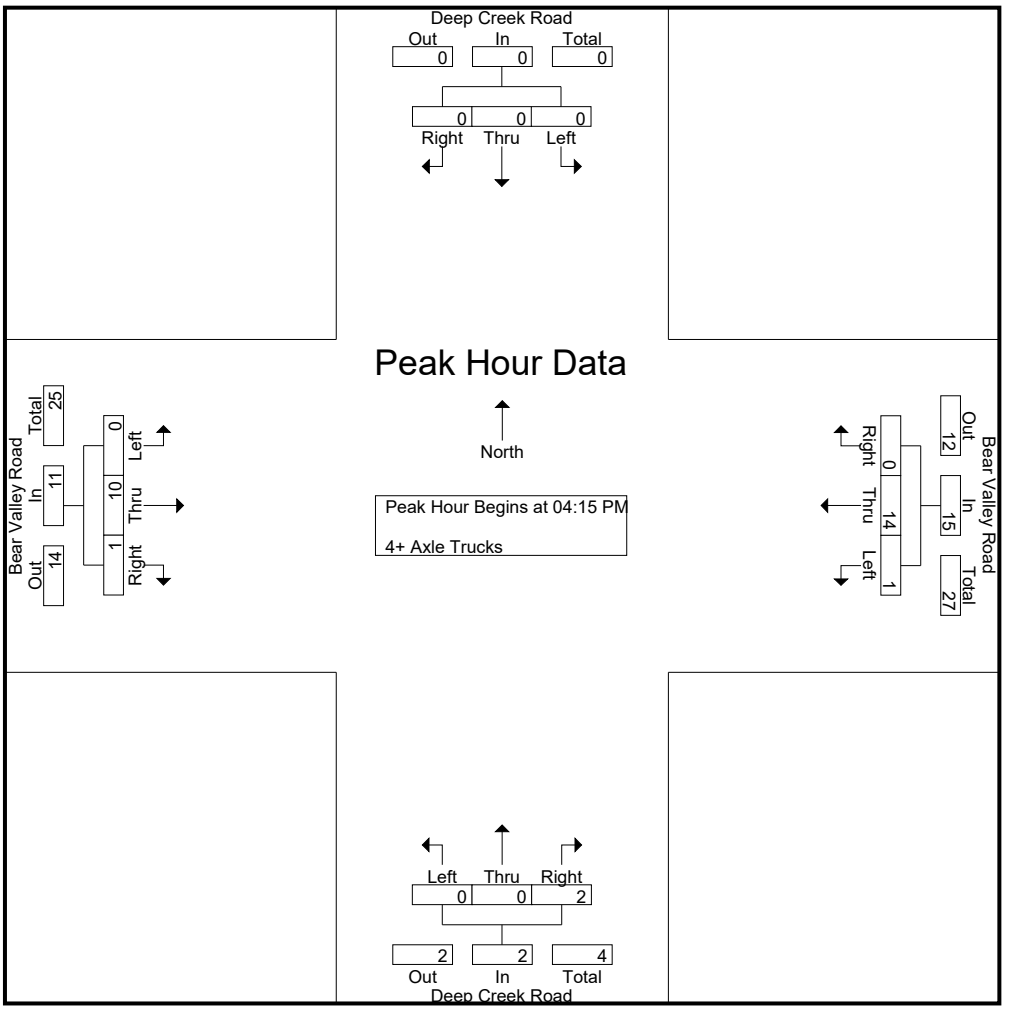
City of Apple Valley
N/S: Deep Creek Road
E/W: Bear Valley Road
Weather: Clear

File Name : 09_APV_DC_BV PM
Site Code : 221022
Start Date : 11/17/2022



Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:15 PM				04:15 PM				04:15 PM				04:15 PM			
+0 mins.	0	0	0	0	0	**5**	0	5	0	0	**1**	**1**	0	0	0	0
+15 mins.	0	0	0	0	**1**	5	0	**6**	0	0	0	0	0	3	**1**	**4**
+30 mins.	0	0	0	0	0	1	0	1	0	0	1	1	0	3	0	3
+45 mins.	0	0	0	0	0	3	0	3	0	0	0	0	0	**4**	0	4
Total Volume	0	0	0	0	1	14	0	15	0	0	2	2	0	10	1	11
% App. Total	0	0	0		6.7	93.3	0		0	0	100		0	90.9	9.1	
PHF	.000	.000	.000	.000	.250	.700	.000	.625	.000	.000	.500	.500	.000	.625	.250	.688

Location: Apple Valley
N/S: Deep Creek Road
E/W: Bear Valley Road

Date: 11/17/2022
Day: Thursday

PEDESTRIANS

	North Leg Deep Creek Road	East Leg Bear Valley Road	South Leg Deep Creek Road	West Leg Bear Valley Road	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	0	0	0	0
7:45 AM	0	0	0	0	0
8:00 AM	0	0	0	0	0
8:15 AM	0	0	0	0	0
8:30 AM	0	0	0	0	0
8:45 AM	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0

	North Leg Deep Creek Road	East Leg Bear Valley Road	South Leg Deep Creek Road	West Leg Bear Valley Road	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
4:00 PM	0	0	0	0	0
4:15 PM	0	0	0	0	0
4:30 PM	0	0	0	0	0
4:45 PM	0	0	0	0	0
5:00 PM	0	0	0	0	0
5:15 PM	0	0	0	0	0
5:30 PM	0	0	0	0	0
5:45 PM	0	1	0	0	1
TOTAL VOLUMES:	0	1	0	0	1

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Location: Apple Valley
N/S: Deep Creek Road
E/W: Bear Valley Road

Date: 11/17/2022
Day: Thursday

BICYCLES

	Southbound Deep Creek Road			Westbound Bear Valley Road			Northbound Deep Creek Road			Eastbound Bear Valley Road			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0	0	0	0	0	0	0	0	0

	Southbound Deep Creek Road			Westbound Bear Valley Road			Northbound Deep Creek Road			Eastbound Bear Valley Road			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0	0	0	0	0	0	0	0	0

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City of Apple Valley
N/S: Kiowa Road
E/W: Bear Valley Road
Weather: Clear

File Name : 10_APV_Kiowa_BV AM
Site Code : 221022
Start Date : 11/17/2022

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	Kiowa Road Southbound				Bear Valley Road Westbound				Kiowa Road Northbound				Bear Valley Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	9	16	26	51	18	176	5	199	39	30	9	78	5	75	24	104	432
07:15 AM	3	25	35	63	16	154	5	175	48	32	16	96	19	110	20	149	483
07:30 AM	11	26	38	75	23	190	11	224	59	33	19	111	22	130	25	177	587
07:45 AM	20	43	49	112	29	174	11	214	80	48	18	146	13	102	36	151	623
Total	43	110	148	301	86	694	32	812	226	143	62	431	59	417	105	581	2125
08:00 AM	6	40	43	89	28	189	9	226	53	27	10	90	20	90	36	146	551
08:15 AM	9	26	36	71	13	183	10	206	65	29	12	106	27	131	31	189	572
08:30 AM	9	34	36	79	24	173	8	205	42	30	12	84	32	111	22	165	533
08:45 AM	12	30	32	74	16	156	7	179	58	25	11	94	19	119	16	154	501
Total	36	130	147	313	81	701	34	816	218	111	45	374	98	451	105	654	2157
Grand Total	79	240	295	614	167	1395	66	1628	444	254	107	805	157	868	210	1235	4282
Apprch %	12.9	39.1	48		10.3	85.7	4.1		55.2	31.6	13.3		12.7	70.3	17		
Total %	1.8	5.6	6.9	14.3	3.9	32.6	1.5	38	10.4	5.9	2.5	18.8	3.7	20.3	4.9	28.8	
Passenger Vehicles	76	233	290	599	161	1310	60	1531	431	247	104	782	150	783	204	1137	4049
% Passenger Vehicles	96.2	97.1	98.3	97.6	96.4	93.9	90.9	94	97.1	97.2	97.2	97.1	95.5	90.2	97.1	92.1	94.6
Large 2 Axle Vehicles	3	5	4	12	5	45	6	56	9	7	3	19	4	45	4	53	140
% Large 2 Axle Vehicles	3.8	2.1	1.4	2	3	3.2	9.1	3.4	2	2.8	2.8	2.4	2.5	5.2	1.9	4.3	3.3
3 Axle Vehicles	0	0	1	1	1	7	0	8	1	0	0	1	2	11	1	14	24
% 3 Axle Vehicles	0	0	0.3	0.2	0.6	0.5	0	0.5	0.2	0	0	0.1	1.3	1.3	0.5	1.1	0.6
4+ Axle Trucks	0	2	0	2	0	33	0	33	3	0	0	3	1	29	1	31	69
% 4+ Axle Trucks	0	0.8	0	0.3	0	2.4	0	2	0.7	0	0	0.4	0.6	3.3	0.5	2.5	1.6

	Kiowa Road Southbound				Bear Valley Road Westbound				Kiowa Road Northbound				Bear Valley Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	11	26	38	75	23	**190**	**11**	224	59	33	**19**	111	22	130	25	177	587
07:45 AM	**20**	**43**	**49**	**112**	**29**	174	11	214	**80**	**48**	18	**146**	13	102	**36**	151	**623**
08:00 AM	6	40	43	89	28	189	9	**226**	53	27	10	90	20	90	36	146	551
08:15 AM	9	26	36	71	13	183	10	206	65	29	12	106	**27**	**131**	31	**189**	572
Total Volume	46	135	166	347	93	736	41	870	257	137	59	453	82	453	128	663	2333
% App. Total	13.3	38.9	47.8		10.7	84.6	4.7		56.7	30.2	13		12.4	68.3	19.3		
PHF	.575	.785	.847	.775	.802	.968	.932	.962	.803	.714	.776	.776	.759	.865	.889	.877	.936

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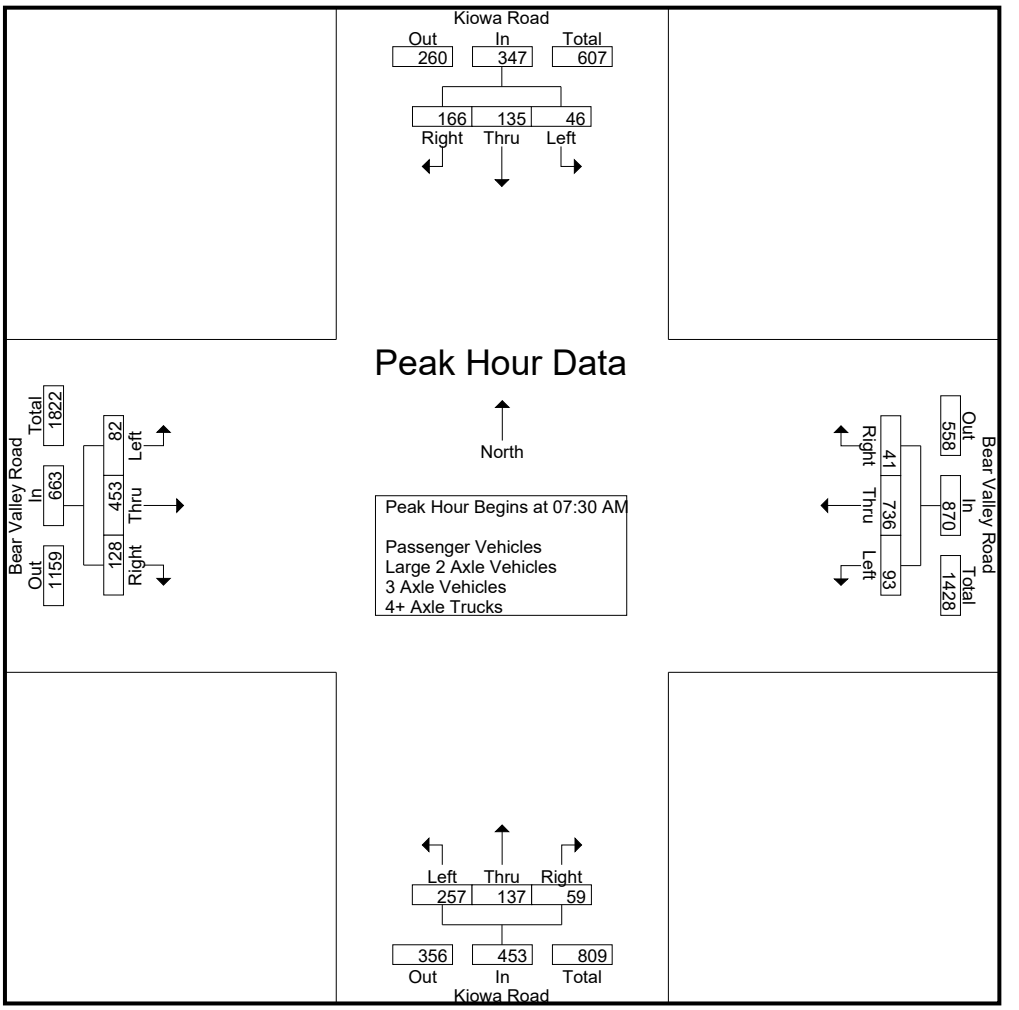
City of Apple Valley
N/S: Kiowa Road
E/W: Bear Valley Road
Weather: Clear

File Name : 10_APV_Kiowa_BV AM
Site Code : 221022
Start Date : 11/17/2022
Page No : 2



Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:45 AM				07:30 AM				07:30 AM				07:30 AM			
+0 mins.	**20**	**43**	**49**	**112**	23	**190**	**11**	224	59	33	**19**	111	22	130	25	177
+15 mins.	6	40	43	89	**29**	174	11	214	**80**	**48**	18	**146**	13	102	**36**	151
+30 mins.	9	26	36	71	28	189	9	**226**	53	27	10	90	20	90	36	146
+45 mins.	9	34	36	79	13	183	10	206	65	29	12	106	**27**	**131**	31	**189**
Total Volume	44	143	164	351	93	736	41	870	257	137	59	453	82	453	128	663
% App. Total	12.5	40.7	46.7		10.7	84.6	4.7		56.7	30.2	13		12.4	68.3	19.3	
PHF	.550	.831	.837	.783	.802	.968	.932	.962	.803	.714	.776	.776	.759	.865	.889	.877

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City of Apple Valley
N/S: Kiowa Road
E/W: Bear Valley Road
Weather: Clear

File Name : 10_APV_Kiowa_BV AM
Site Code : 221022
Start Date : 11/17/2022
Page No : 1

Groups Printed- Passenger Vehicles

	Kiowa Road Southbound				Bear Valley Road Westbound				Kiowa Road Northbound				Bear Valley Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	9	16	26	51	18	162	4	184	35	30	8	73	5	61	24	90	398
07:15 AM	3	25	33	61	15	145	4	164	47	31	15	93	17	96	20	133	451
07:30 AM	11	23	38	72	22	181	9	212	59	32	19	110	21	121	25	167	561
07:45 AM	19	43	47	109	29	163	11	203	77	46	17	140	13	93	34	140	592
Total	42	107	144	293	84	651	28	763	218	139	59	416	56	371	103	530	2002
08:00 AM	6	39	42	87	27	175	9	211	53	27	10	90	19	81	34	134	522
08:15 AM	8	25	36	69	11	174	9	194	63	29	12	104	25	122	30	177	544
08:30 AM	8	34	36	78	23	163	7	193	41	29	12	82	31	101	22	154	507
08:45 AM	12	28	32	72	16	147	7	170	56	23	11	90	19	108	15	142	474
Total	34	126	146	306	77	659	32	768	213	108	45	366	94	412	101	607	2047
Grand Total	76	233	290	599	161	1310	60	1531	431	247	104	782	150	783	204	1137	4049
Apprch %	12.7	38.9	48.4		10.5	85.6	3.9		55.1	31.6	13.3		13.2	68.9	17.9		
Total %	1.9	5.8	7.2	14.8	4	32.4	1.5	37.8	10.6	6.1	2.6	19.3	3.7	19.3	5	28.1	

	Kiowa Road Southbound				Bear Valley Road Westbound				Kiowa Road Northbound				Bear Valley Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	11	23	38	72	22	**181**	9	**212**	59	32	**19**	110	21	121	25	167	561
07:45 AM	**19**	**43**	**47**	**109**	**29**	163	**11**	203	**77**	**46**	17	**140**	13	93	**34**	140	**592**
08:00 AM	6	39	42	87	27	175	9	211	53	27	10	90	19	81	34	134	522
08:15 AM	8	25	36	69	11	174	9	194	63	29	12	104	**25**	**122**	30	**177**	544
Total Volume	44	130	163	337	89	693	38	820	252	134	58	444	78	417	123	618	2219
% App. Total	13.1	38.6	48.4		10.9	84.5	4.6		56.8	30.2	13.1		12.6	67.5	19.9		
PHF	.579	.756	.867	.773	.767	.957	.864	.967	.818	.728	.763	.793	.780	.855	.904	.873	.937

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City of Apple Valley
N/S: Kiowa Road
E/W: Bear Valley Road
Weather: Clear

File Name : 10_APV_Kiowa_BV AM
Site Code : 221022
Start Date : 11/17/2022
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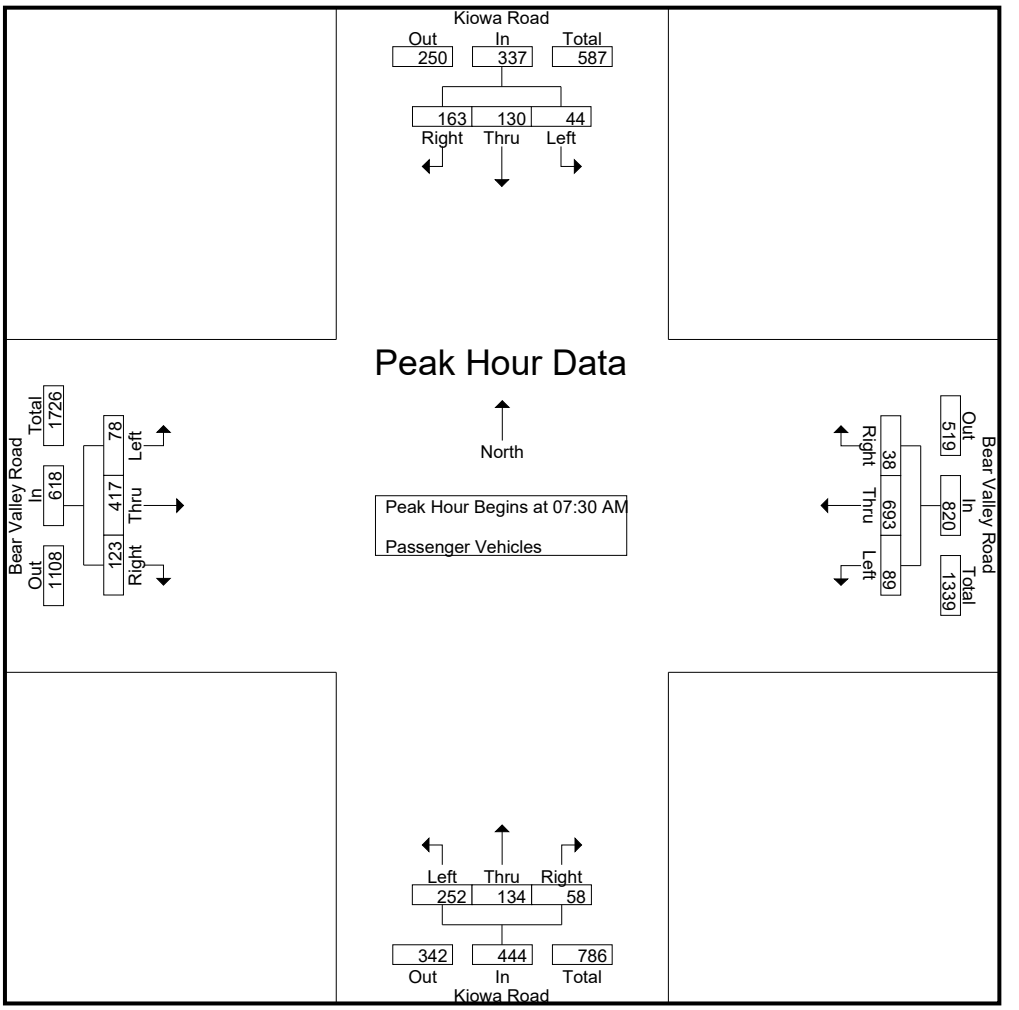

Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:30 AM				07:30 AM				07:30 AM				07:30 AM			
+0 mins.	11	23	38	72	22	**181**	9	**212**	59	32	**19**	110	21	121	25	167
+15 mins.	**19**	**43**	**47**	**109**	**29**	163	**11**	203	**77**	**46**	17	**140**	13	93	**34**	140
+30 mins.	6	39	42	87	27	175	9	211	53	27	10	90	19	81	34	134
+45 mins.	8	25	36	69	11	174	9	194	63	29	12	104	**25**	**122**	30	**177**
Total Volume	44	130	163	337	89	693	38	820	252	134	58	444	78	417	123	618
% App. Total	13.1	38.6	48.4		10.9	84.5	4.6		56.8	30.2	13.1		12.6	67.5	19.9	
PHF	.579	.756	.867	.773	.767	.957	.864	.967	.818	.728	.763	.793	.780	.855	.904	.873

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City of Apple Valley
N/S: Kiowa Road
E/W: Bear Valley Road
Weather: Clear

File Name : 10_APV_Kiowa_BV AM
Site Code : 221022
Start Date : 11/17/2022
Page No : 1

Groups Printed- Large 2 Axle Vehicles

	Kiowa Road Southbound				Bear Valley Road Westbound				Kiowa Road Northbound				Bear Valley Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	0	6	1	7	3	0	1	4	0	3	0	3	14
07:15 AM	0	0	1	1	1	5	1	7	0	1	1	2	2	8	0	10	20
07:30 AM	0	2	0	2	1	6	2	9	0	1	0	1	1	4	0	5	17
07:45 AM	1	0	2	3	0	4	0	4	2	2	1	5	0	5	1	6	18
Total	1	2	3	6	2	21	4	27	5	4	3	12	3	20	1	24	69
08:00 AM	0	1	1	2	0	8	0	8	0	0	0	0	0	5	1	6	16
08:15 AM	1	1	0	2	2	6	1	9	2	0	0	2	0	5	1	6	19
08:30 AM	1	0	0	1	1	5	1	7	1	1	0	2	1	7	0	8	18
08:45 AM	0	1	0	1	0	5	0	5	1	2	0	3	0	8	1	9	18
Total	2	3	1	6	3	24	2	29	4	3	0	7	1	25	3	29	71
Grand Total	3	5	4	12	5	45	6	56	9	7	3	19	4	45	4	53	140
Apprch %	25	41.7	33.3		8.9	80.4	10.7		47.4	36.8	15.8		7.5	84.9	7.5		
Total %	2.1	3.6	2.9	8.6	3.6	32.1	4.3	40	6.4	5	2.1	13.6	2.9	32.1	2.9	37.9	

	Kiowa Road Southbound				Bear Valley Road Westbound				Kiowa Road Northbound				Bear Valley Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	0	**2**	0	2	1	6	**2**	**9**	0	1	0	1	**1**	4	0	5	17
07:45 AM	**1**	0	**2**	**3**	0	4	0	4	**2**	**2**	**1**	**5**	0	**5**	**1**	**6**	18
08:00 AM	0	1	1	2	0	**8**	0	8	0	0	0	0	0	5	1	6	16
08:15 AM	1	1	0	2	**2**	6	1	9	2	0	0	2	0	5	1	6	**19**
Total Volume	2	4	3	9	3	24	3	30	4	3	1	8	1	19	3	23	70
% App. Total	22.2	44.4	33.3		10	80	10		50	37.5	12.5		4.3	82.6	13		
PHF	.500	.500	.375	.750	.375	.750	.375	.833	.500	.375	.250	.400	.250	.950	.750	.958	.921

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City of Apple Valley
N/S: Kiowa Road
E/W: Bear Valley Road
Weather: Clear

File Name : 10_APV_Kiowa_BV AM
Site Code : 221022
Start Date : 11/17/2022
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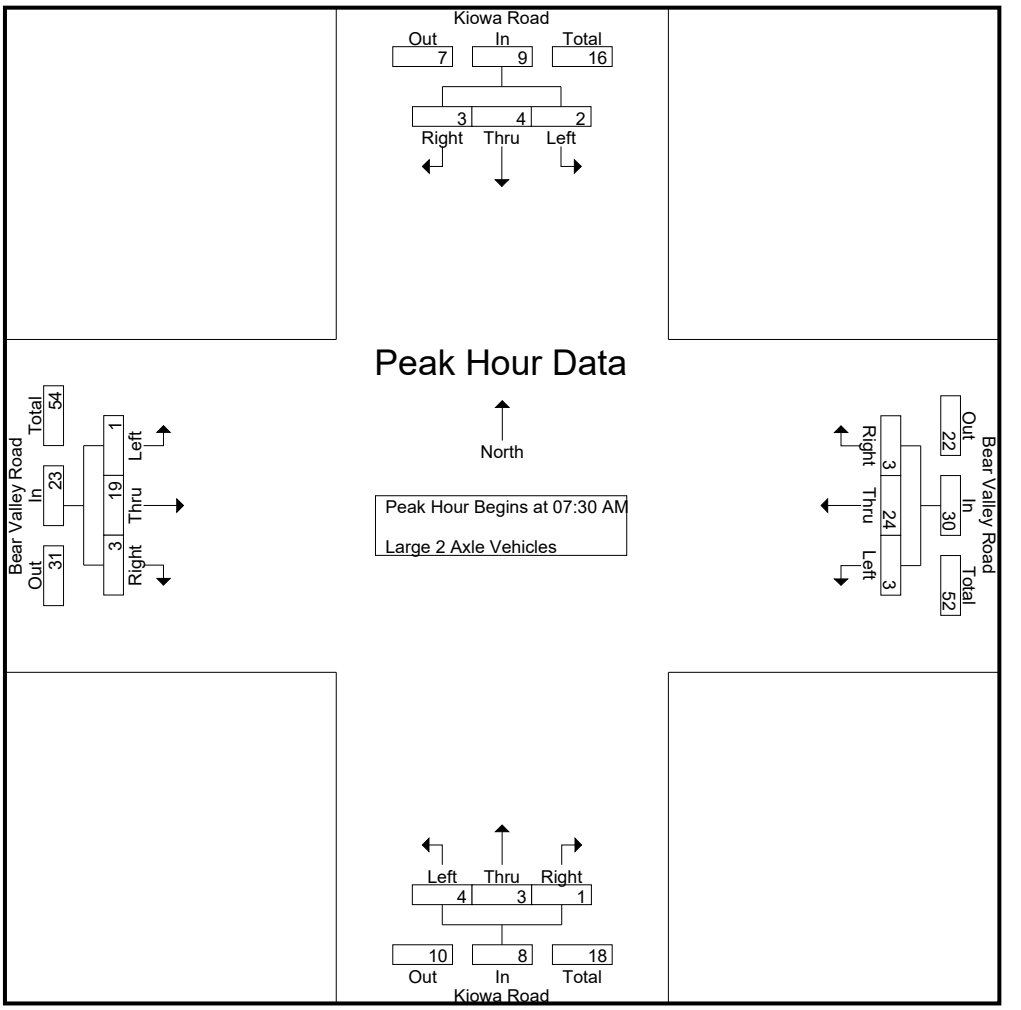

Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:30 AM				07:30 AM				07:30 AM				07:30 AM			
+0 mins.	0	**2**	0	2	1	6	**2**	**9**	0	1	0	1	**1**	4	0	5
+15 mins.	**1**	0	**2**	**3**	0	4	0	4	**2**	**2**	**1**	**5**	0	**5**	**1**	**6**
+30 mins.	0	1	1	2	0	**8**	0	8	0	0	0	0	0	5	1	6
+45 mins.	1	1	0	2	**2**	6	1	9	2	0	0	2	0	5	1	6
Total Volume	2	4	3	9	3	24	3	30	4	3	1	8	1	19	3	23
% App. Total	22.2	44.4	33.3		10	80	10		50	37.5	12.5		4.3	82.6	13	
PHF	.500	.500	.375	.750	.375	.750	.375	.833	.500	.375	.250	.400	.250	.950	.750	.958

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City of Apple Valley
N/S: Kiowa Road
E/W: Bear Valley Road
Weather: Clear

File Name : 10_APV_Kiowa_BV AM
Site Code : 221022
Start Date : 11/17/2022
Page No : 1

Groups Printed- 3 Axle Vehicles

	Kiowa Road Southbound				Bear Valley Road Westbound				Kiowa Road Northbound				Bear Valley Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	3	0	3	3
07:15 AM	0	0	1	1	0	0	0	0	0	0	0	0	0	2	0	2	3
07:30 AM	0	0	0	0	0	2	0	2	0	0	0	0	0	0	0	0	2
07:45 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	1	2
Total	0	0	1	1	0	3	0	3	0	0	0	0	0	6	0	6	10
08:00 AM	0	0	0	0	1	1	0	2	0	0	0	0	0	3	1	4	6
08:15 AM	0	0	0	0	0	1	0	1	0	0	0	0	2	1	0	3	4
08:30 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
08:45 AM	0	0	0	0	0	1	0	1	1	0	0	1	0	1	0	1	3
Total	0	0	0	0	1	4	0	5	1	0	0	1	2	5	1	8	14
Grand Total	0	0	1	1	1	7	0	8	1	0	0	1	2	11	1	14	24
Apprch %	0	0	100		12.5	87.5	0		100	0	0		14.3	78.6	7.1		
Total %	0	0	4.2	4.2	4.2	29.2	0	33.3	4.2	0	0	4.2	8.3	45.8	4.2	58.3	

	Kiowa Road Southbound				Bear Valley Road Westbound				Kiowa Road Northbound				Bear Valley Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	0	0	0	0	0	**2**	0	**2**	0	0	0	0	0	0	0	0	2
07:45 AM	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	1	2
08:00 AM	0	0	0	0	**1**	1	0	2	0	0	0	0	0	**3**	**1**	**4**	**6**
08:15 AM	0	0	0	0	0	1	0	1	0	0	0	0	**2**	1	0	3	4
Total Volume	0	0	0	0	1	5	0	6	0	0	0	0	2	5	1	8	14
% App. Total	0	0	0		16.7	83.3	0		0	0	0		25	62.5	12.5		
PHF	.000	.000	.000	.000	.250	.625	.000	.750	.000	.000	.000	.000	.250	.417	.250	.500	.583

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City of Apple Valley
N/S: Kiowa Road
E/W: Bear Valley Road
Weather: Clear

File Name : 10_APV_Kiowa_BV AM
Site Code : 221022
Start Date : 11/17/2022
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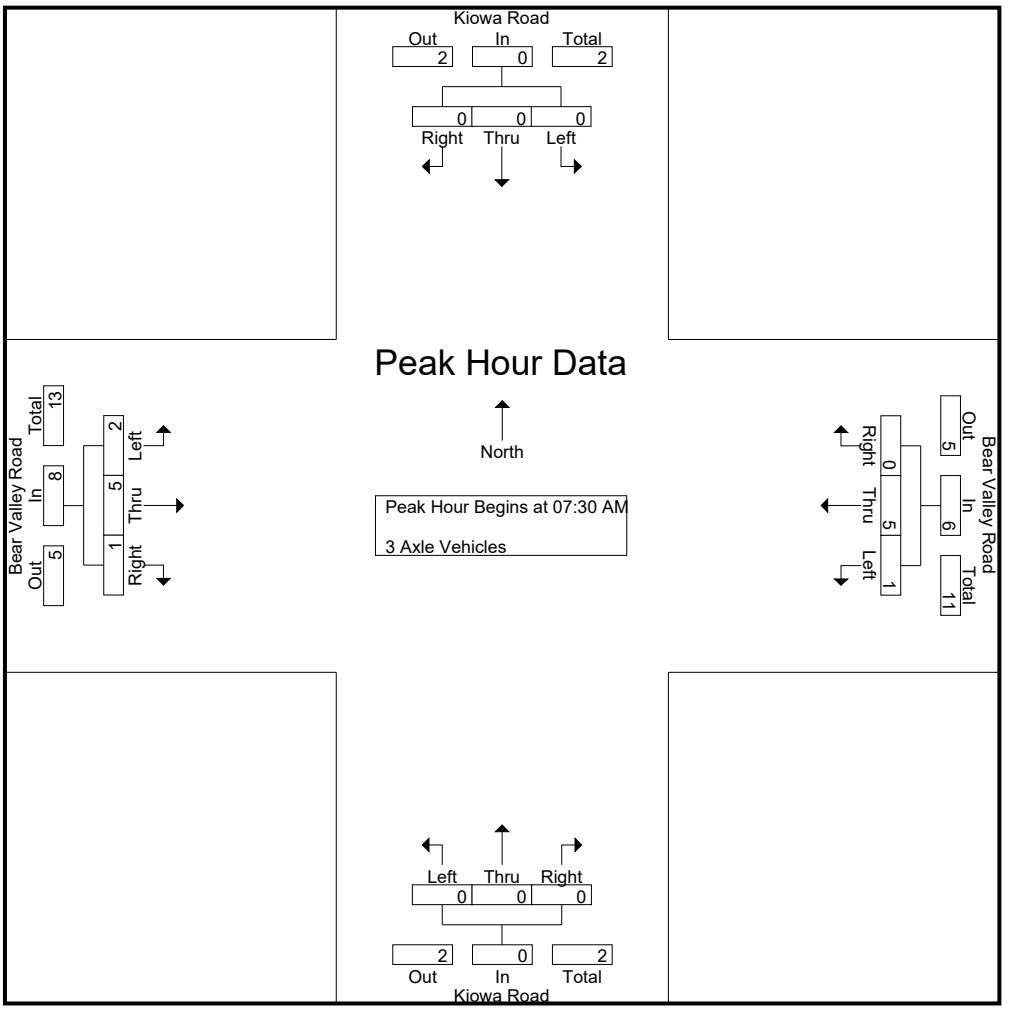

Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:30 AM				07:30 AM				07:30 AM				07:30 AM			
+0 mins.	0	0	0	0	0	**2**	0	**2**	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	1
+30 mins.	0	0	0	0	**1**	1	0	2	0	0	0	0	0	**3**	**1**	**4**
+45 mins.	0	0	0	0	0	1	0	1	0	0	0	0	**2**	1	0	3
Total Volume	0	0	0	0	1	5	0	6	0	0	0	0	2	5	1	8
% App. Total	0	0	0		16.7	83.3	0		0	0	0		25	62.5	12.5	
PHF	.000	.000	.000	.000	.250	.625	.000	.750	.000	.000	.000	.000	.250	.417	.250	.500

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City of Apple Valley
N/S: Kiowa Road
E/W: Bear Valley Road
Weather: Clear

File Name : 10_APV_Kiowa_BV AM
Site Code : 221022
Start Date : 11/17/2022
Page No : 1

Groups Printed- 4+ Axle Trucks

	Kiowa Road Southbound				Bear Valley Road Westbound				Kiowa Road Northbound				Bear Valley Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
07:00 AM	0	0	0	0	0	8	0	8	1	0	0	1	0	8	0	8	17
07:15 AM	0	0	0	0	0	4	0	4	1	0	0	1	0	4	0	4	9
07:30 AM	0	1	0	1	0	1	0	1	0	0	0	0	0	5	0	5	7
07:45 AM	0	0	0	0	0	6	0	6	1	0	0	1	0	3	1	4	11
Total	0	1	0	1	0	19	0	19	3	0	0	3	0	20	1	21	44
08:00 AM	0	0	0	0	0	5	0	5	0	0	0	0	1	1	0	2	7
08:15 AM	0	0	0	0	0	2	0	2	0	0	0	0	0	3	0	3	5
08:30 AM	0	0	0	0	0	4	0	4	0	0	0	0	0	3	0	3	7
08:45 AM	0	1	0	1	0	3	0	3	0	0	0	0	0	2	0	2	6
Total	0	1	0	1	0	14	0	14	0	0	0	0	1	9	0	10	25
Grand Total	0	2	0	2	0	33	0	33	3	0	0	3	1	29	1	31	69
Apprch %	0	100	0		0	100	0		100	0	0		3.2	93.5	3.2		
Total %	0	2.9	0	2.9	0	47.8	0	47.8	4.3	0	0	4.3	1.4	42	1.4	44.9	

	Kiowa Road Southbound				Bear Valley Road Westbound				Kiowa Road Northbound				Bear Valley Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:30 AM																	
07:30 AM	0	**1**	0	**1**	0	1	0	1	0	0	0	0	0	**5**	0	**5**	7
07:45 AM	0	0	0	0	0	**6**	0	**6**	**1**	0	0	**1**	0	3	**1**	4	**11**
08:00 AM	0	0	0	0	0	5	0	5	0	0	0	0	**1**	1	0	2	7
08:15 AM	0	0	0	0	0	2	0	2	0	0	0	0	0	3	0	3	5
Total Volume	0	1	0	1	0	14	0	14	1	0	0	1	1	12	1	14	30
% App. Total	0	100	0		0	100	0		100	0	0		7.1	85.7	7.1		
PHF	.000	.250	.000	.250	.000	.583	.000	.583	.250	.000	.000	.250	.250	.600	.250	.700	.682

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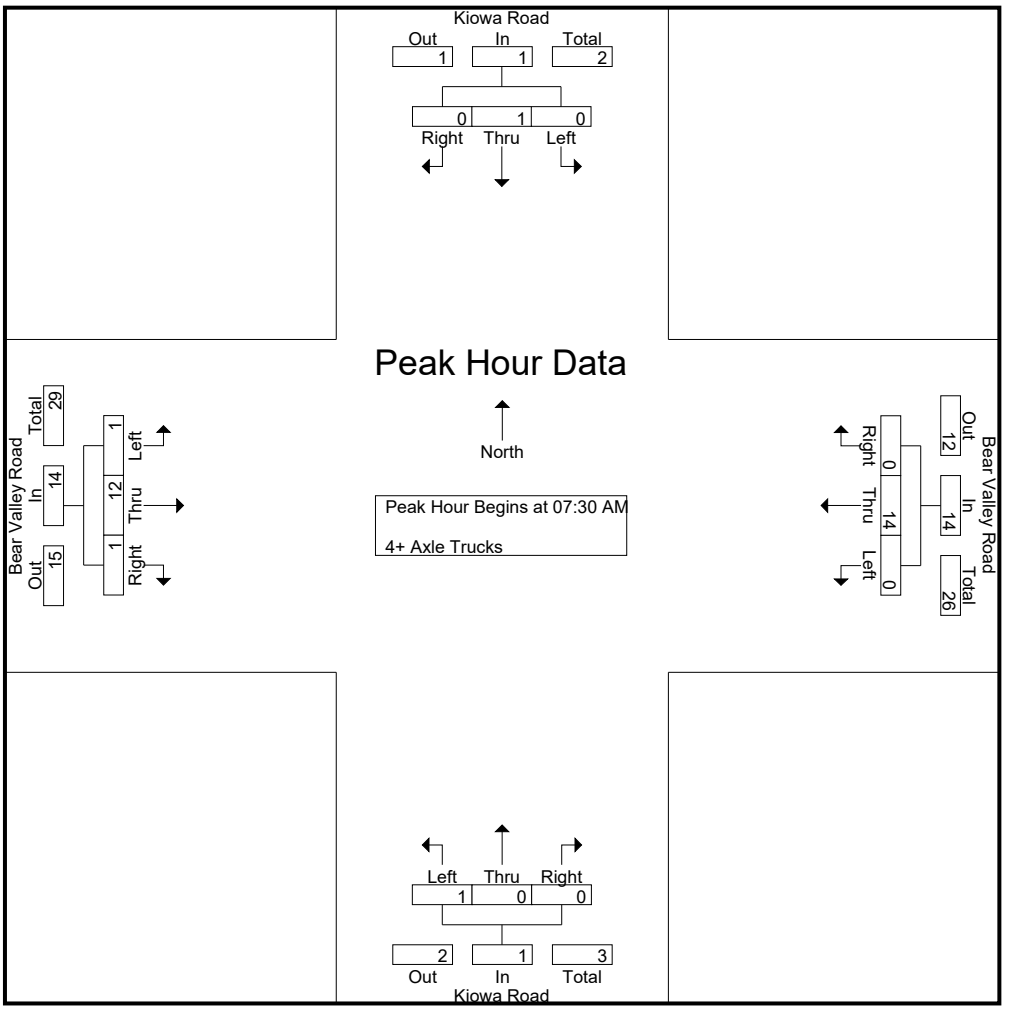
Site Code : 221022
Start Date : 11/17/2022
Page No : 2



Peak Hour Analysis From 07:30 AM to 08:15 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:30 AM				07:30 AM				07:30 AM				07:30 AM			
+0 mins.	0	**1**	0	**1**	0	1	0	1	0	0	0	0	0	**5**	0	**5**
+15 mins.	0	0	0	0	0	**6**	0	**6**	**1**	0	0	**1**	0	3	**1**	4
+30 mins.	0	0	0	0	0	5	0	5	0	0	0	0	**1**	1	0	2
+45 mins.	0	0	0	0	0	2	0	2	0	0	0	0	0	3	0	3
Total Volume	0	1	0	1	0	14	0	14	1	0	0	1	1	12	1	14
% App. Total	0	100	0		0	100	0		100	0	0		7.1	85.7	7.1	
PHF	.000	.250	.000	.250	.000	.583	.000	.583	.250	.000	.000	.250	.250	.600	.250	.700

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City of Apple Valley
N/S: Kiowa Road
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File Name : 10_APV_Kiowa_BV PM
Site Code : 221022
Start Date : 11/17/2022
Page No : 1

Groups Printed- Passenger Vehicles - Large 2 Axle Vehicles - 3 Axle Vehicles - 4+ Axle Trucks

	Kiowa Road Southbound				Bear Valley Road Westbound				Kiowa Road Northbound				Bear Valley Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	12	63	36	111	30	176	12	218	44	57	27	128	28	208	45	281	738
04:15 PM	26	48	37	111	22	150	16	188	60	54	23	137	31	213	66	310	746
04:30 PM	8	61	24	93	25	215	9	249	33	47	23	103	48	189	58	295	740
04:45 PM	17	60	28	105	49	183	14	246	61	49	38	148	41	223	28	292	791
Total	63	232	125	420	126	724	51	901	198	207	111	516	148	833	197	1178	3015
05:00 PM	12	51	37	100	26	196	12	234	53	60	29	142	34	207	60	301	777
05:15 PM	11	58	43	112	21	150	13	184	57	60	20	137	48	183	59	290	723
05:30 PM	13	47	35	95	17	151	15	183	50	48	13	111	50	198	68	316	705
05:45 PM	13	44	34	91	19	145	16	180	52	49	21	122	40	171	53	264	657
Total	49	200	149	398	83	642	56	781	212	217	83	512	172	759	240	1171	2862
Grand Total	112	432	274	818	209	1366	107	1682	410	424	194	1028	320	1592	437	2349	5877
Apprch %	13.7	52.8	33.5		12.4	81.2	6.4		39.9	41.2	18.9		13.6	67.8	18.6		
Total %	1.9	7.4	4.7	13.9	3.6	23.2	1.8	28.6	7	7.2	3.3	17.5	5.4	27.1	7.4	40	
Passenger Vehicles	107	429	270	806	205	1320	102	1627	407	422	193	1022	317	1547	434	2298	5753
% Passenger Vehicles	95.5	99.3	98.5	98.5	98.1	96.6	95.3	96.7	99.3	99.5	99.5	99.4	99.1	97.2	99.3	97.8	97.9
Large 2 Axle Vehicles	5	3	4	12	4	25	5	34	2	2	1	5	2	24	3	29	80
% Large 2 Axle Vehicles	4.5	0.7	1.5	1.5	1.9	1.8	4.7	2	0.5	0.5	0.5	0.5	0.6	1.5	0.7	1.2	1.4
3 Axle Vehicles	0	0	0	0	0	1	0	1	1	0	0	1	0	2	0	2	4
% 3 Axle Vehicles	0	0	0	0	0	0.1	0	0.1	0.2	0	0	0.1	0	0.1	0	0.1	0.1
4+ Axle Trucks	0	0	0	0	0	20	0	20	0	0	0	0	1	19	0	20	40
% 4+ Axle Trucks	0	0	0	0	0	1.5	0	1.2	0	0	0	0	0.3	1.2	0	0.9	0.7

	Kiowa Road Southbound				Bear Valley Road Westbound				Kiowa Road Northbound				Bear Valley Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	**26**	48	**37**	**111**	22	150	**16**	188	60	54	23	137	31	213	**66**	**310**	746
04:30 PM	8	**61**	24	93	25	**215**	9	**249**	33	47	23	103	**48**	189	58	295	740
04:45 PM	17	60	28	105	**49**	183	14	246	**61**	49	**38**	**148**	41	**223**	28	292	**791**
05:00 PM	12	51	37	100	26	196	12	234	53	**60**	29	142	34	207	60	301	777
Total Volume	63	220	126	409	122	744	51	917	207	210	113	530	154	832	212	1198	3054
% App. Total	15.4	53.8	30.8		13.3	81.1	5.6		39.1	39.6	21.3		12.9	69.4	17.7		
PHF	.606	.902	.851	.921	.622	.865	.797	.921	.848	.875	.743	.895	.802	.933	.803	.966	.965

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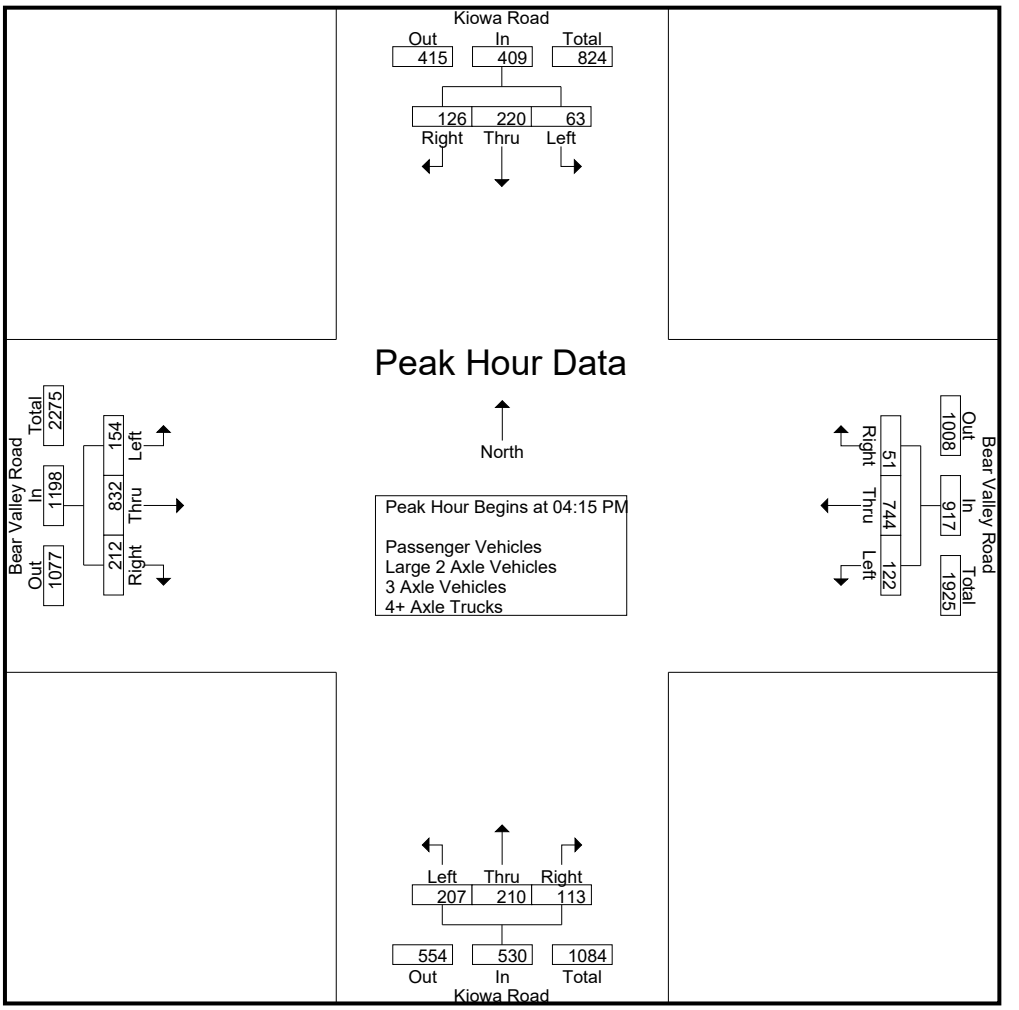
Weather: Clear

File Name : 10_APV_Kiowa_BV PM
Site Code : 221022
Start Date : 11/17/2022



Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:00 PM				04:15 PM				04:45 PM				04:45 PM			
+0 mins.	12	**63**	36	**111**	22	150	**16**	188	**61**	49	**38**	**148**	41	**223**	28	292
+15 mins.	**26**	48	**37**	111	25	**215**	9	**249**	53	**60**	29	142	34	207	60	301
+30 mins.	8	61	24	93	**49**	183	14	246	57	60	20	137	48	183	59	290
+45 mins.	17	60	28	105	26	196	12	234	50	48	13	111	**50**	198	**68**	**316**
Total Volume	63	232	125	420	122	744	51	917	221	217	100	538	173	811	215	1199
% App. Total	15	55.2	29.8		13.3	81.1	5.6		41.1	40.3	18.6		14.4	67.6	17.9	
PHF	.606	.921	.845	.946	.622	.865	.797	.921	.906	.904	.658	.909	.865	.909	.790	.949

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City of Apple Valley
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File Name : 10_APV_Kiowa_BV PM
Site Code : 221022
Start Date : 11/17/2022
Page No : 1

Groups Printed- Passenger Vehicles

	Kiowa Road Southbound				Bear Valley Road Westbound				Kiowa Road Northbound				Bear Valley Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	11	62	35	108	29	166	10	205	44	57	27	128	28	196	44	268	709
04:15 PM	23	48	36	107	22	143	15	180	60	54	23	137	31	207	66	304	728
04:30 PM	7	60	24	91	24	207	9	240	33	47	23	103	47	180	56	283	717
04:45 PM	17	60	28	105	49	180	14	243	61	49	37	147	40	218	28	286	781
Total	58	230	123	411	124	696	48	868	198	207	110	515	146	801	194	1141	2935
05:00 PM	12	51	37	100	26	190	11	227	50	60	29	139	34	203	60	297	763
05:15 PM	11	57	42	110	20	149	13	182	57	60	20	137	47	181	59	287	716
05:30 PM	13	47	35	95	17	145	14	176	50	47	13	110	50	195	68	313	694
05:45 PM	13	44	33	90	18	140	16	174	52	48	21	121	40	167	53	260	645
Total	49	199	147	395	81	624	54	759	209	215	83	507	171	746	240	1157	2818
Grand Total	107	429	270	806	205	1320	102	1627	407	422	193	1022	317	1547	434	2298	5753
Apprch %	13.3	53.2	33.5		12.6	81.1	6.3		39.8	41.3	18.9		13.8	67.3	18.9		
Total %	1.9	7.5	4.7	14	3.6	22.9	1.8	28.3	7.1	7.3	3.4	17.8	5.5	26.9	7.5	39.9	

	Kiowa Road Southbound				Bear Valley Road Westbound				Kiowa Road Northbound				Bear Valley Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	**23**	48	36	**107**	22	143	**15**	180	60	54	23	137	31	207	**66**	**304**	728
04:30 PM	7	**60**	24	91	24	**207**	9	240	33	47	23	103	**47**	180	56	283	717
04:45 PM	17	60	28	105	**49**	180	14	**243**	**61**	49	**37**	**147**	40	**218**	28	286	**781**
05:00 PM	12	51	**37**	100	26	190	11	227	50	**60**	29	139	34	203	60	297	763
Total Volume	59	219	125	403	121	720	49	890	204	210	112	526	152	808	210	1170	2989
% App. Total	14.6	54.3	31		13.6	80.9	5.5		38.8	39.9	21.3		13	69.1	17.9		
PHF	.641	.913	.845	.942	.617	.870	.817	.916	.836	.875	.757	.895	.809	.927	.795	.962	.957

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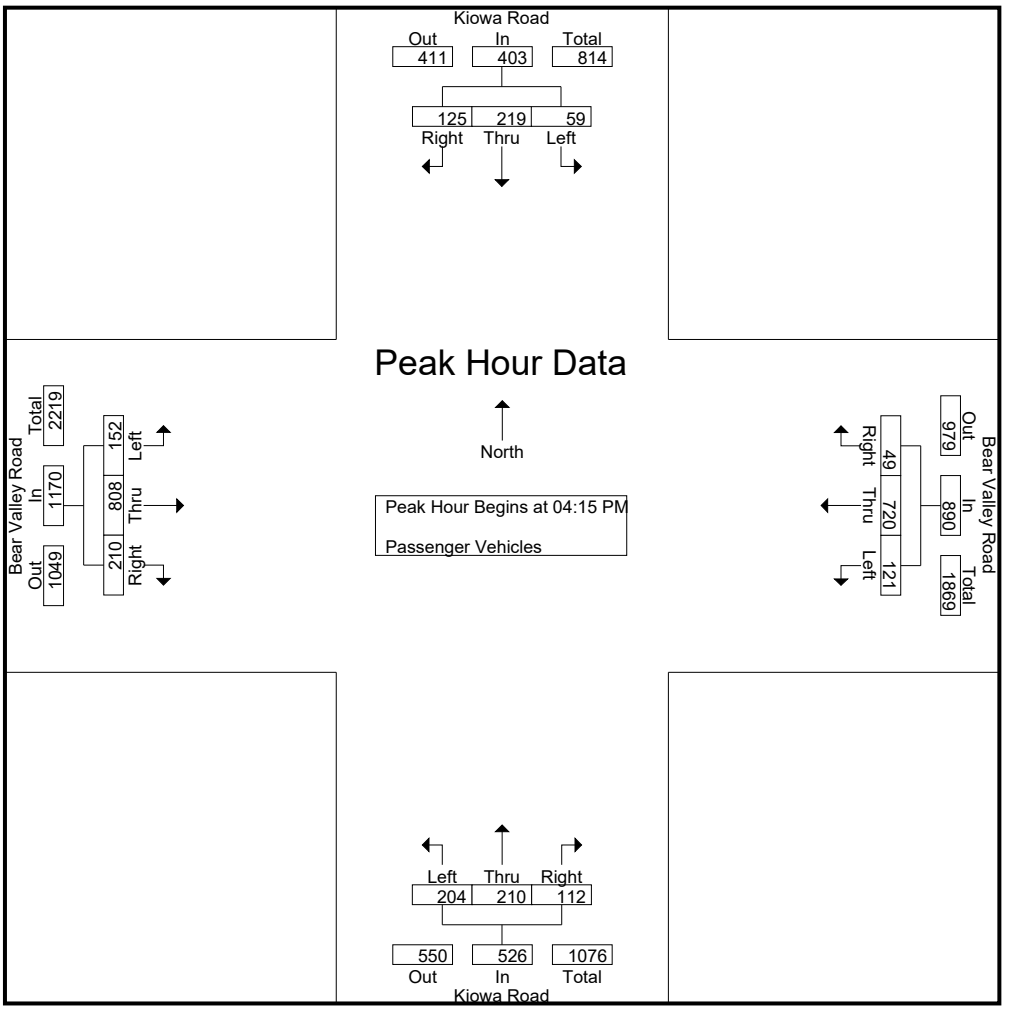

Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:15 PM				04:15 PM				04:15 PM				04:15 PM			
+0 mins.	**23**	48	36	**107**	22	143	**15**	180	60	54	23	137	31	207	**66**	**304**
+15 mins.	7	**60**	24	91	24	**207**	9	240	33	47	23	103	**47**	180	56	283
+30 mins.	17	60	28	105	**49**	180	14	**243**	**61**	49	**37**	**147**	40	**218**	28	286
+45 mins.	12	51	**37**	100	26	190	11	227	50	**60**	29	139	34	203	60	297
Total Volume	59	219	125	403	121	720	49	890	204	210	112	526	152	808	210	1170
% App. Total	14.6	54.3	31		13.6	80.9	5.5		38.8	39.9	21.3		13	69.1	17.9	
PHF	.641	.913	.845	.942	.617	.870	.817	.916	.836	.875	.757	.895	.809	.927	.795	.962

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City of Apple Valley
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File Name : 10_APV_Kiowa_BV PM
Site Code : 221022
Start Date : 11/17/2022
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Groups Printed- Large 2 Axle Vehicles

	Kiowa Road Southbound				Bear Valley Road Westbound				Kiowa Road Northbound				Bear Valley Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	1	1	1	3	1	7	2	10	0	0	0	0	0	7	1	8	21
04:15 PM	3	0	1	4	0	4	1	5	0	0	0	0	0	6	0	6	15
04:30 PM	1	1	0	2	1	3	0	4	0	0	0	0	1	4	2	7	13
04:45 PM	0	0	0	0	0	1	0	1	0	0	1	1	1	2	0	3	5
Total	5	2	2	9	2	15	3	20	0	0	1	1	2	19	3	24	54
05:00 PM	0	0	0	0	0	3	1	4	2	0	0	2	0	1	0	1	7
05:15 PM	0	1	1	2	1	1	0	2	0	0	0	0	0	1	0	1	5
05:30 PM	0	0	0	0	0	5	1	6	0	1	0	1	0	2	0	2	9
05:45 PM	0	0	1	1	1	1	0	2	0	1	0	1	0	1	0	1	5
Total	0	1	2	3	2	10	2	14	2	2	0	4	0	5	0	5	26
Grand Total	5	3	4	12	4	25	5	34	2	2	1	5	2	24	3	29	80
Apprch %	41.7	25	33.3		11.8	73.5	14.7		40	40	20		6.9	82.8	10.3		
Total %	6.2	3.8	5	15	5	31.2	6.2	42.5	2.5	2.5	1.2	6.2	2.5	30	3.8	36.2	

	Kiowa Road Southbound				Bear Valley Road Westbound				Kiowa Road Northbound				Bear Valley Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	**3**	0	**1**	**4**	0	**4**	**1**	**5**	0	0	0	0	0	**6**	0	6	**15**
04:30 PM	1	**1**	0	2	**1**	3	0	4	0	0	0	0	**1**	4	**2**	**7**	13
04:45 PM	0	0	0	0	0	1	0	1	0	0	**1**	1	1	2	0	3	5
05:00 PM	0	0	0	0	0	3	1	4	**2**	0	0	**2**	0	1	0	1	7
Total Volume	4	1	1	6	1	11	2	14	2	0	1	3	2	13	2	17	40
% App. Total	66.7	16.7	16.7		7.1	78.6	14.3		66.7	0	33.3		11.8	76.5	11.8		
PHF	.333	.250	.250	.375	.250	.688	.500	.700	.250	.000	.250	.375	.500	.542	.250	.607	.667

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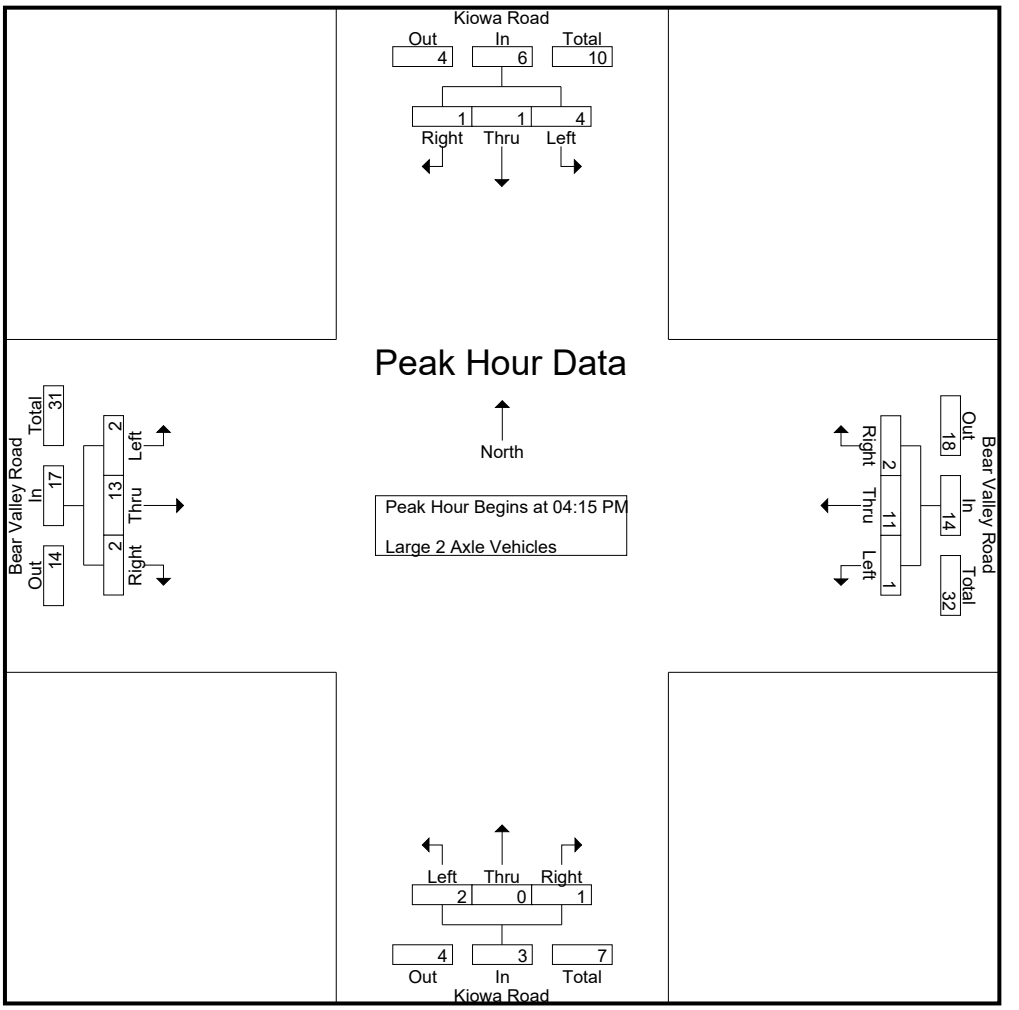

Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:15 PM				04:15 PM				04:15 PM				04:15 PM			
+0 mins.	**3**	0	**1**	**4**	0	**4**	**1**	**5**	0	0	0	0	0	**6**	0	6
+15 mins.	1	**1**	0	2	**1**	3	0	4	0	0	0	0	**1**	4	**2**	**7**
+30 mins.	0	0	0	0	0	1	0	1	0	0	**1**	1	1	2	0	3
+45 mins.	0	0	0	0	0	3	1	4	**2**	0	0	**2**	0	1	0	1
Total Volume	4	1	1	6	1	11	2	14	2	0	1	3	2	13	2	17
% App. Total	66.7	16.7	16.7		7.1	78.6	14.3		66.7	0	33.3		11.8	76.5	11.8	
PHF	.333	.250	.250	.375	.250	.688	.500	.700	.250	.000	.250	.375	.500	.542	.250	.607

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City of Apple Valley
N/S: Kiowa Road
E/W: Bear Valley Road
Weather: Clear

File Name : 10_APV_Kiowa_BV PM
Site Code : 221022
Start Date : 11/17/2022
Page No : 1

Groups Printed- 3 Axle Vehicles

	Kiowa Road Southbound				Bear Valley Road Westbound				Kiowa Road Northbound				Bear Valley Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	2
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	1	0	1	0	0	0	0	0	2	0	2	3
05:00 PM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1
Grand Total	0	0	0	0	0	1	0	1	1	0	0	1	0	2	0	2	4
Apprch %	0	0	0		0	100	0		100	0	0		0	100	0		
Total %	0	0	0	0	0	25	0	25	25	0	0	25	0	50	0	50	

	Kiowa Road Southbound				Bear Valley Road Westbound				Kiowa Road Northbound				Bear Valley Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	**2**	0	**2**	**2**
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	**1**	0	0	**1**	0	0	0	0	1
Total Volume	0	0	0	0	0	0	0	0	1	0	0	1	0	2	0	2	3
% App. Total	0	0	0		0	0	0		100	0	0		0	100	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.250	.000	.000	.250	.000	.250	.000	.250	.375

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City of Apple Valley
N/S: Kiowa Road
E/W: Bear Valley Road
Weather: Clear

File Name : 10_APV_Kiowa_BV PM
Site Code : 221022
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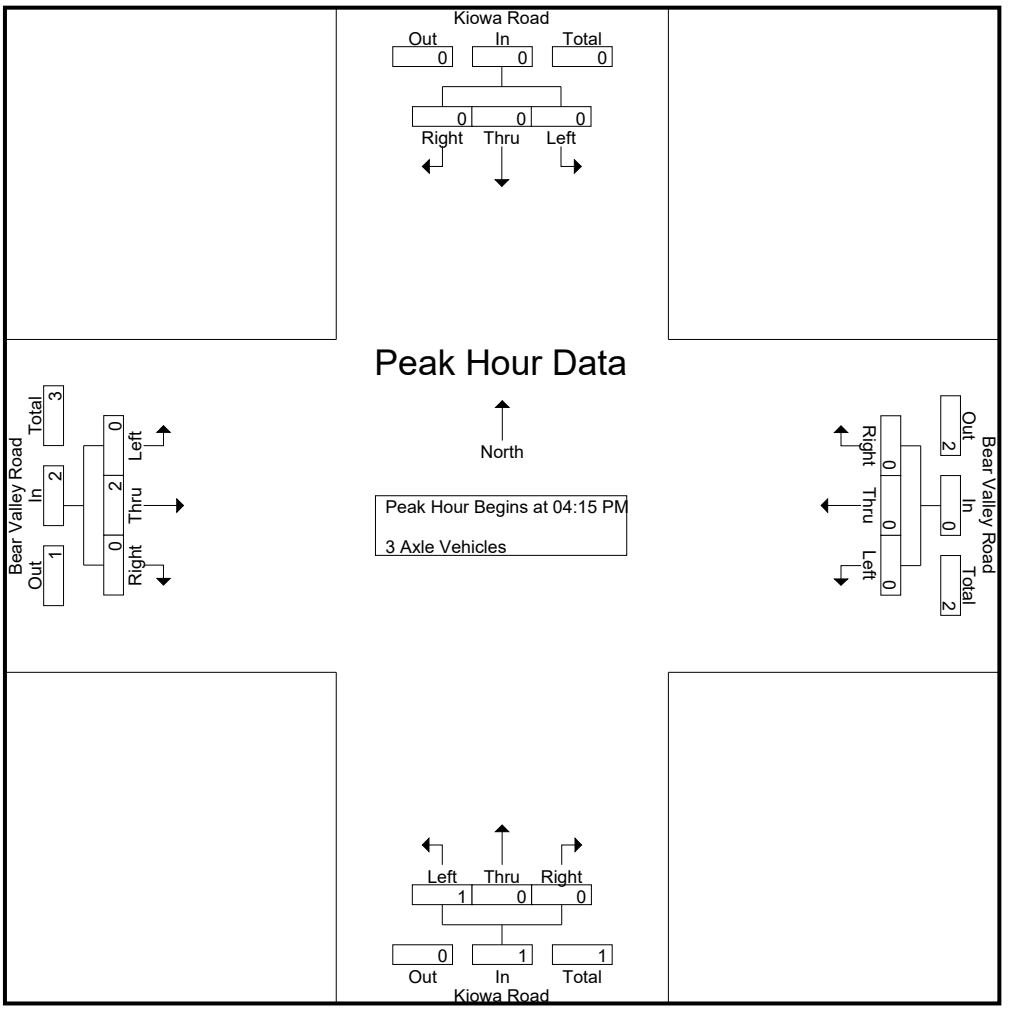

Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:15 PM				04:15 PM				04:15 PM				04:15 PM			
+0 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	**2**	0	**2**
+30 mins.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
+45 mins.	0	0	0	0	0	0	0	0	**1**	0	0	**1**	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	1	0	0	1	0	2	0	2
% App. Total	0	0	0		0	0	0		100	0	0		0	100	0	
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.250	.000	.000	.250	.000	.250	.000	.250

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City of Apple Valley
N/S: Kiowa Road
E/W: Bear Valley Road
Weather: Clear

File Name : 10_APV_Kiowa_BV PM
Site Code : 221022
Start Date : 11/17/2022
Page No : 1

Groups Printed- 4+ Axle Trucks

	Kiowa Road Southbound				Bear Valley Road Westbound				Kiowa Road Northbound				Bear Valley Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
04:00 PM	0	0	0	0	0	2	0	2	0	0	0	0	0	5	0	5	7
04:15 PM	0	0	0	0	0	3	0	3	0	0	0	0	0	0	0	0	3
04:30 PM	0	0	0	0	0	5	0	5	0	0	0	0	0	3	0	3	8
04:45 PM	0	0	0	0	0	2	0	2	0	0	0	0	0	3	0	3	5
Total	0	0	0	0	0	12	0	12	0	0	0	0	0	11	0	11	23
05:00 PM	0	0	0	0	0	3	0	3	0	0	0	0	0	3	0	3	6
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2	2
05:30 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	1	2
05:45 PM	0	0	0	0	0	4	0	4	0	0	0	0	0	3	0	3	7
Total	0	0	0	0	0	8	0	8	0	0	0	0	1	8	0	9	17
Grand Total	0	0	0	0	0	20	0	20	0	0	0	0	1	19	0	20	40
Apprch %	0	0	0		0	100	0		0	0	0		5	95	0		
Total %	0	0	0	0	0	50	0	50	0	0	0	0	2.5	47.5	0	50	

	Kiowa Road Southbound				Bear Valley Road Westbound				Kiowa Road Northbound				Bear Valley Road Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	0	0	0	0	0	3	0	3	0	0	0	0	0	0	0	0	3
04:30 PM	0	0	0	0	0	**5**	0	**5**	0	0	0	0	0	**3**	0	**3**	**8**
04:45 PM	0	0	0	0	0	2	0	2	0	0	0	0	0	3	0	3	5
05:00 PM	0	0	0	0	0	3	0	3	0	0	0	0	0	3	0	3	6
Total Volume	0	0	0	0	0	13	0	13	0	0	0	0	0	9	0	9	22
% App. Total	0	0	0		0	100	0		0	0	0		0	100	0		
PHF	.000	.000	.000	.000	.000	.650	.000	.650	.000	.000	.000	.000	.000	.750	.000	.750	.688

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City of Apple Valley
N/S: Kiowa Road
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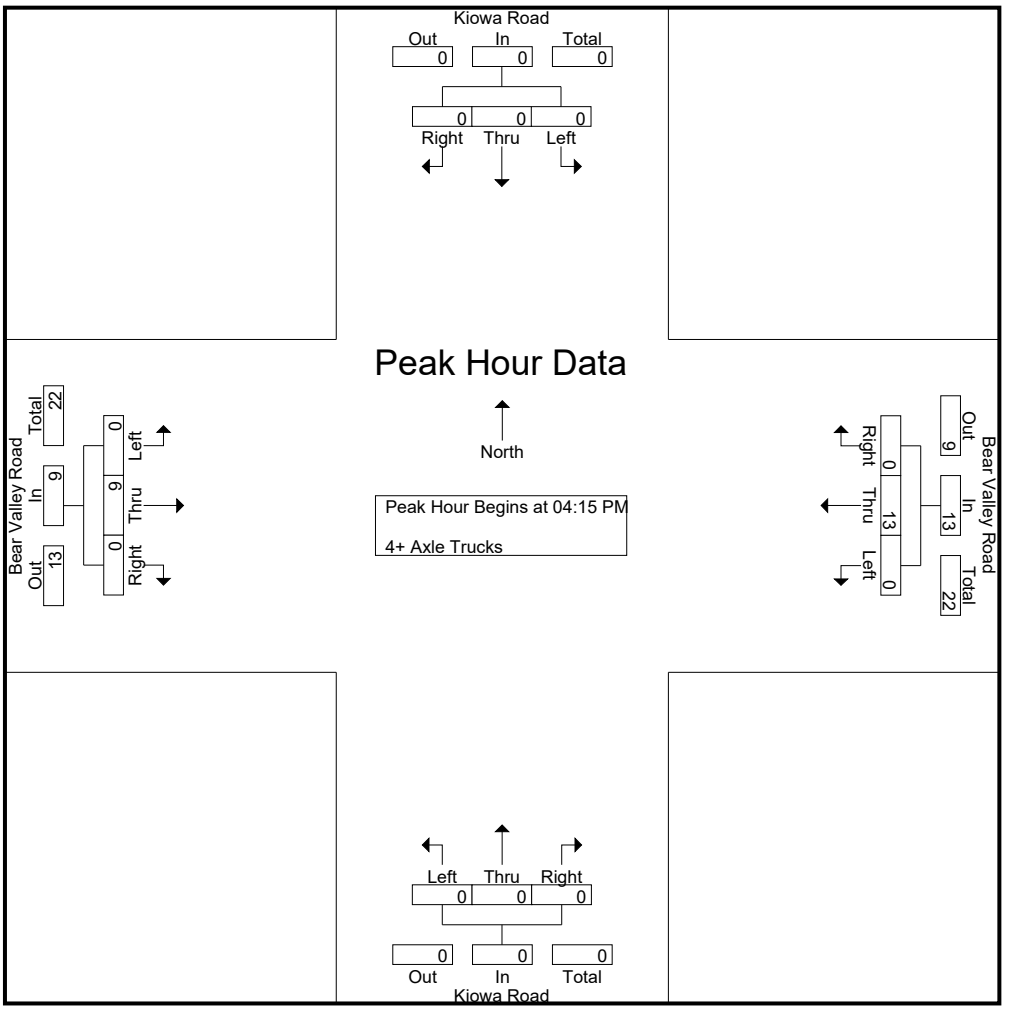

Peak Hour Analysis From 04:15 PM to 05:00 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:15 PM				04:15 PM				04:15 PM				04:15 PM			
+0 mins.	0	0	0	0	0	3	0	3	0	0	0	0	0	0	0	0
+15 mins.	0	0	0	0	0	**5**	0	**5**	0	0	0	0	0	**3**	0	**3**
+30 mins.	0	0	0	0	0	2	0	2	0	0	0	0	0	3	0	3
+45 mins.	0	0	0	0	0	3	0	3	0	0	0	0	0	3	0	3
Total Volume	0	0	0	0	0	13	0	13	0	0	0	0	0	9	0	9
% App. Total	0	0	0		0	100	0		0	0	0		0	100	0	
PHF	.000	.000	.000	.000	.000	.650	.000	.650	.000	.000	.000	.000	.000	.750	.000	.750

Location: Apple Valley
N/S: Kiowa Road
E/W: Bear Valley Road

Date: 11/17/2022
Day: Thursday

PEDESTRIANS

	North Leg Kiowa Road	East Leg Bear Valley Road	South Leg Kiowa Road	West Leg Bear Valley Road	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
7:00 AM	0	0	0	0	0
7:15 AM	0	0	0	0	0
7:30 AM	0	1	0	2	3
7:45 AM	0	0	0	1	1
8:00 AM	0	0	0	1	1
8:15 AM	0	1	0	1	2
8:30 AM	0	0	0	1	1
8:45 AM	0	0	0	3	3
TOTAL VOLUMES:	0	2	0	9	11

	North Leg Kiowa Road	East Leg Bear Valley Road	South Leg Kiowa Road	West Leg Bear Valley Road	
	Pedestrians	Pedestrians	Pedestrians	Pedestrians	
4:00 PM	0	1	0	0	1
4:15 PM	0	0	0	1	1
4:30 PM	0	0	0	1	1
4:45 PM	1	0	0	0	1
5:00 PM	0	0	0	0	0
5:15 PM	2	0	0	0	2
5:30 PM	1	0	2	1	4
5:45 PM	0	2	0	1	3
TOTAL VOLUMES:	4	3	2	4	13

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Location: Apple Valley
N/S: Kiowa Road
E/W: Bear Valley Road

Date: 11/17/2022
Day: Thursday

BICYCLES

	Southbound Kiowa Road			Westbound Bear Valley Road			Northbound Kiowa Road			Eastbound Bear Valley Road			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0	0	0	0	0	0	0	0	0

	Southbound Kiowa Road			Westbound Bear Valley Road			Northbound Kiowa Road			Eastbound Bear Valley Road			
	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL VOLUMES:	0	0	0	0	0	0	0	0	0	0	0	0	0

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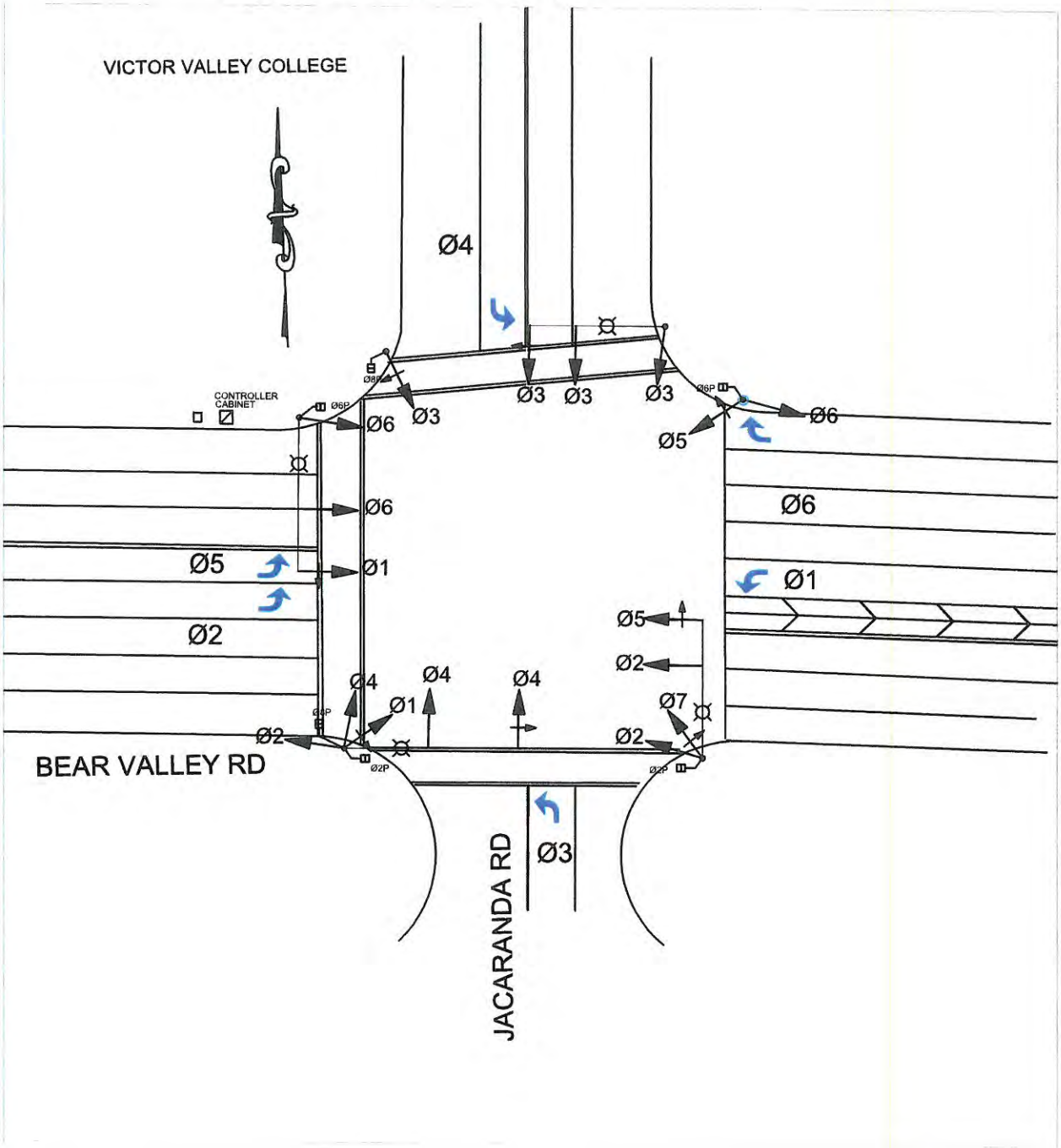
NAZTEC 980
TRAFFIC SIGNAL CONTROLLER PROGRAM CHART

INTERSECTION: BEAR VALLEY RD @ JACARANDA RD NO: 970-34



INTERSECTION: BEAR VALLEY RD @ JACARANDA RD NO: 970-34

SYSTEM: BEAR VALLEY EAST I.P. ADDRESS: 192.168.100.151

DESIGN: GSH APPROVED BY: Brian Gengler DATE: 2-9-2017

Phase Times [1.1.1] BEAR VALLEY @ JACARANDA

	1	2	3	4	5	6	7	8	9	10	11	13	14	15	16
Min Grn	4	5	5	5	4	5		5							
Gap, Ext	1	1	1	1	1	1		1							
Max 1	25	40	25	25	30	40	20	20							
Max 2	25	40	25	25	30	40	20	20							
Yel Clr	3.0	4.7	3.9	3.0	3.0	4.7	3.0	3.9							
Red Clr	2.0	0.5	1.4	2.0	1.5	0.5	1.0	1.0							
Walk		4				4		4							
Ped Clr		14				15		24							
Red Revt	3	3	3	3	3	3		3							
Add Init															
Max Init															
Gap Reduce															
Time B4															
Cars B4															
Time To															
ReducBy															
Min Gap															
DyMaxLim															
Max Step															

Phase Options [1.1.2]

	1	2	3	4	5	6	7	8	9	10	11	13	14	15	16
Enable	X	X	X	X	X	X		X							
Min Recall		X				X									
Max Recall															
Ped Recall															
Soft Recall															
Lock Calls															
A Flash Entry															
A Flash Exit															
Dual Entry															
Enab;e Sim Gap	X	X	X	X	X	X	X	X							
Gaur Passage															
Rest In Walk															
Cond Service															
Non-Act 1															
Non-Act 2															
Add Init Calc	S	S	S	S	S	S	S	S							

Coordination, Splits, Split Table 1-6 [2.7.1]

Split 1	1	2	3	4	5	6	7	8	9	10	11	12	13	15	16
Pri-Frc	20	42	22	16	18	44	16	22							
Coor F						X									
Mode	NON	MAX	NON	NON	NON	MAX	OMT	NON	NON	NON	NON	NON	NON	NON	NON

Split 2	1	2	3	4	5	6	7	8	9	10	11	12	13	15	16
Pri-Frc	20	42	20	18	16	46	18	20							
Coor F						X									
Mode	NON	MAX	NON	NON	NON	MAX	OMT	NON	NON	NON	NON	NON	NON	NON	NON

Split 3	1	2	3	4	5	6	7	8	9	10	11	12	13	15	16
Pri-Frc	20	40	18	22	20	40	22	18							
Coor F						X									
Mode	NON	MAX	NON	NON	NON	MAX	OMT	NON							

Split 4	1	2	3	4	5	6	7	8	9	10	11	12	13	14	16
Pri-Frc	20	42	22	16	18	44	16	22							
Coor F						X									
Mode	NON	MAX	NON	NON	NON	MAX	OMT	NON	NON	NON	NON	NON	NON	NON	NON

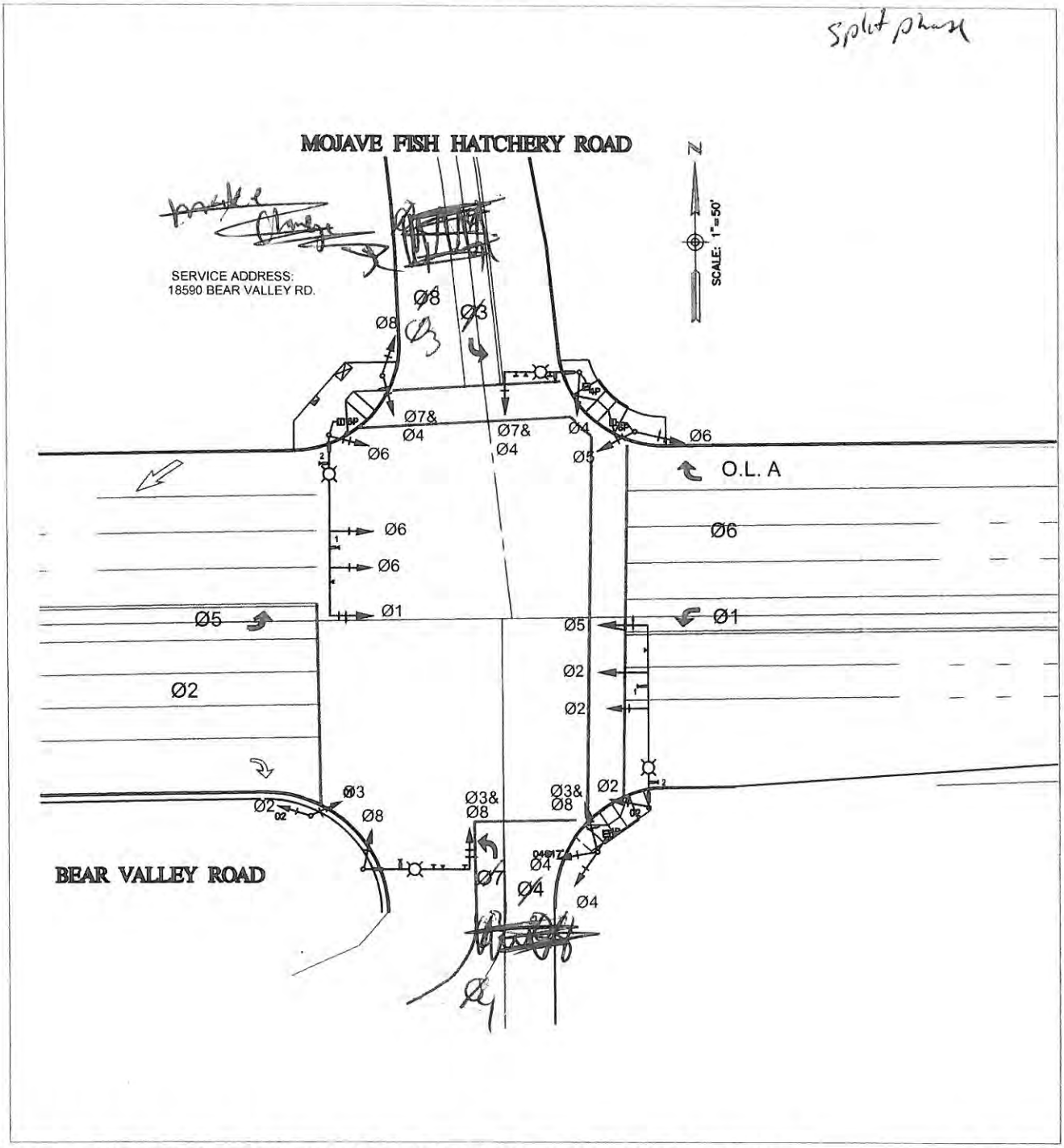
Split 5	1	2	3	4	5	6	7	8	9	10	11	12	13	15	16
Pri-Frc	20	42	22	16	18	44	16	22							
Coor F						X									
Mode	NON	MAX	NON	NON	NON	MAX	OMT	NON	NON	NON	NON	NON	NON	NON	NON

NAZTEC 980
TRAFFIC SIGNAL CONTROLLER PROGRAM CHART

NO:970-80

INTERSECTION: BEAR VALLEY RD @ FISH HATCHERY RD

split phase



INTERSECTION: BEAR VALLEY RD @ FISH HATCHERY RD NO: 970-80

SYSTEM: BEAR VALLEY WEST I.P. ADDRESS: 192.168.100.140

TIMED BY:LGL REVIEWED BY: AW

APPROVED BY: Brian Gengler DATE: 8-30-2019

Phase Times [1.1.1] BEAR VALLEY @ FISH HATCHERY

	1	2	3	4	5	6	7	8	9	10	11	13	14	15	16
Min Grn	5	5	5	5	5	5	5	5							
Gap, Ext	1	3	1	1	1	3	1	1							
Max 1	15	40	15	25	15	40	15	25							
Max 2	20	45	20	30	20	45	20	30							
Yel Clr	3.0	5.9	3.0	3.9	3.0	5.9	3.0	3.9							
Red Clr	2.0	0.5	2.0	1.0	2.0	0.5	2.0	1.0							
Walk		4.		4		4									
Ped Clr	5/4 7/1/20	20		25		14									
Red Revt	3	3		3	3	3		3							
Add Init															
Max Init															
Gap Reduce															
Time B4															
Cars B4															
Time To															
ReducBy															
Min Gap															
DyMaxLim															
Max Step															

Phase Options [1.1.2]

	1	2	3	4	5	6	7	8	9	10	11	13	14	15	16
Enable	X	X	X	X	X	X	X	X							
Min Recall		X				X									
Max Recall															
Ped Recall															
Soft Recall								Disable							
Don't Lock Calls															
A Flash Entry															
A Flash Exit															
Dual Entry															
Disable Sim Gap															
Gaur Passage															
Rest In Walk															
Cond Service															
Non-Act 1															
Non-Act 2															
Add Init Calc															

Coordination, Splits, Split Table 1-6 [2.7.1]

Split 1	1	2	3	4	5	6	7	8	9	10	11	12	14	15	16
Pri-Frc	18	48	~~14~~ 17	~~20~~ 17	18	48	14 ~~14~~	20 ~~20~~							
Coor F						X									
Mode	NON	MIN ~~MAX~~	NON	NON	NON	MIN ~~MAX~~	~~NON~~ Ont	~~NON~~ Ont	NON	NON	NON	NON	NON	NON	NON

Split 2	1	2	3	4	5	6	7	8	9	10	11	12	14	15	16
Pri-Frc	18	48	~~14~~ 17	~~20~~ 17	18	48	14 ~~14~~	20 ~~20~~							
Coor F						X									
Mode	NON	MIN ~~MAX~~	NON	NON	NON	MIN ~~MAX~~	NON Ont	NON Ont	NON	NON	NON	NON	NON	NON	NON

Split 3	1	2	3	4	Leave alone 5	6	7	8	9	10	11	12	14	15	16
Pri-Frc	~~18~~	~~48~~	~~14~~	~~20~~	18	48	14	20							
Coor F			17	17		X									
Mode	NON	MAX	NON	NON	NON	MAX	NON	NON	NON	NON	NON	NON	NON	NON	NON

Split 4	1	2	3	4	5	6	7	8	9	10	11	12	14	15	16
Pri-Frc	18	48	14	20	18	48	14	20							
Coor F						X									
Mode	NON	MAX	NON	NON	NON	MAX	NON	NON	NON	NON	NON	NON	NON	NON	NON

Split 5	1	2	3	4	5	6	7	8	9	10	11	12	14	15	16
Pri-Frc	18	48	14	20	18	48	14	20							
Coor F						X									
Mode	NON	MAX	NON	NON	NON	MAX	NON	NON	NON	NON	NON	NON	NON	NON	NON

Split 6	1	2	3	4	5	6	7	8	9	10	11	12	14	15	16
Pri-Frc	18	48	14	20	18	48	14	20							
Coor F						X									
Mode	NON	MAX	NON	NON	NON	MAX	NON	NON	NON	NON	NON	NON	NON	NON	NON

INTERSECTION:

QuicNet System Parameters

Group Assignment:
Field Master Assignment:
System Reference Number:
Commications Channel:
Drop Address:
Area Number:
Area Address:

N/S Street Name: **JESS RANCH PARKWAY**
E/W Street Name: **BEAR VALLEY ROAD**

Last *QuicNet* Database Change:

Notes:

Field Change Record

Change	By	Date	Change	By	Date

Excl Ped Assignment	
Exclusive Walk	
Exclusive FDW	
All Red Clear	

Exclusive Ped Phase

Walk Output	
Don't Walk Output	

Note: Set the Exclusive Ped Outputs on the "Outputs / General" page

	Phase 1	2	3	4	5	6	7	8
Basic Phase Timing: Min Green	3	15		6		15		
Extension	2.0	5.0		2.0		5.0		
Max	10	50		25		50		
Max 2								
Cond Serve Check								
Clear: Yellow Change	3.6	5.2		4.1		5.2		
Red Clear	1.0	1.0		1.0		1.0		
Pedestrian Timing: Walk		7		7				
Ped Clear - FDW		21		30				
Adv / Delay Walk								
PE Min Ped FDW								
Volume Density: Type 3 Disconnect								
Added per Vehicle		1.0		1.0		1.0		
Max Added Initial								
Min Gap	2.0	5.0		2.0		5.0		
Max Gap								
Reduce Every								

Phase Timing - Bank 1

	Phase 1	2	3	4	5	6	7	8
Alternate Walk								
Alternate Ped Clear								
Alternate Minimum								
Alternate Extension								

Alternate Timing - Bank 1

Red Lock	
Yellow Lock	
Simultaneous Gap	_2_4_6__
Rest In Walk	
Advance Walk	
Flashing Walk	
Max Extension	

Red Rest	
Dual Entry	_2_4_6__
Sequential Timing	
Inhibit Ped Reservice	
Semi-Actuated	
Guaranteed Passage	
Conditional Service	

Phase Functions - Page 1

Minimum Recall	_2___6__
Ped Recall	
Maximum Recall	
Green Flash	
Overlap Green Flash	
PPLT FYA	

Soft Recall	
External Recall	
Manual Control Calls	
Fast Green Flash	
Fast Overlap G. Flash	
Semi Act	

		Phase							
		1	2	3	4	5	6	7	8
Basic Phase Timing	Min Green								
	Extension								
	Max								
	Max 2								
	Cond Serve Check								
Clear	Yellow Change								
	Red Clear								
Pedestrian Timing	Walk								
	Ped Clear - FDW								
	Adv / Delay Walk								
	PE Min Ped FDW								
Volume Density	Type 3 Disconnect								
	Added per Vehicle								
	Max Added Initial								
	Min Gap								
	Max Gap								
	Reduce Every								

Phase Timing - Bank 2

		Phase							
		1	2	3	4	5	6	7	8
Basic Phase Timing	Min Green								
	Extension								
	Max								
	Max 2								
	Cond Serve Check								
Clear	Yellow Change								
	Red Clear								
Pedestrian Timing	Walk								
	Ped Clear - FDW								
	Adv / Delay Walk								
	PE Min Ped FDW								
Volume Density	Type 3 Disconnect								
	Added per Vehicle								
	Max Added Initial								
	Min Gap								
	Max Gap								
	Reduce Every								

Phase Timing - Bank 3

	Phase							
	1	2	3	4	5	6	7	8
Alternate Walk								
Alternate Ped Clear								
Alternate Minimum								
Alternate Extension								

Alternate Timing - Bank 2

	Phase							
	1	2	3	4	5	6	7	8
Alternate Walk								
Alternate Ped Clear								
Alternate Minimum								
Alternate Extension								

Alternate Timing - Bank 3

Note: Set the Limited Service Interval on the "Utilities / Misc" page

Clear Phases	
Delay	
Clear Time	

Railroad - 1

Clear Phases	
Limited Service Phases	
Delay	
Clear Time	

Railroad - 2

Railroad Preempt Parameters

Min Grn Before PE Force-Off	
Max Pre-Empt Time	
Min Time Before Same PE	

	Delay	Clear	Clear Phases
EV - A	0	6	_2_____
EV - B	0	6	
EV - C	0	6	1___6__
EV - D	0	6	

Emergency Vehicle Preempt

SE - 1	
SE - 2	
EV - A	
EV - B	
EV - C	
EV - D	

Preempt Priority

Step	Time	Clear	Ped Call	Hold	Advance	Force Off	Vehicle Call	Permit	Ped Omit	Output
0										
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										
11										
12										
13										
14										
15										

Special Event Sequence - 1

Step	Time	Clear	Ped Call	Hold	Advance	Force Off	Vehicle Call	Permit	Ped Omit	Output
0										
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										
11										
12										
13										
14										
15										

Special Event Sequence - 2

Transition Type	
Coord Extra Functions	
Phase 1 - Minimum	
Phase 2 - Minimum	
Phase 3 - Minimum	
Phase 4 - Minimum	
Phase 5 - Minimum	
Phase 6 - Minimum	
Phase 7 - Minimum	
Phase 8 - Minimum	

Note: The *Ring-Barrier Sum* of these Minimums will be the Minimum Cycle Length During Transition

Coordination - General

Coord Extra
1 = Programmed Walk Time for Sync Phases
2 = Always Terminate Sync Phase Peds
3 = Use "Floating Force Off"
4 =
5 = Use "Start of Green" for Sync Point

Transition Type
0.X = Shortway
1.X = Lengthen Only
2.X = Shorten Only
X.1 thru X.4 = Number of Cycles to get "In Step"

	Coordination Plan								
	1	2	3	4	5	6	7	8	9
Cycle									
Offset - 1									
Offset - 2									
Offset - 3									
Zone Offset									
Ring Offset									
Hold Release									
Ped Adjust									
Force Off - 1									
Force Off - 2									
Force Off - 3									
Force Off - 4									
Force Off - 5									
Force Off - 6									
Force Off - 7									
Force Off - 8									

Coordination - Cycle, Offsets, & Force Offs

	Coordination Plan								
	1	2	3	4	5	6	7	8	9
Perm 1 - Begin									
Perm 1 - End									
Perm 1 - Veh Phases									
Perm 1 - Ped Phases									
Perm 2 - Begin									
Perm 2 - End									
Perm 2 - Veh Phases									
Perm 2 - Ped Phases									
Perm 3 - Begin									
Perm 3 - End									
Perm 3 - Veh Phases									
Perm 3 - Ped Phases									
Max Inhibit Phases									
Max Recall Phases									
Sync Phases									
Lag Phases									
Pre-Timed Phases									

Coordination - Permissives & Phase Sequence

	Overlap Number							
	1	2	3	4	5	6	7	8
Load Switch Number								
Vehicle Set 1								
Vehicle Set 2								
Vehicle Set 3								
Negative Vehicle								
Negative Ped								
Green Omit								
Green Clear Omit								
Green Clearance								
Yellow Change								
Red Clearance								

Overlaps

	AND 1	AND 2	AND 3	AND 4
Input - A				
Input - B				
Output				

AND Gates

	NAND 1	NAND 2	NAND 3	NAND 4
Input - A				
Input - B				
Output				

NAND Gates

	OR 1	OR 2	OR 3	OR 4	OR 5	OR 6
Input - A						
Input - B						
Output						

2 Input - OR Gates

	OR 7	OR 8
Input - A		
Input - B		
Input - C		
Input - D		
Output		

4 Input - OR Gates

	NOT 1	NOT 2	NOT 3	NOT 4
Input				
Output				

NOT Gates (Inverters)

	DELAY 1	DELAY 2	DELAY 3	DELAY 4	DELAY 5	DELAY 6
Input						
Delay Time						
Output						

DELAY Gates

Latch:	1	2	3	4	5	6	7	8
Set								
Reset								
Out								
/Out								

Logic Latches

Det. #	C-1 Pin #	Delay	Carry-over	Phase Assignmrnts	Detector Attributes	Detector Set Assignments
1	39			2		
2	40			6		
3	41			4		
4	42			8		
5	43			2		
6	44			6		
7	45			4		
8	46			8		
9	47			2		
10	48			6		
11	49			4		
12	50			8		
13	55			5		
14	56			1		
15	57			7		
16	58			3		
17	59			5		
18	60			1		
19	61			7		
20	62			3		
21	63			2		
22	64			6		
23	65			4		
24	66			8		
25	67			2		
26	68			6		
27	69			4		
28	70			8		
29	76			2		
30	77			6		
31	78			4		
32	79			8		

Detector Assignments

Detector Attributes
1 = Full Time Delay
2 = Ped Call
3 =
4 = Count
5 = Extension
6 = Type 3
7 = Calling
8 = Alternate

Detector Assignments
1 = Detector Set 1
2 = Detector Set 2
3 = Detector Set 3
4 =
5 =
6 = Failure - Min Recall
7 = Failure - Max Recall
8 = Report on Failure

	C-1 Pin #
Flash Sense	81
External Permit - 1	
External Permit - 2	
External Permit - 3	
Exclusive Ped Omit	
Max. Term Inhibit	
Max. 2	
External Lag Phases	
External Max. Recall	
Stop Time	82
Manual Control Enable	
Manual Cont. Advance	
External Min. Recall	

General Inputs

	C-1 Pin #
Plan 1	
Plan 2	
Plan 3	
Plan 4	
Plan 5	
Plan 6	
Plan 7	
Plan 8	
Plan 9	
Free	
Flash	

Coordination Plan Inputs

	C-1 Pin #
Phase - 1	
Phase - 2	
Phase - 3	
Phase - 4	
Phase - 5	
Phase - 6	
Phase - 7	
Phase - 8	

FYA Inhibit

	C-1 Pin #
Railroad - 1	51
Railroad - 2	52
Special Event - 1	
Special Event - 2	
Gate Down	
EV - A	71
EV - B	72
EV - C	73
EV - D	74

Preempt Inputs

	C-1 Pin #
Phase Bank - 2	
Phase Bank - 3	
Detector Set - 2	
Detector Set - 3	
Overlap Vehicle Set - 2	
Overlap Vehicle Set - 3	

Bank & Set Inputs

	C-1 Pin #
Gate Down	
Door Ajar	
UPS Battery	
UPS Power	
Cabinet Temperature	

	C-1 Pin #
Alarm - 1	
Alarm - 2	
Alarm - 3	
Alarm - 4	

Alarm Inputs

	C-1 Pin #
Advance Warning - 1	
Advance Warning - 2	
Detector Failure	
Flasher - Alternating 1	
Flasher - Alternating 2	
Fast Flasher	
On Line	
Exclusive - Walk	
Exclusive - Don't Walk	

General Outputs

	C-1 Pin #
Output - 1	
Output - 2	
Output - 3	
Output - 4	
Output - 5	
Output - 6	
Output - 7	
Output - 8	

Time of Day Outputs

	C-1 Pin #
Plan - 1	
Plan - 2	
Plan - 3	
Plan - 4	
Plan - 5	
Plan - 6	
Plan - 7	
Plan - 8	
Plan - 9	
Free	

Coordination Plan Out

	Ped Phase
Ped 2-P Loadswitch	_2_____
Ped 4-P Loadswitch	___4____
Ped 6-P Loadswitch	
Ped 8-P Loadswitch	

Ped Loadswitch Assignment

	C-1 Pin #
Phase - 1	
Phase - 2	
Phase - 3	
Phase - 4	
Phase - 5	
Phase - 6	
Phase - 7	
Phase - 8	

FYA PPLT Outputs

	C-1 Pin #
Dial - 2	
Dial - 3	
Offset - 1	
Offset - 2	
Offset - 3	
Free	
Flash	

Seven Wire Outputs

	C-1 Pin #	
	On	Flash
Railroad - 1		
Railroad - 2		
Special Event - 1		
Special Event - 2		
Preempt Failure		
EV - A		
EV - B		
EV - C		
EV - D		
Any Preempt		

Preemption Outputs

	C-1 Pin #
Output - 1	
Output - 2	
Output - 3	
Output - 4	
Output - 5	
Output - 6	
Output - 7	
Output - 8	

Special Event Outputs

	C-1 Pin #
Output - 1	
Output - 2	
Output - 3	
Output - 4	
Output - 5	
Output - 6	
Output - 7	
Output - 8	

Special Function Output

	Phase Number							
	1	2	3	4	5	6	7	8
Red								
Yellow								
Green								
Walk								
Don't Walk								

Phase Output Redirection

	Overlap Number							
	1	2	3	4	5	6	7	8
Red								
Yellow								
Green								

Overlap Output Redirection

Event	Day of Week	Season	Hour	Minute	Plan	Offset
0						
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						
31						

Time Base Coordination Events

Event	Day of Week	Season	Hour	Minute	Funct.	Phase / Bits
0						
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						

Time of Day Function Events

TOD Functions

0 = Permitted Phases
1 = Red Lock
2 = Yellow Lock
3 = Vehicle Min Recall
4 = Ped Recall
5 =
6 = Rest In Walk
7 = Red Rest
8 = Double Entry
9 = Vehicle Max Recall
10 = Soft Recall
11= Max Extension 2
12 = Conditional Service
13 = Lag Free Phases
14, Bit 1 = Local Override
14, Bit 4 = Disable Det Off Monitoring
15 = TOD Outputs

#	Holiday Type	Day	Month	Year
0				
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				
31				

Holiday Dates

Event	Holiday Type	Hour	Minute	Plan	Offset
0					
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
31					

Holiday Time Base Coordination Events

Event	Holiday Type	Hour	Minute	Funct.	Phase / Bits
0					
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					

Holiday Time of Day Function Events

Season #	Start Month	Start Day	End Month	End Day
1	1	1	12	31
2				
3				
4				
5				
6				
7				
8				

Season Definitions

Red Start Time	**0.0**
Yellow Start Phases	**___4____**
First Green Phases	**_2___6__**
Startup Vehicle Calls	**12_4_6__**
Startup Ped Calls	**_2_4____**

Startup

Max ON Time	
Max OFF Time	
Chatter	

Detector Check

	Sign 1	Sign 2
Phase Number		
Time Before Yellow		

Advance Warning Signs

Flash Entry Phases	
Flash Phases Yellow	
Flash Overlaps Yellow	
Flash Type	

Flash Setup

Exclusive Phases	
Protect / Permissive	
Disable Yellow Range	
Extra One	
Lag Phases - Free	**_2_4_6_8**

Configuration

Permitted Phases	**12_4_6__**
Restricted Phases	
Disable Overlap Range	
Extra Two	
External Permit 1	
External Permit 2	
External Permit 3	

Configuration

Keyboard Beep	
Backlight Timeout	
Spec Evnt 1 - Ltd Serv Interval	
Spec Evnt 2 - Ltd Serv Interval	
Red Start	**6.0**
Flash Start	**0**
Red Revert	**6.0**

Miscellaneous

Spring Month (Begin)	
Spring Week (Begin)	
Fall Month (End)	
Fall Week (End)	

Daylight Savings Time

Manual Plan	**14**
Manual Offset	

Manual

Address	
Area Number	
Area Address	
IP Port	
IP Address	
Subnet Mask	
Gateway	

Ethernet Port Address

	Port 1	Port 2	Port 3	Port 4
Address				
Area Number				
Area Address				
Comm Time Out				
CTS Delay				
RTS Hold				
Baud Rate				
Data Format				

Communications Parameters

Event	Day of Week	Hour	Minute	Headway	Direction
0					
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					

Bus Headway Schedule

Approach	A	B	C	D
Travel Time				
Passage				
Extension				
Phases				

Bus Approach

	A	B	C	D
Phase 1				
Phase 2				
Phase 3				
Phase 4				
Phase 5				
Phase 6				
Phase 7				
Phase 8				

Non-Priority Phase Maximums

NOTES:

INTERSECTION:

QuicNet System Parameters

Group Assignment:
Field Master Assignment:
System Reference Number:
Commications Channel:
Drop Address:
Area Number:
Area Address:

N/S Street Name: **REATA ROAD**
E/W Street Name: **BEAR VALLEY ROAD**

Last *QuicNet* Database Change:

Notes: 7/14/19 - Yellow Clearance Changed - V. Pfaff

Field Change Record

Change	By	Date	Change	By	Date

Excl Ped Assignment	
Exclusive Walk	
Exclusive FDW	
All Red Clear	

Exclusive Ped Phase

Note: Set the Exclusive Ped Outputs on the "Outputs / General" page

Walk Output	
Don't Walk Output	

	Phase 1	2	3	4	5	6	7	8
Basic Phase Timing: Min Green	3	15		5	3	15		5
Extension	2.0	5.0		2.0	2.0	5.0		2.0
Max	15	50		40	15	50		40
Max 2								
Cond Serve Check								
Clear: Yellow Change	~~3.6~~ 4.6	5.2		4.1	~~3.6~~ 4.6	5.2		4.1
Red Clear	1.0	1.0		1.0	1.0	1.0		1.0
Pedestrian Timing: Walk		7		5		7		5
Ped Clear - FDW		18		28		18		28
Adv / Delay Walk								
PE Min Ped FDW								
Volume Density: Type 3 Disconnect								
Added per Vehicle		1.0				1.0		
Max Added Initial								
Min Gap	2.0	5.0		2.0	2.0	5.0		2.0
Max Gap								
Reduce Every								

Phase Timing - Bank 1

	Phase 1	2	3	4	5	6	7	8
Alternate Walk								
Alternate Ped Clear								
Alternate Minimum								
Alternate Extension								

Alternate Timing - Bank 1

Red Lock	
Yellow Lock	
Simultaneous Gap	_2___6__
Rest In Walk	
Advance Walk	
Flashing Walk	
Max Extension	

Red Rest	
Dual Entry	_2_4_6_8
Sequential Timing	
Inhibit Ped Reservice	
Semi-Actuated	
Guaranteed Passage	
Conditional Service	

Phase Functions - Page 1

Minimum Recall	_2___6__
Ped Recall	
Maximum Recall	
Green Flash	
Overlap Green Flash	
PPLT FYA	

Soft Recall	
External Recall	
Manual Control Calls	
Fast Green Flash	
Fast Overlap G. Flash	
Semi Act	

		Phase							
		1	2	3	4	5	6	7	8
Basic Phase Timing	Min Green								
	Extension								
	Max								
	Max 2								
	Cond Serve Check								
Clear	Yellow Change								
	Red Clear								
Pedestrian Timing	Walk								
	Ped Clear - FDW								
	Adv / Delay Walk								
	PE Min Ped FDW								
Volume Density	Type 3 Disconnect								
	Added per Vehicle								
	Max Added Initial								
	Min Gap								
	Max Gap								
	Reduce Every								

Phase Timing - Bank 2

	Phase							
	1	2	3	4	5	6	7	8
Alternate Walk								
Alternate Ped Clear								
Alternate Minimum								
Alternate Extension								

Alternate Timing - Bank 2

		Phase							
		1	2	3	4	5	6	7	8
Basic Phase Timing	Min Green								
	Extension								
	Max								
	Max 2								
	Cond Serve Check								
Clear	Yellow Change								
	Red Clear								
Pedestrian Timing	Walk								
	Ped Clear - FDW								
	Adv / Delay Walk								
	PE Min Ped FDW								
Volume Density	Type 3 Disconnect								
	Added per Vehicle								
	Max Added Initial								
	Min Gap								
	Max Gap								
	Reduce Every								

Phase Timing - Bank 3

	Phase							
	1	2	3	4	5	6	7	8
Alternate Walk								
Alternate Ped Clear								
Alternate Minimum								
Alternate Extension								

Alternate Timing - Bank 3

Clear Phases	
Delay	
Clear Time	

Railroad - 1

Clear Phases	
Limited Service Phases	
Delay	
Clear Time	

Railroad - 2

Railroad Preempt Parameters

Min Grn Before PE Force-Off	
Max Pre-Empt Time	
Min Time Before Same PE	

	Delay	Clear	Clear Phases
EV - A	0	6	_2__5___
EV - B	0	6	
EV - C	0	6	1_____6__
EV - D	0	6	

Emergency Vehicle Preempt

SE - 1	
SE - 2	
EV - A	
EV - B	
EV - C	
EV - D	

Preempt Priority

Note: Set the Limited Service Interval on the "Utilities / Misc" page

Step	Time	Clear	Ped Call	Hold	Advance	Force Off	Vehicle Call	Permit	Ped Omit	Output
0										
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										
11										
12										
13										
14										
15										

Special Event Sequence - 1

Step	Time	Clear	Ped Call	Hold	Advance	Force Off	Vehicle Call	Permit	Ped Omit	Output
0										
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										
11										
12										
13										
14										
15										

Special Event Sequence - 2

Transition Type	
Coord Extra Functions	
Phase 1 - Minimum	
Phase 2 - Minimum	
Phase 3 - Minimum	
Phase 4 - Minimum	
Phase 5 - Minimum	
Phase 6 - Minimum	
Phase 7 - Minimum	
Phase 8 - Minimum	

Note: The *Ring-Barrier Sum* of these Minimums will be the Minimum Cycle Length During Transition

Coordination - General

Coord Extra
1 = Programmed Walk Time for Sync Phases
2 = Always Terminate Sync Phase Peds
3 = Use "Floating Force Off"
4 =
5 = Use "Start of Green" for Sync Point

Transition Type
0.X = Shortway
1.X = Lengthen Only
2.X = Shorten Only
X.1 thru X.4 = Number of Cycles to get "In Step"

	Coordination Plan								
	1	2	3	4	5	6	7	8	9
Cycle									
Offset - 1									
Offset - 2									
Offset - 3									
Zone Offset									
Ring Offset									
Hold Release									
Ped Adjust									
Force Off - 1									
Force Off - 2									
Force Off - 3									
Force Off - 4									
Force Off - 5									
Force Off - 6									
Force Off - 7									
Force Off - 8									

Coordination - Cycle, Offsets, & Force Offs

	Coordination Plan								
	1	2	3	4	5	6	7	8	9
Perm 1 - Begin									
Perm 1 - End									
Perm 1 - Veh Phases									
Perm 1 - Ped Phases									
Perm 2 - Begin									
Perm 2 - End									
Perm 2 - Veh Phases									
Perm 2 - Ped Phases									
Perm 3 - Begin									
Perm 3 - End									
Perm 3 - Veh Phases									
Perm 3 - Ped Phases									
Max Inhibit Phases									
Max Recall Phases									
Sync Phases									
Lag Phases									
Pre-Timed Phases									

Coordination - Permissives & Phase Sequence

	Overlap Number							
	1	2	3	4	5	6	7	8
Load Switch Number								
Vehicle Set 1								
Vehicle Set 2								
Vehicle Set 3								
Negative Vehicle								
Negative Ped								
Green Omit								
Green Clear Omit								
Green Clearance								
Yellow Change								
Red Clearance								

Overlaps

	AND 1	AND 2	AND 3	AND 4
Input - A				
Input - B				
Output				

AND Gates

	NAND 1	NAND 2	NAND 3	NAND 4
Input - A				
Input - B				
Output				

NAND Gates

	OR 1	OR 2	OR 3	OR 4	OR 5	OR 6
Input - A						
Input - B						
Output						

2 Input - OR Gates

	OR 7	OR 8
Input - A		
Input - B		
Input - C		
Input - D		
Output		

4 Input - OR Gates

	NOT 1	NOT 2	NOT 3	NOT 4
Input				
Output				

NOT Gates (Inverters)

	DELAY 1	DELAY 2	DELAY 3	DELAY 4	DELAY 5	DELAY 6
Input						
Delay Time						
Output						

DELAY Gates

Latch:	1	2	3	4	5	6	7	8
Set								
Reset								
Out								
/Out								

Logic Latches

Det. #	C-1 Pin #	Delay	Carry-over	Phase Assignmrnts	Detector Attributes	Detector Set Assignments
1	39			2	EB ADV 1	
2	40			6	WB ADV	
3	41			4		
4	42			8		
5	43			2	EB ADV 2	
6	44			6	WB ADV	
7	45			4		
8	46			8		
9	47			2		
10	48			6		
11	49			4		
12	50			8		
13	55			5	EBLT	
14	56			1	WBLT 1,2	
15	57			7		
16	58			3		
17	59			5		
18	60			1		
19	61			7		
20	62			3		
21	63			2	EB LIMIT 1,2	
22	64			6	WB LIMIT 1,2	
23	65			4	SB THRU	
24	66			8	NB LT/LIMIT 1	
25	67			2		
26	68			6		
27	69			4		
28	70			8		
29	76			2	EB LIMIT 3	
30	77			6	WB LIMIT 3	
31	78			4	SBLT	
32	79			8	NB LIMIT 2	

Detector Assignments

Detector Attributes
1 = Full Time Delay
2 = Ped Call
3 =
4 = Count
5 = Extension
6 = Type 3
7 = Calling
8 = Alternate

Detector Assignments
1 = Detector Set 1
2 = Detector Set 2
3 = Detector Set 3
4 =
5 =
6 = Failure - Min Recall
7 = Failure - Max Recall
8 = Report on Failure

	C-1 Pin #
Flash Sense	81
External Permit - 1	
External Permit - 2	
External Permit - 3	
Exclusive Ped Omit	
Max. Term Inhibit	
Max. 2	
External Lag Phases	
External Max. Recall	
Stop Time	82
Manual Control Enable	
Manual Cont. Advance	
External Min. Recall	

General Inputs

	C-1 Pin #
Plan 1	
Plan 2	
Plan 3	
Plan 4	
Plan 5	
Plan 6	
Plan 7	
Plan 8	
Plan 9	
Free	
Flash	

Coordination Plan Inputs

	C-1 Pin #
Phase - 1	
Phase - 2	
Phase - 3	
Phase - 4	
Phase - 5	
Phase - 6	
Phase - 7	
Phase - 8	

FYA Inhibit

	C-1 Pin #
Railroad - 1	51
Railroad - 2	52
Special Event - 1	
Special Event - 2	
Gate Down	
EV - A	71
EV - B	72
EV - C	73
EV - D	74

Preempt Inputs

	C-1 Pin #
Phase Bank - 2	
Phase Bank - 3	
Detector Set - 2	
Detector Set - 3	
Overlap Vehicle Set - 2	
Overlap Vehicle Set - 3	

Bank & Set Inputs

	C-1 Pin #
Gate Down	
Door Ajar	
UPS Battery	
UPS Power	
Cabinet Temperature	

	C-1 Pin #
Alarm - 1	
Alarm - 2	
Alarm - 3	
Alarm - 4	

Alarm Inputs

	C-1 Pin #
Advance Warning - 1	
Advance Warning - 2	
Detector Failure	
Flasher - Alternating 1	
Flasher - Alternating 2	
Fast Flasher	
On Line	
Exclusive - Walk	
Exclusive - Don't Walk	

General Outputs

	C-1 Pin #
Output - 1	
Output - 2	
Output - 3	
Output - 4	
Output - 5	
Output - 6	
Output - 7	
Output - 8	

Time of Day Outputs

	C-1 Pin #
Plan - 1	
Plan - 2	
Plan - 3	
Plan - 4	
Plan - 5	
Plan - 6	
Plan - 7	
Plan - 8	
Plan - 9	
Free	

Coordination Plan Out

	Ped Phase
Ped 2-P Loadswitch	2
Ped 4-P Loadswitch	4
Ped 6-P Loadswitch	6
Ped 8-P Loadswitch	8

Ped Loadswitch Assignment

	C-1 Pin #
Phase - 1	
Phase - 2	
Phase - 3	
Phase - 4	
Phase - 5	
Phase - 6	
Phase - 7	
Phase - 8	

FYA PPLT Outputs

	C-1 Pin #
Dial - 2	
Dial - 3	
Offset - 1	
Offset - 2	
Offset - 3	
Free	
Flash	

Seven Wire Outputs

	C-1 Pin #	
	On	Flash
Railroad - 1		
Railroad - 2		
Special Event - 1		
Special Event - 2		
Preempt Failure		
EV - A		
EV - B		
EV - C		
EV - D		
Any Preempt		

Preemption Outputs

	C-1 Pin #
Output - 1	
Output - 2	
Output - 3	
Output - 4	
Output - 5	
Output - 6	
Output - 7	
Output - 8	

Special Event Outputs

	C-1 Pin #
Output - 1	
Output - 2	
Output - 3	
Output - 4	
Output - 5	
Output - 6	
Output - 7	
Output - 8	

Special Function Output

	Phase Number							
	1	2	3	4	5	6	7	8
Red								
Yellow								
Green								
Walk								
Don't Walk								

Phase Output Redirection

	Overlap Number							
	1	2	3	4	5	6	7	8
Red								
Yellow								
Green								

Overlap Output Redirection

Event	Day of Week	Season	Hour	Minute	Plan	Offset
0						
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						
31						

Time Base Coordination Events

Event	Day of Week	Season	Hour	Minute	Funct.	Phase / Bits
0						
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						

Time of Day Function Events

TOD Functions
0 = Permitted Phases
1 = Red Lock
2 = Yellow Lock
3 = Vehicle Min Recall
4 = Ped Recall
5 =
6 = Rest In Walk
7 = Red Rest
8 = Double Entry
9 = Vehicle Max Recall
10 = Soft Recall
11= Max Extension 2
12 = Conditional Service
13 = Lag Free Phases
14, Bit 1 = Local Override
14, Bit 4 = Disable Det Off Monitoring
15 = TOD Outputs

#	Holiday Type	Day	Month	Year
0				
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				
26				
27				
28				
29				
30				
31				

Holiday Dates

Event	Holiday Type	Hour	Minute	Plan	Offset
0					
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
31					

Holiday Time Base Coordination Events

Event	Holiday Type	Hour	Minute	Funct.	Phase / Bits
0					
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					

Holiday Time of Day Function Events

Season #	Start Month	Start Day	End Month	End Day
1	1	1	12	31
2				
3				
4				
5				
6				
7				
8				

Season Definitions

Startup	
Red Start Time	5.0
Yellow Start Phases	___4___8
First Green Phases	_2___6__
Startup Vehicle Calls	12_456_8
Startup Ped Calls	_2_4_6_8

Detector Check	
Max ON Time	5
Max OFF Time	15
Chatter	45

Advance Warning Signs	Sign 1	Sign 2
Phase Number		
Time Before Yellow		

Flash Setup	
Flash Entry Phases	
Flash Phases Yellow	
Flash Overlaps Yellow	
Flash Type	

Configuration	
Exclusive Phases	
Protect / Permissive	
Disable Yellow Range	
Extra One	1 3 5
Lag Phases - Free	_2_4_6_8

Configuration	
Permitted Phases	12_456_8
Restricted Phases	
Disable Overlap Range	
Extra Two	
External Permit 1	
External Permit 2	
External Permit 3	

Miscellaneous	
Keyboard Beep	
Backlight Timeout	
Spec Evnt 1 - Ltd Serv Interval	
Spec Evnt 2 - Ltd Serv Interval	
Red Start	6.0
Flash Start	
Red Revert	6.0

Daylight Savings Time	
Spring Month (Begin)	
Spring Week (Begin)	
Fall Month (End)	
Fall Week (End)	

Manual	
Manual Plan	14
Manual Offset	

Manual Plan
1 thru 9 = Coordination Plan 1 thru 9
14 = Free
15 = Flash

Ethernet Port Address	
Address	
Area Number	
Area Address	
IP Port	
IP Address	
Subnet Mask	
Gateway	

Extra One
1 =
2 =
3 = Auto Daylight Savings
4 = Solid FDW on EV
5 = Extended Status
6 = International Ped
7 =
8 =

Extra Two
1 =
2 =
3 = Disable Min Walk
4 = QuicNet/4 System
5 = Ignor P/P on EV
6 =
7 =
8 =

Communications Parameters	Port 1	Port 2	Port 3	Port 4
Address				
Area Number				
Area Address				
Comm Time Out				
CTS Delay				
RTS Hold				
Baud Rate				
Data Format				

Event	Day of Week	Hour	Minute	Headway	Direction
0					
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					

Bus Headway Schedule

Approach	A	B	C	D
Travel Time				
Passage				
Extension				
Phases				

Bus Approach

	A	B	C	D
Phase 1				
Phase 2				
Phase 3				
Phase 4				
Phase 5				
Phase 6				
Phase 7				
Phase 8				

Non-Priority Phase Maximums

APPLE VALLEY - APPLE VALLEY RD. & PIMLICO RD.

Configuration Phase Sequence Page 1

Phase Ring (MM)1-1-1

Phase															
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1	1	1	1	2	2	2	2	1	1	2	2	1	1	2	2

Hardware Alternate Sequence Enable: No

Phase Ring Sequence

Sequence	Ring	Phase															
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
	Barrier Mode	B		B		B		B		B							
1	1	1	2	3	4	9	10	13	14	0	0	0	0	0	0	0	0
1	2	5	6	7	8	11	12	15	16	0	0	0	0	0	0	0	0
2	1	2	1	3	4	10	9	13	14	0	0	0	0	0	0	0	0
2	2	5	6	7	8	11	12	15	16	0	0	0	0	0	0	0	0
3	1	1	2	4	3	9	10	14	13	0	0	0	0	0	0	0	0
3	2	5	6	7	8	11	12	15	16	0	0	0	0	0	0	0	0
4	1	2	1	4	3	10	9	14	13	0	0	0	0	0	0	0	0
4	2	5	6	7	8	11	12	15	16	0	0	0	0	0	0	0	0
5	1	1	2	3	4	9	10	13	14	0	0	0	0	0	0	0	0
5	2	6	5	7	8	12	11	15	16	0	0	0	0	0	0	0	0
6	1	2	1	3	4	10	9	13	14	0	0	0	0	0	0	0	0
6	2	6	5	7	8	12	11	15	16	0	0	0	0	0	0	0	0
7	1	1	2	4	3	9	10	14	13	0	0	0	0	0	0	0	0
7	2	6	5	7	8	12	11	15	16	0	0	0	0	0	0	0	0
8	1	2	1	4	3	10	9	14	13	0	0	0	0	0	0	0	0
8	2	6	5	7	8	12	11	15	16	0	0	0	0	0	0	0	0
9	1	1	2	3	4	9	10	13	14	0	0	0	0	0	0	0	0
9	2	5	6	8	7	11	12	16	15	0	0	0	0	0	0	0	0
10	1	2	1	3	4	10	9	13	14	0	0	0	0	0	0	0	0
10	2	5	6	8	7	11	12	16	15	0	0	0	0	0	0	0	0
11	1	1	2	4	3	9	10	14	13	0	0	0	0	0	0	0	0
11	2	5	6	8	7	11	12	16	15	0	0	0	0	0	0	0	0
12	1	2	1	4	3	10	9	14	13	0	0	0	0	0	0	0	0
12	2	5	6	8	7	11	12	16	15	0	0	0	0	0	0	0	0
13	1	1	2	3	4	9	10	13	14	0	0	0	0	0	0	0	0
13	2	6	5	8	7	12	11	16	15	0	0	0	0	0	0	0	0
14	1	2	1	3	4	10	9	13	14	0	0	0	0	0	0	0	0
14	2	6	5	8	7	12	11	16	15	0	0	0	0	0	0	0	0
15	1	1	2	4	3	9	10	14	13	0	0	0	0	0	0	0	0
15	2	6	5	8	7	12	11	16	15	0	0	0	0	0	0	0	0
16	1	2	1	4	3	10	9	14	13	0	0	0	0	0	0	0	0
16	2	6	5	8	7	12	11	16	15	0	0	0	0	0	0	0	0

Phase Compatibility (MM)1-1-2

Phase 1	Phase 2
1	5
1	6
2	5
2	6
3	7
3	8
4	7
4	8
9	11
9	12
10	11
10	12
13	15
13	16
14	15
14	16

Phase Direction Descriptions

Phase	Description
1	SBLT
2	NB
4	EB
5	NBLT
6	SB
8	WB

Overlap Direction Descriptions

Overlap	Description

Administration (MM)1-7-1
Enable CRC Check: No
CRC: 0000
Request Download Program Data: No
Enable Automatic Backup to Datakey: No

CONSULTANT NAME
XXXX
XXXX
TRAFFIC SIGNAL TIMING

ASC/3
PROGRAM REFERENCE CARD

INTERSECTION: Apple Valley Rd. & Pimlico Rd Date Prepared: 1-27-17 By: ____

T.S. No.: ____ Date Implemented: ____ By: ____

CONTROLLER SUBMENU

2-1. CONTROLLER TIMING DATA

TIMING PLAN 1	PHASE DATA															
PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
MINIMUM GREEN	3	12	0	4	3	12	0	4								
BICYCLE MIN GREEN																
CONDITIONAL SERVICE MIN GRN																
DELAY GREEN																
WALK		7				7		7								
WALK 2																
WALK MAX																
PEDESTRIAN CLEARANCE		17				21		29								
PEDESTRIAN CLEARANCE 2																
PEDESTRIAN CLEARANCE MAX																
PEDESTRIAN CARRY OVER																
VEHICLE EXTENSION	1.5	0.1	0.0	2.0	1.5	0.1	0.0	2.0								
VEHICLE EXTENSION 2																
MAX 1	25	50	0	30	15	50	0	30								
MAX 2																
MAX 3																
DYNAMIC MAX																
DYNAMIC STEP																
YELLOW	3.6	5.5	3.0	4.1	3.6	5.5	3.0	3.6								
RED CLEARANCE	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0								
RED MAX																
RED REVERT	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0								
ACTUATIONS BEFORE (ACT B4)																
SEC/ACTUATION																
MAX ADDED INITIAL (MAX INI)																
TIME BEFORE GAP REDUCTION																
CARS WAITING B4 REDUCTION																
STEP TO REDUCE (STPTDUC)																
TIME TO REDUCE (TTREDUC)																
MINIMUM GAP																

Comments:

APPLE VALLEY - APPLE VALLEY RD. & PIMLICO RD.

Controller Start/Fash (MM) 2-5

Startup

Phase	Phase Setting
4	Y
8	Y

Overlap
A
B
C
D

Flash > Mon: No
Flash Time: 0
All Red: 4
Power Start Sequence: 1

Automatic Flash

Entry Phase
4
8

Exit Phase
4
8

Overlap Exit
A
B
C
D

Flash > Mon: No
Exit Flash Interval: W
Minimum Auto Flash: 8
Minimumin Recall: No
Cycle Through Phase: No

APPLE VALLEY - APPLE VALLEY RD. & PIMLICO RD.

Controller Options

Controller Options (MM)2-6-1

Phase	Flashing Green Phase	Guaranteed Passage	Non Act 1	Non Act 2	Dual Entry	Conditional Service	Conditional Reservice	Ped Reservice	Rest In Walk	Flashing Walk	Ped Clear Yellow	Ped Clear Red	IGRN + Veh Ext
4	No	No	No	No	Yes	No	No	No	No	No	No	No	No
8	No	No	No	No	Yes	No	No	No	No	No	No	No	No

Ped Clear Protect: Off Red Revert: 2.0

Act Pre-Time (MM)2-7

Pre-Time Mode Enable: No Free Input Enables Pre-Timed: Yes

Pre-Timed Phase

Phase Recall Options (MM)2-8

Plan	Phase	Lock Detector	Vehicle Recall	Ped Recall	Max Recall	Soft Recall	No Rest	AI Calc
1	2	No	Yes	No	No	No	No	No
1	6	No	Yes	No	No	No	No	No

APPLE VALLEY - APPLE VALLEY RD. & PIMLICO RD.

Preemptor Preempt Plan (MM)4-1

Preempt Phases

Preempt	Phase	Track Clear Veh	Dwell Veh	Dwell Ped	Cycling Veh	Cycling Ped	Exit Phase	Exit Calls	Special Function
3	1	No	Yes	No	No	No	No	No	No
3	6	No	Yes	No	No	No	No	No	No
4	4	No	Yes	No	No	No	No	No	No
4	8	No	Yes	No	No	No	No	No	No
5	2	No	Yes	No	No	No	No	No	No
5	5	No	Yes	No	No	No	No	No	No

Preempt Overlaps

Preempt	Overlap	Track Clear	Enable Trailing	Dwell Overlap	Cycling Overlap

Preempt	Enable	Preempt Override	Interlock Enable	Detector Lock	Delay	Inhibit	Override Flash	Duration	CLR > GRN
1	No	Yes	No	Yes	0	0	No	0	No
2	No	Yes	No	Yes	0	0	No	0	No
3	Standard	Yes	No	Yes	0	0	No	0	No
4	Standard	Yes	No	Yes	0	0	No	0	No
5	Standard	Yes	No	Yes	0	0	No	0	No
6	Standard	Yes	No	Yes	0	0	No	0	No
7	No	Yes	No	Yes	0	0	No	0	No
8	No	Yes	No	Yes	0	0	No	0	No
9	No	Yes	No	Yes	0	0	No	0	No
10	No	Yes	No	Yes	0	0	No	0	No

Preempt	Term Overlap Asap	PC Through Yellow	Terminate Phase	Ped Dark	Track Clearance Re-service	Dwell Flash	Linked Pmt	Flash Exit Color	Preempt To Coord
1	No	No	No	No	No	Off	0	Green	No
2	No	No	No	No	No	Off	0	Green	No
3	No	No	No	No	No	Off	0	Green	No
4	No	No	No	No	No	Off	0	Green	No
5	No	No	No	No	No	Off	0	Green	No
6	No	No	No	No	No	Off	0	Green	No
7	No	No	No	No	No	Off	0	Green	No
8	No	No	No	No	No	Off	0	Green	No
9	No	No	No	No	No	Off	0	Green	No
10	No	No	No	No	No	Off	0	Green	No

Preempt	Exit Timing Plan	Reservice	Free During Pmt Ring 1	Free During Pmt Ring 2	Free During Pmt Ring 3	Free During Pmt Ring 4
1	0	0	No	No	No	No
2	0	0	No	No	No	No
3	0	0	No	No	No	No
4	0	0	No	No	No	No
5	0	0	No	No	No	No
6	0	0	No	No	No	No
7	0	0	No	No	No	No
8	0	0	No	No	No	No
9	0	0	No	No	No	No
10	0	0	No	No	No	No

Preempt	Entrance Walk	Entrance Ped Clear	Entrance Min Green	Entrance Yellow	Entrance Red	Track Clear Min Green	Gate Down Ext Green	Gate Down Max Green	Track Clear Yellow	Track Clear Red
1	0	255	5	4.0	1.0	0	0	0	4.0	1.0
2	0	255	5	4.0	1.0	0	0	0	4.0	1.0
3	0	255	5	5.5	1.0	0	0	0	4.0	1.0
4	0	255	5	5.5	1.0	0	0	0	4.0	1.0
5	0	255	5	5.5	1.0	0	0	0	4.0	1.0
6	0	255	5	4.0	1.0	0	0	0	4.0	1.0
7	0	255	5	4.0	1.0	0	0	0	4.0	1.0
8	0	255	5	4.0	1.0	0	0	0	4.0	1.0
9	0	255	5	4.0	1.0	0	0	0	4.0	1.0
10	0	255	5	4.0	1.0	0	0	0	4.0	1.0

Preempt	Min Dwell Time	Extend Preempt Input Time	Max Preempt Call Time	Exit Yellow Time	Exit Red Time	Preempt Active Out	Preempt Active Dwell	Other Priority Preempt	Non-Priority Preempt
1	0	0.0	0	4.0	1.0	On	No	Off	Off
2	0	0.0	0	4.0	1.0	On	No	Off	Off
3	0	0.0	0	4.0	1.0	On	No	Off	Off
4	0	0.0	0	4.0	1.0	On	No	Off	Off
5	0	0.0	0	4.0	1.0	On	No	Off	Off
6	0	0.0	0	4.0	1.0	On	No	Off	Off
7	0	0.0	0	4.0	1.0	On	No	Off	Off
8	0	0.0	0	4.0	1.0	On	No	Off	Off
9	0	0.0	0	4.0	1.0	On	No	Off	Off
10	0	0.0	0	4.0	1.0	On	No	Off	Off

APPLE VALLEY - APPLE VALLEY RD. & PIMLICO RD.

Detectors

Detectors Page 1

Vehicle Detectors Setup (MM)6-1

Vehicle Plan	Detector Number	Called
1	1	2
1	3	5
1	4	2
1	5	6
1	7	1
1	8	6
1	9	4
1	11	4
1	13	8
1	15	8

Vehicle Detector Setup (MM)6-2 continued

Detector Number	ECPI	TS2 Detector	Detector Description
1	0	Yes	PH 2 NB ADV 1,2
3	0	Yes	PH 5 NBLT
4	0	Yes	PH 2 NB LIMIT 1,2
5	0	Yes	PH 6 SB ADV 1,2
7	0	Yes	PH 1 SBLT
8	0	Yes	PH 6 SB LIMIT 1,2
9	0	Yes	EBLT THRU LIMIT
11	0	Yes	EBRT PH 4 ADV
13	0	Yes	WBLT THRU PH 8 LIMIT
15	0	Yes	WBRT PH 8 ADV

Vehicle Detector Setup (MM)6-2 continued

Detector Number	Vehicle Plan	Assigned Phase	Switch Phase	Extend Time	Delay Time	Queue Limit	Yellow Lock	Added Option	Call Option	Passage Option	Queue Option	NTCIP Occupancy	NTCIP Volume
1	1	2	0	5.0	0.0	0	No	No	Yes	Yes	No	No	No
3	1	5	0	0.0	0.0	0	No	No	Yes	Yes	No	No	No
4	1	2	0	0.5	0.0	0	No	No	Yes	Yes	No	No	No
5	1	6	0	5.0	0.0	0	No	No	Yes	Yes	No	No	No
7	1	1	0	0.0	0.5	0	No	No	Yes	Yes	No	No	No
8	1	6	0	0.5	0.0	0	No	No	Yes	Yes	No	No	No
9	1	4	0	0.0	0.0	0	No	No	Yes	Yes	No	No	No
11	1	4	0	0.0	10.0	0	No	No	Yes	Yes	No	No	No
13	1	8	0	0.0	0.0	0	No	No	Yes	Yes	No	No	No
15	1	8	0	0.0	10.0	0	No	No	Yes	Yes	No	No	No

Ped and System Detector Options (MM)6-4

Phase Ped Detector

Local Ped Detector	Number
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9
10	10
11	11
12	12
13	13
14	14
15	15
16	16

Local System Detector

Local System Detector	Number

~~10-24-19~~ 9/17/2020 V.1

Bear Valley Rd. @ Apple Valley Rd.

Phase Times [1.1.1]

EB ~~W~~ SB ~~N~~ WB ~~E~~ ~~S~~ NB

	WB 1 LT	2	NB 3 LT	4	EB 5 LT	6	SB 7 LT	8	9	10	11	12	13	14	15	16
Min Grn	3	10	3	10	3	10	3	10								
Gap, Ext			20				20									
Max 1	25	70	~~15~~	35	45	70	~~15~~	35								
Max 2																
Yel Clr	3.6	5.2	3.6	5.2	3.6	5.2	3.6	5.2								
Red Clr	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0								
Walk		7		7		7		7								
Ped Clr		~~32~~ 35		~~35~~ 36		~~30~~ 31		~~35~~ 40								
Red Revt	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0								
Add Init																
Max Init																
Gap Reduction																
Time B4		20		12		20		12								
Cars B4																
Time To		20		12		20		12								
ReducBy		0.1		0.1		0.1		0.1								
Min Gap	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0								
DyMaxLim																
Max Step																

Phase Times [1.1.1] BEAR VALLEY Rd + LOW'S ENTERANCE

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Min Grn		10		3	5	10										
Gap, Ext		3.0		2.0	3.0	3.0										
Max 1		40		25	15	40										
Max 2		40		25	15	40										
Yel Clr		5.5		3.6	3.6	5.5										
Red Clr		1.5		1.0	1.5	1.0										
Walk				5		5										
Ped Clr				20		10										
Red Revt		6.0		6.0	6.0	6.0										
Add Init																
Max Init																

Gap Reduction																
Time B4																
Cars B4																
Time To																
ReducBy																
Min Gap																
DyMaxLim																
Max Step																

Bear Valley Road at Lowe's Entrance

Phase Options [1.1.2]

	1	2	3	4	5	6	7	8	9	10	11	13	14	15	16
Enable		X		X	X	X									
Min Recall		X				X									
Max Recall															
Ped Recall															
Soft Recall															
Lock Calls															
Flash Entry															
Flash Exit															
Dual Entry		X				X									
Enable Sim Gap		X		X	X	X									
Max Passage															
Rest In Walk															
Cond Service															
Non-Act 1															
Non-Act 2															
Add Init Calc	S	S	S	S	S	S	S	S							

Bear Valley Road at Lowe's Entrance

Phase Options+ [1.1.3]

	1	2	3	4	5	6	7	8	9	10	11	13	14	15	16
Reservice															
Walk Thru Yel															
Skip Red															
Red Rest															
Max II															
Ped Delay															
Conflicting Φ															
Grn-Ped Delay															
Omit Yel															
Ped Out/Olap															
Start Yel															

Bear Valley Road at Lowe's Entrance

Ring, Start, Concurrency [1.1.4]

Phase	Direction	Ring	Start Up	Concurrent Phases						
1		1	RED	6	6					
2		1	GRN	5	6					
3		1	RED	7	8					
4		1	RED	7	8					
5		2	RED	1	2					
6		2	GRN	1	2					
7		2	RED	3	4					
8		2	RED	3	4					
9										
10										
11										
12										
13										
14										
15										
16										

Inhibt Phase [1.1.5]

BEAR VALLEY RD. AT LOWE'S ENTRANCE

Phase	1	2	3	4	5	6	7	8	9	10	11	13	14	15	16
1															
2															
3															
4															
5															
6															
7															
8															
9															
10															
11															
12															
13															
14															
15															
16															

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Unit Parameters [1.2.1]

BEAR VALLEY ROAD AT LOWE'S ENTRANCE

Start Up Flash (s)	10	Red Revert	3.0
Backup Time (m)	0	Auto Ped Clear	OFF
Local Flash Start	OFF	Display Time	10
Allow <3 Sec Yel	OFF	Tone Disable	OFF
Allow Skip Yellow	OFF	H/W Station ID	
Start Red Time	5.0	Phase Mode	STD8
Disable Init Ped	OFF	Enable Run	ON
TOD Dim Enable	OFF	Diamond Mode	4 (PHASE)
SDLC Retry Time	0	TS2 Det Flts	OFF
Stop TM Over Pmpt	OFF	Free Ring Seq	1
Feature Profile	0	I/O Mode	AUTO
Max Seek Trak Tim	0	Max Cycle Tm	0
Max Seek Dwel Tim	0	CycFlt Actn	ALARM
Prmpt/Ext Coor Out-	EXT.	Invert Rail In	OFF

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Ring Sequence [1.2.4] BEAR VALLEY ROAD AT LOWE'S ENTRANCE

Seq #	Ring	Sequence of Phases							
1	1	1	2	3	4				
1	2	5	6	7	8				
1	3								
1	4								
2	1	1	2	3	4				
2	2	6	5	7	8				
2	3								
2	4								
3	1	2	1	3	4				
3	2	5	6	7	8				
3	3								
3	4								
4	1	2	1	3	4				
4	2	6	5	7	8				
4	3								
4	4								
5	1	1	2	3	4				
5	2	5	6	8	7				
5	3								
5	4								
6	1	1	2	3	4				
6	2	6	5	8	7				
6	3								

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6	4							
7	1	2	1	3	4			
7	2	5	6	8	7			
7	3							
7	4							
8	1	2	1	3	4			
8	2	6	5	8	7			
8	3							
8	4							
9	1	1	2	4	3			
9	2	5	6	7	8			
9	3							
9	4							
10	1	1	2	4	3			
10	2	6	5	7	8			
10	3							
10	4							
11	1	2	1	4	3			
11	2	5	6	7	8			
11	3							
11	4							
12	1	2	1	4	3			
12	2	6	5	7	8			
12	3							
12	4							

13	1	1	2	4	3				
13	2	5	6	8	7				
13	3								
13	4								
14	1	1	2	4	3				
14	2	6	5	8	7				
14	3								
14	4								
15	1	2	1	4	3				
15	2	5	6	8	7				
15	3								
15	4								
16	1								
16	2								
16	3								
16	4								

Ring Parameters + [1.2.5]

Ring Input Map

Ring #	1	2	3	4
Use Ring Input #	1	2	1	2

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Chan/SDLC, Assign to Φs [1.3.1] BEAR VALLEY ROAD AT LOWE'S ENTRANCE

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Φ/Olp#	1	2	3	4	5	6	7	8	1	2	3	4	2	4	6	8
Type	VEH	VEH	VEH	VEH	VEH	VEH	VEH	VEH	OLP	OLP	OLP	OLP	PED	PED	PED	PED
Flash	RED	RED	RED	RED	RED	RED	RED	RED	RED	RED	RED	RED	DRK	DRK	DRK	DRK
Alt Hz																
Dim Grn																
Dim Yel																
Dim Red																
Dim Cyc	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+

Chan/SDLC, Channels 17-24 [1.3.2]

	17	18	19	20	21	22	23	24
Φ/Olp#	1	3	5	7				
Type	PED	PED	PED	PED	VEH	VEH	VEH	VEH
Flash	DRK	DRK	DRK	DRK	DRK	DRK	DRK	DRK
Alt Hz								
Dim Grn								
Dim Yel								
Dim Red								
Dim Cyc	+	+	+	+	+	+	+	+

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Chan/SDLC, Parameters [1.3.3] BEAR VALLEY ROAD AT LOWE'S ENTRANCE

Chan 17-24 Mapping	DEFAULT
D Conn Mapping	TX2-V14
ALT T&F Biu Map	SINGLE TF BIU

Chan/SDLC, MMU Map [1.3.5]

MMU-to-Controller Channel Map

MMU Chan	1	2	3	4	5	6	7	8
1-8	1	2	3	4	5	6	7	8
9-16	9	10	11	12	13	14	15	16

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Alarms, Parameters [1.4.1]

BEAR VALLEY ROAD AT LOWES ENTRANCE

Auto Flash Parameter

Mode	CHANNEL
Source	D-CONN

Clearance Times

Yellow	3.5
Red	1.5

Alarms, Phases/Overlaps [1.4.2]

Auto Flash

Flash Yellow

Phases								
(more)								
Overlaps								
(more)								

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Preemption 1, Times [3.1]

BEAR VALLEY ROAD AT LOWE'S ENTRANCE

Delay	0	MinGrn	4	Track Grn	0
MinDura	5	MinWlk	0	Min Dwell	5
MaxPres	120	PedClr	0		

Preemption 1, Phases [3.2]

Track Veh								
Dwell Veh	2	5						
Dwell (more)								
Dwell Ped								
Exit	2	6						

Preemption 1, Options [3.3]

Lock Input	ON
Override Auto Flash	ON
Override Higher # Preempt	ON
Flash in Dwell	OFF
Link to Preempt #	0

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Preemption 1, Times+ [3.4]

Extend Dwell	0
Return Max	0

PedClr	0
Yel	5
Red	0.5

Preemption 1, Overlaps+ [3.5]

Track								
(more)								
Dwell								
(more)								

Preemption 1, Options+ [3.6]

Enable	ON
Type	EMERG
Output	TS2

Pattern	0
Skip if Override	OFF
Coord+Preempt	OFF

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Preemption 2, Times [3.1]

Delay	0	MinGrn	4	Track Grn	0
MinDura	5	MinWlk	0	Min Dwell	5
MaxPres	120	PedClr	10		

Preemption 2, Phases [3.2]

Track Veh								
Dwell Veh	2	6						
Dwell (more)								
Dwell Ped								
Exit	2	6						

reemption 2, Options [3.3]

Lock Input	ON
Override Auto Flash	ON
Override Higher # Preempt	ON
Flash In Dwell	OFF
Link to Preempt #	0

Preemption 2, Times+ [3.4]

Extend Call	0
Return Max	0

PedClr	0
Yel	5
Red	0.5

Preemption 2, Overlaps+ [3.5]

Track								
(more)								
Dwell								
(more)								

Preemption 2, Options+ [3.6]

Enable	ON
Type	EMERG
Output	TS2

Pattern	0
Skip if Override	OFF
Coord+Preempt	OFF

Preemption 3, Times [3.1]

Delay	0
MinDura	5
MaxPres	120

MinGrn	4
MinWlk	0
PedClr	20

Track Grn	0
Min Dwell	5

Preemption 3, Phases [3.2]

Track Veh								
Dwell Veh	4							
Dwell (more)								
Dwell Ped								
Exit	4							

Preemption 3, Options [3.3]

Lock Input	ON
Override Auto Flash	ON
Override Higher # Preempt	ON
Flash in Dwell	OFF
Link to Preempt #	0

Preemption 3, Times+ [3.4]

Extend Dwell	0
Return Max	0

PedClr	0
Yel	3
Red	0

Preemption 3, Overlaps+ [3.5]

Track								
(more)								
Dwell								
(more)								

Preemption 3, Options+ [3.6]

Enable	ON
Type	EMERG
Output	TS2

Pattern	0
Skip if Override	OFF
Coord+Preempt	OFF

Preemption 4, Times [3.1]

Delay	0
MinDura	5
MaxPres	120

MinGrn	4
MinWlk	0
PedClr	20

Track Grn	0
Min Dwell	5

Preemption 4, Phases [3.2]

Track Veh								
Dwell Veh	4							
Dwell (more)								
Dwell Ped								
Exit	4							

Preemption 4, Options [3.3]

Lock Input	ON
Override Auto Flash	ON
Override Higher # Preempt	ON
Flash in Dwell	OFF
Link to Preempt #	0

Preemption 4, Times+ [3.4]

Extend Dwell	0
Return Max	0

PedClr	0
Yel	3.0
Red	0

Preemption 4, Overlaps+ [3.5]

Track								
(more)								
Dwell								
(more)								

Preemption 4, Options+ [3.6]

Enable	OFF
Type	EMERG
Output	TS2

Pattern	0
Skip If Override	OFF
Coord+Preempt	OFF

Preemption 5, Times [3.1]

Delay		MinGrn		Track Grn	
MinDura		MinWlk		Min Dwell	
MaxPres		PedClr			

Preemtion 5, Phases [3.2]

Track Veh								
Dwell Veh								
Dwell (more)								
Dwell Ped								
Exit								

Preemption 5, Options [3.3]

Lock Input	ON
Override Auto Flash	ON
Override Higher # Preempt	ON
Flash in Dwell	ON
Link to Preempt #	0

Preemption 5, Times + [3.4

Extend Dwell	
Return Max	

PedClr	
Yel	
Red	

Preemption 5, Overlaps + [3.5]

Track								
(more)								
Dwell								
(more)								

Preemption 5, Options + [3.6]

Enable	OFF
Type	EMERG
Output	TS2

Pattern	0
Skip if Override	OFF
Coord+Preempt	OFF

BEAR VALLEY ROAD AT LOWE'S ENTRANCE

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Detector, Vehicle Parameters 1-16 [5.1] Programming Sheets

Det#	Call Φ	Switch Φ	Delay	Extend	Queue	NoAct	MaxPres	ErrCnt	FailTime
1									
2	2								
3									
4	4		1						
5	5		3						
6	6								
7	4		5						
8									
9									
10	2			2					
11									
12									
13									
14	6			2					
15									
16									

BEAR VALLEY ROAD AT LOWE'S ENTRANCE

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Detector, Vehicle Options 1-16 [5.2]

Programming Sheets

Det#	Call	Extend	Queue	Add Init	Red Lock	Yel Lock	Occup	Volume
1	X	X					X	X
2	X	X					X	X
3	X	X					X	X
4	X	X					X	X
5	X	X					X	X
6	X	X					X	X
7	X	X					X	X
8	X	X					X	X
9	X	X					X	X
10	X	X					X	X
11	X	X					X	X
12	X	X					X	X
13	X	X					X	X
14	X	X					X	X
15	X	X					X	X
16	X	X					X	X

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Programming Sheets

Detector, Ped Parameters [5.4]

Det#	Call	NoAct	MaxPres	ErrCnt
1				
2	2			
3				
4	4			

Det#	Call	NoAct	MaxPres	ErrCnt
5				
6	6			
7				
8	8			

APPLE VALLEY - Bear Valley & Deep Creek (Active)

Configuration Phase Sequence

Controller Sequence (MM)1-1-1

Hardware Alternate Sequence Enable: No

Phase Ring Sequence.....(Note: Sequences identical to the prior one are not printed)

	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16
	B		B		B		B		B							
Sequence 1																
Ring 1	**1**	**2**	**3**	**4**	**9**	**10**	**13**	**14**	.	.	.	.	.	.	.	.
Ring 2	**5**	**6**	**7**	**8**	**11**	**12**	**15**	**16**	.	.	.	.	.	.	.	.
Sequence 2																
Ring 1	**2**	**1**	**3**	**4**	**10**	**9**	**13**	**14**	.	.	.	.	.	.	.	.
Ring 2	**5**	**6**	**7**	**8**	**11**	**12**	**15**	**16**	.	.	.	.	.	.	.	.
Sequence 3																
Ring 1	**1**	**2**	**4**	**3**	**9**	**10**	**14**	**13**	.	.	.	.	.	.	.	.
Ring 2	**5**	**6**	**7**	**8**	**11**	**12**	**15**	**16**	.	.	.	.	.	.	.	.
Sequence 4																
Ring 1	**2**	**1**	**4**	**3**	**10**	**9**	**14**	**13**	.	.	.	.	.	.	.	.
Ring 2	**5**	**6**	**7**	**8**	**11**	**12**	**15**	**16**	.	.	.	.	.	.	.	.
Sequence 5																
Ring 1	**1**	**2**	**3**	**4**	**9**	**10**	**13**	**14**	.	.	.	.	.	.	.	.
Ring 2	**6**	**5**	**7**	**8**	**12**	**11**	**15**	**16**	.	.	.	.	.	.	.	.
Sequence 6																
Ring 1	**2**	**1**	**3**	**4**	**10**	**9**	**13**	**14**	.	.	.	.	.	.	.	.
Ring 2	**6**	**5**	**7**	**8**	**12**	**11**	**15**	**16**	.	.	.	.	.	.	.	.
Sequence 7																
Ring 1	**1**	**2**	**4**	**3**	**9**	**10**	**14**	**13**	.	.	.	.	.	.	.	.
Ring 2	**6**	**5**	**7**	**8**	**12**	**11**	**15**	**16**	.	.	.	.	.	.	.	.
Sequence 8																
Ring 1	**2**	**1**	**4**	**3**	**10**	**9**	**14**	**13**	.	.	.	.	.	.	.	.
Ring 2	**6**	**5**	**7**	**8**	**12**	**11**	**15**	**16**	.	.	.	.	.	.	.	.
Sequence 9																
Ring 1	**1**	**2**	**3**	**4**	**9**	**10**	**13**	**14**	.	.	.	.	.	.	.	.
Ring 2	**5**	**6**	**8**	**7**	**11**	**12**	**16**	**15**	.	.	.	.	.	.	.	.
Sequence 10																
Ring 1	**2**	**1**	**3**	**4**	**10**	**9**	**13**	**14**	.	.	.	.	.	.	.	.
Ring 2	**5**	**6**	**8**	**7**	**11**	**12**	**16**	**15**	.	.	.	.	.	.	.	.
Sequence 11																
Ring 1	**1**	**2**	**4**	**3**	**9**	**10**	**14**	**13**	.	.	.	.	.	.	.	.
Ring 2	**5**	**6**	**8**	**7**	**11**	**12**	**16**	**15**	.	.	.	.	.	.	.	.

Sequence 12

Ring 1	**2**	**1**	**4**	**3**	**10**	**9**	**14**	**13**	.	.	.	.	.	.	.	.
Ring 2	**5**	**6**	**8**	**7**	**11**	**12**	**16**	**15**	.	.	.	.	.	.	.	.

Sequence 13

Ring 1	**1**	**2**	**3**	**4**	**9**	**10**	**13**	**14**	.	.	.	.	.	.	.	.
Ring 2	**6**	**5**	**8**	**7**	**12**	**11**	**16**	**15**	.	.	.	.	.	.	.	.

Sequence 14

Ring 1	**2**	**1**	**3**	**4**	**10**	**9**	**13**	**14**	.	.	.	.	.	.	.	.
Ring 2	**6**	**5**	**8**	**7**	**12**	**11**	**16**	**15**	.	.	.	.	.	.	.	.

Sequence 15

Ring 1	**1**	**2**	**4**	**3**	**9**	**10**	**14**	**13**	.	.	.	.	.	.	.	.
Ring 2	**6**	**5**	**8**	**7**	**12**	**11**	**16**	**15**	.	.	.	.	.	.	.	.

Sequence 16

Ring 1	**2**	**1**	**4**	**3**	**10**	**9**	**14**	**13**	.	.	.	.	.	.	.	.
Ring 2	**6**	**5**	**8**	**7**	**12**	**11**	**16**	**15**	.	.	.	.	.	.	.	.

Phases In Use / Exclusive PED (MM)1-2

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Phases in Use	X	X				X		X								
Exclusive PED																

Phase Compatibility (MM)1-1-2

Phase	Compatible Phase
n/a	Barrier Mode

Phase and Overlap Descriptions

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Description	WBLT	EB				WB		NB								
Overlap	A	B	C	D	E	F	G	H	I	J	L	K	L	M	N	O
Description																

Administration (MM)1-7-1

Enable CU/Cabinet Interlock CRC	No
Request Download Controller Data	No
Controller Database CRC	0000
Enable Automatic Backup to Datakey	No

Backup Prevent (MM)1-1-3

	Phases	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Timing /	**1**		.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Backup	**2**	.		.	.	.	.	.	.	.	.	.	.	.	.	.	.
	3	.	.		.	.	.	.	.	.	.	.	.	.	.	.	.
	4	.	.	.		.	.	.	.	.	.	.	.	.	.	.	.
	5	.	.	.	.		.	.	.	.	.	.	.	.	.	.	.
	6	.	.	.	.	.		.	.	.	.	.	.	.	.	.	.
	7	.	.	.	.	.	.		.	.	.	.	.	.	.	.	.
	8	.	.	.	.	.	.	.		.	.	.	.	.	.	.	.
	9	.	.	.	.	.	.	.	.		.	.	.	.	.	.	.
	10	.	.	.	.	.	.	.	.	.		.	.	.	.	.	.
	11	.	.	.	.	.	.	.	.	.	.		.	.	.	.	.
	12	.	.	.	.	.	.	.	.	.	.	.		.	.	.	.
	13	.	.	.	.	.	.	.	.	.	.	.	.		.	.	.
	14	.	.	.	.	.	.	.	.	.	.	.	.	.		.	.
	15	.	.	.	.	.	.	.	.	.	.	.	.	.	.		.
	16	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	

Simultaneous Gap (MM)1-1-4

	Phases	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
	1		.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
	2	.		.	.	.	X	.	.	.	.	.	.	.	.	.	X
	3	.	.		.	.	.	.	.	.	.	.	.	.	.	.	.
	4	.	.	.		.	.	.	.	.	.	.	.	.	.	.	.
	5	.	.	.	.		.	.	.	.	.	.	.	.	.	.	.
Phase	**6**	.	X	.	.	.		.	.	.	.	.	.	.	.	.	.
Must	**7**	.	.	.	.	.	.		.	.	.	.	.	.	.	.	.
Gap	**8**	.	.	.	.	.	.	.		.	.	.	.	.	.	.	.
With	**9**	.	.	.	.	.	.	.	.		.	.	.	.	.	.	.
Phase	**10**	.	.	.	.	.	.	.	.	.		.	.	.	.	.	.
	11	.	.	.	.	.	.	.	.	.	.		.	.	.	.	.
	12	.	.	.	.	.	.	.	.	.	.	.		.	.	.	.
	13	.	.	.	.	.	.	.	.	.	.	.	.		.	.	.
	14	.	.	.	.	.	.	.	.	.	.	.	.	.		.	.
	15	.	.	.	.	.	.	.	.	.	.	.	.	.	.		.
	16	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	
	Disable	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

Load Switch Assignments (MMU Channel) (MM)1-3

Phase / Overlap	Type	Dimming	Power Up	Auto	Flash Together

			Red	Yellow	Green	Dark	Auto	Red	Yellow	Dark	Red	Yellow	
1	1	V				+	X				X		
2	2	V				+	X				X		X
3	0					+	X				X		
4	0					+	X				X		X
5	0					-	X				X		
6	6	V				-	X				X		X
7	0					-	X				X		
8	8	V				-	X				X		X
9	0					+	X						
10	0					+	X						
11	0					-	X						
12	0					-	X						
13	2	P				+	X				X		
14	0					-	X				X		X
15	0					+	X				X		
16	8	P				-	X				X		X

APPLE VALLEY - Bear Valley & Deep Creek (Active)

Configuration Port 1 (SDLC)

SDLC Options (MM)1-4-1

BIU	1	2	3	4	5	6	7	8
Term and Facility Enable								
Detector Rack Enable	X							

Enable TS2/MMU Type Cabinet: Yes
Enable MMU Extended Status: Yes
Enable SDLC Stop Time: No
Enable 3 Critical RFE's Lockup: Yes

MMU Program (MM)1-4-2

Channel Can Serve with Channel	
Channel 1	Channel 2
1	6
2	6
2	13
6	13
8	16

Color Check Enable (MM)1-4-3
Enable Color Check: Yes

MMU Channel	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Green	X	X				X		X					X			X
Yellow	X	X				X		X								
Red	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

Secondary To Secondary Addressing (MM)1-4-4

ID	1	2	3	4	5	6	7	8	MMU
Term and Facility Enable									

ID	1	2	3	4	5	6	7	8	Diag
Detector Rack Enable									

APPLE VALLEY - Bear Valley & Deep Creek (Active)

Configuration Communications

Ethernet Port Configuration (MM)1-5-1		**NTCIP Parameters (MM)1-5-5**	
Controller IP:	10.70.10.51	Backup Time:	0
Subnet Mask:	255.0.0.0	UDP Port:	501
Default Gateway IP:	0.0.0.0	Ethernet Priority:	1
Server IP:	10.70.10.1	Port 2 Priority:	4
		Port 3A Priority:	2
		Port 3B Priority:	3

Port Configuration (MM)1-5-2 to 1-5-4

Port	2 (C50S)	3A (C21S)	3B (C22S)
Protocol	NTCIP	NTCIP	ECPIP
Enable	Yes	No	Yes
Data Rate	9600	19.2K	1200
Data Parity Stop	8 N 1	8 N 1	8 0 1
Modem Setup String	None	None	None
User String			
Comm Port Address	1	0	10
System Detector 9-1	0	0	0
Telemetry Response Delay	0.0	0.0	0.9
Duplex Half/Full	Half	Full	Full
Flow Control	Yes	Yes	Yes
AB3418 NTCIP Group Address	0	0	0
AB3418 NTCIP Single Flag Enable	No	No	No
RTS to CTS Delay	0.0	0.0	3.0
RTS Turn Off Delay	0.0	0.0	2.0
Droupout Time	10	10	300
Early RTS	No	No	No
Telemetry Mode	FSK	FSK	FSK
Rail Road	0	0	0
Rail Road Line	0	0	0
ATCS Group	0	0	0
Wayside Device	0	0	0
ATCS Device	0	0	0
Wayside SubNode	0	0	0
ATCS SubNode	0	0	0

ECPIP Parameters (MM)1-5-6

Controller Address: 10

Expanded System Detector Address: 0

Local System Detector	
Local System Detector	Number

APPLE VALLEY - Bear Valley & Deep Creek (Active)

Configuration Logging/Display

Event Logging (MM)1-6-1

Critical RFE's	Yes	3 Critical RFE's in 24 Hours	Yes
MMU Flash Faults	Yes	Local Flash Faults	Yes
Non-Critical RFE's (Det/Test)	Yes	Detector Errors	Yes
Coordination Errors	Yes	Controller Download	Yes
Preempt	Yes	TSP	Yes
Power On/Off	Yes	Low Battery	Yes
Access	Yes	Data Change	Yes
Online/Offline	Yes		

Alarm Log	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Enable Logging	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

Display Options (MM)1-7-2

Key Click Enable:	No
Backlight Enable:	Yes
LED Mode:	Auto
Main Status Display Mode:	Basic
Screen Format:	Advanced
Trans Mode Pop-up Disable:	No

Sign On (MM)8-5

Sign On Message Line 1: Solutions that Move the World

Sign On Message Line 2:

APPLE VALLEY - Bear Valley & Deep Creek (Active)

Controller Timing Plan (MM)2-1

Plan 1

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Direction	**WBLT**	**EB**				**WB**		**NB**								
Min Green	3	10	0	0	3	10	0	4	0	0	0	0	0	0	0	0
BK Min Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CS Min Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Delay Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Walk	0	7	0	0	0	0	0	7	0	0	0	0	0	0	0	0
Walk 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Walk Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Clear	0	15	0	0	0	0	0	21	0	0	0	0	0	0	0	0
Ped Clear 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Clear Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped CO	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Vehicle Ext	1.5	2.5	0.0	0.0	1.5	2.8	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Vehicle Ext 2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max 1	15	55	0	0	20	60	0	20	0	0	0	0	0	35	0	0
Max 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Max 3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DYM Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DYM Stp	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Yellow	3.6	6.0	3.0	3.0	3.6	6.0	3.0	5.5	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Red Clear	1.0	2.0	0.0	0.0	1.0	2.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0
Red Max	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Red Revert	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
ACT B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEC/ACT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max Int	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Time B4	0	18	0	0	0	18	0	0	0	0	0	0	0	0	0	0
Cars Wt	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STPT Duc	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To	0	18	0	0	0	18	0	0	0	0	0	0	0	0	0	0

Reduce																
Min Gap	0.0	5.0	0.0	0.0	0.0	5.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

APPLE VALLEY - Bear Valley & Deep Creek (Active)

Controller Start/Fash (MM) 2-5

Startup

Phase	Phase Setting
8	Y

Overlap
A
B
C
D

Flash > Mon:	No
Flash Time:	0
All Red:	4
Power Start Sequence:	1
MUTCD Enabled:	No
MUTCD Yellow to Green:	n/a

Automatic Flash

Entry Phase
2
6

Exit Phase
2
6

Overlap Exit
A
B
C
D

Flash > Mon:	No
Exit Flash Interval:	Y
Minimum Auto Flash:	8
Minimumin Recall:	No
Cycle Through Phase:	No

APPLE VALLEY - Bear Valley & Deep Creek (Active)

Controller Options

Controller Options (MM)2-6-1

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Flashing Green Phase																
Guaranteed Passage																
Non Act 1																
Non Act 2																
Dual Entry		X				X										
Conditional Service																
Conditional Reservice																
Ped Reservice																
Rest In Walk																
Flashing Walk																
Ped Clear Yellow																
Ped Clear Red																
IGRN + Veh Ext																

Ped Clear Protect: Off

Red Revert: 0.0

MUTCD 3 Seconds Don't Walk: No

Act Pre-Time (MM)2-7

Pre-Time Mode Enable: No

Free Input Enables Pre-Timed: Yes

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Pre-Timed Phase																

Phase Recall Options (MM)2-8

Plan 1

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Lock Detector																
Vehicle Recall		X				X										
Ped Recall																
Max Recall																
Soft Recall																
No Rest																
AI Calc																

APPLE VALLEY - Bear Valley & Deep Creek (Active)

Preemptor

Preempt Plan (MM)4-1

Plan 4

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Overlap	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
Track Clear Vehicle																
Track Clear Overlap																
Enable Trailing	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Dwell Vehicle								X								
Dwell Ped																
Dwell Overlap																
Cycling Vehicle																
Cycling Ped																
Cycling Overlap																
Exit Phase																
Exit Calls																
Special Funciton																

Enable	Yes	Preempt Override	Yes	Interlock Enable	No
Detector Lock	Yes	Delay	0	Inhibit	0
Override Flash	No	Duration	0	CLR > GRN	No
Term Overlap Asap	No	PC Through Yellow	No	Terminate Phase	No
Ped Dark	No	Track Clear Rsrv	No	Dwell Flash	Off
Linked Pmt	0	Flash Exit Color	Green	Exit Option	Off
Exit Timing Plan	0	Reservice	0	Fault Type	Hard

Ring	1	2	3	4
Free During Preempt	No	No	No	No

Timing	Walk	Ped Clr	Min Grn	Yellow	Red
Entrance	0	255	5	4.0	1.0
	Min Grn	Ext Grn	Max Grn	Yellow	Red
Track Clear	0	0	0	4.0	1.0
	Min	Pmt Ext	Max	Yellow	Red

	Dwell		Time		
Dwell / Cycle-Exit	0	0.0	0	4.0	1.0

Preempt Active Out	On	Preempt Active Dwell	No
Other Priority Preempt	On	Non-Priority Preempt	No
Inhibit Extension Time	0.0	Ped Priority Return	Off
Veh Priority Return	Off	Queue Delay	Off
Conditional Delay	Off		

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Veh Pri Return % Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Plan 5

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Overlap	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
Track Clear Vehicle																
Track Clear Overlap																
Enable Trailing	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Dwell Vehicle		X														
Dwell Ped																
Dwell Overlap																
Cycling Vehicle																
Cycling Ped																
Cycling Overlap																
Exit Phase																
Exit Calls																
Special Funciton																

Enable	Yes	Preempt Override	Yes	Interlock Enable	No
Detector Lock	Yes	Delay	0	Inhibit	0
Override Flash	No	Duration	0	CLR > GRN	No
Term Overlap Asap	No	PC Through Yellow	No	Terminate Phase	No
Ped Dark	No	Track Clear Rsrv	No	Dwell Flash	Off
Linked Pmt	0	Flash Exit Color	Green	Exit Option	Off
Exit Timing Plan	0	Reservice	0	Fault Type	Hard

Ring	1	2	3	4
Free During Preempt	No	No	No	No

Timing	Walk	Ped Clr	Min Grn	Yellow	Red
Entrance	0	255	5	4.0	1.0
	Min Grn	Ext Grn	Max Grn	Yellow	Red
Track Clear	0	0	0	4.0	1.0
	Min Dwell	Pmt Ext	Max Time	Yellow	Red
Dwell / Cycle-Exit	0	0.0	0	4.0	1.0

Preempt Active Out	On	Preempt Active Dwell	No
Other Priority Preempt	On	Non-Priority Preempt	No
Inhibit Extension Time	0.0	Ped Priority Return	Off
Veh Priority Return	Off	Queue Delay	Off
Conditional Delay	Off		

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Veh Pri Return % Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Plan 6

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Overlap	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
Track Clear Vehicle																
Track Clear Overlap																
Enable Trailing	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Dwell Vehicle	X					X										
Dwell Ped																
Dwell Overlap																
Cycling Vehicle																
Cycling Ped																
Cycling Overlap																
Exit Phase																
Exit Calls																
Special Funciton																

Enable	Yes	Preempt Override	Yes	Interlock Enable	No
Detector Lock	Yes	Delay	0	Inhibit	0
Override Flash	No	Duration	0	CLR > GRN	No
Term Overlap Asap	No	PC Through Yellow	No	Terminate Phase	No

Ped Dark	No	Track Clear Rsrv	No	Dwell Flash	Off
Linked Pmt	0	Flash Exit Color	Green	Exit Option	Off
Exit Timing Plan	0	Reservice	0	Fault Type	Hard

Ring	1	2	3	4
Free During Preempt	No	No	No	No

Timing	Walk	Ped Clr	Min Grn	Yellow	Red
Entrance	0	255	5	4.0	1.0
	Min Grn	Ext Grn	Max Grn	Yellow	Red
Track Clear	0	0	0	4.0	1.0
	Min Dwell	Pmt Ext	Max Time	Yellow	Red
Dwell / Cycle-Exit	0	0.0	0	4.0	1.0

Preempt Active Out	On	Preempt Active Dwell	No
Other Priority Preempt	On	Non-Priority Preempt	No
Inhibit Extension Time	0.0	Ped Priority Return	Off
Veh Priority Return	Off	Queue Delay	Off
Conditional Delay	Off		

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Veh Pri Return % Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

APPLE VALLEY - Bear Valley & Deep Creek (Active)

Detectors

Detectors Page 1

Vehicle Detectors Setup (MM)6-1

Vehicle Plan	Detector Number	Called	Type
1	1	1	S
1	2	2	S
1	3	2	S
1	4	6	S
1	6	6	S
1	9	2	D
1	10	2	S
1	11	6	S
1	12	6	D
1	13	8	S
1	14	8	S
1	15	8	S
1	16	8	S

Vehicle Detector Setup (MM)6-2 continued

Detector Number	Type	TS2 Detector	Detector Description
1	S-STANDARD	Yes	PH 1 WBLT
2	S-STANDARD	Yes	PH 2 EB ADV 1
3	S-STANDARD	Yes	PH 2 EB MID
4	S-STANDARD	Yes	PH 4 WB MID
5	S-STANDARD	Yes	
6	S-STANDARD	Yes	PH 6 WB ADV 1
7	S-STANDARD	Yes	
8	S-STANDARD	Yes	
9	D-DISCONNECT	Yes	PH 2 EB LIMIT 1,2
10	S-STANDARD	Yes	PH 2 EB ADV 2
11	S-STANDARD	Yes	PH 6 WB ADV 2
12	D-DISCONNECT	Yes	PH 6 WB LIMIT 1,2
13	S-STANDARD	Yes	PH 8 NBLT
14	S-STANDARD	Yes	PH 8 NBRT
15	S-STANDARD	Yes	PH 8 NB ADV 1
16	S-STANDARD	Yes	PH 8 NB ADV 2

61	N-NTCIP	Yes
62	N-NTCIP	Yes
63	N-NTCIP	Yes
64	N-NTCIP	Yes

Vehicle Detector Setup (MM)6-2 continued

Det Num	Veh Det Plan	Phase	ECPI Log	Call Option	Delay Time	Ext Option	Extend Time / Passage Time	Queue Lim / Discon. Time	Use Added Initial	Cross Switch Phase	Lock In	NTCIP Vol.	NTCIP Occ.	Pmt Queue Delay
1	1	1	No	Yes	0.0	Passage	1.5	0	No	6	None	No	No	No
1	2	1	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
1	3	1	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
1	4	1	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
2	1	2	No	Yes	0.0	Passage	2.3	0	No	0	None	No	No	No
2	2	2	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
2	3	2	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
2	4	2	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
3	1	2	No	Yes	0.0	Passage	1.5	0	No	0	None	No	No	No
3	2	3	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
3	3	3	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
3	4	3	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
4	1	6	No	Yes	0.0	Passage	2.0	0	No	0	None	No	No	No
4	2	4	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
4	3	4	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
4	4	4	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
5	1	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
5	2	5	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
5	3	5	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
5	4	5	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
6	1	6	No	Yes	0.0	Passage	2.7	0	No	0	None	No	No	No
6	2	6	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
6	3	6	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
6	4	6	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
7	1	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
7	2	7	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
7	3	7	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
7	4	7	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
8	1	0	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
8	2	8	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
8	3	8	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
8	4	8	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
9	1	2	No	Yes	0.0	Queue	0.0	15	No	0	None	No	No	No
9	2	9	No	Yes	0.0	Queue	0.0	0	No	0	None	No	No	No

9	3	9	No	Yes	0.0	Queue	0.0	0	No	0	None	No	No	No
9	4	9	No	Yes	0.0	Queue	0.0	0	No	0	None	No	No	No
10	1	2	No	Yes	0.0	Passage	2.3	0	No	0	None	No	No	No
10	2	10	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
10	3	10	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
10	4	10	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
11	1	6	No	Yes	0.0	Passage	2.7	0	No	0	None	No	No	No
11	2	11	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
11	3	11	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
11	4	11	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
12	1	6	No	Yes	0.0	Queue	0.0	15	No	0	None	No	No	No
12	2	12	No	Yes	0.0	Queue	0.0	0	No	0	None	No	No	No
12	3	12	No	Yes	0.0	Queue	0.0	0	No	0	None	No	No	No
12	4	12	No	Yes	0.0	Queue	0.0	0	No	0	None	No	No	No
13	1	8	No	Yes	2.0	Passage	0.0	0	No	0	None	No	No	No
13	2	13	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
13	3	13	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
13	4	13	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
14	1	8	No	Yes	36.0	Passage	0.0	0	No	0	None	No	No	No
14	2	14	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
14	3	14	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
14	4	14	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
15	1	8	No	Yes	2.0	Passage	0.0	0	No	0	None	No	No	No
15	2	15	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
15	3	15	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
15	4	15	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
16	1	8	No	Yes	2.0	Passage	0.0	0	No	0	None	No	No	No
16	2	16	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
16	3	16	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No
16	4	16	No	Yes	0.0	Passage	0.0	0	No	0	None	No	No	No

Ped Detector Options (MM)6-3

Phase Ped Detector (NTCIP)

Local Ped Detector	Number
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8

Controller Submenu

MM-2-1 Controller Timing Data, sheet 1 of 2

TIMING PLAN _____																
PHASE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
MINIMUM GREEN	5	10	5	6	5	10	5	6								
BICYCLE MINIMUM GREEN																
CONDITIONAL SERVICE MIN. GREEN																
DELAYED GREEN																
WALK		7		7		7		7								
WALK 2																
WALK MAX																
PEDESTRIAN CLEARANCE		19		19		15		22								
PEDESTRIAN CLEARANCE 2																
PEDESTRIAN CLEARANCE MAX																
PEDESTRIAN CARRY OVER																
VEHICLE EXTENSION	~~1.5~~ 2.0	5.0	~~1.5~~ 2.0	3.0	~~1.5~~ 2.0	5.0	~~1.5~~ 2.0	3.0								
VEHICLE EXTENSION 2																
MAX1	20	45	20	30	20	45	25	30								
MAX2																
MAX3																
DYNAMIC MAX																
DYNAMIC MAX STEP																
YELLOW CHANGE	3.6	5.5	3.6	5.2	3.6	5.5	3.6	5.2								
RED CLEARANCE	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0								
RED MAX																
RED REVERT	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0								
ACTUATIONS BEFORE GAP REDUCTION																
SECONDS PER ACTIONS ADDED TO INITIAL																
MAXIMUM ADDED INITIAL GREEN																
TIME BEFORE GAP REDUCTION		12		10		12		10								
CARS WAITING BEFORE GAP REDUCTION																
STEP TO REDUCE																
TIME TO REDUCE TO MINIMUM																
MINIMUM GAP		2.0		2.0		2.0		2.0								

Phase Compatibility (MM)1-1-2

Phase 1	Phase 2
1	5
1	6
2	5
2	6
3	7
3	8
4	7
4	8
9	11
9	12
10	11
10	12
13	15
13	16
14	15
14	16

Phase Direction Descriptions

Phase	Description
1	WBLT
2	EB
3	SBLT
4	NB
5	EBLT
6	WB
7	NBLT
8	SB

Overlap Direction Descriptions

Overlap	Description

Administration (MM)1-7-1
Enable CRC Check: No
CRC: 0000
Request Download Program Data: No
Enable Automatic Backup to Datakey: No

APPLE VALLEY - BEAR VALLEY RD. AND KIOWA RD.

Controller Timing Plan (MM)2-1
Plan 1

Phase	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Min Green	5	10	5	6	5	10	5	6	0	0	0	0	0	0	0	0
BK Min Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
CS Min Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Delay Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Walk	0	7	0	7	0	7	0	7	0	0	0	0	0	0	0	0
Walk 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Walk Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Clear	0	16	0	16	0	13	0	19	0	0	0	0	0	0	0	0
Ped Clear 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Clear Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped CO	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Vehicle Ext	1.5	5.0	1.5	3.0	1.5	5.0	1.5	3.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Vehicle Ext 2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max 1	20	45	20	30	20	45	25	30	0	0	0	0	0	0	0	0
Max 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Max 3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DYM Max	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DYM Stp	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Yellow	3.0	5.0	3.0	4.7	3.0	5.0	3.0	4.7	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Red Clear	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Red Max	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Red Revert	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
ACT B4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SEC/ACT	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Max Int	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Time B4	0	12	0	10	0	12	0	10	0	0	0	0	0	0	0	0
Cars Wt	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
STPT Duc	0.0	0.0	0.0	10.0	0.0	0.0	0.0	10.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Time To Reduce	0	12	0	0	0	12	0	0	0	0	0	0	0	0	0	0
Min Gap	0.0	2.0	0.0	2.0	0.0	2.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

APPLE VALLEY - BEAR VALLEY RD. AND KIOWA RD.

Controller Start/Fash (MM) 2-5

Startup

Phase	Phase Setting
4	Y
8	Y

Overlap
A
B
C
D

Flash > Mon: No
Flash Time: 0
All Red: 4
Power Start Sequence: 1

Automatic Flash

Entry Phase
4
8

Exit Phase
4
8

Overlap Exit
A
B
C
D

Flash > Mon: No
Exit Flash Interval: Y
Minimum Auto Flash: 0
Minimumin Recall: No
Cycle Through Phase: No

APPLE VALLEY - BEAR VALLEY RD. AND KIOWA RD.

Controller Options
Controller Options (MM)2-6-1

Phase	Flashing Green Phase	Guaranteed Passage	Non Act 1	Non Act 2	Dual Entry	Conditional Service	Conditional Reservice	Ped Reservice	Rest In Walk	Flashing Walk	Ped Clear Yellow	Ped Clear Red	IGRN + Veh Ext
2	No	No	Yes	No	Yes	No	No	No	No	No	No	No	No
4	No	No	No	Yes	Yes	No	No	No	No	No	No	No	No
6	No	No	Yes	No	Yes	No	No	No	No	No	No	No	No
8	No	No	No	Yes	Yes	No	No	No	No	No	No	No	No

Ped Clear Protect: Off Red Revert: 5.0

Act Pre-Time (MM)2-7
Pre-Time Mode Enable: No Free Input Enables Pre-Timed: Yes

Pre-Timed Phase

Phase Recall Options (MM)2-8

Plan	Phase	Lock Detector	Vehicle Recall	Ped Recall	Max Recall	Soft Recall	No Rest	Al Calc
1	2	Yes	No	No	No	No	No	No
1	6	Yes	No	No	No	No	No	No

APPLE VALLEY - BEAR VALLEY RD. AND KIOWA RD.

Preemptor Preempt Plan (MM)4-1

Preempt Phases

Preempt	Phase	Track Clear Veh	Dwell Veh	Dwell Ped	Cycling Veh	Cycling Ped	Exit Phase	Exit Calls	Special Function
3	1	No	Yes	No	No	No	No	No	No
3	6	No	Yes	No	No	No	No	No	No
4	2	No	Yes	No	No	No	No	No	No
4	5	No	Yes	No	No	No	No	No	No
5	4	No	Yes	No	No	No	No	No	No
5	7	No	Yes	No	No	No	No	No	No
6	3	No	Yes	No	No	No	No	No	No
6	8	No	Yes	No	No	No	No	No	No

Preempt Overlaps

Preempt	Overlap	Track Clear	Enable Trailing	Dwell Overlap	Cycling Overlap

Preempt	Enable	Preempt Override	Interlock Enable	Detector Lock	Delay	Inhibit	Override Flash	Duration	CLR > GRN
1	No	No	No	No	0	0	No	0	No
2	No	Yes	No	Yes	0	0	No	0	No
3	Standard	No	No	Yes	0	0	No	5	No
4	Standard	No	No	Yes	0	0	No	5	No
5	Standard	No	No	Yes	0	0	No	5	No
6	Standard	Yes	No	Yes	0	0	No	0	No
7	No	Yes	No	Yes	0	0	No	0	No
8	No	Yes	No	Yes	0	0	No	0	No
9	No	Yes	No	Yes	0	0	No	0	No
10	No	Yes	No	Yes	0	0	No	0	No

Preempt	Term Overlap Asap	PC Through Yellow	Terminate Phase	Ped Dark	Track Clearance Re-service	Dwell Flash	Linked Pmt	Flash Exit Color	Preempt To Coord
1	No	No	No	No	No	Off	0	Green	No
2	No	No	No	No	No	Off	0	Green	No
3	No	No	No	No	No	Off	0	Green	No
4	No	No	No	No	No	Off	0	Green	No
5	No	No	No	No	No	Off	0	Green	No
6	No	No	No	No	No	Off	0	Green	No
7	No	No	No	No	No	Off	0	Green	No
8	No	No	No	No	No	Off	0	Green	No
9	No	No	No	No	No	Off	0	Green	No
10	No	No	No	No	No	Off	0	Green	No

Preempt	Exit Timing Plan	Reservice	Free During Pmt Ring 1	Free During Pmt Ring 2	Free During Pmt Ring 3	Free During Pmt Ring 4
1	0	0	No	No	No	No
2	0	0	No	No	No	No
3	0	0	No	No	No	No
4	0	0	No	No	No	No
5	0	0	No	No	No	No
6	0	0	No	No	No	No
7	0	0	No	No	No	No
8	0	0	No	No	No	No
9	0	0	No	No	No	No
10	0	0	No	No	No	No

Preempt	Entrance Walk	Entrance Ped Clear	Entrance Min Green	Entrance Yellow	Entrance Red	Track Clear Min Green	Gate Down Ext Green	Gate Down Max Green	Track Clear Yellow	Track Clear Red
1	0	255	0	25.5	25.5	5	0	0	5.0	0.5
2	0	255	0	25.5	25.5	5	0	0	5.0	0.5
3	0	16	5	5.0	1.0	0	0	0	25.5	25.5
4	0	255	0	25.5	25.5	0	0	0	25.5	25.5
5	0	255	0	25.5	25.5	0	0	0	25.5	25.5
6	0	255	0	25.5	25.5	0	0	0	25.5	25.5
7	0	255	0	25.5	25.5	0	0	0	25.5	25.5
8	0	255	0	25.5	25.5	0	0	0	25.5	25.5
9	0	255	0	25.5	25.5	0	0	0	25.5	25.5
10	0	255	0	25.5	25.5	0	0	0	25.5	25.5

Preempt	Min Dwell Time	Extend Preempt Input Time	Max Preempt Call Time	Exit Yellow Time	Exit Red Time	Preempt Active Out	Preempt Active Dwell	Other Priority Preempt	Non-Priority Preempt
1	0	0.0	0	25.5	25.5	On	No	Off	Off
2	0	0.0	0	25.5	25.5	On	No	Off	Off
3	5	0.0	0	5.0	0.5	On	No	Off	Off
4	5	0.0	0	5.0	0.5	On	No	Off	Off
5	5	0.0	0	5.0	0.5	On	No	Off	Off
6	5	0.0	0	5.0	0.5	On	No	Off	Off
7	0	0.0	0	25.5	25.5	On	No	Off	Off
8	0	0.0	0	25.5	25.5	On	No	Off	Off
9	0	0.0	0	25.5	25.5	On	No	Off	Off
10	0	0.0	0	25.5	25.5	On	No	Off	Off

APPLE VALLEY - BEAR VALLEY RD. AND KIOWA RD.

Detectors

Detectors Page 1

Vehicle Detectors Setup (MM)6-1

Vehicle Plan	Detector Number	Called
1	1	1
1	2	2
1	3	3
1	4	4
1	5	5
1	6	6
1	7	7
1	8	8
1	10	2
1	12	4
1	14	6
1	16	8
1	18	2
1	20	4
1	22	6
1	23	8
1	24	8
1	26	2
1	30	6
1	32	8

Vehicle Detector Setup (MM)6-2 continued

Detector Number	ECPI	TS2 Detector	Detector Description
1	0	Yes	PH 1 WBLT
2	0	Yes	PH 2 EB ADV 1
3	0	Yes	PH 3 SBLT
4	0	Yes	PH 4 NB ADV 1
5	0	Yes	PH 5 EBLT
6	0	Yes	PH 6 WB ADV 1
7	0	Yes	PH 7 NBLT
8	0	Yes	PH 8 SB ADV 1
10	0	Yes	PH 2 EB ADV 1
12	0	Yes	PH 4 NB ADV 2
14	0	Yes	PH 6 WB ADV 2
16	0	Yes	PH 8 SB ADV 2
18	0	Yes	PH 2 EB LIMIT 1,2
20	0	Yes	PH 4 NB LIMIT 1,2
22	0	Yes	PH 6 WB LIMIT 1,2
24	0	Yes	PH 8 SB LIMIT 1,2
26	0	Yes	PH 2 EBRT
30	0	Yes	PH 8 WBRT
32	0	Yes	PH 8 SBRT

Vehicle Detector Setup (MM)6-2 continued

Detector Number	Vehicle Plan	Assigned Phase	Switch Phase	Extend Time	Delay Time	Queue Limit	Yellow Lock	Added Option	Call Option	Passage Option	Queue Option	NTCIP Occupancy	NTCIP Volume
1	1	1	0	0.0	0.0	0	No	No	Yes	Yes	No	No	No
2	1	2	0	0.0	0.0	0	No	No	Yes	Yes	No	No	No
3	1	3	0	0.0	0.0	0	No	No	Yes	Yes	No	No	No
4	1	4	0	0.0	0.0	0	No	No	Yes	Yes	No	No	No
5	1	5	0	0.0	0.0	0	No	No	Yes	Yes	No	No	No
6	1	6	0	0.0	0.0	0	No	No	Yes	Yes	No	No	No
7	1	7	0	0.0	0.0	0	No	No	Yes	Yes	No	No	No
8	1	8	0	0.0	0.0	0	No	No	Yes	Yes	No	No	No
10	1	2	0	0.0	0.0	0	No	No	Yes	Yes	No	No	No
12	1	4	0	0.0	0.0	0	No	No	Yes	Yes	No	No	No
14	1	6	0	0.0	0.0	0	No	No	Yes	Yes	No	No	No
16	1	8	0	0.0	0.0	0	No	No	Yes	Yes	No	No	No
18	1	2	0	0.0	0.0	0	No	No	Yes	Yes	No	No	No
20	1	4	0	0.0	0.0	0	No	No	Yes	Yes	No	No	No
22	1	6	0	0.0	0.0	0	No	No	Yes	Yes	No	No	No
23	1	8	0	0.0	0.0	0	No	No	No	No	No	No	No
24	1	8	0	0.0	0.0	0	No	No	Yes	Yes	No	No	No
26	1	2	0	0.0	0.0	0	No	No	Yes	Yes	No	No	No
30	1	6	0	0.0	0.0	0	No	No	Yes	Yes	No	No	No
32	1	8	0	0.0	15.0	0	No	No	Yes	Yes	No	No	No

Ped and System Detector Options (MM)6-4

Phase Ped Detector

Local Ped Detector	Number
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9
10	10
11	11
12	12

APPENDIX C

VOLUME DEVELOPMENT WORKSHEETS

LSA

Table C-1 - Existing Peak Hour PCE Volume Summary

	AM Peak Hour	PM Peak Hour
	Existing Traffic Volumes	Existing Traffic Volumes
1 Jacaranda Avenue/Bear Valley Road		
NBL	78	82
NBT	49	9
NBR	264	398
SBL	14	27
SBT	15	18
SBR	36	36
EBL	127	35
EBT	1,273	1,762
EBR	63	46
WBL	217	303
WBT	1,516	1,576
WBR	43	22
North Leg		
Approach	65	81
Departure	219	66
Total	284	147
South Leg		
Approach	391	489
Departure	295	367
Total	686	856
East Leg		
Approach	1,776	1,901
Departure	1,551	2,187
Total	3,327	4,088
West Leg		
Approach	1,463	1,843
Departure	1,630	1,694
Total	3,093	3,537
Total Approaches		
Approach	3,695	4,314
Departure	3,695	4,314
Total	7,390	8,628

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Table C-1 - Existing Peak Hour PCE Volume Summary

	AM Peak Hour	PM Peak Hour
	Existing Traffic Volumes	Existing Traffic Volumes
2 Mojave Fish Hatchery Road/Bear Valley Road		
NBL	42	104
NBT	6	9
NBR	24	64
SBL	99	115
SBT	5	5
SBR	64	84
EBL	160	57
EBT	1,335	2,033
EBR	55	97
WBL	45	115
WBT	1,669	1,713
WBR	239	90
North Leg		
Approach	168	204
Departure	405	156
Total	573	360
South Leg		
Approach	72	177
Departure	105	217
Total	177	394
East Leg		
Approach	1,953	1,918
Departure	1,458	2,212
Total	3,411	4,130
West Leg		
Approach	1,550	2,187
Departure	1,775	1,901
Total	3,325	4,088
Total Approaches		
Approach	3,743	4,486
Departure	3,743	4,486
Total	7,486	8,972

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Table C-1 - Existing Peak Hour PCE Volume Summary

	AM Peak Hour	PM Peak Hour
	Existing Traffic Volumes	Existing Traffic Volumes
3 Jess Ranch Parkway/Bear Valley Road		
NBL	265	455
NBT	0	0
NBR	41	173
SBL	0	0
SBT	0	0
SBR	0	0
EBL	0	0
EBT	1,245	1,732
EBR	167	317
WBL	75	191
WBT	1,688	1,463
WBR	0	0
North Leg		
Approach	0	0
Departure	0	0
Total	0	0
South Leg		
Approach	306	628
Departure	242	508
Total	548	1,136
East Leg		
Approach	1,763	1,654
Departure	1,286	1,905
Total	3,049	3,559
West Leg		
Approach	1,412	2,049
Departure	1,953	1,918
Total	3,365	3,967
Total Approaches		
Approach	3,481	4,331
Departure	3,481	4,331
Total	6,962	8,662

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Table C-1 - Existing Peak Hour PCE Volume Summary

	AM Peak Hour	PM Peak Hour
	Existing Traffic Volumes	Existing Traffic Volumes
4 Reata Road/Bear Valley Road		
NBL	35	201
NBT	24	105
NBR	28	152
SBL	19	28
SBT	39	102
SBR	273	260
EBL	203	293
EBT	994	1,464
EBR	46	127
WBL	59	150
WBT	1,455	1,193
WBR	15	14
North Leg		
Approach	331	390
Departure	242	412
Total	573	802
South Leg		
Approach	87	458
Departure	144	379
Total	231	837
East Leg		
Approach	1,529	1,357
Departure	1,041	1,644
Total	2,570	3,001
West Leg		
Approach	1,243	1,884
Departure	1,763	1,654
Total	3,006	3,538
Total Approaches		
Approach	3,190	4,089
Departure	3,190	4,089
Total	6,380	8,178

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Table C-1 - Existing Peak Hour PCE Volume Summary

		AM Peak Hour	PM Peak Hour
		Existing Traffic Volumes	Existing Traffic Volumes
5	**Apple Valley Road/Pimlico Road - Shopping Center Drive**		
NBL		38	70
NBT		575	675
NBR		35	88
SBL		64	142
SBT		760	752
SBR		190	245
EBL		147	275
EBT		35	53
EBR		14	38
WBL		34	80
WBT		26	45
WBR		31	100
North Leg			
	Approach	1,014	1,139
	Departure	753	1,050
	Total	1,767	2,189
South Leg			
	Approach	648	833
	Departure	808	870
	Total	1,456	1,703
East Leg			
	Approach	91	225
	Departure	134	283
	Total	225	508
West Leg			
	Approach	196	366
	Departure	254	360
	Total	450	726
Total Approaches			
	Approach	1,949	2,563
	Departure	1,949	2,563
	Total	3,898	5,126

LSA

Table C-1 - Existing Peak Hour PCE Volume Summary

		AM Peak Hour	PM Peak Hour
		Existing Traffic Volumes	Existing Traffic Volumes
6	**Apple Valley Road/Bear Valley Road**		
NBL		71	107
NBT		154	225
NBR		44	149
SBL		168	197
SBT		188	350
SBR		392	351
EBL		332	449
EBT		635	1,067
EBR		40	59
WBL		100	177
WBT		1,101	926
WBR		165	125
North Leg			
	Approach	748	898
	Departure	651	799
	Total	1,399	1,697
South Leg			
	Approach	269	481
	Departure	328	586
	Total	597	1,067
East Leg			
	Approach	1,366	1,228
	Departure	847	1,413
	Total	2,213	2,641
West Leg			
	Approach	1,007	1,575
	Departure	1,564	1,384
	Total	2,571	2,959
Total Approaches			
	Approach	3,390	4,182
	Departure	3,390	4,182
	Total	6,780	8,364

LSA

Table C-1 - Existing Peak Hour PCE Volume Summary

	AM Peak Hour	PM Peak Hour
	Existing Traffic Volumes	Existing Traffic Volumes
7 Westmont Drive - Apple Bear Road/Bear Valley Road		
NBL	0	0
NBT	0	0
NBR	0	0
SBL	47	168
SBT	0	0
SBR	17	46
EBL	39	85
EBT	744	1,319
EBR	0	0
WBL	0	0
WBT	1,369	1,150
WBR	56	92
North Leg		
Approach	64	214
Departure	95	177
Total	159	391
South Leg		
Approach	0	0
Departure	0	0
Total	0	0
East Leg		
Approach	1,425	1,242
Departure	791	1,487
Total	2,216	2,729
West Leg		
Approach	783	1,404
Departure	1,386	1,196
Total	2,169	2,600
Total Approaches		
Approach	2,272	2,860
Departure	2,272	2,860
Total	4,544	5,720

LSA

Table C-1 - Existing Peak Hour PCE Volume Summary

	AM Peak Hour	PM Peak Hour
	Existing Traffic Volumes	Existing Traffic Volumes
8 Flying Feather Road/Bear Valley Road		
NBL	3	1
NBT	0	0
NBR	2	3
SBL	0	0
SBT	0	0
SBR	0	0
EBL	0	0
EBT	793	1,471
EBR	3	1
WBL	2	0
WBT	1,399	1,211
WBR	0	0
North Leg		
Approach	0	0
Departure	0	0
Total	0	0
South Leg		
Approach	5	4
Departure	5	1
Total	10	5
East Leg		
Approach	1,401	1,211
Departure	795	1,474
Total	2,196	2,685
West Leg		
Approach	796	1,472
Departure	1,402	1,212
Total	2,198	2,684
Total Approaches		
Approach	2,202	2,687
Departure	2,202	2,687
Total	4,404	5,374

LSA

Table C-1 - Existing Peak Hour PCE Volume Summary

		AM Peak Hour	PM Peak Hour
		Existing Traffic Volumes	Existing Traffic Volumes
9	**Deep Creek Road/Apple Valley Road**		
NBL		133	100
NBT		0	0
NBR		59	117
SBL		0	0
SBT		0	0
SBR		0	0
EBL		0	0
EBT		743	1,381
EBR		51	93
WBL		105	108
WBT		1,259	1,133
WBR		0	0
North Leg			
	Approach	0	0
	Departure	0	0
	Total	0	0
South Leg			
	Approach	192	217
	Departure	156	201
	Total	348	418
East Leg			
	Approach	1,364	1,241
	Departure	802	1,498
	Total	2,166	2,739
West Leg			
	Approach	794	1,474
	Departure	1,392	1,233
	Total	2,186	2,707
Total Approaches			
	Approach	2,350	2,932
	Departure	2,350	2,932
	Total	4,700	5,864

LSA

Table C-1 - Existing Peak Hour PCE Volume Summary

	AM Peak Hour	PM Peak Hour
	Existing Traffic Volumes	Existing Traffic Volumes
10 Kiowa Road/Bear Valley Road		
NBL	261	209
NBT	139	210
NBR	60	114
SBL	47	65
SBT	139	221
SBR	168	127
EBL	87	155
EBT	492	859
EBR	133	213
WBL	96	123
WBT	781	776
WBR	43	52
North Leg		
Approach	354	413
Departure	269	417
Total	623	830
South Leg		
Approach	460	533
Departure	368	557
Total	828	1,090
East Leg		
Approach	920	951
Departure	599	1,038
Total	1,519	1,989
West Leg		
Approach	712	1,227
Departure	1,210	1,112
Total	1,922	2,339
Total Approaches		
Approach	2,446	3,124
Departure	2,446	3,124
Total	4,892	6,248

LSA

Table C-2 - Opening Year (2024) Peak Hour PCE Volume Summary

	AM Peak Hour							PM Peak Hour						
	Existing (2,022) PCE	2022-2,024 Growth	Cumulative Project Trips	OY No Project	Net Project Trips	Pass-by Trips	OY Plus Project	Existing (2,022) PCE	2022-2,024 Growth	Cumulative Project Trips	OY No Project	Net Project Trips	Pass-by Trips	OY Plus Project
1 Jacaranda Avenue/Bear Valley Road														
NBL	78	3	0	81	0	0	81	82	3	0	85	0	0	85
NBT	49	2	0	51	0	0	51	9	0	0	9	0	0	9
NBR	264	11	7	282	11	0	293	398	16	9	423	11	0	434
SBL	14	1	0	15	0	0	15	27	1	0	28	0	0	28
SBT	15	1	0	16	0	0	16	18	1	0	19	0	0	19
SBR	36	1	0	37	0	0	37	36	1	0	37	0	0	37
EBL	127	5	0	132	0	0	132	35	1	0	36	0	0	36
EBT	1,273	51	118	1,442	21	0	1,463	1,762	70	198	2,030	22	0	2,052
EBR	63	3	0	66	0	0	66	46	2	0	48	0	0	48
WBL	217	9	4	230	9	0	239	303	12	8	323	11	0	334
WBT	1,516	61	177	1,754	17	0	1,771	1,576	63	144	1,783	22	0	1,805
WBR	43	2	0	45	0	0	45	22	1	0	23	0	0	23
North Leg														
Approach	65	3	0	68	0	0	68	81	3	0	84	0	0	84
Departure	219	9	0	228	0	0	228	66	2	0	68	0	0	68
Total	284	12	0	296	0	0	296	147	5	0	152	0	0	152
South Leg														
Approach	391	16	7	414	11	0	425	489	19	9	517	11	0	528
Departure	295	13	4	312	9	0	321	367	15	8	390	11	0	401
Total	686	29	11	726	20	0	746	856	34	17	907	22	0	929
East Leg														
Approach	1,776	72	181	2,029	26	0	2,055	1,901	76	152	2,129	33	0	2,162
Departure	1,551	63	125	1,739	32	0	1,771	2,187	87	207	2,481	33	0	2,514
Total	3,327	135	306	3,768	58	0	3,826	4,088	163	359	4,610	66	0	4,676
West Leg														
Approach	1,463	59	118	1,640	21	0	1,661	1,843	73	198	2,114	22	0	2,136
Departure	1,630	65	177	1,872	17	0	1,889	1,694	67	144	1,905	22	0	1,927
Total	3,093	124	295	3,512	38	0	3,550	3,537	140	342	4,019	44	0	4,063
Total Approaches														
Approach	3,695	150	306	4,151	58	0	4,209	4,314	171	359	4,844	66	0	4,910
Departure	3,695	150	306	4,151	58	0	4,209	4,314	171	359	4,844	66	0	4,910
Total	7,390	300	612	8,302	116	0	8,418	8,628	342	718	9,688	132	0	9,820

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Table C-2 - Opening Year (2024) Peak Hour PCE Volume Summary

	AM Peak Hour							PM Peak Hour						
	Existing (2,022) PCE	2022-2,024 Growth	Cumulative Project Trips	OY No Project	Net Project Trips	Pass-by Trips	OY Plus Project	Existing (2,022) PCE	2022-2,024 Growth	Cumulative Project Trips	OY No Project	Net Project Trips	Pass-by Trips	OY Plus Project
2 Mojave Fish Hatchery Road/Bear Valley Road														
NBL	42	2	0	44	0	0	44	104	4	0	108	0	0	108
NBT	6	0	0	6	0	0	6	9	0	0	9	0	0	9
NBR	24	1	0	25	0	0	25	64	3	0	67	0	0	67
SBL	99	4	0	103	11	0	114	115	5	0	120	11	0	131
SBT	5	0	0	5	0	0	5	5	0	0	5	0	0	5
SBR	64	3	0	67	0	0	67	84	3	0	87	0	0	87
EBL	160	6	0	166	0	0	166	57	2	0	59	0	0	59
EBT	1,335	53	125	1,513	32	0	1,545	2,033	81	206	2,320	33	0	2,353
EBR	55	2	0	57	0	0	57	97	4	0	101	0	0	101
WBL	45	2	0	47	0	0	47	115	5	0	120	0	0	120
WBT	1,669	67	181	1,917	26	0	1,943	1,713	69	154	1,936	32	0	1,968
WBR	239	10	0	249	9	0	258	90	4	0	94	11	0	105
North Leg														
Approach	168	7	0	175	11	0	186	204	8	0	212	11	0	223
Departure	405	16	0	421	9	0	430	156	6	0	162	11	0	173
Total	573	23	0	596	20	0	616	360	14	0	374	22	0	396
South Leg														
Approach	72	3	0	75	0	0	75	177	7	0	184	0	0	184
Departure	105	4	0	109	0	0	109	217	9	0	226	0	0	226
Total	177	7	0	184	0	0	184	394	16	0	410	0	0	410
East Leg														
Approach	1,953	79	181	2,213	35	0	2,248	1,918	78	154	2,150	43	0	2,193
Departure	1,458	58	125	1,641	43	0	1,684	2,212	89	206	2,507	44	0	2,551
Total	3,411	137	306	3,854	78	0	3,932	4,130	167	360	4,657	87	0	4,744
West Leg														
Approach	1,550	61	125	1,736	32	0	1,768	2,187	87	206	2,480	33	0	2,513
Departure	1,775	72	181	2,028	26	0	2,054	1,901	76	154	2,131	32	0	2,163
Total	3,325	133	306	3,764	58	0	3,822	4,088	163	360	4,611	65	0	4,676
Total Approaches														
Approach	3,743	150	306	4,199	78	0	4,277	4,486	180	360	5,026	87	0	5,113
Departure	3,743	150	306	4,199	78	0	4,277	4,486	180	360	5,026	87	0	5,113
Total	7,486	300	612	8,398	156	0	8,554	8,972	360	720	10,052	174	0	10,226

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Table C-2 - Opening Year (2024) Peak Hour PCE Volume Summary

	AM Peak Hour							PM Peak Hour						
	Existing (2,022) PCE	2022-2,024 Growth	Cumulative Project Trips	OY No Project	Net Project Trips	Pass-by Trips	OY Plus Project	Existing (2,022) PCE	2022-2,024 Growth	Cumulative Project Trips	OY No Project	Net Project Trips	Pass-by Trips	OY Plus Project
3 Jess Ranch Parkway/Bear Valley Road														
NBL	265	11	16	292	0	0	292	455	18	11	484	0	0	484
NBT	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NBR	41	2	5	48	11	0	59	173	7	7	187	11	0	198
SBL	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SBT	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SBR	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EBL	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EBT	1,245	50	106	1,401	43	0	1,444	1,732	69	183	1,984	43	0	2,027
EBR	167	7	9	183	0	0	183	317	13	14	344	0	0	344
WBL	75	3	3	81	9	0	90	191	8	7	206	11	0	217
WBT	1,688	68	166	1,922	35	0	1,957	1,463	59	140	1,662	43	0	1,705
WBR	0	0	0	0	0	0	0	0	0	0	0	0	0	0
North Leg														
Approach	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Departure	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
South Leg														
Approach	306	13	21	340	11	0	351	628	25	18	671	11	0	682
Departure	242	10	12	264	9	0	273	508	21	21	550	11	0	561
Total	548	23	33	604	20	0	624	1,136	46	39	1,221	22	0	1,243
East Leg														
Approach	1,763	71	169	2,003	44	0	2,047	1,654	67	147	1,868	54	0	1,922
Departure	1,286	52	111	1,449	54	0	1,503	1,905	76	190	2,171	54	0	2,225
Total	3,049	123	280	3,452	98	0	3,550	3,559	143	337	4,039	108	0	4,147
West Leg														
Approach	1,412	57	115	1,584	43	0	1,627	2,049	82	197	2,328	43	0	2,371
Departure	1,953	79	182	2,214	35	0	2,249	1,918	77	151	2,146	43	0	2,189
Total	3,365	136	297	3,798	78	0	3,876	3,967	159	348	4,474	86	0	4,560
Total Approaches														
Approach	3,481	141	305	3,927	98	0	4,025	4,331	174	362	4,867	108	0	4,975
Departure	3,481	141	305	3,927	98	0	4,025	4,331	174	362	4,867	108	0	4,975
Total	6,962	282	610	7,854	196	0	8,050	8,662	348	724	9,734	216	0	9,950

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Table C-2 - Opening Year (2024) Peak Hour PCE Volume Summary

	AM Peak Hour							PM Peak Hour						
	Existing (2,022) PCE	2022-2,024 Growth	Cumulative Project Trips	OY No Project	Net Project Trips	Pass-by Trips	OY Plus Project	Existing (2,022) PCE	2022-2,024 Growth	Cumulative Project Trips	OY No Project	Net Project Trips	Pass-by Trips	OY Plus Project
4 Reata Road/Bear Valley Road														
NBL	35	1	0	36	0	0	36	201	8	0	209	0	0	209
NBT	24	1	0	25	0	0	25	105	4	0	109	0	0	109
NBR	28	1	0	29	0	0	29	152	6	0	158	0	0	158
SBL	19	1	0	20	11	0	31	28	1	0	29	11	0	40
SBT	39	2	0	41	0	0	41	102	4	0	106	0	0	106
SBR	273	11	0	284	0	0	284	260	10	0	270	0	0	270
EBL	203	8	0	211	0	0	211	293	12	0	305	0	0	305
EBT	994	40	111	1,145	54	0	1,199	1,464	59	190	1,713	54	0	1,767
EBR	46	2	0	48	0	0	48	127	5	0	132	0	0	132
WBL	59	2	0	61	0	0	61	150	6	0	156	0	0	156
WBT	1,455	58	170	1,683	44	0	1,727	1,193	48	147	1,388	54	0	1,442
WBR	15	1	0	16	9	0	25	14	1	0	15	11	0	26
North Leg														
Approach	331	14	0	345	11	0	356	390	15	0	405	11	0	416
Departure	242	10	0	252	9	0	261	412	17	0	429	11	0	440
Total	573	24	0	597	20	0	617	802	32	0	834	22	0	856
South Leg														
Approach	87	3	0	90	0	0	90	458	18	0	476	0	0	476
Departure	144	6	0	150	0	0	150	379	15	0	394	0	0	394
Total	231	9	0	240	0	0	240	837	33	0	870	0	0	870
East Leg														
Approach	1,529	61	170	1,760	53	0	1,813	1,357	55	147	1,559	65	0	1,624
Departure	1,041	42	111	1,194	65	0	1,259	1,644	66	190	1,900	65	0	1,965
Total	2,570	103	281	2,954	118	0	3,072	3,001	121	337	3,459	130	0	3,589
West Leg														
Approach	1,243	50	111	1,404	54	0	1,458	1,884	76	190	2,150	54	0	2,204
Departure	1,763	70	170	2,003	44	0	2,047	1,654	66	147	1,867	54	0	1,921
Total	3,006	120	281	3,407	98	0	3,505	3,538	142	337	4,017	108	0	4,125
Total Approaches														
Approach	3,190	128	281	3,599	118	0	3,717	4,089	164	337	4,590	130	0	4,720
Departure	3,190	128	281	3,599	118	0	3,717	4,089	164	337	4,590	130	0	4,720
Total	6,380	256	562	7,198	236	0	7,434	8,178	328	674	9,180	260	0	9,440

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Table C-2 - Opening Year (2024) Peak Hour PCE Volume Summary

	AM Peak Hour							PM Peak Hour						
	Existing (2,022) PCE	2022-2,024 Growth	Cumulative Project Trips	OY No Project	Net Project Trips	Pass-by Trips	OY Plus Project	Existing (2,022) PCE	2022-2,024 Growth	Cumulative Project Trips	OY No Project	Net Project Trips	Pass-by Trips	OY Plus Project
5 Apple Valley Road/Pimlico Road - Shopping Center Driveway														
NBL	38	2	0	40	9	0	49	70	3	0	73	11	0	84
NBT	575	23	62	660	17	0	677	675	27	83	785	22	0	807
NBR	35	1	0	36	0	0	36	88	4	0	92	0	0	92
SBL	64	3	0	67	0	0	67	142	6	0	148	0	0	148
SBT	760	30	69	859	21	0	880	752	30	83	865	22	0	887
SBR	190	8	0	198	0	0	198	245	10	0	255	0	0	255
EBL	147	6	0	153	0	0	153	275	11	0	286	0	0	286
EBT	35	1	0	36	0	0	36	53	2	0	55	0	0	55
EBR	14	1	0	15	11	0	26	38	2	0	40	11	0	51
WBL	34	1	0	35	0	0	35	80	3	0	83	0	0	83
WBT	26	1	0	27	0	0	27	45	2	0	47	0	0	47
WBR	31	1	0	32	0	0	32	100	4	0	104	0	0	104
North Leg														
Approach	1,014	41	69	1,124	21	0	1,145	1,139	46	83	1,268	22	0	1,290
Departure	753	30	62	845	17	0	862	1,050	42	83	1,175	22	0	1,197
Total	1,767	71	131	1,969	38	0	2,007	2,189	88	166	2,443	44	0	2,487
South Leg														
Approach	648	26	62	736	26	0	762	833	34	83	950	33	0	983
Departure	808	32	69	909	32	0	941	870	35	83	988	33	0	1,021
Total	1,456	58	131	1,645	58	0	1,703	1,703	69	166	1,938	66	0	2,004
East Leg														
Approach	91	3	0	94	0	0	94	225	9	0	234	0	0	234
Departure	134	5	0	139	0	0	139	283	12	0	295	0	0	295
Total	225	8	0	233	0	0	233	508	21	0	529	0	0	529
West Leg														
Approach	196	8	0	204	11	0	215	366	15	0	381	11	0	392
Departure	254	11	0	265	9	0	274	360	15	0	375	11	0	386
Total	450	19	0	469	20	0	489	726	30	0	756	22	0	778
Total Approaches														
Approach	1,949	78	131	2,158	58	0	2,216	2,563	104	166	2,833	66	0	2,899
Departure	1,949	78	131	2,158	58	0	2,216	2,563	104	166	2,833	66	0	2,899
Total	3,898	156	262	4,316	116	0	4,432	5,126	208	332	5,666	132	0	5,798

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Table C-2 - Opening Year (2024) Peak Hour PCE Volume Summary

	AM Peak Hour							PM Peak Hour						
	Existing (2,022) PCE	2022-2,024 Growth	Cumulative Project Trips	OY No Project	Net Project Trips	Pass-by Trips	OY Plus Project	Existing (2,022) PCE	2022-2,024 Growth	Cumulative Project Trips	OY No Project	Net Project Trips	Pass-by Trips	OY Plus Project
6 Apple Valley Road/Bear Valley Road														
NBL	71	3	4	78	0	0	78	107	4	4	115	0	0	115
NBT	154	6	4	164	0	0	164	225	9	4	238	0	0	238
NBR	44	2	10	56	32	0	88	149	6	15	170	33	0	203
SBL	168	7	32	207	32	0	239	197	8	55	260	33	0	293
SBT	188	8	4	200	0	0	200	350	14	4	368	0	0	368
SBR	392	16	34	442	0	0	442	351	14	25	390	0	0	390
EBL	332	13	22	367	0	0	367	449	18	34	501	0	0	501
EBT	635	25	81	741	64	0	805	1,067	43	154	1,264	65	0	1,329
EBR	40	2	4	46	0	0	46	59	2	4	65	0	0	65
WBL	100	4	7	111	26	0	137	177	7	14	198	32	0	230
WBT	1,101	44	129	1,274	52	0	1,326	926	37	117	1,080	65	0	1,145
WBR	165	7	37	209	26	0	235	125	5	46	176	32	0	208
North Leg														
Approach	748	31	70	849	32	0	881	898	36	84	1,018	33	0	1,051
Departure	651	26	63	740	26	0	766	799	32	84	915	32	0	947
Total	1,399	57	133	1,589	58	0	1,647	1,697	68	168	1,933	65	0	1,998
South Leg														
Approach	269	11	18	298	32	0	330	481	19	23	523	33	0	556
Departure	328	14	15	357	26	0	383	586	23	22	631	32	0	663
Total	597	25	33	655	58	0	713	1,067	42	45	1,154	65	0	1,219
East Leg														
Approach	1,366	55	173	1,594	104	0	1,698	1,228	49	177	1,454	129	0	1,583
Departure	847	34	123	1,004	128	0	1,132	1,413	57	224	1,694	131	0	1,825
Total	2,213	89	296	2,598	232	0	2,830	2,641	106	401	3,148	260	0	3,408
West Leg														
Approach	1,007	40	107	1,154	64	0	1,218	1,575	63	192	1,830	65	0	1,895
Departure	1,564	63	167	1,794	52	0	1,846	1,384	55	146	1,585	65	0	1,650
Total	2,571	103	274	2,948	116	0	3,064	2,959	118	338	3,415	130	0	3,545
Total Approaches														
Approach	3,390	137	368	3,895	232	0	4,127	4,182	167	476	4,825	260	0	5,085
Departure	3,390	137	368	3,895	232	0	4,127	4,182	167	476	4,825	260	0	5,085
Total	6,780	274	736	7,790	464	0	8,254	8,364	334	952	9,650	520	0	10,170

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Table C-2 - Opening Year (2024) Peak Hour PCE Volume Summary

	AM Peak Hour							PM Peak Hour						
	Existing (2,022) PCE	2022-2,024 Growth	Cumulative Project Trips	OY No Project	Net Project Trips	Pass-by Trips	OY Plus Project	Existing (2,022) PCE	2022-2,024 Growth	Cumulative Project Trips	OY No Project	Net Project Trips	Pass-by Trips	OY Plus Project
7 Westmont Drive - Apple Bear Road/Bear Valley Road														
NBL	0	0	0	0	104	73	180	0	0	0	0	129	63	193
NBT	0	0	0	0	0	5	5	0	0	0	0	0	9	9
NBR	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SBL	47	2	28	77	0	(3)	74	168	7	57	232	0	(9)	223
SBT	0	0	0	0	0	4	4	0	0	0	0	0	12	12
SBR	17	1	41	59	0	(1)	58	46	2	85	133	0	(3)	130
EBL	39	2	61	102	0	(3)	99	85	3	89	177	0	(5)	172
EBT	744	30	60	834	64	(30)	868	1,319	53	136	1,508	65	(48)	1,525
EBR	0	0	0	0	64	31	95	0	0	0	0	65	51	116
WBL	0	0	0	0	86	84	172	0	0	0	0	87	67	154
WBT	1,369	55	131	1,555	0	(82)	1,473	1,150	46	92	1,288	0	(62)	1,226
WBR	56	2	41	99	0	(3)	96	92	4	59	155	0	(5)	150
North Leg														
Approach	64	3	69	136	0	0	136	214	9	142	365	0	0	365
Departure	95	4	102	201	0	(1)	200	177	7	148	332	0	(1)	331
Total	159	7	171	337	0	(1)	336	391	16	290	697	0	(1)	696
South Leg														
Approach	0	0	0	0	104	78	185	0	0	0	0	129	72	202
Departure	0	0	0	0	150	119	271	0	0	0	0	152	130	282
Total	0	0	0	0	254	197	456	0	0	0	0	281	202	484
East Leg														
Approach	1,425	57	172	1,654	86	(1)	1,741	1,242	50	151	1,443	87	0	1,530
Departure	791	32	88	911	64	(33)	942	1,487	60	193	1,740	65	(57)	1,748
Total	2,216	89	260	2,565	150	(34)	2,683	2,729	110	344	3,183	152	(57)	3,278
West Leg														
Approach	783	32	121	936	128	(2)	1,062	1,404	56	225	1,685	130	(2)	1,813
Departure	1,386	56	172	1,614	104	(10)	1,711	1,196	48	177	1,421	129	(2)	1,549
Total	2,169	88	293	2,550	232	(12)	2,773	2,600	104	402	3,106	259	(4)	3,362
Total Approaches														
Approach	2,272	92	362	2,726	318	75	3,124	2,860	115	518	3,493	346	70	3,910
Departure	2,272	92	362	2,726	318	75	3,124	2,860	115	518	3,493	346	70	3,910
Total	4,544	184	724	5,452	636	150	6,248	5,720	230	1,036	6,986	692	140	7,820

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Table C-2 - Opening Year (2024) Peak Hour PCE Volume Summary

	AM Peak Hour							PM Peak Hour						
	Existing (2,022) PCE	2022-2,024 Growth	Cumulative Project Trips	OY No Project	Net Project Trips	Pass-by Trips	OY Plus Project	Existing (2,022) PCE	2022-2,024 Growth	Cumulative Project Trips	OY No Project	Net Project Trips	Pass-by Trips	OY Plus Project
8 Flying Feather Road/Bear Valley Road														
NBL	3	0	0	3	0	0	0	1	0	0	1	0	0	0
NBT	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NBR	2	0	0	2	35	29	66	3	0	0	3	43	56	102
SBL	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SBT	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SBR	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EBL	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EBT	793	32	88	913	35	(35)	913	1,471	59	193	1,723	43	(58)	1,708
EBR	3	0	0	3	0	0	3	1	0	0	1	0	0	1
WBL	2	0	0	2	0	0	0	0	0	0	0	0	0	0
WBT	1,399	56	172	1,627	86	0	1,713	1,211	48	151	1,410	87	0	1,497
WBR	0	0	0	0	0	0	0	0	0	0	0	0	0	0
North Leg														
Approach	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Departure	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
South Leg														
Approach	5	0	0	5	35	29	66	4	0	0	4	43	56	102
Departure	5	0	0	5	0	0	3	1	0	0	1	0	0	1
Total	10	0	0	10	35	29	69	5	0	0	5	43	56	103
East Leg														
Approach	1,401	56	172	1,629	86	0	1,713	1,211	48	151	1,410	87	0	1,497
Departure	795	32	88	915	70	(6)	979	1,474	59	193	1,726	86	(2)	1,810
Total	2,196	88	260	2,544	156	(6)	2,692	2,685	107	344	3,136	173	(2)	3,307
West Leg														
Approach	796	32	88	916	35	(35)	916	1,472	59	193	1,724	43	(58)	1,709
Departure	1,402	56	172	1,630	86	0	1,713	1,212	48	151	1,411	87	0	1,497
Total	2,198	88	260	2,546	121	(35)	2,629	2,684	107	344	3,135	130	(58)	3,206
Total Approaches														
Approach	2,202	88	260	2,550	156	(6)	2,695	2,687	107	344	3,138	173	(2)	3,308
Departure	2,202	88	260	2,550	156	(6)	2,695	2,687	107	344	3,138	173	(2)	3,308
Total	4,404	176	520	5,100	312	(12)	5,390	5,374	214	688	6,276	346	(4)	6,616

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Table C-2 - Opening Year (2024) Peak Hour PCE Volume Summary

	AM Peak Hour							PM Peak Hour						
	Existing (2,022) PCE	2022-2,024 Growth	Cumulative Project Trips	OY No Project	Net Project Trips	Pass-by Trips	OY Plus Project	Existing (2,022) PCE	2022-2,024 Growth	Cumulative Project Trips	OY No Project	Net Project Trips	Pass-by Trips	OY Plus Project
9 Deep Creek Road/Apple Valley Road														
NBL	133	5	31	169	21	0	190	100	4	36	140	22	0	162
NBT	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NBR	59	2	11	72	0	0	72	117	5	7	129	0	0	129
SBL	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SBT	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SBR	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EBL	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EBT	743	30	81	854	52	0	906	1,381	55	124	1,560	65	0	1,625
EBR	51	2	20	73	17	0	90	93	4	38	135	22	0	157
WBL	105	4	4	113	0	0	113	108	4	12	124	0	0	124
WBT	1,259	50	109	1,418	64	0	1,482	1,133	45	118	1,296	65	0	1,361
WBR	0	0	0	0	0	0	0	0	0	0	0	0	0	0
North Leg														
Approach	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Departure	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
South Leg														
Approach	192	7	42	241	21	0	262	217	9	43	269	22	0	291
Departure	156	6	24	186	17	0	203	201	8	50	259	22	0	281
Total	348	13	66	427	38	0	465	418	17	93	528	44	0	572
East Leg														
Approach	1,364	54	113	1,531	64	0	1,595	1,241	49	130	1,420	65	0	1,485
Departure	802	32	92	926	52	0	978	1,498	60	131	1,689	65	0	1,754
Total	2,166	86	205	2,457	116	0	2,573	2,739	109	261	3,109	130	0	3,239
West Leg														
Approach	794	32	101	927	69	0	996	1,474	59	162	1,695	87	0	1,782
Departure	1,392	55	140	1,587	85	0	1,672	1,233	49	154	1,436	87	0	1,523
Total	2,186	87	241	2,514	154	0	2,668	2,707	108	316	3,131	174	0	3,305
Total Approaches														
Approach	2,350	93	256	2,699	154	0	2,853	2,932	117	335	3,384	174	0	3,558
Departure	2,350	93	256	2,699	154	0	2,853	2,932	117	335	3,384	174	0	3,558
Total	4,700	186	512	5,398	308	0	5,706	5,864	234	670	6,768	348	0	7,116

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Table C-2 - Opening Year (2024) Peak Hour PCE Volume Summary

	AM Peak Hour							PM Peak Hour						
	Existing (2,022) PCE	2022-2,024 Growth	Cumulative Project Trips	OY No Project	Net Project Trips	Pass-by Trips	OY Plus Project	Existing (2,022) PCE	2022-2,024 Growth	Cumulative Project Trips	OY No Project	Net Project Trips	Pass-by Trips	OY Plus Project
10 Kiowa Road/Bear Valley Road														
NBL	261	10	31	302	11	0	313	209	8	36	253	11	0	264
NBT	139	6	0	145	0	0	145	210	8	0	218	0	0	218
NBR	60	2	0	62	0	0	62	114	5	0	119	0	0	119
SBL	47	2	5	54	0	0	54	65	3	10	78	0	0	78
SBT	139	6	0	145	0	0	145	221	9	0	230	0	0	230
SBR	168	7	32	207	11	0	218	127	5	41	173	11	0	184
EBL	87	3	29	119	9	0	128	155	6	39	200	11	0	211
EBT	492	20	39	551	17	0	568	859	34	59	952	22	0	974
EBR	133	5	25	163	9	0	172	213	9	35	257	11	0	268
WBL	96	4	0	100	0	0	100	123	5	0	128	0	0	128
WBT	781	31	55	867	21	0	888	776	31	58	865	22	0	887
WBR	43	2	10	55	0	0	55	52	2	8	62	0	0	62
North Leg														
Approach	354	15	37	406	11	0	417	413	17	51	481	11	0	492
Departure	269	11	39	319	9	0	328	417	16	47	480	11	0	491
Total	623	26	76	725	20	0	745	830	33	98	961	22	0	983
South Leg														
Approach	460	18	31	509	11	0	520	533	21	36	590	11	0	601
Departure	368	15	25	408	9	0	417	557	23	35	615	11	0	626
Total	828	33	56	917	20	0	937	1,090	44	71	1,205	22	0	1,227
East Leg														
Approach	920	37	65	1,022	21	0	1,043	951	38	66	1,055	22	0	1,077
Departure	599	24	44	667	17	0	684	1,038	42	69	1,149	22	0	1,171
Total	1,519	61	109	1,689	38	0	1,727	1,989	80	135	2,204	44	0	2,248
West Leg														
Approach	712	28	93	833	35	0	868	1,227	49	133	1,409	44	0	1,453
Departure	1,210	48	118	1,376	43	0	1,419	1,112	44	135	1,291	44	0	1,335
Total	1,922	76	211	2,209	78	0	2,287	2,339	93	268	2,700	88	0	2,788
Total Approaches														
Approach	2,446	98	226	2,770	78	0	2,848	3,124	125	286	3,535	88	0	3,623
Departure	2,446	98	226	2,770	78	0	2,848	3,124	125	286	3,535	88	0	3,623
Total	4,892	196	452	5,540	156	0	5,696	6,248	250	572	7,070	176	0	7,246

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Table C-2 - Opening Year (2024) Peak Hour PCE Volume Summary

	AM Peak Hour							PM Peak Hour						
	Existing (2,022) PCE	2022-2,024 Growth	Cumulative Project Trips	OY No Project	Net Project Trips	Pass-by Trips	OY Plus Project	Existing (2,022) PCE	2022-2,024 Growth	Cumulative Project Trips	OY No Project	Net Project Trips	Pass-by Trips	OY Plus Project
11 Apple Bear Road/Project Driveway 1														
NBL	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NBT	0	0	0	0	9	38	50	0	0	0	0	11	35	47
NBR	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SBL	0	0	0	0	139	61	200	0	0	0	0	141	67	208
SBT	0	0	0	0	11	58	71	0	0	0	0	11	64	75
SBR	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EBL	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EBT	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EBR	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WBL	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WBT	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WBR	0	0	0	0	96	39	135	0	0	0	0	118	38	156
North Leg														
Approach	0	0	0	0	150	119	271	0	0	0	0	152	131	283
Departure	0	0	0	0	105	77	185	0	0	0	0	129	73	203
Total	0	0	0	0	255	196	456	0	0	0	0	281	204	486
South Leg														
Approach	0	0	0	0	9	38	50	0	0	0	0	11	35	47
Departure	0	0	0	0	11	58	71	0	0	0	0	11	64	75
Total	0	0	0	0	20	96	121	0	0	0	0	22	99	122
East Leg														
Approach	0	0	0	0	96	39	135	0	0	0	0	118	38	156
Departure	0	0	0	0	139	61	200	0	0	0	0	141	67	208
Total	0	0	0	0	235	100	335	0	0	0	0	259	105	364
West Leg														
Approach	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Departure	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Approaches														
Approach	0	0	0	0	255	196	456	0	0	0	0	281	204	486
Departure	0	0	0	0	255	196	456	0	0	0	0	281	204	486
Total	0	0	0	0	510	392	912	0	0	0	0	562	408	972

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Table C-2 - Opening Year (2024) Peak Hour PCE Volume Summary

	AM Peak Hour							PM Peak Hour						
	Existing (2,022) PCE	2022-2,024 Growth	Cumulative Project Trips	OY No Project	Net Project Trips	Pass-by Trips	OY Plus Project	Existing (2,022) PCE	2022-2,024 Growth	Cumulative Project Trips	OY No Project	Net Project Trips	Pass-by Trips	OY Plus Project
12 Apple Bear Road/Project Driveway 2														
NBL	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NBT	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NBR	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SBL	0	0	0	0	11	58	71	0	0	0	0	11	64	75
SBT	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SBR	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EBL	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EBT	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EBR	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WBL	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WBT	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WBR	0	0	0	0	9	38	50	0	0	0	0	11	35	47
North Leg														
Approach	0	0	0	0	11	58	71	0	0	0	0	11	64	75
Departure	0	0	0	0	9	38	50	0	0	0	0	11	35	47
Total	0	0	0	0	20	96	121	0	0	0	0	22	99	122
South Leg														
Approach	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Departure	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
East Leg														
Approach	0	0	0	0	9	38	50	0	0	0	0	11	35	47
Departure	0	0	0	0	11	58	71	0	0	0	0	11	64	75
Total	0	0	0	0	20	96	121	0	0	0	0	22	99	122
West Leg														
Approach	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Departure	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Approaches														
Approach	0	0	0	0	20	96	121	0	0	0	0	22	99	122
Departure	0	0	0	0	20	96	121	0	0	0	0	22	99	122
Total	0	0	0	0	40	192	242	0	0	0	0	44	198	244

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Table C-2 - Opening Year (2024) Peak Hour PCE Volume Summary

	AM Peak Hour							PM Peak Hour						
	Existing (2,022) PCE	2022-2,024 Growth	Cumulative Project Trips	OY No Project	Net Project Trips	Pass-by Trips	OY Plus Project	Existing (2,022) PCE	2022-2,024 Growth	Cumulative Project Trips	OY No Project	Net Project Trips	Pass-by Trips	OY Plus Project
13 Project Driveway 3/Bear Valley Road														
NBL	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NBT	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NBR	0	0	0	0	35	13	48	0	0	0	0	43	23	66
SBL	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SBT	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SBR	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EBL	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EBT	0	0	88	916	0	(48)	868	0	0	193	1,740	0	(81)	1,659
EBR	0	0	0	0	64	16	80	0	0	0	0	65	25	90
WBL	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WBT	0	0	172	1,654	86	0	1,740	0	0	151	1,443	87	0	1,530
WBR	0	0	0	0	0	0	0	0	0	0	0	0	0	0
North Leg														
Approach	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Departure	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
South Leg														
Approach	0	0	0	0	35	13	48	0	0	0	0	43	23	66
Departure	0	0	0	0	64	16	80	0	0	0	0	65	25	90
Total	0	0	0	0	99	29	128	0	0	0	0	108	48	156
East Leg														
Approach	0	0	172	1,654	86	0	1,740	0	0	151	1,443	87	0	1,530
Departure	0	0	88	916	35	(35)	916	0	0	193	1,740	43	(58)	1,725
Total	0	0	260	2,570	121	(35)	2,656	0	0	344	3,183	130	(58)	3,255
West Leg														
Approach	0	0	88	916	64	(32)	948	0	0	193	1,740	65	(56)	1,749
Departure	0	0	172	1,654	86	0	1,740	0	0	151	1,443	87	0	1,530
Total	0	0	260	2,570	150	(32)	2,688	0	0	344	3,183	152	(56)	3,279
Total Approaches														
Approach	0	0	260	2,570	185	(19)	2,736	0	0	344	3,183	195	(33)	3,345
Departure	0	0	260	2,570	185	(19)	2,736	0	0	344	3,183	195	(33)	3,345
Total	0	0	520	5,140	370	(38)	5,472	0	0	688	6,366	390	(66)	6,690

LSA

Table C-2 - Opening Year (2024) Peak Hour PCE Volume Summary

	AM Peak Hour							PM Peak Hour						
	Existing (2,022) PCE	2022-2,024 Growth	Cumulative Project Trips	OY No Project	Net Project Trips	Pass-by Trips	OY Plus Project	Existing (2,022) PCE	2022-2,024 Growth	Cumulative Project Trips	OY No Project	Net Project Trips	Pass-by Trips	OY Plus Project
14 Flying Feather Road/Project Driveway 4														
NBL	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NBT	0	0	0	0	9	14	23	0	0	0	0	11	27	38
NBR	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SBL	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SBT	0	0	0	0	0	0	3	0	0	0	0	0	0	1
SBR	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EBL	0	0	0	0	26	14	40	0	0	0	0	32	29	61
EBT	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EBR	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WBL	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WBT	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WBR	0	0	0	0	0	0	0	0	0	0	0	0	0	0
North Leg														
Approach	0	0	0	0	0	0	3	0	0	0	0	0	0	1
Departure	0	0	0	0	35	28	63	0	0	0	0	43	56	99
Total	0	0	0	0	35	28	66	0	0	0	0	43	56	100
South Leg														
Approach	0	0	0	0	9	14	23	0	0	0	0	11	27	38
Departure	0	0	0	0	0	0	3	0	0	0	0	0	0	1
Total	0	0	0	0	9	14	26	0	0	0	0	11	27	39
East Leg														
Approach	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Departure	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
West Leg														
Approach	0	0	0	0	26	14	40	0	0	0	0	32	29	61
Departure	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	26	14	40	0	0	0	0	32	29	61
Total Approaches														
Approach	0	0	0	0	35	28	66	0	0	0	0	43	56	100
Departure	0	0	0	0	35	28	66	0	0	0	0	43	56	100
Total	0	0	0	0	70	56	132	0	0	0	0	86	112	200

LSA

Table C-2 - Opening Year (2024) Peak Hour PCE Volume Summary

	AM Peak Hour							PM Peak Hour						
	Existing (2,022) PCE	2022-2,024 Growth	Cumulative Project Trips	OY No Project	Net Project Trips	Pass-by Trips	OY Plus Project	Existing (2,022) PCE	2022-2,024 Growth	Cumulative Project Trips	OY No Project	Net Project Trips	Pass-by Trips	OY Plus Project
15 Flying Feather Road/Project Driveway 5														
NBL	0	0	0	0	0	0	3	0	0	0	0	0	0	1
NBT	0	0	0	0	0	0	0	0	0	0	0	0	0	0
NBR	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SBL	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SBT	0	0	0	0	0	0	3	0	0	0	0	0	0	1
SBR	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EBL	0	0	0	0	9	14	23	0	0	0	0	11	27	38
EBT	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EBR	0	0	0	0	0	0	2	0	0	0	0	0	0	0
WBL	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WBT	0	0	0	0	0	0	0	0	0	0	0	0	0	0
WBR	0	0	0	0	0	0	0	0	0	0	0	0	0	0
North Leg														
Approach	0	0	0	0	0	0	3	0	0	0	0	0	0	1
Departure	0	0	0	0	9	14	23	0	0	0	0	11	27	38
Total	0	0	0	0	9	14	26	0	0	0	0	11	27	39
South Leg														
Approach	0	0	0	0	0	0	3	0	0	0	0	0	0	1
Departure	0	0	0	0	0	0	5	0	0	0	0	0	0	1
Total	0	0	0	0	0	0	8	0	0	0	0	0	0	2
East Leg														
Approach	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Departure	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0
West Leg														
Approach	0	0	0	0	9	14	25	0	0	0	0	11	27	38
Departure	0	0	0	0	0	0	3	0	0	0	0	0	0	1
Total	0	0	0	0	9	14	28	0	0	0	0	11	27	39
Total Approaches														
Approach	0	0	0	0	9	14	31	0	0	0	0	11	27	40
Departure	0	0	0	0	9	14	31	0	0	0	0	11	27	40
Total	0	0	0	0	18	28	62	0	0	0	0	22	54	80

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Table C-3 - Cumulative (2045) Peak Hour Volume Summary

	AM Peak Hour				PM Peak Hour			
	Cumulative No Project Volumes	Net Project Trips	Pass-by Trips	Cumulative Plus Project	Cumulative No Project Volumes	Net Project Trips	Pass-by Trips	Cumulative Plus Project
1 Jacaranda Avenue/Bear Valley Road								
NBL	85	0	0	85	89	0	0	89
NBT	54	0	0	54	9	0	0	9
NBR	296	11	0	307	444	11	0	455
SBL	17	0	0	17	29	0	0	29
SBT	17	0	0	17	20	0	0	20
SBR	40	0	0	40	39	0	0	39
EBL	137	0	0	137	38	0	0	38
EBT	1,516	21	0	1,537	2,131	22	0	2,153
EBR	69	0	0	69	50	0	0	50
WBL	242	9	0	251	339	11	0	350
WBT	1,842	17	0	1,859	1,874	22	0	1,896
WBR	47	0	0	47	24	0	0	24
North Leg								
Approach	74	0	0	74	88	0	0	88
Departure	238	0	0	238	71	0	0	71
Total	312	0	0	312	159	0	0	159
South Leg								
Approach	435	11	0	446	542	11	0	553
Departure	328	9	0	337	409	11	0	420
Total	763	20	0	783	951	22	0	973
East Leg								
Approach	2,131	26	0	2,157	2,237	33	0	2,270
Departure	1,829	32	0	1,861	2,604	33	0	2,637
Total	3,960	58	0	4,018	4,841	66	0	4,907
West Leg								
Approach	1,722	21	0	1,743	2,219	22	0	2,241
Departure	1,967	17	0	1,984	2,002	22	0	2,024
Total	3,689	38	0	3,727	4,221	44	0	4,265
Total Approaches								
Approach	4,362	58	0	4,420	5,086	66	0	5,152
Departure	4,362	58	0	4,420	5,086	66	0	5,152
Total	8,724	116	0	8,840	10,172	132	0	10,304

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Table C-3 - Cumulative (2045) Peak Hour Volume Summary

	AM Peak Hour				PM Peak Hour			
	Cumulative No Project Volumes	Net Project Trips	Pass-by Trips	Cumulative Plus Project	Cumulative No Project Volumes	Net Project Trips	Pass-by Trips	Cumulative Plus Project
2 Mojave Fish Hatchery Road/Bear Valley Road								
NBL	46	0	0	46	113	0	0	113
NBT	6	0	0	6	9	0	0	9
NBR	26	0	0	26	70	0	0	70
SBL	108	11	0	119	126	11	0	137
SBT	5	0	0	5	5	0	0	5
SBR	70	0	0	70	91	0	0	91
EBL	173	0	0	173	62	0	0	62
EBT	1,594	32	0	1,626	2,436	33	0	2,469
EBR	62	0	0	62	106	0	0	106
WBL	49	0	0	49	126	0	0	126
WBT	2,015	26	0	2,041	2,033	32	0	2,065
WBR	261	9	0	270	95	11	0	106
North Leg								
Approach	183	11	0	194	222	11	0	233
Departure	440	9	0	449	166	11	0	177
Total	623	20	0	643	388	22	0	410
South Leg								
Approach	78	0	0	78	192	0	0	192
Departure	116	0	0	116	237	0	0	237
Total	194	0	0	194	429	0	0	429
East Leg								
Approach	2,325	35	0	2,360	2,254	43	0	2,297
Departure	1,728	43	0	1,771	2,632	44	0	2,676
Total	4,053	78	0	4,131	4,886	87	0	4,973
West Leg								
Approach	1,829	32	0	1,861	2,604	33	0	2,637
Departure	2,131	26	0	2,157	2,237	32	0	2,269
Total	3,960	58	0	4,018	4,841	65	0	4,906
Total Approaches								
Approach	4,415	78	0	4,493	5,272	87	0	5,359
Departure	4,415	78	0	4,493	5,272	87	0	5,359
Total	8,830	156	0	8,986	10,544	174	0	10,718

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Table C-3 - Cumulative (2045) Peak Hour Volume Summary

	AM Peak Hour				PM Peak Hour			
	Cumulative No Project Volumes	Net Project Trips	Pass-by Trips	Cumulative Plus Project	Cumulative No Project Volumes	Net Project Trips	Pass-by Trips	Cumulative Plus Project
3 Jess Ranch Parkway/Bear Valley Road								
NBL	306	0	0	306	508	0	0	508
NBT	0	0	0	0	0	0	0	0
NBR	50	11	0	61	196	11	0	207
SBL	0	0	0	0	0	0	0	0
SBT	0	0	0	0	0	0	0	0
SBR	0	0	0	0	0	0	0	0
EBL	0	0	0	0	0	0	0	0
EBT	1,450	43	0	1,493	2,083	43	0	2,126
EBR	192	0	0	192	361	0	0	361
WBL	85	9	0	94	216	11	0	227
WBT	2,019	35	0	2,054	1,746	43	0	1,789
WBR	0	0	0	0	0	0	0	0
North Leg								
Approach	0	0	0	0	0	0	0	0
Departure	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0
South Leg								
Approach	356	11	0	367	704	11	0	715
Departure	277	9	0	286	577	11	0	588
Total	633	20	0	653	1,281	22	0	1,303
East Leg								
Approach	2,104	44	0	2,148	1,962	54	0	2,016
Departure	1,500	54	0	1,554	2,279	54	0	2,333
Total	3,604	98	0	3,702	4,241	108	0	4,349
West Leg								
Approach	1,642	43	0	1,685	2,444	43	0	2,487
Departure	2,325	35	0	2,360	2,254	43	0	2,297
Total	3,967	78	0	4,045	4,698	86	0	4,784
Total Approaches								
Approach	4,102	98	0	4,200	5,110	108	0	5,218
Departure	4,102	98	0	4,200	5,110	108	0	5,218
Total	8,204	196	0	8,400	10,220	216	0	10,436

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Table C-3 - Cumulative (2045) Peak Hour Volume Summary

	AM Peak Hour				PM Peak Hour			
	Cumulative No Project Volumes	Net Project Trips	Pass-by Trips	Cumulative Plus Project	Cumulative No Project Volumes	Net Project Trips	Pass-by Trips	Cumulative Plus Project
4 Reata Road/Bear Valley Road								
NBL	38	0	0	38	219	0	0	219
NBT	26	0	0	26	114	0	0	114
NBR	30	0	0	30	166	0	0	166
SBL	21	11	0	32	30	11	0	41
SBT	43	0	0	43	111	0	0	111
SBR	298	0	0	298	284	0	0	284
EBL	222	0	0	222	320	0	0	320
EBT	1,202	54	0	1,256	1,799	54	0	1,853
EBR	50	0	0	50	139	0	0	139
WBL	64	0	0	64	159	0	0	159
WBT	1,768	44	0	1,812	1,458	54	0	1,512
WBR	17	9	0	26	16	11	0	27
North Leg								
Approach	362	11	0	373	425	11	0	436
Departure	265	9	0	274	450	11	0	461
Total	627	20	0	647	875	22	0	897
South Leg								
Approach	94	0	0	94	499	0	0	499
Departure	157	0	0	157	409	0	0	409
Total	251	0	0	251	908	0	0	908
East Leg								
Approach	1,849	53	0	1,902	1,633	65	0	1,698
Departure	1,253	65	0	1,318	1,995	65	0	2,060
Total	3,102	118	0	3,220	3,628	130	0	3,758
West Leg								
Approach	1,474	54	0	1,528	2,258	54	0	2,312
Departure	2,104	44	0	2,148	1,961	54	0	2,015
Total	3,578	98	0	3,676	4,219	108	0	4,327
Total Approaches								
Approach	3,779	118	0	3,897	4,815	130	0	4,945
Departure	3,779	118	0	3,897	4,815	130	0	4,945
Total	7,558	236	0	7,794	9,630	260	0	9,890

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Table C-3 - Cumulative (2045) Peak Hour Volume Summary

	AM Peak Hour				PM Peak Hour			
	Cumulative No Project Volumes	Net Project Trips	Pass-by Trips	Cumulative Plus Project	Cumulative No Project Volumes	Net Project Trips	Pass-by Trips	Cumulative Plus Project
5 Apple Valley Road/Pimlico Road - Shopping Center Driveway								
NBL	42	9	0	51	77	11	0	88
NBT	663	17	0	680	824	22	0	846
NBR	38	0	0	38	97	0	0	97
SBL	68	0	0	68	167	0	0	167
SBT	902	21	0	923	908	22	0	930
SBR	208	0	0	208	262	0	0	262
EBL	168	0	0	168	300	0	0	300
EBT	38	0	0	38	58	0	0	58
EBR	16	11	0	27	42	11	0	53
WBL	37	0	0	37	87	0	0	87
WBT	28	0	0	28	49	0	0	49
WBR	41	0	0	41	108	0	0	108
North Leg								
Approach	1,178	21	0	1,199	1,337	22	0	1,359
Departure	872	17	0	889	1,232	22	0	1,254
Total	2,050	38	0	2,088	2,569	44	0	2,613
South Leg								
Approach	743	26	0	769	998	33	0	1,031
Departure	955	32	0	987	1,037	33	0	1,070
Total	1,698	58	0	1,756	2,035	66	0	2,101
East Leg								
Approach	106	0	0	106	244	0	0	244
Departure	144	0	0	144	322	0	0	322
Total	250	0	0	250	566	0	0	566
West Leg								
Approach	222	11	0	233	400	11	0	411
Departure	278	9	0	287	388	11	0	399
Total	500	20	0	520	788	22	0	810
Total Approaches								
Approach	2,249	58	0	2,307	2,979	66	0	3,045
Departure	2,249	58	0	2,307	2,979	66	0	3,045
Total	4,498	116	0	4,614	5,958	132	0	6,090

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Table C-3 - Cumulative (2045) Peak Hour Volume Summary

	AM Peak Hour				PM Peak Hour			
	Cumulative No Project Volumes	Net Project Trips	Pass-by Trips	Cumulative Plus Project	Cumulative No Project Volumes	Net Project Trips	Pass-by Trips	Cumulative Plus Project
6 Apple Valley Road/Bear Valley Road								
NBL	82	0	0	82	121	0	0	121
NBT	172	0	0	172	250	0	0	250
NBR	58	32	0	90	202	33	0	235
SBL	217	32	0	249	289	33	0	322
SBT	210	0	0	210	386	0	0	386
SBR	464	0	0	464	410	0	0	410
EBL	385	0	0	385	526	0	0	526
EBT	850	64	0	914	1,327	65	0	1,392
EBR	48	0	0	48	68	0	0	68
WBL	151	26	0	177	208	32	0	240
WBT	1,338	52	0	1,390	1,113	65	0	1,178
WBR	236	26	0	262	185	32	0	217
North Leg								
Approach	891	32	0	923	1,085	33	0	1,118
Departure	793	26	0	819	961	32	0	993
Total	1,684	58	0	1,742	2,046	65	0	2,111
South Leg								
Approach	312	32	0	344	573	33	0	606
Departure	409	26	0	435	662	32	0	694
Total	721	58	0	779	1,235	65	0	1,300
East Leg								
Approach	1,725	104	0	1,829	1,506	129	0	1,635
Departure	1,125	128	0	1,253	1,818	131	0	1,949
Total	2,850	232	0	3,082	3,324	260	0	3,584
West Leg								
Approach	1,283	64	0	1,347	1,921	65	0	1,986
Departure	1,884	52	0	1,936	1,644	65	0	1,709
Total	3,167	116	0	3,283	3,565	130	0	3,695
Total Approaches								
Approach	4,211	232	0	4,443	5,085	260	0	5,345
Departure	4,211	232	0	4,443	5,085	260	0	5,345
Total	8,422	464	0	8,886	10,170	520	0	10,690

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Table C-3 - Cumulative (2045) Peak Hour Volume Summary

	AM Peak Hour				PM Peak Hour			
	Cumulative No Project Volumes	Net Project Trips	Pass-by Trips	Cumulative Plus Project	Cumulative No Project Volumes	Net Project Trips	Pass-by Trips	Cumulative Plus Project
7 Westmont Drive - Apple Bear Road/Bear Valley Road								
NBL	0	104	73	180	0	129	63	193
NBT	0	0	5	5	0	0	9	9
NBR	0	0	0	0	0	0	0	0
SBL	81	0	(3)	78	244	0	(9)	235
SBT	0	0	4	4	0	0	12	12
SBR	62	0	(1)	61	140	0	(3)	137
EBL	107	0	(3)	104	186	0	(5)	181
EBT	975	64	(30)	1,009	1,599	65	(48)	1,616
EBR	0	64	31	95	0	65	51	116
WBL	0	86	84	172	0	87	67	154
WBT	1,629	0	(82)	1,547	1,367	0	(62)	1,305
WBR	104	0	(3)	101	163	0	(5)	158
North Leg								
Approach	143	0	0	143	384	0	0	384
Departure	211	0	(1)	210	349	0	(1)	348
Total	354	0	(1)	353	733	0	(1)	732
South Leg								
Approach	0	104	78	185	0	129	72	202
Departure	0	150	119	271	0	152	130	282
Total	0	254	197	456	0	281	202	484
East Leg								
Approach	1,733	86	(1)	1,820	1,530	87	0	1,617
Departure	1,056	64	(33)	1,087	1,843	65	(57)	1,851
Total	2,789	150	(34)	2,907	3,373	152	(57)	3,468
West Leg								
Approach	1,082	128	(2)	1,208	1,785	130	(2)	1,913
Departure	1,691	104	(10)	1,788	1,507	129	(2)	1,635
Total	2,773	232	(12)	2,996	3,292	259	(4)	3,548
Total Approaches								
Approach	2,958	318	75	3,356	3,699	346	70	4,116
Departure	2,958	318	75	3,356	3,699	346	70	4,116
Total	5,916	636	150	6,712	7,398	692	140	8,232

LSA

Table C-3 - Cumulative (2045) Peak Hour Volume Summary

	AM Peak Hour				PM Peak Hour			
	Cumulative No Project Volumes	Net Project Trips	Pass-by Trips	Cumulative Plus Project	Cumulative No Project Volumes	Net Project Trips	Pass-by Trips	Cumulative Plus Project
8 Flying Feather Road/Bear Valley Road								
NBL	3	0	0	0	1	0	0	0
NBT	0	0	0	0	0	0	0	0
NBR	2	35	29	66	3	43	56	102
SBL	0	0	0	0	0	0	0	0
SBT	0	0	0	0	0	0	0	0
SBR	0	0	0	0	0	0	0	0
EBL	0	0	0	0	0	0	0	0
EBT	1,024	35	(35)	1,024	1,751	43	(58)	1,736
EBR	3	0	0	3	1	0	0	1
WBL	2	0	0	0	0	0	0	0
WBT	1,659	86	0	1,745	1,428	87	0	1,515
WBR	0	0	0	0	0	0	0	0
North Leg								
Approach	0	0	0	0	0	0	0	0
Departure	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0
South Leg								
Approach	5	35	29	66	4	43	56	102
Departure	5	0	0	3	1	0	0	1
Total	10	35	29	69	5	43	56	103
East Leg								
Approach	1,661	86	0	1,745	1,428	87	0	1,515
Departure	1,026	70	(6)	1,090	1,754	86	(2)	1,838
Total	2,687	156	(6)	2,835	3,182	173	(2)	3,353
West Leg								
Approach	1,027	35	(35)	1,027	1,752	43	(58)	1,737
Departure	1,662	86	0	1,745	1,429	87	0	1,515
Total	2,689	121	(35)	2,772	3,181	130	(58)	3,252
Total Approaches								
Approach	2,693	156	(6)	2,838	3,184	173	(2)	3,354
Departure	2,693	156	(6)	2,838	3,184	173	(2)	3,354
Total	5,386	312	(12)	5,676	6,368	346	(4)	6,708

LSA

Table C-3 - Cumulative (2045) Peak Hour Volume Summary

	AM Peak Hour				PM Peak Hour			
	Cumulative No Project Volumes	Net Project Trips	Pass-by Trips	Cumulative Plus Project	Cumulative No Project Volumes	Net Project Trips	Pass-by Trips	Cumulative Plus Project
9 Deep Creek Road/Apple Valley Road								
NBL	175	21	0	196	147	22	0	169
NBT	51	0	0	51	61	0	0	61
NBR	81	0	0	81	136	0	0	136
SBL	28	0	0	28	55	0	0	55
SBT	28	0	0	28	71	0	0	71
SBR	49	0	0	49	59	0	0	59
EBL	43	0	0	43	64	0	0	64
EBT	903	52	0	955	1,638	65	0	1,703
EBR	84	17	0	101	140	22	0	162
WBL	116	0	0	116	135	0	0	135
WBT	1,489	64	0	1,553	1,361	65	0	1,426
WBR	41	0	0	41	36	0	0	36
North Leg								
Approach	105	0	0	105	185	0	0	185
Departure	135	0	0	135	161	0	0	161
Total	240	0	0	240	346	0	0	346
South Leg								
Approach	307	21	0	328	344	22	0	366
Departure	228	17	0	245	346	22	0	368
Total	535	38	0	573	690	44	0	734
East Leg								
Approach	1,646	64	0	1,710	1,532	65	0	1,597
Departure	1,012	52	0	1,064	1,829	65	0	1,894
Total	2,658	116	0	2,774	3,361	130	0	3,491
West Leg								
Approach	1,030	69	0	1,099	1,842	87	0	1,929
Departure	1,713	85	0	1,798	1,567	87	0	1,654
Total	2,743	154	0	2,897	3,409	174	0	3,583
Total Approaches								
Approach	3,088	154	0	3,242	3,903	174	0	4,077
Departure	3,088	154	0	3,242	3,903	174	0	4,077
Total	6,176	308	0	6,484	7,806	348	0	8,154

LSA

Table C-3 - Cumulative (2045) Peak Hour Volume Summary

	AM Peak Hour				PM Peak Hour			
	Cumulative No Project Volumes	Net Project Trips	Pass-by Trips	Cumulative Plus Project	Cumulative No Project Volumes	Net Project Trips	Pass-by Trips	Cumulative Plus Project
10 Kiowa Road/Bear Valley Road								
NBL	325	11	0	336	266	11	0	277
NBT	152	0	0	152	229	0	0	229
NBR	78	0	0	78	131	0	0	131
SBL	57	0	0	57	82	0	0	82
SBT	152	0	0	152	242	0	0	242
SBR	217	11	0	228	182	11	0	193
EBL	125	9	0	134	210	11	0	221
EBT	700	17	0	717	1,009	22	0	1,031
EBR	171	9	0	180	270	11	0	281
WBL	105	0	0	105	153	0	0	153
WBT	943	21	0	964	959	22	0	981
WBR	58	0	0	58	65	0	0	65
North Leg								
Approach	426	11	0	437	506	11	0	517
Departure	335	9	0	344	504	11	0	515
Total	761	20	0	781	1,010	22	0	1,032
South Leg								
Approach	555	11	0	566	626	11	0	637
Departure	428	9	0	437	665	11	0	676
Total	983	20	0	1,003	1,291	22	0	1,313
East Leg								
Approach	1,106	21	0	1,127	1,177	22	0	1,199
Departure	835	17	0	852	1,222	22	0	1,244
Total	1,941	38	0	1,979	2,399	44	0	2,443
West Leg								
Approach	996	35	0	1,031	1,489	44	0	1,533
Departure	1,485	43	0	1,528	1,407	44	0	1,451
Total	2,481	78	0	2,559	2,896	88	0	2,984
Total Approaches								
Approach	3,083	78	0	3,161	3,798	88	0	3,886
Departure	3,083	78	0	3,161	3,798	88	0	3,886
Total	6,166	156	0	6,322	7,596	176	0	7,772

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Table C-3 - Cumulative (2045) Peak Hour Volume Summary

	AM Peak Hour				PM Peak Hour			
	Cumulative No Project Volumes	Net Project Trips	Pass-by Trips	Cumulative Plus Project	Cumulative No Project Volumes	Net Project Trips	Pass-by Trips	Cumulative Plus Project
11 Apple Bear Road/Project Driveway 1								
NBL	0	0	0	0	0	0	0	0
NBT	0	9	38	50	0	11	35	47
NBR	0	0	0	0	0	0	0	0
SBL	0	139	61	200	0	141	67	208
SBT	0	11	58	71	0	11	64	75
SBR	0	0	0	0	0	0	0	0
EBL	0	0	0	0	0	0	0	0
EBT	0	0	0	0	0	0	0	0
EBR	0	0	0	0	0	0	0	0
WBL	0	0	0	0	0	0	0	0
WBT	0	0	0	0	0	0	0	0
WBR	0	96	39	135	0	118	38	156
North Leg								
Approach	0	150	119	271	0	152	131	283
Departure	0	105	77	185	0	129	73	203
Total	0	255	196	456	0	281	204	486
South Leg								
Approach	0	9	38	50	0	11	35	47
Departure	0	11	58	71	0	11	64	75
Total	0	20	96	121	0	22	99	122
East Leg								
Approach	0	96	39	135	0	118	38	156
Departure	0	139	61	200	0	141	67	208
Total	0	235	100	335	0	259	105	364
West Leg								
Approach	0	0	0	0	0	0	0	0
Departure	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0
Total Approaches								
Approach	0	255	196	456	0	281	204	486
Departure	0	255	196	456	0	281	204	486
Total	0	510	392	912	0	562	408	972

LSA

Table C-3 - Cumulative (2045) Peak Hour Volume Summary

	AM Peak Hour				PM Peak Hour			
	Cumulative No Project Volumes	Net Project Trips	Pass-by Trips	Cumulative Plus Project	Cumulative No Project Volumes	Net Project Trips	Pass-by Trips	Cumulative Plus Project
12 Apple Bear Road/Project Driveway 2								
NBL	0	0	0	0	0	0	0	0
NBT	0	0	0	0	0	0	0	0
NBR	0	0	0	0	0	0	0	0
SBL	0	11	58	71	0	11	64	75
SBT	0	0	0	0	0	0	0	0
SBR	0	0	0	0	0	0	0	0
EBL	0	0	0	0	0	0	0	0
EBT	0	0	0	0	0	0	0	0
EBR	0	0	0	0	0	0	0	0
WBL	0	0	0	0	0	0	0	0
WBT	0	0	0	0	0	0	0	0
WBR	0	9	38	50	0	11	35	47
North Leg								
Approach	0	11	58	71	0	11	64	75
Departure	0	9	38	50	0	11	35	47
Total	0	20	96	121	0	22	99	122
South Leg								
Approach	0	0	0	0	0	0	0	0
Departure	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0
East Leg								
Approach	0	9	38	50	0	11	35	47
Departure	0	11	58	71	0	11	64	75
Total	0	20	96	121	0	22	99	122
West Leg								
Approach	0	0	0	0	0	0	0	0
Departure	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0
Total Approaches								
Approach	0	20	96	121	0	22	99	122
Departure	0	20	96	121	0	22	99	122
Total	0	40	192	242	0	44	198	244

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Table C-3 - Cumulative (2045) Peak Hour Volume Summary

	AM Peak Hour				PM Peak Hour			
	Cumulative No Project Volumes	Net Project Trips	Pass-by Trips	Cumulative Plus Project	Cumulative No Project Volumes	Net Project Trips	Pass-by Trips	Cumulative Plus Project
13 Project Driveway 3/Bear Valley Road								
NBL	0	0	0	0	0	0	0	0
NBT	0	0	0	0	0	0	0	0
NBR	0	35	13	48	0	43	23	66
SBL	0	0	0	0	0	0	0	0
SBT	0	0	0	0	0	0	0	0
SBR	0	0	0	0	0	0	0	0
EBL	0	0	0	0	0	0	0	0
EBT	1,056	0	(48)	1,008	1,843	0	(81)	1,762
EBR	0	64	16	80	0	65	25	90
WBL	0	0	0	0	0	0	0	0
WBT	1,733	86	0	1,819	1,530	87	0	1,617
WBR	0	0	0	0	0	0	0	0
North Leg								
Approach	0	0	0	0	0	0	0	0
Departure	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0
South Leg								
Approach	0	35	13	48	0	43	23	66
Departure	0	64	16	80	0	65	25	90
Total	0	99	29	128	0	108	48	156
East Leg								
Approach	1,733	86	0	1,819	1,530	87	0	1,617
Departure	1,056	35	(35)	1,056	1,843	43	(58)	1,828
Total	2,789	121	(35)	2,875	3,373	130	(58)	3,445
West Leg								
Approach	1,056	64	(32)	1,088	1,843	65	(56)	1,852
Departure	1,733	86	0	1,819	1,530	87	0	1,617
Total	2,789	150	(32)	2,907	3,373	152	(56)	3,469
Total Approaches								
Approach	2,789	185	(19)	2,955	3,373	195	(33)	3,535
Departure	2,789	185	(19)	2,955	3,373	195	(33)	3,535
Total	5,578	370	(38)	5,910	6,746	390	(66)	7,070

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Table C-3 - Cumulative (2045) Peak Hour Volume Summary

	AM Peak Hour				PM Peak Hour			
	Cumulative No Project Volumes	Net Project Trips	Pass-by Trips	Cumulative Plus Project	Cumulative No Project Volumes	Net Project Trips	Pass-by Trips	Cumulative Plus Project
14 Flying Feather Road/Project Driveway 4								
NBL	0	0	0	0	0	0	0	0
NBT	0	9	14	23	0	11	27	38
NBR	0	0	0	0	0	0	0	0
SBL	0	0	0	0	0	0	0	0
SBT	0	0	0	3	0	0	0	1
SBR	0	0	0	0	0	0	0	0
EBL	0	26	14	40	0	32	29	61
EBT	0	0	0	0	0	0	0	0
EBR	0	0	0	0	0	0	0	0
WBL	0	0	0	0	0	0	0	0
WBT	0	0	0	0	0	0	0	0
WBR	0	0	0	0	0	0	0	0
North Leg								
Approach	0	0	0	3	0	0	0	1
Departure	0	35	28	63	0	43	56	99
Total	0	35	28	66	0	43	56	100
South Leg								
Approach	0	9	14	23	0	11	27	38
Departure	0	0	0	3	0	0	0	1
Total	0	9	14	26	0	11	27	39
East Leg								
Approach	0	0	0	0	0	0	0	0
Departure	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0
West Leg								
Approach	0	26	14	40	0	32	29	61
Departure	0	0	0	0	0	0	0	0
Total	0	26	14	40	0	32	29	61
Total Approaches								
Approach	0	35	28	66	0	43	56	100
Departure	0	35	28	66	0	43	56	100
Total	0	70	56	132	0	86	112	200

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Table C-3 - Cumulative (2045) Peak Hour Volume Summary

	AM Peak Hour				PM Peak Hour			
	Cumulative No Project Volumes	Net Project Trips	Pass-by Trips	Cumulative Plus Project	Cumulative No Project Volumes	Net Project Trips	Pass-by Trips	Cumulative Plus Project
15 Flying Feather Road/Project Driveway 5								
NBL	0	0	0	3	0	0	0	1
NBT	0	0	0	0	0	0	0	0
NBR	0	0	0	0	0	0	0	0
SBL	0	0	0	0	0	0	0	0
SBT	0	0	0	3	0	0	0	1
SBR	0	0	0	0	0	0	0	0
EBL	0	9	14	23	0	11	27	38
EBT	0	0	0	0	0	0	0	0
EBR	0	0	0	2	0	0	0	0
WBL	0	0	0	0	0	0	0	0
WBT	0	0	0	0	0	0	0	0
WBR	0	0	0	0	0	0	0	0
North Leg								
Approach	0	0	0	3	0	0	0	1
Departure	0	9	14	23	0	11	27	38
Total	0	9	14	26	0	11	27	39
South Leg								
Approach	0	0	0	3	0	0	0	1
Departure	0	0	0	5	0	0	0	1
Total	0	0	0	8	0	0	0	2
East Leg								
Approach	0	0	0	0	0	0	0	0
Departure	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0
West Leg								
Approach	0	9	14	25	0	11	27	38
Departure	0	0	0	3	0	0	0	1
Total	0	9	14	28	0	11	27	39
Total Approaches								
Approach	0	9	14	31	0	11	27	40
Departure	0	9	14	31	0	11	27	40
Total	0	18	28	62	0	22	54	80

APPENDIX D

INTERSECTION LEVEL OF SERVICE WORKSHEETS

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	127	1273	63	217	1516	43	78	49	264	14	15	36
Future Volume (veh/h)	127	1273	63	217	1516	43	78	49	264	14	15	36
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	135	1354	67	231	1613	46	83	52	281	15	16	38
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	182	1763	87	253	2281	707	209	131	296	349	367	394
Arrive On Green	0.05	0.35	0.35	0.14	0.44	0.44	0.18	0.18	0.18	0.19	0.19	0.19
Sat Flow, veh/h	3510	5062	251	1810	5187	1608	1133	710	1608	1810	1900	1608
Grp Volume(v), veh/h	135	925	496	231	1613	46	135	0	281	15	16	38
Grp Sat Flow(s),veh/h/ln	1755	1729	1855	1810	1729	1608	1843	0	1608	1810	1900	1608
Q Serve(g_s), s	5.5	34.5	34.5	18.3	36.7	2.4	9.3	0.0	25.1	1.0	1.0	2.7
Cycle Q Clear(g_c), s	5.5	34.5	34.5	18.3	36.7	2.4	9.3	0.0	25.1	1.0	1.0	2.7
Prop In Lane	1.00		0.14	1.00		1.00	0.61		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	182	1205	646	253	2281	707	339	0	296	349	367	394
V/C Ratio(X)	0.74	0.77	0.77	0.91	0.71	0.07	0.40	0.00	0.95	0.04	0.04	0.10
Avail Cap(c_a), veh/h	738	1205	646	312	2281	707	339	0	296	349	367	394
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	67.8	42.0	42.0	61.5	33.0	23.4	52.1	0.0	58.5	47.6	47.6	42.3
Incr Delay (d2), s/veh	2.2	4.7	8.5	24.0	1.9	0.2	3.5	0.0	40.8	0.2	0.2	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	15.0	16.7	9.9	15.0	0.9	4.6	0.0	13.3	0.5	0.5	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	70.0	46.8	50.5	85.5	34.9	23.6	55.5	0.0	99.3	47.8	47.8	42.8
LnGrp LOS	E	D	D	F	C	C	E	A	F	D	D	D
Approach Vol, veh/h		1556			1890			416			69	
Approach Delay, s/veh		50.0			40.8			85.1			45.1	
Approach LOS		D			D			F			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	25.3	55.7		32.0	12.0	69.0		32.0				
Change Period (Y+Rc), s	5.0	5.2		* 5.3	4.5	5.2		4.0				
Max Green Setting (Gmax), s	25.0	45.8		* 27	30.5	40.8		28.0				
Max Q Clear Time (g_c+I1), s	20.3	36.5		27.1	7.5	38.7		4.7				
Green Ext Time (p_c), s	0.0	2.4		0.0	0.1	1.1		0.0				

Intersection Summary		
HCM 6th Ctrl Delay		49.2
HCM 6th LOS		D

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	160	1335	55	45	1669	239	42	6	24	99	5	64
Future Volume (veh/h)	160	1335	55	45	1669	239	42	6	24	99	5	64
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	162	1348	56	45	1686	241	46	0	24	100	5	65
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	186	2095	650	106	1718	833	807	0	359	336	22	281
Arrive On Green	0.10	0.40	0.40	0.03	0.33	0.33	0.22	0.00	0.22	0.19	0.19	0.19
Sat Flow, veh/h	1810	5187	1610	3510	5187	1610	3619	0	1610	1810	116	1512
Grp Volume(v), veh/h	162	1348	56	45	1686	241	46	0	24	100	0	70
Grp Sat Flow(s),veh/h/ln	1810	1729	1610	1755	1729	1610	1810	0	1610	1810	0	1628
Q Serve(g_s), s	11.9	28.3	2.9	1.7	43.5	11.5	1.4	0.0	1.6	6.4	0.0	4.9
Cycle Q Clear(g_c), s	11.9	28.3	2.9	1.7	43.5	11.5	1.4	0.0	1.6	6.4	0.0	4.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.93
Lane Grp Cap(c), veh/h	186	2095	650	106	1718	833	807	0	359	336	0	303
V/C Ratio(X)	0.87	0.64	0.09	0.42	0.98	0.29	0.06	0.00	0.07	0.30	0.00	0.23
Avail Cap(c_a), veh/h	201	2095	650	390	1718	833	807	0	359	336	0	303
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	59.7	32.4	24.9	64.3	44.7	18.5	41.3	0.0	41.4	47.4	0.0	46.7
Incr Delay (d2), s/veh	28.2	1.5	0.3	1.0	17.7	0.9	0.1	0.0	0.4	2.2	0.0	1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.8	11.6	1.1	0.8	20.5	6.2	0.6	0.0	0.7	3.2	0.0	2.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	87.8	33.9	25.1	65.3	62.4	19.4	41.4	0.0	41.7	49.6	0.0	48.5
LnGrp LOS	F	C	C	E	E	B	D	A	D	D	A	D
Approach Vol, veh/h		1566			1972			70			170	
Approach Delay, s/veh		39.2			57.2			41.5			49.2	
Approach LOS		D			E			D			D	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	9.1	60.9		30.0	18.9	51.1		35.0
Change Period (Y+Rc), s	5.0	6.4		4.9	5.0	6.4		4.9
Max Green Setting (Gmax), s	15.0	43.6		25.1	15.0	43.6		30.1
Max Q Clear Time (g_c+I1), s	13.7	30.3		8.4	13.9	45.5		3.6
Green Ext Time (p_c), s	0.0	7.1		0.2	0.0	0.0		0.0

Intersection Summary	
HCM 6th Ctrl Delay	49.1
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1245	167	75	1688	265	41
Future Volume (veh/h)	1245	167	75	1688	265	41
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	1311	176	79	1777	279	43
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	2570	798	129	2968	1157	590
Arrive On Green	0.50	0.50	0.04	0.57	0.33	0.33
Sat Flow, veh/h	5358	1610	3510	5358	3510	1610
Grp Volume(v), veh/h	1311	176	79	1777	279	43
Grp Sat Flow(s),veh/h/ln	1729	1610	1755	1729	1755	1610
Q Serve(g_s), s	19.6	7.1	2.6	25.6	6.7	2.0
Cycle Q Clear(g_c), s	19.6	7.1	2.6	25.6	6.7	2.0
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	2570	798	129	2968	1157	590
V/C Ratio(X)	0.51	0.22	0.61	0.60	0.24	0.07
Avail Cap(c_a), veh/h	2570	798	317	2968	1157	590
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.72	0.72	1.00	1.00
Uniform Delay (d), s/veh	19.6	16.4	54.6	16.0	28.1	23.7
Incr Delay (d2), s/veh	0.7	0.6	1.3	0.6	0.5	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.4	2.6	1.1	9.1	2.8	2.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	20.3	17.1	55.9	16.7	28.6	24.0
LnGrp LOS	C	B	E	B	C	C
Approach Vol, veh/h	1487			1856	322	
Approach Delay, s/veh	19.9			18.3	28.0	
Approach LOS	B			B	C	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	8.8	63.2		43.0		72.0
Change Period (Y+Rc), s	4.6	6.2		5.1		6.2
Max Green Setting (Gmax), s	10.4	50.8		37.9		65.8
Max Q Clear Time (g_c+I1), s	4.6	21.6		8.7		27.6
Green Ext Time (p_c), s	0.0	18.9		0.6		28.4

Intersection Summary		
HCM 6th Ctrl Delay	19.8	
HCM 6th LOS	B	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	203	994	46	59	1455	15	35	24	28	19	39	273
Future Volume (veh/h)	203	994	46	59	1455	15	35	24	28	19	39	273
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	216	1057	0	63	1548	16	37	26	30	20	41	290
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	273	2631		106	2434	25	390	1181	520	498	622	520
Arrive On Green	0.08	0.51	0.00	0.03	0.46	0.46	0.33	0.33	0.33	0.33	0.33	0.33
Sat Flow, veh/h	3510	5187	1610	3510	5293	55	1065	3610	1588	1368	1900	1588
Grp Volume(v), veh/h	216	1057	0	63	1011	553	37	26	30	20	41	290
Grp Sat Flow(s),veh/h/ln	1755	1729	1610	1755	1729	1890	1065	1805	1588	1368	1900	1588
Q Serve(g_s), s	7.6	15.8	0.0	2.2	27.9	27.9	3.1	0.6	1.6	1.3	1.9	18.8
Cycle Q Clear(g_c), s	7.6	15.8	0.0	2.2	27.9	27.9	4.9	0.6	1.6	1.9	1.9	18.8
Prop In Lane	1.00		1.00	1.00		0.03	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	273	2631		106	1590	869	390	1181	520	498	622	520
V/C Ratio(X)	0.79	0.40		0.59	0.64	0.64	0.09	0.02	0.06	0.04	0.07	0.56
Avail Cap(c_a), veh/h	432	2631		432	1590	869	390	1181	520	498	622	520
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.83	0.83	0.00	0.87	0.87	0.87	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.6	19.1	0.0	59.8	25.8	25.8	30.6	28.5	28.8	29.1	28.9	34.6
Incr Delay (d2), s/veh	1.6	0.4	0.0	1.7	1.7	3.1	0.5	0.0	0.2	0.2	0.2	4.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.3	6.0	0.0	1.0	11.1	12.4	0.9	0.3	0.7	0.4	0.9	8.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	58.3	19.4	0.0	61.6	27.5	28.9	31.1	28.5	29.0	29.3	29.1	38.9
LnGrp LOS	E	B		E	C	C	C	C	C	C	C	D
Approach Vol, veh/h		1273			1627			93			351	
Approach Delay, s/veh		26.0			29.3			29.7			37.2	
Approach LOS		C			C			C			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.4	69.6		46.0	15.3	63.7		46.0				
Change Period (Y+Rc), s	5.6	6.2		5.1	5.6	6.2		5.1				
Max Green Setting (Gmax), s	15.4	51.8		40.9	15.4	51.8		40.9				
Max Q Clear Time (g_c+I1), s	4.2	17.8		20.8	9.6	29.9		6.9				
Green Ext Time (p_c), s	0.0	15.0		0.6	0.2	16.3		0.2				

Intersection Summary	
HCM 6th Ctrl Delay	28.9
HCM 6th LOS	C

Notes

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	147	35	14	34	26	31	38	575	35	64	760	190
Future Volume (veh/h)	147	35	14	34	26	31	38	575	35	64	760	190
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	156	37	15	36	28	33	40	612	37	68	809	202
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	233	272	230	229	272	230	52	2469	1088	87	2540	1133
Arrive On Green	0.14	0.14	0.14	0.14	0.14	0.14	0.03	0.68	0.68	0.05	0.70	0.70
Sat Flow, veh/h	1363	1900	1610	1374	1900	1610	1810	3610	1590	1810	3610	1610
Grp Volume(v), veh/h	156	37	15	36	28	33	40	612	37	68	809	202
Grp Sat Flow(s),veh/h/ln	1363	1900	1610	1374	1900	1610	1810	1805	1590	1810	1805	1610
Q Serve(g_s), s	14.6	2.2	1.0	3.1	1.7	2.3	2.9	8.4	1.0	4.8	11.1	5.5
Cycle Q Clear(g_c), s	16.3	2.2	1.0	5.3	1.7	2.3	2.9	8.4	1.0	4.8	11.1	5.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	233	272	230	229	272	230	52	2469	1088	87	2540	1133
V/C Ratio(X)	0.67	0.14	0.07	0.16	0.10	0.14	0.77	0.25	0.03	0.78	0.32	0.18
Avail Cap(c_a), veh/h	425	539	457	427	547	463	228	2469	1088	367	2540	1133
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.83	0.83	0.83	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.5	48.7	48.2	51.0	48.4	48.7	62.7	7.8	6.6	61.2	7.4	6.5
Incr Delay (d2), s/veh	1.2	0.1	0.0	0.1	0.1	0.1	7.3	0.2	0.0	5.5	0.3	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.1	1.1	0.4	1.1	0.8	1.0	1.4	2.9	0.3	2.3	3.6	1.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	56.8	48.8	48.2	51.1	48.5	48.8	70.1	8.0	6.7	66.7	7.7	6.9
LnGrp LOS	E	D	D	D	D	D	E	A	A	E	A	A
Approach Vol, veh/h		208			97			689			1079	
Approach Delay, s/veh		54.7			49.6			11.5			11.2	
Approach LOS		D			D			B			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	10.9	95.4		23.7	8.3	98.0		23.7
Change Period (Y+Rc), s	4.6	6.5		5.1	4.6	6.5		* 5.1
Max Green Setting (Gmax), s	26.4	50.5		36.9	16.4	60.5		* 37
Max Q Clear Time (g_c+I1), s	16.8	10.4		18.3	4.9	13.1		7.3
Green Ext Time (p_c), s	0.0	0.6		0.3	0.0	0.6		0.2

Intersection Summary	
HCM 6th Ctrl Delay	17.5
HCM 6th LOS	B

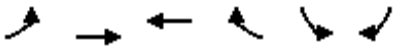
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	332	635	40	100	1101	165	71	154	44	168	188	392
Future Volume (veh/h)	332	635	40	100	1101	165	71	154	44	168	188	392
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	361	690	43	109	1197	179	77	167	48	183	204	426
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	392	2609	162	141	2341	891	93	1205	373	184	1022	1118
Arrive On Green	0.11	0.52	0.52	0.04	0.45	0.45	0.05	0.23	0.23	0.10	0.28	0.28
Sat Flow, veh/h	3510	4993	310	3510	5187	1610	1810	5187	1606	1810	3610	2831
Grp Volume(v), veh/h	361	477	256	109	1197	179	77	167	48	183	204	426
Grp Sat Flow(s),veh/h/ln	1755	1729	1844	1755	1729	1610	1810	1729	1606	1810	1805	1415
Q Serve(g_s), s	21.4	16.0	16.2	6.5	34.6	11.7	8.9	5.4	5.0	21.2	9.0	22.5
Cycle Q Clear(g_c), s	21.4	16.0	16.2	6.5	34.6	11.7	8.9	5.4	5.0	21.2	9.0	22.5
Prop In Lane	1.00		0.17	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	392	1807	964	141	2341	891	93	1205	373	184	1022	1118
V/C Ratio(X)	0.92	0.26	0.27	0.77	0.51	0.20	0.83	0.14	0.13	0.99	0.20	0.38
Avail Cap(c_a), veh/h	776	1807	964	441	2341	891	184	1205	373	184	1022	1118
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.92	0.92	0.92	1.00	1.00	1.00	1.00	1.00	1.00	0.96	0.96	0.96
Uniform Delay (d), s/veh	92.4	27.8	27.8	99.8	41.1	23.6	98.7	63.9	63.8	94.2	57.2	45.3
Incr Delay (d2), s/veh	3.6	0.3	0.6	3.3	0.8	0.5	7.0	0.2	0.7	62.6	0.4	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.9	6.7	7.3	3.0	14.8	4.6	4.3	2.4	2.1	13.1	4.2	8.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	96.0	28.1	28.4	103.1	41.9	24.1	105.8	64.2	64.5	156.8	57.6	46.2
LnGrp LOS	F	C	C	F	D	C	F	E	E	F	E	D
Approach Vol, veh/h		1094			1485			292			813	
Approach Delay, s/veh		50.6			44.2			75.2			74.0	
Approach LOS		D			D			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.1	115.9	15.3	65.7	28.0	101.0	26.0	55.0
Change Period (Y+Rc), s	4.6	6.2	4.6	6.2	4.6	6.2	4.6	6.2
Max Green Setting (Gmax), s	26.4	91.8	21.4	48.8	46.4	71.8	21.4	48.8
Max Q Clear Time (g_c+I1), s	8.5	18.2	10.9	24.5	23.4	36.6	23.2	7.4
Green Ext Time (p_c), s	0.0	0.6	0.0	0.2	0.0	1.3	0.0	0.2

Intersection Summary	
HCM 6th Ctrl Delay	55.1
HCM 6th LOS	E



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	39	744	1369	56	47	17
Future Volume (veh/h)	39	744	1369	56	47	17
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	42	800	1472	60	51	18
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	62	2238	2773	861	478	425
Arrive On Green	0.03	0.62	0.53	0.53	0.26	0.26
Sat Flow, veh/h	1810	3705	5358	1610	1810	1610
Grp Volume(v), veh/h	42	800	1472	60	51	18
Grp Sat Flow(s),veh/h/ln	1810	1805	1729	1610	1810	1610
Q Serve(g_s), s	2.3	10.8	18.4	1.8	2.1	0.8
Cycle Q Clear(g_c), s	2.3	10.8	18.4	1.8	2.1	0.8
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	62	2238	2773	861	478	425
V/C Ratio(X)	0.67	0.36	0.53	0.07	0.11	0.04
Avail Cap(c_a), veh/h	288	2238	2773	861	478	425
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.7	9.3	15.1	11.3	27.9	27.4
Incr Delay (d2), s/veh	11.9	0.4	0.7	0.2	0.4	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	3.6	6.5	0.6	1.0	0.9
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	59.7	9.7	15.9	11.4	28.3	27.6
LnGrp LOS	E	A	B	B	C	C
Approach Vol, veh/h		842	1532		69	
Approach Delay, s/veh		12.2	15.7		28.1	
Approach LOS		B	B		C	

Timer - Assigned Phs	2		4	5	6
Phs Duration (G+Y+Rc), s	69.0		31.0	8.5	60.5
Change Period (Y+Rc), s	7.0		4.6	5.1	* 7
Max Green Setting (Gmax), s	62.0		26.4	15.9	* 42
Max Q Clear Time (g_c+I1), s	12.8		4.1	4.3	20.4
Green Ext Time (p_c), s	5.6		0.1	0.0	10.2

Intersection Summary	
HCM 6th Ctrl Delay	14.8
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	0.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	793	3	2	1399	3	2
Future Vol, veh/h	793	3	2	1399	3	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	50	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	881	3	2	1554	3	2

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	884	0	1664	442
Stage 1	-	-	-	-	883	-
Stage 2	-	-	-	-	781	-
Critical Hdwy	-	-	4.1	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	1130	-	143	*779
Stage 1	-	-	-	-	703	-
Stage 2	-	-	-	-	417	-
Platoon blocked, %	-	-	1	-	1	1
Mov Cap-1 Maneuver	-	-	1130	-	143	*779
Mov Cap-2 Maneuver	-	-	-	-	143	-
Stage 1	-	-	-	-	703	-
Stage 2	-	-	-	-	416	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	22.4
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	212	-	-	1130	-
HCM Lane V/C Ratio	0.026	-	-	0.002	-
HCM Control Delay (s)	22.4	-	-	8.2	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	743	51	105	1259	133	59
Future Volume (veh/h)	743	51	105	1259	133	59
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	790	54	112	1339	141	63
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	1897	846	141	2316	430	508
Arrive On Green	0.53	0.53	0.08	0.64	0.24	0.24
Sat Flow, veh/h	3705	1610	1810	3705	1810	1610
Grp Volume(v), veh/h	790	54	112	1339	141	63
Grp Sat Flow(s),veh/h/ln	1805	1610	1810	1805	1810	1610
Q Serve(g_s), s	15.9	2.0	7.3	25.4	7.7	3.3
Cycle Q Clear(g_c), s	15.9	2.0	7.3	25.4	7.7	3.3
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	1897	846	141	2316	430	508
V/C Ratio(X)	0.42	0.06	0.80	0.58	0.33	0.12
Avail Cap(c_a), veh/h	1897	846	232	2316	430	508
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	17.3	14.0	54.4	12.2	37.8	29.3
Incr Delay (d2), s/veh	0.7	0.1	3.8	0.3	2.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.1	0.7	3.3	8.5	3.5	1.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	18.0	14.1	58.2	12.6	39.9	29.8
LnGrp LOS	B	B	E	B	D	C
Approach Vol, veh/h	844			1451	204	
Approach Delay, s/veh	17.7			16.1	36.7	
Approach LOS	B			B	D	

Timer - Assigned Phs	1	2				6	8
Phs Duration (G+Y+Rc), s	13.9	71.1				85.0	35.0
Change Period (Y+Rc), s	4.6	8.0				8.0	6.5
Max Green Setting (Gmax), s	15.4	57.0				77.0	28.5
Max Q Clear Time (g_c+I1), s	9.3	17.9				27.4	9.7
Green Ext Time (p_c), s	0.0	4.2				10.5	0.2

Intersection Summary		
HCM 6th Ctrl Delay	18.3	
HCM 6th LOS	B	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	87	492	133	96	781	43	261	139	60	47	139	168
Future Volume (veh/h)	87	492	133	96	781	43	261	139	60	47	139	168
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1976	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	93	523	141	102	831	46	278	148	64	50	148	179
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	115	1452	673	124	1471	656	300	852	352	65	767	340
Arrive On Green	0.06	0.40	0.40	0.07	0.41	0.41	0.17	0.34	0.34	0.04	0.21	0.21
Sat Flow, veh/h	1810	3610	1675	1810	3610	1610	1810	2489	1029	1810	3610	1599
Grp Volume(v), veh/h	93	523	141	102	831	46	278	105	107	50	148	179
Grp Sat Flow(s),veh/h/ln	1810	1805	1675	1810	1805	1610	1810	1805	1713	1810	1805	1599
Q Serve(g_s), s	7.4	14.7	8.0	8.1	25.7	2.5	22.0	5.9	6.3	4.0	4.9	14.4
Cycle Q Clear(g_c), s	7.4	14.7	8.0	8.1	25.7	2.5	22.0	5.9	6.3	4.0	4.9	14.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.60	1.00		1.00
Lane Grp Cap(c), veh/h	115	1452	673	124	1471	656	300	618	586	65	767	340
V/C Ratio(X)	0.81	0.36	0.21	0.82	0.56	0.07	0.93	0.17	0.18	0.77	0.19	0.53
Avail Cap(c_a), veh/h	255	1452	673	255	1471	656	317	618	586	255	767	340
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	67.0	30.3	28.3	66.6	33.1	26.2	59.6	33.3	33.4	69.3	46.9	50.6
Incr Delay (d2), s/veh	5.1	0.7	0.7	5.0	1.6	0.2	30.6	0.6	0.7	7.0	0.6	5.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.5	6.3	3.3	3.8	11.0	1.0	12.3	2.6	2.7	1.9	2.2	6.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	72.1	31.0	29.0	71.6	34.6	26.4	90.2	33.9	34.1	76.3	47.5	56.4
LnGrp LOS	E	C	C	E	C	C	F	C	C	E	D	E
Approach Vol, veh/h		757			979			490			377	
Approach Delay, s/veh		35.7			38.1			65.9			55.5	
Approach LOS		D			D			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.6	64.8	9.8	55.8	13.8	65.6	28.6	37.0
Change Period (Y+Rc), s	4.6	6.5	4.6	6.2	4.6	6.5	4.6	6.2
Max Green Setting (Gmax), s	10.4	46.5	20.4	35.8	20.4	46.5	25.4	30.8
Max Q Clear Time (g_c+I1), s	10.1	16.7	6.0	8.3	9.4	27.7	24.0	16.4
Green Ext Time (p_c), s	0.1	7.4	0.0	1.0	0.1	8.8	0.1	1.2

Intersection Summary	
HCM 6th Ctrl Delay	45.2
HCM 6th LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	35	1762	46	303	1576	22	82	9	398	27	18	36
Future Volume (veh/h)	35	1762	46	303	1576	22	82	9	398	27	18	36
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	36	1798	47	309	1608	22	84	9	406	23	25	37
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	74	1642	43	312	2441	756	302	32	296	349	367	345
Arrive On Green	0.02	0.32	0.32	0.17	0.47	0.47	0.18	0.18	0.18	0.19	0.19	0.19
Sat Flow, veh/h	3510	5198	136	1810	5187	1607	1642	176	1610	1810	1900	1610
Grp Volume(v), veh/h	36	1196	649	309	1608	22	93	0	406	23	25	37
Grp Sat Flow(s),veh/h/ln	1755	1729	1876	1810	1729	1607	1818	0	1610	1810	1900	1610
Q Serve(g_s), s	1.5	45.8	45.8	24.7	34.5	1.1	6.4	0.0	26.7	1.5	1.6	2.7
Cycle Q Clear(g_c), s	1.5	45.8	45.8	24.7	34.5	1.1	6.4	0.0	26.7	1.5	1.6	2.7
Prop In Lane	1.00		0.07	1.00		1.00	0.90		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	74	1092	592	312	2441	756	335	0	296	349	367	345
V/C Ratio(X)	0.49	1.09	1.10	0.99	0.66	0.03	0.28	0.00	1.37	0.07	0.07	0.11
Avail Cap(c_a), veh/h	738	1092	592	312	2441	756	335	0	296	349	367	345
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	70.2	49.6	49.6	59.9	29.4	20.6	50.9	0.0	59.2	47.8	47.8	45.8
Incr Delay (d2), s/veh	1.8	56.9	65.9	48.2	1.4	0.1	2.1	0.0	186.3	0.4	0.4	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	27.6	31.4	15.2	13.9	0.4	3.1	0.0	26.0	0.7	0.8	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	72.0	106.5	115.5	108.0	30.9	20.7	52.9	0.0	245.4	48.2	48.2	46.4
LnGrp LOS	E	F	F	F	C	C	D	A	F	D	D	D
Approach Vol, veh/h		1881			1939			499			85	
Approach Delay, s/veh		109.0			43.0			209.6			47.4	
Approach LOS		F			D			F			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	30.0	51.0		32.0	7.6	73.4		32.0				
Change Period (Y+Rc), s	5.0	5.2		* 5.3	4.5	5.2		4.0				
Max Green Setting (Gmax), s	25.0	45.8		* 27	30.5	40.8		28.0				
Max Q Clear Time (g_c+I1), s	26.7	47.8		28.7	3.5	36.5		4.7				
Green Ext Time (p_c), s	0.0	0.0		0.0	0.0	2.0		0.1				

Intersection Summary		
HCM 6th Ctrl Delay	90.1	
HCM 6th LOS	F	

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	57	2033	97	115	1713	90	104	9	64	115	5	84
Future Volume (veh/h)	57	2033	97	115	1713	90	104	9	64	115	5	84
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	58	2074	99	117	1748	92	112	0	65	117	5	85
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.99
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	75	2006	623	166	2037	929	807	0	357	336	17	285
Arrive On Green	0.04	0.39	0.39	0.05	0.39	0.39	0.22	0.00	0.22	0.19	0.19	0.19
Sat Flow, veh/h	1810	5187	1610	3510	5187	1602	3619	0	1602	1810	90	1534
Grp Volume(v), veh/h	58	2074	99	117	1748	92	112	0	65	117	0	90
Grp Sat Flow(s),veh/h/ln	1810	1729	1610	1755	1729	1602	1810	0	1602	1810	0	1624
Q Serve(g_s), s	4.3	52.2	5.4	4.4	41.7	3.5	3.4	0.0	4.4	7.6	0.0	6.4
Cycle Q Clear(g_c), s	4.3	52.2	5.4	4.4	41.7	3.5	3.4	0.0	4.4	7.6	0.0	6.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.94
Lane Grp Cap(c), veh/h	75	2006	623	166	2037	929	807	0	357	336	0	302
V/C Ratio(X)	0.78	1.03	0.16	0.70	0.86	0.10	0.14	0.00	0.18	0.35	0.00	0.30
Avail Cap(c_a), veh/h	201	2006	623	390	2037	929	807	0	357	336	0	302
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	64.1	41.4	27.1	63.4	37.5	12.7	42.1	0.0	42.5	47.8	0.0	47.4
Incr Delay (d2), s/veh	6.3	29.4	0.5	2.0	5.0	0.2	0.4	0.0	1.1	2.8	0.0	2.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	26.4	2.1	2.0	17.6	1.9	1.6	0.0	1.9	3.7	0.0	2.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	70.4	70.8	27.6	65.4	42.5	12.9	42.4	0.0	43.6	50.7	0.0	49.9
LnGrp LOS	E	F	C	E	D	B	D	A	D	D	A	D
Approach Vol, veh/h		2231			1957			177			207	
Approach Delay, s/veh		68.9			42.5			42.9			50.3	
Approach LOS		E			D			D			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	11.4	58.6		30.0	10.6	59.4		35.0				
Change Period (Y+Rc), s	5.0	6.4		4.9	5.0	6.4		4.9				
Max Green Setting (Gmax), s	15.0	43.6		25.1	15.0	43.6		30.1				
Max Q Clear Time (g_c+I1), s	6.4	54.2		9.6	6.3	43.7		6.4				
Green Ext Time (p_c), s	0.0	0.0		0.2	0.0	0.0		0.1				

Intersection Summary	
HCM 6th Ctrl Delay	55.7
HCM 6th LOS	E

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1732	317	191	1463	455	173
Future Volume (veh/h)	1732	317	191	1463	455	173
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	1786	327	197	1508	469	178
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	2382	736	256	2968	1157	648
Arrive On Green	0.46	0.46	0.07	0.57	0.33	0.33
Sat Flow, veh/h	5358	1603	3510	5358	3510	1610
Grp Volume(v), veh/h	1786	327	197	1508	469	178
Grp Sat Flow(s),veh/h/ln	1729	1603	1755	1729	1755	1610
Q Serve(g_s), s	32.7	15.9	6.3	20.2	11.9	8.5
Cycle Q Clear(g_c), s	32.7	15.9	6.3	20.2	11.9	8.5
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	2382	736	256	2968	1157	648
V/C Ratio(X)	0.75	0.44	0.77	0.51	0.41	0.27
Avail Cap(c_a), veh/h	2382	736	317	2968	1157	648
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.83	0.83	1.00	1.00
Uniform Delay (d), s/veh	25.6	21.1	52.4	14.8	29.8	23.1
Incr Delay (d2), s/veh	2.2	1.9	5.6	0.5	1.1	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.7	5.9	2.9	7.1	5.1	9.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	27.9	23.1	57.9	15.4	30.9	24.1
LnGrp LOS	C	C	E	B	C	C
Approach Vol, veh/h	2113			1705	647	
Approach Delay, s/veh	27.1			20.3	29.0	
Approach LOS	C			C	C	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	13.0	59.0		43.0		72.0
Change Period (Y+Rc), s	4.6	6.2		5.1		6.2
Max Green Setting (Gmax), s	10.4	50.8		37.9		65.8
Max Q Clear Time (g_c+I1), s	8.3	34.7		13.9		22.2
Green Ext Time (p_c), s	0.1	14.6		1.2		26.2

Intersection Summary			
HCM 6th Ctrl Delay		24.8	
HCM 6th LOS		C	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	293	1464	127	150	1193	14	201	105	152	28	102	260
Future Volume (veh/h)	293	1464	127	150	1193	14	201	105	152	28	102	260
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	302	1509	0	155	1230	14	207	108	157	29	105	268
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	358	2476		212	2304	26	353	1181	526	404	622	526
Arrive On Green	0.10	0.48	0.00	0.06	0.44	0.44	0.33	0.33	0.33	0.33	0.33	0.33
Sat Flow, veh/h	3510	5187	1610	3510	5287	60	1025	3610	1609	1131	1900	1609
Grp Volume(v), veh/h	302	1509	0	155	804	440	207	108	157	29	105	268
Grp Sat Flow(s),veh/h/ln	1755	1729	1610	1755	1729	1889	1025	1805	1609	1131	1900	1609
Q Serve(g_s), s	10.6	26.8	0.0	5.4	21.4	21.4	22.5	2.6	9.1	2.3	4.9	16.8
Cycle Q Clear(g_c), s	10.6	26.8	0.0	5.4	21.4	21.4	27.4	2.6	9.1	4.9	4.9	16.8
Prop In Lane	1.00		1.00	1.00		0.03	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	358	2476		212	1507	823	353	1181	526	404	622	526
V/C Ratio(X)	0.84	0.61		0.73	0.53	0.53	0.59	0.09	0.30	0.07	0.17	0.51
Avail Cap(c_a), veh/h	432	2476		432	1507	823	353	1181	526	404	622	526
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.62	0.62	0.00	0.90	0.90	0.90	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.2	24.1	0.0	57.7	25.9	25.9	39.7	29.2	31.4	30.9	29.9	33.9
Incr Delay (d2), s/veh	6.9	0.7	0.0	1.7	1.2	2.2	7.0	0.2	1.4	0.3	0.6	3.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.9	10.3	0.0	2.4	8.5	9.6	6.4	1.2	3.8	0.7	2.4	7.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	62.0	24.8	0.0	59.4	27.2	28.2	46.7	29.3	32.8	31.2	30.5	37.4
LnGrp LOS	E	C		E	C	C	D	C	C	C	C	D
Approach Vol, veh/h		1811			1399			472			402	
Approach Delay, s/veh		31.0			31.0			38.1			35.2	
Approach LOS		C			C			D			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	13.1	65.9		46.0	18.3	60.7		46.0				
Change Period (Y+Rc), s	5.6	6.2		5.1	5.6	6.2		5.1				
Max Green Setting (Gmax), s	15.4	51.8		40.9	15.4	51.8		40.9				
Max Q Clear Time (g_c+I1), s	7.4	28.8		18.8	12.6	23.4		29.4				
Green Ext Time (p_c), s	0.1	16.8		0.8	0.2	15.8		1.1				

Intersection Summary	
HCM 6th Ctrl Delay	32.2
HCM 6th LOS	C

Notes

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	275	53	38	80	45	100	70	675	88	142	752	245
Future Volume (veh/h)	275	53	38	80	45	100	70	675	88	142	752	245
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	281	54	39	82	46	102	71	689	90	145	767	250
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	354	486	411	365	486	411	91	1896	845	171	2056	915
Arrive On Green	0.26	0.26	0.26	0.26	0.26	0.26	0.05	0.53	0.53	0.09	0.57	0.57
Sat Flow, veh/h	1258	1900	1608	1322	1900	1608	1810	3610	1609	1810	3610	1607
Grp Volume(v), veh/h	281	54	39	82	46	102	71	689	90	145	767	250
Grp Sat Flow(s),veh/h/ln	1258	1900	1608	1322	1900	1608	1810	1805	1609	1810	1805	1607
Q Serve(g_s), s	28.5	2.8	2.4	6.6	2.4	6.6	5.0	14.6	3.7	10.3	15.1	10.3
Cycle Q Clear(g_c), s	30.9	2.8	2.4	9.4	2.4	6.6	5.0	14.6	3.7	10.3	15.1	10.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	354	486	411	365	486	411	91	1896	845	171	2056	915
V/C Ratio(X)	0.79	0.11	0.09	0.22	0.09	0.25	0.78	0.36	0.11	0.85	0.37	0.27
Avail Cap(c_a), veh/h	389	539	457	407	547	463	228	1896	845	367	2056	915
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.78	0.78	0.78	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.7	37.1	36.9	40.7	36.9	38.4	61.0	18.1	15.5	58.0	15.3	14.3
Incr Delay (d2), s/veh	8.8	0.0	0.0	0.1	0.0	0.1	4.3	0.4	0.2	4.5	0.5	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.7	1.3	1.0	2.2	1.1	2.6	2.4	5.8	1.3	4.7	5.8	3.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	57.4	37.1	36.9	40.8	36.9	38.6	65.3	18.5	15.7	62.4	15.8	15.0
LnGrp LOS	E	D	D	D	D	D	E	B	B	E	B	B
Approach Vol, veh/h		374			230			850			1162	
Approach Delay, s/veh		52.4			39.0			22.1			21.5	
Approach LOS		D			D			C			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	16.9	74.8		38.3	11.1	80.5		38.3
Change Period (Y+Rc), s	4.6	6.5		5.1	4.6	6.5		* 5.1
Max Green Setting (Gmax), s	26.4	50.5		36.9	16.4	60.5		* 37
Max Q Clear Time (g_c+I1), s	12.3	16.6		32.9	7.0	17.1		11.4
Green Ext Time (p_c), s	0.1	0.6		0.3	0.0	0.6		0.5

Intersection Summary	
HCM 6th Ctrl Delay	27.6
HCM 6th LOS	C

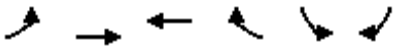
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	449	1067	59	177	926	125	107	225	149	197	350	351
Future Volume (veh/h)	449	1067	59	177	926	125	107	225	149	197	350	351
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	473	1123	62	186	975	132	113	237	157	207	368	369
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	503	2519	139	218	2177	837	129	1205	374	184	949	1148
Arrive On Green	0.14	0.50	0.50	0.06	0.42	0.42	0.07	0.23	0.23	0.10	0.26	0.26
Sat Flow, veh/h	3510	5030	278	3510	5187	1604	1810	5187	1608	1810	3610	2821
Grp Volume(v), veh/h	473	772	413	186	975	132	113	237	157	207	368	369
Grp Sat Flow(s),veh/h/ln	1755	1729	1850	1755	1729	1604	1810	1729	1608	1810	1805	1410
Q Serve(g_s), s	28.0	30.1	30.2	11.0	28.2	9.0	13.0	7.7	17.4	21.4	17.6	18.8
Cycle Q Clear(g_c), s	28.0	30.1	30.2	11.0	28.2	9.0	13.0	7.7	17.4	21.4	17.6	18.8
Prop In Lane	1.00		0.15	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	503	1732	926	218	2177	837	129	1205	374	184	949	1148
V/C Ratio(X)	0.94	0.45	0.45	0.85	0.45	0.16	0.88	0.20	0.42	1.12	0.39	0.32
Avail Cap(c_a), veh/h	776	1732	926	441	2177	837	184	1205	374	184	949	1148
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.76	0.76	0.76	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	0.95
Uniform Delay (d), s/veh	89.1	33.7	33.7	97.5	43.5	26.2	96.6	64.8	68.6	94.3	63.5	42.6
Incr Delay (d2), s/veh	9.1	0.6	1.2	3.6	0.7	0.4	20.6	0.4	3.4	101.4	1.1	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	18.3	12.7	13.8	5.1	12.2	3.6	6.8	3.4	7.5	15.2	8.2	6.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	98.2	34.3	34.9	101.2	44.2	26.6	117.2	65.2	72.0	195.7	64.7	43.3
LnGrp LOS	F	C	C	F	D	C	F	E	E	F	E	D
Approach Vol, veh/h		1658			1293			507			944	
Approach Delay, s/veh		52.7			50.6			78.9			85.0	
Approach LOS		D			D			E			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.6	111.4	19.6	61.4	34.7	94.3	26.0	55.0
Change Period (Y+Rc), s	4.6	6.2	4.6	6.2	4.6	6.2	4.6	6.2
Max Green Setting (Gmax), s	26.4	91.8	21.4	48.8	46.4	71.8	21.4	48.8
Max Q Clear Time (g_c+I1), s	13.0	32.2	15.0	20.8	30.0	30.2	23.4	19.4
Green Ext Time (p_c), s	0.0	1.0	0.0	0.4	0.1	1.0	0.0	0.2

Intersection Summary	
HCM 6th Ctrl Delay	62.0
HCM 6th LOS	E



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	85	1319	1150	92	168	46
Future Volume (veh/h)	85	1319	1150	92	168	46
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	88	1360	1186	95	173	47
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	114	2238	2625	815	478	425
Arrive On Green	0.06	0.62	0.51	0.51	0.26	0.26
Sat Flow, veh/h	1810	3705	5358	1610	1810	1610
Grp Volume(v), veh/h	88	1360	1186	95	173	47
Grp Sat Flow(s),veh/h/ln	1810	1805	1729	1610	1810	1610
Q Serve(g_s), s	4.8	23.0	14.6	3.1	7.8	2.2
Cycle Q Clear(g_c), s	4.8	23.0	14.6	3.1	7.8	2.2
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	114	2238	2625	815	478	425
V/C Ratio(X)	0.77	0.61	0.45	0.12	0.36	0.11
Avail Cap(c_a), veh/h	288	2238	2625	815	478	425
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.1	11.6	15.8	13.0	29.9	27.9
Incr Delay (d2), s/veh	10.5	1.2	0.6	0.3	2.1	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	7.8	5.2	1.1	3.7	2.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	56.7	12.8	16.4	13.3	32.1	28.4
LnGrp LOS	E	B	B	B	C	C
Approach Vol, veh/h		1448	1281		220	
Approach Delay, s/veh		15.5	16.1		31.3	
Approach LOS		B	B		C	

Timer - Assigned Phs	2		4	5	6
Phs Duration (G+Y+Rc), s	69.0		31.0	11.4	57.6
Change Period (Y+Rc), s	7.0		4.6	5.1	* 7
Max Green Setting (Gmax), s	62.0		26.4	15.9	* 42
Max Q Clear Time (g_c+I1), s	25.0		9.8	6.8	16.6
Green Ext Time (p_c), s	11.7		0.3	0.1	8.6

Intersection Summary	
HCM 6th Ctrl Delay	17.0
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1471	1	0	1211	1	3
Future Vol, veh/h	1471	1	0	1211	1	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	50	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	1532	1	0	1261	1	3

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1533	0	2164	767
Stage 1	-	-	-	-	1533	-
Stage 2	-	-	-	-	631	-
Critical Hdwy	-	-	4.1	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	*757	-	*84	*504
Stage 1	-	-	-	-	*476	-
Stage 2	-	-	-	-	*498	-
Platoon blocked, %	-	-	1	-	1	1
Mov Cap-1 Maneuver	-	-	*757	-	*84	*504
Mov Cap-2 Maneuver	-	-	-	-	*84	-
Stage 1	-	-	-	-	*476	-
Stage 2	-	-	-	-	*498	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	21.4
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	224	-	-	* 757	-
HCM Lane V/C Ratio	0.019	-	-	-	-
HCM Control Delay (s)	21.4	-	-	0	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1381	93	108	1133	100	117
Future Volume (veh/h)	1381	93	108	1133	100	117
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	1409	95	110	1156	102	119
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	1901	848	139	2316	430	506
Arrive On Green	0.53	0.53	0.08	0.64	0.24	0.24
Sat Flow, veh/h	3705	1610	1810	3705	1810	1610
Grp Volume(v), veh/h	1409	95	110	1156	102	119
Grp Sat Flow(s),veh/h/ln	1805	1610	1810	1805	1810	1610
Q Serve(g_s), s	36.4	3.6	7.2	20.3	5.5	6.6
Cycle Q Clear(g_c), s	36.4	3.6	7.2	20.3	5.5	6.6
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	1901	848	139	2316	430	506
V/C Ratio(X)	0.74	0.11	0.79	0.50	0.24	0.24
Avail Cap(c_a), veh/h	1901	848	232	2316	430	506
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.1	14.3	54.5	11.3	37.0	30.5
Incr Delay (d2), s/veh	2.7	0.3	3.8	0.2	1.3	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	14.3	1.3	3.3	6.8	2.5	2.6
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	24.7	14.6	58.3	11.5	38.3	31.6
LnGrp LOS	C	B	E	B	D	C
Approach Vol, veh/h	1504			1266	221	
Approach Delay, s/veh	24.1			15.5	34.7	
Approach LOS	C			B	C	

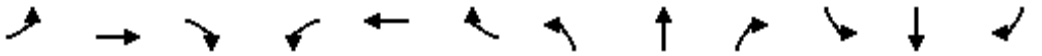
Timer - Assigned Phs	1	2				6	8
Phs Duration (G+Y+Rc), s	13.8	71.2				85.0	35.0
Change Period (Y+Rc), s	4.6	8.0				8.0	6.5
Max Green Setting (Gmax), s	15.4	57.0				77.0	28.5
Max Q Clear Time (g_c+I1), s	9.2	38.4				22.3	8.6
Green Ext Time (p_c), s	0.0	7.7				8.3	0.3

Intersection Summary	
HCM 6th Ctrl Delay	21.2
HCM 6th LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	155	859	213	123	776	52	209	210	114	65	221	127
Future Volume (veh/h)	155	859	213	123	776	52	209	210	114	65	221	127
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1976	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	161	895	222	128	808	54	218	219	119	68	230	132
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	184	1514	702	151	1448	645	242	683	357	87	767	341
Arrive On Green	0.10	0.42	0.42	0.08	0.40	0.40	0.13	0.30	0.30	0.05	0.21	0.21
Sat Flow, veh/h	1810	3610	1675	1810	3610	1609	1810	2292	1198	1810	3610	1606
Grp Volume(v), veh/h	161	895	222	128	808	54	218	171	167	68	230	132
Grp Sat Flow(s),veh/h/ln	1810	1805	1675	1810	1805	1609	1810	1805	1684	1810	1805	1606
Q Serve(g_s), s	12.7	27.8	12.9	10.1	25.0	3.0	17.2	10.6	11.2	5.4	7.8	10.2
Cycle Q Clear(g_c), s	12.7	27.8	12.9	10.1	25.0	3.0	17.2	10.6	11.2	5.4	7.8	10.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.71	1.00		1.00
Lane Grp Cap(c), veh/h	184	1514	702	151	1448	645	242	538	502	87	767	341
V/C Ratio(X)	0.87	0.59	0.32	0.85	0.56	0.08	0.90	0.32	0.33	0.78	0.30	0.39
Avail Cap(c_a), veh/h	255	1514	702	255	1448	645	317	538	502	255	767	341
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	64.2	32.5	28.2	65.5	33.5	26.9	61.9	39.5	39.7	68.3	48.0	49.0
Incr Delay (d2), s/veh	16.8	1.7	1.2	5.2	1.6	0.3	20.1	1.5	1.8	5.7	1.0	3.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.5	11.9	5.3	4.8	10.8	1.2	9.1	4.8	4.8	2.6	3.6	4.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	80.9	34.2	29.4	70.7	35.1	27.2	82.0	41.0	41.5	74.0	49.0	52.3
LnGrp LOS	F	C	C	E	D	C	F	D	D	E	D	D
Approach Vol, veh/h		1278			990			556			430	
Approach Delay, s/veh		39.2			39.2			57.2			54.0	
Approach LOS		D			D			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.7	67.3	11.6	49.4	19.4	64.7	24.0	37.0
Change Period (Y+Rc), s	4.6	6.5	4.6	6.2	4.6	6.5	4.6	6.2
Max Green Setting (Gmax), s	20.4	46.5	20.4	35.8	20.4	46.5	25.4	30.8
Max Q Clear Time (g_c+I1), s	12.1	29.8	7.4	13.2	14.7	27.0	19.2	12.2
Green Ext Time (p_c), s	0.1	9.8	0.0	1.7	0.1	8.7	0.1	1.6

Intersection Summary	
HCM 6th Ctrl Delay	44.3
HCM 6th LOS	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	132	1442	66	230	1754	45	81	51	282	15	16	37
Future Volume (veh/h)	132	1442	66	230	1754	45	81	51	282	15	16	37
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	140	1534	70	245	1866	48	86	54	300	16	17	39
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	188	1732	79	267	2273	705	209	131	296	349	367	396
Arrive On Green	0.05	0.34	0.34	0.15	0.44	0.44	0.18	0.18	0.18	0.19	0.19	0.19
Sat Flow, veh/h	3510	5084	232	1810	5187	1608	1132	711	1608	1810	1900	1608
Grp Volume(v), veh/h	140	1043	561	245	1866	48	140	0	300	16	17	39
Grp Sat Flow(s),veh/h/ln	1755	1729	1858	1810	1729	1608	1843	0	1608	1810	1900	1608
Q Serve(g_s), s	5.7	41.3	41.3	19.4	45.8	2.5	9.7	0.0	26.7	1.0	1.1	2.7
Cycle Q Clear(g_c), s	5.7	41.3	41.3	19.4	45.8	2.5	9.7	0.0	26.7	1.0	1.1	2.7
Prop In Lane	1.00		0.12	1.00		1.00	0.61		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	188	1178	633	267	2273	705	339	0	296	349	367	396
V/C Ratio(X)	0.75	0.89	0.89	0.92	0.82	0.07	0.41	0.00	1.01	0.05	0.05	0.10
Avail Cap(c_a), veh/h	738	1178	633	312	2273	705	339	0	296	349	367	396
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	67.7	45.1	45.1	60.9	35.7	23.6	52.2	0.0	59.2	47.6	47.6	42.2
Incr Delay (d2), s/veh	2.2	9.9	16.6	26.5	3.5	0.2	3.7	0.0	55.8	0.2	0.2	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	18.6	21.2	10.6	19.0	1.0	4.8	0.0	15.2	0.5	0.5	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	69.9	55.0	61.8	87.4	39.2	23.8	55.9	0.0	114.9	47.9	47.9	42.7
LnGrp LOS	E	E	E	F	D	C	E	A	F	D	D	D
Approach Vol, veh/h		1744			2159			440			72	
Approach Delay, s/veh		58.4			44.3			96.1			45.1	
Approach LOS		E			D			F			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	26.4	54.6		32.0	12.2	68.8		32.0				
Change Period (Y+Rc), s	5.0	5.2		* 5.3	4.5	5.2		4.0				
Max Green Setting (Gmax), s	25.0	45.8		* 27	30.5	40.8		28.0				
Max Q Clear Time (g_c+I1), s	21.4	43.3		28.7	7.7	47.8		4.7				
Green Ext Time (p_c), s	0.0	1.2		0.0	0.1	0.0		0.0				

Intersection Summary		
HCM 6th Ctrl Delay		55.1
HCM 6th LOS		E

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	166	1513	57	47	1917	249	44	6	25	103	5	67
Future Volume (veh/h)	166	1513	57	47	1917	249	44	6	25	103	5	67
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	168	1528	58	47	1936	252	48	0	25	104	5	68
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	192	2092	650	108	1701	827	807	0	359	336	21	282
Arrive On Green	0.11	0.40	0.40	0.03	0.33	0.33	0.22	0.00	0.22	0.19	0.19	0.19
Sat Flow, veh/h	1810	5187	1610	3510	5187	1610	3619	0	1610	1810	111	1516
Grp Volume(v), veh/h	168	1528	58	47	1936	252	48	0	25	104	0	73
Grp Sat Flow(s),veh/h/ln	1810	1729	1610	1755	1729	1610	1810	0	1610	1810	0	1627
Q Serve(g_s), s	12.4	33.6	3.0	1.8	44.3	12.2	1.4	0.0	1.7	6.7	0.0	5.2
Cycle Q Clear(g_c), s	12.4	33.6	3.0	1.8	44.3	12.2	1.4	0.0	1.7	6.7	0.0	5.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.93
Lane Grp Cap(c), veh/h	192	2092	650	108	1701	827	807	0	359	336	0	303
V/C Ratio(X)	0.87	0.73	0.09	0.44	1.14	0.30	0.06	0.00	0.07	0.31	0.00	0.24
Avail Cap(c_a), veh/h	201	2092	650	390	1701	827	807	0	359	336	0	303
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	59.5	34.1	24.9	64.3	45.4	18.9	41.3	0.0	41.4	47.5	0.0	46.8
Incr Delay (d2), s/veh	29.8	2.3	0.3	1.0	69.9	0.9	0.1	0.0	0.4	2.4	0.0	1.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.1	13.9	1.2	0.8	29.1	6.6	0.7	0.0	0.7	3.3	0.0	2.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	89.3	36.3	25.2	65.3	115.3	19.9	41.4	0.0	41.8	49.8	0.0	48.7
LnGrp LOS	F	D	C	E	F	B	D	A	D	D	A	D
Approach Vol, veh/h		1754			2235			73			177	
Approach Delay, s/veh		41.0			103.5			41.6			49.4	
Approach LOS		D			F			D			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.1	60.9		30.0	19.3	50.7		35.0				
Change Period (Y+Rc), s	5.0	6.4		4.9	5.0	6.4		4.9				
Max Green Setting (Gmax), s	15.0	43.6		25.1	15.0	43.6		30.1				
Max Q Clear Time (g_c+I1), s	13.8	35.6		8.7	14.4	46.3		3.7				
Green Ext Time (p_c), s	0.0	5.4		0.2	0.0	0.0		0.0				

Intersection Summary	
HCM 6th Ctrl Delay	74.3
HCM 6th LOS	E

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1401	183	81	1922	292	48
Future Volume (veh/h)	1401	183	81	1922	292	48
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	1475	193	85	2023	307	51
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	2559	794	136	2968	1157	593
Arrive On Green	0.49	0.49	0.04	0.57	0.33	0.33
Sat Flow, veh/h	5358	1610	3510	5358	3510	1610
Grp Volume(v), veh/h	1475	193	85	2023	307	51
Grp Sat Flow(s),veh/h/ln	1729	1610	1755	1729	1755	1610
Q Serve(g_s), s	23.2	7.9	2.7	31.5	7.4	2.4
Cycle Q Clear(g_c), s	23.2	7.9	2.7	31.5	7.4	2.4
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	2559	794	136	2968	1157	593
V/C Ratio(X)	0.58	0.24	0.62	0.68	0.27	0.09
Avail Cap(c_a), veh/h	2559	794	317	2968	1157	593
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.61	0.61	1.00	1.00
Uniform Delay (d), s/veh	20.6	16.8	54.4	17.3	28.3	23.7
Incr Delay (d2), s/veh	1.0	0.7	1.1	0.8	0.6	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.7	2.9	1.2	11.1	3.2	2.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	21.6	17.5	55.5	18.0	28.9	24.0
LnGrp LOS	C	B	E	B	C	C
Approach Vol, veh/h	1668			2108	358	
Approach Delay, s/veh	21.1			19.6	28.2	
Approach LOS	C			B	C	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	9.1	62.9		43.0		72.0
Change Period (Y+Rc), s	4.6	6.2		5.1		6.2
Max Green Setting (Gmax), s	10.4	50.8		37.9		65.8
Max Q Clear Time (g_c+I1), s	4.7	25.2		9.4		33.5
Green Ext Time (p_c), s	0.0	19.1		0.6		27.5

Intersection Summary	
HCM 6th Ctrl Delay	20.9
HCM 6th LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	211	1145	48	61	1683	16	36	25	29	20	41	284
Future Volume (veh/h)	211	1145	48	61	1683	16	36	25	29	20	41	284
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	224	1218	0	65	1790	17	38	27	31	21	44	302
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	281	2627		109	2424	23	385	1181	520	497	622	520
Arrive On Green	0.08	0.51	0.00	0.03	0.46	0.46	0.33	0.33	0.33	0.33	0.33	0.33
Sat Flow, veh/h	3510	5187	1610	3510	5299	50	1051	3610	1588	1365	1900	1588
Grp Volume(v), veh/h	224	1218	0	65	1168	639	38	27	31	21	44	302
Grp Sat Flow(s),veh/h/ln	1755	1729	1610	1755	1729	1891	1051	1805	1588	1365	1900	1588
Q Serve(g_s), s	7.8	18.9	0.0	2.3	34.6	34.6	3.2	0.6	1.7	1.3	2.0	19.7
Cycle Q Clear(g_c), s	7.8	18.9	0.0	2.3	34.6	34.6	5.2	0.6	1.7	2.0	2.0	19.7
Prop In Lane	1.00		1.00	1.00		0.03	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	281	2627		109	1582	865	385	1181	520	497	622	520
V/C Ratio(X)	0.80	0.46		0.60	0.74	0.74	0.10	0.02	0.06	0.04	0.07	0.58
Avail Cap(c_a), veh/h	432	2627		432	1582	865	385	1181	520	497	622	520
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.80	0.80	0.00	0.80	0.80	0.80	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.5	19.9	0.0	59.8	27.8	27.8	30.8	28.5	28.9	29.2	29.0	34.9
Incr Delay (d2), s/veh	2.2	0.5	0.0	1.6	2.5	4.5	0.5	0.0	0.2	0.2	0.2	4.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.5	7.2	0.0	1.0	13.8	15.6	0.9	0.3	0.7	0.5	0.9	8.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	58.7	20.4	0.0	61.3	30.3	32.3	31.3	28.5	29.1	29.3	29.2	39.6
LnGrp LOS	E	C		E	C	C	C	C	C	C	C	D
Approach Vol, veh/h		1442			1872			96			367	
Approach Delay, s/veh		26.3			32.1			29.8			37.8	
Approach LOS		C			C			C			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.5	69.5		46.0	15.6	63.4		46.0				
Change Period (Y+Rc), s	5.6	6.2		5.1	5.6	6.2		5.1				
Max Green Setting (Gmax), s	15.4	51.8		40.9	15.4	51.8		40.9				
Max Q Clear Time (g_c+I1), s	4.3	20.9		21.7	9.8	36.6		7.2				
Green Ext Time (p_c), s	0.0	16.7		0.7	0.2	13.1		0.2				

Intersection Summary	
HCM 6th Ctrl Delay	30.4
HCM 6th LOS	C

Notes

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	153	36	15	35	27	32	40	660	36	67	859	198
Future Volume (veh/h)	153	36	15	35	27	32	40	660	36	67	859	198
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	163	38	16	37	29	34	43	702	38	71	914	211
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	240	283	240	236	283	240	56	2442	1076	91	2512	1120
Arrive On Green	0.15	0.15	0.15	0.15	0.15	0.15	0.03	0.68	0.68	0.05	0.70	0.70
Sat Flow, veh/h	1360	1900	1610	1371	1900	1610	1810	3610	1590	1810	3610	1610
Grp Volume(v), veh/h	163	38	16	37	29	34	43	702	38	71	914	211
Grp Sat Flow(s),veh/h/ln	1360	1900	1610	1371	1900	1610	1810	1805	1590	1810	1805	1610
Q Serve(g_s), s	15.3	2.3	1.1	3.1	1.7	2.4	3.1	10.2	1.0	5.0	13.4	6.0
Cycle Q Clear(g_c), s	17.0	2.3	1.1	5.4	1.7	2.4	3.1	10.2	1.0	5.0	13.4	6.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	240	283	240	236	283	240	56	2442	1076	91	2512	1120
V/C Ratio(X)	0.68	0.13	0.07	0.16	0.10	0.14	0.77	0.29	0.04	0.78	0.36	0.19
Avail Cap(c_a), veh/h	424	539	457	426	547	463	228	2442	1076	367	2512	1120
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.83	0.83	0.83	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.2	48.1	47.6	50.4	47.8	48.1	62.5	8.5	7.0	61.0	8.1	6.9
Incr Delay (d2), s/veh	1.3	0.1	0.0	0.1	0.1	0.1	6.8	0.2	0.1	5.4	0.4	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.3	1.1	0.5	1.1	0.8	1.0	1.5	3.5	0.3	2.4	4.4	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	56.4	48.1	47.6	50.5	47.9	48.2	69.3	8.7	7.0	66.4	8.5	7.3
LnGrp LOS	E	D	D	D	D	D	E	A	A	E	A	A
Approach Vol, veh/h		217			100			783			1196	
Approach Delay, s/veh		54.3			49.0			11.9			11.7	
Approach LOS		D			D			B			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	11.1	94.4		24.4	8.6	97.0		24.4
Change Period (Y+Rc), s	4.6	6.5		5.1	4.6	6.5		* 5.1
Max Green Setting (Gmax), s	26.4	50.5		36.9	16.4	60.5		* 37
Max Q Clear Time (g_c+I1), s	7.0	12.2		19.0	5.1	15.4		7.4
Green Ext Time (p_c), s	0.0	0.7		0.3	0.0	0.7		0.2

Intersection Summary		
HCM 6th Ctrl Delay	17.4	
HCM 6th LOS	B	

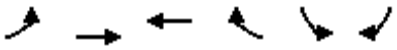
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	367	741	46	111	1274	209	78	164	56	207	200	442
Future Volume (veh/h)	367	741	46	111	1274	209	78	164	56	207	200	442
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	399	805	50	121	1385	227	85	178	61	225	217	480
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	429	2592	160	153	2285	873	101	1205	373	184	1006	1135
Arrive On Green	0.12	0.52	0.52	0.04	0.44	0.44	0.06	0.23	0.23	0.10	0.28	0.28
Sat Flow, veh/h	3510	4993	309	3510	5187	1610	1810	5187	1606	1810	3610	2831
Grp Volume(v), veh/h	399	557	298	121	1385	227	85	178	61	225	217	480
Grp Sat Flow(s),veh/h/ln	1755	1729	1844	1755	1729	1610	1810	1729	1606	1810	1805	1415
Q Serve(g_s), s	23.6	19.4	19.5	7.2	42.8	15.8	9.8	5.7	6.4	21.4	9.7	25.7
Cycle Q Clear(g_c), s	23.6	19.4	19.5	7.2	42.8	15.8	9.8	5.7	6.4	21.4	9.7	25.7
Prop In Lane	1.00		0.17	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	429	1795	957	153	2285	873	101	1205	373	184	1006	1135
V/C Ratio(X)	0.93	0.31	0.31	0.79	0.61	0.26	0.84	0.15	0.16	1.22	0.22	0.42
Avail Cap(c_a), veh/h	776	1795	957	441	2285	873	184	1205	373	184	1006	1135
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.89	0.89	0.89	1.00	1.00	1.00	1.00	1.00	1.00	0.94	0.94	0.94
Uniform Delay (d), s/veh	91.3	28.9	29.0	99.5	44.8	25.6	98.2	64.1	64.3	94.3	58.1	45.4
Incr Delay (d2), s/veh	4.6	0.4	0.8	3.4	1.2	0.7	7.0	0.3	0.9	136.1	0.5	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.0	8.1	8.8	3.3	18.4	6.2	4.8	2.5	2.7	16.9	4.5	9.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	95.8	29.3	29.7	102.8	46.0	26.3	105.2	64.3	65.3	230.4	58.6	46.5
LnGrp LOS	F	C	C	F	D	C	F	E	E	F	E	D
Approach Vol, veh/h		1254			1733			324			922	
Approach Delay, s/veh		50.6			47.4			75.2			94.2	
Approach LOS		D			D			E			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.8	115.2	16.3	64.7	30.3	98.7	26.0	55.0
Change Period (Y+Rc), s	4.6	6.2	4.6	6.2	4.6	6.2	4.6	6.2
Max Green Setting (Gmax), s	26.4	91.8	21.4	48.8	46.4	71.8	21.4	48.8
Max Q Clear Time (g_c+I1), s	9.2	21.5	11.8	27.7	25.6	44.8	23.4	8.4
Green Ext Time (p_c), s	0.0	0.7	0.0	0.3	0.0	1.5	0.0	0.2

Intersection Summary	
HCM 6th Ctrl Delay	60.7
HCM 6th LOS	E



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	102	834	1555	99	77	59
Future Volume (veh/h)	102	834	1555	99	77	59
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	110	897	1672	106	83	63
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	140	2238	2551	792	478	425
Arrive On Green	0.08	0.62	0.49	0.49	0.26	0.26
Sat Flow, veh/h	1810	3705	5358	1610	1810	1610
Grp Volume(v), veh/h	110	897	1672	106	83	63
Grp Sat Flow(s),veh/h/ln	1810	1805	1729	1610	1810	1610
Q Serve(g_s), s	6.0	12.6	24.2	3.6	3.5	3.0
Cycle Q Clear(g_c), s	6.0	12.6	24.2	3.6	3.5	3.0
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	140	2238	2551	792	478	425
V/C Ratio(X)	0.79	0.40	0.66	0.13	0.17	0.15
Avail Cap(c_a), veh/h	288	2238	2551	792	478	425
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.3	9.6	19.1	13.8	28.4	28.2
Incr Delay (d2), s/veh	9.4	0.5	1.3	0.4	0.8	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	4.2	8.8	1.3	1.6	3.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	54.7	10.1	20.4	14.2	29.2	28.9
LnGrp LOS	D	B	C	B	C	C
Approach Vol, veh/h		1007	1778		146	
Approach Delay, s/veh		15.0	20.0		29.1	
Approach LOS		B	C		C	

Timer - Assigned Phs	2		4	5	6
Phs Duration (G+Y+Rc), s	69.0		31.0	12.8	56.2
Change Period (Y+Rc), s	7.0		4.6	5.1	* 7
Max Green Setting (Gmax), s	62.0		26.4	15.9	* 42
Max Q Clear Time (g_c+I1), s	14.6		5.5	8.0	26.2
Green Ext Time (p_c), s	6.6		0.2	0.1	9.7

Intersection Summary	
HCM 6th Ctrl Delay	18.7
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	0.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	913	3	2	1627	3	2
Future Vol, veh/h	913	3	2	1627	3	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	50	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	1014	3	2	1808	3	2

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1017	0	1924	509
Stage 1	-	-	-	-	1016	-
Stage 2	-	-	-	-	908	-
Critical Hdwy	-	-	4.1	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	*1078	-	*92	*718
Stage 1	-	-	-	-	*677	-
Stage 2	-	-	-	-	*359	-
Platoon blocked, %	-	-	1	-	1	1
Mov Cap-1 Maneuver	-	-	*1078	-	*92	*718
Mov Cap-2 Maneuver	-	-	-	-	*92	-
Stage 1	-	-	-	-	*677	-
Stage 2	-	-	-	-	*358	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	31.6
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	141	-	-	* 1078	-
HCM Lane V/C Ratio	0.039	-	-	0.002	-
HCM Control Delay (s)	31.6	-	-	8.3	-
HCM Lane LOS	D	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	854	73	113	1418	169	72
Future Volume (veh/h)	854	73	113	1418	169	72
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	909	78	120	1509	180	77
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	1881	839	149	2316	430	515
Arrive On Green	0.52	0.52	0.08	0.64	0.24	0.24
Sat Flow, veh/h	3705	1610	1810	3705	1810	1610
Grp Volume(v), veh/h	909	78	120	1509	180	77
Grp Sat Flow(s),veh/h/ln	1805	1610	1810	1805	1810	1610
Q Serve(g_s), s	19.3	2.9	7.8	30.9	10.1	4.1
Cycle Q Clear(g_c), s	19.3	2.9	7.8	30.9	10.1	4.1
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	1881	839	149	2316	430	515
V/C Ratio(X)	0.48	0.09	0.81	0.65	0.42	0.15
Avail Cap(c_a), veh/h	1881	839	232	2316	430	515
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.4	14.5	54.1	13.2	38.7	29.2
Incr Delay (d2), s/veh	0.9	0.2	5.3	0.6	3.0	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.5	1.0	3.6	10.5	4.6	1.6
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	19.3	14.7	59.4	13.9	41.7	29.8
LnGrp LOS	B	B	E	B	D	C
Approach Vol, veh/h	987			1629	257	
Approach Delay, s/veh	18.9			17.2	38.1	
Approach LOS	B			B	D	

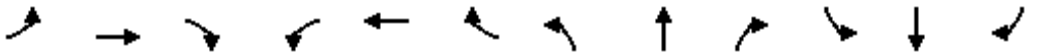
Timer - Assigned Phs	1	2				6	8
Phs Duration (G+Y+Rc), s	14.5	70.5				85.0	35.0
Change Period (Y+Rc), s	4.6	8.0				8.0	6.5
Max Green Setting (Gmax), s	15.4	57.0				77.0	28.5
Max Q Clear Time (g_c+I1), s	9.8	21.3				32.9	12.1
Green Ext Time (p_c), s	0.0	5.1				12.6	0.3

Intersection Summary		
HCM 6th Ctrl Delay	19.7	
HCM 6th LOS	B	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	119	551	163	100	867	55	302	145	62	54	145	207
Future Volume (veh/h)	119	551	163	100	867	55	302	145	62	54	145	207
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1976	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	127	586	173	106	922	59	321	154	66	57	154	220
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	150	1409	654	129	1366	609	317	865	355	74	767	340
Arrive On Green	0.08	0.39	0.39	0.07	0.38	0.38	0.18	0.35	0.35	0.04	0.21	0.21
Sat Flow, veh/h	1810	3610	1675	1810	3610	1610	1810	2495	1024	1810	3610	1599
Grp Volume(v), veh/h	127	586	173	106	922	59	321	110	110	57	154	220
Grp Sat Flow(s),veh/h/ln	1810	1805	1675	1810	1805	1610	1810	1805	1714	1810	1805	1599
Q Serve(g_s), s	10.0	17.1	10.2	8.4	30.9	3.4	25.4	6.1	6.5	4.5	5.1	18.2
Cycle Q Clear(g_c), s	10.0	17.1	10.2	8.4	30.9	3.4	25.4	6.1	6.5	4.5	5.1	18.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.60	1.00		1.00
Lane Grp Cap(c), veh/h	150	1409	654	129	1366	609	317	626	594	74	767	340
V/C Ratio(X)	0.84	0.42	0.26	0.82	0.68	0.10	1.01	0.17	0.19	0.77	0.20	0.65
Avail Cap(c_a), veh/h	255	1409	654	255	1366	609	317	626	594	255	767	340
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	65.6	32.2	30.1	66.5	37.6	29.1	59.8	32.9	33.1	68.9	47.0	52.1
Incr Delay (d2), s/veh	4.9	0.9	1.0	5.0	2.7	0.3	53.8	0.6	0.7	6.3	0.6	9.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.7	7.4	4.2	3.9	13.5	1.4	16.1	2.7	2.8	2.2	2.3	8.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	70.4	33.1	31.0	71.4	40.3	29.4	113.6	33.5	33.7	75.2	47.6	61.4
LnGrp LOS	E	C	C	E	D	C	F	C	C	E	D	E
Approach Vol, veh/h		886			1087			541			431	
Approach Delay, s/veh		38.0			42.8			81.1			58.3	
Approach LOS		D			D			F			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.9	63.1	10.5	56.5	16.6	61.4	30.0	37.0
Change Period (Y+Rc), s	4.6	6.5	4.6	6.2	4.6	6.5	4.6	6.2
Max Green Setting (Gmax), s	20.4	46.5	20.4	35.8	20.4	46.5	25.4	30.8
Max Q Clear Time (g_c+I1), s	10.4	19.1	6.5	8.5	12.0	32.9	27.4	20.2
Green Ext Time (p_c), s	0.1	8.4	0.0	1.1	0.1	7.8	0.0	1.2

Intersection Summary	
HCM 6th Ctrl Delay	50.6
HCM 6th LOS	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	36	2030	48	323	1783	23	85	9	423	28	19	37
Future Volume (veh/h)	36	2030	48	323	1783	23	85	9	423	28	19	37
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	37	2071	49	330	1819	23	87	9	432	24	26	38
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	75	1646	39	312	2440	756	303	31	296	349	367	345
Arrive On Green	0.02	0.32	0.32	0.17	0.47	0.47	0.18	0.18	0.18	0.19	0.19	0.19
Sat Flow, veh/h	3510	5213	123	1810	5187	1607	1647	170	1610	1810	1900	1610
Grp Volume(v), veh/h	37	1373	747	330	1819	23	96	0	432	24	26	38
Grp Sat Flow(s),veh/h/ln	1755	1729	1878	1810	1729	1607	1818	0	1610	1810	1900	1610
Q Serve(g_s), s	1.5	45.8	45.8	25.0	41.5	1.1	6.6	0.0	26.7	1.6	1.6	2.8
Cycle Q Clear(g_c), s	1.5	45.8	45.8	25.0	41.5	1.1	6.6	0.0	26.7	1.6	1.6	2.8
Prop In Lane	1.00		0.07	1.00		1.00	0.91		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	75	1092	593	312	2440	756	335	0	296	349	367	345
V/C Ratio(X)	0.49	1.26	1.26	1.06	0.75	0.03	0.29	0.00	1.46	0.07	0.07	0.11
Avail Cap(c_a), veh/h	738	1092	593	312	2440	756	335	0	296	349	367	345
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	70.2	49.6	49.6	60.0	31.3	20.6	50.9	0.0	59.2	47.8	47.9	45.8
Incr Delay (d2), s/veh	1.9	123.1	130.1	67.0	2.1	0.1	2.1	0.0	223.5	0.4	0.4	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	37.7	42.0	16.9	16.9	0.4	3.2	0.0	29.1	0.8	0.8	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	72.0	172.7	179.7	127.0	33.4	20.7	53.1	0.0	282.6	48.2	48.2	46.5
LnGrp LOS	E	F	F	F	C	C	D	A	F	D	D	D
Approach Vol, veh/h		2157			2172			528			88	
Approach Delay, s/veh		173.4			47.5			240.9			47.5	
Approach LOS		F			D			F			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	30.0	51.0		32.0	7.6	73.4		32.0				
Change Period (Y+Rc), s	5.0	5.2		* 5.3	4.5	5.2		4.0				
Max Green Setting (Gmax), s	25.0	45.8		* 27	30.5	40.8		28.0				
Max Q Clear Time (g_c+I1), s	27.0	47.8		28.7	3.5	43.5		4.8				
Green Ext Time (p_c), s	0.0	0.0		0.0	0.0	0.0		0.1				

Intersection Summary			
HCM 6th Ctrl Delay		123.1	
HCM 6th LOS		F	

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	59	2320	101	120	1936	94	108	9	67	120	5	87
Future Volume (veh/h)	59	2320	101	120	1936	94	108	9	67	120	5	87
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	60	2367	103	122	1976	96	116	0	68	122	5	88
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.99
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	77	1998	620	171	2030	926	807	0	357	336	16	286
Arrive On Green	0.04	0.39	0.39	0.05	0.39	0.39	0.22	0.00	0.22	0.19	0.19	0.19
Sat Flow, veh/h	1810	5187	1610	3510	5187	1602	3619	0	1602	1810	87	1536
Grp Volume(v), veh/h	60	2367	103	122	1976	96	116	0	68	122	0	93
Grp Sat Flow(s),veh/h/ln	1810	1729	1610	1755	1729	1602	1810	0	1602	1810	0	1623
Q Serve(g_s), s	4.4	52.0	5.7	4.6	50.6	3.6	3.5	0.0	4.7	7.9	0.0	6.7
Cycle Q Clear(g_c), s	4.4	52.0	5.7	4.6	50.6	3.6	3.5	0.0	4.7	7.9	0.0	6.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.95
Lane Grp Cap(c), veh/h	77	1998	620	171	2030	926	807	0	357	336	0	302
V/C Ratio(X)	0.78	1.18	0.17	0.71	0.97	0.10	0.14	0.00	0.19	0.36	0.00	0.31
Avail Cap(c_a), veh/h	201	1998	620	390	2030	926	807	0	357	336	0	302
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	64.0	41.5	27.3	63.3	40.4	12.8	42.1	0.0	42.6	48.0	0.0	47.5
Incr Delay (d2), s/veh	6.1	88.5	0.6	2.0	14.6	0.2	0.4	0.0	1.2	3.0	0.0	2.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	37.2	2.2	2.1	23.0	2.0	1.6	0.0	2.0	3.9	0.0	3.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	70.1	130.0	27.8	65.3	55.0	13.1	42.5	0.0	43.7	51.0	0.0	50.1
LnGrp LOS	E	F	C	E	D	B	D	A	D	D	A	D
Approach Vol, veh/h		2530			2194			184			215	
Approach Delay, s/veh		124.4			53.7			42.9			50.6	
Approach LOS		F			D			D			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	11.6	58.4		30.0	10.8	59.2		35.0				
Change Period (Y+Rc), s	5.0	6.4		4.9	5.0	6.4		4.9				
Max Green Setting (Gmax), s	15.0	43.6		25.1	15.0	43.6		30.1				
Max Q Clear Time (g_c+I1), s	6.6	54.0		9.9	6.4	52.6		6.7				
Green Ext Time (p_c), s	0.0	0.0		0.2	0.0	0.0		0.1				

Intersection Summary	
HCM 6th Ctrl Delay	88.1
HCM 6th LOS	F

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1984	344	206	1662	484	187
Future Volume (veh/h)	1984	344	206	1662	484	187
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	2045	355	212	1713	499	193
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	2360	729	271	2968	1157	655
Arrive On Green	0.46	0.46	0.08	0.57	0.33	0.33
Sat Flow, veh/h	5358	1603	3510	5358	3510	1610
Grp Volume(v), veh/h	2045	355	212	1713	499	193
Grp Sat Flow(s),veh/h/ln	1729	1603	1755	1729	1755	1610
Q Serve(g_s), s	40.8	17.8	6.8	24.3	12.8	9.3
Cycle Q Clear(g_c), s	40.8	17.8	6.8	24.3	12.8	9.3
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	2360	729	271	2968	1157	655
V/C Ratio(X)	0.87	0.49	0.78	0.58	0.43	0.29
Avail Cap(c_a), veh/h	2360	729	317	2968	1157	655
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.76	0.76	1.00	1.00
Uniform Delay (d), s/veh	28.2	21.9	52.1	15.7	30.1	23.0
Incr Delay (d2), s/veh	4.6	2.3	6.6	0.6	1.2	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	16.3	6.7	3.1	8.6	5.5	10.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	32.8	24.3	58.8	16.3	31.3	24.1
LnGrp LOS	C	C	E	B	C	C
Approach Vol, veh/h	2400			1925	692	
Approach Delay, s/veh	31.5			21.0	29.3	
Approach LOS	C			C	C	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	13.5	58.5		43.0		72.0
Change Period (Y+Rc), s	4.6	6.2		5.1		6.2
Max Green Setting (Gmax), s	10.4	50.8		37.9		65.8
Max Q Clear Time (g_c+I1), s	8.8	42.8		14.8		26.3
Green Ext Time (p_c), s	0.1	7.7		1.3		28.2

Intersection Summary		
HCM 6th Ctrl Delay		27.2
HCM 6th LOS		C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	305	1713	132	156	1388	15	209	109	158	29	106	270
Future Volume (veh/h)	305	1713	132	156	1388	15	209	109	158	29	106	270
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	314	1766	0	161	1431	15	215	112	163	30	109	278
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	369	2467		218	2289	24	347	1181	526	400	622	526
Arrive On Green	0.11	0.48	0.00	0.06	0.43	0.43	0.33	0.33	0.33	0.33	0.33	0.33
Sat Flow, veh/h	3510	5187	1610	3510	5292	55	1012	3610	1609	1121	1900	1609
Grp Volume(v), veh/h	314	1766	0	161	935	511	215	112	163	30	109	278
Grp Sat Flow(s),veh/h/ln	1755	1729	1610	1755	1729	1890	1012	1805	1609	1121	1900	1609
Q Serve(g_s), s	11.0	33.8	0.0	5.6	26.3	26.3	24.1	2.7	9.5	2.4	5.1	17.6
Cycle Q Clear(g_c), s	11.0	33.8	0.0	5.6	26.3	26.3	29.2	2.7	9.5	5.1	5.1	17.6
Prop In Lane	1.00		1.00	1.00		0.03	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	369	2467		218	1495	817	347	1181	526	400	622	526
V/C Ratio(X)	0.85	0.72		0.74	0.63	0.63	0.62	0.09	0.31	0.07	0.18	0.53
Avail Cap(c_a), veh/h	432	2467		432	1495	817	347	1181	526	400	622	526
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.45	0.45	0.00	0.84	0.84	0.84	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.0	26.1	0.0	57.6	27.6	27.6	40.4	29.2	31.5	31.0	30.0	34.2
Incr Delay (d2), s/veh	5.7	0.8	0.0	1.6	1.7	3.0	8.0	0.2	1.5	0.4	0.6	3.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.0	13.1	0.0	2.5	10.6	11.8	6.8	1.2	4.0	0.7	2.4	7.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	60.7	26.9	0.0	59.2	29.3	30.6	48.5	29.4	33.0	31.3	30.6	38.0
LnGrp LOS	E	C		E	C	C	D	C	C	C	C	D
Approach Vol, veh/h		2080			1607			490			417	
Approach Delay, s/veh		32.0			32.7			39.0			35.6	
Approach LOS		C			C			D			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	13.4	65.6		46.0	18.7	60.3		46.0				
Change Period (Y+Rc), s	5.6	6.2		5.1	5.6	6.2		5.1				
Max Green Setting (Gmax), s	15.4	51.8		40.9	15.4	51.8		40.9				
Max Q Clear Time (g_c+I1), s	7.6	35.8		19.6	13.0	28.3		31.2				
Green Ext Time (p_c), s	0.1	13.7		0.9	0.2	16.1		1.1				

Intersection Summary	
HCM 6th Ctrl Delay	33.3
HCM 6th LOS	C

Notes

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	286	55	40	83	47	104	73	785	92	148	865	255
Future Volume (veh/h)	286	55	40	83	47	104	73	785	92	148	865	255
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	292	56	41	85	48	106	74	801	94	151	883	260
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	364	505	427	376	505	427	94	1848	824	177	2013	896
Arrive On Green	0.27	0.27	0.27	0.27	0.27	0.27	0.05	0.51	0.51	0.10	0.56	0.56
Sat Flow, veh/h	1251	1900	1608	1318	1900	1608	1810	3610	1609	1810	3610	1607
Grp Volume(v), veh/h	292	56	41	85	48	106	74	801	94	151	883	260
Grp Sat Flow(s),veh/h/ln	1251	1900	1608	1318	1900	1608	1810	1805	1609	1810	1805	1607
Q Serve(g_s), s	29.8	2.9	2.5	6.8	2.5	6.7	5.3	18.1	3.9	10.7	18.6	11.1
Cycle Q Clear(g_c), s	32.3	2.9	2.5	9.7	2.5	6.7	5.3	18.1	3.9	10.7	18.6	11.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	364	505	427	376	505	427	94	1848	824	177	2013	896
V/C Ratio(X)	0.80	0.11	0.10	0.23	0.10	0.25	0.78	0.43	0.11	0.85	0.44	0.29
Avail Cap(c_a), veh/h	387	539	457	405	547	463	228	1848	824	367	2013	896
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.77	0.77	0.77	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.1	36.1	36.0	39.8	36.0	37.5	60.9	19.9	16.4	57.7	16.8	15.2
Incr Delay (d2), s/veh	9.9	0.0	0.0	0.1	0.0	0.1	4.1	0.6	0.2	4.5	0.7	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.2	1.4	1.0	2.3	1.2	2.7	2.5	7.3	1.4	4.9	7.2	3.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	58.0	36.2	36.0	39.9	36.0	37.6	65.0	20.5	16.7	62.2	17.5	16.0
LnGrp LOS	E	D	D	D	D	D	E	C	B	E	B	B
Approach Vol, veh/h		389			239			969			1294	
Approach Delay, s/veh		52.6			38.1			23.5			22.4	
Approach LOS		D			D			C			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	17.3	73.1		39.6	11.4	79.0		39.6
Change Period (Y+Rc), s	4.6	6.5		5.1	4.6	6.5		* 5.1
Max Green Setting (Gmax), s	26.4	50.5		36.9	16.4	60.5		* 37
Max Q Clear Time (g_c+I1), s	12.7	20.1		34.3	7.3	20.6		11.7
Green Ext Time (p_c), s	0.1	0.7		0.3	0.0	0.7		0.5

Intersection Summary		
HCM 6th Ctrl Delay	28.1	
HCM 6th LOS	C	

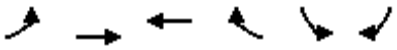
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	501	1264	65	198	1080	176	115	238	170	260	368	390
Future Volume (veh/h)	501	1264	65	198	1080	176	115	238	170	260	368	390
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	527	1331	68	208	1137	185	121	251	179	274	387	411
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	556	2499	128	240	2098	813	137	1205	374	184	933	1178
Arrive On Green	0.16	0.49	0.49	0.07	0.40	0.40	0.08	0.23	0.23	0.10	0.26	0.26
Sat Flow, veh/h	3510	5053	258	3510	5187	1604	1810	5187	1608	1810	3610	2821
Grp Volume(v), veh/h	527	911	488	208	1137	185	121	251	179	274	387	411
Grp Sat Flow(s),veh/h/ln	1755	1729	1853	1755	1729	1604	1810	1729	1608	1810	1805	1410
Q Serve(g_s), s	31.2	38.0	38.0	12.3	35.1	13.5	13.9	8.2	20.2	21.4	18.7	20.9
Cycle Q Clear(g_c), s	31.2	38.0	38.0	12.3	35.1	13.5	13.9	8.2	20.2	21.4	18.7	20.9
Prop In Lane	1.00		0.14	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	556	1710	917	240	2098	813	137	1205	374	184	933	1178
V/C Ratio(X)	0.95	0.53	0.53	0.87	0.54	0.23	0.88	0.21	0.48	1.49	0.41	0.35
Avail Cap(c_a), veh/h	776	1710	917	441	2098	813	184	1205	374	184	933	1178
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.66	0.66	0.66	1.00	1.00	1.00	1.00	1.00	1.00	0.93	0.93	0.93
Uniform Delay (d), s/veh	87.5	36.4	36.4	96.9	47.7	28.9	96.1	65.0	69.6	94.3	64.7	41.8
Incr Delay (d2), s/veh	10.8	0.8	1.5	3.7	1.0	0.7	24.7	0.4	4.3	243.6	1.3	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	14.9	16.1	17.4	5.7	15.2	5.4	7.4	3.6	8.7	22.4	8.7	7.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	98.3	37.2	37.9	100.6	48.7	29.6	120.8	65.4	74.0	337.9	65.9	42.5
LnGrp LOS	F	D	D	F	D	C	F	E	E	F	E	D
Approach Vol, veh/h		1926			1530			551			1072	
Approach Delay, s/veh		54.1			53.5			80.4			126.5	
Approach LOS		D			D			F			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	18.9	110.1	20.5	60.5	37.9	91.1	26.0	55.0
Change Period (Y+Rc), s	4.6	6.2	4.6	6.2	4.6	6.2	4.6	6.2
Max Green Setting (Gmax), s	26.4	91.8	21.4	48.8	46.4	71.8	21.4	48.8
Max Q Clear Time (g_c+I1), s	14.3	40.0	15.9	22.9	33.2	37.1	23.4	22.2
Green Ext Time (p_c), s	0.0	1.2	0.0	0.4	0.1	1.2	0.0	0.2

Intersection Summary	
HCM 6th Ctrl Delay	72.0
HCM 6th LOS	E



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	177	1508	1288	155	232	133
Future Volume (veh/h)	177	1508	1288	155	232	133
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	182	1555	1328	160	239	137
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	216	2238	2332	724	478	425
Arrive On Green	0.12	0.62	0.45	0.45	0.26	0.26
Sat Flow, veh/h	1810	3705	5358	1610	1810	1610
Grp Volume(v), veh/h	182	1555	1328	160	239	137
Grp Sat Flow(s),veh/h/ln	1810	1805	1729	1610	1810	1610
Q Serve(g_s), s	9.8	28.8	18.9	6.1	11.2	6.8
Cycle Q Clear(g_c), s	9.8	28.8	18.9	6.1	11.2	6.8
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	216	2238	2332	724	478	425
V/C Ratio(X)	0.84	0.69	0.57	0.22	0.50	0.32
Avail Cap(c_a), veh/h	288	2238	2332	724	478	425
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.1	12.7	20.4	16.8	31.2	29.6
Incr Delay (d2), s/veh	15.5	1.8	1.0	0.7	3.7	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.1	9.8	7.1	2.2	5.4	6.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	58.6	14.5	21.4	17.5	34.9	31.6
LnGrp LOS	E	B	C	B	C	C
Approach Vol, veh/h		1737	1488		376	
Approach Delay, s/veh		19.1	21.0		33.7	
Approach LOS		B	C		C	

Timer - Assigned Phs	2		4	5	6
Phs Duration (G+Y+Rc), s	69.0		31.0	17.0	52.0
Change Period (Y+Rc), s	7.0		4.6	5.1	* 7
Max Green Setting (Gmax), s	62.0		26.4	15.9	* 42
Max Q Clear Time (g_c+I1), s	30.8		13.2	11.8	20.9
Green Ext Time (p_c), s	13.5		0.5	0.2	9.3

Intersection Summary	
HCM 6th Ctrl Delay	21.4
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	0.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1723	1	0	1410	1	3
Future Vol, veh/h	1723	1	0	1410	1	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	50	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	1795	1	0	1469	1	3

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1796	0	2531	898
Stage 1	-	-	-	-	1796	-
Stage 2	-	-	-	-	735	-
Critical Hdwy	-	-	4.1	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	*574	-	*31	*382
Stage 1	-	-	-	-	*361	-
Stage 2	-	-	-	-	*440	-
Platoon blocked, %	-	-	1	-	1	1
Mov Cap-1 Maneuver	-	-	*574	-	*31	*382
Mov Cap-2 Maneuver	-	-	-	-	*31	-
Stage 1	-	-	-	-	*361	-
Stage 2	-	-	-	-	*440	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	42.6
HCM LOS			E

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	100	-	-	* 574	-
HCM Lane V/C Ratio	0.042	-	-	-	-
HCM Control Delay (s)	42.6	-	-	0	-
HCM Lane LOS	E	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1560	135	124	1296	140	129
Future Volume (veh/h)	1560	135	124	1296	140	129
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	1592	138	127	1322	143	132
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	1868	833	156	2316	430	521
Arrive On Green	0.52	0.52	0.09	0.64	0.24	0.24
Sat Flow, veh/h	3705	1610	1810	3705	1810	1610
Grp Volume(v), veh/h	1592	138	127	1322	143	132
Grp Sat Flow(s),veh/h/ln	1805	1610	1810	1805	1810	1610
Q Serve(g_s), s	45.7	5.4	8.3	24.8	7.9	7.2
Cycle Q Clear(g_c), s	45.7	5.4	8.3	24.8	7.9	7.2
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	1868	833	156	2316	430	521
V/C Ratio(X)	0.85	0.17	0.82	0.57	0.33	0.25
Avail Cap(c_a), veh/h	1868	833	232	2316	430	521
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.0	15.3	53.9	12.2	37.9	29.9
Incr Delay (d2), s/veh	5.2	0.4	7.8	0.3	2.1	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	18.6	1.9	4.0	8.4	3.6	2.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	30.2	15.7	61.7	12.5	40.0	31.1
LnGrp LOS	C	B	E	B	D	C
Approach Vol, veh/h	1730			1449	275	
Approach Delay, s/veh	29.0			16.8	35.7	
Approach LOS	C			B	D	

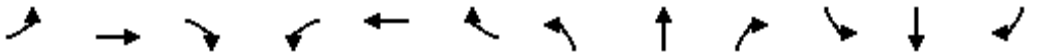
Timer - Assigned Phs	1	2				6	8
Phs Duration (G+Y+Rc), s	14.9	70.1				85.0	35.0
Change Period (Y+Rc), s	4.6	8.0				8.0	6.5
Max Green Setting (Gmax), s	15.4	57.0				77.0	28.5
Max Q Clear Time (g_c+I1), s	10.3	47.7				26.8	9.9
Green Ext Time (p_c), s	0.0	5.8				10.3	0.3

Intersection Summary	
HCM 6th Ctrl Delay	24.4
HCM 6th LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	200	952	257	128	865	62	253	218	119	78	230	173
Future Volume (veh/h)	200	952	257	128	865	62	253	218	119	78	230	173
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1976	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	208	992	268	133	901	65	264	227	124	81	240	180
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	231	1415	656	156	1266	564	286	719	378	102	767	341
Arrive On Green	0.13	0.39	0.39	0.09	0.35	0.35	0.16	0.31	0.31	0.06	0.21	0.21
Sat Flow, veh/h	1810	3610	1675	1810	3610	1609	1810	2286	1203	1810	3610	1606
Grp Volume(v), veh/h	208	992	268	133	901	65	264	177	174	81	240	180
Grp Sat Flow(s),veh/h/ln	1810	1805	1675	1810	1805	1609	1810	1805	1684	1810	1805	1606
Q Serve(g_s), s	16.4	33.4	16.8	10.5	31.3	4.0	20.8	10.8	11.4	6.4	8.1	14.4
Cycle Q Clear(g_c), s	16.4	33.4	16.8	10.5	31.3	4.0	20.8	10.8	11.4	6.4	8.1	14.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.71	1.00		1.00
Lane Grp Cap(c), veh/h	231	1415	656	156	1266	564	286	568	529	102	767	341
V/C Ratio(X)	0.90	0.70	0.41	0.85	0.71	0.12	0.92	0.31	0.33	0.80	0.31	0.53
Avail Cap(c_a), veh/h	255	1415	656	255	1266	564	317	568	529	255	767	341
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	62.4	37.0	31.9	65.3	40.7	31.8	60.1	37.8	38.0	67.6	48.2	50.6
Incr Delay (d2), s/veh	28.8	2.9	1.9	7.2	3.4	0.4	28.4	1.4	1.6	5.3	1.1	5.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.2	14.6	7.0	5.0	13.9	1.6	11.6	4.9	4.8	3.1	3.7	6.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	91.2	39.9	33.8	72.5	44.1	32.3	88.5	39.2	39.6	72.9	49.2	56.4
LnGrp LOS	F	D	C	E	D	C	F	D	D	E	D	E
Approach Vol, veh/h		1468			1099			615			501	
Approach Delay, s/veh		46.0			46.9			60.5			55.6	
Approach LOS		D			D			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.1	63.3	12.7	51.8	23.1	57.4	27.5	37.0
Change Period (Y+Rc), s	4.6	6.5	4.6	6.2	4.6	6.5	4.6	6.2
Max Green Setting (Gmax), s	20.4	46.5	20.4	35.8	20.4	46.5	25.4	30.8
Max Q Clear Time (g_c+I1), s	12.5	35.4	8.4	13.4	18.4	33.3	22.8	16.4
Green Ext Time (p_c), s	0.1	7.9	0.1	1.8	0.1	7.6	0.1	1.7

Intersection Summary	
HCM 6th Ctrl Delay	50.0
HCM 6th LOS	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	132	1463	66	239	1771	45	81	51	293	15	16	37
Future Volume (veh/h)	132	1463	66	239	1771	45	81	51	293	15	16	37
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	140	1556	70	254	1884	48	86	54	312	16	17	39
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	188	1709	77	276	2273	705	209	131	296	349	367	396
Arrive On Green	0.05	0.34	0.34	0.15	0.44	0.44	0.18	0.18	0.18	0.19	0.19	0.19
Sat Flow, veh/h	3510	5088	229	1810	5187	1608	1132	711	1608	1810	1900	1608
Grp Volume(v), veh/h	140	1057	569	254	1884	48	140	0	312	16	17	39
Grp Sat Flow(s),veh/h/ln	1755	1729	1859	1810	1729	1608	1843	0	1608	1810	1900	1608
Q Serve(g_s), s	5.7	42.4	42.4	20.1	46.5	2.5	9.7	0.0	26.7	1.0	1.1	2.7
Cycle Q Clear(g_c), s	5.7	42.4	42.4	20.1	46.5	2.5	9.7	0.0	26.7	1.0	1.1	2.7
Prop In Lane	1.00		0.12	1.00		1.00	0.61		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	188	1161	624	276	2273	705	339	0	296	349	367	396
V/C Ratio(X)	0.75	0.91	0.91	0.92	0.83	0.07	0.41	0.00	1.05	0.05	0.05	0.10
Avail Cap(c_a), veh/h	738	1161	624	312	2273	705	339	0	296	349	367	396
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	67.7	46.1	46.1	60.6	35.9	23.6	52.2	0.0	59.2	47.6	47.6	42.2
Incr Delay (d2), s/veh	2.2	12.1	19.7	28.0	3.7	0.2	3.7	0.0	67.2	0.2	0.2	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	19.5	22.2	11.1	19.4	1.0	4.8	0.0	16.2	0.5	0.5	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	69.9	58.2	65.8	88.6	39.6	23.8	55.9	0.0	126.4	47.9	47.9	42.7
LnGrp LOS	E	E	E	F	D	C	E	A	F	D	D	D
Approach Vol, veh/h		1766			2186			452			72	
Approach Delay, s/veh		61.6			44.9			104.5			45.1	
Approach LOS		E			D			F			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	27.1	53.9		32.0	12.2	68.8		32.0				
Change Period (Y+Rc), s	5.0	5.2		* 5.3	4.5	5.2		4.0				
Max Green Setting (Gmax), s	25.0	45.8		* 27	30.5	40.8		28.0				
Max Q Clear Time (g_c+I1), s	22.1	44.4		28.7	7.7	48.5		4.7				
Green Ext Time (p_c), s	0.0	0.7		0.0	0.1	0.0		0.0				

Intersection Summary			
HCM 6th Ctrl Delay		57.5	
HCM 6th LOS		E	

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	166	1545	57	47	1943	258	44	6	25	114	5	67
Future Volume (veh/h)	166	1545	57	47	1943	258	44	6	25	114	5	67
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	168	1561	58	47	1963	261	48	0	25	115	5	68
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	192	2092	650	108	1701	827	807	0	359	336	21	282
Arrive On Green	0.11	0.40	0.40	0.03	0.33	0.33	0.22	0.00	0.22	0.19	0.19	0.19
Sat Flow, veh/h	1810	5187	1610	3510	5187	1610	3619	0	1610	1810	111	1516
Grp Volume(v), veh/h	168	1561	58	47	1963	261	48	0	25	115	0	73
Grp Sat Flow(s),veh/h/ln	1810	1729	1610	1755	1729	1610	1810	0	1610	1810	0	1627
Q Serve(g_s), s	12.4	34.7	3.0	1.8	44.3	12.7	1.4	0.0	1.7	7.5	0.0	5.2
Cycle Q Clear(g_c), s	12.4	34.7	3.0	1.8	44.3	12.7	1.4	0.0	1.7	7.5	0.0	5.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.93
Lane Grp Cap(c), veh/h	192	2092	650	108	1701	827	807	0	359	336	0	303
V/C Ratio(X)	0.87	0.75	0.09	0.44	1.15	0.32	0.06	0.00	0.07	0.34	0.00	0.24
Avail Cap(c_a), veh/h	201	2092	650	390	1701	827	807	0	359	336	0	303
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	59.5	34.4	24.9	64.3	45.4	19.0	41.3	0.0	41.4	47.8	0.0	46.8
Incr Delay (d2), s/veh	29.8	2.5	0.3	1.0	76.5	1.0	0.1	0.0	0.4	2.8	0.0	1.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.1	14.3	1.2	0.8	30.1	6.9	0.7	0.0	0.7	3.7	0.0	2.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	89.3	36.8	25.2	65.3	121.9	20.0	41.4	0.0	41.8	50.5	0.0	48.7
LnGrp LOS	F	D	C	E	F	C	D	A	D	D	A	D
Approach Vol, veh/h		1787			2271			73			188	
Approach Delay, s/veh		41.4			109.0			41.6			49.8	
Approach LOS		D			F			D			D	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	9.1	60.9		30.0	19.3	50.7		35.0
Change Period (Y+Rc), s	5.0	6.4		4.9	5.0	6.4		4.9
Max Green Setting (Gmax), s	15.0	43.6		25.1	15.0	43.6		30.1
Max Q Clear Time (g_c+I1), s	13.8	36.7		9.5	14.4	46.3		3.7
Green Ext Time (p_c), s	0.0	4.9		0.2	0.0	0.0		0.0

Intersection Summary	
HCM 6th Ctrl Delay	77.3
HCM 6th LOS	E

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1444	183	90	1957	292	59
Future Volume (veh/h)	1444	183	90	1957	292	59
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	1520	193	95	2060	307	62
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	2541	789	149	2968	1157	599
Arrive On Green	0.49	0.49	0.04	0.57	0.33	0.33
Sat Flow, veh/h	5358	1610	3510	5358	3510	1610
Grp Volume(v), veh/h	1520	193	95	2060	307	62
Grp Sat Flow(s),veh/h/ln	1729	1610	1755	1729	1755	1610
Q Serve(g_s), s	24.3	8.0	3.1	32.4	7.4	2.9
Cycle Q Clear(g_c), s	24.3	8.0	3.1	32.4	7.4	2.9
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	2541	789	149	2968	1157	599
V/C Ratio(X)	0.60	0.24	0.64	0.69	0.27	0.10
Avail Cap(c_a), veh/h	2541	789	317	2968	1157	599
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.57	0.57	1.00	1.00
Uniform Delay (d), s/veh	21.2	17.0	54.2	17.5	28.3	23.6
Incr Delay (d2), s/veh	1.0	0.7	1.0	0.8	0.6	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.2	2.9	1.3	11.4	3.2	3.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	22.2	17.7	55.2	18.2	28.9	23.9
LnGrp LOS	C	B	E	B	C	C
Approach Vol, veh/h	1713			2155	369	
Approach Delay, s/veh	21.7			19.9	28.1	
Approach LOS	C			B	C	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	9.5	62.5		43.0		72.0
Change Period (Y+Rc), s	4.6	6.2		5.1		6.2
Max Green Setting (Gmax), s	10.4	50.8		37.9		65.8
Max Q Clear Time (g_c+I1), s	5.1	26.3		9.4		34.4
Green Ext Time (p_c), s	0.1	18.8		0.7		27.1

Intersection Summary		
HCM 6th Ctrl Delay		21.3
HCM 6th LOS		C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	211	1199	48	61	1727	25	36	25	29	31	41	284
Future Volume (veh/h)	211	1199	48	61	1727	25	36	25	29	31	41	284
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	224	1276	0	65	1837	27	38	27	31	33	44	302
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	281	2627		109	2409	35	385	1181	520	497	622	520
Arrive On Green	0.08	0.51	0.00	0.03	0.46	0.46	0.33	0.33	0.33	0.33	0.33	0.33
Sat Flow, veh/h	3510	5187	1610	3510	5267	77	1051	3610	1588	1365	1900	1588
Grp Volume(v), veh/h	224	1276	0	65	1206	658	38	27	31	33	44	302
Grp Sat Flow(s),veh/h/ln	1755	1729	1610	1755	1729	1886	1051	1805	1588	1365	1900	1588
Q Serve(g_s), s	7.8	20.1	0.0	2.3	36.3	36.3	3.2	0.6	1.7	2.1	2.0	19.7
Cycle Q Clear(g_c), s	7.8	20.1	0.0	2.3	36.3	36.3	5.2	0.6	1.7	2.7	2.0	19.7
Prop In Lane	1.00		1.00	1.00		0.04	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	281	2627		109	1582	863	385	1181	520	497	622	520
V/C Ratio(X)	0.80	0.49		0.60	0.76	0.76	0.10	0.02	0.06	0.07	0.07	0.58
Avail Cap(c_a), veh/h	432	2627		432	1582	863	385	1181	520	497	622	520
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.76	0.76	0.00	0.78	0.78	0.78	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.5	20.2	0.0	59.8	28.2	28.3	30.8	28.5	28.9	29.4	29.0	34.9
Incr Delay (d2), s/veh	2.1	0.5	0.0	1.5	2.8	5.0	0.5	0.0	0.2	0.3	0.2	4.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.5	7.6	0.0	1.0	14.5	16.4	0.9	0.3	0.7	0.7	0.9	8.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	58.6	20.7	0.0	61.3	31.0	33.3	31.3	28.5	29.1	29.7	29.2	39.6
LnGrp LOS	E	C		E	C	C	C	C	C	C	C	D
Approach Vol, veh/h		1500			1929			96			379	
Approach Delay, s/veh		26.3			32.8			29.8			37.5	
Approach LOS		C			C			C			D	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	9.5	69.5		46.0	15.6	63.4		46.0
Change Period (Y+Rc), s	5.6	6.2		5.1	5.6	6.2		5.1
Max Green Setting (Gmax), s	15.4	51.8		40.9	15.4	51.8		40.9
Max Q Clear Time (g_c+I1), s	4.3	22.1		21.7	9.8	38.3		7.2
Green Ext Time (p_c), s	0.0	17.2		0.7	0.2	11.9		0.2

Intersection Summary	
HCM 6th Ctrl Delay	30.7
HCM 6th LOS	C

Notes

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	153	36	26	35	27	32	49	677	36	67	880	198
Future Volume (veh/h)	153	36	26	35	27	32	49	677	36	67	880	198
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	163	38	28	37	29	34	52	720	38	71	936	211
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	240	283	240	234	283	240	67	2441	1075	91	2488	1110
Arrive On Green	0.15	0.15	0.15	0.15	0.15	0.15	0.04	0.68	0.68	0.05	0.69	0.69
Sat Flow, veh/h	1360	1900	1610	1357	1900	1610	1810	3610	1590	1810	3610	1610
Grp Volume(v), veh/h	163	38	28	37	29	34	52	720	38	71	936	211
Grp Sat Flow(s),veh/h/ln	1360	1900	1610	1357	1900	1610	1810	1805	1590	1810	1805	1610
Q Serve(g_s), s	15.3	2.3	2.0	3.2	1.7	2.4	3.7	10.5	1.0	5.0	14.1	6.1
Cycle Q Clear(g_c), s	17.0	2.3	2.0	5.4	1.7	2.4	3.7	10.5	1.0	5.0	14.1	6.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	240	283	240	234	283	240	67	2441	1075	91	2488	1110
V/C Ratio(X)	0.68	0.13	0.12	0.16	0.10	0.14	0.77	0.29	0.04	0.78	0.38	0.19
Avail Cap(c_a), veh/h	424	539	457	422	547	463	228	2441	1075	367	2488	1110
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.83	0.83	0.83	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.2	48.0	47.9	50.4	47.8	48.1	62.0	8.5	7.0	61.0	8.5	7.2
Incr Delay (d2), s/veh	1.3	0.1	0.1	0.1	0.1	0.1	5.7	0.3	0.1	5.4	0.4	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.3	1.1	0.8	1.1	0.8	1.0	1.8	3.6	0.3	2.4	4.7	1.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	56.4	48.1	48.0	50.5	47.9	48.2	67.7	8.8	7.0	66.4	8.9	7.6
LnGrp LOS	E	D	D	D	D	D	E	A	A	E	A	A
Approach Vol, veh/h		229			100			810			1218	
Approach Delay, s/veh		54.0			49.0			12.5			12.0	
Approach LOS		D			D			B			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	11.1	94.4		24.5	9.4	96.1		24.5
Change Period (Y+Rc), s	4.6	6.5		5.1	4.6	6.5		* 5.1
Max Green Setting (Gmax), s	26.4	50.5		36.9	16.4	60.5		* 37
Max Q Clear Time (g_c+I1), s	7.0	12.5		19.0	5.7	16.1		7.4
Green Ext Time (p_c), s	0.0	0.7		0.3	0.0	0.8		0.2

Intersection Summary	
HCM 6th Ctrl Delay	17.8
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	367	805	46	137	1326	235	78	164	88	239	200	442
Future Volume (veh/h)	367	805	46	137	1326	235	78	164	88	239	200	442
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	399	875	50	149	1441	255	85	178	96	260	217	480
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	429	2566	146	181	2285	873	101	1205	373	184	1006	1135
Arrive On Green	0.12	0.51	0.51	0.05	0.44	0.44	0.06	0.23	0.23	0.10	0.28	0.28
Sat Flow, veh/h	3510	5020	286	3510	5187	1610	1810	5187	1606	1810	3610	2831
Grp Volume(v), veh/h	399	602	323	149	1441	255	85	178	96	260	217	480
Grp Sat Flow(s),veh/h/ln	1755	1729	1848	1755	1729	1610	1810	1729	1606	1810	1805	1415
Q Serve(g_s), s	23.6	21.6	21.7	8.8	45.2	18.1	9.8	5.7	10.2	21.4	9.7	25.7
Cycle Q Clear(g_c), s	23.6	21.6	21.7	8.8	45.2	18.1	9.8	5.7	10.2	21.4	9.7	25.7
Prop In Lane	1.00		0.15	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	429	1768	945	181	2285	873	101	1205	373	184	1006	1135
V/C Ratio(X)	0.93	0.34	0.34	0.82	0.63	0.29	0.84	0.15	0.26	1.41	0.22	0.42
Avail Cap(c_a), veh/h	776	1768	945	441	2285	873	184	1205	373	184	1006	1135
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.88	0.88	0.88	1.00	1.00	1.00	1.00	1.00	1.00	0.94	0.94	0.94
Uniform Delay (d), s/veh	91.3	30.4	30.4	98.6	45.5	26.1	98.2	64.1	65.8	94.3	58.1	45.4
Incr Delay (d2), s/veh	4.5	0.5	0.9	3.5	1.3	0.8	7.0	0.3	1.7	212.0	0.5	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.9	9.1	9.9	4.1	19.5	7.1	4.8	2.5	4.4	20.8	4.5	9.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	95.8	30.8	31.3	102.1	46.8	27.0	105.2	64.3	67.5	306.3	58.6	46.5
LnGrp LOS	F	C	C	F	D	C	F	E	E	F	E	D
Approach Vol, veh/h		1324			1845			359			957	
Approach Delay, s/veh		50.5			48.6			74.8			119.8	
Approach LOS		D			D			E			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.4	113.6	16.3	64.7	30.3	98.7	26.0	55.0
Change Period (Y+Rc), s	4.6	6.2	4.6	6.2	4.6	6.2	4.6	6.2
Max Green Setting (Gmax), s	26.4	91.8	21.4	48.8	46.4	71.8	21.4	48.8
Max Q Clear Time (g_c+I1), s	10.8	23.7	11.8	27.7	25.6	47.2	23.4	12.2
Green Ext Time (p_c), s	0.0	0.8	0.0	0.3	0.0	1.6	0.0	0.2

Intersection Summary	
HCM 6th Ctrl Delay	66.4
HCM 6th LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	99	868	95	172	1473	96	180	5	0	74	4	58
Future Volume (veh/h)	99	868	95	172	1473	96	180	5	0	74	4	58
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	106	933	102	185	1584	103	194	5	0	80	4	62
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	134	1466	654	280	2623	814	373	9	0	503	25	394
Arrive On Green	0.07	0.41	0.41	0.15	0.51	0.51	0.26	0.26	0.00	0.26	0.26	0.26
Sat Flow, veh/h	1810	3610	1610	1810	5187	1610	1170	34	0	1434	98	1527
Grp Volume(v), veh/h	106	933	102	185	1584	103	199	0	0	80	0	66
Grp Sat Flow(s),veh/h/ln	1810	1805	1610	1810	1729	1610	1204	0	0	1434	0	1625
Q Serve(g_s), s	5.8	20.7	4.0	9.6	21.7	3.4	13.1	0.0	0.0	0.0	0.0	3.1
Cycle Q Clear(g_c), s	5.8	20.7	4.0	9.6	21.7	3.4	16.2	0.0	0.0	3.4	0.0	3.1
Prop In Lane	1.00		1.00	1.00		1.00	0.97		0.00	1.00		0.94
Lane Grp Cap(c), veh/h	134	1466	654	280	2623	814	382	0	0	503	0	419
V/C Ratio(X)	0.79	0.64	0.16	0.66	0.60	0.13	0.52	0.00	0.00	0.16	0.00	0.16
Avail Cap(c_a), veh/h	226	1466	654	326	2623	814	382	0	0	503	0	419
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	45.5	23.8	18.8	39.8	17.6	13.1	34.9	0.0	0.0	28.8	0.0	28.7
Incr Delay (d2), s/veh	9.8	2.1	0.5	3.9	1.0	0.3	0.6	0.0	0.0	0.7	0.0	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	8.4	1.5	4.4	7.8	1.2	4.4	0.0	0.0	1.6	0.0	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	55.3	25.9	19.3	43.7	18.6	13.4	35.5	0.0	0.0	29.5	0.0	29.5
LnGrp LOS	E	C	B	D	B	B	D	A	A	C	A	C
Approach Vol, veh/h		1141			1872			199			146	
Approach Delay, s/veh		28.1			20.8			35.5			29.5	
Approach LOS		C			C			D			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	12.0	47.6		30.4	12.5	57.1		30.4				
Change Period (Y+Rc), s	6.5	* 7		4.6	5.1	6.5		4.6				
Max Green Setting (Gmax), s	18.0	* 41		25.8	12.5	45.5		25.8				
Max Q Clear Time (g_c+I1), s	11.6	22.7		5.4	7.8	23.7		18.2				
Green Ext Time (p_c), s	0.2	5.9		0.3	0.1	11.4		0.4				

Intersection Summary	
HCM 6th Ctrl Delay	24.5
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	0.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	913	3	0	1713	0	66
Future Vol, veh/h	913	3	0	1713	0	66
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	1014	3	0	1903	0	73

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	507
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.3
Pot Cap-1 Maneuver	-	-	0	-	0	*718
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		1
Mov Cap-1 Maneuver	-	-	-	-	-	*718
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	10.6
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	718	-	-	-
HCM Lane V/C Ratio	0.102	-	-	-
HCM Control Delay (s)	10.6	-	-	-
HCM Lane LOS	B	-	-	-
HCM 95th %tile Q(veh)	0.3	-	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	906	90	113	1482	190	72
Future Volume (veh/h)	906	90	113	1482	190	72
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	964	96	120	1577	202	77
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	1881	839	149	2316	430	515
Arrive On Green	0.52	0.52	0.08	0.64	0.24	0.24
Sat Flow, veh/h	3705	1610	1810	3705	1810	1610
Grp Volume(v), veh/h	964	96	120	1577	202	77
Grp Sat Flow(s),veh/h/ln	1805	1610	1810	1805	1810	1610
Q Serve(g_s), s	20.9	3.6	7.8	33.4	11.5	4.1
Cycle Q Clear(g_c), s	20.9	3.6	7.8	33.4	11.5	4.1
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	1881	839	149	2316	430	515
V/C Ratio(X)	0.51	0.11	0.81	0.68	0.47	0.15
Avail Cap(c_a), veh/h	1881	839	232	2316	430	515
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.8	14.6	54.1	13.7	39.3	29.2
Incr Delay (d2), s/veh	1.0	0.3	5.3	0.8	3.7	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.1	1.3	3.6	11.3	5.3	1.6
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	19.8	14.9	59.4	14.5	42.9	29.8
LnGrp LOS	B	B	E	B	D	C
Approach Vol, veh/h	1060			1697	279	
Approach Delay, s/veh	19.3			17.7	39.3	
Approach LOS	B			B	D	

Timer - Assigned Phs	1	2				6	8
Phs Duration (G+Y+Rc), s	14.5	70.5				85.0	35.0
Change Period (Y+Rc), s	4.6	8.0				8.0	6.5
Max Green Setting (Gmax), s	15.4	57.0				77.0	28.5
Max Q Clear Time (g_c+I1), s	9.8	22.9				35.4	13.5
Green Ext Time (p_c), s	0.0	5.5				13.5	0.3

Intersection Summary	
HCM 6th Ctrl Delay	20.2
HCM 6th LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	128	568	172	100	888	55	313	145	62	54	145	218
Future Volume (veh/h)	128	568	172	100	888	55	313	145	62	54	145	218
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1976	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	136	604	183	106	945	59	333	154	66	57	154	232
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	159	1409	654	129	1347	601	317	865	355	74	767	340
Arrive On Green	0.09	0.39	0.39	0.07	0.37	0.37	0.18	0.35	0.35	0.04	0.21	0.21
Sat Flow, veh/h	1810	3610	1675	1810	3610	1610	1810	2495	1024	1810	3610	1599
Grp Volume(v), veh/h	136	604	183	106	945	59	333	110	110	57	154	232
Grp Sat Flow(s),veh/h/ln	1810	1805	1675	1810	1805	1610	1810	1805	1714	1810	1805	1599
Q Serve(g_s), s	10.7	17.8	10.8	8.4	32.2	3.5	25.4	6.1	6.5	4.5	5.1	19.4
Cycle Q Clear(g_c), s	10.7	17.8	10.8	8.4	32.2	3.5	25.4	6.1	6.5	4.5	5.1	19.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.60	1.00		1.00
Lane Grp Cap(c), veh/h	159	1409	654	129	1347	601	317	626	594	74	767	340
V/C Ratio(X)	0.85	0.43	0.28	0.82	0.70	0.10	1.05	0.17	0.19	0.77	0.20	0.68
Avail Cap(c_a), veh/h	255	1409	654	255	1347	601	317	626	594	255	767	340
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	65.2	32.4	30.3	66.5	38.6	29.6	59.8	32.9	33.1	68.9	47.0	52.6
Incr Delay (d2), s/veh	8.3	1.0	1.1	5.0	3.1	0.3	64.4	0.6	0.7	6.3	0.6	10.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.2	7.6	4.5	3.9	14.2	1.4	17.0	2.7	2.8	2.2	2.3	8.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	73.5	33.3	31.3	71.4	41.6	29.9	124.2	33.5	33.7	75.2	47.6	63.2
LnGrp LOS	E	C	C	E	D	C	F	C	C	E	D	E
Approach Vol, veh/h		923			1110			553			443	
Approach Delay, s/veh		38.8			43.9			88.2			59.3	
Approach LOS		D			D			F			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.9	63.1	10.5	56.5	17.4	60.6	30.0	37.0
Change Period (Y+Rc), s	4.6	6.5	4.6	6.2	4.6	6.5	4.6	6.2
Max Green Setting (Gmax), s	20.4	46.5	20.4	35.8	20.4	46.5	25.4	30.8
Max Q Clear Time (g_c+I1), s	10.4	19.8	6.5	8.5	12.7	34.2	27.4	21.4
Green Ext Time (p_c), s	0.1	8.6	0.0	1.1	0.1	7.4	0.0	1.1

Intersection Summary	
HCM 6th Ctrl Delay	52.7
HCM 6th LOS	D

Intersection	
Int Delay, s/veh	6.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	135	50	0	200	71
Future Vol, veh/h	0	135	50	0	200	71
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	142	53	0	211	75

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	550	53	0	0	53	0
Stage 1	53	-	-	-	-	-
Stage 2	497	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	505	1020	-	-	1566	-
Stage 1	975	-	-	-	-	-
Stage 2	617	-	-	-	-	-
Platoon blocked, %	1		-	-		-
Mov Cap-1 Maneuver	434	1020	-	-	1566	-
Mov Cap-2 Maneuver	434	-	-	-	-	-
Stage 1	975	-	-	-	-	-
Stage 2	530	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.1	0	5.7
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	1020	1566	-
HCM Lane V/C Ratio	-	-	0.139	0.134	-
HCM Control Delay (s)	-	-	9.1	7.7	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.5	0.5	-

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	50	0	0	71	0
Future Vol, veh/h	0	50	0	0	71	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	53	0	0	75	0

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	150	0	0	0	0	0
Stage 1	0	-	-	-	-	-
Stage 2	150	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	847	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	883	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	847	-	-	-	-	-
Mov Cap-2 Maneuver	847	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	883	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s		0	
HCM LOS	-		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	-	-	-	-	-
HCM Lane LOS	-	-	-	-	-
HCM 95th %tile Q(veh)	-	-	-	-	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	868	80	0	1740	0	48
Future Vol, veh/h	868	80	0	1740	0	48
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	914	84	0	1832	0	51

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	499
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	7.1
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.9
Pot Cap-1 Maneuver	-	-	0	-	0	*728
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		1
Mov Cap-1 Maneuver	-	-	-	-	-	*728
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	10.3
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	728	-	-	-
HCM Lane V/C Ratio	0.069	-	-	-
HCM Control Delay (s)	10.3	-	-	-
HCM Lane LOS	B	-	-	-
HCM 95th %tile Q(veh)	0.2	-	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	5.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	40	0	0	23	3	0
Future Vol, veh/h	40	0	0	23	3	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	42	0	0	24	3	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	27	3	3	0	-	0
Stage 1	3	-	-	-	-	-
Stage 2	24	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	993	1087	1632	-	-	-
Stage 1	1025	-	-	-	-	-
Stage 2	1004	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	993	1087	1632	-	-	-
Mov Cap-2 Maneuver	993	-	-	-	-	-
Stage 1	1025	-	-	-	-	-
Stage 2	1004	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.8	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1632	-	993	-	-
HCM Lane V/C Ratio	-	-	0.042	-	-
HCM Control Delay (s)	0	-	8.8	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

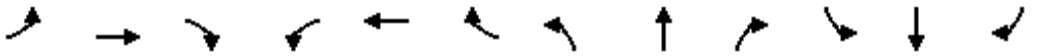
Intersection	
Int Delay, s/veh	7.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	23	2	3	0	3	0
Future Vol, veh/h	23	2	3	0	3	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	24	2	3	0	3	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	9	3	3	0	-	0
Stage 1	3	-	-	-	-	-
Stage 2	6	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	1017	1087	1632	-	-	-
Stage 1	1025	-	-	-	-	-
Stage 2	1022	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	1015	1087	1632	-	-	-
Mov Cap-2 Maneuver	1015	-	-	-	-	-
Stage 1	1023	-	-	-	-	-
Stage 2	1022	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.6	7.2	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1632	-	1020	-	-
HCM Lane V/C Ratio	0.002	-	0.026	-	-
HCM Control Delay (s)	7.2	0	8.6	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	36	2052	48	334	1805	23	85	9	434	28	19	37
Future Volume (veh/h)	36	2052	48	334	1805	23	85	9	434	28	19	37
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	37	2094	49	341	1842	23	87	9	443	24	26	38
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	75	1647	38	312	2440	756	303	31	296	349	367	345
Arrive On Green	0.02	0.32	0.32	0.17	0.47	0.47	0.18	0.18	0.18	0.19	0.19	0.19
Sat Flow, veh/h	3510	5214	122	1810	5187	1607	1647	170	1610	1810	1900	1610
Grp Volume(v), veh/h	37	1388	755	341	1842	23	96	0	443	24	26	38
Grp Sat Flow(s),veh/h/ln	1755	1729	1878	1810	1729	1607	1818	0	1610	1810	1900	1610
Q Serve(g_s), s	1.5	45.8	45.8	25.0	42.3	1.1	6.6	0.0	26.7	1.6	1.6	2.8
Cycle Q Clear(g_c), s	1.5	45.8	45.8	25.0	42.3	1.1	6.6	0.0	26.7	1.6	1.6	2.8
Prop In Lane	1.00		0.06	1.00		1.00	0.91		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	75	1092	593	312	2440	756	335	0	296	349	367	345
V/C Ratio(X)	0.49	1.27	1.27	1.09	0.76	0.03	0.29	0.00	1.49	0.07	0.07	0.11
Avail Cap(c_a), veh/h	738	1092	593	312	2440	756	335	0	296	349	367	345
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	70.2	49.6	49.6	60.0	31.5	20.6	50.9	0.0	59.2	47.8	47.9	45.8
Incr Delay (d2), s/veh	1.9	129.0	135.9	78.2	2.2	0.1	2.1	0.0	239.4	0.4	0.4	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	38.5	43.0	17.9	17.2	0.4	3.2	0.0	30.4	0.8	0.8	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	72.0	178.6	185.5	138.2	33.8	20.7	53.1	0.0	298.6	48.2	48.2	46.5
LnGrp LOS	E	F	F	F	C	C	D	A	F	D	D	D
Approach Vol, veh/h		2180			2206			539			88	
Approach Delay, s/veh		179.1			49.8			254.8			47.5	
Approach LOS		F			D			F			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	30.0	51.0		32.0	7.6	73.4		32.0				
Change Period (Y+Rc), s	5.0	5.2		* 5.3	4.5	5.2		4.0				
Max Green Setting (Gmax), s	25.0	45.8		* 27	30.5	40.8		28.0				
Max Q Clear Time (g_c+I1), s	27.0	47.8		28.7	3.5	44.3		4.8				
Green Ext Time (p_c), s	0.0	0.0		0.0	0.0	0.0		0.1				

Intersection Summary			
HCM 6th Ctrl Delay		128.0	
HCM 6th LOS		F	

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	59	2353	101	120	1968	105	108	9	67	131	5	87
Future Volume (veh/h)	59	2353	101	120	1968	105	108	9	67	131	5	87
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	60	2401	103	122	2008	107	116	0	68	134	5	88
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.99
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	77	1998	620	171	2030	926	807	0	357	336	16	286
Arrive On Green	0.04	0.39	0.39	0.05	0.39	0.39	0.22	0.00	0.22	0.19	0.19	0.19
Sat Flow, veh/h	1810	5187	1610	3510	5187	1602	3619	0	1602	1810	87	1536
Grp Volume(v), veh/h	60	2401	103	122	2008	107	116	0	68	134	0	93
Grp Sat Flow(s),veh/h/ln	1810	1729	1610	1755	1729	1602	1810	0	1602	1810	0	1623
Q Serve(g_s), s	4.4	52.0	5.7	4.6	51.9	4.1	3.5	0.0	4.7	8.8	0.0	6.7
Cycle Q Clear(g_c), s	4.4	52.0	5.7	4.6	51.9	4.1	3.5	0.0	4.7	8.8	0.0	6.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.95
Lane Grp Cap(c), veh/h	77	1998	620	171	2030	926	807	0	357	336	0	302
V/C Ratio(X)	0.78	1.20	0.17	0.71	0.99	0.12	0.14	0.00	0.19	0.40	0.00	0.31
Avail Cap(c_a), veh/h	201	1998	620	390	2030	926	807	0	357	336	0	302
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	64.0	41.5	27.3	63.3	40.8	12.9	42.1	0.0	42.6	48.3	0.0	47.5
Incr Delay (d2), s/veh	6.1	95.8	0.6	2.0	17.6	0.3	0.4	0.0	1.2	3.5	0.0	2.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	38.6	2.2	2.1	24.1	2.2	1.6	0.0	2.0	4.4	0.0	3.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	70.1	137.3	27.8	65.3	58.4	13.2	42.5	0.0	43.7	51.8	0.0	50.1
LnGrp LOS	E	F	C	E	E	B	D	A	D	D	A	D
Approach Vol, veh/h		2564			2237			184			227	
Approach Delay, s/veh		131.3			56.6			42.9			51.1	
Approach LOS		F			E			D			D	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	11.6	58.4		30.0	10.8	59.2		35.0
Change Period (Y+Rc), s	5.0	6.4		4.9	5.0	6.4		4.9
Max Green Setting (Gmax), s	15.0	43.6		25.1	15.0	43.6		30.1
Max Q Clear Time (g_c+I1), s	6.6	54.0		10.8	6.4	53.9		6.7
Green Ext Time (p_c), s	0.0	0.0		0.2	0.0	0.0		0.1

Intersection Summary		
HCM 6th Ctrl Delay		92.6
HCM 6th LOS		F

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	2027	344	217	1705	484	198
Future Volume (veh/h)	2027	344	217	1705	484	198
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	2090	355	224	1758	499	204
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	2343	724	282	2968	1157	660
Arrive On Green	0.45	0.45	0.08	0.57	0.33	0.33
Sat Flow, veh/h	5358	1603	3510	5358	3510	1610
Grp Volume(v), veh/h	2090	355	224	1758	499	204
Grp Sat Flow(s),veh/h/ln	1729	1603	1755	1729	1755	1610
Q Serve(g_s), s	42.5	17.9	7.2	25.2	12.8	9.8
Cycle Q Clear(g_c), s	42.5	17.9	7.2	25.2	12.8	9.8
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	2343	724	282	2968	1157	660
V/C Ratio(X)	0.89	0.49	0.79	0.59	0.43	0.31
Avail Cap(c_a), veh/h	2343	724	317	2968	1157	660
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.73	0.73	1.00	1.00
Uniform Delay (d), s/veh	28.9	22.2	51.9	15.9	30.1	22.9
Incr Delay (d2), s/veh	5.7	2.4	7.6	0.6	1.2	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	17.3	6.7	3.4	8.9	5.5	10.6
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	34.6	24.6	59.5	16.6	31.3	24.1
LnGrp LOS	C	C	E	B	C	C
Approach Vol, veh/h	2445			1982	703	
Approach Delay, s/veh	33.2			21.4	29.2	
Approach LOS	C			C	C	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	13.9	58.1		43.0		72.0
Change Period (Y+Rc), s	4.6	6.2		5.1		6.2
Max Green Setting (Gmax), s	10.4	50.8		37.9		65.8
Max Q Clear Time (g_c+I1), s	9.2	44.5		14.8		27.2
Green Ext Time (p_c), s	0.1	6.1		1.3		28.4

Intersection Summary		
HCM 6th Ctrl Delay	28.1	
HCM 6th LOS	C	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	305	1767	132	156	1442	26	209	109	158	40	106	270
Future Volume (veh/h)	305	1767	132	156	1442	26	209	109	158	40	106	270
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	314	1822	0	161	1487	27	215	112	163	41	109	278
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	369	2467		218	2268	41	347	1181	526	400	622	526
Arrive On Green	0.11	0.48	0.00	0.06	0.43	0.43	0.33	0.33	0.33	0.33	0.33	0.33
Sat Flow, veh/h	3510	5187	1610	3510	5245	95	1012	3610	1609	1121	1900	1609
Grp Volume(v), veh/h	314	1822	0	161	980	534	215	112	163	41	109	278
Grp Sat Flow(s),veh/h/ln	1755	1729	1610	1755	1729	1883	1012	1805	1609	1121	1900	1609
Q Serve(g_s), s	11.0	35.5	0.0	5.6	28.1	28.1	24.1	2.7	9.5	3.3	5.1	17.6
Cycle Q Clear(g_c), s	11.0	35.5	0.0	5.6	28.1	28.1	29.2	2.7	9.5	6.0	5.1	17.6
Prop In Lane	1.00		1.00	1.00		0.05	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	369	2467		218	1495	814	347	1181	526	400	622	526
V/C Ratio(X)	0.85	0.74		0.74	0.66	0.66	0.62	0.09	0.31	0.10	0.18	0.53
Avail Cap(c_a), veh/h	432	2467		432	1495	814	347	1181	526	400	622	526
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.41	0.41	0.00	0.82	0.82	0.82	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.0	26.5	0.0	57.6	28.1	28.1	40.4	29.2	31.5	31.3	30.0	34.2
Incr Delay (d2), s/veh	5.2	0.8	0.0	1.5	1.9	3.4	8.0	0.2	1.5	0.5	0.6	3.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.0	13.7	0.0	2.5	11.3	12.6	6.8	1.2	4.0	0.9	2.4	7.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	60.2	27.3	0.0	59.2	30.0	31.5	48.5	29.4	33.0	31.8	30.6	38.0
LnGrp LOS	E	C		E	C	C	D	C	C	C	C	D
Approach Vol, veh/h		2136			1675			490			428	
Approach Delay, s/veh		32.2			33.2			39.0			35.5	
Approach LOS		C			C			D			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	13.4	65.6		46.0	18.7	60.3		46.0				
Change Period (Y+Rc), s	5.6	6.2		5.1	5.6	6.2		5.1				
Max Green Setting (Gmax), s	15.4	51.8		40.9	15.4	51.8		40.9				
Max Q Clear Time (g_c+I1), s	7.6	37.5		19.6	13.0	30.1		31.2				
Green Ext Time (p_c), s	0.1	12.6		0.9	0.2	15.8		1.1				

Intersection Summary	
HCM 6th Ctrl Delay	33.6
HCM 6th LOS	C

Notes

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	286	55	51	83	47	104	84	807	92	148	887	255
Future Volume (veh/h)	286	55	51	83	47	104	84	807	92	148	887	255
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	292	56	52	85	48	106	86	823	94	151	905	260
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	364	505	427	373	505	427	108	1848	824	177	1985	884
Arrive On Green	0.27	0.27	0.27	0.27	0.27	0.27	0.06	0.51	0.51	0.10	0.55	0.55
Sat Flow, veh/h	1251	1900	1608	1305	1900	1608	1810	3610	1609	1810	3610	1607
Grp Volume(v), veh/h	292	56	52	85	48	106	86	823	94	151	905	260
Grp Sat Flow(s),veh/h/ln	1251	1900	1608	1305	1900	1608	1810	1805	1609	1810	1805	1607
Q Serve(g_s), s	29.8	2.9	3.2	6.9	2.5	6.7	6.1	18.7	3.9	10.7	19.6	11.3
Cycle Q Clear(g_c), s	32.3	2.9	3.2	9.8	2.5	6.7	6.1	18.7	3.9	10.7	19.6	11.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	364	505	427	373	505	427	108	1848	824	177	1985	884
V/C Ratio(X)	0.80	0.11	0.12	0.23	0.10	0.25	0.80	0.45	0.11	0.85	0.46	0.29
Avail Cap(c_a), veh/h	387	539	457	402	547	463	228	1848	824	367	1985	884
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.78	0.78	0.78	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.1	36.1	36.2	39.8	36.0	37.5	60.3	20.1	16.4	57.7	17.6	15.7
Incr Delay (d2), s/veh	9.9	0.0	0.0	0.1	0.0	0.1	3.9	0.6	0.2	4.5	0.8	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.2	1.4	1.3	2.3	1.2	2.7	2.8	7.5	1.4	4.9	7.6	4.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	58.0	36.1	36.3	39.9	36.0	37.6	64.2	20.7	16.7	62.2	18.3	16.6
LnGrp LOS	E	D	D	D	D	D	E	C	B	E	B	B
Approach Vol, veh/h		400			239			1003			1316	
Approach Delay, s/veh		52.1			38.1			24.0			23.0	
Approach LOS		D			D			C			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	17.3	73.1		39.6	12.4	78.0		39.6
Change Period (Y+Rc), s	4.6	6.5		5.1	4.6	6.5		* 5.1
Max Green Setting (Gmax), s	26.4	50.5		36.9	16.4	60.5		* 37
Max Q Clear Time (g_c+I1), s	12.7	20.7		34.3	8.1	21.6		11.8
Green Ext Time (p_c), s	0.1	0.8		0.3	0.0	0.7		0.5

Intersection Summary		
HCM 6th Ctrl Delay	28.5	
HCM 6th LOS	C	

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	501	1329	65	230	1145	208	115	238	203	293	368	390
Future Volume (veh/h)	501	1329	65	230	1145	208	115	238	203	293	368	390
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	527	1399	68	242	1205	219	121	251	214	308	387	411
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	556	2457	119	273	2098	813	137	1205	374	184	933	1178
Arrive On Green	0.16	0.48	0.48	0.08	0.40	0.40	0.08	0.23	0.23	0.10	0.26	0.26
Sat Flow, veh/h	3510	5067	246	3510	5187	1604	1810	5187	1608	1810	3610	2821
Grp Volume(v), veh/h	527	955	512	242	1205	219	121	251	214	308	387	411
Grp Sat Flow(s),veh/h/ln	1755	1729	1855	1755	1729	1604	1810	1729	1608	1810	1805	1410
Q Serve(g_s), s	31.2	41.3	41.3	14.3	37.8	16.4	13.9	8.2	24.7	21.4	18.7	20.9
Cycle Q Clear(g_c), s	31.2	41.3	41.3	14.3	37.8	16.4	13.9	8.2	24.7	21.4	18.7	20.9
Prop In Lane	1.00		0.13	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	556	1677	900	273	2098	813	137	1205	374	184	933	1178
V/C Ratio(X)	0.95	0.57	0.57	0.88	0.57	0.27	0.88	0.21	0.57	1.67	0.41	0.35
Avail Cap(c_a), veh/h	776	1677	900	441	2098	813	184	1205	374	184	933	1178
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.63	0.63	0.63	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	0.91
Uniform Delay (d), s/veh	87.5	38.5	38.5	95.9	48.5	29.6	96.1	65.0	71.4	94.3	64.7	41.8
Incr Delay (d2), s/veh	10.5	0.9	1.7	7.5	1.2	0.8	24.7	0.4	6.3	322.3	1.2	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	14.9	17.5	19.0	6.8	16.4	6.5	7.4	3.6	10.8	26.5	8.7	7.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	98.0	39.4	40.1	103.4	49.7	30.5	120.8	65.4	77.6	416.6	65.9	42.5
LnGrp LOS	F	D	D	F	D	C	F	E	E	F	E	D
Approach Vol, veh/h		1994			1666			586			1106	
Approach Delay, s/veh		55.0			54.9			81.3			154.9	
Approach LOS		E			D			F			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	31.0	108.0	20.5	60.5	37.9	91.1	26.0	55.0
Change Period (Y+Rc), s	4.6	6.2	4.6	6.2	4.6	6.2	4.6	6.2
Max Green Setting (Gmax), s	26.4	91.8	21.4	48.8	46.4	71.8	21.4	48.8
Max Q Clear Time (g_c+I1), s	16.3	43.3	15.9	22.9	33.2	39.8	23.4	26.7
Green Ext Time (p_c), s	0.0	1.3	0.0	0.4	0.1	1.3	0.0	0.2

Intersection Summary	
HCM 6th Ctrl Delay	78.5
HCM 6th LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	172	1525	116	154	1226	150	193	9	0	223	12	130
Future Volume (veh/h)	172	1525	116	154	1226	150	193	9	0	223	12	130
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	177	1572	120	159	1264	155	199	9	0	230	12	134
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	207	1895	845	181	2601	807	268	9	0	500	33	367
Arrive On Green	0.11	0.52	0.52	0.10	0.50	0.50	0.25	0.25	0.00	0.25	0.25	0.25
Sat Flow, veh/h	1810	3610	1610	1810	5187	1610	854	39	0	1428	134	1497
Grp Volume(v), veh/h	177	1572	120	159	1264	155	208	0	0	230	0	146
Grp Sat Flow(s),veh/h/ln	1810	1805	1610	1810	1729	1610	892	0	0	1428	0	1631
Q Serve(g_s), s	11.5	44.0	4.6	10.4	19.3	6.4	19.3	0.0	0.0	0.0	0.0	8.9
Cycle Q Clear(g_c), s	11.5	44.0	4.6	10.4	19.3	6.4	28.2	0.0	0.0	13.2	0.0	8.9
Prop In Lane	1.00		1.00	1.00		1.00	0.96		0.00	1.00		0.92
Lane Grp Cap(c), veh/h	207	1895	845	181	2601	807	277	0	0	500	0	400
V/C Ratio(X)	0.85	0.83	0.14	0.88	0.49	0.19	0.75	0.00	0.00	0.46	0.00	0.37
Avail Cap(c_a), veh/h	318	1895	845	181	2601	807	277	0	0	500	0	400
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	52.2	24.0	14.6	53.3	19.7	16.5	49.3	0.0	0.0	39.2	0.0	37.6
Incr Delay (d2), s/veh	13.0	4.4	0.4	35.4	0.7	0.5	9.7	0.0	0.0	3.0	0.0	2.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.8	17.9	1.6	6.3	7.3	2.3	7.0	0.0	0.0	6.3	0.0	3.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	65.1	28.3	15.0	88.7	20.4	17.0	59.0	0.0	0.0	42.2	0.0	40.1
LnGrp LOS	E	C	B	F	C	B	E	A	A	D	A	D
Approach Vol, veh/h		1869			1578			208			376	
Approach Delay, s/veh		31.0			26.9			59.0			41.4	
Approach LOS		C			C			E			D	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	16.0	70.0		34.0	18.8	67.2		34.0
Change Period (Y+Rc), s	4.0	7.0		4.6	5.1	* 7		4.6
Max Green Setting (Gmax), s	12.0	63.0		29.4	21.1	* 53		29.4
Max Q Clear Time (g_c+I1), s	13.4	46.0		15.2	13.5	21.3		30.2
Green Ext Time (p_c), s	0.0	10.2		0.8	0.2	10.5		0.0

Intersection Summary	
HCM 6th Ctrl Delay	31.8
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	0.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1708	1	0	1497	0	102
Future Vol, veh/h	1708	1	0	1497	0	102
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	1779	1	0	1559	0	106

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	890
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.3
Pot Cap-1 Maneuver	-	-	0	-	0	*399
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		1
Mov Cap-1 Maneuver	-	-	-	-	-	*399
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	17.3
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	399	-	-	-
HCM Lane V/C Ratio	0.266	-	-	-
HCM Control Delay (s)	17.3	-	-	-
HCM Lane LOS	C	-	-	-
HCM 95th %tile Q(veh)	1.1	-	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1625	157	124	1361	162	129
Future Volume (veh/h)	1625	157	124	1361	162	129
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	1658	160	127	1389	165	132
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	1868	833	156	2316	430	521
Arrive On Green	0.52	0.52	0.09	0.64	0.24	0.24
Sat Flow, veh/h	3705	1610	1810	3705	1810	1610
Grp Volume(v), veh/h	1658	160	127	1389	165	132
Grp Sat Flow(s),veh/h/ln	1805	1610	1810	1805	1810	1610
Q Serve(g_s), s	49.2	6.4	8.3	26.9	9.2	7.2
Cycle Q Clear(g_c), s	49.2	6.4	8.3	26.9	9.2	7.2
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	1868	833	156	2316	430	521
V/C Ratio(X)	0.89	0.19	0.82	0.60	0.38	0.25
Avail Cap(c_a), veh/h	1868	833	232	2316	430	521
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.8	15.5	53.9	12.5	38.4	29.9
Incr Delay (d2), s/veh	6.7	0.5	7.8	0.4	2.6	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	20.3	2.3	4.0	9.1	4.2	2.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	32.6	16.0	61.7	12.9	41.0	31.1
LnGrp LOS	C	B	E	B	D	C
Approach Vol, veh/h	1818			1516	297	
Approach Delay, s/veh	31.1			17.0	36.6	
Approach LOS	C			B	D	

Timer - Assigned Phs	1	2				6	8
Phs Duration (G+Y+Rc), s	14.9	70.1				85.0	35.0
Change Period (Y+Rc), s	4.6	8.0				8.0	6.5
Max Green Setting (Gmax), s	15.4	57.0				77.0	28.5
Max Q Clear Time (g_c+I1), s	10.3	51.2				28.9	11.2
Green Ext Time (p_c), s	0.0	4.2				11.1	0.4

Intersection Summary	
HCM 6th Ctrl Delay	25.7
HCM 6th LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	211	974	268	128	887	62	264	218	119	78	230	184
Future Volume (veh/h)	211	974	268	128	887	62	264	218	119	78	230	184
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1976	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	220	1015	279	133	924	65	275	227	124	81	240	192
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	242	1393	646	156	1222	545	297	732	385	102	767	341
Arrive On Green	0.13	0.39	0.39	0.09	0.34	0.34	0.16	0.32	0.32	0.06	0.21	0.21
Sat Flow, veh/h	1810	3610	1675	1810	3610	1609	1810	2286	1203	1810	3610	1606
Grp Volume(v), veh/h	220	1015	279	133	924	65	275	177	174	81	240	192
Grp Sat Flow(s),veh/h/ln	1810	1805	1675	1810	1805	1609	1810	1805	1684	1810	1805	1606
Q Serve(g_s), s	17.4	34.8	17.8	10.5	33.0	4.0	21.7	10.7	11.3	6.4	8.1	15.5
Cycle Q Clear(g_c), s	17.4	34.8	17.8	10.5	33.0	4.0	21.7	10.7	11.3	6.4	8.1	15.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.71	1.00		1.00
Lane Grp Cap(c), veh/h	242	1393	646	156	1222	545	297	578	539	102	767	341
V/C Ratio(X)	0.91	0.73	0.43	0.85	0.76	0.12	0.93	0.31	0.32	0.80	0.31	0.56
Avail Cap(c_a), veh/h	255	1393	646	255	1222	545	317	578	539	255	767	341
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	61.9	38.0	32.8	65.3	42.6	33.1	59.7	37.1	37.3	67.6	48.2	51.1
Incr Delay (d2), s/veh	31.3	3.4	2.1	7.2	4.4	0.4	30.1	1.4	1.6	5.3	1.1	6.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.8	15.3	7.5	5.0	14.8	1.6	12.2	4.9	4.8	3.1	3.7	6.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	93.3	41.4	34.9	72.5	47.0	33.5	89.9	38.5	38.9	72.9	49.2	57.7
LnGrp LOS	F	D	C	E	D	C	F	D	D	E	D	E
Approach Vol, veh/h		1514			1122			626			513	
Approach Delay, s/veh		47.7			49.3			61.2			56.1	
Approach LOS		D			D			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.1	62.5	12.7	52.7	24.0	55.6	28.4	37.0
Change Period (Y+Rc), s	4.6	6.5	4.6	6.2	4.6	6.5	4.6	6.2
Max Green Setting (Gmax), s	20.4	46.5	20.4	35.8	20.4	46.5	25.4	30.8
Max Q Clear Time (g_c+I1), s	12.5	36.8	8.4	13.3	19.4	35.0	23.7	17.5
Green Ext Time (p_c), s	0.1	7.1	0.1	1.8	0.0	7.0	0.1	1.6

Intersection Summary	
HCM 6th Ctrl Delay	51.6
HCM 6th LOS	D

Intersection	
Int Delay, s/veh	6.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	156	47	0	208	75
Future Vol, veh/h	0	156	47	0	208	75
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	164	49	0	219	79

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	566	49	0	0	49	0
Stage 1	49	-	-	-	-	-
Stage 2	517	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	489	1025	-	-	1571	-
Stage 1	979	-	-	-	-	-
Stage 2	603	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	418	1025	-	-	1571	-
Mov Cap-2 Maneuver	418	-	-	-	-	-
Stage 1	979	-	-	-	-	-
Stage 2	515	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.2	0	5.6
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	1025	1571	-
HCM Lane V/C Ratio	-	-	0.16	0.139	-
HCM Control Delay (s)	-	-	9.2	7.7	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.6	0.5	-

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	47	0	0	75	0
Future Vol, veh/h	0	47	0	0	75	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	49	0	0	79	0

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	158	0	0	0	0	0
Stage 1	0	-	-	-	-	-
Stage 2	158	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	838	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	875	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	838	-	-	-	-	-
Mov Cap-2 Maneuver	838	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	875	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s		0	
HCM LOS	-		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	-	-	-	-	-
HCM Lane LOS	-	-	-	-	-
HCM 95th %tile Q(veh)	-	-	-	-	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1659	90	0	1530	0	66
Future Vol, veh/h	1659	90	0	1530	0	66
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	1746	95	0	1611	0	69

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	921
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	7.1
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.9
Pot Cap-1 Maneuver	-	-	0	-	0	*580
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		1
Mov Cap-1 Maneuver	-	-	-	-	-	*580
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	12.1
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	580	-	-	-
HCM Lane V/C Ratio	0.12	-	-	-
HCM Control Delay (s)	12.1	-	-	-
HCM Lane LOS	B	-	-	-
HCM 95th %tile Q(veh)	0.4	-	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	5.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	61	0	0	38	1	0
Future Vol, veh/h	61	0	0	38	1	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	64	0	0	40	1	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	41	1	1	0	-	0
Stage 1	1	-	-	-	-	-
Stage 2	40	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	975	1090	1635	-	-	-
Stage 1	1028	-	-	-	-	-
Stage 2	988	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	975	1090	1635	-	-	-
Mov Cap-2 Maneuver	975	-	-	-	-	-
Stage 1	1028	-	-	-	-	-
Stage 2	988	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1635	-	975	-	-
HCM Lane V/C Ratio	-	-	0.066	-	-
HCM Control Delay (s)	0	-	9	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

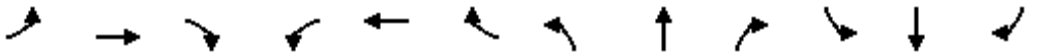
Intersection	
Int Delay, s/veh	8.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	38	0	1	0	1	0
Future Vol, veh/h	38	0	1	0	1	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	40	0	1	0	1	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	3	1	1	0	-	0
Stage 1	1	-	-	-	-	-
Stage 2	2	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	1025	1090	1635	-	-	-
Stage 1	1028	-	-	-	-	-
Stage 2	1026	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	1024	1090	1635	-	-	-
Mov Cap-2 Maneuver	1024	-	-	-	-	-
Stage 1	1027	-	-	-	-	-
Stage 2	1026	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.7	7.2	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1635	-	1024	-	-
HCM Lane V/C Ratio	0.001	-	0.039	-	-
HCM Control Delay (s)	7.2	0	8.7	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	137	1516	69	242	1842	47	85	54	296	17	17	40
Future Volume (veh/h)	137	1516	69	242	1842	47	85	54	296	17	17	40
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	144	1596	73	255	1939	49	89	57	312	18	18	42
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	192	1705	78	277	2267	703	207	133	296	349	367	398
Arrive On Green	0.05	0.34	0.34	0.15	0.44	0.44	0.18	0.18	0.18	0.19	0.19	0.19
Sat Flow, veh/h	3510	5084	232	1810	5187	1608	1124	720	1608	1810	1900	1608
Grp Volume(v), veh/h	144	1085	584	255	1939	49	146	0	312	18	18	42
Grp Sat Flow(s),veh/h/ln	1755	1729	1858	1810	1729	1608	1844	0	1608	1810	1900	1608
Q Serve(g_s), s	5.9	44.1	44.1	20.1	48.7	2.6	10.2	0.0	26.7	1.2	1.1	2.9
Cycle Q Clear(g_c), s	5.9	44.1	44.1	20.1	48.7	2.6	10.2	0.0	26.7	1.2	1.1	2.9
Prop In Lane	1.00		0.13	1.00		1.00	0.61		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	192	1160	623	277	2267	703	340	0	296	349	367	398
V/C Ratio(X)	0.75	0.94	0.94	0.92	0.86	0.07	0.43	0.00	1.05	0.05	0.05	0.11
Avail Cap(c_a), veh/h	738	1160	623	312	2267	703	340	0	296	349	367	398
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	67.6	46.7	46.7	60.5	36.7	23.7	52.4	0.0	59.2	47.7	47.7	42.1
Incr Delay (d2), s/veh	2.2	15.0	23.4	28.2	4.4	0.2	3.9	0.0	67.2	0.3	0.3	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	20.6	23.6	11.2	20.4	1.0	5.0	0.0	16.2	0.6	0.6	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	69.8	61.7	70.1	88.7	41.1	23.9	56.3	0.0	126.4	48.0	47.9	42.7
LnGrp LOS	E	E	E	F	D	C	E	A	F	D	D	D
Approach Vol, veh/h		1813			2243			458			78	
Approach Delay, s/veh		65.0			46.1			104.0			45.1	
Approach LOS		E			D			F			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	27.2	53.8		32.0	12.4	68.6		32.0				
Change Period (Y+Rc), s	5.0	5.2		* 5.3	4.5	5.2		4.0				
Max Green Setting (Gmax), s	25.0	45.8		* 27	30.5	40.8		28.0				
Max Q Clear Time (g_c+I1), s	22.1	46.1		28.7	7.9	50.7		4.9				
Green Ext Time (p_c), s	0.0	0.0		0.0	0.1	0.0		0.1				

Intersection Summary			
HCM 6th Ctrl Delay		59.3	
HCM 6th LOS		E	

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	173	1594	62	49	2015	261	46	6	26	108	5	70
Future Volume (veh/h)	173	1594	62	49	2015	261	46	6	26	108	5	70
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	175	1610	63	49	2035	264	50	0	26	109	5	71
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	199	2090	649	109	1681	821	807	0	359	336	20	283
Arrive On Green	0.11	0.40	0.40	0.03	0.32	0.32	0.22	0.00	0.22	0.19	0.19	0.19
Sat Flow, veh/h	1810	5187	1610	3510	5187	1610	3619	0	1610	1810	107	1519
Grp Volume(v), veh/h	175	1610	63	49	2035	264	50	0	26	109	0	76
Grp Sat Flow(s),veh/h/ln	1810	1729	1610	1755	1729	1610	1810	0	1610	1810	0	1626
Q Serve(g_s), s	12.9	36.3	3.3	1.9	43.8	13.0	1.5	0.0	1.7	7.0	0.0	5.4
Cycle Q Clear(g_c), s	12.9	36.3	3.3	1.9	43.8	13.0	1.5	0.0	1.7	7.0	0.0	5.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.93
Lane Grp Cap(c), veh/h	199	2090	649	109	1681	821	807	0	359	336	0	302
V/C Ratio(X)	0.88	0.77	0.10	0.45	1.21	0.32	0.06	0.00	0.07	0.32	0.00	0.25
Avail Cap(c_a), veh/h	201	2090	649	390	1681	821	807	0	359	336	0	302
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	59.2	34.9	25.0	64.3	45.6	19.4	41.3	0.0	41.4	47.6	0.0	46.9
Incr Delay (d2), s/veh	31.7	2.8	0.3	1.1	100.5	1.0	0.1	0.0	0.4	2.5	0.0	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.5	15.0	1.3	0.8	33.5	7.0	0.7	0.0	0.7	3.5	0.0	2.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	90.9	37.7	25.3	65.3	146.1	20.4	41.5	0.0	41.8	50.1	0.0	48.9
LnGrp LOS	F	D	C	E	F	C	D	A	D	D	A	D
Approach Vol, veh/h		1848			2348			76			185	
Approach Delay, s/veh		42.3			130.3			41.6			49.6	
Approach LOS		D			F			D			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.2	60.8		30.0	19.8	50.2		35.0				
Change Period (Y+Rc), s	5.0	6.4		4.9	5.0	6.4		4.9				
Max Green Setting (Gmax), s	15.0	43.6		25.1	15.0	43.6		30.1				
Max Q Clear Time (g_c+I1), s	13.9	38.3		9.0	14.9	45.8		3.7				
Green Ext Time (p_c), s	0.0	4.0		0.2	0.0	0.0		0.0				

Intersection Summary	
HCM 6th Ctrl Delay	89.0
HCM 6th LOS	F

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1450	192	85	2019	306	50
Future Volume (veh/h)	1450	192	85	2019	306	50
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	1526	202	89	2125	322	53
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	2551	792	141	2968	1157	596
Arrive On Green	0.49	0.49	0.04	0.57	0.33	0.33
Sat Flow, veh/h	5358	1610	3510	5358	3510	1610
Grp Volume(v), veh/h	1526	202	89	2125	322	53
Grp Sat Flow(s),veh/h/ln	1729	1610	1755	1729	1755	1610
Q Serve(g_s), s	24.4	8.4	2.9	34.1	7.8	2.5
Cycle Q Clear(g_c), s	24.4	8.4	2.9	34.1	7.8	2.5
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	2551	792	141	2968	1157	596
V/C Ratio(X)	0.60	0.26	0.63	0.72	0.28	0.09
Avail Cap(c_a), veh/h	2551	792	317	2968	1157	596
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.56	0.56	1.00	1.00
Uniform Delay (d), s/veh	21.0	17.0	54.3	17.8	28.5	23.6
Incr Delay (d2), s/veh	1.0	0.8	1.0	0.9	0.6	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.2	3.0	1.2	12.1	3.3	2.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	22.1	17.8	55.3	18.7	29.1	23.9
LnGrp LOS	C	B	E	B	C	C
Approach Vol, veh/h	1728			2214	375	
Approach Delay, s/veh	21.6			20.2	28.3	
Approach LOS	C			C	C	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	9.2	62.8		43.0		72.0
Change Period (Y+Rc), s	4.6	6.2		5.1		6.2
Max Green Setting (Gmax), s	10.4	50.8		37.9		65.8
Max Q Clear Time (g_c+I1), s	4.9	26.4		9.8		36.1
Green Ext Time (p_c), s	0.0	18.9		0.7		26.2

Intersection Summary	
HCM 6th Ctrl Delay	21.4
HCM 6th LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	222	1202	50	64	1768	17	38	26	30	21	43	298
Future Volume (veh/h)	222	1202	50	64	1768	17	38	26	30	21	43	298
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	234	1265	0	67	1861	18	40	27	32	22	45	314
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	291	2624		112	2408	23	380	1181	520	497	622	520
Arrive On Green	0.08	0.51	0.00	0.03	0.45	0.45	0.33	0.33	0.33	0.33	0.33	0.33
Sat Flow, veh/h	3510	5187	1610	3510	5298	51	1038	3610	1588	1364	1900	1588
Grp Volume(v), veh/h	234	1265	0	67	1215	664	40	27	32	22	45	314
Grp Sat Flow(s),veh/h/ln	1755	1729	1610	1755	1729	1891	1038	1805	1588	1364	1900	1588
Q Serve(g_s), s	8.2	19.9	0.0	2.4	36.9	36.9	3.5	0.6	1.7	1.4	2.0	20.7
Cycle Q Clear(g_c), s	8.2	19.9	0.0	2.4	36.9	36.9	5.5	0.6	1.7	2.0	2.0	20.7
Prop In Lane	1.00		1.00	1.00		0.03	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	291	2624		112	1572	860	380	1181	520	497	622	520
V/C Ratio(X)	0.80	0.48		0.60	0.77	0.77	0.11	0.02	0.06	0.04	0.07	0.60
Avail Cap(c_a), veh/h	432	2624		432	1572	860	380	1181	520	497	622	520
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.78	0.78	0.00	0.79	0.79	0.79	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.3	20.2	0.0	59.7	28.7	28.7	30.9	28.5	28.9	29.2	29.0	35.3
Incr Delay (d2), s/veh	3.0	0.5	0.0	1.5	3.0	5.4	0.6	0.0	0.2	0.2	0.2	5.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.6	7.6	0.0	1.0	14.8	16.8	0.9	0.3	0.7	0.5	1.0	8.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	59.3	20.7	0.0	61.2	31.6	34.0	31.4	28.5	29.1	29.4	29.2	40.4
LnGrp LOS	E	C		E	C	C	C	C	C	C	C	D
Approach Vol, veh/h		1499			1946			99			381	
Approach Delay, s/veh		26.7			33.5			29.9			38.4	
Approach LOS		C			C			C			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.6	69.4		46.0	16.0	63.0		46.0				
Change Period (Y+Rc), s	5.6	6.2		5.1	5.6	6.2		5.1				
Max Green Setting (Gmax), s	15.4	51.8		40.9	15.4	51.8		40.9				
Max Q Clear Time (g_c+I1), s	4.4	21.9		22.7	10.2	38.9		7.5				
Green Ext Time (p_c), s	0.1	17.1		0.7	0.2	11.5		0.3				

Intersection Summary	
HCM 6th Ctrl Delay	31.3
HCM 6th LOS	C

Notes

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	168	38	16	37	28	41	42	663	38	68	902	208
Future Volume (veh/h)	168	38	16	37	28	41	42	663	38	68	902	208
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	177	40	17	39	29	43	44	698	40	72	949	219
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	254	304	258	249	304	258	57	2399	1057	92	2469	1101
Arrive On Green	0.16	0.16	0.16	0.16	0.16	0.16	0.03	0.66	0.66	0.05	0.68	0.68
Sat Flow, veh/h	1349	1900	1610	1368	1900	1610	1810	3610	1590	1810	3610	1610
Grp Volume(v), veh/h	177	40	17	39	29	43	44	698	40	72	949	219
Grp Sat Flow(s),veh/h/ln	1349	1900	1610	1368	1900	1610	1810	1805	1590	1810	1805	1610
Q Serve(g_s), s	16.7	2.3	1.2	3.3	1.7	3.0	3.1	10.5	1.1	5.1	14.7	6.5
Cycle Q Clear(g_c), s	18.4	2.3	1.2	5.6	1.7	3.0	3.1	10.5	1.1	5.1	14.7	6.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	254	304	258	249	304	258	57	2399	1057	92	2469	1101
V/C Ratio(X)	0.70	0.13	0.07	0.16	0.10	0.17	0.77	0.29	0.04	0.78	0.38	0.20
Avail Cap(c_a), veh/h	421	539	457	424	547	463	228	2399	1057	367	2469	1101
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.82	0.82	0.82	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.4	46.9	46.4	49.3	46.6	47.1	62.5	9.1	7.5	61.0	8.8	7.5
Incr Delay (d2), s/veh	1.3	0.1	0.0	0.1	0.1	0.1	6.6	0.3	0.1	5.3	0.5	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.7	1.1	0.5	1.1	0.8	1.2	1.5	3.7	0.4	2.4	4.9	2.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	55.7	46.9	46.4	49.4	46.6	47.2	69.0	9.3	7.6	66.3	9.3	7.9
LnGrp LOS	E	D	D	D	D	D	E	A	A	E	A	A
Approach Vol, veh/h		234			111			782			1240	
Approach Delay, s/veh		53.6			47.8			12.6			12.3	
Approach LOS		D			D			B			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	11.2	92.9		25.9	8.7	95.4		25.9
Change Period (Y+Rc), s	4.6	6.5		5.1	4.6	6.5		* 5.1
Max Green Setting (Gmax), s	26.4	50.5		36.9	16.4	60.5		* 37
Max Q Clear Time (g_c+I1), s	7.1	12.5		20.4	5.1	16.7		7.6
Green Ext Time (p_c), s	0.0	0.6		0.4	0.0	0.8		0.2

Intersection Summary	
HCM 6th Ctrl Delay	18.2
HCM 6th LOS	B

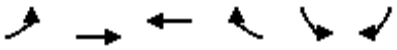
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	385	850	48	151	1338	236	82	172	58	217	210	464
Future Volume (veh/h)	385	850	48	151	1338	236	82	172	58	217	210	464
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	405	895	51	159	1408	248	86	181	61	228	221	488
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	435	2553	145	191	2276	871	102	1205	373	184	1004	1138
Arrive On Green	0.12	0.51	0.51	0.05	0.44	0.44	0.06	0.23	0.23	0.10	0.28	0.28
Sat Flow, veh/h	3510	5021	285	3510	5187	1610	1810	5187	1606	1810	3610	2831
Grp Volume(v), veh/h	405	616	330	159	1408	248	86	181	61	228	221	488
Grp Sat Flow(s),veh/h/ln	1755	1729	1848	1755	1729	1610	1810	1729	1606	1810	1805	1415
Q Serve(g_s), s	24.0	22.4	22.5	9.4	43.9	17.6	9.9	5.8	6.4	21.4	9.9	26.2
Cycle Q Clear(g_c), s	24.0	22.4	22.5	9.4	43.9	17.6	9.9	5.8	6.4	21.4	9.9	26.2
Prop In Lane	1.00		0.15	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	435	1758	940	191	2276	871	102	1205	373	184	1004	1138
V/C Ratio(X)	0.93	0.35	0.35	0.83	0.62	0.28	0.84	0.15	0.16	1.24	0.22	0.43
Avail Cap(c_a), veh/h	776	1758	940	441	2276	871	184	1205	373	184	1004	1138
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.88	0.88	0.88	1.00	1.00	1.00	1.00	1.00	1.00	0.93	0.93	0.93
Uniform Delay (d), s/veh	91.1	30.9	30.9	98.3	45.4	26.2	98.2	64.1	64.3	94.3	58.3	45.4
Incr Delay (d2), s/veh	5.1	0.5	0.9	3.6	1.3	0.8	7.0	0.3	0.9	142.0	0.5	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.1	9.4	10.3	4.4	18.9	6.9	4.8	2.6	2.7	17.2	4.6	9.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	96.2	31.4	31.8	101.9	46.7	27.0	105.1	64.4	65.3	236.3	58.8	46.5
LnGrp LOS	F	C	C	F	D	C	F	E	E	F	E	D
Approach Vol, veh/h		1351			1815			328			937	
Approach Delay, s/veh		50.9			48.8			75.2			95.6	
Approach LOS		D			D			E			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.0	113.0	16.4	64.6	30.6	98.4	26.0	55.0
Change Period (Y+Rc), s	4.6	6.2	4.6	6.2	4.6	6.2	4.6	6.2
Max Green Setting (Gmax), s	26.4	91.8	21.4	48.8	46.4	71.8	21.4	48.8
Max Q Clear Time (g_c+I1), s	11.4	24.5	11.9	28.2	26.0	45.9	23.4	8.4
Green Ext Time (p_c), s	0.0	0.8	0.0	0.3	0.0	1.5	0.0	0.2

Intersection Summary	
HCM 6th Ctrl Delay	61.3
HCM 6th LOS	E



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	107	975	1629	104	81	62
Future Volume (veh/h)	107	975	1629	104	81	62
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	113	1026	1715	109	85	65
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	143	2238	2541	789	478	425
Arrive On Green	0.08	0.62	0.49	0.49	0.26	0.26
Sat Flow, veh/h	1810	3705	5358	1610	1810	1610
Grp Volume(v), veh/h	113	1026	1715	109	85	65
Grp Sat Flow(s),veh/h/ln	1810	1805	1729	1610	1810	1610
Q Serve(g_s), s	6.1	15.1	25.2	3.7	3.6	3.1
Cycle Q Clear(g_c), s	6.1	15.1	25.2	3.7	3.6	3.1
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	143	2238	2541	789	478	425
V/C Ratio(X)	0.79	0.46	0.67	0.14	0.18	0.15
Avail Cap(c_a), veh/h	288	2238	2541	789	478	425
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.2	10.1	19.4	14.0	28.4	28.2
Incr Delay (d2), s/veh	9.3	0.7	1.5	0.4	0.8	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.0	5.0	9.2	1.3	1.7	3.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	54.5	10.8	20.9	14.3	29.2	29.0
LnGrp LOS	D	B	C	B	C	C
Approach Vol, veh/h		1139	1824		150	
Approach Delay, s/veh		15.1	20.5		29.1	
Approach LOS		B	C		C	

Timer - Assigned Phs	2		4	5	6
Phs Duration (G+Y+Rc), s	69.0		31.0	13.0	56.0
Change Period (Y+Rc), s	7.0		4.6	5.1	* 7
Max Green Setting (Gmax), s	62.0		26.4	15.9	* 42
Max Q Clear Time (g_c+I1), s	17.1		5.6	8.1	27.2
Green Ext Time (p_c), s	7.9		0.2	0.1	9.4

Intersection Summary	
HCM 6th Ctrl Delay	18.9
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	0.1

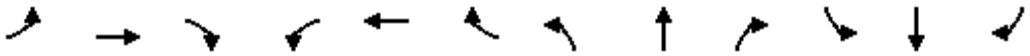
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1024	3	2	1659	3	2
Future Vol, veh/h	1024	3	2	1659	3	2
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	50	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	1078	3	2	1746	3	2

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1081	0	1957	541
Stage 1	-	-	-	-	1080	-
Stage 2	-	-	-	-	877	-
Critical Hdwy	-	-	4.1	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	*1032	-	*92	*687
Stage 1	-	-	-	-	*648	-
Stage 2	-	-	-	-	*372	-
Platoon blocked, %	-	-	1	-	1	1
Mov Cap-1 Maneuver	-	-	*1032	-	*91	*687
Mov Cap-2 Maneuver	-	-	-	-	*91	-
Stage 1	-	-	-	-	*648	-
Stage 2	-	-	-	-	*371	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	31.9
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	139	-	-	* 1032	-
HCM Lane V/C Ratio	0.038	-	-	0.002	-
HCM Control Delay (s)	31.9	-	-	8.5	-
HCM Lane LOS	D	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	43	903	84	116	1489	41	175	51	81	28	28	49
Future Volume (veh/h)	43	903	84	116	1489	41	175	51	81	28	28	49
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	45	951	88	122	1567	43	184	54	85	29	29	52
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	59	1694	756	151	1867	51	234	166	262	47	77	138
Arrive On Green	0.03	0.47	0.47	0.08	0.52	0.52	0.13	0.25	0.25	0.03	0.13	0.13
Sat Flow, veh/h	1810	3610	1610	1810	3589	98	1810	665	1047	1810	610	1093
Grp Volume(v), veh/h	45	951	88	122	787	823	184	0	139	29	0	81
Grp Sat Flow(s),veh/h/ln	1810	1805	1610	1810	1805	1882	1810	0	1712	1810	0	1703
Q Serve(g_s), s	3.0	22.8	3.7	8.0	44.5	44.8	11.8	0.0	8.0	1.9	0.0	5.2
Cycle Q Clear(g_c), s	3.0	22.8	3.7	8.0	44.5	44.8	11.8	0.0	8.0	1.9	0.0	5.2
Prop In Lane	1.00		1.00	1.00		0.05	1.00		0.61	1.00		0.64
Lane Grp Cap(c), veh/h	59	1694	756	151	939	979	234	0	428	47	0	214
V/C Ratio(X)	0.77	0.56	0.12	0.81	0.84	0.84	0.79	0.00	0.32	0.62	0.00	0.38
Avail Cap(c_a), veh/h	81	1694	756	234	939	979	234	0	428	90	0	255
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	57.6	22.9	17.9	54.1	24.5	24.6	50.7	0.0	36.7	57.9	0.0	48.1
Incr Delay (d2), s/veh	15.7	1.4	0.3	5.7	6.7	6.6	23.0	0.0	2.0	12.7	0.0	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	9.2	1.3	3.7	18.4	19.3	6.6	0.0	3.4	1.0	0.0	2.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	73.3	24.3	18.2	59.8	31.2	31.2	73.6	0.0	38.7	70.6	0.0	49.2
LnGrp LOS	E	C	B	E	C	C	E	A	D	E	A	D
Approach Vol, veh/h		1084			1732			323			110	
Approach Delay, s/veh		25.8			33.2			58.6			54.9	
Approach LOS		C			C			E			D	

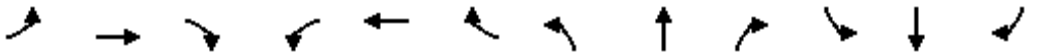
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.6	64.3	22.0	19.1	8.5	70.4	7.1	34.0
Change Period (Y+Rc), s	4.6	8.0	6.5	4.0	4.6	8.0	4.0	4.0
Max Green Setting (Gmax), s	15.5	47.9	15.5	18.0	5.4	58.0	6.0	30.0
Max Q Clear Time (g_c+I1), s	10.0	24.8	13.8	7.2	5.0	46.8	3.9	10.0
Green Ext Time (p_c), s	0.0	5.1	0.0	0.2	0.0	6.7	0.0	0.6

Intersection Summary	
HCM 6th Ctrl Delay	34.0
HCM 6th LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	125	700	171	105	943	58	325	152	78	57	152	217
Future Volume (veh/h)	125	700	171	105	943	58	325	152	78	57	152	217
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1976	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	132	737	180	111	993	61	342	160	82	60	160	228
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	155	1399	649	134	1356	605	317	810	395	77	767	340
Arrive On Green	0.09	0.39	0.39	0.07	0.38	0.38	0.18	0.34	0.34	0.04	0.21	0.21
Sat Flow, veh/h	1810	3610	1675	1810	3610	1610	1810	2349	1147	1810	3610	1599
Grp Volume(v), veh/h	132	737	180	111	993	61	342	121	121	60	160	228
Grp Sat Flow(s),veh/h/ln	1810	1805	1675	1810	1805	1610	1810	1805	1691	1810	1805	1599
Q Serve(g_s), s	10.4	22.8	10.7	8.8	34.4	3.6	25.4	6.8	7.3	4.8	5.3	19.0
Cycle Q Clear(g_c), s	10.4	22.8	10.7	8.8	34.4	3.6	25.4	6.8	7.3	4.8	5.3	19.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.68	1.00		1.00
Lane Grp Cap(c), veh/h	155	1399	649	134	1356	605	317	622	583	77	767	340
V/C Ratio(X)	0.85	0.53	0.28	0.83	0.73	0.10	1.08	0.19	0.21	0.78	0.21	0.67
Avail Cap(c_a), veh/h	255	1399	649	255	1356	605	317	622	583	255	767	340
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	65.3	34.2	30.5	66.2	39.0	29.4	59.8	33.4	33.5	68.7	47.1	52.5
Incr Delay (d2), s/veh	6.8	1.4	1.1	4.9	3.5	0.3	73.2	0.7	0.8	6.1	0.6	10.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.0	9.8	4.4	4.1	15.2	1.4	17.8	3.1	3.1	2.3	2.4	8.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	72.1	35.6	31.5	71.2	42.5	29.7	133.0	34.1	34.3	74.8	47.7	62.6
LnGrp LOS	E	D	C	E	D	C	F	C	C	E	D	E
Approach Vol, veh/h		1049			1165			584			448	
Approach Delay, s/veh		39.5			44.6			92.0			58.9	
Approach LOS		D			D			F			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.3	62.7	10.8	56.2	17.1	60.9	30.0	37.0
Change Period (Y+Rc), s	4.6	6.5	4.6	6.2	4.6	6.5	4.6	6.2
Max Green Setting (Gmax), s	20.4	46.5	20.4	35.8	20.4	46.5	25.4	30.8
Max Q Clear Time (g_c+I1), s	10.8	24.8	6.8	9.3	12.4	36.4	27.4	21.0
Green Ext Time (p_c), s	0.1	9.4	0.0	1.2	0.1	6.7	0.0	1.2

Intersection Summary	
HCM 6th Ctrl Delay	53.5
HCM 6th LOS	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	38	2131	50	339	1874	24	89	9	444	29	20	39
Future Volume (veh/h)	38	2131	50	339	1874	24	89	9	444	29	20	39
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	39	2174	51	346	1912	24	91	9	453	25	27	40
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	77	1647	39	312	2437	755	305	30	296	349	367	346
Arrive On Green	0.02	0.32	0.32	0.17	0.47	0.47	0.18	0.18	0.18	0.19	0.19	0.19
Sat Flow, veh/h	3510	5214	122	1810	5187	1607	1654	164	1610	1810	1900	1610
Grp Volume(v), veh/h	39	1440	785	346	1912	24	100	0	453	25	27	40
Grp Sat Flow(s),veh/h/ln	1755	1729	1878	1810	1729	1607	1817	0	1610	1810	1900	1610
Q Serve(g_s), s	1.6	45.8	45.8	25.0	44.9	1.2	6.9	0.0	26.7	1.6	1.7	2.9
Cycle Q Clear(g_c), s	1.6	45.8	45.8	25.0	44.9	1.2	6.9	0.0	26.7	1.6	1.7	2.9
Prop In Lane	1.00		0.06	1.00		1.00	0.91		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	77	1092	593	312	2437	755	335	0	296	349	367	346
V/C Ratio(X)	0.51	1.32	1.32	1.11	0.78	0.03	0.30	0.00	1.53	0.07	0.07	0.12
Avail Cap(c_a), veh/h	738	1092	593	312	2437	755	335	0	296	349	367	346
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	70.1	49.6	49.6	60.0	32.3	20.7	51.1	0.0	59.2	47.9	47.9	45.8
Incr Delay (d2), s/veh	1.9	149.9	156.8	83.5	2.6	0.1	2.3	0.0	254.0	0.4	0.4	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	41.7	46.4	18.4	18.3	0.4	3.3	0.0	31.6	0.8	0.9	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	72.1	199.5	206.4	143.5	34.9	20.8	53.3	0.0	313.1	48.3	48.3	46.5
LnGrp LOS	E	F	F	F	C	C	D	A	F	D	D	D
Approach Vol, veh/h		2264			2282			553			92	
Approach Delay, s/veh		199.7			51.2			266.1			47.5	
Approach LOS		F			D			F			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	30.0	51.0		32.0	7.7	73.3		32.0				
Change Period (Y+Rc), s	5.0	5.2		* 5.3	4.5	5.2		4.0				
Max Green Setting (Gmax), s	25.0	45.8		* 27	30.5	40.8		28.0				
Max Q Clear Time (g_c+I1), s	27.0	47.8		28.7	3.6	46.9		4.9				
Green Ext Time (p_c), s	0.0	0.0		0.0	0.0	0.0		0.1				

Intersection Summary			
HCM 6th Ctrl Delay		138.8	
HCM 6th LOS		F	

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	62	2436	106	126	2033	95	113	9	70	126	5	91
Future Volume (veh/h)	62	2436	106	126	2033	95	113	9	70	126	5	91
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	63	2486	108	129	2074	97	121	0	71	129	5	92
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.99
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	81	1987	617	179	2020	923	807	0	357	336	16	286
Arrive On Green	0.04	0.38	0.38	0.05	0.39	0.39	0.22	0.00	0.22	0.19	0.19	0.19
Sat Flow, veh/h	1810	5187	1610	3510	5187	1602	3619	0	1602	1810	84	1539
Grp Volume(v), veh/h	63	2486	108	129	2074	97	121	0	71	129	0	97
Grp Sat Flow(s),veh/h/ln	1810	1729	1610	1755	1729	1602	1810	0	1602	1810	0	1623
Q Serve(g_s), s	4.7	51.7	6.0	4.9	52.6	3.7	3.6	0.0	4.9	8.4	0.0	7.0
Cycle Q Clear(g_c), s	4.7	51.7	6.0	4.9	52.6	3.7	3.6	0.0	4.9	8.4	0.0	7.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.95
Lane Grp Cap(c), veh/h	81	1987	617	179	2020	923	807	0	357	336	0	302
V/C Ratio(X)	0.78	1.25	0.18	0.72	1.03	0.11	0.15	0.00	0.20	0.38	0.00	0.32
Avail Cap(c_a), veh/h	201	1987	617	390	2020	923	807	0	357	336	0	302
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	63.8	41.6	27.5	63.1	41.2	13.0	42.2	0.0	42.6	48.2	0.0	47.6
Incr Delay (d2), s/veh	5.9	117.3	0.6	2.1	27.2	0.2	0.4	0.0	1.2	3.3	0.0	2.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	42.4	2.3	2.2	26.2	2.0	1.7	0.0	2.1	4.2	0.0	3.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	69.7	158.9	28.1	65.2	68.4	13.2	42.6	0.0	43.9	51.5	0.0	50.4
LnGrp LOS	E	F	C	E	F	B	D	A	D	D	A	D
Approach Vol, veh/h		2657			2300			192			226	
Approach Delay, s/veh		151.5			65.9			43.1			51.0	
Approach LOS		F			E			D			D	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	11.9	58.1		30.0	11.0	59.0		35.0
Change Period (Y+Rc), s	5.0	6.4		4.9	5.0	6.4		4.9
Max Green Setting (Gmax), s	15.0	43.6		25.1	15.0	43.6		30.1
Max Q Clear Time (g_c+I1), s	6.9	53.7		10.4	6.7	54.6		6.9
Green Ext Time (p_c), s	0.0	0.0		0.2	0.0	0.0		0.1

Intersection Summary		
HCM 6th Ctrl Delay		106.8
HCM 6th LOS		F

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	2083	361	216	1746	508	196
Future Volume (veh/h)	2083	361	216	1746	508	196
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	2147	372	223	1800	524	202
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	2345	725	281	2968	1157	660
Arrive On Green	0.45	0.45	0.08	0.57	0.33	0.33
Sat Flow, veh/h	5358	1603	3510	5358	3510	1610
Grp Volume(v), veh/h	2147	372	223	1800	524	202
Grp Sat Flow(s),veh/h/ln	1729	1603	1755	1729	1755	1610
Q Serve(g_s), s	44.5	19.0	7.2	26.1	13.5	9.7
Cycle Q Clear(g_c), s	44.5	19.0	7.2	26.1	13.5	9.7
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	2345	725	281	2968	1157	660
V/C Ratio(X)	0.92	0.51	0.79	0.61	0.45	0.31
Avail Cap(c_a), veh/h	2345	725	317	2968	1157	660
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.73	0.73	1.00	1.00
Uniform Delay (d), s/veh	29.5	22.5	52.0	16.1	30.4	22.9
Incr Delay (d2), s/veh	7.0	2.6	7.5	0.7	1.3	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	18.3	7.2	3.3	9.3	5.8	10.5
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	36.5	25.1	59.4	16.8	31.7	24.1
LnGrp LOS	D	C	E	B	C	C
Approach Vol, veh/h	2519			2023	726	
Approach Delay, s/veh	34.8			21.5	29.6	
Approach LOS	C			C	C	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	13.8	58.2		43.0		72.0
Change Period (Y+Rc), s	4.6	6.2		5.1		6.2
Max Green Setting (Gmax), s	10.4	50.8		37.9		65.8
Max Q Clear Time (g_c+I1), s	9.2	46.5		15.5		28.1
Green Ext Time (p_c), s	0.1	4.2		1.3		28.5

Intersection Summary		
HCM 6th Ctrl Delay		29.0
HCM 6th LOS		C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	320	1799	139	159	1458	16	219	114	166	30	111	284
Future Volume (veh/h)	320	1799	139	159	1458	16	219	114	166	30	111	284
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	330	1855	0	164	1503	16	226	118	171	31	114	293
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	384	2462		221	2265	24	340	1181	526	395	622	526
Arrive On Green	0.11	0.47	0.00	0.06	0.43	0.43	0.33	0.33	0.33	0.33	0.33	0.33
Sat Flow, veh/h	3510	5187	1610	3510	5291	56	993	3610	1609	1107	1900	1609
Grp Volume(v), veh/h	330	1855	0	164	982	537	226	118	171	31	114	293
Grp Sat Flow(s),veh/h/ln	1755	1729	1610	1755	1729	1890	993	1805	1609	1107	1900	1609
Q Serve(g_s), s	11.6	36.6	0.0	5.7	28.4	28.4	26.3	2.8	10.0	2.5	5.4	18.7
Cycle Q Clear(g_c), s	11.6	36.6	0.0	5.7	28.4	28.4	31.7	2.8	10.0	5.3	5.4	18.7
Prop In Lane	1.00		1.00	1.00		0.03	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	384	2462		221	1480	809	340	1181	526	395	622	526
V/C Ratio(X)	0.86	0.75		0.74	0.66	0.66	0.66	0.10	0.32	0.08	0.18	0.56
Avail Cap(c_a), veh/h	432	2462		432	1480	809	340	1181	526	395	622	526
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.36	0.36	0.00	0.82	0.82	0.82	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.7	26.8	0.0	57.6	28.5	28.5	41.4	29.2	31.7	31.1	30.1	34.6
Incr Delay (d2), s/veh	5.3	0.8	0.0	1.5	1.9	3.5	9.9	0.2	1.6	0.4	0.6	4.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.2	14.1	0.0	2.5	11.4	12.8	7.4	1.3	4.2	0.7	2.6	8.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	60.0	27.6	0.0	59.1	30.5	32.1	51.3	29.4	33.3	31.5	30.7	38.8
LnGrp LOS	E	C		E	C	C	D	C	C	C	C	D
Approach Vol, veh/h		2185			1683			515			438	
Approach Delay, s/veh		32.5			33.8			40.3			36.2	
Approach LOS		C			C			D			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	13.5	65.5		46.0	19.3	59.7		46.0				
Change Period (Y+Rc), s	5.6	6.2		5.1	5.6	6.2		5.1				
Max Green Setting (Gmax), s	15.4	51.8		40.9	15.4	51.8		40.9				
Max Q Clear Time (g_c+I1), s	7.7	38.6		20.7	13.6	30.4		33.7				
Green Ext Time (p_c), s	0.1	11.8		0.9	0.1	15.7		1.0				

Intersection Summary	
HCM 6th Ctrl Delay	34.1
HCM 6th LOS	C

Notes

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	300	58	42	87	49	108	77	824	97	167	908	262
Future Volume (veh/h)	300	58	42	87	49	108	77	824	97	167	908	262
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	306	59	43	89	50	110	79	841	99	170	927	267
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	377	527	447	389	527	447	100	1767	788	196	1958	872
Arrive On Green	0.28	0.28	0.28	0.28	0.28	0.28	0.06	0.49	0.49	0.11	0.54	0.54
Sat Flow, veh/h	1245	1900	1608	1312	1900	1608	1810	3610	1609	1810	3610	1607
Grp Volume(v), veh/h	306	59	43	89	50	110	79	841	99	170	927	267
Grp Sat Flow(s),veh/h/ln	1245	1900	1608	1312	1900	1608	1810	1805	1609	1810	1805	1607
Q Serve(g_s), s	31.4	3.0	2.6	7.1	2.5	6.9	5.6	20.2	4.4	12.0	20.6	11.8
Cycle Q Clear(g_c), s	34.0	3.0	2.6	10.1	2.5	6.9	5.6	20.2	4.4	12.0	20.6	11.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	377	527	447	389	527	447	100	1767	788	196	1958	872
V/C Ratio(X)	0.81	0.11	0.10	0.23	0.09	0.25	0.79	0.48	0.13	0.87	0.47	0.31
Avail Cap(c_a), veh/h	384	539	457	402	547	463	228	1767	788	367	1958	872
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.76	0.76	0.76	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.4	35.0	34.9	38.8	34.8	36.4	60.7	22.1	18.1	57.0	18.3	16.3
Incr Delay (d2), s/veh	11.4	0.0	0.0	0.1	0.0	0.1	3.9	0.7	0.2	4.5	0.8	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.8	1.4	1.0	2.3	1.2	2.8	2.6	8.2	1.6	5.5	8.0	4.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	58.8	35.0	34.9	38.9	34.9	36.5	64.6	22.8	18.3	61.5	19.1	17.2
LnGrp LOS	E	D	C	D	C	D	E	C	B	E	B	B
Approach Vol, veh/h		408			249			1019			1364	
Approach Delay, s/veh		52.9			37.0			25.6			24.0	
Approach LOS		D			D			C			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	18.7	70.1		41.2	11.8	77.0		41.2
Change Period (Y+Rc), s	4.6	6.5		5.1	4.6	6.5		* 5.1
Max Green Setting (Gmax), s	26.4	50.5		36.9	16.4	60.5		* 37
Max Q Clear Time (g_c+I1), s	14.0	22.2		36.0	7.6	22.6		12.1
Green Ext Time (p_c), s	0.1	0.8		0.1	0.0	0.7		0.5

Intersection Summary	
HCM 6th Ctrl Delay	29.5
HCM 6th LOS	C

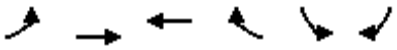
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	526	1327	68	208	1113	185	121	250	202	289	386	410
Future Volume (veh/h)	526	1327	68	208	1113	185	121	250	202	289	386	410
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	554	1397	72	219	1172	195	127	263	213	304	406	432
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	583	2482	128	251	2058	801	143	1205	374	184	921	1191
Arrive On Green	0.17	0.49	0.49	0.07	0.40	0.40	0.08	0.23	0.23	0.10	0.26	0.26
Sat Flow, veh/h	3510	5051	260	3510	5187	1604	1810	5187	1608	1810	3610	2821
Grp Volume(v), veh/h	554	956	513	219	1172	195	127	263	213	304	406	432
Grp Sat Flow(s),veh/h/ln	1755	1729	1853	1755	1729	1604	1810	1729	1608	1810	1805	1410
Q Serve(g_s), s	32.8	40.8	40.8	13.0	37.0	14.6	14.6	8.6	24.6	21.4	19.8	22.0
Cycle Q Clear(g_c), s	32.8	40.8	40.8	13.0	37.0	14.6	14.6	8.6	24.6	21.4	19.8	22.0
Prop In Lane	1.00		0.14	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	583	1699	911	251	2058	801	143	1205	374	184	921	1191
V/C Ratio(X)	0.95	0.56	0.56	0.87	0.57	0.24	0.89	0.22	0.57	1.65	0.44	0.36
Avail Cap(c_a), veh/h	776	1699	911	441	2058	801	184	1205	374	184	921	1191
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.61	0.61	0.61	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	0.91
Uniform Delay (d), s/veh	86.7	37.5	37.5	96.6	49.4	30.0	95.8	65.2	71.3	94.3	65.6	41.5
Incr Delay (d2), s/veh	11.3	0.8	1.5	3.7	1.1	0.7	27.5	0.4	6.2	312.9	1.4	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	15.7	17.3	18.7	6.0	16.1	5.8	7.9	3.8	10.7	26.0	9.3	7.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	98.0	38.4	39.1	100.3	50.5	30.8	123.3	65.6	77.5	407.2	67.0	42.3
LnGrp LOS	F	D	D	F	D	C	F	E	E	F	E	D
Approach Vol, veh/h		2023			1586			603			1142	
Approach Delay, s/veh		54.9			55.0			82.0			148.2	
Approach LOS		D			D			F			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	19.6	109.4	21.2	59.8	39.5	89.5	26.0	55.0
Change Period (Y+Rc), s	4.6	6.2	4.6	6.2	4.6	6.2	4.6	6.2
Max Green Setting (Gmax), s	26.4	91.8	21.4	48.8	46.4	71.8	21.4	48.8
Max Q Clear Time (g_c+I1), s	15.0	42.8	16.6	24.0	34.8	39.0	23.4	26.6
Green Ext Time (p_c), s	0.0	1.3	0.0	0.4	0.1	1.2	0.0	0.2

Intersection Summary	
HCM 6th Ctrl Delay	77.9
HCM 6th LOS	E



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	186	1599	1367	163	244	140
Future Volume (veh/h)	186	1599	1367	163	244	140
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	192	1648	1409	168	252	144
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	226	2238	2304	715	478	425
Arrive On Green	0.12	0.62	0.44	0.44	0.26	0.26
Sat Flow, veh/h	1810	3705	5358	1610	1810	1610
Grp Volume(v), veh/h	192	1648	1409	168	252	144
Grp Sat Flow(s),veh/h/ln	1810	1805	1729	1610	1810	1610
Q Serve(g_s), s	10.4	31.9	20.7	6.5	11.9	7.2
Cycle Q Clear(g_c), s	10.4	31.9	20.7	6.5	11.9	7.2
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	226	2238	2304	715	478	425
V/C Ratio(X)	0.85	0.74	0.61	0.23	0.53	0.34
Avail Cap(c_a), veh/h	288	2238	2304	715	478	425
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.8	13.3	21.2	17.2	31.5	29.7
Incr Delay (d2), s/veh	17.2	2.2	1.2	0.8	4.1	2.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.5	10.9	7.8	2.3	5.7	7.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	60.0	15.5	22.4	18.0	35.6	31.9
LnGrp LOS	E	B	C	B	D	C
Approach Vol, veh/h		1840	1577		396	
Approach Delay, s/veh		20.1	22.0		34.3	
Approach LOS		C	C		C	

Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		69.0		31.0	17.6	51.4
Change Period (Y+Rc), s		7.0		4.6	5.1	* 7
Max Green Setting (Gmax), s		62.0		26.4	15.9	* 42
Max Q Clear Time (g_c+I1), s		33.9		13.9	12.4	22.7
Green Ext Time (p_c), s		14.0		0.5	0.2	9.5

Intersection Summary		
HCM 6th Ctrl Delay		22.4
HCM 6th LOS		C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	0.1

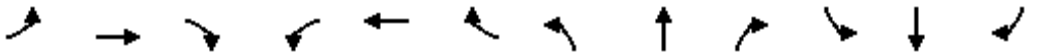
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1751	1	0	1428	1	3
Future Vol, veh/h	1751	1	0	1428	1	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	50	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	1824	1	0	1488	1	3

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1825	0	2569	913
Stage 1	-	-	-	-	1825	-
Stage 2	-	-	-	-	744	-
Critical Hdwy	-	-	4.1	-	6.8	6.9
Critical Hdwy Stg 1	-	-	-	-	5.8	-
Critical Hdwy Stg 2	-	-	-	-	5.8	-
Follow-up Hdwy	-	-	2.2	-	3.5	3.3
Pot Cap-1 Maneuver	-	-	*574	-	*27	*382
Stage 1	-	-	-	-	*361	-
Stage 2	-	-	-	-	*436	-
Platoon blocked, %	-	-	1	-	1	1
Mov Cap-1 Maneuver	-	-	*574	-	*27	*382
Mov Cap-2 Maneuver	-	-	-	-	*27	-
Stage 1	-	-	-	-	*361	-
Stage 2	-	-	-	-	*436	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	47.4
HCM LOS			E

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	89	-	-	* 574	-
HCM Lane V/C Ratio	0.047	-	-	-	-
HCM Control Delay (s)	47.4	-	-	0	-
HCM Lane LOS	E	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	64	1638	140	135	1361	36	147	61	136	55	71	59
Future Volume (veh/h)	64	1638	140	135	1361	36	147	61	136	55	71	59
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	65	1671	143	138	1389	37	150	62	139	56	72	60
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	84	3891	1735	146	3996	106	363	122	273	72	90	75
Arrive On Green	0.05	1.00	1.00	0.08	1.00	1.00	0.20	0.23	0.23	0.04	0.09	0.09
Sat Flow, veh/h	1810	3610	1610	1810	3592	96	1810	521	1168	1810	958	798
Grp Volume(v), veh/h	65	1671	143	138	697	729	150	0	201	56	0	132
Grp Sat Flow(s),veh/h/ln	1810	1805	1610	1810	1805	1883	1810	0	1690	1810	0	1756
Q Serve(g_s), s	4.3	0.0	0.0	9.1	0.0	0.0	8.7	0.0	12.4	3.7	0.0	8.8
Cycle Q Clear(g_c), s	4.3	0.0	0.0	9.1	0.0	0.0	8.7	0.0	12.4	3.7	0.0	8.8
Prop In Lane	1.00		1.00	1.00		0.05	1.00		0.69	1.00		0.45
Lane Grp Cap(c), veh/h	84	3891	1735	146	2008	2094	363	0	394	72	0	164
V/C Ratio(X)	0.78	0.43	0.08	0.94	0.35	0.35	0.41	0.00	0.51	0.77	0.00	0.80
Avail Cap(c_a), veh/h	109	3891	1735	146	2008	2094	363	0	394	75	0	284
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	56.6	0.0	0.0	54.9	0.0	0.0	41.8	0.0	40.0	57.1	0.0	53.3
Incr Delay (d2), s/veh	16.8	0.3	0.1	56.9	0.1	0.1	3.4	0.0	4.7	37.1	0.0	8.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	0.2	0.0	6.3	0.1	0.1	4.0	0.0	5.4	2.4	0.0	4.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	73.4	0.3	0.1	111.7	0.1	0.1	45.2	0.0	44.7	94.2	0.0	62.1
LnGrp LOS	E	A	A	F	A	A	D	A	D	F	A	E
Approach Vol, veh/h		1879			1564			351			188	
Approach Delay, s/veh		2.9			9.9			44.9			71.7	
Approach LOS		A			A			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.3	139.6	30.6	15.2	10.1	143.8	11.3	34.5
Change Period (Y+Rc), s	4.6	8.0	6.5	4.0	4.6	8.0	6.5	* 6.5
Max Green Setting (Gmax), s	9.7	54.2	13.6	19.4	7.2	56.7	5.0	* 28
Max Q Clear Time (g_c+I1), s	11.1	2.0	10.7	10.8	6.3	2.0	5.7	14.4
Green Ext Time (p_c), s	0.0	14.0	0.0	0.4	0.0	10.2	0.0	0.8

Intersection Summary	
HCM 6th Ctrl Delay	12.6
HCM 6th LOS	B

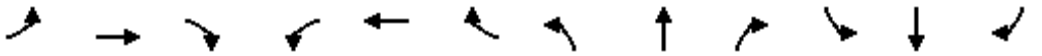
Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	210	1009	270	153	959	65	266	229	131	82	242	182
Future Volume (veh/h)	210	1009	270	153	959	65	266	229	131	82	242	182
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1976	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	219	1051	281	159	999	68	277	239	136	85	252	190
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	241	1338	620	182	1220	544	299	717	394	106	767	341
Arrive On Green	0.13	0.37	0.37	0.10	0.34	0.34	0.17	0.32	0.32	0.06	0.21	0.21
Sat Flow, veh/h	1810	3610	1675	1810	3610	1609	1810	2249	1234	1810	3610	1606
Grp Volume(v), veh/h	219	1051	281	159	999	68	277	190	185	85	252	190
Grp Sat Flow(s),veh/h/ln	1810	1805	1675	1810	1805	1609	1810	1805	1678	1810	1805	1606
Q Serve(g_s), s	17.3	37.5	18.4	12.6	36.7	4.2	21.9	11.6	12.2	6.7	8.6	15.3
Cycle Q Clear(g_c), s	17.3	37.5	18.4	12.6	36.7	4.2	21.9	11.6	12.2	6.7	8.6	15.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.74	1.00		1.00
Lane Grp Cap(c), veh/h	241	1338	620	182	1220	544	299	576	535	106	767	341
V/C Ratio(X)	0.91	0.79	0.45	0.87	0.82	0.13	0.93	0.33	0.35	0.80	0.33	0.56
Avail Cap(c_a), veh/h	255	1338	620	255	1220	544	317	576	535	255	767	341
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	62.0	40.5	34.5	64.3	43.9	33.2	59.7	37.6	37.8	67.4	48.3	51.0
Incr Delay (d2), s/veh	31.1	4.7	2.4	16.1	6.2	0.5	30.4	1.5	1.8	5.2	1.1	6.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.8	16.7	7.8	6.4	16.7	1.7	12.3	5.3	5.2	3.2	3.9	6.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	93.1	45.2	36.9	80.4	50.1	33.6	90.1	39.1	39.6	72.6	49.5	57.4
LnGrp LOS	F	D	D	F	D	C	F	D	D	E	D	E
Approach Vol, veh/h		1551			1226			652			527	
Approach Delay, s/veh		50.5			53.1			60.9			56.1	
Approach LOS		D			D			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	19.2	60.2	13.1	52.4	23.9	55.5	28.5	37.0
Change Period (Y+Rc), s	4.6	6.5	4.6	6.2	4.6	6.5	4.6	6.2
Max Green Setting (Gmax), s	20.4	46.5	20.4	35.8	20.4	46.5	25.4	30.8
Max Q Clear Time (g_c+I1), s	14.6	39.5	8.7	14.2	19.3	38.7	23.9	17.3
Green Ext Time (p_c), s	0.1	5.5	0.1	1.9	0.0	5.4	0.1	1.7

Intersection Summary	
HCM 6th Ctrl Delay	53.8
HCM 6th LOS	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	137	1537	69	251	1859	47	85	54	307	17	17	40
Future Volume (veh/h)	137	1537	69	251	1859	47	85	54	307	17	17	40
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	144	1618	73	264	1957	49	89	57	323	18	18	42
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	192	1681	76	286	2267	703	207	133	296	349	367	398
Arrive On Green	0.05	0.33	0.33	0.16	0.44	0.44	0.18	0.18	0.18	0.19	0.19	0.19
Sat Flow, veh/h	3510	5087	229	1810	5187	1608	1124	720	1608	1810	1900	1608
Grp Volume(v), veh/h	144	1100	591	264	1957	49	146	0	323	18	18	42
Grp Sat Flow(s),veh/h/ln	1755	1729	1859	1810	1729	1608	1844	0	1608	1810	1900	1608
Q Serve(g_s), s	5.9	45.3	45.3	20.9	49.4	2.6	10.2	0.0	26.7	1.2	1.1	2.9
Cycle Q Clear(g_c), s	5.9	45.3	45.3	20.9	49.4	2.6	10.2	0.0	26.7	1.2	1.1	2.9
Prop In Lane	1.00		0.12	1.00		1.00	0.61		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	192	1143	614	286	2267	703	340	0	296	349	367	398
V/C Ratio(X)	0.75	0.96	0.96	0.92	0.86	0.07	0.43	0.00	1.09	0.05	0.05	0.11
Avail Cap(c_a), veh/h	738	1143	614	312	2267	703	340	0	296	349	367	398
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	67.6	47.7	47.7	60.2	36.9	23.7	52.4	0.0	59.2	47.7	47.7	42.1
Incr Delay (d2), s/veh	2.2	19.0	28.2	29.6	4.7	0.2	3.9	0.0	78.9	0.3	0.3	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	21.7	24.9	11.7	20.8	1.0	5.0	0.0	17.1	0.6	0.6	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	69.8	66.6	75.9	89.8	41.5	23.9	56.3	0.0	138.0	48.0	47.9	42.7
LnGrp LOS	E	E	E	F	D	C	E	A	F	D	D	D
Approach Vol, veh/h		1835			2270			469			78	
Approach Delay, s/veh		69.9			46.8			112.6			45.1	
Approach LOS		E			D			F			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	27.9	53.1		32.0	12.4	68.6		32.0				
Change Period (Y+Rc), s	5.0	5.2		* 5.3	4.5	5.2		4.0				
Max Green Setting (Gmax), s	25.0	45.8		* 27	30.5	40.8		28.0				
Max Q Clear Time (g_c+I1), s	22.9	47.3		28.7	7.9	51.4		4.9				
Green Ext Time (p_c), s	0.0	0.0		0.0	0.1	0.0		0.1				

Intersection Summary			
HCM 6th Ctrl Delay		62.5	
HCM 6th LOS		E	

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	173	1626	62	49	2041	270	46	6	26	119	5	70
Future Volume (veh/h)	173	1626	62	49	2041	270	46	6	26	119	5	70
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	175	1642	63	49	2062	273	50	0	26	120	5	71
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	199	2090	649	109	1681	821	807	0	359	336	20	283
Arrive On Green	0.11	0.40	0.40	0.03	0.32	0.32	0.22	0.00	0.22	0.19	0.19	0.19
Sat Flow, veh/h	1810	5187	1610	3510	5187	1610	3619	0	1610	1810	107	1519
Grp Volume(v), veh/h	175	1642	63	49	2062	273	50	0	26	120	0	76
Grp Sat Flow(s),veh/h/ln	1810	1729	1610	1755	1729	1610	1810	0	1610	1810	0	1626
Q Serve(g_s), s	12.9	37.3	3.3	1.9	43.8	13.5	1.5	0.0	1.7	7.8	0.0	5.4
Cycle Q Clear(g_c), s	12.9	37.3	3.3	1.9	43.8	13.5	1.5	0.0	1.7	7.8	0.0	5.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.93
Lane Grp Cap(c), veh/h	199	2090	649	109	1681	821	807	0	359	336	0	302
V/C Ratio(X)	0.88	0.79	0.10	0.45	1.23	0.33	0.06	0.00	0.07	0.36	0.00	0.25
Avail Cap(c_a), veh/h	201	2090	649	390	1681	821	807	0	359	336	0	302
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	59.2	35.2	25.0	64.3	45.6	19.5	41.3	0.0	41.4	47.9	0.0	46.9
Incr Delay (d2), s/veh	31.7	3.1	0.3	1.1	107.4	1.1	0.1	0.0	0.4	2.9	0.0	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.5	15.5	1.3	0.8	34.6	7.3	0.7	0.0	0.7	3.9	0.0	2.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	90.9	38.3	25.3	65.3	153.1	20.6	41.5	0.0	41.8	50.8	0.0	48.9
LnGrp LOS	F	D	C	E	F	C	D	A	D	D	A	D
Approach Vol, veh/h		1880			2384			76			196	
Approach Delay, s/veh		42.7			136.1			41.6			50.1	
Approach LOS		D			F			D			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.2	60.8		30.0	19.8	50.2		35.0				
Change Period (Y+Rc), s	5.0	6.4		4.9	5.0	6.4		4.9				
Max Green Setting (Gmax), s	15.0	43.6		25.1	15.0	43.6		30.1				
Max Q Clear Time (g_c+I1), s	13.9	39.3		9.8	14.9	45.8		3.7				
Green Ext Time (p_c), s	0.0	3.3		0.2	0.0	0.0		0.0				

Intersection Summary	
HCM 6th Ctrl Delay	92.1
HCM 6th LOS	F

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	1493	192	94	2054	306	61
Future Volume (veh/h)	1493	192	94	2054	306	61
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	1572	202	99	2162	322	64
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	2534	787	153	2968	1157	601
Arrive On Green	0.49	0.49	0.04	0.57	0.33	0.33
Sat Flow, veh/h	5358	1610	3510	5358	3510	1610
Grp Volume(v), veh/h	1572	202	99	2162	322	64
Grp Sat Flow(s),veh/h/ln	1729	1610	1755	1729	1755	1610
Q Serve(g_s), s	25.6	8.4	3.2	35.2	7.8	3.0
Cycle Q Clear(g_c), s	25.6	8.4	3.2	35.2	7.8	3.0
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	2534	787	153	2968	1157	601
V/C Ratio(X)	0.62	0.26	0.65	0.73	0.28	0.11
Avail Cap(c_a), veh/h	2534	787	317	2968	1157	601
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.52	0.52	1.00	1.00
Uniform Delay (d), s/veh	21.6	17.2	54.1	18.0	28.5	23.5
Incr Delay (d2), s/veh	1.2	0.8	0.9	0.8	0.6	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.7	3.1	1.4	12.4	3.3	3.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	22.7	18.0	55.0	18.9	29.1	23.9
LnGrp LOS	C	B	E	B	C	C
Approach Vol, veh/h	1774			2261	386	
Approach Delay, s/veh	22.2			20.5	28.2	
Approach LOS	C			C	C	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	9.6	62.4		43.0		72.0
Change Period (Y+Rc), s	4.6	6.2		5.1		6.2
Max Green Setting (Gmax), s	10.4	50.8		37.9		65.8
Max Q Clear Time (g_c+I1), s	5.2	27.6		9.8		37.2
Green Ext Time (p_c), s	0.1	18.5		0.7		25.6

Intersection Summary		
HCM 6th Ctrl Delay		21.8
HCM 6th LOS		C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	222	1256	50	64	1812	26	38	26	30	32	43	298
Future Volume (veh/h)	222	1256	50	64	1812	26	38	26	30	32	43	298
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	234	1322	0	67	1907	27	40	27	32	34	45	314
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	291	2624		112	2396	34	380	1181	520	497	622	520
Arrive On Green	0.08	0.51	0.00	0.03	0.45	0.45	0.33	0.33	0.33	0.33	0.33	0.33
Sat Flow, veh/h	3510	5187	1610	3510	5270	75	1038	3610	1588	1364	1900	1588
Grp Volume(v), veh/h	234	1322	0	67	1251	683	40	27	32	34	45	314
Grp Sat Flow(s),veh/h/ln	1755	1729	1610	1755	1729	1887	1038	1805	1588	1364	1900	1588
Q Serve(g_s), s	8.2	21.1	0.0	2.4	38.6	38.7	3.5	0.6	1.7	2.2	2.0	20.7
Cycle Q Clear(g_c), s	8.2	21.1	0.0	2.4	38.6	38.7	5.5	0.6	1.7	2.8	2.0	20.7
Prop In Lane	1.00		1.00	1.00		0.04	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	291	2624		112	1572	858	380	1181	520	497	622	520
V/C Ratio(X)	0.80	0.50		0.60	0.80	0.80	0.11	0.02	0.06	0.07	0.07	0.60
Avail Cap(c_a), veh/h	432	2624		432	1572	858	380	1181	520	497	622	520
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.74	0.74	0.00	0.77	0.77	0.77	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.3	20.5	0.0	59.7	29.1	29.1	30.9	28.5	28.9	29.5	29.0	35.3
Incr Delay (d2), s/veh	2.8	0.5	0.0	1.5	3.3	5.9	0.6	0.0	0.2	0.3	0.2	5.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.6	8.0	0.0	1.0	15.6	17.6	0.9	0.3	0.7	0.7	1.0	8.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	59.1	21.0	0.0	61.2	32.4	35.1	31.4	28.5	29.1	29.7	29.2	40.4
LnGrp LOS	E	C		E	C	D	C	C	C	C	C	D
Approach Vol, veh/h		1556			2001			99			393	
Approach Delay, s/veh		26.7			34.3			29.9			38.2	
Approach LOS		C			C			C			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.6	69.4		46.0	16.0	63.0		46.0				
Change Period (Y+Rc), s	5.6	6.2		5.1	5.6	6.2		5.1				
Max Green Setting (Gmax), s	15.4	51.8		40.9	15.4	51.8		40.9				
Max Q Clear Time (g_c+I1), s	4.4	23.1		22.7	10.2	40.7		7.5				
Green Ext Time (p_c), s	0.1	17.4		0.7	0.2	10.1		0.3				

Intersection Summary	
HCM 6th Ctrl Delay	31.7
HCM 6th LOS	C

Notes

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	168	38	27	37	28	41	51	680	38	68	923	208
Future Volume (veh/h)	168	38	27	37	28	41	51	680	38	68	923	208
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	177	40	28	39	29	43	54	716	40	72	972	219
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	254	304	258	248	304	258	70	2399	1057	92	2443	1090
Arrive On Green	0.16	0.16	0.16	0.16	0.16	0.16	0.04	0.66	0.66	0.05	0.68	0.68
Sat Flow, veh/h	1349	1900	1610	1354	1900	1610	1810	3610	1590	1810	3610	1610
Grp Volume(v), veh/h	177	40	28	39	29	43	54	716	40	72	972	219
Grp Sat Flow(s),veh/h/ln	1349	1900	1610	1354	1900	1610	1810	1805	1590	1810	1805	1610
Q Serve(g_s), s	16.7	2.3	1.9	3.3	1.7	3.0	3.8	10.8	1.1	5.1	15.5	6.6
Cycle Q Clear(g_c), s	18.4	2.3	1.9	5.7	1.7	3.0	3.8	10.8	1.1	5.1	15.5	6.6
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	254	304	258	248	304	258	70	2399	1057	92	2443	1090
V/C Ratio(X)	0.70	0.13	0.11	0.16	0.10	0.17	0.77	0.30	0.04	0.78	0.40	0.20
Avail Cap(c_a), veh/h	421	539	457	420	547	463	228	2399	1057	367	2443	1090
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.82	0.82	0.82	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.4	46.8	46.7	49.3	46.6	47.1	61.9	9.1	7.5	61.0	9.3	7.9
Incr Delay (d2), s/veh	1.3	0.1	0.1	0.1	0.1	0.1	5.4	0.3	0.1	5.3	0.5	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.7	1.1	0.8	1.1	0.8	1.2	1.8	3.8	0.4	2.4	5.3	2.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	55.7	46.9	46.7	49.4	46.6	47.2	67.3	9.4	7.6	66.3	9.8	8.3
LnGrp LOS	E	D	D	D	D	D	E	A	A	E	A	A
Approach Vol, veh/h		245			111			810			1263	
Approach Delay, s/veh		53.3			47.8			13.2			12.7	
Approach LOS		D			D			B			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	11.2	92.9		25.9	9.6	94.5		25.9
Change Period (Y+Rc), s	4.6	6.5		5.1	4.6	6.5		* 5.1
Max Green Setting (Gmax), s	26.4	50.5		36.9	16.4	60.5		* 37
Max Q Clear Time (g_c+I1), s	7.1	12.8		20.4	5.8	17.5		7.7
Green Ext Time (p_c), s	0.0	0.7		0.4	0.0	0.8		0.2

Intersection Summary	
HCM 6th Ctrl Delay	18.6
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	385	914	48	177	1390	262	82	172	90	249	210	464
Future Volume (veh/h)	385	914	48	177	1390	262	82	172	90	249	210	464
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	405	962	51	186	1463	276	86	181	95	262	221	488
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	435	2525	134	218	2276	871	102	1205	373	184	1004	1138
Arrive On Green	0.12	0.50	0.50	0.06	0.44	0.44	0.06	0.23	0.23	0.10	0.28	0.28
Sat Flow, veh/h	3510	5043	267	3510	5187	1610	1810	5187	1606	1810	3610	2831
Grp Volume(v), veh/h	405	659	354	186	1463	276	86	181	95	262	221	488
Grp Sat Flow(s),veh/h/ln	1755	1729	1852	1755	1729	1610	1810	1729	1606	1810	1805	1415
Q Serve(g_s), s	24.0	24.7	24.8	11.0	46.3	19.9	9.9	5.8	10.1	21.4	9.9	26.2
Cycle Q Clear(g_c), s	24.0	24.7	24.8	11.0	46.3	19.9	9.9	5.8	10.1	21.4	9.9	26.2
Prop In Lane	1.00		0.14	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	435	1732	927	218	2276	871	102	1205	373	184	1004	1138
V/C Ratio(X)	0.93	0.38	0.38	0.85	0.64	0.32	0.84	0.15	0.25	1.42	0.22	0.43
Avail Cap(c_a), veh/h	776	1732	927	441	2276	871	184	1205	373	184	1004	1138
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.87	0.87	0.87	1.00	1.00	1.00	1.00	1.00	1.00	0.93	0.93	0.93
Uniform Delay (d), s/veh	91.1	32.3	32.4	97.5	46.0	26.7	98.2	64.1	65.8	94.3	58.3	45.4
Incr Delay (d2), s/veh	5.0	0.6	1.0	3.6	1.4	1.0	7.0	0.3	1.6	216.2	0.5	1.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.1	10.5	11.4	5.1	20.0	7.9	4.8	2.6	4.3	21.0	4.6	9.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	96.1	32.9	33.4	101.2	47.5	27.7	105.1	64.4	67.4	310.5	58.8	46.5
LnGrp LOS	F	C	C	F	D	C	F	E	E	F	E	D
Approach Vol, veh/h		1418			1925			362			971	
Approach Delay, s/veh		51.1			49.8			74.9			120.5	
Approach LOS		D			D			E			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.6	111.4	16.4	64.6	30.6	98.4	26.0	55.0
Change Period (Y+Rc), s	4.6	6.2	4.6	6.2	4.6	6.2	4.6	6.2
Max Green Setting (Gmax), s	26.4	91.8	21.4	48.8	46.4	71.8	21.4	48.8
Max Q Clear Time (g_c+I1), s	13.0	26.8	11.9	28.2	26.0	48.3	23.4	12.1
Green Ext Time (p_c), s	0.0	0.8	0.0	0.3	0.0	1.6	0.0	0.2

Intersection Summary	
HCM 6th Ctrl Delay	66.8
HCM 6th LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	104	1009	95	172	1547	101	180	5	0	78	4	61
Future Volume (veh/h)	104	1009	95	172	1547	101	180	5	0	78	4	61
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	109	1062	100	181	1628	106	189	5	0	82	4	64
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	138	1466	654	280	2613	811	371	9	0	502	25	395
Arrive On Green	0.08	0.41	0.41	0.15	0.50	0.50	0.26	0.26	0.00	0.26	0.26	0.26
Sat Flow, veh/h	1810	3610	1610	1810	5187	1610	1162	35	0	1434	96	1529
Grp Volume(v), veh/h	109	1062	100	181	1628	106	194	0	0	82	0	68
Grp Sat Flow(s),veh/h/ln	1810	1805	1610	1810	1729	1610	1197	0	0	1434	0	1625
Q Serve(g_s), s	5.9	24.8	3.9	9.4	22.7	3.5	12.8	0.0	0.0	0.0	0.0	3.2
Cycle Q Clear(g_c), s	5.9	24.8	3.9	9.4	22.7	3.5	16.0	0.0	0.0	3.5	0.0	3.2
Prop In Lane	1.00		1.00	1.00		1.00	0.97		0.00	1.00		0.94
Lane Grp Cap(c), veh/h	138	1466	654	280	2613	811	380	0	0	502	0	419
V/C Ratio(X)	0.79	0.72	0.15	0.65	0.62	0.13	0.51	0.00	0.00	0.16	0.00	0.16
Avail Cap(c_a), veh/h	226	1466	654	326	2613	811	380	0	0	502	0	419
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	45.4	25.0	18.8	39.7	17.9	13.2	34.9	0.0	0.0	28.8	0.0	28.7
Incr Delay (d2), s/veh	9.7	3.2	0.5	3.5	1.1	0.3	0.5	0.0	0.0	0.7	0.0	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.9	10.2	1.4	4.2	8.2	1.2	4.3	0.0	0.0	1.6	0.0	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	55.1	28.1	19.3	43.1	19.1	13.5	35.4	0.0	0.0	29.5	0.0	29.6
LnGrp LOS	E	C	B	D	B	B	D	A	A	C	A	C
Approach Vol, veh/h		1271			1915			194			150	
Approach Delay, s/veh		29.8			21.0			35.4			29.5	
Approach LOS		C			C			D			C	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	12.0	47.6		30.4	12.7	56.9		30.4				
Change Period (Y+Rc), s	6.5	* 7		4.6	5.1	6.5		4.6				
Max Green Setting (Gmax), s	18.0	* 41		25.8	12.5	45.5		25.8				
Max Q Clear Time (g_c+I1), s	11.4	26.8		5.5	7.9	24.7		18.0				
Green Ext Time (p_c), s	0.2	5.9		0.3	0.1	11.5		0.4				

Intersection Summary	
HCM 6th Ctrl Delay	25.3
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	0.3

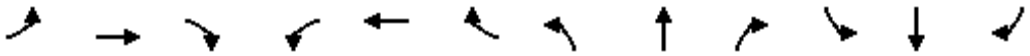
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1024	3	0	1745	0	66
Future Vol, veh/h	1024	3	0	1745	0	66
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	1078	3	0	1837	0	69

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	539
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.3
Pot Cap-1 Maneuver	-	-	0	-	0	*687
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		1
Mov Cap-1 Maneuver	-	-	-	-	-	*687
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	10.8
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	687	-	-	-
HCM Lane V/C Ratio	0.101	-	-	-
HCM Control Delay (s)	10.8	-	-	-
HCM Lane LOS	B	-	-	-
HCM 95th %tile Q(veh)	0.3	-	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	43	955	101	116	1553	41	196	51	81	28	28	49
Future Volume (veh/h)	43	955	101	116	1553	41	196	51	81	28	28	49
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	45	1005	106	122	1635	43	206	54	85	29	29	52
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	59	1694	756	151	1869	49	324	166	262	47	46	83
Arrive On Green	0.03	0.47	0.47	0.08	0.52	0.52	0.18	0.25	0.25	0.03	0.08	0.08
Sat Flow, veh/h	1810	3610	1610	1810	3594	94	1810	665	1047	1810	610	1093
Grp Volume(v), veh/h	45	1005	106	122	819	859	206	0	139	29	0	81
Grp Sat Flow(s),veh/h/ln	1810	1805	1610	1810	1805	1883	1810	0	1712	1810	0	1703
Q Serve(g_s), s	3.0	24.6	4.5	8.0	47.9	48.3	12.7	0.0	8.0	1.9	0.0	5.5
Cycle Q Clear(g_c), s	3.0	24.6	4.5	8.0	47.9	48.3	12.7	0.0	8.0	1.9	0.0	5.5
Prop In Lane	1.00		1.00	1.00		0.05	1.00		0.61	1.00		0.64
Lane Grp Cap(c), veh/h	59	1694	756	151	939	979	324	0	428	47	0	129
V/C Ratio(X)	0.77	0.59	0.14	0.81	0.87	0.88	0.64	0.00	0.32	0.62	0.00	0.63
Avail Cap(c_a), veh/h	81	1694	756	232	939	979	324	0	428	181	0	255
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	57.6	23.4	18.1	54.1	25.3	25.4	45.6	0.0	36.7	57.9	0.0	53.8
Incr Delay (d2), s/veh	15.7	1.5	0.4	6.0	9.0	9.0	9.2	0.0	2.0	12.7	0.0	4.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	9.9	1.6	3.7	20.4	21.4	6.2	0.0	3.4	1.0	0.0	2.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	73.3	25.0	18.5	60.1	34.3	34.4	54.8	0.0	38.7	70.6	0.0	58.7
LnGrp LOS	E	C	B	E	C	C	D	A	D	E	A	E
Approach Vol, veh/h		1156			1800			345			110	
Approach Delay, s/veh		26.2			36.1			48.3			61.8	
Approach LOS		C			D			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.6	64.3	28.0	13.1	8.5	70.4	7.1	34.0
Change Period (Y+Rc), s	4.6	8.0	6.5	4.0	4.6	8.0	4.0	4.0
Max Green Setting (Gmax), s	15.4	42.0	21.5	18.0	5.4	52.0	12.0	30.0
Max Q Clear Time (g_c+I1), s	10.0	26.6	14.7	7.5	5.0	50.3	3.9	10.0
Green Ext Time (p_c), s	0.0	4.8	0.1	0.2	0.0	1.4	0.0	0.6

Intersection Summary	
HCM 6th Ctrl Delay	34.8
HCM 6th LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	134	717	180	105	964	58	336	152	78	57	152	228
Future Volume (veh/h)	134	717	180	105	964	58	336	152	78	57	152	228
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1976	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	141	755	189	111	1015	61	354	160	82	60	160	240
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	164	1399	649	134	1337	597	317	810	395	77	767	340
Arrive On Green	0.09	0.39	0.39	0.07	0.37	0.37	0.18	0.34	0.34	0.04	0.21	0.21
Sat Flow, veh/h	1810	3610	1675	1810	3610	1610	1810	2349	1147	1810	3610	1599
Grp Volume(v), veh/h	141	755	189	111	1015	61	354	121	121	60	160	240
Grp Sat Flow(s),veh/h/ln	1810	1805	1675	1810	1805	1610	1810	1805	1691	1810	1805	1599
Q Serve(g_s), s	11.1	23.5	11.3	8.8	35.7	3.6	25.4	6.8	7.3	4.8	5.3	20.2
Cycle Q Clear(g_c), s	11.1	23.5	11.3	8.8	35.7	3.6	25.4	6.8	7.3	4.8	5.3	20.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.68	1.00		1.00
Lane Grp Cap(c), veh/h	164	1399	649	134	1337	597	317	622	583	77	767	340
V/C Ratio(X)	0.86	0.54	0.29	0.83	0.76	0.10	1.12	0.19	0.21	0.78	0.21	0.71
Avail Cap(c_a), veh/h	255	1399	649	255	1337	597	317	622	583	255	767	340
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	65.0	34.4	30.7	66.2	40.0	29.9	59.8	33.4	33.5	68.7	47.1	52.9
Incr Delay (d2), s/veh	10.2	1.5	1.1	4.9	4.1	0.3	85.8	0.7	0.8	6.1	0.6	11.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.5	10.2	4.7	4.1	15.8	1.4	18.9	3.1	3.1	2.3	2.4	9.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	75.1	35.9	31.8	71.2	44.1	30.2	145.6	34.1	34.3	74.8	47.7	64.6
LnGrp LOS	E	D	C	E	D	C	F	C	C	E	D	E
Approach Vol, veh/h		1085			1187			596			460	
Approach Delay, s/veh		40.3			45.9			100.4			60.1	
Approach LOS		D			D			F			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.3	62.7	10.8	56.2	17.8	60.2	30.0	37.0
Change Period (Y+Rc), s	4.6	6.5	4.6	6.2	4.6	6.5	4.6	6.2
Max Green Setting (Gmax), s	20.4	46.5	20.4	35.8	20.4	46.5	25.4	30.8
Max Q Clear Time (g_c+I1), s	10.8	25.5	6.8	9.3	13.1	37.7	27.4	22.2
Green Ext Time (p_c), s	0.1	9.5	0.0	1.2	0.1	6.0	0.0	1.1

Intersection Summary	
HCM 6th Ctrl Delay	55.8
HCM 6th LOS	E

Intersection	
Int Delay, s/veh	6.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	135	50	0	200	71
Future Vol, veh/h	0	135	50	0	200	71
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	142	53	0	211	75

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	550	53	0	0	53	0
Stage 1	53	-	-	-	-	-
Stage 2	497	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	505	1020	-	-	1566	-
Stage 1	975	-	-	-	-	-
Stage 2	617	-	-	-	-	-
Platoon blocked, %	1		-	-		-
Mov Cap-1 Maneuver	434	1020	-	-	1566	-
Mov Cap-2 Maneuver	434	-	-	-	-	-
Stage 1	975	-	-	-	-	-
Stage 2	530	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.1	0	5.7
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	1020	1566	-
HCM Lane V/C Ratio	-	-	0.139	0.134	-
HCM Control Delay (s)	-	-	9.1	7.7	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.5	0.5	-

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	50	0	0	71	0
Future Vol, veh/h	0	50	0	0	71	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	53	0	0	75	0

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	150	0	0	0	0	0
Stage 1	0	-	-	-	-	-
Stage 2	150	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	847	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	883	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	847	-	-	-	-	-
Mov Cap-2 Maneuver	847	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	883	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s		0	
HCM LOS	-		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	-	-	-	-	-
HCM Lane LOS	-	-	-	-	-
HCM 95th %tile Q(veh)	-	-	-	-	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1008	80	0	1819	0	48
Future Vol, veh/h	1008	80	0	1819	0	48
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	1061	84	0	1915	0	51

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	573
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	7.1
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.9
Pot Cap-1 Maneuver	-	-	0	-	0	*701
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		1
Mov Cap-1 Maneuver	-	-	-	-	-	*701
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	10.5
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	701	-	-	-
HCM Lane V/C Ratio	0.072	-	-	-
HCM Control Delay (s)	10.5	-	-	-
HCM Lane LOS	B	-	-	-
HCM 95th %tile Q(veh)	0.2	-	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	5.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	40	0	0	23	3	0
Future Vol, veh/h	40	0	0	23	3	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	42	0	0	24	3	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	27	3	3	0	-	0
Stage 1	3	-	-	-	-	-
Stage 2	24	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	993	1087	1632	-	-	-
Stage 1	1025	-	-	-	-	-
Stage 2	1004	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	993	1087	1632	-	-	-
Mov Cap-2 Maneuver	993	-	-	-	-	-
Stage 1	1025	-	-	-	-	-
Stage 2	1004	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.8	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1632	-	993	-	-
HCM Lane V/C Ratio	-	-	0.042	-	-
HCM Control Delay (s)	0	-	8.8	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-

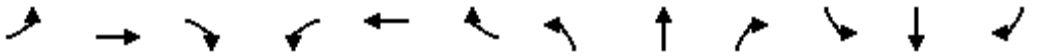
Intersection	
Int Delay, s/veh	7.6

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	23	2	3	0	3	0
Future Vol, veh/h	23	2	3	0	3	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	24	2	3	0	3	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	9	3	3	0	-	0
Stage 1	3	-	-	-	-	-
Stage 2	6	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	1017	1087	1632	-	-	-
Stage 1	1025	-	-	-	-	-
Stage 2	1022	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	1015	1087	1632	-	-	-
Mov Cap-2 Maneuver	1015	-	-	-	-	-
Stage 1	1023	-	-	-	-	-
Stage 2	1022	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.6	7.2	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1632	-	1020	-	-
HCM Lane V/C Ratio	0.002	-	0.026	-	-
HCM Control Delay (s)	7.2	0	8.6	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	38	2153	50	350	1896	24	89	9	455	29	20	39
Future Volume (veh/h)	38	2153	50	350	1896	24	89	9	455	29	20	39
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	39	2197	51	357	1935	24	91	9	464	25	27	40
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	77	1647	38	312	2437	755	305	30	296	349	367	346
Arrive On Green	0.02	0.32	0.32	0.17	0.47	0.47	0.18	0.18	0.18	0.19	0.19	0.19
Sat Flow, veh/h	3510	5215	121	1810	5187	1607	1654	164	1610	1810	1900	1610
Grp Volume(v), veh/h	39	1455	793	357	1935	24	100	0	464	25	27	40
Grp Sat Flow(s),veh/h/ln	1755	1729	1878	1810	1729	1607	1817	0	1610	1810	1900	1610
Q Serve(g_s), s	1.6	45.8	45.8	25.0	45.7	1.2	6.9	0.0	26.7	1.6	1.7	2.9
Cycle Q Clear(g_c), s	1.6	45.8	45.8	25.0	45.7	1.2	6.9	0.0	26.7	1.6	1.7	2.9
Prop In Lane	1.00		0.06	1.00		1.00	0.91		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	77	1092	593	312	2437	755	335	0	296	349	367	346
V/C Ratio(X)	0.51	1.33	1.34	1.14	0.79	0.03	0.30	0.00	1.56	0.07	0.07	0.12
Avail Cap(c_a), veh/h	738	1092	593	312	2437	755	335	0	296	349	367	346
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	70.1	49.6	49.6	60.0	32.5	20.7	51.1	0.0	59.2	47.9	47.9	45.8
Incr Delay (d2), s/veh	1.9	155.8	162.7	95.9	2.8	0.1	2.3	0.0	270.1	0.4	0.4	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	42.6	47.4	19.4	18.7	0.4	3.3	0.0	32.9	0.8	0.9	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	72.1	205.4	212.3	155.9	35.3	20.8	53.3	0.0	329.2	48.3	48.3	46.5
LnGrp LOS	E	F	F	F	D	C	D	A	F	D	D	D
Approach Vol, veh/h		2287			2316			564			92	
Approach Delay, s/veh		205.5			53.7			280.3			47.5	
Approach LOS		F			D			F			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	30.0	51.0		32.0	7.7	73.3		32.0				
Change Period (Y+Rc), s	5.0	5.2		* 5.3	4.5	5.2		4.0				
Max Green Setting (Gmax), s	25.0	45.8		* 27	30.5	40.8		28.0				
Max Q Clear Time (g_c+I1), s	27.0	47.8		28.7	3.6	47.7		4.9				
Green Ext Time (p_c), s	0.0	0.0		0.0	0.0	0.0		0.1				

Intersection Summary		
HCM 6th Ctrl Delay		143.9
HCM 6th LOS		F

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	62	2469	106	126	2065	106	113	9	70	137	5	91
Future Volume (veh/h)	62	2469	106	126	2065	106	113	9	70	137	5	91
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	63	2519	108	129	2107	108	121	0	71	140	5	92
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.99
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	81	1987	617	179	2020	923	807	0	357	336	16	286
Arrive On Green	0.04	0.38	0.38	0.05	0.39	0.39	0.22	0.00	0.22	0.19	0.19	0.19
Sat Flow, veh/h	1810	5187	1610	3510	5187	1602	3619	0	1602	1810	84	1539
Grp Volume(v), veh/h	63	2519	108	129	2107	108	121	0	71	140	0	97
Grp Sat Flow(s),veh/h/ln	1810	1729	1610	1755	1729	1602	1810	0	1602	1810	0	1623
Q Serve(g_s), s	4.7	51.7	6.0	4.9	52.6	4.1	3.6	0.0	4.9	9.2	0.0	7.0
Cycle Q Clear(g_c), s	4.7	51.7	6.0	4.9	52.6	4.1	3.6	0.0	4.9	9.2	0.0	7.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.95
Lane Grp Cap(c), veh/h	81	1987	617	179	2020	923	807	0	357	336	0	302
V/C Ratio(X)	0.78	1.27	0.18	0.72	1.04	0.12	0.15	0.00	0.20	0.42	0.00	0.32
Avail Cap(c_a), veh/h	201	1987	617	390	2020	923	807	0	357	336	0	302
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	63.8	41.6	27.5	63.1	41.2	13.1	42.2	0.0	42.6	48.5	0.0	47.6
Incr Delay (d2), s/veh	5.9	124.5	0.6	2.1	32.4	0.3	0.4	0.0	1.2	3.8	0.0	2.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	43.7	2.3	2.2	27.1	2.3	1.7	0.0	2.1	4.6	0.0	3.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	69.7	166.2	28.1	65.2	73.6	13.3	42.6	0.0	43.9	52.2	0.0	50.4
LnGrp LOS	E	F	C	E	F	B	D	A	D	D	A	D
Approach Vol, veh/h		2690			2344			192			237	
Approach Delay, s/veh		158.4			70.3			43.1			51.5	
Approach LOS		F			E			D			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	11.9	58.1		30.0	11.0	59.0		35.0				
Change Period (Y+Rc), s	5.0	6.4		4.9	5.0	6.4		4.9				
Max Green Setting (Gmax), s	15.0	43.6		25.1	15.0	43.6		30.1				
Max Q Clear Time (g_c+I1), s	6.9	53.7		11.2	6.7	54.6		6.9				
Green Ext Time (p_c), s	0.0	0.0		0.2	0.0	0.0		0.1				

Intersection Summary	
HCM 6th Ctrl Delay	111.9
HCM 6th LOS	F

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (veh/h)	2126	361	227	1789	508	207
Future Volume (veh/h)	2126	361	227	1789	508	207
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	2192	372	234	1844	524	213
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0
Cap, veh/h	2329	720	292	2968	1157	665
Arrive On Green	0.45	0.45	0.08	0.57	0.33	0.33
Sat Flow, veh/h	5358	1603	3510	5358	3510	1610
Grp Volume(v), veh/h	2192	372	234	1844	524	213
Grp Sat Flow(s),veh/h/ln	1729	1603	1755	1729	1755	1610
Q Serve(g_s), s	46.4	19.1	7.5	27.1	13.5	10.3
Cycle Q Clear(g_c), s	46.4	19.1	7.5	27.1	13.5	10.3
Prop In Lane		1.00	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	2329	720	292	2968	1157	665
V/C Ratio(X)	0.94	0.52	0.80	0.62	0.45	0.32
Avail Cap(c_a), veh/h	2329	720	317	2968	1157	665
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.69	0.69	1.00	1.00
Uniform Delay (d), s/veh	30.2	22.7	51.8	16.3	30.4	22.9
Incr Delay (d2), s/veh	9.2	2.6	8.1	0.7	1.3	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	19.5	7.2	3.5	9.6	5.8	11.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	39.4	25.4	59.9	17.0	31.7	24.1
LnGrp LOS	D	C	E	B	C	C
Approach Vol, veh/h	2564			2078	737	
Approach Delay, s/veh	37.4			21.8	29.5	
Approach LOS	D			C	C	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	14.2	57.8		43.0		72.0
Change Period (Y+Rc), s	4.6	6.2		5.1		6.2
Max Green Setting (Gmax), s	10.4	50.8		37.9		65.8
Max Q Clear Time (g_c+I1), s	9.5	48.4		15.5		29.1
Green Ext Time (p_c), s	0.0	2.4		1.4		28.5

Intersection Summary	
HCM 6th Ctrl Delay	30.3
HCM 6th LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	320	1853	139	159	1512	27	219	114	166	41	111	284
Future Volume (veh/h)	320	1853	139	159	1512	27	219	114	166	41	111	284
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	330	1910	0	164	1559	28	226	118	171	42	114	293
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	384	2462		221	2246	40	340	1181	526	395	622	526
Arrive On Green	0.11	0.47	0.00	0.06	0.43	0.43	0.33	0.33	0.33	0.33	0.33	0.33
Sat Flow, veh/h	3510	5187	1610	3510	5247	94	993	3610	1609	1107	1900	1609
Grp Volume(v), veh/h	330	1910	0	164	1027	560	226	118	171	42	114	293
Grp Sat Flow(s),veh/h/ln	1755	1729	1610	1755	1729	1883	993	1805	1609	1107	1900	1609
Q Serve(g_s), s	11.6	38.3	0.0	5.7	30.2	30.2	26.3	2.8	10.0	3.4	5.4	18.7
Cycle Q Clear(g_c), s	11.6	38.3	0.0	5.7	30.2	30.2	31.7	2.8	10.0	6.3	5.4	18.7
Prop In Lane	1.00		1.00	1.00		0.05	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	384	2462		221	1480	806	340	1181	526	395	622	526
V/C Ratio(X)	0.86	0.78		0.74	0.69	0.69	0.66	0.10	0.32	0.11	0.18	0.56
Avail Cap(c_a), veh/h	432	2462		432	1480	806	340	1181	526	395	622	526
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.33	0.33	0.00	0.80	0.80	0.80	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.7	27.3	0.0	57.6	29.1	29.1	41.4	29.2	31.7	31.4	30.1	34.6
Incr Delay (d2), s/veh	4.9	0.8	0.0	1.5	2.2	3.9	9.9	0.2	1.6	0.5	0.6	4.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.2	14.7	0.0	2.5	12.2	13.7	7.4	1.3	4.2	1.0	2.6	8.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	59.6	28.1	0.0	59.1	31.3	33.0	51.3	29.4	33.3	32.0	30.7	38.8
LnGrp LOS	E	C		E	C	C	D	C	C	C	C	D
Approach Vol, veh/h		2240			1751			515			449	
Approach Delay, s/veh		32.8			34.4			40.3			36.1	
Approach LOS		C			C			D			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	13.5	65.5		46.0	19.3	59.7		46.0				
Change Period (Y+Rc), s	5.6	6.2		5.1	5.6	6.2		5.1				
Max Green Setting (Gmax), s	15.4	51.8		40.9	15.4	51.8		40.9				
Max Q Clear Time (g_c+I1), s	7.7	40.3		20.7	13.6	32.2		33.7				
Green Ext Time (p_c), s	0.1	10.5		0.9	0.1	15.1		1.0				

Intersection Summary	
HCM 6th Ctrl Delay	34.4
HCM 6th LOS	C

Notes

Unsignalized Delay for [EBR] is excluded from calculations of the approach delay and intersection delay.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	300	58	53	87	49	108	88	846	97	167	930	262
Future Volume (veh/h)	300	58	53	87	49	108	88	846	97	167	930	262
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	306	59	54	89	50	110	90	863	99	170	949	267
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	377	527	447	386	527	447	113	1767	788	196	1933	861
Arrive On Green	0.28	0.28	0.28	0.28	0.28	0.28	0.06	0.49	0.49	0.11	0.54	0.54
Sat Flow, veh/h	1245	1900	1608	1299	1900	1608	1810	3610	1609	1810	3610	1607
Grp Volume(v), veh/h	306	59	54	89	50	110	90	863	99	170	949	267
Grp Sat Flow(s),veh/h/ln	1245	1900	1608	1299	1900	1608	1810	1805	1609	1810	1805	1607
Q Serve(g_s), s	31.4	3.0	3.3	7.1	2.5	6.9	6.4	20.9	4.4	12.0	21.5	12.0
Cycle Q Clear(g_c), s	34.0	3.0	3.3	10.1	2.5	6.9	6.4	20.9	4.4	12.0	21.5	12.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	377	527	447	386	527	447	113	1767	788	196	1933	861
V/C Ratio(X)	0.81	0.11	0.12	0.23	0.09	0.25	0.80	0.49	0.13	0.87	0.49	0.31
Avail Cap(c_a), veh/h	384	539	457	399	547	463	228	1767	788	367	1933	861
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.77	0.77	0.77	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.4	35.0	35.1	38.8	34.8	36.4	60.2	22.3	18.1	57.0	19.0	16.8
Incr Delay (d2), s/veh	11.4	0.0	0.0	0.1	0.0	0.1	3.8	0.7	0.3	4.5	0.9	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.8	1.4	1.3	2.3	1.2	2.8	3.0	8.5	1.6	5.5	8.5	4.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	58.8	35.0	35.1	38.9	34.9	36.5	63.9	23.0	18.3	61.5	19.9	17.8
LnGrp LOS	E	D	D	D	C	D	E	C	B	E	B	B
Approach Vol, veh/h		419			249			1052			1386	
Approach Delay, s/veh		52.4			37.0			26.1			24.6	
Approach LOS		D			D			C			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	18.7	70.1		41.2	12.7	76.1		41.2
Change Period (Y+Rc), s	4.6	6.5		5.1	4.6	6.5		* 5.1
Max Green Setting (Gmax), s	26.4	50.5		36.9	16.4	60.5		* 37
Max Q Clear Time (g_c+I1), s	14.0	22.9		36.0	8.4	23.5		12.1
Green Ext Time (p_c), s	0.1	0.8		0.1	0.0	0.8		0.5

Intersection Summary	
HCM 6th Ctrl Delay	29.8
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	526	1392	68	240	1178	217	121	250	235	322	386	410
Future Volume (veh/h)	526	1392	68	240	1178	217	121	250	235	322	386	410
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	554	1465	72	253	1240	228	127	263	247	339	406	432
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	583	2440	120	284	2058	801	143	1205	374	184	921	1191
Arrive On Green	0.17	0.48	0.48	0.08	0.40	0.40	0.08	0.23	0.23	0.10	0.26	0.26
Sat Flow, veh/h	3510	5064	249	3510	5187	1604	1810	5187	1608	1810	3610	2821
Grp Volume(v), veh/h	554	1000	537	253	1240	228	127	263	247	339	406	432
Grp Sat Flow(s),veh/h/ln	1755	1729	1855	1755	1729	1604	1810	1729	1608	1810	1805	1410
Q Serve(g_s), s	32.8	44.3	44.3	15.0	39.8	17.4	14.6	8.6	29.3	21.4	19.8	22.0
Cycle Q Clear(g_c), s	32.8	44.3	44.3	15.0	39.8	17.4	14.6	8.6	29.3	21.4	19.8	22.0
Prop In Lane	1.00		0.13	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	583	1666	894	284	2058	801	143	1205	374	184	921	1191
V/C Ratio(X)	0.95	0.60	0.60	0.89	0.60	0.28	0.89	0.22	0.66	1.84	0.44	0.36
Avail Cap(c_a), veh/h	776	1666	894	441	2058	801	184	1205	374	184	921	1191
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.58	0.58	0.58	1.00	1.00	1.00	1.00	1.00	1.00	0.90	0.90	0.90
Uniform Delay (d), s/veh	86.7	39.7	39.7	95.6	50.2	30.8	95.8	65.2	73.1	94.3	65.6	41.5
Incr Delay (d2), s/veh	10.9	0.9	1.7	9.2	1.3	0.9	27.5	0.4	8.9	395.7	1.4	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	15.6	18.8	20.4	7.2	17.3	7.0	7.9	3.8	12.9	30.2	9.3	7.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	97.6	40.6	41.4	104.8	51.5	31.7	123.3	65.6	82.0	490.0	67.0	42.3
LnGrp LOS	F	D	D	F	D	C	F	E	F	F	E	D
Approach Vol, veh/h		2091			1721			637			1177	
Approach Delay, s/veh		55.9			56.7			83.5			179.8	
Approach LOS		E			E			F			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	21.6	107.4	21.2	59.8	39.5	89.5	26.0	55.0
Change Period (Y+Rc), s	4.6	6.2	4.6	6.2	4.6	6.2	4.6	6.2
Max Green Setting (Gmax), s	26.4	91.8	21.4	48.8	46.4	71.8	21.4	48.8
Max Q Clear Time (g_c+I1), s	17.0	46.3	16.6	24.0	34.8	41.8	23.4	31.3
Green Ext Time (p_c), s	0.0	1.4	0.0	0.4	0.1	1.3	0.0	0.2

Intersection Summary	
HCM 6th Ctrl Delay	85.2
HCM 6th LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	181	1616	116	154	1305	158	193	9	0	235	12	137
Future Volume (veh/h)	181	1616	116	154	1305	158	193	9	0	235	12	137
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	187	1666	120	159	1345	163	199	9	0	242	12	141
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	217	1895	845	181	2572	798	262	9	0	502	31	368
Arrive On Green	0.12	0.53	0.53	0.10	0.50	0.50	0.25	0.25	0.00	0.25	0.25	0.25
Sat Flow, veh/h	1810	3610	1610	1810	5187	1610	829	37	0	1428	128	1502
Grp Volume(v), veh/h	187	1666	120	159	1345	163	208	0	0	242	0	153
Grp Sat Flow(s),veh/h/ln	1810	1805	1610	1810	1729	1610	866	0	0	1428	0	1630
Q Serve(g_s), s	12.2	48.8	4.6	10.4	21.2	6.8	19.5	0.0	0.0	0.0	0.0	9.4
Cycle Q Clear(g_c), s	12.2	48.8	4.6	10.4	21.2	6.8	28.9	0.0	0.0	14.0	0.0	9.4
Prop In Lane	1.00		1.00	1.00		1.00	0.96		0.00	1.00		0.92
Lane Grp Cap(c), veh/h	217	1895	845	181	2572	798	271	0	0	502	0	399
V/C Ratio(X)	0.86	0.88	0.14	0.88	0.52	0.20	0.77	0.00	0.00	0.48	0.00	0.38
Avail Cap(c_a), veh/h	318	1895	845	181	2572	798	271	0	0	502	0	399
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	0.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	51.8	25.1	14.6	53.3	20.6	17.0	49.8	0.0	0.0	39.5	0.0	37.7
Incr Delay (d2), s/veh	14.7	6.2	0.4	35.4	0.8	0.6	11.4	0.0	0.0	3.3	0.0	2.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.2	20.2	1.6	6.3	8.1	2.5	7.1	0.0	0.0	6.7	0.0	4.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	66.6	31.3	15.0	88.7	21.4	17.5	61.2	0.0	0.0	42.8	0.0	40.5
LnGrp LOS	E	C	B	F	C	B	E	A	A	D	A	D
Approach Vol, veh/h		1973			1667			208			395	
Approach Delay, s/veh		33.7			27.4			61.2			41.9	
Approach LOS		C			C			E			D	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	16.0	70.0		34.0	19.5	66.5		34.0
Change Period (Y+Rc), s	4.0	7.0		4.6	5.1	* 7		4.6
Max Green Setting (Gmax), s	12.0	63.0		29.4	21.1	* 53		29.4
Max Q Clear Time (g_c+I1), s	12.4	50.8		16.0	14.2	23.2		30.9
Green Ext Time (p_c), s	0.0	8.5		0.8	0.3	11.1		0.0

Intersection Summary	
HCM 6th Ctrl Delay	33.3
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	0.6

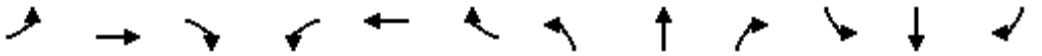
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1736	1	0	1515	0	102
Future Vol, veh/h	1736	1	0	1515	0	102
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	1808	1	0	1578	0	106

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	904
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.9
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.3
Pot Cap-1 Maneuver	-	-	0	-	0	*373
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		1
Mov Cap-1 Maneuver	-	-	-	-	-	*373
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	18.5
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	373	-	-	-
HCM Lane V/C Ratio	0.285	-	-	-
HCM Control Delay (s)	18.5	-	-	-
HCM Lane LOS	C	-	-	-
HCM 95th %tile Q(veh)	1.2	-	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	64	1703	162	135	1426	36	169	61	136	55	71	59
Future Volume (veh/h)	64	1703	162	135	1426	36	169	61	136	55	71	59
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	65	1738	165	138	1455	37	172	62	139	56	72	60
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	84	2500	1115	166	2654	67	327	122	273	72	89	74
Arrive On Green	0.05	0.69	0.69	0.09	0.74	0.74	0.18	0.23	0.23	0.04	0.09	0.09
Sat Flow, veh/h	1810	3610	1610	1810	3597	91	1810	521	1168	1810	958	798
Grp Volume(v), veh/h	65	1738	165	138	729	763	172	0	201	56	0	132
Grp Sat Flow(s),veh/h/ln	1810	1805	1610	1810	1805	1884	1810	0	1690	1810	0	1756
Q Serve(g_s), s	4.3	34.3	3.5	9.0	21.3	21.4	10.3	0.0	12.4	3.7	0.0	8.8
Cycle Q Clear(g_c), s	4.3	34.3	3.5	9.0	21.3	21.4	10.3	0.0	12.4	3.7	0.0	8.8
Prop In Lane	1.00		1.00	1.00		0.05	1.00		0.69	1.00		0.45
Lane Grp Cap(c), veh/h	84	2500	1115	166	1332	1390	327	0	394	72	0	163
V/C Ratio(X)	0.78	0.70	0.15	0.83	0.55	0.55	0.53	0.00	0.51	0.77	0.00	0.81
Avail Cap(c_a), veh/h	109	2500	1115	187	1332	1390	327	0	394	75	0	265
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	56.6	10.9	4.4	53.6	6.9	6.9	44.5	0.0	40.0	57.1	0.0	53.4
Incr Delay (d2), s/veh	16.8	1.6	0.3	21.5	0.4	0.4	6.0	0.0	4.7	37.1	0.0	9.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	11.1	1.2	4.9	6.0	6.2	5.0	0.0	5.4	2.4	0.0	4.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	73.4	12.6	4.7	75.1	7.4	7.4	50.5	0.0	44.7	94.2	0.0	62.6
LnGrp LOS	E	B	A	E	A	A	D	A	D	F	A	E
Approach Vol, veh/h		1968			1630			373			188	
Approach Delay, s/veh		13.9			13.1			47.3			72.0	
Approach LOS		B			B			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.6	92.0	28.2	15.1	10.1	97.5	11.3	32.0
Change Period (Y+Rc), s	4.6	8.0	6.5	4.0	4.6	8.0	6.5	* 4
Max Green Setting (Gmax), s	12.4	54.0	12.4	18.1	7.2	59.2	5.0	* 28
Max Q Clear Time (g_c+I1), s	11.0	36.3	12.3	10.8	6.3	23.4	5.7	14.4
Green Ext Time (p_c), s	0.0	9.9	0.0	0.3	0.0	10.5	0.0	0.8

Intersection Summary	
HCM 6th Ctrl Delay	19.2
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	221	1031	281	153	981	65	277	229	131	82	242	193
Future Volume (veh/h)	221	1031	281	153	981	65	277	229	131	82	242	193
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1976	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	230	1074	293	159	1022	68	289	239	136	85	252	201
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	252	1315	610	182	1176	524	310	731	401	106	767	341
Arrive On Green	0.14	0.36	0.36	0.10	0.33	0.33	0.17	0.33	0.33	0.06	0.21	0.21
Sat Flow, veh/h	1810	3610	1675	1810	3610	1609	1810	2249	1234	1810	3610	1606
Grp Volume(v), veh/h	230	1074	293	159	1022	68	289	190	185	85	252	201
Grp Sat Flow(s),veh/h/ln	1810	1805	1675	1810	1805	1609	1810	1805	1678	1810	1805	1606
Q Serve(g_s), s	18.2	39.0	19.6	12.6	38.6	4.3	22.8	11.5	12.1	6.7	8.6	16.3
Cycle Q Clear(g_c), s	18.2	39.0	19.6	12.6	38.6	4.3	22.8	11.5	12.1	6.7	8.6	16.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.74	1.00		1.00
Lane Grp Cap(c), veh/h	252	1315	610	182	1176	524	310	587	546	106	767	341
V/C Ratio(X)	0.91	0.82	0.48	0.87	0.87	0.13	0.93	0.32	0.34	0.80	0.33	0.59
Avail Cap(c_a), veh/h	255	1315	610	255	1176	524	317	587	546	255	767	341
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	61.5	41.7	35.5	64.3	46.0	34.4	59.2	36.9	37.1	67.4	48.3	51.4
Incr Delay (d2), s/veh	33.4	5.7	2.7	16.1	8.8	0.5	32.3	1.5	1.7	5.2	1.1	7.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.4	17.6	8.3	6.4	17.9	1.7	13.0	5.2	5.1	3.2	3.9	7.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	94.9	47.4	38.2	80.4	54.8	34.9	91.5	38.4	38.8	72.6	49.5	58.7
LnGrp LOS	F	D	D	F	D	C	F	D	D	E	D	E
Approach Vol, veh/h		1597			1249			664			538	
Approach Delay, s/veh		52.6			56.9			61.6			56.6	
Approach LOS		D			E			E			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	19.2	59.3	13.1	53.4	24.8	53.8	29.5	37.0
Change Period (Y+Rc), s	4.6	6.5	4.6	6.2	4.6	6.5	4.6	6.2
Max Green Setting (Gmax), s	20.4	46.5	20.4	35.8	20.4	46.5	25.4	30.8
Max Q Clear Time (g_c+I1), s	14.6	41.0	8.7	14.1	20.2	40.6	24.8	18.3
Green Ext Time (p_c), s	0.1	4.4	0.1	1.9	0.0	4.3	0.0	1.7

Intersection Summary	
HCM 6th Ctrl Delay	55.9
HCM 6th LOS	E

Intersection	
Int Delay, s/veh	6.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	156	47	0	208	75
Future Vol, veh/h	0	156	47	0	208	75
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	164	49	0	219	79

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	566	49	0	0	49	0
Stage 1	49	-	-	-	-	-
Stage 2	517	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	489	1025	-	-	1571	-
Stage 1	979	-	-	-	-	-
Stage 2	603	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	418	1025	-	-	1571	-
Mov Cap-2 Maneuver	418	-	-	-	-	-
Stage 1	979	-	-	-	-	-
Stage 2	515	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	9.2	0	5.6
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	1025	1571	-
HCM Lane V/C Ratio	-	-	0.16	0.139	-
HCM Control Delay (s)	-	-	9.2	7.7	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.6	0.5	-

Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	47	0	0	75	0
Future Vol, veh/h	0	47	0	0	75	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	0	49	0	0	79	0

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	158	0	0	0	0	0
Stage 1	0	-	-	-	-	-
Stage 2	158	-	-	-	-	-
Critical Hdwy	6.4	6.2	-	-	4.1	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	-	-	2.2	-
Pot Cap-1 Maneuver	838	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	875	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	838	-	-	-	-	-
Mov Cap-2 Maneuver	838	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	875	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s		0	
HCM LOS	-		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	-	-	-	-	-
HCM Lane LOS	-	-	-	-	-
HCM 95th %tile Q(veh)	-	-	-	-	-

Intersection	
Int Delay, s/veh	0.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1762	90	0	1617	0	66
Future Vol, veh/h	1762	90	0	1617	0	66
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	1855	95	0	1702	0	69

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	975
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	7.1
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.9
Pot Cap-1 Maneuver	-	-	0	-	0	*540
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		1
Mov Cap-1 Maneuver	-	-	-	-	-	*540
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	12.6
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	540	-	-	-
HCM Lane V/C Ratio	0.129	-	-	-
HCM Control Delay (s)	12.6	-	-	-
HCM Lane LOS	B	-	-	-
HCM 95th %tile Q(veh)	0.4	-	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	5.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	61	0	0	38	1	0
Future Vol, veh/h	61	0	0	38	1	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	64	0	0	40	1	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	41	1	1	0	-	0
Stage 1	1	-	-	-	-	-
Stage 2	40	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	975	1090	1635	-	-	-
Stage 1	1028	-	-	-	-	-
Stage 2	988	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	975	1090	1635	-	-	-
Mov Cap-2 Maneuver	975	-	-	-	-	-
Stage 1	1028	-	-	-	-	-
Stage 2	988	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1635	-	975	-	-
HCM Lane V/C Ratio	-	-	0.066	-	-
HCM Control Delay (s)	0	-	9	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

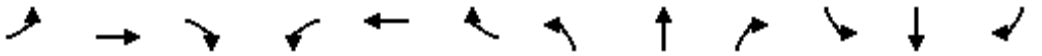
Intersection	
Int Delay, s/veh	8.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	38	0	1	0	1	0
Future Vol, veh/h	38	0	1	0	1	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	0	0	0	0	0	0
Mvmt Flow	40	0	1	0	1	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	3	1	1	0	-	0
Stage 1	1	-	-	-	-	-
Stage 2	2	-	-	-	-	-
Critical Hdwy	6.4	6.2	4.1	-	-	-
Critical Hdwy Stg 1	5.4	-	-	-	-	-
Critical Hdwy Stg 2	5.4	-	-	-	-	-
Follow-up Hdwy	3.5	3.3	2.2	-	-	-
Pot Cap-1 Maneuver	1025	1090	1635	-	-	-
Stage 1	1028	-	-	-	-	-
Stage 2	1026	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	1024	1090	1635	-	-	-
Mov Cap-2 Maneuver	1024	-	-	-	-	-
Stage 1	1027	-	-	-	-	-
Stage 2	1026	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	8.7	7.2	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1635	-	1024	-	-
HCM Lane V/C Ratio	0.001	-	0.039	-	-
HCM Control Delay (s)	7.2	0	8.7	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.1	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	132	1463	66	239	1771	45	81	51	293	15	16	37
Future Volume (veh/h)	132	1463	66	239	1771	45	81	51	293	15	16	37
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	140	1556	70	254	1884	48	86	54	312	16	17	39
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	186	2059	93	276	2633	817	130	82	431	349	367	396
Arrive On Green	0.05	0.40	0.40	0.15	0.51	0.51	0.12	0.12	0.12	0.19	0.19	0.19
Sat Flow, veh/h	3510	5088	229	1810	5187	1609	1132	711	1606	1810	1900	1608
Grp Volume(v), veh/h	140	1057	569	254	1884	48	140	0	312	16	17	39
Grp Sat Flow(s),veh/h/ln	1755	1729	1859	1810	1729	1609	1843	0	1606	1810	1900	1608
Q Serve(g_s), s	5.7	38.0	38.0	20.1	40.7	2.2	10.5	0.0	16.7	1.0	1.1	2.7
Cycle Q Clear(g_c), s	5.7	38.0	38.0	20.1	40.7	2.2	10.5	0.0	16.7	1.0	1.1	2.7
Prop In Lane	1.00		0.12	1.00		1.00	0.61		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	186	1400	752	276	2633	817	212	0	431	349	367	396
V/C Ratio(X)	0.75	0.76	0.76	0.92	0.72	0.06	0.66	0.00	0.72	0.05	0.05	0.10
Avail Cap(c_a), veh/h	259	1400	752	337	2633	817	212	0	431	349	367	396
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	67.7	37.0	37.0	60.6	27.6	18.1	61.4	0.0	48.3	47.6	47.6	42.2
Incr Delay (d2), s/veh	4.3	3.8	7.0	24.5	1.7	0.1	15.0	0.0	10.2	0.2	0.2	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	16.1	18.0	10.8	16.2	0.8	5.7	0.0	11.6	0.5	0.5	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	72.0	40.8	44.0	85.1	29.3	18.3	76.4	0.0	58.4	47.9	47.9	42.7
LnGrp LOS	E	D	D	F	C	B	E	A	E	D	D	D
Approach Vol, veh/h		1766			2186			452			72	
Approach Delay, s/veh		44.3			35.5			64.0			45.1	
Approach LOS		D			D			E			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	27.1	63.9		22.0	12.2	78.8		32.0				
Change Period (Y+Rc), s	5.0	5.2		* 5.3	4.5	5.2		4.0				
Max Green Setting (Gmax), s	27.0	53.8		* 17	10.7	70.6		28.0				
Max Q Clear Time (g_c+I1), s	22.1	40.0		12.5	7.7	42.7		4.7				
Green Ext Time (p_c), s	0.0	3.2		0.1	0.0	5.3		0.0				

Intersection Summary			
HCM 6th Ctrl Delay		42.0	
HCM 6th LOS		D	

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	166	1545	57	47	1943	258	44	6	25	114	5	67
Future Volume (veh/h)	166	1545	57	47	1943	258	44	6	25	114	5	67
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	168	1561	58	47	1963	261	44	6	25	115	5	68
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	192	2634	818	108	2243	841	389	408	346	162	10	136
Arrive On Green	0.11	0.51	0.51	0.03	0.43	0.43	0.21	0.21	0.21	0.09	0.09	0.09
Sat Flow, veh/h	1810	5187	1610	3510	5187	1610	1810	1900	1610	1810	111	1516
Grp Volume(v), veh/h	168	1561	58	47	1963	261	44	6	25	115	0	73
Grp Sat Flow(s),veh/h/ln	1810	1729	1610	1755	1729	1610	1810	1900	1610	1810	0	1627
Q Serve(g_s), s	12.4	28.6	2.5	1.8	46.7	12.5	2.6	0.3	1.7	8.3	0.0	5.8
Cycle Q Clear(g_c), s	12.4	28.6	2.5	1.8	46.7	12.5	2.6	0.3	1.7	8.3	0.0	5.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.93
Lane Grp Cap(c), veh/h	192	2634	818	108	2243	841	389	408	346	162	0	146
V/C Ratio(X)	0.87	0.59	0.07	0.44	0.88	0.31	0.11	0.01	0.07	0.71	0.00	0.50
Avail Cap(c_a), veh/h	201	2634	818	130	2243	841	389	408	346	162	0	146
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	59.5	23.4	17.0	64.3	35.0	18.4	42.7	41.7	42.3	59.7	0.0	58.6
Incr Delay (d2), s/veh	29.8	1.0	0.2	1.0	5.2	1.0	0.6	0.1	0.4	23.0	0.0	11.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.1	11.2	1.0	0.8	19.5	5.0	1.3	0.2	0.7	4.9	0.0	2.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	89.3	24.4	17.1	65.3	40.1	19.4	43.2	41.8	42.7	82.7	0.0	70.3
LnGrp LOS	F	C	B	E	D	B	D	D	D	F	A	E
Approach Vol, veh/h		1787			2271			75			188	
Approach Delay, s/veh		30.2			38.3			42.9			77.9	
Approach LOS		C			D			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.1	75.0	33.9	17.0	19.3	64.8	17.0	33.9
Change Period (Y+Rc), s	5.0	6.4	4.9	4.9	5.0	6.4	4.9	4.9
Max Green Setting (Gmax), s	5.0	67.7	29.0	12.1	15.0	57.7	12.1	29.0
Max Q Clear Time (g_c+I1), s	13.8	30.6	4.6	7.8	14.4	48.7	10.3	3.7
Green Ext Time (p_c), s	0.0	14.0	0.0	0.0	0.0	7.4	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	36.8
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	367	805	46	137	1326	235	78	164	88	239	200	442
Future Volume (veh/h)	367	805	46	137	1326	235	78	164	88	239	200	442
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	399	875	50	149	1441	255	85	178	96	260	217	480
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	429	2280	130	181	1989	862	101	1242	468	275	1212	1297
Arrive On Green	0.12	0.45	0.45	0.05	0.38	0.38	0.06	0.24	0.24	0.15	0.34	0.34
Sat Flow, veh/h	3510	5020	286	3510	5187	1610	1810	5187	1606	1810	3610	2831
Grp Volume(v), veh/h	399	602	323	149	1441	255	85	178	96	260	217	480
Grp Sat Flow(s),veh/h/ln	1755	1729	1848	1755	1729	1610	1810	1729	1606	1810	1805	1416
Q Serve(g_s), s	23.6	24.2	24.3	8.8	49.8	18.4	9.8	5.7	9.5	29.9	8.9	23.2
Cycle Q Clear(g_c), s	23.6	24.2	24.3	8.8	49.8	18.4	9.8	5.7	9.5	29.9	8.9	23.2
Prop In Lane	1.00		0.15	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	429	1570	839	181	1989	862	101	1242	468	275	1212	1297
V/C Ratio(X)	0.93	0.38	0.38	0.82	0.72	0.30	0.84	0.14	0.21	0.95	0.18	0.37
Avail Cap(c_a), veh/h	525	1570	839	249	1989	862	154	1242	468	357	1212	1297
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.88	0.88	0.88	1.00	1.00	1.00	1.00	1.00	1.00	0.94	0.94	0.94
Uniform Delay (d), s/veh	91.3	37.9	37.9	98.6	55.3	26.9	98.2	62.9	56.1	88.2	49.3	37.1
Incr Delay (d2), s/veh	17.5	0.6	1.2	10.6	2.3	0.9	13.9	0.2	1.0	25.9	0.3	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.7	10.4	11.3	4.3	21.8	7.3	5.0	2.5	4.0	15.8	4.1	8.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	108.8	38.5	39.1	109.2	57.6	27.8	112.2	63.1	57.1	114.1	49.6	37.9
LnGrp LOS	F	D	D	F	E	C	F	E	E	F	D	D
Approach Vol, veh/h		1324			1845			359			957	
Approach Delay, s/veh		59.8			57.7			73.2			61.2	
Approach LOS		E			E			E			E	

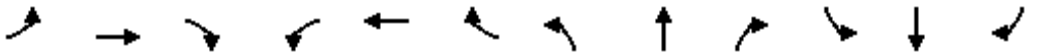
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.4	101.6	16.3	76.7	30.3	86.7	36.5	56.5
Change Period (Y+Rc), s	4.6	6.2	4.6	6.2	4.6	6.2	4.6	6.2
Max Green Setting (Gmax), s	14.8	85.1	17.9	70.5	31.4	68.6	41.4	47.0
Max Q Clear Time (g_c+I1), s	10.8	26.3	11.8	25.2	25.6	51.8	31.9	11.5
Green Ext Time (p_c), s	0.0	0.8	0.0	0.3	0.0	1.6	0.0	0.2

Intersection Summary	
HCM 6th Ctrl Delay	60.3
HCM 6th LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	128	568	172	100	888	55	313	145	62	54	145	218
Future Volume (veh/h)	128	568	172	100	888	55	313	145	62	54	145	218
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1976	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	136	604	183	106	945	59	333	154	66	57	154	232
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	159	1360	960	128	1299	580	356	900	369	73	739	468
Arrive On Green	0.09	0.38	0.38	0.07	0.36	0.36	0.20	0.36	0.36	0.04	0.20	0.20
Sat Flow, veh/h	1810	3610	1675	1810	3610	1610	1810	2495	1024	1810	3610	1598
Grp Volume(v), veh/h	136	604	183	106	945	59	333	110	110	57	154	232
Grp Sat Flow(s),veh/h/ln	1810	1805	1675	1810	1805	1610	1810	1805	1714	1810	1805	1598
Q Serve(g_s), s	10.7	18.2	7.6	8.4	32.9	3.5	26.3	6.0	6.4	4.5	5.1	17.4
Cycle Q Clear(g_c), s	10.7	18.2	7.6	8.4	32.9	3.5	26.3	6.0	6.4	4.5	5.1	17.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.60	1.00		1.00
Lane Grp Cap(c), veh/h	159	1360	960	128	1299	580	356	651	618	73	739	468
V/C Ratio(X)	0.86	0.44	0.19	0.83	0.73	0.10	0.94	0.17	0.18	0.78	0.21	0.50
Avail Cap(c_a), veh/h	192	1360	960	198	1299	580	417	651	618	126	739	468
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	65.2	33.8	14.8	66.5	40.2	30.8	57.3	31.5	31.7	68.9	47.9	42.5
Incr Delay (d2), s/veh	23.0	1.1	0.4	8.6	3.6	0.4	25.0	0.6	0.6	6.4	0.6	3.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.8	7.8	2.9	4.1	14.6	1.4	14.1	2.7	2.7	2.2	2.4	7.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	88.2	34.9	15.3	75.1	43.8	31.2	82.3	32.1	32.3	75.4	48.6	46.2
LnGrp LOS	F	C	B	E	D	C	F	C	C	E	D	D
Approach Vol, veh/h		923			1110			553			443	
Approach Delay, s/veh		38.8			46.1			62.4			50.8	
Approach LOS		D			D			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.9	61.1	10.5	58.5	17.3	58.7	33.1	35.9
Change Period (Y+Rc), s	4.6	6.5	4.6	6.2	4.6	6.5	4.6	6.2
Max Green Setting (Gmax), s	15.3	44.8	10.1	52.3	15.4	45.3	33.4	29.0
Max Q Clear Time (g_c+I1), s	10.4	20.2	6.5	8.4	12.7	34.9	28.3	19.4
Green Ext Time (p_c), s	0.0	8.3	0.0	1.2	0.0	6.5	0.2	1.1

Intersection Summary	
HCM 6th Ctrl Delay	47.6
HCM 6th LOS	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	36	2052	48	334	1805	23	85	9	434	28	19	37
Future Volume (veh/h)	36	2052	48	334	1805	23	85	9	434	28	19	37
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	37	2094	49	341	1842	23	87	9	443	24	26	38
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	75	2219	52	337	3080	955	100	10	398	349	367	345
Arrive On Green	0.02	0.43	0.43	0.19	0.59	0.59	0.06	0.06	0.06	0.19	0.19	0.19
Sat Flow, veh/h	3510	5214	122	1810	5187	1607	1647	170	1610	1810	1900	1610
Grp Volume(v), veh/h	37	1388	755	341	1842	23	96	0	443	24	26	38
Grp Sat Flow(s),veh/h/ln	1755	1729	1878	1810	1729	1607	1818	0	1610	1810	1900	1610
Q Serve(g_s), s	1.5	55.8	56.1	27.0	32.4	0.9	7.6	0.0	8.8	1.6	1.6	2.8
Cycle Q Clear(g_c), s	1.5	55.8	56.1	27.0	32.4	0.9	7.6	0.0	8.8	1.6	1.6	2.8
Prop In Lane	1.00		0.06	1.00		1.00	0.91		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	75	1471	799	337	3080	955	110	0	398	349	367	345
V/C Ratio(X)	0.49	0.94	0.95	1.01	0.60	0.02	0.87	0.00	1.11	0.07	0.07	0.11
Avail Cap(c_a), veh/h	104	1471	799	337	3080	955	110	0	398	349	367	345
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	70.2	40.0	40.0	59.0	18.5	12.1	67.5	0.0	54.6	47.8	47.9	45.8
Incr Delay (d2), s/veh	1.9	13.3	21.0	52.1	0.9	0.0	55.9	0.0	79.9	0.4	0.4	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	25.2	29.1	16.9	12.2	0.3	5.2	0.0	23.4	0.8	0.8	1.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	72.0	53.3	61.0	111.1	19.4	12.2	123.4	0.0	134.5	48.2	48.2	46.5
LnGrp LOS	E	D	E	F	B	B	F	A	F	D	D	D
Approach Vol, veh/h		2180			2206			539			88	
Approach Delay, s/veh		56.3			33.5			132.5			47.5	
Approach LOS		E			C			F			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	32.0	66.9		14.1	7.6	91.3		32.0				
Change Period (Y+Rc), s	5.0	5.2		* 5.3	4.5	5.2		4.0				
Max Green Setting (Gmax), s	27.0	61.7		* 8.8	4.3	84.9		28.0				
Max Q Clear Time (g_c+I1), s	29.0	58.1		9.6	3.5	34.4		4.8				
Green Ext Time (p_c), s	0.0	2.1		0.0	0.0	5.3		0.1				

Intersection Summary			
HCM 6th Ctrl Delay		54.3	
HCM 6th LOS		D	

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	59	2353	101	120	1968	105	108	9	67	131	5	87
Future Volume (veh/h)	59	2353	101	120	1968	105	108	9	67	131	5	87
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	60	2401	103	122	2008	107	110	9	68	134	5	88
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.99
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	77	2601	807	130	2572	940	389	408	344	162	8	138
Arrive On Green	0.04	0.50	0.50	0.04	0.50	0.50	0.21	0.21	0.21	0.09	0.09	0.09
Sat Flow, veh/h	1810	5187	1610	3510	5187	1604	1810	1900	1601	1810	87	1536
Grp Volume(v), veh/h	60	2401	103	122	2008	107	110	9	68	134	0	93
Grp Sat Flow(s),veh/h/ln	1810	1729	1610	1755	1729	1604	1810	1900	1601	1810	0	1623
Q Serve(g_s), s	4.4	58.0	4.6	4.7	43.0	4.0	6.9	0.5	4.7	9.8	0.0	7.5
Cycle Q Clear(g_c), s	4.4	58.0	4.6	4.7	43.0	4.0	6.9	0.5	4.7	9.8	0.0	7.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.95
Lane Grp Cap(c), veh/h	77	2601	807	130	2572	940	389	408	344	162	0	146
V/C Ratio(X)	0.78	0.92	0.13	0.94	0.78	0.11	0.28	0.02	0.20	0.83	0.00	0.64
Avail Cap(c_a), veh/h	94	2601	807	130	2572	940	389	408	344	162	0	146
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	64.0	31.2	17.9	64.8	28.0	12.4	44.3	41.8	43.5	60.4	0.0	59.3
Incr Delay (d2), s/veh	22.5	6.9	0.3	59.4	2.4	0.2	1.8	0.1	1.3	36.1	0.0	19.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	23.9	1.8	3.1	17.1	1.5	3.3	0.3	2.0	6.2	0.0	3.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	86.4	38.1	18.2	124.3	30.4	12.7	46.1	41.9	44.7	96.5	0.0	78.9
LnGrp LOS	F	D	B	F	C	B	D	D	D	F	A	E
Approach Vol, veh/h		2564			2237			187			227	
Approach Delay, s/veh		38.5			34.7			45.4			89.3	
Approach LOS		D			C			D			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.0	74.1	33.9	17.0	10.8	73.3	17.0	33.9
Change Period (Y+Rc), s	5.0	6.4	4.9	4.9	5.0	6.4	4.9	4.9
Max Green Setting (Gmax), s	5.0	67.7	29.0	12.1	7.0	65.7	12.1	29.0
Max Q Clear Time (g_c+I1), s	6.7	60.0	8.9	9.5	6.4	45.0	11.8	6.7
Green Ext Time (p_c), s	0.0	6.9	0.0	0.0	0.0	14.2	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	39.3
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	501	1329	65	230	1145	208	115	238	203	293	368	390
Future Volume (veh/h)	501	1329	65	230	1145	208	115	238	203	293	368	390
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	527	1399	68	242	1205	219	121	251	214	308	387	411
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	556	2100	102	273	1732	822	137	1175	490	323	1188	1378
Arrive On Green	0.16	0.41	0.41	0.08	0.33	0.33	0.08	0.23	0.23	0.18	0.33	0.33
Sat Flow, veh/h	3510	5067	246	3510	5187	1603	1810	5187	1608	1810	3610	2824
Grp Volume(v), veh/h	527	955	512	242	1205	219	121	251	214	308	387	411
Grp Sat Flow(s),veh/h/ln	1755	1729	1855	1755	1729	1603	1810	1729	1608	1810	1805	1412
Q Serve(g_s), s	31.2	46.9	46.9	14.3	42.3	16.2	13.9	8.3	22.4	35.4	16.9	18.3
Cycle Q Clear(g_c), s	31.2	46.9	46.9	14.3	42.3	16.2	13.9	8.3	22.4	35.4	16.9	18.3
Prop In Lane	1.00		0.13	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	556	1433	769	273	1732	822	137	1175	490	323	1188	1378
V/C Ratio(X)	0.95	0.67	0.67	0.89	0.70	0.27	0.88	0.21	0.44	0.95	0.33	0.30
Avail Cap(c_a), veh/h	642	1433	769	363	1732	822	201	1175	490	391	1188	1378
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.63	0.63	0.63	1.00	1.00	1.00	1.00	1.00	1.00	0.91	0.91	0.91
Uniform Delay (d), s/veh	87.5	49.7	49.7	95.9	60.7	28.9	96.1	66.0	58.6	85.4	52.9	32.3
Incr Delay (d2), s/veh	15.1	1.6	2.9	15.2	2.3	0.8	19.4	0.4	2.8	27.6	0.7	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	15.2	20.3	22.1	7.1	18.7	6.4	7.2	3.7	9.5	18.9	7.8	6.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	102.6	51.3	52.6	111.1	63.0	29.7	115.5	66.4	61.4	113.0	53.6	32.8
LnGrp LOS	F	D	D	F	E	C	F	E	E	F	D	C
Approach Vol, veh/h		1994			1666			586			1106	
Approach Delay, s/veh		65.2			65.6			74.7			62.4	
Approach LOS		E			E			E			E	

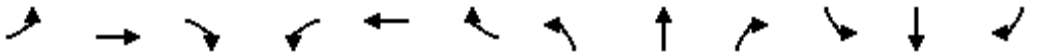
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	21.0	93.2	20.5	75.3	37.9	76.3	42.1	53.8
Change Period (Y+Rc), s	4.6	6.2	4.6	6.2	4.6	6.2	4.6	6.2
Max Green Setting (Gmax), s	21.7	74.3	23.3	69.1	38.4	57.6	45.4	47.0
Max Q Clear Time (g_c+I1), s	16.3	48.9	15.9	20.3	33.2	44.3	37.4	24.4
Green Ext Time (p_c), s	0.0	1.3	0.0	0.4	0.0	1.2	0.1	0.2

Intersection Summary	
HCM 6th Ctrl Delay	65.8
HCM 6th LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	211	974	268	128	887	62	264	218	119	78	230	184
Future Volume (veh/h)	211	974	268	128	887	62	264	218	119	78	230	184
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1976	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	220	1015	279	133	924	65	275	227	124	81	240	192
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	243	1438	943	156	1264	563	298	705	371	101	722	537
Arrive On Green	0.13	0.40	0.40	0.09	0.35	0.35	0.16	0.31	0.31	0.06	0.20	0.20
Sat Flow, veh/h	1810	3610	1675	1810	3610	1609	1810	2286	1203	1810	3610	1605
Grp Volume(v), veh/h	220	1015	279	133	924	65	275	177	174	81	240	192
Grp Sat Flow(s),veh/h/ln	1810	1805	1675	1810	1805	1609	1810	1805	1684	1810	1805	1605
Q Serve(g_s), s	17.4	34.1	12.7	10.5	32.4	4.0	21.7	10.9	11.5	6.4	8.3	13.1
Cycle Q Clear(g_c), s	17.4	34.1	12.7	10.5	32.4	4.0	21.7	10.9	11.5	6.4	8.3	13.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.71	1.00		1.00
Lane Grp Cap(c), veh/h	243	1438	943	156	1264	563	298	557	519	101	722	537
V/C Ratio(X)	0.91	0.71	0.30	0.85	0.73	0.12	0.92	0.32	0.33	0.80	0.33	0.36
Avail Cap(c_a), veh/h	280	1438	943	180	1264	563	342	557	519	162	722	537
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	61.9	36.5	16.6	65.4	41.1	31.9	59.7	38.4	38.7	67.6	49.7	36.5
Incr Delay (d2), s/veh	26.6	2.9	0.8	25.4	3.7	0.4	26.5	1.5	1.7	5.4	1.2	1.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.5	14.9	4.9	5.8	14.4	1.6	11.9	5.0	4.9	3.1	3.8	5.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	88.5	39.4	17.4	90.8	44.9	32.3	86.2	39.9	40.4	73.0	50.9	38.4
LnGrp LOS	F	D	B	F	D	C	F	D	D	E	D	D
Approach Vol, veh/h		1514			1122			626			513	
Approach Delay, s/veh		42.5			49.6			60.4			49.7	
Approach LOS		D			D			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.1	64.3	12.7	50.9	24.1	57.3	28.5	35.2
Change Period (Y+Rc), s	4.6	6.5	4.6	6.2	4.6	6.5	4.6	6.2
Max Green Setting (Gmax), s	12.4	52.3	13.0	43.4	22.4	44.3	27.4	29.0
Max Q Clear Time (g_c+I1), s	12.5	36.1	8.4	13.5	19.4	34.4	23.7	15.1
Green Ext Time (p_c), s	0.0	10.8	0.0	1.9	0.1	6.2	0.1	1.7

Intersection Summary	
HCM 6th Ctrl Delay	48.6
HCM 6th LOS	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	137	1537	69	251	1859	47	85	54	307	17	17	40
Future Volume (veh/h)	137	1537	69	251	1859	47	85	54	307	17	17	40
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	144	1618	73	264	1957	49	89	57	323	18	18	42
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	190	2056	93	286	2652	822	124	79	431	349	367	398
Arrive On Green	0.05	0.40	0.40	0.16	0.51	0.51	0.11	0.11	0.11	0.19	0.19	0.19
Sat Flow, veh/h	3510	5087	229	1810	5187	1609	1124	720	1606	1810	1900	1608
Grp Volume(v), veh/h	144	1100	591	264	1957	49	146	0	323	18	18	42
Grp Sat Flow(s),veh/h/ln	1755	1729	1859	1810	1729	1609	1844	0	1606	1810	1900	1608
Q Serve(g_s), s	5.9	40.3	40.3	20.9	42.9	2.2	11.1	0.0	16.0	1.2	1.1	2.9
Cycle Q Clear(g_c), s	5.9	40.3	40.3	20.9	42.9	2.2	11.1	0.0	16.0	1.2	1.1	2.9
Prop In Lane	1.00		0.12	1.00		1.00	0.61		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	190	1398	751	286	2652	822	203	0	431	349	367	398
V/C Ratio(X)	0.76	0.79	0.79	0.92	0.74	0.06	0.72	0.00	0.75	0.05	0.05	0.11
Avail Cap(c_a), veh/h	264	1398	751	324	2652	822	203	0	431	349	367	398
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	67.6	37.7	37.7	60.2	27.8	17.9	62.3	0.0	48.6	47.7	47.7	42.2
Incr Delay (d2), s/veh	4.6	4.5	8.2	27.8	1.9	0.1	19.5	0.0	11.3	0.3	0.3	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	17.2	19.2	11.5	17.1	0.8	6.2	0.0	12.2	0.6	0.6	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	72.2	42.3	45.9	88.0	29.7	18.0	81.8	0.0	59.9	48.0	47.9	42.7
LnGrp LOS	E	D	D	F	C	B	F	A	E	D	D	D
Approach Vol, veh/h		1835			2270			469			78	
Approach Delay, s/veh		45.8			36.2			66.7			45.1	
Approach LOS		D			D			E			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	27.9	63.8		21.3	12.4	79.3		32.0				
Change Period (Y+Rc), s	5.0	5.2		* 5.3	4.5	5.2		4.0				
Max Green Setting (Gmax), s	26.0	55.5		* 16	10.9	71.1		28.0				
Max Q Clear Time (g_c+I1), s	22.9	42.3		13.1	7.9	44.9		4.9				
Green Ext Time (p_c), s	0.0	3.3		0.1	0.0	5.6		0.1				

Intersection Summary			
HCM 6th Ctrl Delay		43.2	
HCM 6th LOS		D	

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	173	1626	62	49	2041	270	46	6	26	119	5	70
Future Volume (veh/h)	173	1626	62	49	2041	270	46	6	26	119	5	70
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	175	1642	63	49	2062	273	46	6	26	120	5	71
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99	0.99
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	199	2670	829	109	2261	834	389	408	346	149	9	125
Arrive On Green	0.11	0.51	0.51	0.03	0.44	0.44	0.21	0.21	0.21	0.08	0.08	0.08
Sat Flow, veh/h	1810	5187	1610	3510	5187	1610	1810	1900	1610	1810	107	1519
Grp Volume(v), veh/h	175	1642	63	49	2062	273	46	6	26	120	0	76
Grp Sat Flow(s),veh/h/ln	1810	1729	1610	1755	1729	1610	1810	1900	1610	1810	0	1626
Q Serve(g_s), s	12.9	30.3	2.7	1.9	50.2	13.3	2.8	0.3	1.7	8.8	0.0	6.1
Cycle Q Clear(g_c), s	12.9	30.3	2.7	1.9	50.2	13.3	2.8	0.3	1.7	8.8	0.0	6.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.93
Lane Grp Cap(c), veh/h	199	2670	829	109	2261	834	389	408	346	149	0	134
V/C Ratio(X)	0.88	0.61	0.08	0.45	0.91	0.33	0.12	0.01	0.08	0.81	0.00	0.57
Avail Cap(c_a), veh/h	201	2670	829	130	2261	834	389	408	346	149	0	134
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	59.2	23.3	16.5	64.3	35.6	18.9	42.7	41.7	42.3	60.9	0.0	59.6
Incr Delay (d2), s/veh	31.7	1.1	0.2	1.1	7.0	1.0	0.6	0.1	0.4	35.8	0.0	16.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.5	11.8	1.1	0.8	21.3	5.3	1.3	0.2	0.7	5.6	0.0	3.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	90.9	24.3	16.7	65.3	42.6	19.9	43.3	41.8	42.7	96.6	0.0	76.0
LnGrp LOS	F	C	B	E	D	B	D	D	D	F	A	E
Approach Vol, veh/h		1880			2384			78			196	
Approach Delay, s/veh		30.3			40.5			43.0			88.6	
Approach LOS		C			D			D			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.2	75.9	33.9	16.0	19.8	65.3	16.0	33.9
Change Period (Y+Rc), s	5.0	6.4	4.9	4.9	5.0	6.4	4.9	4.9
Max Green Setting (Gmax), s	5.6	68.7	29.0	11.1	15.0	58.7	11.1	29.0
Max Q Clear Time (g_c+I1), s	3.9	32.3	4.8	8.1	14.9	52.2	10.8	3.7
Green Ext Time (p_c), s	0.0	15.0	0.0	0.0	0.0	5.6	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	38.4
HCM 6th LOS	D

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	385	914	48	177	1390	262	82	172	90	249	210	464
Future Volume (veh/h)	385	914	48	177	1390	262	82	172	90	249	210	464
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	405	962	51	186	1463	276	86	181	95	262	221	488
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	435	2261	120	218	2004	869	102	1212	475	277	1193	1287
Arrive On Green	0.12	0.45	0.45	0.06	0.39	0.39	0.06	0.23	0.23	0.15	0.33	0.33
Sat Flow, veh/h	3510	5043	267	3510	5187	1610	1810	5187	1606	1810	3610	2831
Grp Volume(v), veh/h	405	659	354	186	1463	276	86	181	95	262	221	488
Grp Sat Flow(s),veh/h/ln	1755	1729	1852	1755	1729	1610	1810	1729	1606	1810	1805	1416
Q Serve(g_s), s	24.0	27.3	27.4	11.0	50.6	20.0	9.9	5.8	9.3	30.1	9.2	23.9
Cycle Q Clear(g_c), s	24.0	27.3	27.4	11.0	50.6	20.0	9.9	5.8	9.3	30.1	9.2	23.9
Prop In Lane	1.00		0.14	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	435	1550	830	218	2004	869	102	1212	475	277	1193	1287
V/C Ratio(X)	0.93	0.43	0.43	0.85	0.73	0.32	0.84	0.15	0.20	0.95	0.19	0.38
Avail Cap(c_a), veh/h	525	1550	830	294	2004	869	155	1212	475	348	1193	1287
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.87	0.87	0.87	1.00	1.00	1.00	1.00	1.00	1.00	0.93	0.93	0.93
Uniform Delay (d), s/veh	91.1	39.5	39.5	97.5	55.1	26.9	98.2	63.9	55.4	88.1	50.1	37.8
Incr Delay (d2), s/veh	17.8	0.7	1.4	13.0	2.4	1.0	14.4	0.3	0.9	27.1	0.3	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.9	11.7	12.7	5.4	22.2	7.9	5.0	2.6	3.9	16.1	4.2	8.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	108.9	40.2	40.9	110.6	57.4	27.8	112.5	64.2	56.3	115.2	50.5	38.6
LnGrp LOS	F	D	D	F	E	C	F	E	E	F	D	D
Approach Vol, veh/h		1418			1925			362			971	
Approach Delay, s/veh		60.0			58.3			73.6			61.9	
Approach LOS		E			E			E			E	

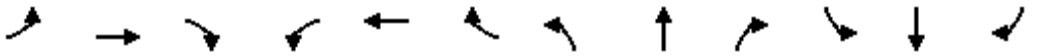
Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.6	100.4	16.4	75.6	30.6	87.4	36.8	55.3
Change Period (Y+Rc), s	4.6	6.2	4.6	6.2	4.6	6.2	4.6	6.2
Max Green Setting (Gmax), s	17.6	83.4	18.0	69.4	31.4	69.6	40.4	47.0
Max Q Clear Time (g_c+I1), s	13.0	29.4	11.9	25.9	26.0	52.6	32.1	11.3
Green Ext Time (p_c), s	0.0	0.8	0.0	0.3	0.0	1.6	0.0	0.2

Intersection Summary	
HCM 6th Ctrl Delay	60.8
HCM 6th LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	134	717	180	105	964	58	336	152	78	57	152	228
Future Volume (veh/h)	134	717	180	105	964	58	336	152	78	57	152	228
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1976	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	141	755	189	111	1015	61	354	160	82	60	160	240
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	164	1326	963	134	1266	565	376	858	419	77	722	465
Arrive On Green	0.09	0.37	0.37	0.07	0.35	0.35	0.21	0.37	0.37	0.04	0.20	0.20
Sat Flow, veh/h	1810	3610	1675	1810	3610	1610	1810	2350	1147	1810	3610	1598
Grp Volume(v), veh/h	141	755	189	111	1015	61	354	121	121	60	160	240
Grp Sat Flow(s),veh/h/ln	1810	1805	1675	1810	1805	1610	1810	1805	1691	1810	1805	1598
Q Serve(g_s), s	11.1	24.3	7.8	8.8	36.8	3.7	27.9	6.6	7.1	4.8	5.4	18.2
Cycle Q Clear(g_c), s	11.1	24.3	7.8	8.8	36.8	3.7	27.9	6.6	7.1	4.8	5.4	18.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.68	1.00		1.00
Lane Grp Cap(c), veh/h	164	1326	963	134	1266	565	376	659	618	77	722	465
V/C Ratio(X)	0.86	0.57	0.20	0.83	0.80	0.11	0.94	0.18	0.20	0.78	0.22	0.52
Avail Cap(c_a), veh/h	180	1326	963	203	1266	565	417	659	618	129	722	465
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	65.0	36.7	14.8	66.3	42.5	31.8	56.6	31.3	31.5	68.7	48.6	42.9
Incr Delay (d2), s/veh	28.3	1.8	0.5	9.7	5.4	0.4	27.3	0.6	0.7	6.2	0.7	4.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.3	10.6	3.0	4.3	16.6	1.5	15.2	2.9	3.0	2.3	2.5	7.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	93.4	38.5	15.2	75.9	47.9	32.2	83.9	31.9	32.2	75.0	49.3	47.0
LnGrp LOS	F	D	B	E	D	C	F	C	C	E	D	D
Approach Vol, veh/h		1085			1187			596			460	
Approach Delay, s/veh		41.6			49.8			62.8			51.4	
Approach LOS		D			D			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	15.3	59.8	10.8	59.2	17.7	57.3	34.7	35.2
Change Period (Y+Rc), s	4.6	6.5	4.6	6.2	4.6	6.5	4.6	6.2
Max Green Setting (Gmax), s	10.3	44.4	10.3	52.1	14.4	46.3	33.4	29.0
Max Q Clear Time (g_c+I1), s	10.8	26.3	6.8	9.1	13.1	38.8	29.9	20.2
Green Ext Time (p_c), s	0.0	8.7	0.0	1.3	0.0	5.3	0.2	1.1

Intersection Summary	
HCM 6th Ctrl Delay	49.7
HCM 6th LOS	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	38	2153	50	350	1896	24	89	9	455	29	20	39
Future Volume (veh/h)	38	2153	50	350	1896	24	89	9	455	29	20	39
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	39	2197	51	357	1935	24	91	9	464	25	27	40
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	77	2173	50	432	3310	1026	104	10	485	349	367	346
Arrive On Green	0.02	0.42	0.42	0.24	0.64	0.64	0.06	0.06	0.06	0.19	0.19	0.19
Sat Flow, veh/h	3510	5215	121	1810	5187	1608	1654	164	1610	1810	1900	1610
Grp Volume(v), veh/h	39	1455	793	357	1935	24	100	0	464	25	27	40
Grp Sat Flow(s),veh/h/ln	1755	1729	1878	1810	1729	1608	1817	0	1610	1810	1900	1610
Q Serve(g_s), s	1.6	60.4	60.4	27.1	31.2	0.8	7.9	0.0	6.4	1.6	1.7	2.9
Cycle Q Clear(g_c), s	1.6	60.4	60.4	27.1	31.2	0.8	7.9	0.0	6.4	1.6	1.7	2.9
Prop In Lane	1.00		0.06	1.00		1.00	0.91		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	77	1440	782	432	3310	1026	114	0	485	349	367	346
V/C Ratio(X)	0.51	1.01	1.01	0.83	0.58	0.02	0.88	0.00	0.96	0.07	0.07	0.12
Avail Cap(c_a), veh/h	121	1440	782	432	3310	1026	114	0	485	349	367	346
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	70.1	42.3	42.3	52.4	15.1	9.6	67.4	0.0	49.7	47.9	47.9	45.8
Incr Delay (d2), s/veh	1.9	26.2	35.6	11.8	0.8	0.0	55.9	0.0	31.3	0.4	0.4	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	29.6	34.2	13.4	11.3	0.3	5.4	0.0	20.8	0.8	0.9	1.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	72.1	68.5	77.9	64.1	15.9	9.7	123.3	0.0	81.0	48.3	48.3	46.5
LnGrp LOS	E	F	F	E	B	A	F	A	F	D	D	D
Approach Vol, veh/h		2287			2316			564			92	
Approach Delay, s/veh		71.8			23.3			88.5			47.5	
Approach LOS		E			C			F			D	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	40.0	65.6		14.4	7.7	97.9		32.0				
Change Period (Y+Rc), s	5.2	* 5.2		* 5.3	4.5	5.2		4.0				
Max Green Setting (Gmax), s	28.0	* 60		* 9.1	5.0	83.9		28.0				
Max Q Clear Time (g_c+I1), s	29.1	62.4		9.9	3.6	33.2		4.9				
Green Ext Time (p_c), s	0.0	0.0		0.0	0.0	5.7		0.1				

Intersection Summary		
HCM 6th Ctrl Delay		51.8
HCM 6th LOS		D

Notes

User approved volume balancing among the lanes for turning movement.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	62	2469	106	126	2065	106	113	9	70	137	5	91
Future Volume (veh/h)	62	2469	106	126	2065	106	113	9	70	137	5	91
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	63	2519	108	129	2107	108	115	9	71	140	5	92
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.99
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	81	2586	803	156	2585	936	389	408	344	154	7	131
Arrive On Green	0.04	0.50	0.50	0.04	0.50	0.50	0.21	0.21	0.21	0.09	0.09	0.09
Sat Flow, veh/h	1810	5187	1610	3510	5187	1604	1810	1900	1601	1810	84	1539
Grp Volume(v), veh/h	63	2519	108	129	2107	108	115	9	71	140	0	97
Grp Sat Flow(s),veh/h/ln	1810	1729	1610	1755	1729	1604	1810	1900	1601	1810	0	1623
Q Serve(g_s), s	4.7	63.9	4.9	4.9	46.3	4.1	7.2	0.5	4.9	10.4	0.0	7.9
Cycle Q Clear(g_c), s	4.7	63.9	4.9	4.9	46.3	4.1	7.2	0.5	4.9	10.4	0.0	7.9
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.95
Lane Grp Cap(c), veh/h	81	2586	803	156	2585	936	389	408	344	154	0	138
V/C Ratio(X)	0.78	0.97	0.13	0.83	0.82	0.12	0.30	0.02	0.21	0.91	0.00	0.70
Avail Cap(c_a), veh/h	94	2586	803	156	2585	936	389	408	344	154	0	138
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	63.8	33.0	18.2	64.0	28.6	12.6	44.4	41.8	43.5	61.2	0.0	60.1
Incr Delay (d2), s/veh	24.9	12.6	0.3	27.7	3.0	0.3	1.9	0.1	1.4	51.5	0.0	25.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	27.6	1.9	2.7	18.5	1.6	3.5	0.3	2.1	7.0	0.0	4.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	88.8	45.6	18.5	91.7	31.6	12.8	46.4	41.9	44.9	112.7	0.0	85.8
LnGrp LOS	F	D	B	F	C	B	D	D	D	F	A	F
Approach Vol, veh/h		2690			2344			195			237	
Approach Delay, s/veh		45.5			34.0			45.6			101.7	
Approach LOS		D			C			D			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.0	73.7	33.9	16.4	11.0	73.7	16.4	33.9
Change Period (Y+Rc), s	5.0	6.4	4.9	4.9	5.0	6.4	4.9	4.9
Max Green Setting (Gmax), s	6.0	67.3	29.0	11.5	7.0	66.3	11.5	29.0
Max Q Clear Time (g_c+I1), s	10.9	65.9	9.2	9.9	6.7	48.3	12.4	6.9
Green Ext Time (p_c), s	0.0	1.3	0.0	0.0	0.0	13.4	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	43.0
HCM 6th LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	526	1392	68	240	1178	217	121	250	235	322	386	410
Future Volume (veh/h)	526	1392	68	240	1178	217	121	250	235	322	386	410
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		0.99	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	554	1465	72	253	1240	228	127	263	247	339	406	432
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	454	1600	79	271	1369	663	149	1625	629	270	1373	1441
Arrive On Green	0.13	0.32	0.32	0.08	0.26	0.26	0.08	0.31	0.31	0.15	0.38	0.38
Sat Flow, veh/h	3510	5064	249	3510	5187	1601	1810	5187	1609	1810	3610	2825
Grp Volume(v), veh/h	554	1000	537	253	1240	228	127	263	247	339	406	432
Grp Sat Flow(s),veh/h/ln	1755	1729	1855	1755	1729	1601	1810	1729	1609	1810	1805	1412
Q Serve(g_s), s	19.4	41.8	41.8	10.7	34.7	14.6	10.4	5.5	16.6	22.4	11.8	13.3
Cycle Q Clear(g_c), s	19.4	41.8	41.8	10.7	34.7	14.6	10.4	5.5	16.6	22.4	11.8	13.3
Prop In Lane	1.00		0.13	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	454	1093	586	271	1369	663	149	1625	629	270	1373	1441
V/C Ratio(X)	1.22	0.92	0.92	0.93	0.91	0.34	0.85	0.16	0.39	1.25	0.30	0.30
Avail Cap(c_a), veh/h	454	1093	586	271	1369	663	223	1625	629	270	1373	1441
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.58	0.58	0.58	1.00	1.00	1.00	1.00	1.00	1.00	0.90	0.90	0.90
Uniform Delay (d), s/veh	65.3	49.4	49.4	68.8	53.4	30.1	67.9	37.3	32.9	63.8	32.4	21.3
Incr Delay (d2), s/veh	110.5	8.5	14.1	36.3	10.2	1.4	12.2	0.2	1.8	138.9	0.5	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	15.4	18.7	20.9	6.1	15.9	5.8	5.2	2.3	6.6	20.5	5.1	4.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	175.8	57.8	63.5	105.1	63.6	31.5	80.2	37.5	34.7	202.7	32.9	21.8
LnGrp LOS	F	E	E	F	E	C	F	D	C	F	C	C
Approach Vol, veh/h		2091			1721			637			1177	
Approach Delay, s/veh		90.5			65.4			44.9			77.7	
Approach LOS		F			E			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.2	53.6	16.9	63.3	24.0	45.8	27.0	53.2
Change Period (Y+Rc), s	4.6	6.2	4.6	6.2	4.6	6.2	4.6	6.2
Max Green Setting (Gmax), s	11.6	47.4	18.5	50.9	19.4	39.6	22.4	47.0
Max Q Clear Time (g_c+I1), s	12.7	43.8	12.4	15.3	21.4	36.7	24.4	18.6
Green Ext Time (p_c), s	0.0	0.9	0.0	0.4	0.0	0.7	0.0	0.2

Intersection Summary	
HCM 6th Ctrl Delay	75.0
HCM 6th LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	221	1031	281	153	981	65	277	229	131	82	242	193
Future Volume (veh/h)	221	1031	281	153	981	65	277	229	131	82	242	193
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1900	1900	1976	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adj Flow Rate, veh/h	230	1074	293	159	1022	68	289	239	136	85	252	201
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	0	0	0	0	0	0	0	0	0	0	0	0
Cap, veh/h	252	1360	918	182	1220	543	311	705	387	106	722	546
Arrive On Green	0.14	0.38	0.38	0.10	0.34	0.34	0.17	0.31	0.31	0.06	0.20	0.20
Sat Flow, veh/h	1810	3610	1675	1810	3610	1609	1810	2249	1234	1810	3610	1605
Grp Volume(v), veh/h	230	1074	293	159	1022	68	289	190	185	85	252	201
Grp Sat Flow(s),veh/h/ln	1810	1805	1675	1810	1805	1609	1810	1805	1678	1810	1805	1605
Q Serve(g_s), s	18.2	38.3	13.9	12.6	37.9	4.2	22.8	11.7	12.3	6.7	8.7	13.7
Cycle Q Clear(g_c), s	18.2	38.3	13.9	12.6	37.9	4.2	22.8	11.7	12.3	6.7	8.7	13.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.74	1.00		1.00
Lane Grp Cap(c), veh/h	252	1360	918	182	1220	543	311	566	526	106	722	546
V/C Ratio(X)	0.91	0.79	0.32	0.87	0.84	0.13	0.93	0.34	0.35	0.80	0.35	0.37
Avail Cap(c_a), veh/h	267	1360	918	208	1220	543	329	566	526	166	722	546
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	61.5	40.1	17.9	64.3	44.3	33.2	59.2	38.2	38.4	67.4	49.9	36.2
Incr Delay (d2), s/veh	30.9	4.7	0.9	26.4	7.0	0.5	30.3	1.6	1.8	6.7	1.3	1.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.2	17.0	5.4	6.9	17.3	1.7	12.8	5.3	5.2	3.3	4.0	5.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	92.4	44.8	18.8	90.7	51.3	33.7	89.5	39.8	40.3	74.1	51.2	38.1
LnGrp LOS	F	D	B	F	D	C	F	D	D	E	D	D
Approach Vol, veh/h		1597			1249			664			538	
Approach Delay, s/veh		46.9			55.4			61.6			49.9	
Approach LOS		D			E			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	19.2	61.1	13.1	51.6	24.8	55.5	29.5	35.2
Change Period (Y+Rc), s	4.6	6.5	4.6	6.2	4.6	6.5	4.6	6.2
Max Green Setting (Gmax), s	16.7	51.0	13.3	42.1	21.4	46.3	26.4	29.0
Max Q Clear Time (g_c+I1), s	14.6	40.3	8.7	14.3	20.2	39.9	24.8	15.7
Green Ext Time (p_c), s	0.0	8.1	0.0	2.0	0.0	4.6	0.1	1.7

Intersection Summary	
HCM 6th Ctrl Delay	52.3
HCM 6th LOS	D

APPENDIX E

TRAFFIC COLLISION TIMS REPORTS

Crash Diagram

Primary Street:
Bear Valley Road

Secondary Street:
Apple Valley Road

Time Period:
Jan 2015 - Dec 2021

Agency Name:
LSA

Mapping Summary:	
Fatal Crash	5
Injury Crash	44
Mapped	49
Not Drawn	15
Total	64

- Straight
- Left Turn
- Right Turn
- U-Turn
- Overturned
- Ran Off Road
- Stopped
- Parked
- Pedestrian
- Bicycle
- Object
- Fatal Crash
- Injury Crash

Date Created: 02/21/2023

Created by TIMS (https://tims.berkeley.edu) © UC Regents, 2014-2023

ATP Maps & Summary Data

The tool is designed to support the California Active Transportation Program (ATP), as well as active transportation users and practitioners throughout California. The tool utilizes interactive crash maps to allow users to track and document pedestrian and bicycle crashes and generate data summaries within specified project and/or community limits.

Step 1: Select a County/City, Bike/Ped, Severity, and Years

County: San Bernardino

City: Apple Valley

Include 1 mile buffer outside of selected County/City: No

Include State Highway Related Crashes: Yes

Involved With: Pedestrian and Bicycle

Crash Severity: Fatal, Severe Injury, Other Visible Injury, and Complaint of Pain

Year: 2015 - 2021

Crash Summary for initial parameters defined above:

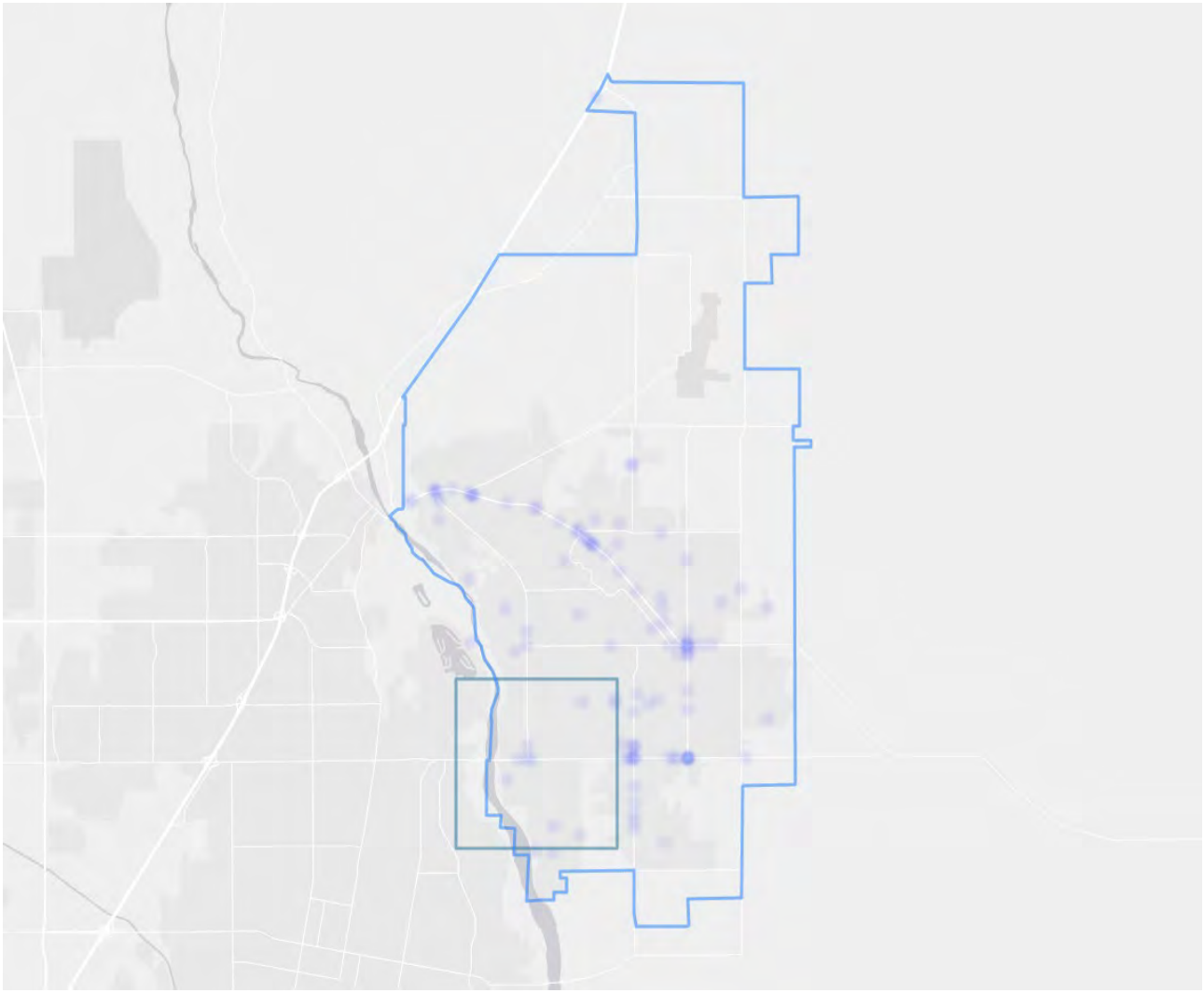
Number of Crashes by Crash Severity

Involved With	Fatal	Severe Injury	Visible Injury	Complaint of Pain	Total
Bicycle	1	3	13	12	29
Pedestrian	24	17	31	20	92

County/City Heat Map:

Step 2: Identify your project area to develop a more localized Community Heat Map

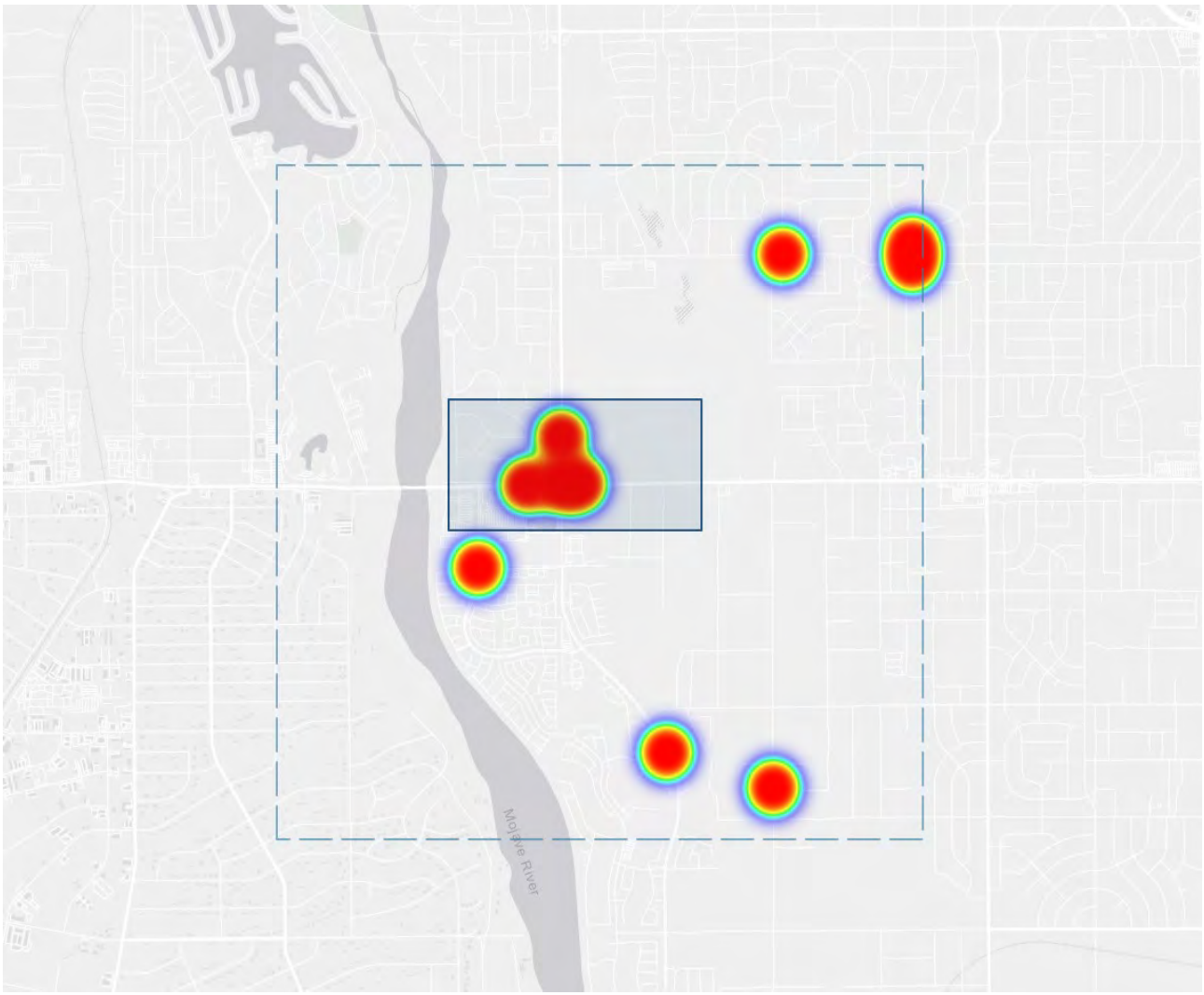
Select the size of your proposed project limits: Less than 3 miles across.



The heat map intensity scale is constant throughout the state.

Community Heat Map:

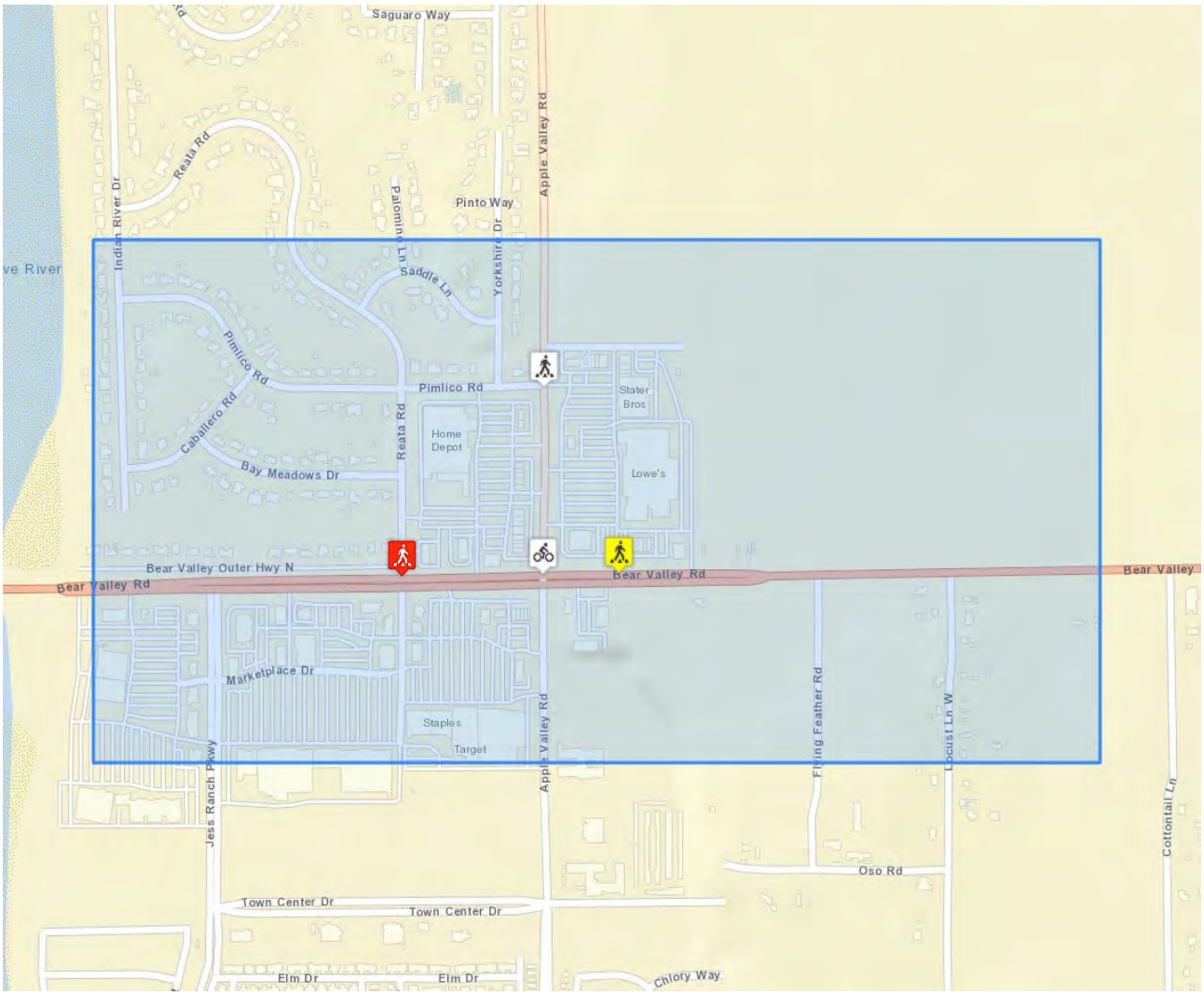
Step 3: Draw the project boundaries to get detailed crash data summaries and map



The heat map intensity scale is custom generated for the selected community.

Project Area Crash Map: 4 total crashes.

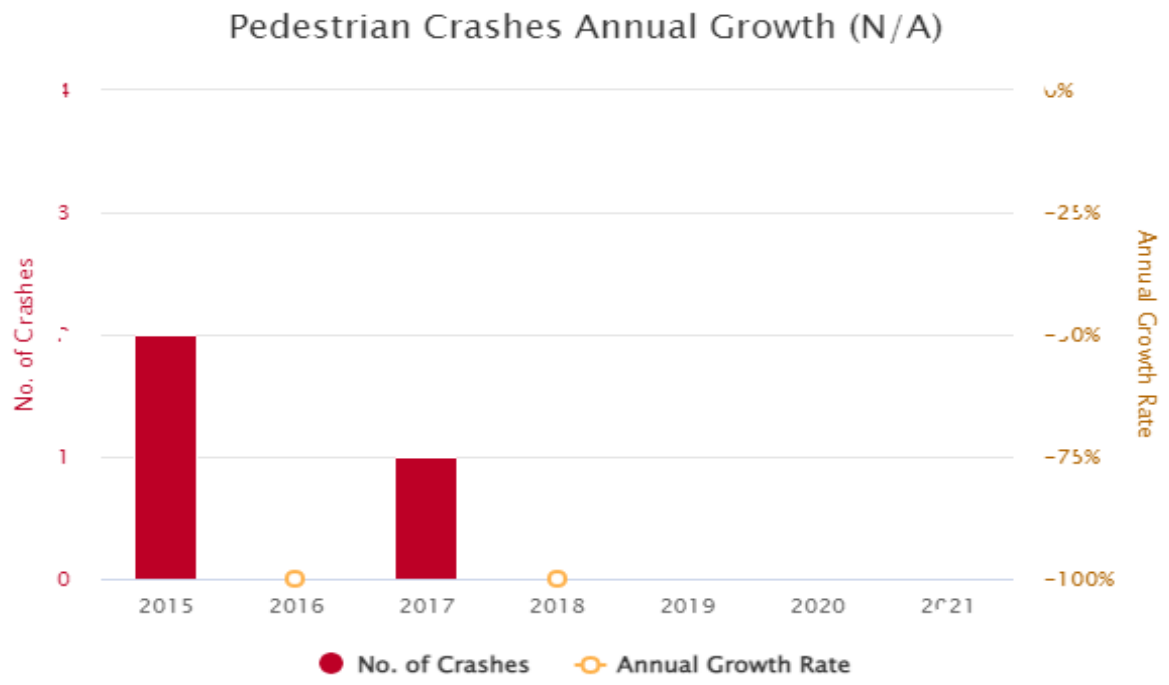
Step 4: Review the project-specific crash map

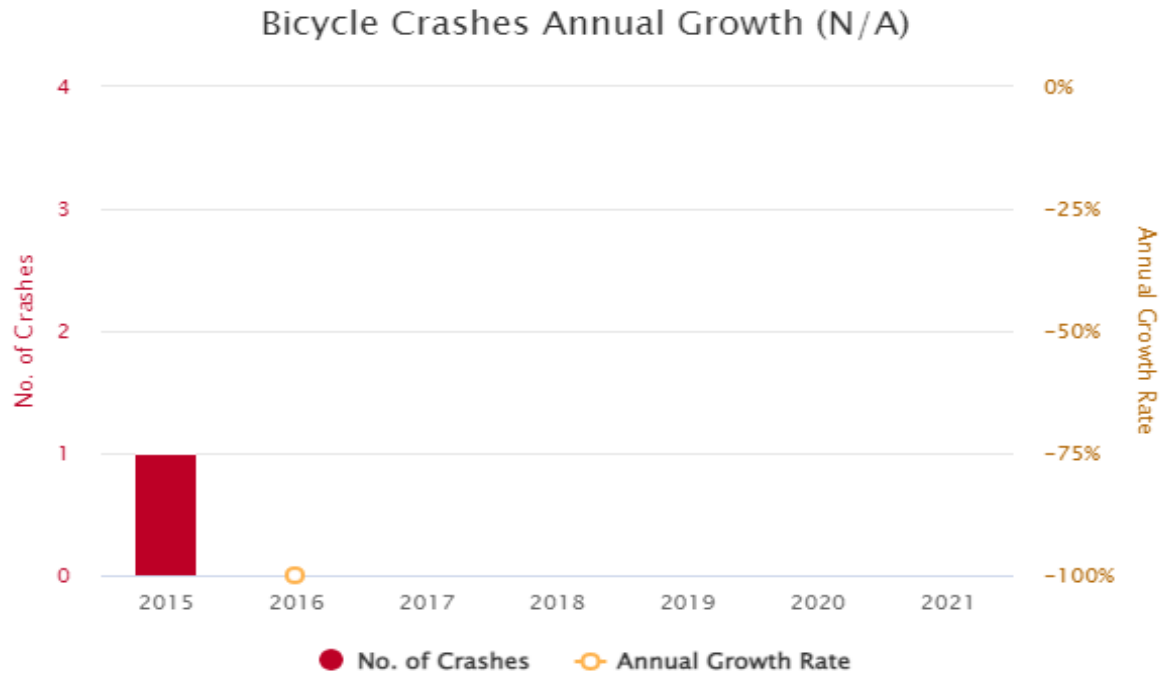


Step 5: Review the crash summary data, graphs and tables provided.

Summary Results

Involved With	Fatal	Severe Injury	Visible Injury	Complaint of Pain	Total
Bicycle	0	0	0	1	1
Pedestrian	1	0	1	1	3





Crash List

CASE ID	Date	Time	Primary Rd	Secondary Rd	Dist & Dir from Int.	Bike	Ped	Killed	Injured	
6996856	02/06/2015	18:40	Bear Valley Rd	Apple Valley Rd	465 ft East	No	Yes		0	1
7052917	08/20/2015	17:11	Bear Vally Rd	Apple Valley Rd	At Int	Yes	No		0	1
7199538	10/19/2015	07:39	Bear Valley Rd	Reata Rd	At Int	No	Yes		1	0
8313323	01/24/2017	19:16	Apple Valley Rd	Pimlico Rd	At Int	No	Yes		0	1

MITIGATION MONITORING AND REPORTING PROGRAM
APPLE BEAR COMMERCIAL PROJECT

This Mitigation Monitoring and Reporting Program has been prepared for use in implementing mitigation for the:

Apple Bear Commercial Project
DP 2022-004, SUP 2022-002, TPM 20473

The program has been prepared in compliance with State law and the Mitigated Negative Declaration (MND) prepared for the project by the Town of Apple Valley (Town).

The California Environmental Quality Act (CEQA) requires adoption of a reporting or monitoring program for those measures placed on a project to mitigate or avoid significant effects on the environment (Public Resource Code Section 21081.6). The law states the reporting or monitoring program shall be designed to ensure compliance during project implementation.

The monitoring program contains the following elements:

1) The mitigation measures are recorded with the action and procedure necessary to ensure compliance. In some instances, one action may be used to verify implementation of several mitigation measures.
2) A procedure for compliance and verification has been outlined for each action necessary. This procedure designates who will take action, what action will be taken and when, and to whom and when compliance will be reported.
3) The program has been designed to be flexible. As monitoring progresses, changes to compliance procedures may be necessary based upon recommendations by those responsible for the program. As changes are made, new monitoring compliance procedures and records will be developed and incorporated into the program.

This Mitigation Monitoring and Reporting Program includes mitigation identified in the MND.

MITIGATION MONITORING AND RESPONSIBILITIES

As the Lead Agency, the Town is responsible for ensuring full compliance with the mitigation measures adopted for the proposed project. The Town will monitor and report on all mitigation activities. Mitigation measures will be implemented at different stages of development throughout the project site. In this regard, the responsibilities for implementation have been assigned to the Applicant, Contractor, or a combination thereof. If, during the course of project implementation, any of the mitigation measures identified herein cannot be successfully implemented, the Town shall be immediately informed, and the Town will then inform any affected responsible agencies. The Town, in conjunction with any affected responsible agencies, will then determine if modification to the project is required and/or whether alternative mitigation is appropriate.

STANDARD CONDITIONS

Standard Conditions are presented in instances where the proposed project would not create a significant impact but would be required to adhere to regulatory requirements in order to ensure impacts do not become significant. Standard Conditions outline compliance with various federal, State, and/or local acts, laws, rules, regulations, municipal codes, policies, etc.

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MITIGATION MONITORING AND REPORTING PROGRAM CHECKLIST

Project Name: Apple Bear Commercial Project **Applicant:** **Wood Investments Company, Inc.**

Date: **June 19, 2023**

Mitigation Measure No. / Implementing Action	Responsible for Monitoring	Timing of Verification	Method of Verification	Verified Date/ Initials	Sanctions for Non-Compliance
Biological Resources					
MITIGATION MEASURE BIO-1: Prior to the issuance of a grading permit, a pre-construction burrowing owl clearance survey must be conducted by a qualified biologist within 14 days prior to the beginning of project construction to determine if the project site contains suitable burrowing owl habitat and to avoid any potential impacts to the species. The survey shall include 100 percent coverage of the project site, plus 150-meter buffer to ensure no owls have emigrated onto the site. If the burrowing owl survey reveals no burrowing owls are present, no additional actions related to this measure are required. If occupied burrows are found within the development footprint during the pre-construction clearance survey, **Mitigation Measure BIO-2** shall apply.	Town of Apple Valley Planning Division or designee.	Prior to the issuance of demolition and grading permits.	Evidence to the Town of a submitted pre-construction burrowing owl clearance survey by a qualified biologist within 14 days prior to commencement of project construction.		Withhold grading permit.
MITIGATION MEASURE BIO-2: If occupied burrows are found within the development footprint during the pre-construction burrowing owl survey, site-specific buffer zones shall be established by the qualified biologist through consultation with the California Department of Fish and Wildlife (CDFW). The buffer zones may vary depending on burrow location and burrowing owl sensitivity to human activity, and no construction activity shall occur within a buffer zone(s) until appropriate avoidance and minimization measures are determined through consultation with the CDFW.	Town of Apple Valley Planning Division or designee and the CDFW.	Prior to the commencement of ground disturbance activities and during construction.	Evidence to the Town: • A qualified biologist is retained; • The required pre-construction burrowing owl clearance survey has been completed; • Results of consultation with CDFW; • If necessary, appropriate buffers		Withhold grading permit and/or issuance of a stop work order.

Project Name: Apple Bear Commercial Project			Applicant:	Wood Investments Company, Inc.	
			Date:	June 19, 2023	

Mitigation Measure No. / Implementing Action	Responsible for Monitoring	Timing of Verification	Method of Verification	Verified Date/ Initials	Sanctions for Non-Compliance
As part of the consultation process, the CDFW may require some or all of the following avoidance and minimization measures: • Preparation of a burrowing owl relocation/translocation plan describing the methodology for passive and active relocation of burrowing owls from the project site, a monitoring strategy, and long-term conservation of relocated owls for submittal to the CDFW for approval prior to ground-disturbing activities. • Replacement of burrowing owl habitat acreage in accordance with the guidelines provided in Appendix A of the Staff Report on Burrowing Owl Mitigation, State of California Natural Resource Agency, Department of Fish and Game, May 7, 2012. • Establishment of permanent conservation lands comprised of similar vegetation communities to provide for burrowing owl nesting, foraging, wintering, and dispersal (i.e., during breeding and non-breeding seasons) comparable to or better than that of the impact area. Such conservation lands must be of sufficiently large acreage and be occupied by fossorial mammals. Conservation lands may require habitat enhancements including enhancement or expansion of burrows for breeding, shelter and dispersal opportunity, and removal or control of population stressors as determined by the CDFW. If the conservation lands are located adjacent to the impacted			established and monitored until the nesting effort is finished; • Submittal of a report to the Town for mitigation monitoring compliance record keeping.		

Project Name: Apple Bear Commercial Project			Applicant:	Wood Investments Company, Inc.	
			Date:	June 19, 2023	

Mitigation Measure No. / Implementing Action	Responsible for Monitoring	Timing of Verification	Method of Verification	Verified Date/ Initials	Sanctions for Non-Compliance
burrow site, the nearest neighbor artificial or natural burrow clusters must be at least within 210 meters of the impacted burrow site. • Development and implementation of a mitigation land management plan to address long-term ecological sustainability and maintenance of the site for burrowing owls. • Funding of maintenance and management of mitigation land through the establishment of a long-term funding mechanism such as an endowment. • Restoration of any temporarily disturbed areas to the pre-project condition, including decompacting soil and revegetating. This measure shall be implemented to the satisfaction of the Town of Apple Valley Planning Division and the CDFW.					
MITIGATION MEASURE BIO-3: If grubbing and/or ground disturbance is proposed during nesting bird season (February through August), a pre-construction nesting survey shall be conducted by a qualified biologist (Project Biologist) within 14 days prior to start of work. If the survey indicates nesting birds are present, an appropriate buffer to be established by the Project Biologist shall be marked off around the nest(s), and no grubbing or ground disturbance shall occur in that area during nesting activities. Grubbing and/or ground disturbance may resume within the established buffer when the Project Biologist determines the nest is no longer occupied and all juveniles have left the nest.	Town of Apple Valley Planning Division or designee.	Prior to the commencement of ground disturbance activities and during construction.	Evidence to the Town: • A qualified biologist is retained; • The required pre-construction nesting survey has been completed; • If necessary, appropriate buffers established and monitored until the		Issuance of a stop work order.

Project Name: Apple Bear Commercial Project			Applicant:	Wood Investments Company, Inc.	
			Date:	June 19, 2023	

Mitigation Measure No. / Implementing Action	Responsible for Monitoring	Timing of Verification	Method of Verification	Verified Date/ Initials	Sanctions for Non-Compliance
This measure shall be implemented to the satisfaction of the Apple Valley Planning Division or designee.			nesting effort is finished; • Submittal of a report to the Town for mitigation monitoring compliance record keeping.		
CULTURAL RESOURCES					
MITIGATION MEASURE CUL-1: Prior to the start of earth moving activities, the Project Applicant shall retain an archaeologist to conduct cultural resources sensitivity training for all construction personnel. Construction personnel shall be informed of the types of archaeological resources that may be encountered, and of the proper procedures be to enacted in the event of an inadvertent discovery of precontact or historic archaeological resources or human remains. The Project Applicant shall ensure that construction personnel are made available for and attend the training and retain documentation demonstrating attendance. This measure shall be implemented to the satisfaction of the Director of the Town of Apple Valley Community Development Department, Planning Division.	Town of Apple Valley Planning Division or designee.	Prior to and during construction.	Evidence to the Town: 1) An archaeologist is retained; 2) The archaeologist administers Cultural Resource Sensitivity Training and monitors ground-disturbing activities.		Issuance of a stop work order.
MITIGATION MEASURE CUL-2: In the event that cultural resources are discovered during project activities, all work in the immediate vicinity of the find (within a 60-foot buffer) shall cease and a qualified archaeologist meeting Secretary of Interior standards shall be hired to assess the find. Work on the other portions of the project outside of the buffered area may continue during this assessment period. Additionally, the Yuhaaviatam of San Manuel Nation (YSMN) Cultural Resources Department (YSMN) shall be contacted,	Town of Apple Valley Community Development Director or designee.	During construction.	Evidence to the Town: 1) Appropriate buffers are established as necessary; 2) Recommendation for the treatment and disposition of resources by the qualified archaeologist in consultation with the		Issuance of a stop work order.

Project Name: Apple Bear Commercial Project | **Applicant:** Wood Investments Company, Inc. | **Date:** June 19, 2023

Mitigation Measure No. / Implementing Action	Responsible for Monitoring	Timing of Verification	Method of Verification	Verified Date/ Initials	Sanctions for Non-Compliance
as detailed within **Mitigation Measure TCR-1**, regarding any pre-contact and/or historic-era finds and be provided information after the archaeologist makes his/her initial assessment of the nature of the find, so as to provide tribal input with regards to significance and treatment			Tribe[s] and Native American monitor[s].		
MITIGIATION MEASURE CUL-3: If significant pre-contact and/or historic-era cultural resources, as defined by CEQA (as amended, 2015), are discovered and avoidance cannot be ensured, the archaeologist shall develop a Monitoring and Treatment Plan, the drafts of which shall be provided to YSMN for review and comment, as detailed within **Mitigation Measure TCR-1**. The archaeologist shall monitor the remainder of the project and implement the Plan accordingly.	Town of Apple Valley Community Development Director or designee.	During construction.	Evidence to the Town: • Recommendation for the treatment and disposition of resources by the qualified archaeologist in consultation with the Tribe[s].		Issuance of a stop work order.
MITIGATION MEASURE CUL-4: If human remains or funerary objects are encountered during any activities associated with the project, work in the immediate vicinity (within a 100-foot buffer of the find) shall cease and the County Coroner shall be contacted pursuant to State Health and Safety Code Section 7050.5 and that code enforced for the duration of the project.	Town of Apple Valley Planning Division or designee.	During construction.	Evidence to the Town that appropriate buffer areas have been established as applicable, and results of coordination with Native American Tribe[s], Town of Apple Valley Community Development Director (or designee), and County Coroner as necessary.		Issuance of a stop work order.
GEOLOGY AND SOILS					
MITIGATION MEASURE GEO-1: Prior to issuance of grading and/or building permits, the Project Applicant shall provide evidence to the Town of Apple Valley (Town) for review and approval that proposed structures, features, and facilities	Town of Apple Valley Director of Building and	Prior to the issuance of grading or building permits, and during construction.	Evidence to the Town: 1) Project proponent/developer		Withhold grading or building permits, or

Project Name: Apple Bear Commercial Project			Applicant:	Wood Investments Company, Inc.	
			Date:	June 19, 2023	
Mitigation Measure No. / Implementing Action	**Responsible for Monitoring**	**Timing of Verification**	**Method of Verification**	**Verified Date/ Initials**	**Sanctions for Non-Compliance**
have been designed and would be constructed in conformance with applicable provisions of the 2022 edition of the California Building Code (CBC) or the most current edition of the CBC in effect at the time the Project Applicant's development application is deemed complete by the Town. Additionally, the Project Applicant shall prepare a site-specific geotechnical report for the project and provide evidence to the Town that the recommendations cited in the geotechnical report are incorporated into project plans and/or implemented as deemed appropriate by the Town. Geotechnical recommendations may include, but are not limited to, removal of existing vegetation, structural foundations, floor slabs, utilities, septic systems, and any other surface and subsurface improvements that would not remain in place for use with the new development. Remedial earthwork, overexcavation, and ground improvement shall occur to depths specified in the geotechnical report to provide a sufficient layer of engineered fill or densified soil beneath the structural footings/foundations, as well as proper surface drainage devices and erosion control. Fill soils shall consist of very low expansive soils. Construction of concrete structures in contact with subgrade soils determined to be corrosive shall include measures to protect concrete, steel, and other metals, including the use of Type V cement. Verification testing must be performed upon completion of ground improvements to confirm that the compressible soils have been sufficiently densified. The structural engineer must determine the ultimate thickness and reinforcement of the building floor slabs based on the imposed slab loading.	Safety or designee.		prepares a site-specific geotechnical report; 2) Proposed features, structures, and facilities have been designed and would be constructed per the 2022 CBC or most current edition; 3) Recommendations cited in the geotechnical report are incorporated into project plans and/or implemented as deemed appropriate by the Town; 4) Retainment of structural engineer to perform verification testing upon completion of ground improvements.		issuance of a stop work order.

Project Name: Apple Bear Commercial Project | **Applicant:** Wood Investments Company, Inc. | **Date:** June 19, 2023

Mitigation Measure No. / Implementing Action	Responsible for Monitoring	Timing of Verification	Method of Verification	Verified Date/ Initials	Sanctions for Non-Compliance
As necessary, the Town may require additional studies and/or engineering protocols to meet its requirements. This measure shall be implemented to the satisfaction of the Director of Building and Safety or designee.					
MITIGATION MEASURE GEO-2: Prior to issuance of a grading permit, the Project Applicant must retain a qualified paleontologist (defined as an individual with an M.S. or Ph.D. in paleontology or geology who is experienced with paleontological procedures and techniques, who is knowledgeable in the geology of California, and who has worked as a paleontological mitigation project supervisor for a least one year) to prepare a Paleontological Resource Impact Mitigation Plan (PRIMP) and monitor mass grading activities on the site. Implementation of the PRIMP shall include (but not be limited to) the following: • Review of Project-specific geotechnical report data, with particular regard to location and depth of earthmoving and the rock unit(s) encountered; • Development of a formal agreement between the Project Applicant and the San Bernardino County Museum, Natural History Museum of Los Angeles County, Western Science Center, San Diego Natural History Museum, Riverside Municipal Museum, or other accredited museum repository for the final disposition, permanent storage, and maintenance of any fossil collections and associated data; • The construction schedule, term/schedule of on-site paleontological monitor(s) and the extent of areas and activities to be monitored;	Town of Apple Valley Planning Division.	Prior to issuance of grading permits and during construction.	Evidence to Town: 1) Project Applicant/Developer retainment of a qualified paleontologist in the event of paleontological discoveries; 2) Appropriate buffer areas have been established as applicable.		Withhold grading permit and/or issuance of a stop work order.

Project Name: Apple Bear Commercial Project			Applicant:	Wood Investments Company, Inc.	
			Date:	June 19, 2023	

Mitigation Measure No. / Implementing Action	Responsible for Monitoring	Timing of Verification	Method of Verification	Verified Date/ Initials	Sanctions for Non-Compliance
• Authority of paleontological monitor(s) to temporarily redirect construction activity in the vicinity of any paleontological discovery; • Procedures for the evaluation and option to recover large fossil specimens and for the evaluation, recovery, and processing of small fossil specimens; • Fossil specimen preparation, identification to the lowest taxonomic level possible, curation, and cataloging; and • A report of findings. Monitoring shall occur from the outset of grading activities since the depth of older alluvium sediments on-site is unknown. However, the qualified paleontologist shall have the discretion of scaling back monitoring to a schedule approved by the Apple Valley Planning Division if, at the discretion of the paleontologist, grading is unlikely to reach depths of older alluvium sediments or if the sediments encountered on the site have little to no potential to yield paleontological resources. If paleontological resources are encountered during the course of ground disturbance, work within 60 feet of the find shall be halted, and an exclusionary buffer shall be established. The qualified paleontologist shall assess the find for scientific significance. Construction personnel shall not collect or move any suspected paleontological materials or further disturb any soils within the exclusionary buffer without the consent of the paleontologist and the Apple Valley Planning Division, but construction activity may continue unimpeded on other portions of the Project site. If the paleontologist determines the find is not a					

Project Name: Apple Bear Commercial Project			Applicant:	Wood Investments Company, Inc.	
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Mitigation Measure No. / Implementing Action	**Responsible for Monitoring**	**Timing of Verification**	**Method of Verification**	**Verified Date/ Initials**	**Sanctions for Non-Compliance**
paleontological resource, no further evaluation shall be required within the exclusionary buffer, and construction activity shall be allowed to resume therein. However, if the paleontologist determines the find is a paleontological resource, construction activity shall not resume within the exclusionary buffer, and **Mitigation Measure GEO-3** shall apply. This measure shall be implemented to the satisfaction of the Apple Valley Planning Division.					
MITIGATION MEASURE GEO-3: If the qualified paleontologist determines paleontological resources are encountered on the project site, the paleontologist shall address the resource(s) pursuant to the Paleontological Resource Impact Mitigation Plan (PRIMP) to be implemented during the balance of ground-disturbing activities. The paleontologist shall be equipped to record and salvage fossil resources that may be unearthed during construction and shall temporarily halt or divert construction equipment to allow recording and removal of the unearthed resources. Significant fossils shall be offered for curation at an accredited museum repository in accordance with the PRIMP. A report of findings, including, when appropriate, an itemized inventory of recovered specimens and a discussion of their significance, shall be prepared at the conclusion of paleontological monitoring. The report and inventory, when submitted to and approved by the Apple Valley Planning Division, would signify completion of the program. This measure shall be implemented to the satisfaction of the Apple Valley Planning Division.	Town of Apple Valley Planning Division.	During construction and in the event of paleontological resource discovery.	Evidence to the Town: 1) Project Applicant/developer-retained paleontologist prepares and submits a PRIMP to the Town; 2) Project Applicant/developer-retained paleontologist prepares and submits a report of findings upon completion of PRIMP implementation to the Town.		Withhold grading and/or building permits and/or issuance of a stop work order.
HAZARDS AND HAZARDOUS MATERIALS					

Project Name: Apple Bear Commercial Project | **Applicant:** Wood Investments Company, Inc. | **Date:** June 19, 2023

Mitigation Measure No. / Implementing Action	Responsible for Monitoring	Timing of Verification	Method of Verification	Verified Date/ Initials	Sanctions for Non-Compliance
MITIGATION MEASURE HAZ-1: An asbestos-containing materials (ACM) survey shall be completed for all structures proposed for demolition. A Certified Asbestos Consultant shall conduct the ACM survey. If the ACM survey reveals no detectable asbestos levels pursuant to Title 8, California Code of Regulations Section 1529, no further ACM survey or remedial work is required. However, if a detectable level of asbestos is identified within structures proposed for demolition, **Mitigation Measure HAZ-2** shall apply. This measure shall be implemented to the satisfaction of the Apple Valley Community Development Director or designee, and/or Building and Safety Division, or designee.	Town of Apple Valley Community Development Director or designee, and/or Building and Safety Division or designee.	Prior to demolition activities.	Evidence to the Town that an ACM survey was conducted by a Certified Asbestos Consultant .		Withhold demolition permit.
MITIGATION MEASURE HAZ-2: Prior to the demolition of any structure identified to contain asbestos-containing materials (ACM), the Project Applicant shall retain a Certified Asbestos Consultant to abate ACM from the demolition site pursuant to South Coast Air Quality Management District (SCAQMD) Rule 1403. An Asbestos Notification shall be prepared and submitted to the SCAQMD for approval if abatement of at least 100 square feet or 160 linear feet of ACM above one percent asbestos is required. The Certified Asbestos Consultant shall provide a construction and demolition plan with disposal tickets from a San Bernardino County Department of Public Works-Solid Waste Management Division-approved disposal facility and SCAQMD air clearances prior to any asbestos removal activity, and an asbestos report shall be provided to the County prior to the issuance of a demolition permit. This measure shall be implemented to the satisfaction of the Apple Valley Community Development Director or designee, and/or Building and Safety Division, or designee.	Town of Apple Valley Community Development Director or designee, and/or Building and Safety Division or designee.	Prior to demolition activities.	Evidence to the Town: 1) Project proponent/developer retains a Certified Asbestos Consultant to abate ACM from the site; 2) Project proponent/developer prepares and submits an Asbestos Notification to SCAQMD if notification conditions are met; 3) A construction and demolition plan with disposal tickets from approved disposal facilities and SCAQMD air clearances, along with		Withhold demolition permit.

Project Name: Apple Bear Commercial Project			Applicant:	Wood Investments Company, Inc.	
			Date:	June 19, 2023	

Mitigation Measure No. / Implementing Action	Responsible for Monitoring	Timing of Verification	Method of Verification	Verified Date/ Initials	Sanctions for Non-Compliance
			an asbestos report submitted to the County.		
MITIGATION MEASURE HAZ-3: A lead-based materials (LBM) survey shall be completed for all structures proposed for demolition. A qualified California Department of Public Health Lead Inspector Assessor shall conduct the LBM survey. If the LBM survey reveals no detectable lead levels pursuant to Code of Federal Regulations Chapter 29, Section 1926.62 and Title 8, California Code of Regulations Section 1532.1, no further LBM survey or remedial work is required. However, if a detectable level of lead is identified within structures proposed for demolition, **Mitigation Measure HAZ-4** shall apply. This measure shall be implemented to the satisfaction of the Apple Valley Community Development Director or designee, and/or Building and Safety Division, or designee.	Town of Apple Valley Community Development Director or designee, and/or Building and Safety Division or designee.	Prior to the issuance of a demolition permit.	Evidence to the Town that an LBM survey was conducted by a qualified California Department of Public Health Lead Inspector Assessor.		Withhold demolition permit.
MITIGATION MEASURE HAZ-4: Prior to the demolition of any structure identified to contain lead-based materials (LBM), the Project Applicant shall retain a California Department of Public Health Lead Inspector Assessor to abate LBM from the demolition site. The Lead Inspector Assessor shall provide a construction and demolition plan with disposal tickets from a San Bernardino County Department of Public Works-Solid Waste Management Division-approved disposal facility and South Coast Air Quality Management District air clearances prior to any lead removal activity, and a lead report shall be provided to the Town prior to the issuance of a demolition permit. This measure shall be implemented to the satisfaction of Apple	Town of Apple Valley Community Development Director or designee, and/or Building and Safety Division or designee.	Prior to the issuance of a demolition permit.	Evidence to the Town: 1) Project proponent/developer retains a California Department of Public Health Lead Inspector Assessor to abate LBM from the site; 2) A construction and demolition plan with disposal tickets from approved disposal		Withhold demolition permit.

Project Name: Apple Bear Commercial Project			Applicant:	Wood Investments Company, Inc.	
			Date:	June 19, 2023	

Mitigation Measure No. / Implementing Action	Responsible for Monitoring	Timing of Verification	Method of Verification	Verified Date/ Initials	Sanctions for Non-Compliance
Valley Community Development Director or designee, and/or Building and Safety Division, or designee.			facilities and SCAQMD air clearances, along with a lead report submitted to the Town.		
MITIGATION MEASURE HAZ-5: Prior to the issuance of grading permits, the Project Applicant shall retain a qualified professional to assess the contents of the on-site drums and determine the appropriate disposal of the drums. This measure shall be implemented to the satisfaction of Apple Valley Community Development Director or designee, and/or Building and Safety Division, or designee.	Town of Apple Valley Community Development Director or designee, and/or Building and Safety Division or designee.	Prior to the issuance of grading permits.	Evidence to the Town: 1) Project Applicant/Developer retains a qualified professional to assess the contents of the on-site drums; and 2) Determination of appropriate disposal of drums.		Withhold grading permit.
TRIBAL CULTURAL RESOURCES					
MITIGATION MEASURE TCR-1: The Yuhaaviatam of San Manuel Nation Cultural Resources Department (YSMN) shall be contacted, as detailed in **Mitigation Measure CUL-2**, of any pre-contact and/or historic-era cultural resources discovered during project implementation, and be provided information regarding the nature of the find, so as to provide Tribal input with regards to significance and treatment. Should the find be deemed significant, as defined by CEQA (as amended, 2015), a cultural resources Monitoring and Treatment Plan shall be created by the archaeologist, in coordination with YSMN, and all subsequent finds shall be subject to this Plan. This Plan shall	Town of Apple Valley Community Development Director or designee.	During construction.	Evidence to the Town: 1) Appropriate buffers are established as necessary; 2) Recommendation for the treatment and disposition of resources by the qualified archaeologist in consultation with the Tribe[s] and Native		Issuance of a stop work order.

Project Name: Apple Bear Commercial Project			Applicant:	Wood Investments Company, Inc.	
			Date:	June 19, 2023	

Mitigation Measure No. / Implementing Action	Responsible for Monitoring	Timing of Verification	Method of Verification	Verified Date/ Initials	Sanctions for Non-Compliance
allow for a monitor to be present that represents YSMN for the remainder of the project, should YSMN elect to place a monitor on-site.			American monitor[s].		
MITIGATION MEASURE TCR-2: Any and all archaeological/cultural documents created as a part of the project (isolate records, site records, survey reports, testing reports, etc.) shall be supplied to the Project Applicant and the Town for dissemination to YSMN. The Town and/or Project Applicant shall, in good faith, consult with YSMN throughout the life of the project.	Town of Apple Valley Community Development Director or designee.	Project duration.	Evidence to Town that all project archeological and cultural documents created are provided to YSMN.		Issuance of a stop work order.

STANDARD CONDITIONS

Project Name: Apple Bear Commercial Project | **Applicant:** Wood Investments Company, Inc.

Date: June 19, 2023

Standard Condition No. / Implementing Action	Responsible for Monitoring	Timing of Verification	Method of Verification	Verified Date/ Initials	Sanctions for Non-Compliance
HYDROLOGY AND WATER QUALITY					
STANDARD CONDITIONS HYD-1: Prior to issuance of a grading permit, the Project Applicant shall obtain coverage under the State Water Resources Control Board (SWRCB) National Pollutant Discharge Elimination System (NPDES) General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities (Order No. 2022-0057-DWQ, National Pollutant Discharge Elimination System No. CAS000002) (Construction General Permit). This shall include submission of Permit Registration Documents (PRDs), including a Notice of Intent for coverage under the permit to the State Water Resources Control Board (SWRCB) via the Stormwater Multiple Application and Report Tracking System (SMARTs). The Project Applicant shall provide the Waste Discharge Identification Number (WDID) to the Town of Apple Valley (Town), or designee, to demonstrate proof of coverage under the Construction General Permit. Project construction shall not be initiated until a WDID is received from the SWRCB and is provided to the Town, or designee. A Stormwater Pollution Prevention Plan (SWPPP) shall be prepared and implemented for the proposed project in compliance with the requirements of the Construction General Permit. The SWPPP shall identify construction best management practices (BMPs) to be implemented to ensure that the potential for soil erosion and sedimentation is minimized and to control the discharge of pollutants in stormwater runoff as a result of	Director of the Town of Apple Valley Public Works Department, or designee.	Prior to issuance of a grading permit, during construction, and upon completion of construction.	Evidence to the Town: • A Waste Discharge Identification Number (WDID) is obtained for the Project from the SMARTS; • Project coverage under the Construction General Permit; and • Submittal of a Stormwater Pollution Prevention Plan to the Town that includes BMPs.		Withhold grading permit, building permit, and/or issuance of a stop work order.

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Date: **June 19, 2023**

Standard Condition No. / Implementing Action	Responsible for Monitoring	Timing of Verification	Method of Verification	Verified Date/ Initials	Sanctions for Non-Compliance
construction activities. Upon completion of construction and stabilization of the site, a Notice of Termination shall be submitted via SMARTs.					
STANDARD CONDITIONS HYD-2: Prior to issuance of a grading permit, the Project Applicant shall submit a Final Water Quality Management Plan (Final WQMP) to the Town of Apple Valley (Town) for review and approval in compliance with the requirements of the Lahontan RWQCB's NPDES Permit Waste Discharge Requirements for the 2013 Phase II Small Municipal Storm Sewer System Permit (Order No. 2013-0001-DWQ, as amended by Orders WQ 2015-0133-EXEC, WQ 2016-0069-EXEC, WQ 2018-0001-EXEC, and WQ-2018-007-EXEC, NPDES No. CAS000004) (Phase II MS4 Permit). The Final WQMP shall specify the Best Management Practices (BMPs) to be incorporated into the project design to target pollutants of concern in stormwater runoff captured on the project site and the necessary operation and maintenance activity for each BMP. The Town shall ensure that the BMPs specified in the Final WQMP are incorporated into the final project design. The proposed BMPs specified in the Final WQMP shall be incorporated into the grading and development plans submitted to the Town for review and approval. Project occupancy and operation shall be in accordance with the schedule outlined in the WQMP.	Director of the Town of Apple Valley Public Works Department, or designee.	Prior to the issuance of grading permit.	Submittal to Town of a Final Water Quality Management Plan (Final WQMP).		Withhold grading permit.
STANDARD CONDITIONS HYD-3: Prior to the issuance of a grading permit, the Project Applicant shall submit a Final Hydrology Report to the Town of Apple Valley (Town) for review and approval to demonstrate that the proposed project includes LID BMPs appropriately sized	Director of the Town of Apple Valley Public Works	Prior to the issuance of grading permit.	Submittal to Town of a Final Hydrology Report.		Withhold grading permit.

Project Name: Apple Bear Commercial Project **Applicant:** **Wood Investments Company, Inc.**

Date: **June 19, 2023**

Standard Condition No. / Implementing Action	Responsible for Monitoring	Timing of Verification	Method of Verification	Verified Date/ Initials	Sanctions for Non-Compliance
to retain and infiltrate the required Design Capture Volume (DCV) on the project site in accordance with the requirements of the Phase II MS4 Permit. The Final Hydrology Report shall also demonstrate that the proposed project includes LID BMPs to capture, retain, and infiltrate 100 percent of the 100-year one hour storm event on-site in accordance with the requirements of Chapter 9.37.030(B) of the Town Development Code.	Department, or designee.				
NOISE					
STANDARD CONDITION NOI-1: Construction Hours. The construction contractor shall limit construction activities to between the hours of 7:00 a.m. and 7:00 p.m. on weekdays (Monday through Friday) pursuant to Section 9.73.060(F) of the Town's Development Code. Construction activities are prohibited outside of these hours, and on weekends and holidays.	Town of Apple Valley Building Inspector.	Prior to the issuance of demolition, grading, and building permits and during construction activities.	Submittal to Town of Project construction plans that include direction to adhere to the Town's noise source controls at all times, including work hours, model types, upkeep of construction equipment, and path controls where physically feasible.		Withhold demolition, grading, and building permits, or issuance of stop work order.
STANDARD CONDITION NOI-2: Mufflers. The construction contractor shall ensure that all mobile or stationary construction-related internal combustion engine powered equipment or machinery be equipped with suitable exhaust and air intake silencers in proper working order consistent with manufacturers' specifications.	Town of Apple Valley Community Development Director or designee.	Prior to the issuance of demolition, grading, and building permits and during construction activities.	Submittal to Town of Project construction plans that include direction to adhere to the Town's noise source controls at all times, including work hours, model types, upkeep of construction equipment, and path controls where physically feasible.		Withhold demolition, grading, and building permits, or issuance of stop work order.