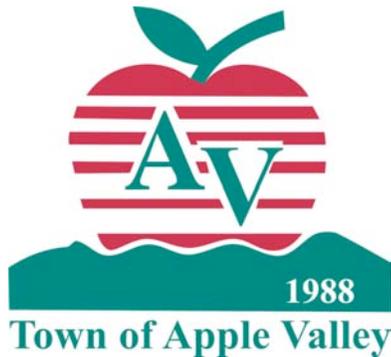


TOWN OF APPLE VALLEY
SAN BERNARDINO COUNTY, CALIFORNIA



ENVIRONMENTAL IMPACT REPORT
(SCH# 2006031112)

For The

NORTH APPLE VALLEY
INDUSTRIAL SPECIFIC PLAN

Prepared For

Town of Apple Valley
14955 Dale Evans Parkway
Apple Valley, CA 92307

Prepared By



Terra Nova Planning & Research, Inc.®
400 South Farrell, Suite B-205
Palm Springs, CA 92262

Certified: October 10, 2006

TABLE OF CONTENTS

	<u>Page No.</u>
List of Exhibits	iv
List of Tables	v
List of Appendices	vii
Environmental Summary Matrix	M
I. INTRODUCTION AND PROJECT DESCRIPTION	
A. Lead Agency	I-1
B. Introduction	I-1
C. CEQA and Other Requirements	I-5
D. Project Location and Description	I-6
II. REGIONAL ENVIRONMENTAL SETTING	
A. Land Use	II-1
B. Topography	II-4
C. Climate	II-4
D. Soils and Geology	II-6
E. Hydrology	II-7
F. Water Resources/Quality	II-8
G. Biological Resources	II-9
H. Cultural Resources	II-10
I. Visual Resources	II-11
J. Air Quality	II-11
K. Noise	II-12
L. Traffic/Circulation	II-13
M. Public Services and Facilities	II-13
N. Jobs and Housing	II-15
O. Hazards and Hazardous Materials	II-16
P. Schools	II-16
III. EXISTING CONDITIONS, PROJECT IMPACTS AND MITIGATION MEASURES	
A. Land Use Compatibility	III-1
1. Existing Conditions	III-1
2. Project Impacts	III-5
3. Mitigation Measures	III-12
B. Traffic/Circulation	III-13
1. Existing Conditions	III-16
2. Project Impacts	III-26
3. Mitigation Measures	III-45

C.	Air Quality	III-49
	1. Existing Conditions	III-49
	2. Project Impacts	III-54
	3. Mitigation Measures	III-62
D.	Biological Resources	III-67
	1. Existing Conditions	III-67
	2. Project Impacts	III-79
	3. Mitigation Measures	III-80
E.	Geology and Soils	III-81
	1. Existing Conditions	III-81
	2. Project Impacts	III-85
	3. Mitigation Measures	III-88
F.	Hydrology	III-92
	1. Existing Conditions	III-92
	2. Project Impacts	III-97
	3. Mitigation Measures	III-98
G.	Water Resources/Quality	III-101
	1. Existing Conditions	III-101
	2. Project Impacts	III-107
	3. Mitigation Measures	III-114
H.	Cultural Resources	III-115
	1. Existing Conditions	III-116
	2. Project Impacts	III-122
	3. Mitigation Measures	III-122
I.	Noise	III-123
	1. Existing Conditions	III-123
	2. Project Impacts	III-134
	3. Mitigation Measures	III-143
J.	Visual Resources	III-146
	1. Existing Conditions	III-146
	2. Project Impacts	III-147
	3. Mitigation Measures	III-149
K.	Hazardous and Toxic Materials	III-151
	1. Existing Conditions	III-151
	2. Project Impacts	III-153
	3. Mitigation Measures	III-156

L. Jobs and Housing	III-159
1. Existing Conditions	III-159
2. Project Impacts	III-161
3. Mitigation Measures	III-163
M. Public Services and Facilities	III-164
1. Water Services	III-164
2. Wastewater Treatment	III-165
3. Solid Waste	III-166
4. Electricity	III-168
5. Natural Gas	III-169
6. Law Enforcement	III-171
7. Fire and Emergency Services	III-172
8. Schools	III-173
IV. UNAVOIDABLE SIGNIFICANT IMPACTS	IV-1
V. PROJECT ALTERNATIVES	V-1
VI. SHORT-TERM USE VERSUS LONG-TERM PRODUCTIVITY	VI-1
VII. IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF ENVIRONMENTAL RESOURCES	VII-1
VIII. GROWTH INDUCING AND CUMULATIVE IMPACTS	VIII-1
IX. ORGANIZATIONS, PERSONS AND DOCUMENTS CONSULTED	IX-1

List of Exhibits

I-1 Regional Location Map	I-3
I-2 Project Vicinity Map	I-4
I-3 Proposed Land Use Plan	I-9
II-1 Aerial View of Planning Area	II-3
II-2 Planning Area Topography	II-5
III-1 General Plan Land Use	III-4
III-2 Proposed Land Use Plan	III-7
III-3 General Plan of Roadways	III-17
III-4 Existing Average Daily Traffic / North Study Area	III-18
III-5 Existing Average Daily Traffic / South Study Area	III-19
III-6 Intersection Analysis Locations	III-22
III-7 Project Average Daily Traffic / North Study Area	III-31
III-8 Project Average Daily Traffic / South Study Area	III-32

III-9	2030 Average Daily Traffic with Project / North Study Area	III-33
III-10	2030 Average Daily Traffic with Project / South Study Area	III-34
III-11	Joshua Tree Area of Potential Occurrence	III-72
III-12	Burrowing Owl Area of Potential Occurrence	III-73
III-13	Le Conte’s Thrasher Area of Potential Occurrence	III-74
III-14	Prairie Falcon Area of Potential Occurrence	III-75
III-15	Desert Tortoise Area of Potential Occurrence	III-77
III-16A	Mohave Ground Squirrel Historic Boundary	III-78
III-16B	Project Area Soil Classifications	III-83
III-17	Project Area Drainages	III-95
III-18	Archaeological Sensitivity Map	III-119
III-19	Historical Resources Sensitivity Map	III-120
III-20	Paleontological Sensitivity Map	III-121
III-21	Noise Monitoring Locations	III-127
III-22	Existing (2003) Apple Valley Airport Noise Contours	III-132
III-23	Future (2023) Apple Valley Airport Noise Contours	III-142
V-1	No Project Land Use Alternative	V-3
V-2	More Intense Land Use Alternative	V-5
V-3	Less Intense Land Use Alternative	V-7

List of Tables

I-1	North Apple Valley Industrial Specific Plan Land Use Summary	I-7
III-1	Existing General Plan Land Use Designations	III-3
III-2	Specific Plan Land Use Designations, Buildout Summary	III-8
III-3	Proposed Specific Plan Land Use Development Standards	III-10
III-4	CTP Peak Hour Traffic Assignments & Passenger Car Equivalent Factors	III-14
III-5	Roadway Level of Service Descriptions	III-15
III-6	Level of Service for Intersections	III-16
III-7	Existing Average Daily Traffic (ADT) Intersection Analysis for Existing Conditions	III-24
III-8	Commercial and Airport Trip Generation Rates, Institute of Transportation Engineers	III-28
III-9	Commercial and Airport Trip Generation Rates, Fontana Truck Trip Generation Study	III-28
III-10	Intersection Analysis for 2030 Preferred Alternatives & 2030 Background Traffic	III-36
III-11	State & Federal Ambient Air Quality Standards	III-52
III-12	Ambient Air Quality Monitoring Data, Victorville Monitoring Station	III-53
III-13	Calculations of Fugitive Dust Potential	III-54
III-14	Site Preparation/Grading Worker Moving Exhaust Emissions (Lbs./day)	III-55
III-15	Site Preparation/Grading Equipment Emissions – Diesel-powered (Lbs./day)	III-56
III-16	Aggregate Site Preparations/Grading Emissions (Lbs./day)	III-56
III-17	Construction Worker Moving Exhaust Emissions (Lbs./day)	III-57

III-18	Construction Equipment Emissions – Diesel-powered (Lbs./day)	III-57
III-19	Calculations of Asphalt Off-gassing Potential	III-58
III-20	Calculations of Architectural Coating Potential	III-58
III-21	Aggregate Construction Emissions (Lbs./day)	III-58
III-22	Annual Power Plant Emission Projections at Buildout (Lbs./1000 kwh)	III-59
III-23	Emissions Associated with Natural Gas Consumption at Buildout (Lbs./cubic ft.)	III-60
III-24	Daily Exhaust Emissions at Project Buildout (Lbs./day)	III-61
III-25	Anticipated Cumulative Project – Related Emissions Associated with Buildout of Proposed Project	III-62
III-26	Available Emissions Reduction Technologies	III-63
III-27	Fugitive Dust Control Methods	III-64
III-28	Special Status Plant Species Reported from North Apple Valley	III-69
III-29	Special Status Animal Species Reported from North Apple Valley	III-70
III-30	Alto Subarea Verified Annual Production, 1994 – 2005	III-103
III-31	Apple Valley Ranchos Annual water Production, 1999 – 2005	III-103
III-32	Mojave Water Agency State Water Project, Available Water Supply Sources Through 2025	III-104
III-33	Apple Valley Ranchos Projected Water Supply and Demand (acre-feet/yr)	III-106
III-34	Project Water Demand	III-108
III-35	Projected Water Supply and Demand Normal Year with Project (acre-feet/yr)	III-108
III-36	Projected Water Supply and Demand Single Dry Year with Project (acre-feet/yr)	III-109
III-37	Projected Water Supply and Demand Multiple Dry Years 2006 -2010 with Project (acre-feet/year)	III-109
III-38	Projected Water Supply and Demand Multiple Dry Years 2011 -2015 with Project (acre-feet/year)	III-110
III-39	Projected Water Supply and Demand Multiple Dry Years 2016 -2020 with Project (acre-feet/year)	III-110
III-40	Projected Water Supply and Demand Multiple Dry Years 2021 -2025 with Project (acre-feet/year)	III-111
III-41	Noise Monitoring at Selected Locations and CNEL Values	III-125
III-42	Existing Traffic Noise Contours on Area Roads	III-129
III-43	North Apple Valley Industrial Specific Plan Maximum Exterior Noise Levels (dBA) Town Noise control Ordinance	III-134
III-44	Projected Specific Plan and 2030 Buildout Noise Contours Adjusted to Town Roadways	III-136
III-45	Project Traffic Contributions to 2030 Noise Contours	III-138
III-46	SCAG Population, Household and Employment Projections	III-159
III-47	Employment by Industry	III-160
III-48	Town of Apple Valley Home Values 2000 – 2005	III-161
III-49	Specific Plan Land Use Summary	III-162
III-50	Project Water Demand	III-165
III-51	Projected Electric Demand at Project Buildout	III-169
III-52	Projected Natural Gas Demand at Project Buildout	III-170
III-53	Apple Valley Unified School District Facilities	III-174

V-1	Land Uses and Development Potential, No Project/Existing General Plan Alternative	V-10
V-2	Intersections Projected to Operate at LOS D or Worse, No Project/Existing General Plan Alternative	
V-3	Land Uses and Development Potential, More Intense Alternative	V-11
V-4	Land Uses and Development Potential, Less Intense Alternative	V-12
V-5	Anticipated Cumulative Project-Related Emissions Associated with Buildout of the Preferred Alternative	V-13
V-6	Anticipated Cumulative Project-Related Emissions Associated with Buildout of the No Project Alternative	V-14
V-7	Anticipated Cumulative Project-Related Emissions Associated with Buildout of the More Intense Project Alternative	V-15
V-8	Anticipated Cumulative Project-Related Emissions Associated with Buildout of the Less Intense Project Alternative	V-16
V-9	Apple Valley Industrial Specific Plan More Intense Alternatives to Noise Impacts	V-23
V-10	Apple Valley Industrial Specific Plan Less Intense Alternatives to Noise Impacts	V-25
V-11	No Project Alternative Land Use Summary	V-31
V-12	More Intense Alternative Land Use Summary	V-32
V-13	Less Intense Alternative Land Use Summary	V-33
V-14	Solid waste Generation Project Alternatives	V-34

List of Appendices

- A. Initial Study, Notice of Preparation (NOP) and Responses to NOP. Prepared by Terra Nova Planning & Research, Inc., March 27, 2006.
- B. Town of Apple Valley, North Apple Valley Specific Plan, Biological Resources. Prepared by AMEC Earth & Environmental, Inc., May 22, 2006.
- C. North Apple Valley Specific Plan, CMP Traffic Impact Analysis (revised), and Response to Comments. Prepared by Urban Crossroads, Inc., July 21, 2006 (Revised); June 9, 2006 (Draft).
- D. North Apple Valley Specific Plan EIR Noise Analysis, Town of Apple Valley, California. Prepared by Urban Crossroads, Inc., July 21, 2006 (Revised); June 8, 2006.
- E. Water Supply Assessment for the Proposed North Apple Valley Industrial Specific Plan and Associated Land Use Approvals. Prepared by Terra Nova Planning & Research, Inc., September 13, 2006.
- F. Cultural Resources Technical Report, North Apple Valley Specific Plan and EIR. Prepared by CRM Tech, March 13, 2006
- G. Paleontological Resources Technical Report, North Apple Valley Specific Plan. Prepared by CRM Tech, March 13, 2006.

- H. Apple Valley Study (Hazardous Materials), Apple Valley, CA 92307. Prepared by EDR Environmental DATA Resources, Inc., May 1, 2006.

Environmental Records Review. Prepared by Quin Kinnebrew, CEG, REA II, Terra Nova Planning & Research, Inc., July 6, 2006.
- I. Air Quality Analysis. Prepared by Terra Nova Planning & Research, Inc., July 25, 2006.
- J. Comment Letters on the Draft Environmental Impact Report for the Apple Valley Industrial Specific Plan. 2006.
- K. Town Council Resolution 2006-81, Statement of Overriding Considerations for the Apple Valley Industrial Specific Plan. October 10, 2006.

TOWN COUNCIL RESOLUTION 2006-81

A RESOLUTION OF THE TOWN COUNCIL OF THE TOWN OF APPLE VALLEY, CALIFORNIA, MAKING ENVIRONMENTAL FINDINGS AND DETERMINATIONS, ADOPTING A MITIGATION MONITORING PROGRAM, ADOPTING A STATEMENT OF OVERRIDING CONSIDERATIONS, AND CERTIFYING THAT THE ENVIRONMENTAL IMPACT REPORT PREPARED FOR THE NORTH APPLE VALLEY INDUSTRIAL SPECIFIC PLAN 2005-001 AND RELATED GENERAL PLAN AMENDMENT 2005-008 AND ZONE CHANGE 2005-008 IS RECOGNIZED AS ADEQUATE AND COMPLETE; RECOGNIZING THE OVERRIDING CONSIDERATIONS TO CERTAIN ADVERSE IMPACTS; AND, RECOGNIZING THE SIGNIFICANT ENVIRONMENTAL EFFECTS WHICH CANNOT BE AVOIDED, BUT CAN BE REASONABLY MITIGATED, IF THE PROPOSED PROJECT IS IMPLEMENTED

WHEREAS, an Environmental Impact Report (hereinafter "EIR") has been prepared and circulated, pursuant to the requirements of the California Environmental Quality Act of 1970; and

WHEREAS, it is the policy of the State of California and the Town of Apple Valley, in accordance with the provisions of the California Environmental Quality Act of 1970 (hereinafter "CEQA"), as amended (Public Resources Code, Section 21000 et. seq.), and the State Guidelines for the implementation of CEQA, as amended (California Administrative Code, Section 15000 et. seq.), that the Town shall not approve a project unless there is no feasible way to lessen or avoid significant effects; meaning all impacts have been avoided to the extent feasible or substantially lessened and any remaining unavoidable significant impacts are acceptable based on CEQA, Section 15093; and

WHEREAS, it is the policy of the State of California and the Town of Apple Valley, in accordance with the provisions of the CEQA, as amended (Public Resources Code, Section 21000 et. seq.) and the State Guidelines for implementation of CEQA, as amended (California Administrative Code, Section 15000 et. seq.) that the Town shall balance the benefits of a proposed project against its unavoidable environmental risks prior to project approval; meaning that if the benefits of a proposed project outweigh the unavoidable adverse environmental effects, the adverse environmental effects may be considered acceptable; and

WHEREAS, the Town Council of the Town of Apple Valley has read and considered all environmental documentation comprising the EIR, has found that the Final EIR, including the Draft EIR, any applicable Appendices, any Comments and Responses on the EIR, the Records of the Planning Commission's hearing and recommendations, and the documents and evidence presented during the Town Council hearing, considers all potentially significant environmental impacts of the proposed project, is complete and adequate, and fully complies with all requirements of CEQA; and

WHEREAS, the Town Council has reviewed and considered certain overriding considerations to adverse impacts, the CEQA Findings and Statement of Facts; and

WHEREAS, prior to action on the project, the Town Council has considered all significant impacts, mitigation measures, and project alternatives, including the no project

alternative, identified in the EIR, and has found that all potentially significant impacts on the project have been lessened or avoided to the extent feasible; and

WHEREAS, CEQA Guideline Section 15093(b) requires, where the decision of the Town Council allows the occurrences of significant effects which are identified in the EIR, but are not mitigated, the Town must state in writing the reasons to support its action based on the EIR and/or other information in the record; and

WHEREAS, the CEQA and the State CEQA Guidelines provide that no public agency shall approve or carry out a project for which an EIR has been completed and which identifies one or more significant effects of the project unless the public agency makes written findings for each of the significant effects, accompanied by a statement of facts supporting each finding.

NOW, THEREFORE, BE IT RESOLVED that the Town Council of the Town of Apple Valley certifies that the Final Environmental Impact Report for the North Apple Valley Industrial Specific Plan 2005-001, General Plan Amendment 2005-008, and Zone Change 2005-008 (1) has been completed in compliance with CEQA and the State Guidelines, (2) was presented to the Town Council, which reviewed and considered the information contained in the Final EIR before approving the proposed General Plan Amendment, Specific Plan and Zone Change, and (3) that the Final EIR reflects the independent judgment of the Town Council and of the Town; and the Town Council makes the following findings as a basis for certifying the Final EIR:

1. That the Environmental Impact Report has been prepared and processed in compliance with the State CEQA Guidelines and the Town's implementation procedures. The Town Council has independently reviewed and considered the information contained in the Environmental Impact Report, and finds that it adequately describes and addresses the environmental effects of the Project. The mitigation measures identified in the Environmental Impact Report have been incorporated into the Project and/or made part of the approval of the project and these measures will mitigate most potential significant effects. Impacts associated with air quality cannot be fully mitigated; therefore, the Town Council adopts a Statement of Overriding Consideration.
2. The Project will not be detrimental to the health, safety, or general welfare of the community, either indirectly, or directly, in that most impacts can be mitigated to less than significant levels. Impacts associated with air quality cannot be fully mitigated; therefore, a Statement of Overriding Consideration has been prepared.
3. The Project will not have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife population to drop below self sustaining levels, threaten to eliminate a plant or animal community, reduce the number, or restrict the range of, rare or endangered plants or animals or eliminate important examples of the major periods of California history, or prehistory.
4. There is no evidence before the Town that the Project will have the potential for an adverse effect on wildlife resources or the habitat on which the wildlife depends.
5. The Project does not have the potential to achieve short-term environmental goals, to the disadvantage of long-term environmental goals, as the project is consistent with the General Plan, and impacts to all environmental factors except air quality have been reduced to less than significant levels; therefore, a Statement of Overriding Consideration has been prepared.

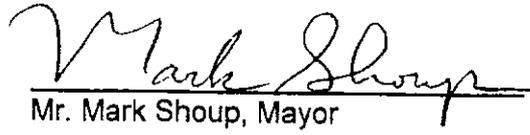
6. The Project will not result in impacts which are individually limited or cumulatively considerable when considering planned or proposed development in the immediate vicinity, as development patterns in the area will not be significantly affected by the Project.
7. The Project will not have the environmental effects that will adversely affect the human population, either directly or indirectly, as no significant impacts have been identified which would affect human health, risk potential or public services.
8. The Town Council has fully considered the Environmental Impact Report.
9. The Environmental Impact Report reflects the independent judgment and analysis of the Town Council.
10. The location of the material which constitutes the administrative record of proceedings upon which the Town Council action is based upon is in the Custody of the Director of Community Development in the Town of Apple Valley Town Hall, Community Development Department, 14955 Dale Evans Parkway, Apple Valley, California 92307.
11. A Mitigation Monitoring Program (MMP), a copy of which is included in the Environmental Impact Report, is hereby included pursuant to Public Resources Code ' 21081.6 in order to assure compliance with the mitigation measures during Project implementation.
12. Based upon the Initial Study and the entire record of proceedings, the Project has no potential for adverse effects on wildlife as that term is defined in Fish and Game Code ' 711.2.
13. The Town Council has on the basis of substantial evidence, rebutted the presumption of adverse effect set forth in 14 California Code of Regulations 753.5(d); and

BE IT FURTHER RESOLVED that the Town Council of the Town of Apple Valley adopts the CEQA Findings and Statement of Facts as shown on the attached "Exhibit B" entitled "CEQA Findings and Statement of Facts," which exhibit is incorporated herein as though set forth at length.

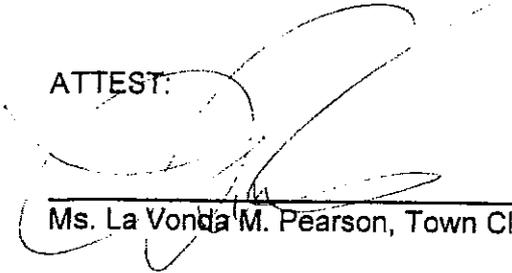
BE IT FURTHER RESOLVED that the Town Council of the Town of Apple Valley makes and adopts the Statement of Overriding Considerations as shown on attached Exhibit "A" entitled "Statement of Overriding Considerations," which is incorporated herein as though set forth at length.

BE IT FURTHER RESOLVED that the Town Council of the Town of Apple Valley adopts the CEQA Findings and Statement of Facts as shown on the attached "Exhibit B" entitled "CEQA Findings and Statement of Facts," which exhibit is incorporated herein as though set forth at length.

PASSED, APPROVED and ADOPTED at a regular meeting of the Apple Valley Town Council, held on this 10th day of October, 2006, by the following vote, to wit:


Mr. Mark Shoup, Mayor

ATTEST:


Ms. La Vonda M. Pearson, Town Clerk

Town of Apple Valley
Resolution No. 2006-81

STATE OF CALIFORNIA

COUNTY OF SAN BERNARDINO

TOWN OF APPLE VALLEY

I, LA VONDA M-PEARSON, Town Clerk for the Town of Apple Valley, Apple Valley, California, do hereby certify that Resolution No. 2006-81, duly and regularly adopted by the Town Council at a meeting thereof held on the 10th day of October 2006 by the following vote:

AYES: Council Members Jasper, Nassif, Sagona, Mayor Pro Tem Roelle,
Mayor Shoup

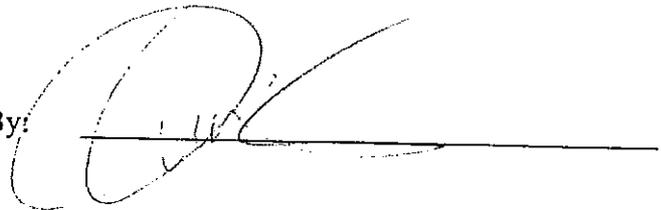
NOES: None.

ABSTAIN: None.

ABSENT: None.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the official seal of the Town of Apple Valley, California, this 1st day of November 2006.

LA VONDA M-PEARSON, CMC
TOWN CLERK

By: 

SEAL

TOWN COUNCIL RESOLUTION 2006-81

EXHIBIT "A"

STATEMENT OF OVERRIDING CONSIDERATIONS

The Town of Apple Valley hereby recognizes the overriding consideration to certain adverse impacts. The following statements are in support of its action based on the EIR and/or other information in the record.

1. Adoption of the Specific Plan will provide the Town with a comprehensive and cohesive statement of goals, standards, and guidelines upon which decisions relating to the Town's current and anticipated needs shall be based.
2. Implementation of the Specific Plan will further enhance the quality of life necessary to attract new residents, businesses and visitors to the Town, and will generally promote increased investment and development, jobs associated with new and/or expanded construction, and the provision of public services and facilities in the project area.
3. The orderly and coordinated expansion of public services and facilities, as provided for by the proposed Specific Plan, will provide for improved public health, safety and welfare and will help avoid the undesirable impacts of uncontrolled, noncontiguous development.
4. Impacts identified as significant are generally associated with normal growth and progress and could be much more severe without implementation of the proposed Specific Plan.
5. The land uses that are proposed will be developed on an existing lands that are primarily under the designations of the Town of Apple Valley for the proposed commercial and industrial development.
6. Development of the North Apple Valley Specific Plan will help maintain the Town's diversity of land uses as well as support the General Plan's Land Use Goals and Policies. General Plan Land Use Goals Policies that highlight the conformity of the Specific Plan include the following:
 - a. Goal LU-1: The Town will respect the desert environment.
 - i. *Policy LU-1.1*: The Town will encourage low water use through native desert plants for landscaping (xeriscape)
 - b. Goal LU-2: The Town will manage growth in an orderly manner in accordance with a long range plan which protects and enhances community values, and which does not exceed the provisions of requisite facilities and services.
 - i. *Policy LU-2.1*: Development is encouraged to occur in a sequential manner, adjacent to previously developed areas and in ways which allow for clear linkages to circulation and infrastructure systems.
 - ii. *Policy LU-2.2*: The General Plan reflects the long-term needs of the community. The Town will discourage development which sacrifices long-term goals in preference to short-term desires.

- iii. *Policy LU-2.4*: The Town will require that all necessary infrastructure and support services be in place prior to occupancy of new development.
 - iv. *Policy LU-2.6*: The Town shall encourage and promote designs which relate to and are harmonious with the region's desert environment.
- c. Goal LU-3: The Town shall promote and provide safe, attractive and well-served residential areas in keeping with the desert environment and its open characteristics.
- i. *Policy LU-3.7*: The Town will support measures which buffer both new and established residences from commercial, industrial and agricultural uses. Such measures may include increased setbacks, walls, berms, landscaping, and location of trash bins and loading areas away from residences.
- d. Goal LU-4: The Town shall promote commercial and industrial development that are capable of strengthening the local economy and enhancing the quality of life of Town residents.
- i. *Policy LU-4.1*: Industrial and commercial development will be permitted in areas where such uses are appropriate and where adequate roadways, infrastructure, and public services are appropriate.
 - ii. *Policy LU-4.5*: The Town will encourage utilization of the Apple Valley Airport to enhance light industrial development and provide support for commercial development. The Town will consider establishment of a Specific Plan for this area.
 - iii. *Policy LU-4.6*: Commercial and industrial activities will be clustered in areas adjacent to major roads and in the vicinity of the Apple Valley County Airport.
 - iv. *Policy LU-4.7*: Development proposed within the Airport Influence Area will be subject to finding by the Town Planning Department to ensure compatibility with airport operations.
- e. Goal LU-5: The Town will encourage and support the preservation of historic and cultural resources.
- i. *Policy LU-5.2*: Consideration of potentially impacted archaeological and historic resources in the planning area will conform with the guidelines detailed in Appendix K of the CEQA Law and Guidelines, 1986, with revisions.

TOWN COUNCIL RESOLUTION 2006-81

EXHIBIT "B"

CEQA FINDINGS AND STATEMENT OF FACTS

A. INTRODUCTION

The Town of Apple Valley proposes to approve the development of the North Apple Valley Specific Plan. Because the proposed action constitutes a "project" under the California Environmental Quality Act of 1970 (CEQA), as amended, and the State Guidelines for the implementation of CEQA, as amended, the Town has prepared a Final Environmental Impact Report (FEIR). The FEIR identifies certain significant effects which may occur as a result of the project, or which may occur on a cumulative basis in conjunction with the project and other past, present, and reasonably foreseeable future projects.

CEQA and the State Guidelines require that no public agency approve or carry out a project for which an Environmental Impact Report (EIR) has been completed and which identifies one of more significant effects of the project unless the public agency makes one of more of the following written findings for each of the significant effects, accompanied by a Statement of Facts supporting each finding. The possible findings include the following:

Changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effects as identified in the Final EIR.

Such changes or alterations are within the responsibility and jurisdiction of another public agency and not the agency making the finding. Such changes have been adopted by such other agency or can and should be adopted by such other agency.

Specific economic, social, or other considerations make infeasible the mitigation measures or project alternatives identified in the Final EIR.

The Town Council finds and determines that the significant environmental effects identified in the EIR have been reduced to an acceptable level in that: (1) all significant effects that can feasibly be avoided have been eliminated or substantially lessened as determined through the findings set forth in this Resolution; (2) based upon the EIR, Exhibits to this Resolution, and other documents in the record, specific economic, social and other considerations make infeasible other project alternatives identified in said EIR; and (3) based upon the EIR, Exhibits to this Resolution and other documents in the record, all remaining, unavoidable effects of the Specific Plan, General Plan Amendment and Zone Change are overridden by the benefits of the project as described in Exhibit A, which the Town Council is adopting as a Statement of Overriding Considerations for the proposed Project.

The Town has determined that the EIR is complete and has been prepared in accordance with CEQA and the Guidelines. The Town proposes to approve the proposed project, and the findings set forth herein are made.

EFFECTS DETERMINED TO BE INSIGNIFICANT

As part of the Initial Study process, the Environmental Checklist Form suggested by the CEQA Guidelines and utilized by the Town of Apple Valley was reviewed to assure that all environmental issues required to be addressed by CEQA would be addressed in the EIR. It was determined that the proposed project would have no impact on the following environmental areas of concern: 1) agricultural resources; 2) disturbance of human remains; 3) substantial risk to life or property created by construction on expansive soils, as defined by Table 18-1-B of the Uniform Building Code (1994); 4) exposure of people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildland; 5) placement of housing or structures within a 100-year flood hazard area; 6) expose people or structures to a significant risk involving inundation by seiche, tsunami, or mudflow; 7) physical division of an established community; 8) conflict with an applicable habitat conservation plan or natural community conservation plan; 9) mineral resources; 10) remove existing housing or displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere; 11) require the expansion of existing recreational facilities;

EFFECTS DETERMINED TO BE MITIGATABLE TO A LEVEL OF INSIGNIFICANCE

C.1. Land Use Impacts

Project Conditions

The proposed project involves the development of 2,453,299 square feet of commercial and 33,885,237 square feet of industrial development, for a total of 36,338,536 square feet of development on 4,195.3± acres. Existing development on the project site includes 46,958 square feet of commercial and 3,053,208 square feet of industrial development, for a total of 3,100,165 square feet on 742.2 acres. Additional development on the project site includes the existing airport with 740.4 total acres and 81.7 total acres for the extension of the high desert corridor through the project site. Thus, the total project site, including developed and undeveloped lands, encompasses 4,937.5 acres with a total commercial square footage of 2,500,257 and a total industrial square footage of 36,938,444.

Industrial land uses were seen as having the highest potential to provide employment opportunities, improve the Town's tax base, and contribute to a stable and varied economy for the Town's future. Therefore, these uses were determined to be the most important within the Specific Plan area. The Specific Plan includes three types of industrial designations: Industrial – Specific Plan, Industrial – General, and Industrial – Airport, discussed below. Permitted uses within the Industrial – Specific Plan designation include a range of uses, from warehousing to manufacturing, which must be conducted entirely within a structure. Industrial – General provides for more intense industrial uses, including those requiring outdoor manufacturing facilities. The Specific Plan provides for a potential increase in of 24.7 percent in Industrial development over the current General Plan.

Land use designations in proximity to the Apple Valley Airport have been specifically developed by the Town of Apple Valley to include components of commercial and quasi-industrial development that will support and enhance airport operations. These uses are designated Industrial – Airport on the land use plan.

It is expected that future industrial development will require support services, generating the need for commercial development to serve businesses and employees, as well as providing such support for the immediate area. The proposed Specific Plan provides for commercial nodes to be located at major intersections in the Specific Plan area. It should be noted that commercial development within the Specific Plan is not intended to replace the core of the Town's commercial development along State Highway 18 (Happy Trails Highway), but is intended to support the intensity of development within the Specific Plan. The Specific Plan Land Use Plan includes one commercial designation, referred to as General Commercial. Under the proposed Specific Plan, General Commercial development would increase approximately 86 percent over the existing General Plan within the Specific Plan area.

In addition to the proposed land use designations, the Specific Plan includes an overlay, provided for the High Desert Corridor, which is currently in the planning stages by the California Department of Transportation (CalTrans). Should development be proposed on these lands, it can occur within the limits of lands designated General Commercial – Specific Plan for lands west of Corwin Road, and within the limits of lands designated Industrial – Specific Plan for lands east of Corwin Road

In addition to uses provided for under the four General Plan land use designations, or districts, and as previously noted, the Specific Plan establishes development standards and guidelines for future development. These standards are consistent with the requirements of the Town Development Code. The Specific Plan also includes several special provisions to address factors such as location and economic development potential. Further, these provisions are more restrictive than the General Plan in order to reduce potential impacts and address community concerns identified during public meetings.

In summary, the North Apple Valley Industrial Specific Plan is consistent with the provisions and requirements of the Town of Apple Valley General Plan and Zoning Ordinance, as required by state law. Consistency between the Town General Plan and the North Apple Valley Industrial Specific Plan has been demonstrated through analysis included in the Specific Plan document. Therefore, impacts associated with land use compatibility are expected to be less than significant with the implementation of the mitigation measure below.

Findings:

1. Changes, alterations, and other measures have been made in or incorporated into the plan, or are otherwise required for subsequent environmental review, which will mitigate potential land use impacts to a level of insignificance. As a result, the following mitigation measure is required:
 - a. Individual projects, especially those located nearby or adjacent to sensitive lands or uses, shall be fully evaluated during the project review process to assure that all land use compatibility issues are addressed and mitigated.

C.2. Traffic and Circulation

Project Conditions

The North Apple Valley Industrial Specific Plan traffic analysis encompassed a study area that is generally defined by the US Interstate-15 corridor to the west, the Dale Evans Parkway/I-15 interchange to the north, Joshua Road (extended) to the east and Ottawa Road (extended) to

the south. Regional influences include the aforementioned I-15, SR 18 (Happy Trails Highway), and local area traffic associated with urban development of Victorville and Hesperia. The future High Desert Corridor, which will pass through the southwest corner of the Specific Plan area, will also provide major additional connectivity.

Average daily traffic levels have been calculated for the project and buildout of the proposed project generates approximately 168,609 average daily trips (a more detailed discussion of link or segment can be found in the Specific Plan Traffic Report in the Appendix of the EIR). As a result, 86 intersections were identified to be most likely impacted by buildout of the Specific Plan study area and which meet the criteria for analysis set forth in the County CMP. The analysis is based upon a conservative estimate of the ultimate level of buildout in the study area and should be viewed accordingly.

In order to estimate future project impacts, the incremental growth in background traffic, based upon General Plan land use designations and the County CMP and CTP models, has also been calculated and added to the project at buildout year 2030 traffic projections. Based upon the analysis of the projected buildout traffic of the Specific Plan project and the growth in background traffic through the 2030 Horizon Year, the proposed project is expected to have a less than significant impact on the various intersections.

The buildout of the North Apple Valley Industrial Specific Plan Preferred Alternative is expected to have a less than significant impact on local or regional roadways. All major roadways and intersections in the Specific Plan area are expected to operate at acceptable levels of service or better with the implementation of the mitigation measures outlined below.

Based on the project traffic analysis, it is estimated that the costs of the on-site intersection improvements for the Specific Plan are approximately \$4,125,000 (approximately 20% increase) higher than costs projected for buildout under the existing General Plan. The off-site intersection improvement costs for the Specific plan project are estimated to be about \$4,300,000 (14%) higher than costs associated with the existing General Plan. The overall cost increase for on-site and local intersection improvements from the Specific Plan are estimated at \$8,425,000.

Findings

1. Changes, alterations, and other measures have been made in or incorporated into the plan, or are otherwise required for subsequent environmental review which will mitigate traffic and circulation impacts to a level of insignificance. Mitigation measures include those identified below:
 - a. On-site roadway improvements will be required in conjunction with the buildout of the various land uses provided for in the Specific Plan. It is recommended that the roadway design standards for classifications for certain roadways within the Specific Plan area be adopted as a part of the Specific Plan to address anticipated capacity needs. These are primarily associated with increasing the "Secondary" roadway right-of-way width from 8-feet to 88-feet. Full-section improvements are required for roadways located within the entire Specific Plan boundary, and half-width improvements shall be required for roadways that straddle the Specific plan boundaries.
 - b. Given the programmatic nature of the Specific Plan and the associated traffic analysis, updated site-specific traffic studies will be required on a project-by-project

basis prior to the implementation of such projects as tentative tract maps, conditional land uses or plot plan approvals within the boundaries of the Specific Plan. Subsequent traffic studies shall analyses the-existing traffic conditions and potential traffic impacts from each project. The need for subsequent traffic analysis shall be made on a case-by-vase basis by the Town Engineer.

- c. Required off-site intersection (and roadway) improvements set forth above to mitigate potential impacts of the Specific Plan, are those generally set forth in the Town and County General Plans, and as planned by Caltrans. The proposed project does not have a significant effect on these future roadways and intersections, however, the implementation of the Specific Plan and the accommodation of incremental growth in background traffic permitted by the local General Plans for the 2030 Horizon Year are dependent upon the incremental implementation of the General Plan roadways.
- d. At the time of building permit issuance projects pay the Town a Traffic Impact Fee that covers the Town wide regional street improvements. In addition, projects are also required to construct off-site street improvements associated with their site. However, for certain regional streets, project developers are entitled to a Traffic Impact Fee reduction by the amount of engineering and construction costs that have been or will be reasonably incurred by the developer as a condition of development approval.

C.3. Biological Impacts

Project Conditions

The primary impacts to biological resources expected to result from build out of the proposed Specific Plan include the loss, fragmentation and degradation of viable habitat. This would result in the removal of breeding and/or foraging habitat, the removal of native plant communities and their inherent wildlife habitat value, and the associated loss of wildlife species. Secondary impacts to biological resources may include the introduction of non-native plant species, which can disrupt and overrun natural communities, increased vehicle use and foot traffic, and predation of wildlife by domestic pets.

Grading and development of lands within the Plan area have the potential to impact entire populations of plant species. However, the plant communities within the Plan area are common in California, and build out of the Plan area will not impact a sensitive plant community. Joshua Trees and Yuccas occur within the Plan area, and have a potential to be impacted by build out of the Plan. However, the species is protected by local ordinance, and the number of individuals is small, so impacts to the species are expected to be less than significant.

Development of the Plan will result in habitat degradation and the direct loss of foraging and nesting sites for a variety of common and special-status bird species. Indirect impacts could include increased predation by domestic pets, increased competition of limited nesting sites, pesticide ingestion, and the introduction of parasites. Certain birds that are capable of tolerating human disturbance will continue to inhabit developed areas, and may be attracted to newly landscaped areas. Burrowing Owl, and other migratory birds which are covered by the California Fish and Game code, may be impacted by conversion of desert lands to urban development. The Act requires that bird nests be protected if found on potential construction sites, until the

nests are vacated by the species. This requirement will assure that impacts to these species are less than significant.

Build out of the Plan area also has the potential to impact the federally and state listed Desert Tortoise, which has a potential of occurring north of the Apple Valley airport. Development in the area has the potential to destroy burrows and eliminate habitat for the species. As a listed species, the Desert Tortoise requires special consideration, and survey requirements are listed below to assure that impacts are reduced to less than significant levels.

Overall, development of the proposed project will result in a less than significant reduction of open space in the region and a less than significant impact to habitat and native wildlife and vegetation with implementation of the mitigation measures below.

Findings:

1. Changes, alterations, and other measures have been made in or incorporated into the plan, or are otherwise being implemented, which will mitigate these impacts to a level of insignificance. Among the mitigation measures are the following:
 - a. Pre-construction biological surveys for burrowing owls shall be performed by a qualified biologist on all lands within the Specific Plan area. The surveys shall be consistent with the protocol established by CDFG at the time the survey is proposed. Should the species be identified, the biologist shall recommend avoidance or relocation measures to assure that there is no impact to the species.
 - b. Pre-construction biological surveys shall be conducted by a qualified biologist for Desert Tortoise in the designated areas. The surveys shall be consistent with the protocol established by the USFWS and CDFG at the time the survey is proposed.
 - c. Any project proposing land disturbing activities between February 1 and June 30 shall be required to perform a nesting bird survey consistent with the requirements of the Migratory Bird Treaty Act.
 - d. The Mohave Ground Squirrel's range extends from the San Bernardino Mountains to the Avawatz, Coso and Granite Mountains; and from Palmdale to the Mojave River. The species is believed to be extirpated from most of the Victor Valley, due to agricultural activity and urbanization, as well as the expansion of territory by the California and Round-tailed Ground Squirrels. The Specific Plan area is considered to be outside the range of the species.

C.4. Soils and Geology Impacts

Project Conditions

The proposed development includes the construction of buildings, interior streets, new drainage systems, and other infrastructure improvements. The site encompasses approximately 4,937.5 acres and is located in the vicinity of major earthquake faults. Onsite soils may pose some challenges to the constructions of the warehouse buildings and other site improvements. Proper design, site preparation, and grading procedures can eliminate any difficulties, however.

Onsite soils contain some cobble and boulders. Particles greater than three inches in diameter in the upper two feet of the building pad sub-grade interfere with the utility and foundation excavations, therefore such materials will be removed from the top two feet of ground surface. The new structural fill soils are expected to extend to depths of at least three feet below the foundation bearing grades, and another foot or more of soil beneath this will be densified and moisture conditioned. Impacts to the site related to soil stability, infill, erosion, water runoff, and a number of geotechnical elements can be reduced to less than significant levels through the implementation of mitigation measures that are outlined below.

Findings:

1. Changes, alterations, and other measures have been incorporated into the project, or are otherwise being implemented, which will mitigate soil and geologic impacts to a level of insignificance. Among these are the following:
 - a. Proper structural engineering, which takes into account the forces that will be applied by anticipated ground motions, shall provide mitigation for ground shaking hazards. Seismic design shall be in accordance with the most recently adopted editions of the Uniform Building Code and/or International Building Code and the seismic design parameters of the Structural Engineers' Association of California.
 - b. A wind erosion and dust control plan shall be submitted to and approved by the Town prior to issuance of grading permits.
 - c. To ensure the development of the project site in conformance with sound engineering practices and the recommendations of the engineering report, the Town Engineer and Building and Safety Division shall be provided with copies of geotechnical reports. Recommendations based upon subsequent geotechnical analysis shall serve as the basis for final engineering design parameters.
 - d. Throughout the site preparation process, the Town Building and Safety Division shall inspect the site to ensure compliance with Apple Valley ordinances and conditions of approval, as well as additional site clearance, excavation, compaction, grading, construction, and erosion control mitigation measures specified in the EIR.
 - e. After final development plans and specifications have been prepared, but prior to construction and grading, building foundation plans shall be reviewed by a geotechnical consultant and the Town to verify compatibility with site soils and geotechnical conditions, and conformance with recommendations in development specific geotechnical report.
 - f. When so required, rough grading shall be performed under geological and engineering observation of a geological consultant and/or the Town Engineer. Rough grading includes, but is not limited to, grading of over-excavation cuts, fill placement, and excavation of temporary and permanent cut slopes. In-place soil density should be determined by a method acceptable to the Building and Safety Division.

- g. A final report upon the completion of construction, summarizing compliance with the recommendations of geotechnical reports and observations during the grading work shall be prepared. In the event that conditions during construction appear to vary from those indicated in the geotechnical reports, a certified geotechnical engineering consultant shall be contacted immediately to assure conformance with sound engineering practices.

C.5. Hydrology Impacts

Project Conditions

Improvements to the site are expected to include buildings totaling approximately 39,438,701 square feet of space, interior roads, and landscaped areas along building perimeters, interior roadways, and parking lots. Build-out of the site will result in the construction of impermeable surfaces that will significantly increase storm water runoff potential generated at the site.

In order to minimize potential flooding impacts, flood control structures will be installed throughout the Specific Plan area to help reduce potential flood damage. In general, the proposed drainage systems shall be designed in such a way to limit flood hazards, protect the natural watersheds, and thereby protecting the lives and properties in areas subject to flooding. Water runoff from the site will be controlled through future flood control structures and detention basins. Thus, existing storm water infrastructure south of the project site will not be overburdened or negatively impacted by the project.

There are no levees or dams whose failure would cause property damage or loss of life in the Specific Plan area, and threats from mudflow are less than significant on site. In addition, the Safety Element of the General Plan sets forth a number of goals and policies intended to address potential flooding hazards and hydrology issues in the City and the Study Area as a whole. It also establishes measures directed at minimizing the impacts of increased development on storm water control facilities.

Vehicle washing will require the installation of clarifiers and oil separators onsite. Once collected, the dirty water would be pumped into a specialized tanker truck and hauled off-site. Potential runoff from onsite storage areas, vehicle and equipment maintenance, waste handling, delivery areas, and loading docks will be carefully managed. No substantial new sources of polluted runoff are expected, and the proposed development will not violate water quality standards or waste discharge requirements.

Future detention basins will be designed to decrease runoff, and increase percolation into the watershed. The development of storm water systems in the Specific Plan area will be designed not to interfere with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level.

Findings:

1. Changes, alterations, and other measures have been made in or incorporated into the plan, or are otherwise required for subsequent environmental review, which will mitigate hydrology related impacts to a level of insignificance. The mitigation measures include the following:

- a. In conformance with the Clean Water Act, project developers shall prepare a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP shall address the potential sources and locations of storm water contamination, the characteristics and impacts of specific contaminants, temporary and permanent erosion control practices, as well as include water sampling data, construction practices that minimize storm water contamination, coordination of Best Management Practices with planned construction activities, and compliance with Town, county, state, and federal regulations.
- b. To keep pollutants out of surface and ground waters, standard mitigation measures shall include the periodic cleaning of interior roads and parking courts, the careful control and monitoring of pesticides and fertilizer, and the treatment of runoff prior to discharge into detention basins.
- c. Disturbance of any of the several shallow dry wash blue-line streams shall require additional analysis in order to determine if they have definable bed or bank, and if they have any connection to waters of the United States. If it is determined after conferring with the California Department of Fish and Game and the US Army Corps of Engineers that a blue-line stream meets state and or federal requirements, specialize permitting shall be required.
- d. All development in the Specific Plan area shall conform to any future updates or revisions to the Town's Master Plan of Drainage. Site specific hydrology analysis may be required of development within the Specific Plan area, as determined by the Town of Apple Valley Engineering Division.
- e. Developers in the Town of Apple Valley are required to pay mitigation fees depending upon the project's runoff potential. The Town assesses a drainage impact fee on residences, industrial facilities, and other properties in town. For industrial and commercial facilities, the fee is 11.5 cents per square foot of building footprint. For the proposed development footprint of 39,438,701 square feet, the total drainage impact fees would come to over \$4.5 million.

C.6. Water Resources

Project Conditions

Over the past several years, the Mojave Water Agency and the Apple Valley Ranchos Water District (AVR) have made significant efforts to provide private and public consumers of local water resources a variety of means, technological and management, to conserve those resources. These include extensive and detailed information on the use of drought tolerant desert plants in landscaping plans, as well as the promotion of reclamation of treated wastewater and utilization of non-potable water sources for irrigation uses. In addition, the Town requires that developers implement water-efficient landscaping in developments within its jurisdiction.

The landscape palette proposed for this project is comprised primarily of native and other drought tolerant planting materials. Areas of turf within the development are expected to be limited. In summary, based upon the consumption factors cited in Section III, the proposed project would generate an average daily demand of 5.54 million gallons per day. As outlined in Section III, there is evidence to support a determination that there will be sufficient water

supplies to meet the demands of the project during normal years, single dry years through 2010, and multiple dry years through 2022. However, the Final Water Supply Assessment (WSA) concluded that sufficient water supplies were available to the project through project buildout under all scenarios, including normal years, single dry years and multiple dry years.¹

This is based on the fact that AVR has existing water entitlements, rights and contracts to meet future demand as needed over time, and has committed sufficient capital resources and planned investments in various water programs and facilities to serve all of its existing and planned customers. No shortages are anticipated within the AVR's service area through 2025.

Supply has been historically available within the Alto Subarea. During the 1987 to 1991 shortage, AVR's customers were not affected by the dry conditions because the groundwater basin provided adequate supply. In a drought the groundwater basin would be pumped to meet demands. It is expected that additional conservation efforts in combination with water purchases could address the additional water demand presented by the project to the greatest extent possible. In addition to conservation actions taken by the Town, MWA and AVR, the mitigation measures outlined in Final EIR and Final WSA shall be implemented by project developers in order to assure the most efficient use of this important resource and to assure that impacts are reduced to a level below significance.

Findings

1. Changes and other measures have been made in or incorporated into the plan, or are otherwise required for subsequent environmental review, which will mitigate to the extent feasible and to a level of insignificance the significant water resource impacts, including the following:
 - a. In conformance with the Clean Water Act, project developers shall prepare a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP shall address the potential sources and locations of storm water contamination, the characteristics and impacts of specific contaminants, temporary and permanent erosion control practices, as well as include water sampling data, construction practices that minimize storm water contamination, coordination of Best Management Practices with planned construction activities, and compliance with Town, county, state, and federal regulations.
 - b. To keep pollutants out of surface and ground waters, standard mitigation measures shall include the periodic cleaning of interior roads and parking courts, the careful control and monitoring of pesticides and fertilizer, and the treatment of runoff prior to discharge into detention basins.
 - c. In order to manage groundwater supplies in the project area and surrounding region, the Mojave Water Basin was adjudicated in 1996 with all parties involved entering into a final Stipulated Judgment. The purpose of the Stipulated Judgment was to create incentives to conserve local water, guarantee that downstream producers will not be adversely affected by upstream producers, and assess producers to obtain funding for the purchase of imported water. As a

¹ "Water Supply Assessment for the proposed North Apple Valley Industrial Specific Plan", prepared by Terra Nova Planning & Research, approved by the Apple Valley Ranchos Water Company September 13, 2006.

result of the Stipulated Judgment, following mitigation measures were established:

- i. As part of the Stipulated Judgment, the average annual obligation of any Subarea to another was set equal to the estimated average annual natural flow between the Subareas over a 60 year period (water years 1930-1931 through 1989-1990). The average obligation of the Alto Subarea has been set at 23,000 acre-feet per year. If this obligation is not met, the producers in the upstream Subarea must pay the Watermaster for makeup water to be delivered to the downstream Subarea. The 2004-2005 replacement water assessment rate was \$281.00 per acre-foot.² The Alto Subarea has incurred makeup obligations eight out of the past ten years (water years 1995-1996 through 2004-2005), ranging from 2,253 acre-feet in water year 1995-1995 to 5,950 acre feet in water year 2002-2003. For water year 2004-2005, the Alto Subarea has a cumulative replacement obligation of 12,931 acre feet.³
- ii. In order to maintain a safe water balance within each Subarea, the Judgment established a Free Production Allowance (FPA) in each Subarea, which the Court reviews and adjusts on an annual basis. Each year the Watermaster takes an account of the average and minimum annual flows, which must be maintained between Subareas. The Judgment requires that all water produced in excess of any producer's share of the FPA must be replaced by the producer, which is typically in the form of payment to the Watermaster of funds sufficient to purchase an equal amount of replacement water. It should be noted that an underlying assumption of the Judgment is that sufficient water supplies will be made available to meet the needs of the basin in the future from a combination of natural supply, imported water, water conservation, water reuse and transfers of FPA among producers.
- iii. According to the MWA 2005 Urban Water Management Plan Update, as water demands increase over the next 20 years, additional projects and water management actions are needed to continue to recharge the groundwater basins to maintain groundwater levels and protect groundwater quality for municipal, agricultural, industrial, recreational, and environmental uses. If such projects are not implemented and groundwater overdraft persists or intensifies, the presiding Judge for the Mojave Basin Area Judgment could require mandatory cutbacks in production.

C.7. Cultural Resources Impacts

Project Conditions

Based on the findings of the cultural resources study, the Specific Plan area includes lands of high sensitivity for prehistoric and archaeological artifacts, as well as moderate sensitivity for

² "Twelfth Annual Report of the Mojave Basin Area Water Master, Water Year 2004-05," prepared by the Mojave Basin Area Watermaster, April 2006.

³ *Ibid.*

historic structures. Future development projects of the Specific Plan area could result in direct and/or indirect disturbance or destruction of sensitive archaeological and historic resources. Site surveys should be conducted on all future development projects in areas of sensitivity, to determine the presence and significance of archaeological and historic resources. And finally, development in the Specific Plan area could also impact paleontological resources, should Pleistocene-age soils be disturbed by grading or excavation. Since the depth of the Holocene-age soils is not known, Pleistocene-age soils may be sufficiently close to the surface to be disturbed by grading activities. Monitoring of grading activities should occur in areas where Pleistocene-age soils will be disturbed.

Findings:

1. Changes, alterations, and other measures have been made in or incorporated into the plan, or are otherwise required for subsequent environmental review, which will mitigate any potential impacts to cultural resources to a level of insignificance. The mitigation measures include the following:
 - a. Cultural resource studies shall be required prior to development for all lands identified as having a high potential for historic or archaeological resources as identified in the EIR. The studies shall be reviewed and approved by the Town Planning Division prior to the issuance of any ground disturbing permit. The recommendations of the studies shall be made conditions of approval of the ground disturbing permits.
 - b. Paleontological resource studies shall be required prior to development for all lands identified as having a high potential for paleontological resources in the EIR. The studies shall be reviewed and approved by the Town Planning Division prior to the issuance of any ground disturbing permit. The recommendations of the studies shall be made conditions of approval of the ground disturbing permits.

C.8. Noise Impacts

Project Conditions

Project related noise impacts will be generated primarily by increases in vehicular traffic on local and regional roadways, and construction activity. Noise generated by traffic represents a long-term noise impact. Traffic noise onsite will consist primarily of that generated by trucks delivering items to or from the project site with secondary traffic noise from employee vehicles.

The future buildout period analyzed in this EIR is for the 2030 Horizon Year with the proposed Specific Plan project and incremental buildout of the Town General Plan. Traffic associated with the buildout of the North Apple Valley Industrial Specific Plan will have a less than significant impact the noise environment on all but eleven (11) roadway segments in the planning area. Potentially impacted roadway segments are those that may have 3 dBA or greater increase in noise levels that contribute to an exceedance of 65 dBA CNEL.

It should be noted that the potentially significant impacts to the noise environment along the above cited 11 roadway segments range from very marginal for five segments, to moderately significant for the other six segments. It should also be noted that cited impacts are for unmitigated conditions, which do not consider the noise buffering effects of masonry walls,

earthen berms or other buffers that may be constructed in the future along these potentially affected roadways. Based on the results of this analysis, the traffic noise associated with the North Apple Valley Industrial Specific Plan will create limited but potentially significant permanent increases in transportation-related ambient noise levels or potential expose persons to noise levels in excess of the standards established by the Town.

Findings:

1. Changes, alterations, and other measures have been made in or incorporated into the plan, or are otherwise required for subsequent environmental review, which will mitigate noise impacts to the extent feasible. The mitigation measures include the following:
 - a. The Town shall continue to enforce its noise control ordinance to assure acceptable exterior noise levels are maintained.
 - b. All construction equipment operating in the planning area shall be fitted with well-maintained, functional mufflers to limit noise emissions. To the greatest extent feasible, earth moving and hauling routes shall be located away from nearby existing residences. Any development project involving blasting or pile driving operations shall have a focused acoustical study conducted to establish the level and duration of off-site noise and vibration impacts and appropriate mitigation measures.
 - c. Where necessary, silencers and/or barriers shall be required around outdoor equipment, such as ventilation systems and air compressors. Appropriate sound barriers shall be provided surrounding any and all facilities capable of generating disturbing noise levels.
 - d. Potential noise impacts shall be considered in the final site plans for all proposed projects within the Specific Plan study area. Factors to be considered shall include the strategic arrangement of uses and activities to provide necessary shielding of nearby sensitive land uses, the incorporation of additional setbacks from roadways, and/or the construction of additional noise barriers, as necessary.
 - e. The Town shall require the preparation of a noise impact analysis for all commercial and industrial projects, which are to be located adjacent to or in proximity of residential land uses or other sensitive land use designations. The required noise impact analysis shall evaluate potential impacts of the project and provide for adequate mitigation measures to assure that Town standards for residential and/or other sensitive land uses are maintained.
 - f. The Town shall encourage a project circulation pattern, which places primary traffic loads on major arterials and preserves local neighborhood noise environments by limiting roadways to local traffic to the greatest extent practical.

C.9. Visual Impacts

Project Conditions

Buildout of the Specific Plan will result in the development of new structures, signage, lighting, utility infrastructure, and other elements of the built environment. The Specific Plan includes four zoning districts, and a range of allowable and conditionally allowable uses are provided for within these districts. Not all uses are allowable within each district, and some uses are allowed only by special permit within some districts.

The Specific Plan provides development standards within each of the four (4) zoning districts. Building heights are limited to 35 feet for all buildings within the Airport Influence Area and within areas designated for General Commercial uses. Building heights are limited to 50 feet in all other zoning districts, with the exception of the northeastern-most portion of the site, in which would be allowed the heaviest industrial uses on the site. Landscaping setbacks along perimeter roadways are a minimum of 25 feet, and building setbacks along those roadways are a minimum of 50 feet. Setbacks along Waalew Road are 50 feet and 75 feet for landscaping and buildings, respectively.

Development within the Specific Plan area will result in changes to the existing visual character. The Specific Plan provides for development of buildings of 50 to 100 feet in height, as well as additional sources of light and glare from building lighting, night-time operations and vehicle headlights, which may particularly impact the more sensitive residential land uses surrounding the project site.

The application of Specific Plan design guidelines for building setbacks, building design and exterior finishes, landscape, walls and fences, and exterior lighting, along with implementation of mitigation measures set forth herein, are expected to reduce potentially significant impacts to visual resources to less than significant levels. Major scenic resources are not expected to be significantly impacted by the planned development.

Findings:

1. Changes, alterations, and other measures have been made in or incorporated into the plan, or are otherwise required for subsequent environmental review which will mitigate visual impact to a level of insignificance. Mitigation measures include those listed below.
 - a. Project design guidelines, architecture and materials used in the development shall conform with the project design guidelines set forth in the North Apple Valley Industrial Specific Plan, as reviewed and amended by the Town of Apple Valley.
 - b. Landscaping plans and materials applied to development area boundaries shall serve to create a harmonious transition and complement to the built environment. Native and appropriate non-invasive non-native plants shall be utilized. Landscape designs and materials should be used to establish or enhance visual order to streetscapes, parking areas, building perimeter landscaping and common open space areas.

- c. Walls and fences shall be constructed in conformance with the North Apple Valley Industrial Specific Plan Design Guidelines, and shall utilize materials consistent with other structures in the Specific Plan area. Walls shall incorporate landscaping to obscure or soften hard edges. Internal security fencing shall use quality materials, and perimeter walls shall not exceed six feet in height except as otherwise approved by the Town.
- d. All outdoor lighting shall be in compliance with the dark sky policies of the General Plan.
- e. The development shall provide adequately and appropriately screened outdoor storage/loading and other service areas, protected and enhanced outdoor seating areas, as necessary, and appropriate levels of lighting, limited signage, and the thoughtful use of landscaping that preserves and enhances visual resources.

C. 10. Hazardous and Toxic Materials

Project Conditions

A review of environmental databases has identified several facilities within the Specific Plan area and vicinity that have potential for hazardous materials spills. The proposed Specific Plan area is expected to attract a variety of new commercial and industrial businesses with potential to use, store, transport and distribute hazardous and toxic materials. These businesses may also generate, and periodically store and dispose of hazardous wastes. The development of these businesses will expose more people to existing sources of hazardous and toxic materials and wastes, as well as creating new sources that may use and generate such materials and wastes. The Specific Plan would also promote further development of lands identified as the "Victorville Pre-Bomb Range" located on site, thus potentially exposing persons to other possible hazards.

These activities are strictly regulated by a variety of federal, state and regional permitting agencies. Further, one of the primary purposes of the Specific Plan is to locate industrial land uses so as to avoid nuisances and hazards for the Town's residents. Proposed land use designations within the Specific Plan area are designed to appropriately segregate heavier industrial uses, which may have potential to result in larger-scale use and generation of hazardous and toxic materials. These heavier uses are generally located in the northeastern most portion of the Specific Plan area, at the greatest distance from the Town and sensitive receptors in the Specific Plan area and vicinity.

Existing and future development that generates and uses hazardous and toxic materials within the Specific Plan area is subject to federal, state and regional permitting requirements that strictly regulate such uses and activities. The proposed Specific Plan sets forth development guidelines designed to ensure the compatibility of land uses within the Specific Plan and with surrounding lands.

Findings:

1. Changes, alterations, and other measures have been made in or incorporated into the plan, or are otherwise required for subsequent environmental review which will

mitigate the potential impacts associated with hazardous and toxic materials to a level of insignificance. Mitigation measures include those listed below.

- a. Project proponents for future development within the Specific Plan area shall comply with all applicable federal, state and regional permitting requirements for hazardous and toxic materials generation and handling.
- b. Project proponents for future development within the Specific Plan area shall ensure that storage of hazardous materials and waste shall be secured so as to minimize risk of upset in the event of groundshaking associated with earthquakes.
- c. The Town of Apple Valley and San Bernardino County Department of Airports shall review all proposed development plans within the Airport area of influence to assure that the land uses constructed within this area do not pose a hazard to airport operations.
- d. The Town of Apple Valley shall review all proposed development plans within one (1) mile of sensitive residential development and school facilities to assure that such development does not result in land use incompatibilities with potential to expose sensitive receptors to risk of hazardous substances, or accidental release of materials.
- e. Prior to issuance of grading permits for future development within the area identified as the "Victorville Pre-Bomb Range, on-site investigations and assessments (Environmental Site Assessment) for the potential presence of hazardous materials shall be conducted by a qualified environmental consultant (REA or above). The handling and disposal of any hazardous material shall be conducted in the manner specified by the State of California Hazardous substances Control Law (Health and Safety Code Division 20, Chapter 6.5) and according to the California Code of Regulations, Title 22, Division 4.5.

C.11. Jobs and Housing Impacts

Project Conditions

Build out of the proposed Specific Plan will result in the development of industrial and commercial land uses which will directly result in new jobs within the Town, and indirectly result in a need for additional housing. It is difficult to estimate the number of jobs which the square footage above could generate, since the nature of development is not known at this time. Depending on the type of industrial development which occurs within the Specific Plan area, jobs created could vary considerably. For purposes of this analysis, however, it has been assumed that industrial lands would generate one job per 1,250 square feet, and commercial lands would generate one job per 300 square feet. On this basis, build out of the Specific Plan could result in 29,551 industrial jobs, and 8,334 commercial jobs, for a total of 37,885 total jobs. Based on the Town's current average of 1.09 jobs per household, build out of the Specific Plan would result in the creation of 34,757 households.

The majority of Town residents commute outside of Town for work. Although it cannot be determined what percentage of these residents commute, an average of 33 minutes for commuting clearly indicates that the majority of jobs are outside the Town limits, most likely in

Victorville, and communities to the south. Given that the jobs to be created by the proposed project will provide a broad range of opportunities, the proposed project has the potential to allow residents of Apple Valley to find employment within their community, and reduce commuting time for many.

In addition, given the regional nature of the communities in the Victor Valley area, it is unlikely that communities will ever achieve a true jobs/housing balance. Furthermore, the demographics of the Town are likely to change over time, and the number of employees per household is likely to increase, resulting in a greater number of employed persons per household, as is typical in most Inland Empire communities. The changes in the community over a 25 year build out for the Specific Plan area and associated revisions to the General Plan as time passes, it is likely to result in changes to land use patterns, particularly in the residential land use designations. The long term impacts associated with the provision of housing for this project, however, cannot be effectively quantified immediately, and will require on-going monitoring.

Findings:

1. Changes, alterations, and other measures have been made in or incorporated into the plan, or are otherwise required for subsequent environmental review, which will mitigate jobs and housing impacts to the extent feasible. The mitigation measures include the following:
 - a. Within five years of adoption of the Specific Plan, or in conjunction with the next General Plan update, whichever occurs first, the Town shall process General Plan Amendment(s) which result in the potential for an additional 1,916 housing units north of Highway 18. This amendment can be accomplished by either increasing density on existing residentially designated lands, or converting lands designated for other uses to residential development.
 - b. Annually through build out of the Specific Plan area, the Town shall prepare, or shall cause to be prepared, an inventory of the development occurring within the Specific Plan Area, the number of jobs created, and the city or town of residence of the employees. This data shall be supplemented by the equivalent data for projects approved but not yet constructed within the Specific Plan area. After the first year, the data shall be cumulative. The data shall be compared analytically with the residential units approved for construction, under construction or proposed north of Highway 18 during the same time period. The analysis shall consider whether there are sufficient units available or planned to accommodate at least 80% of the employees added to the Specific Plan area in that year. Units permitted under General Plan residential land use categories can be included in the analysis. Should the analysis show a shortfall, the Town shall consider General Plan Amendments to assure that sufficient land is designated for housing 80% of the employees of the Specific Plan area.

C.12. Public Services and Facilities Impacts

Project Conditions

Buildout of the Specific Plan development will result in creation of new jobs and may, therefore attract new residents to the area. Therefore the project has potential to indirectly result in an increase in student population within the Apple Valley Unified School District. Buildout of the

proposed Specific Plan will also increase the demand for police protection services, which includes additional related staffing and equipment such as patrol vehicles. Additional fire department personnel will also be required to adequately protect life and property from fire hazards. The buildout population will also increase the demand for local and regional medical services and facilities. At buildout, development of the Specific Plan is projected to generate an estimated 404,936 tons of solid waste per year and is projected to consume approximately 5.5 million gallons per day (mgd) of potable water, 421 million kilowatt-hours per year of electricity, and 134 million cubic feet per month of natural gas. Buildout will also increase the demand for telephone, cable television, water, and sanitary sewer services and infrastructure.

While the proposed project will result in an increased demand for public services and facilities, buildout of the project is anticipated to occur gradually through 2030. For this reason, the increase in demand for public services and facilities would be similarly phased and will not occur all at one time. An increase in Town revenues to fund public services can also be anticipated with buildout of the Specific Plan, generated primarily by property taxes, as well as some increases in sales tax revenues. For example, at project buildout, school development fees for commercial and industrial development could generate approximately \$13.4 billion in school development fees.

Findings:

1. Changes, alterations, and other measures have been made in or incorporated into the plan, or are otherwise required for subsequent environmental review, which will mitigate public services and facilities impacts to the extent feasible. The mitigation measures include the following
 - a. Developers of individual projects within the Specific Plan area will be assessed the statutory school mitigation fees for commercial and industrial development.
 - b. The Town will require all development proposals to be transmitted to the Police Department for review and input, to be incorporated into project design or conditions of approval as appropriate.
 - c. The Town shall consult and coordinate long-term planning with the Police Department regarding the optimal location of future police stations, and to assure that adequate staffing levels are provided to meet the demand of future development in the Specific Plan area.
 - d. The Town shall continue to promote close coordination with the Fire Department for the timely expansion of services and facilities.
 - e. The Fire Department shall continue to review new development proposals and assess the Department's capacity to provide sufficient fire protection services. This shall include, but is not limited to, review of internal circulation patterns, street names and numbering systems.
 - f. The Town and the Fire Department shall continue to enforce fire codes and other applicable standards and regulations during review of building plans and conducting building inspections.

- g. Recycling provisions for commercial, industrial and business establishments should include separate recycling bins. Items to be recycled at commercial establishments may include white paper, computer legal paper, cardboard, glass and aluminum cans.
- h. The Town shall ensure that all hazardous materials, whether from construction or operation of land uses within the Specific Plan area, are handled, stored, and/or disposed of according to all existing laws and standards at the time such activity takes place.
- i. The Town shall make extensive use of xerophytic (drought-tolerant) landscaping as part of the overall water efficiency program. All development plans shall be required to conform with the Specific Plan landscape guidelines.
- j. Prior to the issuance of building permits, the Building and Safety Division shall inspect all detailed project plans for conformance with Title 24 energy conservation code requirements.
- k. The development shall use the efficient water heaters, furnaces and other equipment that uses natural gas. In kitchens and throughout the development, natural gas appliances should be encouraged.
- l. Sewer system connection fees and facility fees shall be collected as the development builds out and will finance plant and other facility expansions as needed.

ENVIRONMENTAL SUMMARY MATRIX

This Environmental Impact Report (EIR) has been prepared to assess the potential environmental impacts that may result from the development of the North Apple Valley Industrial Specific Plan. The North Apple Valley Industrial Specific Plan site is located in the western Mojave Desert Region of Southern California in the southwestern portion of San Bernardino County. The subject property is within the northern portion of the Town of Apple Valley and encompasses a total of approximately 4,937± acres. The project site is bounded on the west by Dale Evans Parkway, on the north by Quarry Road, by Central Street on the east, and by Waalew Road on the south. The project location may also be described as Sections 15, 16, 21, 22, 27, 28, and portions of Sections 10, 33, and 34, Township 6 North, Range 3 West, San Bernardino Baseline and Meridian, in the County of San Bernardino.

The area is currently sparsely developed with a mix of industrial and scattered single-family residential development. The Apple Valley Airport is located in the center of the Specific Plan area. Lands designated by the California Department of Transportation (CalTrans) for the future High Desert Corridor occur within the southwestern portion of the Specific Plan area.

The subject project would establish development standards and guidelines for the eventual development of a master planned industrial park. Land use designations would allow for clean manufacturing, warehousing, more intense manufacturing, industrial uses within the Airport Area of Influence, and general commercial. Industrial uses would comprise the largest portion of the Specific Plan area.

The following discussion briefly summarizes each category of analysis, including existing conditions, project impacts and applicable mitigation measures recommended to reduce impacts to acceptable or insignificant levels. Levels of impact include:

Significant Impacts: Those impacts that constitute a potentially significant adverse change in the environment.

Insignificant Impacts: Those impacts which, by virtue of the environmental conditions, predisposing existing development, or the implementation of mitigation measures, are reduced to acceptable or “insignificant” levels.

Unavoidable Impacts: Those impacts that occur as a result of project development whose adverse effects cannot be entirely eliminated or reduced to a level of insignificance.

Existing Conditions	Project Impacts	Mitigation Measures
<p>LAND USE COMPATIBILITY</p> <p>The subject property is within the corporate limits of the Town of Apple Valley. The Specific Plan area is comprised of 4,937± acres. Currently, lands within the Specific Plan area are General Plan-designated Planned Industrial and Community Reserve; a pocket of Commercial land occurs immediately west of the airport, zoned General Commercial. Current zoning designations on the project site are General Commercial, Planned Industrial, Light Industrial and General Industrial, Very Low Density Residential (1 du/5+ gross acres) and Low Density Residential (1 du/2.5 to 5 gross acres). Lands in the southwestern portion of the Specific Plan area are CalTrans-designated for development of the future High Desert Corridor. The latter is not a General Plan designation.</p> <p>Lands to the west of the Specific Plan area within Town limits are designated Community Reserve, with residential densities not to exceed 2 du/gross acre subject to criteria defined for this designation. Community Reserve is intended to provide for a mix of residential, commercial and industrial development that will support viable neighborhoods or villages. Lands to the north are designated Low Density Residential; to the east within Town limits are Estate Residential, (1 du/1.0 to 2.5 gross acres); to the south are Community Reserve and Planned Industrial (light manufacturing and industry).Lands to the east outside Town limits are designated Rural Living, Regional Industrial, Community Industrial, and Resource Conservation in the San Bernardino County General Plan. Lands to the west outside the Town limits are designated Rural Living in the San Bernardino County General Plan.</p>	<p>With the implementation of mitigation measures, impacts associated with traffic, provision of infrastructure, impacts to air and water quality, visual resources and the potential for buildout of the Specific Plan to generate hazardous and toxic materials are expected to be less than significant. The Specific Plan provides for the most potentially intense industrial land uses to be located furthest from existing and approved residential development within the Town. It provides for landscaping and building setbacks on the perimeter streets within the Specific Plan to assure that sufficient distance is provided between the industrial and commercial uses and the residences across each of these streets. It provides for land uses and development standards within the Airport Influence Area that are compatible with airport operations.</p> <p>The proposed Specific Plan is consistent with the provisions and requirements of the Town of Apple Valley General Plan and Zoning Ordinance, as required by state law. The Specific Plan does not propose development that would physically divide an existing community, or conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project.</p>	<p>In the overall, with the implementation of mitigation set forth in this EIR, land use impacts are expected to be less than significant. The Town General Plan incorporates a wide range of policies and programs, the implementation of which will address land use compatibility issues as they arise. Development guidelines set forth in the proposed Specific Plan, which are typically more restrictive than those set forth in the General Plan and Town development code, will further address potential issues. To further assure that potential changes in land use are adequately assessed, individual projects, especially those located nearby or adjacent to sensitive lands or uses, shall be fully evaluated during the project review process to assure that all land use compatibility issues are addressed and mitigated.</p>

Existing Conditions	Project Impacts	Mitigation Measures
<p>TRAFFIC/CIRCULATION/PARKING</p> <p>A traffic study was prepared for this project and traffic counts along roadways in the project vicinity were collected in Spring of 2006. Traffic analysis was based on the Comprehensive Transportation Plan (CTP) and consistent with requirements of the San Bernardino County Congestion Management Plan (CMP). The Specific Plan area has existing and planned access to major transportation links in the immediate vicinity, including US Interstate-15, Dale Evans Parkway, State Highway 18 (Happy Trail Highway), Stoddard Wells Road and the future High Desert Corridor. Local access is provided by a variety of arterial roadways, including Quarry Road, Johnson Road, Saugus Road, Gustine Street, Corwin Road, Waalew Road and Central Road.</p> <p>Currently (2006), all but seven of the 40 intersections studied are operating at acceptable levels of service (LOS C or better). Of the seven intersections with unacceptable Levels of Service, current traffic volumes at six of these intersections warrant signalization.</p>	<p>The project traffic study estimates that the proposed project (Preferred Alternative) will generate approximately 168,609 average daily trips (ADT) at buildout (Year 2030). The incremental growth in background traffic, based upon General Plan land use designations and the County CMP and CTP models, has also been calculated and added to the projected Preferred Alternative 2030 (buildout) Specific Plan traffic projections. Based on the analysis, all study area intersections are expected to operate at LOS C or better during the AM and/or PM peak hour periods upon buildout of the Specific Plan and at the 2030 Horizon Year. The proposed project is not expected to have a significant adverse impact on local or regional traffic conditions, either during the construction of operational phases of the project. There is no need for special off-site improvements to accommodate the projected additional traffic the project will generate. Costs associated with the buildout of on-site and off-site roadway/intersections for the Specific Plan Preferred Alternative (and other alternatives) are analysed in the Traffic Study, and represent rough order of magnitude cost estimates. Based on this analysis, it is estimated that the costs of the on-site intersection improvements for the Specific Plan are approximately 20% higher than costs projected for buildout under the existing General Plan. The off-site intersection improvement costs for the Specific plan project are estimated to be about 14% higher than costs associated with the existing General Plan.</p>	<p>The proposed project is not expected to have a significant adverse impact on local or regional traffic conditions, or to create a need for special off-site improvements to accommodate the projected additional project-related traffic. However, additional measures are recommended to further reduce potential impacts during both the construction and operational phases of the project. These include: on-site roadway improvements required in conjunction with buildout, and a requirement for updated site-specific traffic studies on a project-by-project. Required off-site intersection and roadway improvements to mitigate potential impacts of the Specific Plan are those generally set forth in the Town and County General Plans, and as planned by CalTrans. Development within the Specific Plan project area should be required to contribute towards the cost of necessary study area improvements on a fair-share basis, via payment of development impact fees and/or additional fair-share contributions. The Town shall make a good faith effort to assure that intersections operate at LOS C or better. The Town shall periodically monitor conditions along roadway segments where General Plan and Specific plan level analyses indicate high levels of traffic congestion. A well-developed bus transportation system could potentially reduce vehicle traffic substantially for workers within the Specific plan area. The General Plan includes goals and policies designed to enhance the operation and efficiency of all aspects of the transportation system serving the Specific Plan area and address the on-going monitoring and management of traffic volumes and operating conditions, and the timing of required improvements to maintain acceptable levels of service.</p>

Existing Conditions	Project Impacts	Mitigation Measures
<p>SOILS AND GEOLOGY</p> <p>The Specific Plan area is located in proximity to major earthquake faults and is susceptible to a range of geotechnical conditions. These include strong groundshaking and seismically induced settlement. The site is not located within an Alquist-Priolo Fault Zone, nor are any active or potentially active faults known to occur on site.</p> <p>The entire site occurs within an area of moderate wind in Sidewinder Valley and close to the foothills and edges of the San Bernardino Mountains. It has a moderate level of susceptibility to brush fires and wind related soil erosion.</p>	<p>Onsite soils may pose some challenges to the construction of future development and other site improvements. Proper design, site preparation, and grading procedures can eliminate any difficulties, however. The sandy and soils in the Specific Plan area site are not considered to be expansive. The alluvial soils found on site have various strengths and may not be sufficiently uniform or compact to support the foundation loads of new buildings. Reliance upon these existing soils to support new buildings could lead to unacceptable levels of post-construction settlement. Therefore, grading will be required in order to remove any low-density soils that have the potential to collapse and to be compressed. After grading, post-construction settlements onsite is expected to be within tolerable limits. Due to the arid alluvial nature of the soils on site, conditions associated with shrinkage and subsidence are not expected on site. The site is not considered susceptible to liquefaction during seismic events in nearby fault, nor is groundwater expected to impact grading or foundation construction activities. The Specific Plan area has a moderate level of susceptibility to brush fires and wind related soil erosion. The site is not located within an Alquist-Priolo Fault Zone, nor are any active or potentially active faults known to occur on site. Therefore, the likelihood of significant rupture at ground surface is low.</p>	<p>Based on soils surveys and geotechnical literature, development of the Specific Plan is feasible on the project site from a geotechnical perspective. With the implementation of standard construction practices for the area, damage to structures from potential earthquakes will be mitigated to less than significant levels. Additional site-specific geotechnical investigations will be necessary to refine engineering design parameters such as site preparation, grading, and foundation design, and to assure that design criteria are responsive to onsite soils and to the effects of differential settlements resulting from potential ground shaking. Any refinements to the geotechnical analysis will need to be completed prior to the approval of development plans. Potential impacts from geotechnical and soil-related factors can be mitigated through the implementation of a wide range of measure, including removal of vegetation and alluvial soils, site and pad preparation so as to avoid mixed foundational support and potential for differential settlement, monitoring for potential settlement of fill soils, and post-construction planting and other erosion measures.</p>

Existing Conditions	Project Impacts	Mitigation Measures
<p>HYDROLOGY</p> <p>The region is susceptible to localized, high-intensity thunderstorms, tropical storms, and winter storm conditions. Natural drainage features of the site have been altered to some extent due to the introduction of roadway and the sparse development on site. The Specific Plan area drains naturally from the northeast to the southwest, and slopes are generally one percent or less throughout the area. The Specific Plan area includes several shallow dry wash “blue-line streams,” some of which flow off-site and eventually into the Mojave River. No riparian vegetation was identified within these streambeds, nor were any seeps, springs, ponds, lakes or other wetlands noted to occur within the Specific Plan area. Based on FEMA maps, the Specific Plan area is located in Flood Zone D (“Undetermined”), which is outside of the 100-year and 500-year flood zones. The 100-year flood zone is located approximately one-half mile south of the project at the Apple Valley Dry Lake. The most flood prone areas in Town are located at the Mojave River, approximately four miles southwest of the Specific Plan area. The Town’s Master Plan for Drainage proposes numerous drainage courses and regional drainage facilities in the northern part of Town. Maintenance of, and improvements to, flood control facilities in the northern part of town will expedite development of the Specific Plan area.</p>	<p>Improvements to the site are expected to include buildings totaling approximately 39,438,701 square feet of space, interior roads, and landscaped areas along building perimeters, interior roadways, and parking lots. Build-out of the site will result in construction of impermeable surfaces that will significantly increase storm water runoff potential generated at the site. Without mitigation, portions of the project and those areas immediately south of the project may be susceptible to storm-induced flooding, primarily from sheet flow and ponding of water behind embankments. To minimize potential flooding impacts, flood control structures will be installed throughout the Specific Plan area. In general, proposed drainage systems shall be designed to limit flood hazards, protect natural watersheds, and protect lives and properties in areas subject to flooding. Water runoff from the site will be controlled through future flood control structures and detention basins. Existing storm water infrastructure south of the project site will not be overburdened or negatively impacted by the project. There are no levees or dams whose failure would cause property damage or loss of life in the Specific Plan area; threats from mudflow are less than significant on site. The General Plan establishes goals and policies to address potential flooding hazards and hydrology issues in the Town and Study Area; it establishes measures directed at minimizing impacts of increased development on storm water control facilities. No substantial new sources of polluted runoff are expected. The proposed development will not violate water quality standards or waste discharge requirements.</p>	<p>In addition to regional facilities, on-site retention will continue to be required for individual projects, to ensure water reclamation and conservation; control of nuisance flows such as runoff from over-irrigation of landscaping; flood control; and flood channel erosion control. Future development must meet certain drainage criteria prior to the issuance of building permits. The Town of Apple Valley requires developers to pay mitigation fees depending upon their runoff potential. For the proposed development footprint of 39.4 million square feet, total drainage impact fees would exceed \$4.5 million. Project developers shall prepare a Storm Water Pollution Prevention Plan (SWPPP). Developers shall be required to periodically clean interior roads and parking courts, control and monitor use of pesticides and fertilizer, and treat runoff prior to discharge into detention basins. Disturbance of any of the shallow dry wash blue-line streams shall require additional analysis to determine if they have definable bed or bank, and if they have any connection to waters of the United States. If these blue-line streams meet state and or federal requirements, specialized permitting shall be required. All development in the Specific Plan area shall conform to any future updates or revisions to the Town’s Master Plan of Drainage. Site specific hydrology analysis may be required of development within the Specific Plan area, as determined by the Town of Apple Valley Engineering Division.</p>

Existing Conditions	Project Impacts	Mitigation Measures
<p>WATER RESOURCES/QUALITY</p> <p>The Apple Valley Ranchos Water Company (AVR) is the Town's primary water provider. AVR provides water to the Specific Plan area. AVR extracts all of its water from a large underlying aquifer, the Alto Subarea of the Mojave Groundwater Basin, which is managed by the Mojave Basin Area Watermaster. AVR's Urban Water Management Plan (WMP) indicates that the subbasin's net volume of water is estimated at 34,700 ac-ft of water. Most groundwater recharge occurs from the Mojave River and the upstream stormwater and snowmelt, although the Mojave Water Agency (MWA) imports water from the California State Water (SWP) project that is spread in the Mojave River to assist groundwater recharge in the basin. The Victor Valley Wastewater Reclamation Authority operates an 11 MGD wastewater treatment water reclamation facility for Apple Valley and other high desert communities. The plant is currently being expanded to increase capacity by an additional 3.5 MGD. AVR contracts with MWA for SWP water. AVR is located in the Mojave Water Basin, is subject to the Mojave Basin Judgment, and has a free production allowance of 8,567 acre-feet per year. Groundwater beyond this amount is subject to replacement. The project is also subject to the MWA's Regional Water Management Plan (November 2005). Based on water quality testing, the water provided by AVR does not exceed any federal or state drinking water standards.</p>	<p>Water demand at buildout of the Specific Plan was estimated in the North Apple Valley Industrial Specific Plan Water Supply Assessment (WSA) to be 5.5 million gallons per day, or 6,199.7 acre-feet per year at buildout. Based on the information and findings documented in this WSA, there is evidence to support a determination that there will be sufficient water supplies to meet the demands of the project during normal years, single dry years, and multiple dry years through 2025. This is based on the fact that AVR has existing water entitlements, rights and contracts to meet future demand as needed over time, and has committed sufficient capital resources and planned investments in various water programs and facilities to serve all of its existing and planned customers. The proposed Specific Plan will facilitate development within the project boundaries, though the actual rate of buildout is unknown. Overall, the total amount of water required by the project represents a decrease of approximately 13% in consumption as compared to the development potential of the existing General Plan land use designations within the project boundary. The development proposed for the project site is not expected to have significant impacts upon waste discharge requirements or operations. In summary, development of the proposed Specific Plan on the project site is expected to have a less than significant impact upon potable water use and overall water quality in the project vicinity and the Town.</p>	<p>The EIR sets forth mitigation measures to ensure that project impacts are reduced to levels below significance. These include a requirement that project developers prepare a Storm Water Pollution Prevention Plan (SWPPP), and provide periodic cleaning of interior roads and parking courts, careful control and monitoring of pesticides and fertilizer, and treatment of runoff prior to discharge into detention basins.</p> <p>As part of the Mojave Water Basin Stipulated Judgment, the average annual obligation of any Subarea to another was set equal to the estimated average annual natural flow between the Subareas over a 60 year period (water years 1930-1931 through 1989-1990). The average obligation of the Alto Subarea has been set at 23,000 acre-feet per year. If this obligation is not met, the producers in the upstream Subarea must pay the Watermaster for makeup water to be delivered to the downstream Subarea. In addition, the Judgment requires that the producer replace all water produced in excess of the producer's share of the free production allowance.</p> <p>According to the MWA 2005 UWMP update, as water demands increase over the next 20 years, additional projects and water management actions are needed to continue to recharge the groundwater basins to maintain groundwater levels and protect groundwater quality for municipal, agricultural, industrial, recreational, and environmental uses. If such projects are not implemented and groundwater overdraft persists or intensifies, the presiding Judge for the Mojave Basin Area Judgment could require mandatory cutbacks in production.</p>

Existing Conditions	Project Impacts	Mitigation Measures
<p>BIOLOGICAL RESOURCES</p> <p>An assessment of the biological resources within the Specific Plan area was prepared for this EIR. The Specific Plan area, particularly the southern half, has been significantly impacted by human activity. Clearing and grubbing, dirt roads, and scattered development have affected the native environment in the area. The Specific Plan area is composed of the Ruderal Scrub Plant Community, the Saltbush Scrub Plant Community and the Creosote Scrub Plant Community. A number of common species are expected to occur in the Specific Plan area, most of which are associated with disturbed Creosote Bush Scrub and Saltbush Scrub habitats. A total of eleven Special Status Species have the potential to occur within the Specific Plan area. These are Booth's evening primrose, Desert Cymopterus, Joshua Trees, Burrowing Owl, LeConte's Thrasher, Prairie Falcon, Mohave Ground Squirrel, Pale Big-eared Bat, Pallid San Diego Pocket Mouse, Coast Horned Lizard and Desert Tortoise.</p>	<p>The primary impacts to biological resources expected to result from build out of the proposed Specific Plan include the loss, fragmentation and degradation of viable habitat. Secondary impacts to biological resources may include the introduction of non-native plant species, which can disrupt and overrun natural communities, increased vehicle use and foot traffic, and predation of wildlife by domestic pets. Grading and development of lands within the Plan area have the potential to result in the destruction of entire populations of common and sensitive plant species. Urbanization has the potential to affect special status animals, including migratory birds, Desert Tortoise and LeConte's Thrasher. Permanent loss of this habitat has the potential to impact individual animals. Build out of the Plan area has the potential to impact the federally and state listed Desert Tortoise, which has a potential of occurring north of the Apple Valley airport. Development in the area has the potential to destroy burrows and eliminate habitat for the species. As a listed species, the Desert Tortoise requires special consideration, and survey requirements are listed in this EIR to assure that impacts are reduced to less than significant levels.</p>	<p>To ensure that impacts to biological resources are reduced to a less than significant levels, mitigation measures shall be implemented, including: pre-construction biological surveys for burrowing owls shall be performed by a qualified biologist on all lands within the Specific Plan area, consistent with the protocol established by CDFG at the time the survey is proposed. Should the species be identified on-site, the biologist shall recommend avoidance or relocation measures to assure that there is no impact to the species. Pre-construction biological surveys shall be conducted by a qualified biologist for Desert Tortoise, Burrowing Owl, and Mohave Ground Squirrel in specially-designated areas, as discussed in this EIR, and shall be consistent with applicable protocol established by the USFWS and CDFG at the time any survey is proposed. In addition, any project proposing land disturbing activities between February 1 and June 30 shall be required to perform a nesting bird survey consistent with the requirements of the Migratory Bird Treaty Act.</p>

Existing Conditions	Project Impacts	Mitigation Measures
<p>CULTURAL RESOURCES</p> <p>In preparation of this EIR, cultural and paleontological resource studies were prepared. With the exception of two cultural resources surveys performed for the Airport Master Plan and the Wal-Mart Distribution Center, the Specific Plan area has not been comprehensively surveyed for archaeological resources. These small-scale surveys have identified and recorded seven archaeological/historic sites and two isolates within the Specific Plan area. Outside the Specific Plan area and within one half mile, three pre-historic sites have been identified. Regional records indicate that six historic sites have been identified within the Specific Plan area in previous studies. None of the historic resources have been identified as eligible for designation in either the National or the California Registers of Historic Places. The northern portion of the Specific Plan area has the potential for high sensitivity for pre-historic resources, as an area for collection of stone for tool making. The area at the southern end of the Specific Plan, south of Papago Road, occurs in an area that would have been the shoreline of the ancient lake, and is likely to be highly sensitive for pre-historic sites. In these areas, the resources are likely to have been buried by alluvial sediments, and not detectable at the surface. Based on the soils in the Specific Plan area, the majority of the area contains rocky soils which have a low probability of yielding paleontological resources. The finer alluvial soils located in the southern portion of the Plan area, however, may include fossil remains.</p>	<p>Based on the findings of the cultural resources study, the Specific Plan area includes lands of high sensitivity for prehistoric and archaeological artifacts, as well as moderate sensitivity for historic structures. Future development projects of the Specific Plan area could result in direct and/or indirect disturbance or destruction of sensitive archaeological and historic resources. Site surveys should be conducted on all future development projects in areas of sensitivity, to determine the presence and significance of archaeological and historic resources.</p> <p>Future development in the Specific Plan area could also impact paleontological resources, should Pleistocene-age soils be disturbed by grading or excavation. Since the depth of the Holocene-age soils is not known, Pleistocene-age soils may be sufficiently close to the surface to be disturbed by grading activities. Monitoring of grading activities should occur in areas where Pleistocene-age soils will be disturbed.</p>	<p>To assure that development and build out of the Specific Plan area will not have a significant effect on cultural resources, mitigation measures shall be implemented, including: cultural resource studies shall be required prior to development for all lands identified in this EIR as having a high potential for historic or archaeological resources. The studies shall be reviewed and approved by the Town Planning Division prior to the issuance of any ground disturbing permit. The recommendations of the studies shall be made conditions of approval of the ground disturbing permits. Paleontological resource studies shall be required prior to development for all lands identified as having a high potential for paleontological resources as shown in this EIR. The studies shall be reviewed and approved by the Town Planning Division prior to the issuance of any ground disturbing permit. The recommendations of the studies shall be made conditions of approval of the ground disturbing permits.</p>

Existing Conditions	Project Impacts	Mitigation Measures
<p>AIR QUALITY</p> <p>Over the past few decades the Town’s air quality has noticeably deteriorated due to increased local development and population growth, traffic, construction activity and various site disturbances. Although air pollution is emitted from various sources in Apple Valley and the local vicinity, some of the degradation of air quality can be attributed to sources outside of the area, including Los Angeles County and other air basins to the west and southwest. The Mojave Desert Air Basin and the Town of Apple Valley are susceptible to air inversions, which trap a layer of stagnant air near the ground where it can be further loaded with pollutants. The Town of Apple Valley is located within the Mojave Desert Air Basin (MDAB). The Mojave Desert Air Quality Management District (MDAQMD) is responsible for establishing air quality measurement criteria and relevant management policies for the basin and neighboring air basins.</p> <p>Air in the Mojave Desert Basin (which includes the Town of Apple Valley) exceeds federal standards for fugitive dust, and the area is considered to be in extreme non-attainment for ozone. However, air quality in the Town does not exceed state and federal standards related to carbon monoxide, nitrogen oxides, and sulfur dioxide.</p>	<p>The project will result in the direct and indirect generation and emission of air pollutants both locally and regionally. Emissions will contribute to regional air quality degradation in the Town of Apple Valley. The most significant impacts are expected to come from the emission of pollutants generated by vehicular and truck traffic. Other important sources of pollutants will be emissions generated during site preparation activities and from project operations, including the utilization of natural gas and electricity. Site preparation and grading related activities are expected to exceed one threshold criteria pollutant, nitrogen oxide, without the implementation of mitigation measures. Based on a worst-case projected emissions in pounds per day from construction related activities for the proposed project, no threshold criteria are expected to be exceeded during construction activities. The level of impact anticipated with operation of the proposed project is expected to be significant. These impacts can be mitigated, however, once mitigated, development of the Specific Plan will still represent a significant additional increment to the cumulative air quality impacts in the Apple Valley area. The proposed project represents a 25% increase in operational air quality impacts over the development potential of the existing General Plan land use designations. It is important to recognize that these pollutants will not be emitted in any short-term or concentrated manner, but represent 24-hour emissions.</p>	<p>Mitigation measures are embodied in the Town’s General Plan Policies and associated EIR, and other measures promulgated by the Town and Mojave Desert Air Quality Management District to mitigate development impacts in the Town of Apple Valley and the surrounding areas. These measures will be applied to project development and are expected to reduce air quality impacts to the greatest extent possible. However, operational air quality impacts are expected to be significant, even with the implementation of mitigation measures. Mitigation measures in this EIR are designed to further reduce construction-related air quality impacts, and to reduce air quality impacts related to operation of the project as much as feasible. The Town shall review and condition grading and development permits to require the provision of all reasonably available methods and technologies to assure the minimal emissions of pollutants from the development. As part of the Town’s grading permit process, the applicant shall submit a dust control plan as required by MDAQMD in compliance with Rule 403. To reduce PM₁₀ emissions, the developer shall implement measures, as required on sites of 100+ acres, and to be followed to the greatest extent practicable. To minimize indirect source emissions, the developer shall install low-polluting and high-efficiency appliances; landscape with native and other appropriate drought-resistant species to reduce water consumption and to provide passive solar benefits. Implementation of the mitigation measures outlined above under the General Control and Mitigation Measures and the Developer’s Air Quality Management Resources will reduce the potential air quality impacts to the greatest extent practicable.</p>

Existing Conditions	Project Impacts	Mitigation Measures
<p>NOISE</p> <p>Generally, the Town of Apple Valley enjoys a quiet noise environment, with existing community noise being dominated primarily by constant motor vehicle traffic on highways and major arterials. The noise environment of the Specific Plan study area is currently especially affected by local airport operations, which on a daily basis averages approximately 348 flight operations (take-offs and landings) per day. All of these operations are associated with general aviation aircraft. Currently, airport operations have no significant adverse effect on the local noise environment. There are currently very few sensitive receptors within the Specific Plan study area, all of which are scattered single-family development. A rail line located adjacent to Quarry Road serves the Mojave Northern Mining quarry located to the east and generates approximately 2 to 4 trains per day. The principal noise generator within the community of Apple Valley is vehicular traffic. Noise contour evaluation conducted for the project indicates that the noise environment in the Specific Plan study area currently ranges from 50.9 CNEL at Stoddard Wells Road west of Dale Evans Parkway, to 71.3 CNEL along SR 18 west of Corwin Road, at a distance of 100 feet from the street centerline.</p>	<p>Based on the noise analysis, traffic associated with the buildout of the North Apple Valley Industrial Specific Plan will have a less than significant impact on the noise environment on all but eleven (11) roadway segments in the planning area. These segments may be potentially impacted by a 3 dBA or greater increase in noise levels that contribute to an exceedance of 65 dBA CNEL, and their respective increases in CNEL dBA. These potentially significant impacts range from very marginal for five segments, to moderately significant for the other six segments. Impacts are for unmitigated conditions and do not consider the noise buffering effects of masonry walls, earthen berms or other buffers that may be constructed in the future. Traffic noise associated with the Specific Plan will create limited but potentially significant permanent increases in transportation-related ambient noise levels or potentially expose persons to noise levels in excess of the standards established by the Town. Stationary noise sources associated with the buildout of the Specific Plan include truck deliveries, loading and unloading docks and areas, manufacturing and transport machinery and equipment noise, HVAC equipment, and others. No residential land uses are proposed within the Specific Plan area under the Preferred Alternative, which further reduces the potential for stationary noise impacts to sensitive residential receptors. The rail line located adjacent to Quarry Road is expected to remain at its current operational level. Anticipated future growth in airport operation will generate very modest and less than significant increases in the CNEL contours generated by the operation of this airport. Due to distances from the site and with consideration for existing and future traffic noise on these roadways, construction noise levels are expected to be below the 75 dBA standard for mobile grading equipment for daytime hours between 7 AM and 7 PM, and the 60 dBA Leq standards for stationary equipment.</p>	<p>Continued growth and development in the Specific Plan study area may result in potentially significant noise impacts. The Specific Plan land use plan appears to minimize the potential adverse noise impacts of planning area buildout with surrounding land uses. The Town Noise Control Ordinance provides regulations for noise measurement and monitoring and cites special provisions of, and exemptions to, the ordinance. This EIR provides specific categorical mitigation measures to address identified impacts, including construction, stationary source, and off-site traffic noise. These measures include but are not limited to fitting construction equipment with well maintained functional mufflers, and locating earth moving and hauling routes away from nearby existing residences. For on-site stationary noise sources, they include but are not limited to design, selection and placement of the mechanical equipment for various buildings within the Specific Plan study area in consideration of potential noise impacts on nearby residences. All development in the Specific Plan area shall comply with Town stationary source standards in the Town Noise Control Ordinance. On a case-by-case basis, the Town shall require the preparation of project-specific noise impact studies that evaluate and minimize the potential for stationary noise sources to adversely impact sensitive noise receptors in the vicinity. Potential off-site traffic noise impacts shall be considered in the final site plans for all proposed projects within the Specific Plan study area. Land uses that are compatible with higher noise levels shall be located adjacent to the Town's major arterial roads and highways to maximize noise related land use compatibility. The Town shall encourage a project circulation pattern that places primary traffic loads on major arterials and preserves local neighborhood noise environments by limiting roadways to local traffic to the greatest extent practical.</p>

Existing Conditions	Project Impacts	Mitigation Measures
<p>VISUAL RESOURCES</p> <p>In general, the project site slopes from north to south, with the highest elevation at approximately 3,200 feet above sea level in the northeastern-most portion of the site. The lowest elevation occurs at approximately 2,920± feet in the southwestern most portion of the site. The terrain of adjacent mountains, hills and terraces, as well as the warm earth tones of surrounding landforms and features provide dramatic contrasts that create the backdrop for the project area. The visual character of the project site and vicinity is somewhat impacted by urban development. Development in the vicinity includes scattered residential and industrial uses, the Apple Valley Airport, and local roadways. The Specific Plan area and vicinity also includes large areas of undeveloped desert lands. The Town General Plan sets forth dark sky and lighting policies designed to preserve views of night skies. Further, the Town municipal code has established development performance standards for exterior lighting.</p>	<p>Approval of the proposed Specific Plan will provide for development of commercial and industrial land uses approximately 4 miles northwest of the most urbanized portions of the Town. Development in this area is currently sparse. and development of the proposed Specific Plan area over time is expected to change the existing character of the Specific Plan area, and to some extent, that of surrounding lands. Sensitive viewsheds include those visible from Dale Evans Parkway and from surrounding residential development located in the project vicinity. These viewsheds have already been somewhat impacted by existing development, including existing industrial and residential land uses. Viewsheds have also been impacted by existing development of the Apple Valley airport in the central portion of the Specific Plan area. Development within the Specific Plan area will result in changes to the existing visual character. The Specific Plan provides for development of buildings of 50 to 100 feet in height, as well as additional sources of light and glare from building lighting, night-time operations and vehicle headlights, which may particularly impact the more sensitive residential land uses surrounding the project site. The Specific Plan sets forth development guidelines that establish setbacks, maximum building heights, and landscape, lighting and signage standards.</p>	<p>Project design guidelines, architecture and materials used in the development shall conform with the project design guidelines set forth in the North Apple Valley Industrial Specific Plan, as reviewed and amended by the Town of Apple Valley. Measures to further reduce potential impacts to visual resources include but are not limited to the following: landscaping plans and materials applied to development area boundaries shall serve to create a harmonious transition and complement to the built environment. Walls and fences shall be constructed in conformance with the Specific Plan Design Guidelines, and shall utilize materials consistent with other structures in the Specific Plan area. Walls shall incorporate landscaping to obscure or soften hard edges.. All outdoor lighting shall be in compliance with the dark sky policies of the General Plan. Outdoor lighting shall be limited to the minimum height, number and intensity of fixtures needed to provide security and identification, taking every reasonable effort to preserve the community’s night skies. All development plans, including grading and site plans, detailed building elevations and landscape plans shall be submitted to the Town for review and approval prior to the issuance of building permits. Development within the Specific Plan area shall be designed with particular attention to limiting the lighting impacts on adjacent residential neighborhoods.</p>

Existing Conditions	Project Impacts	Mitigation Measures
<p>HAZARDOUS AND TOXIC MATERIALS</p> <p>The Town and the Specific Plan area are located in proximity to transportation facilities that may carry hazardous materials, and there is potential for spills and leaks from moving sources. The Apple Valley Airport is located in the central portion of the Specific Plan area. A review of environmental databases conducted in May 2006 and covering the Specific Plan area and adjoining properties identified 15 properties in the geographic area studied that are currently listed on environmental databases. Four of these are described as having a moderate potential for hazardous materials spills. The former Victorville Pre-Bomb Range site occurs on approximately 560 acres in the planning area and was used as a practice bombing range for military training purposes during World War II. Although database records indicate that this site is undeveloped, a portion of the site has been developed for the Wal-Mart distribution facility, located at the southwest corner of Dale Evans Parkway and Johnson Road. Based on the EDR review of database records the site is “known or suspected of containing military munitions and explosives of concern (unexploded ordnance).” Investigation and/or removal of unexploded ordnance have been underway for over a decade, with approximately \$1.3 million budgeted for this effort.</p>	<p>The proposed Specific Plan will not result in increased generation or disposal of hazardous materials and wastes associated with existing facilities, but is expected to provide for development of new businesses within the Specific Plan area that will increase the exposure of people to existing sources of potential hazard. Future commercial and industrial development in the Specific Plan area may have potential to store, transport or distribute hazardous materials, and to generate hazardous wastes. Future development within the Specific Plan area has potential to impact airport operations, although the Specific Plan is designed to ensure land use compatibility between the airport and surrounding uses. Scattered single-family residential development is located within and near the Specific Plan area. The Rio Vista Elementary School is located approximately one-half mile south/southeast of the Specific Plan area. The Specific Plan designates lands with potential for heaviest industrial uses at the northeastern portion, furthest from these sensitive receptors. The Victorville Pre-Bomb Range site is considered a high risk due to unexploded military weapons (bombs). Existing threat or impacts to soil and groundwater quality are not known, based on information available in environmental databases surveyed. Unexploded ordnance, such as that thought to be present at this site, has potential to contain lead, nitrates, and other chemicals that were used in the manufacture of military ordinance during World War II. The Town should require site-specific hazardous materials assessments prior to approval of future development plans within this site.</p>	<p>Project proponents for future development within the Specific Plan area shall comply with all applicable federal, state, regional and local permitting requirements for hazardous and toxic materials generation, handling and disposal; shall coordinate with the Apple Valley Fire District and others to reduce the level of risk and facilitate fire department response to emergency events; and shall ensure that storage of hazardous materials and waste is secured to minimize the risk of upset associated with groundshaking. The Town, and County Department of Airports shall review all proposed development plans within the Airport area of influence to assure that land uses constructed therein do not pose a hazard to airport operations. The Town of Apple Valley shall review all proposed development plans within one mile of sensitive residential development and school facilities to assure that no land use incompatibilities with potential to expose sensitive receptors to risk of hazardous substances, or accidental release of materials occur. Project proponents for future development within the “Victorville Pre-Bomb Range” area shall handle and dispose of all hazardous wastes and materials in the manner specified by the State of California Hazardous Substances Control Law and according to the California Code of Regulations, Title 22, Division 4.5. Prior to issuance of grading permits for future development within this same area, on-site investigations and assessments (Environmental Site Assessment) for the potential presence of hazardous materials shall be conducted by a qualified environmental consultant.</p>

Existing Conditions	Project Impacts	Mitigation Measures
<p>JOBS AND HOUSING</p> <p>The Town of Apple Valley is currently (2006) estimated to have a population of 67,507. The Southern California Association of Governments (SCAG) estimates that Apple Valley’s population will increase by 28,168, or 41.7%, by year 2030. The Town’s unemployment rate varies, but is currently (2006) approximately 4.5%. As of 2006, the Town has 23,782 households, with an estimated vacancy rate of 7.96%, and an average of 3.07 persons per household. According to the Inland Empire Quarterly Economic Report, the median home price in Town in the second quarter of 2005 was \$255,185 for existing homes and \$284,966 for new homes. This compares with \$310,000 and \$335,000 for existing and new homes in San Bernardino County for the same period. Build out of the General Plan is expected to generate a total of 86,814 housing units, 12,268 of which would be multiple family units, and 74,546 of which would be single family homes.</p>	<p>Build out of the proposed Specific Plan will result in the development of industrial and commercial land uses which will directly result in new jobs within the Town, and indirectly result in a need for additional housing. It is difficult to estimate the number of jobs that the project could generate, since the nature of development is not known at this time. Depending on the type of industrial development that occurs within the Specific Plan area, jobs created could vary considerably. The majority of Town residents commute outside of Town for work. Although it cannot be determined what percentage of these residents commute, an average of 33 minutes for commuting clearly indicates that the majority of jobs are outside the Town limits, most likely in Victorville, and communities to the south. Given that the jobs to be created by the proposed project will provide a broad range of opportunities, the proposed project has the potential to allow residents of Apple Valley to find employment within their community, and reduce commuting time for many. The potential creation of jobs and associated need for housing for the households of these employees will also result in the need for additional housing. The long term impacts associated with the provision of housing for this project, however, cannot be effectively quantified immediately, and will require on-going monitoring.</p>	<p>In order to mitigate potential impacts associated with jobs and housing, mitigation measures shall be implemented, as follows: within five years of adoption of the Specific Plan, or in conjunction with the next General Plan update, whichever occurs first, the Town shall process General Plan Amendment(s) which result in the potential for an additional 1,916 housing units north of Highway 18. This amendment can be accomplished by either increasing density on existing residentially designated lands, or converting lands designated for other uses to residential development. Annually through build out of the Specific Plan area, the Town shall prepare, or shall cause to be prepared, an inventory of the development occurring within the Specific Plan Area, the number of jobs created, and the city or town of residence of the employees. This data shall be supplemented by the equivalent data for projects approved but not yet constructed within the Specific Plan area. After the first year, the data shall be cumulative. The data shall be compared analytically with the residential units approved for construction, under construction or proposed north of Highway 18 during the same time period. The analysis shall consider whether there are sufficient units available or planned to accommodate at least 80% of the employees added to the Specific Plan area in that year. Units permitted under General Plan residential land use categories can be included in the analysis. Should the analysis show a shortfall, the Town shall consider General Plan Amendments to assure that sufficient land is designated for housing 80% of the employees of the Specific Plan area.</p>

Existing Conditions	Project Impacts	Mitigation Measures
<p>PUBLIC SERVICES/FACILITIES</p> <p>The project site is located within the service boundaries of the following providers: Apple Valley Ranchos Water Company, Victor Valley Wastewater Reclamation Authority, Burrtec Waste Industries, San Bernardino County Sheriff’s Department, Apple Valley Fire Protection District, Southwest Gas, Southern California Edison, Charter Communications, and the Apple Valley Unified School District.</p>	<p>The proposed project is not expected to place an undue burden on any service provider, and demand for these services will occur gradually over the buildout period. To some extent, water, sewer, natural gas, and electricity, as well as other utilities are already located within or in proximity to the Specific Plan area. Fire and police response times are within acceptable levels. The project is expected to generate demand for additional police protection from the San Bernardino County Sheriff’s Department, as well as an incremental impact on the current level of services. Future commercial and industrial development plans will be subject to review by the Sheriff’s Department and the Apple Valley Fire District Fire Marshall. These plans are expected to incorporate security measures into project design to limit additional demand for police services. There are currently several points of access into the planning area. Buildout of the Specific Plan will require construction and paving of existing and new roadway to provide access to future development and ensure adequate emergency access to all parts of the Specific Plan area. The Town shall review all future development plans to assure that adequate emergency access is provided to all sites. Project buildout will generate a limited cumulative increase in demand for public services and facilities, but is not expected to have any significant adverse impacts on these resources.</p>	<p>The Town shall assure provisions of adequate on-site stormwater retention/detention basins that enhance bio-filtration and percolation. The Town shall make extensive use of xerophytic (drought-tolerant) landscaping as part of the overall water efficiency program. All development plans shall be required to conform with the Facilities Master Plan landscape guidelines. As the project site is developed, development plans shall be reviewed by the Town and made available to the Apple Valley Ranchos Water Company for review. The subject property will require connections to the existing sewer system, Sewer system connection fees and facility fees shall be collected as the development builds out and will finance plant and other facility expansions as needed. All new development shall establish recycling programs as part of the planning process. The Town shall strictly enforce Title 24 of the California Code of regulations, and every reasonable effort shall be made to assure the highest level of energy conservation possible. The Town shall assist the Apple Valley Unified School District in assuring that statutory school mitigation fees are paid.</p>

NORTH APPLE VALLEY INDUSTRIAL SPECIFIC PLAN

DRAFT ENVIRONMENTAL IMPACT REPORT

I. INTRODUCTION AND PROJECT DESCRIPTION

A. Lead Agency

The Town of Apple Valley is the lead agency responsible for the preparation of this Environmental Impact Report (EIR SCH# 2006031112) for the North Apple Valley Industrial Specific Plan. The contact person regarding this document is Ms. Carol Miller, Senior Planner, Town of Apple Valley, (760) 240-7000, ext. 7222. The mailing address of the Town is 14955 Dale Evans Parkway, Apple Valley, CA 92307.

B. Introduction

This Environmental Impact Report (EIR) has been prepared in conjunction with the preparation of the North Apple Valley Industrial Specific Plan, and associated General Plan Amendment (GPA No. 2005-08, Zone Change 2005-08). Specific Plans and their amendments are considered “projects” under the California Environmental Quality Act (CEQA), and therefore require thorough assessment in the form of an EIR.

This EIR has been prepared to review the environmental constraints and opportunities associated with the adoption of the proposed North Apple Valley Industrial Specific Plan. In addition to assessing the impacts associated with the Specific Plan and instituting mitigation measures, the EIR is designed to be used as an information database to facilitate the streamlining, or tiering of the environmental review process for subsequent projects proposed within the Specific Plan boundary.

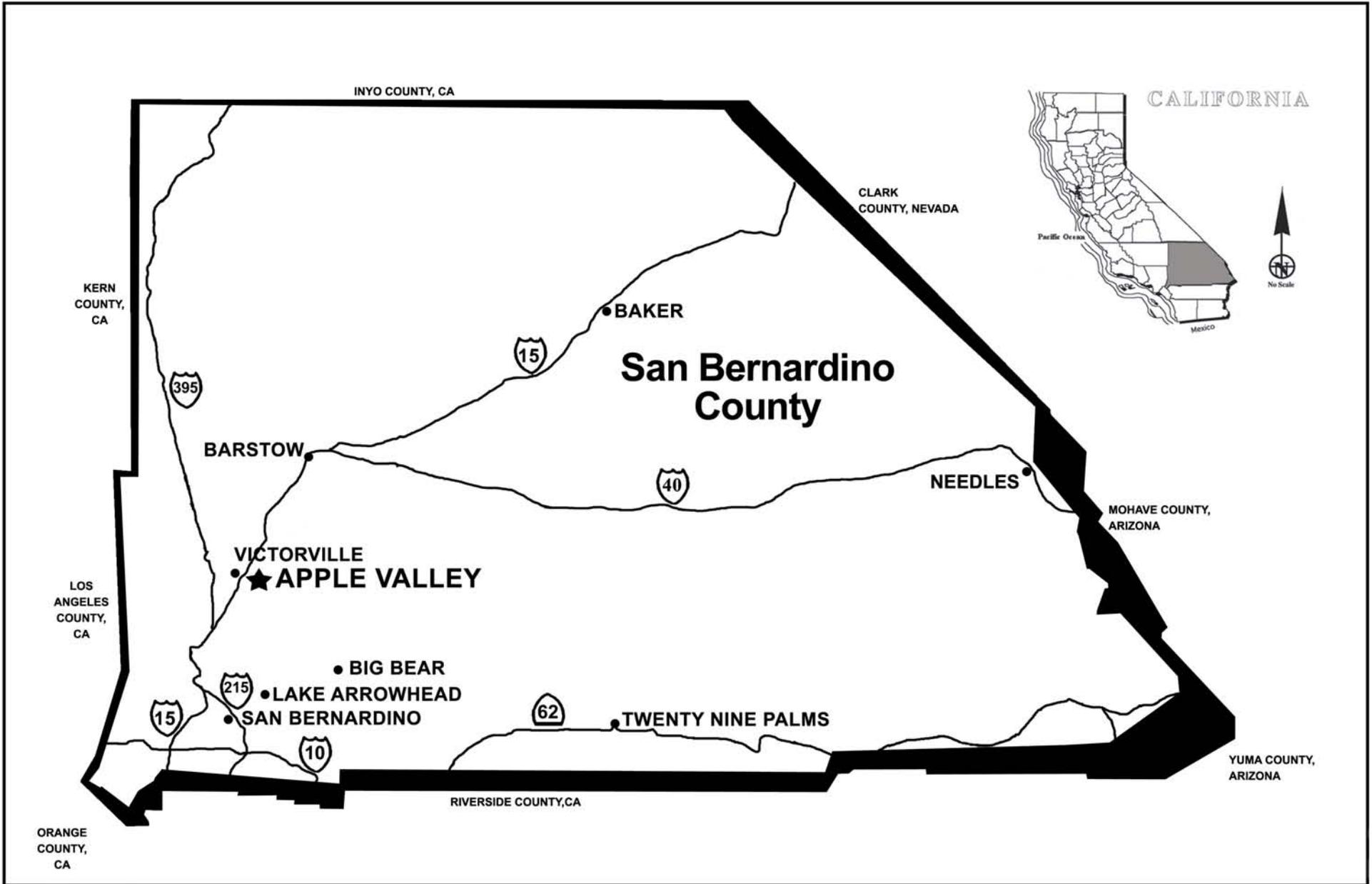
This Environmental Impact Report incorporates technical data collected over a broad area and analyzes Specific Plan impacts within this context. The EIR summarizes the development standards and guidelines of the Specific Plan, as well as the various land use categories set forth therein.

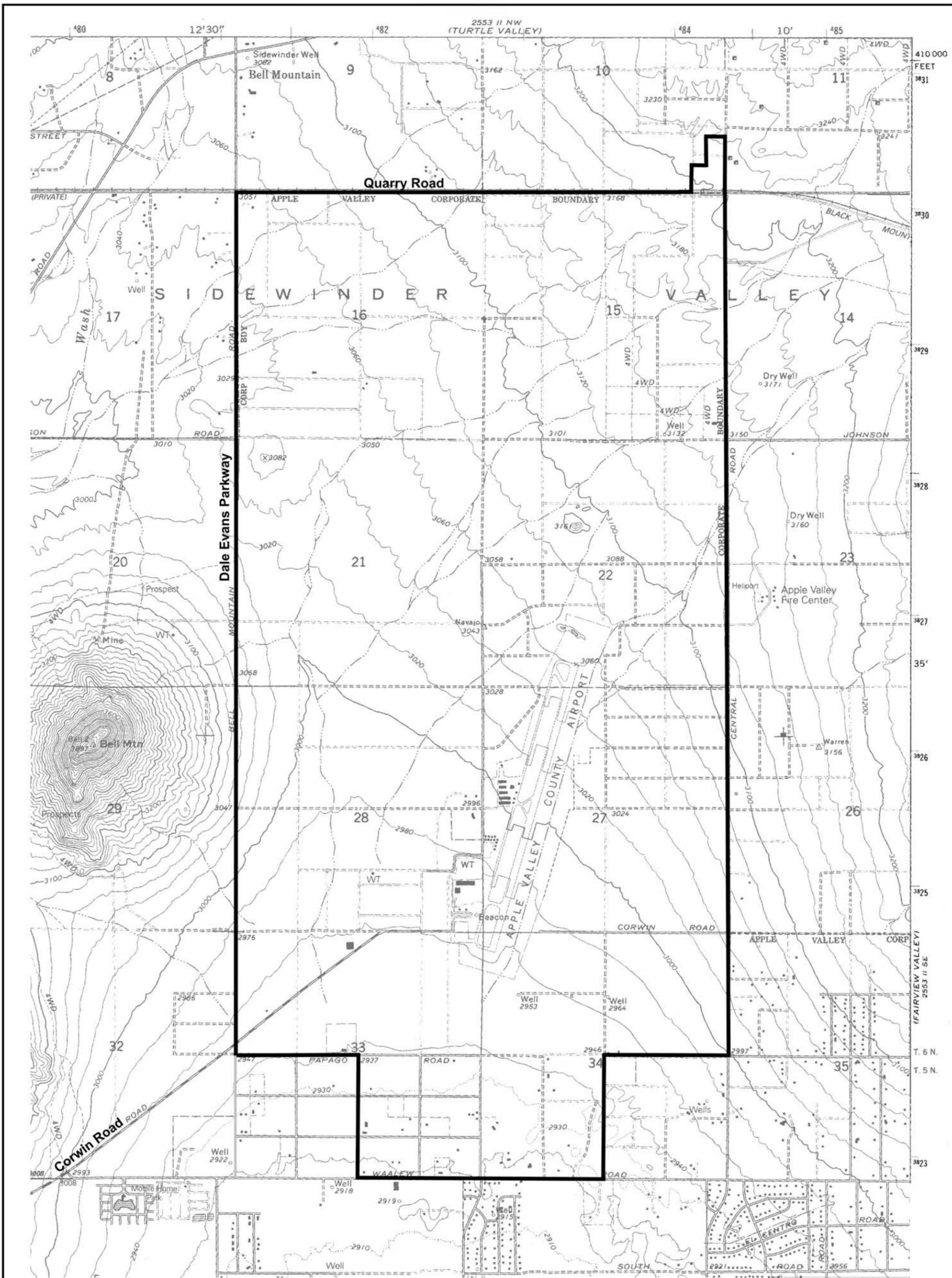
The EIR assesses a wide range of environmental issues associated with the implementation of the Specific Plan area. These include land use compatibility, traffic and circulation, flooding and drainage, geotechnical and seismic safety, air quality, biological, archaeological and paleontological resources, noise impacts, visual resources, jobs and housing, public services and facilities.

Section II of this document describes the environmental setting of the Town and region, and identifies environmental resources and constraints. Existing regional infrastructure, land use patterns and natural resources are also identified.

Section III includes a comprehensive evaluation of land and resources specific to the Specific Plan Area. Potential impacts to the physical environment associated with the implementation of the proposed Specific Plan land use designations are also discussed. Section III further evaluates patterns of development, alterations to the physical environment, and the availability of public services and facilities. Mitigation measures are offered where appropriate to reduce impacts that may result from some aspects of implementation of the North Apple Valley Industrial Specific Plan.

The EIR also discusses unavoidable significant impacts in Section IV, project alternatives in Section V, and short-term use and long-term productivity of the affected environment in Section VI. To facilitate long-range planning, the irreversible and irretrievable commitment of resources, including water resources, biological habitat and air quality are assessed in Section VII. Growth inducing and cumulative impacts associated with adoption of Specific Plan land uses are also examined in Section VIII. Section IX cites persons, organizations and documents consulted or referenced.





Source: USGS 7.5 Minute Map
 Apple Valley North, CA 1970 revised 1993

Legend
 — Project Boundary Line



C. CEQA and Other Requirements

This Environmental Impact Report has been prepared in accordance with the California Environmental Quality Act (CEQA) Statutes (Public Resources Code Section 21000-21177) and CEQA Guidelines of 2003 (California Code of Regulations Section 15000 et. seq.), as amended. CEQA states that the adoption of a Specific Plan (and associated General Plan Amendment No. 2005-08 and Zone Change 2005-08) requires the makings of findings concerning the identified significant environmental effects (Title 14, California Code of Regulations Section 15088). The EIR must be supported by substantial evidence and must explain how significant effects have been or should be mitigated. Section 15080 of the CEQA Guidelines, 2005 requires the preparation of an Initial Study (see Appendix A). In the event that potentially significant environmental impacts are identified that may result from the “project,” an EIR must be prepared. This EIR is intended as an informational and analytical document that provides decision-makers, the general public, and other responsible or interested agencies with an objective assessment of the environmental impacts associated with the proposed Specific Plan. The mitigation measures proposed herein are intended to eliminate or reduce the level of environmental impacts associated with the Specific Plan to the greatest extent practicable.

The Final EIR and the mitigation measures set forth herein shall become part of the “project” approval, and an integral part of the Specific Plan. If, after completion of the Final EIR, the Town Council chooses to approve the Specific Plan without applying any or some of the mitigation measures set forth in the EIR, or in the event of unavoidable significant impacts, then a “Statement of Overriding Considerations” must be prepared, demonstrating that the benefits of the proposed project outweigh the unavoidable significant environmental impacts which may result from implementation of the Specific Plan.

In addition to the Town departments responsible for review of the Specific Plan, certain local, state, federal and regional agencies will review and comment on this draft EIR. These agencies include, but are not limited to, the California Office of Planning and Research (OPR), California Department of Fish and Game (CDFG), U.S. Bureau of Land Management (BLM), U.S. Fish and Wildlife Service (USFWS), Southern California Association of Governments (SCAG), South Coast Air Quality Management District (SCAQMD), and utility providers serving the Town and Specific Plan area.

This EIR is meant to serve at a program level. Additional environmental documentation, such as environmental assessments and environmental impact reports, may be required for subdivisions, land use plans and other development applications that may be processed by the Town.

Public Comment and Issues of Concern

The Town circulated a Notice of Preparation (NOP) and Initial Study (IS) for the proposed Specific Plan. The comment period for the NOP ended April 27, 2006. The Town received a number of comments on the NOP. Where appropriate, these comments have been addressed in this EIR. The NOP comments can be found in Appendix A.

As required by CEQA, the Town conducted a Public Scoping Meeting on April 18, 2006, during the NOP comment period. The meeting was advertised in the Apple Valley News, and notices of

the meeting were sent to property owners within the Specific Plan area, and surrounding the Specific Plan area within a distance of 500 feet. Approximately 40 people attended the meeting. A number of questions and concerns were discussed at the meeting, including:

1. Transportation and circulation issues within and surrounding the Specific Plan area, including:
 - a. The many currently unpaved roads within the area, and how these roads will be improved in the future.
 - b. The potential conflicts between existing residential traffic and commercial vehicles.
 - c. The planned High Desert Corridor, including the currently mapped potential right of way.
 - d. The streets which will be blocked by the construction of the Corridor.
2. The boundaries of the Specific Plan, and whether the one quarter section at the southwestern corner of the Specific Plan area should also be included in the boundary (the area north and east of Waalew Road and Dale Evans Parkway).
3. The provision of sewers and other services and utilities in the area, which is currently primarily served by septic systems on individual lots, and limited infrastructure.
4. The financing of infrastructure to supply adequate levels of service for public services and utilities.
5. The potential impacts of industrial and commercial development on the residential development which currently occurs, or could occur in the future surrounding the Specific Plan area.
6. The status of existing residential development in the area, including:
 - a. Whether or not the existing residences could continue to exist if the Specific Plan was approved.
 - b. The potential impacts associated with land use compatibility if industrial or commercial development were to occur next to an existing residence.
7. The phasing of development, or what areas of the Specific Plan would develop first.

Questions were answered as thoroughly as possible throughout the meeting. In most cases, however, analysis in the form of an EIR, which had not been undertaken at the time, was needed to address these issues, and is included in this document. Areas of controversy remaining, and discussed and analyzed in this EIR include traffic and circulation, infrastructure development, land use compatibility and public services and facilities, particularly relating to infrastructure development and financing.

D. Project Location and Description

The Town of Apple Valley has prepared the North Apple Valley Industrial Specific Plan to guide the future development of approximately 4,937 acres generally bounded by Dale Evans Parkway on the west, Quarry Road on the north, Central Street on the east, and Waalew Road on the south. Development in this area is currently sparse, and consists of a mix of industrial and some residential land uses. The Apple Valley Airport is located in the center of the Specific Plan area.

The Town of Apple Valley General Plan currently designates this area Planned Industrial (generally in the western half of the Specific Plan area) and Community Reserve (generally in the western half of the Specific Plan area).

The proposed Specific Plan would establish the development standards and guidelines for the eventual development of a master planned industrial park. The draft Specific Plan land use map proposes land use allocations as shown in Table I-1, North Apple Valley Industrial Specific Plan Land Use Summary.

Table I-1
North Apple Valley Industrial Specific Plan
Land Use Summary

Land Use Designation	Acres Vacant	Acres Developed	Acres Total
General Commercial	256.0	4.9	260.9
Industrial - Airport	329.7	410.7	740.4
Industrial - Specific Plan	3,201.9	312.5	3,514.4
Industrial - General	334.0	6.1	340.1
High Desert Corridor	73.7	8.0	81.7
Total	4,195.3	742.2	4,937.5

The proposed land uses are described as follows:

Industrial – Specific Plan

This designation allows for a broad range of clean manufacturing and warehousing uses, ranging from furniture manufacture to warehouse distribution facilities. Key features of this designation include:

- Outdoor storage must be completely screened from view.
- All uses must be conducted within enclosed buildings.
- Perimeter landscaping must be complementary with that of surrounding projects to provide a unified, cohesive streetscape.

Appropriate land uses in this designation include manufacturing facilities with showrooms and offices, regional warehousing facilities, and support services for manufacturing and warehousing.

Industrial – General

This designation allows for more intense manufacturing uses, including those which may produce limited emissions due to manufacturing processes. Key features of this designation include:

- Outdoor storage is permitted, with appropriate approvals.
- Outdoor manufacturing is permitted, with appropriate approvals.
- Perimeter landscaping must be complementary with that of surrounding projects to provide a unified, cohesive streetscape.

Appropriate in this designation are such users as cement batch plants, welding shops, and vehicle dismantling. Land uses also permitted in the Industrial – Specific Plan designation, such as warehousing and manufacturing, may also be permitted here.

Industrial – Airport

This designation is assigned to lands within the control of the Apple Valley Airport. Key features of this designation include:

- Permitted uses are related to those needed for an airport, or complementary to airport operations.
- A mix of commercial and industrial uses are allowed.
- Perimeter landscaping must be complementary with that of surrounding projects to provide a unified, cohesive streetscape.

Land uses permitted include hangars, airplane repair and fueling facilities, and similar uses. Also appropriate are support commercial facilities, and quasi-public uses, such as restaurants and museums, respectively.

General Commercial – Specific Plan

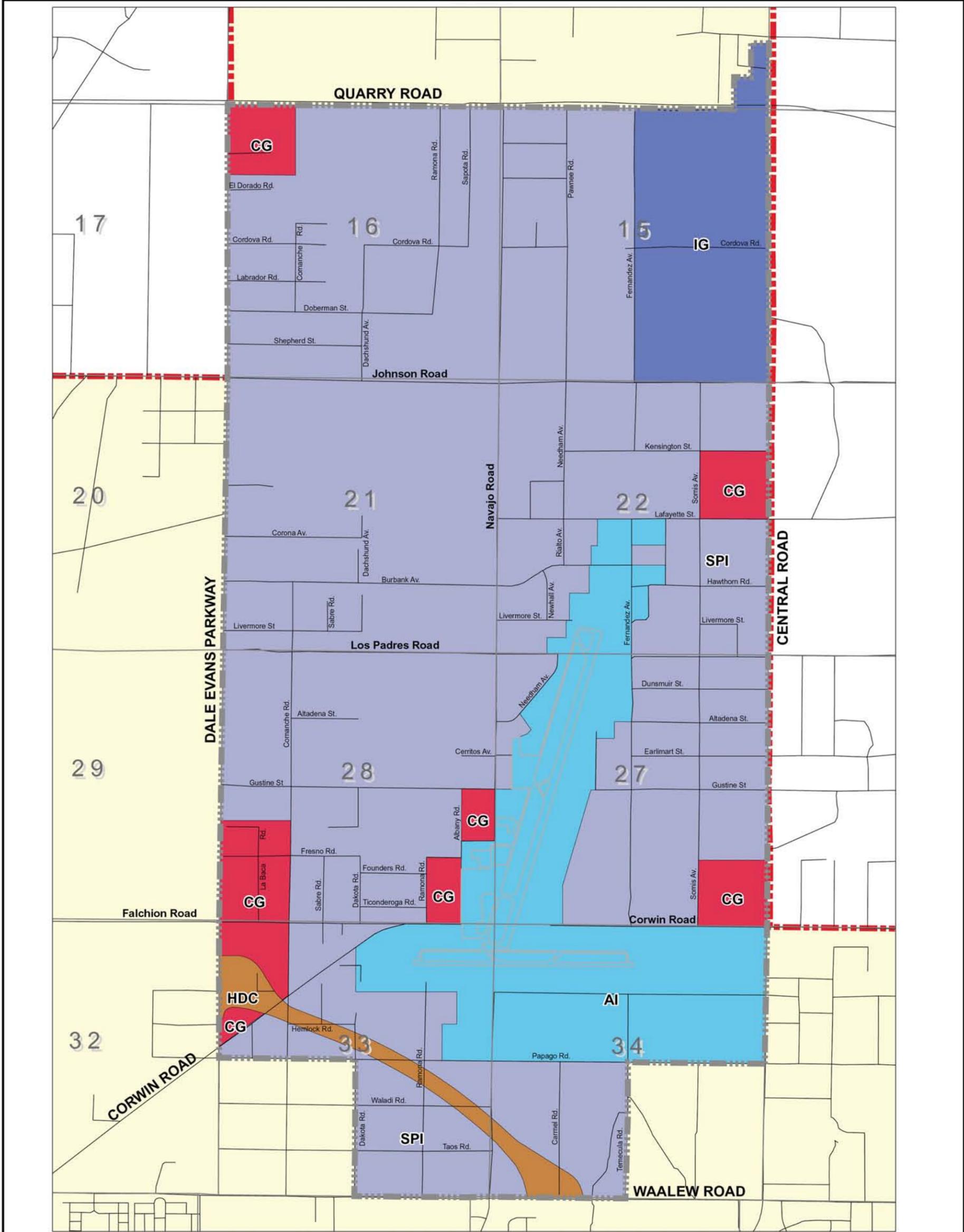
This designation provides for a wide range of commercial uses intended to support the industrial development in the Specific Plan area. Key features of this designation include:

- Commercial services which provide day-time activity centers for the industrial development.
- Services and offices are encouraged.
- Perimeter landscaping must be complementary with that of surrounding projects to provide a unified, cohesive streetscape.

Appropriate land uses in this designation include hotels and motels, professional services, retail commercial land uses, in the form of both free-standing businesses and retail centers. Heavier commercial land uses, including vehicle repair, and vehicle storage may also be appropriate, particularly if related to the industrial development adjacent.

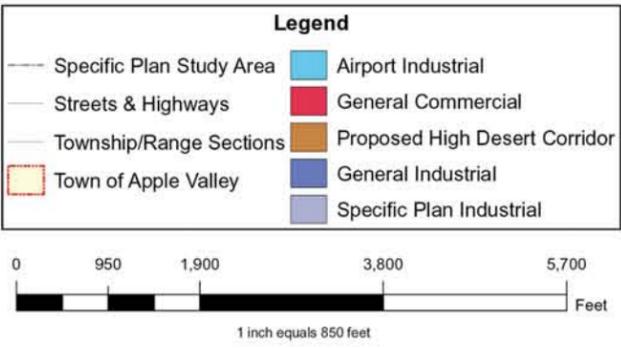
High Desert Corridor

The High Desert Corridor designates lands identified by the California Department of Transportation (CalTrans) as the future location of a highway. Should development be proposed on these lands, it can occur within the limits of the General Commercial – Specific Plan regulations for lands west of Corwin Road, and within the limits of the Industrial – Specific Plan regulations for lands east of Corwin Road.



Map Version No.: 3
 Specific Plan by: Terra Nova Planning and Research
 Map Prepared by: Aerial Information Systems
 Map Prepared on: May 2, 2006

Data Sources:
 Town of Apple Valley
 Southern California Association of Governments
 Thomas Brothers Maps
 MetaData:
 Projection = Stateplane; Units = Feet; Zone = CA6



NORTH APPLE VALLEY INDUSTRIAL SPECIFIC PLAN

DRAFT ENVIRONMENTAL IMPACT REPORT

II. REGIONAL ENVIRONMENTAL SETTING

Introduction

This section of the Environmental Impact Report provides a general introduction to the environmental setting of the project site and the Apple Valley area. Particular emphasis is given to those environmental constraints and resources that would be affected by the development of the project. The primary topics discussed in this section include existing and surrounding land use patterns, air quality, noise, traffic, geology and soils, hydrology, public services, utilities, hazards and toxic materials, existing and planned infrastructure, and biological resources. Also addressed are regional climate, topography, cultural resources, visual resources, socio-economic resources such as population and housing, recreation, water quality and availability, wastewater, and mineral resources. These areas of concern provide a broad understanding of the issues associated with the project, its setting, and potential project alternatives.

A. Land Use

Existing Land Use

The proposed project is located in the northern portion of the Town of Apple Valley, within Sections 15, 16, 21, 22, 27, 28, and portions of Sections 10, 33, and 34, Township 6 North, Range 3 West, San Bernardino Baseline and Meridian, in the County of San Bernardino. The project site is generally bounded by Quarry Road on the north, by Central Road on the east, by Waalew Road on the south and by Dale Evans Parkway on the west.

The 4,937-acre property is sparsely developed with a mix of industrial and residential land uses. The Apple Valley Airport is located in the center of the Specific Plan area. The Specific Plan area also consists of vacant desert with scattered vegetation and disturbance from off-road vehicles. Portions of this area have been used for illegal dumping of primarily domestic waste, including appliances and furniture. Roaming of the site by domestic pets is also evident. And finally, portions of the Specific Plan area were used as a practice bombing range for military training purposes during World War II. Despite these disturbances, the area continues to support a variety of plant and wildlife species.

The current General Plan land use designations within the Specific Plan are Planned Industrial and Community Reserve, with a pocket of Commercial land immediately west of the airport. The current zoning designations on the project site are primarily industrial including, Planned Industrial, Light Industrial and General Industrial, followed by residential with Very Low Density Residential (1 dwelling unity per 5+ gross acres) and Low Density Residential (1 dwelling unity per 2.5 to 5 gross acres). In addition, there is a pocket of General Commercial located near the airport at the center of the project. Primary site access to the project site is from the existing roadways, which include Dale Evens Parkway, Corwin Road, Central Road, Johnson Road, and Quarry Road.

Surrounding Land Use

The Specific Plan area is located in the western Mojave Desert region, which is in turn located in the southwestern portion of San Bernardino County, in Southern California. This desert environment is comprised of low mountains and foothills, dry lakes and alluvial fans with a coarse sandy floor. The project area gently slopes from northeast to southwest to meet the Mojave River, which is typically a dry river that meanders through the region from the San Bernardino Mountains to the south toward the north-northeast.

Urbanization in the region has taken place primarily along the Mojave River as well as the major roadways in the area, including Interstate-15, also known as the Mojave Freeway and historic Route 66, as well as State highways 18 and 247. Development in the surrounding area occurred in the late 19th and early 20th centuries as settlers attempted, with limited success, to cultivate agricultural crops due to the fertile lands and abundance of groundwater. In the 1950s the area began to develop as a bedroom community. The area's natural assets, including mountain views, varied wildlife and good air quality have become progressively important assets of the local economy and environment, and have contributed to the area's character and desirability.

The lands surrounding the Specific Plan area are largely vacant desert lands, with scattered single-family residential development. Additional residential development is located within one mile south of the project site, with most of the Town's development located approximately three to four miles to the southwest. Other notable development in the project vicinity includes the Black Mountain Quarry located approximately two miles to the northeast (on unincorporated San Bernardino County lands) and Interstate-15 located two and a half miles to the northwest. Exhibit II-1 illustrates the existing and surrounding land use.

Lands to the west and north are primarily vacant, with scattered single-family development on larger lots. Lands to the northeast consist of an active quarry, located outside Town limits in the unincorporated County of San Bernardino. Lands to the east are mostly vacant, with single-family homes located on the east side of Central Street, outside Town limits, and primarily adjacent to the southern half of the Specific Plan area. A fire station is also located immediately east of the Specific Plan area. Lands to the south are primarily developed in single-family homes at varying densities.

Lands to the west of the Specific Plan are designated Community Reserve in the General Plan. Lands to the north are designated Low Density Residential. Lands to the east within Town are designated Estate Residential, and lands to the south are designated Community Reserve and Planned Industrial. Potential impacts to land uses are further evaluated in Section III-A.



Source: Google Pro Image DigitalGlobe 2006

B. Topography

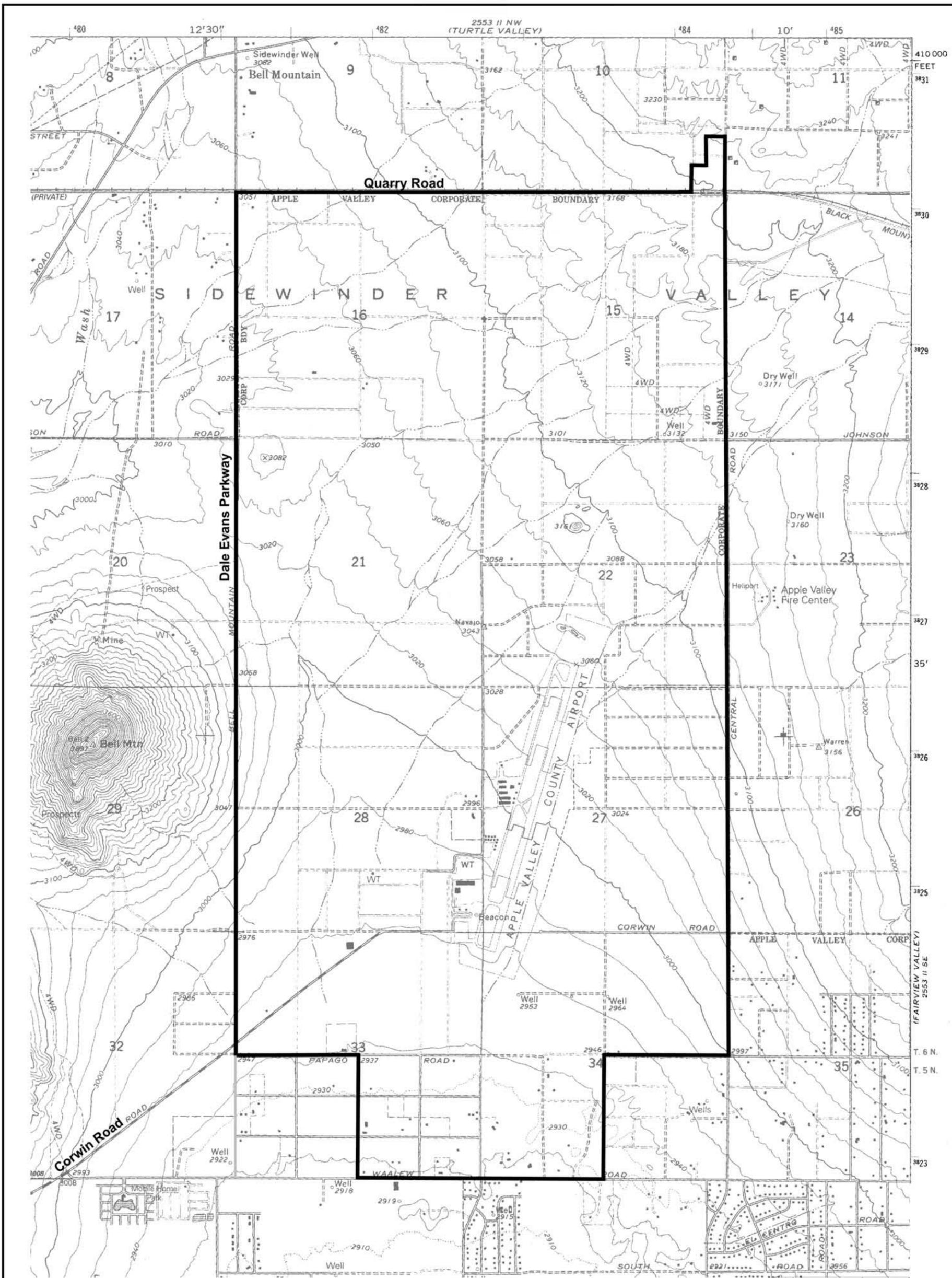
The topography of Apple Valley generally rises from the southwest to northeast. The lowest point of the Town occurs near the Mojave River, approximately 2,800 feet above sea level. The highest point of the Town floor occurs at the northeast corner of Town, approximately 3,200 feet above sea level. The Tehachapi Mountains are located approximately 75 miles northwest of the Town, with a peak elevation of 7,986 feet above sea level. The San Gabriel Mountains are located 10 miles south of the Town, with a peak elevation of 10,064 feet above sea level. The local topography includes Bell Mountain, about one mile west of the project site, which has an elevation of 3,897 feet above sea level, and Fairview Mountain, approximately one mile east of the project site, which has an elevation of 4,329 feet above sea level. The terrain of the valley floor is characterized by dry lakes, alluvial fans and rocky washes that drain the adjacent foothills.

Topographic relief in the project area is characterized by alluvial deposits and minor drainages as a result of flows from the adjacent foothills. The site generally slopes from north to south. The highest elevation in the Specific Plan area is approximately 3,200± feet in the northeastern-most portion of the site, and the lowest elevation is at approximately 2,920± feet in the southwestern most portion of the site. The topographical features of the Specific Plan area are shown in Exhibit II-2.

C. Climate

Apple Valley is generally bounded on the west and southwest by the San Bernardino and San Gabriel Mountains respectively, which essentially isolate it from cooler and wetter marine conditions along the coast, and create a dry Mediterranean desert environment. Daily temperature extremes range from approximately 20°F to 70°F in winter, and from 70°F to more than 100°F in the summer. The area is generally characterized by low humidity, little rainfall, and a high percentage of days of sunshine annually.

The majority of rainfall occurs in the winter, with occasional intense storms occurring in late summer or early fall. Rainfall produced by these sometimes intense storms often falls on the surrounding mountain slopes rather than on the valley floor. Mean annual rainfall is low, averaging between 4 and 6 inches.



Source: USGS 7.5 Minute Map
 Apple Valley North, CA 1970 revised 1993

Legend
 — Project Boundary Line



D. Soils and Geology

Soils

The San Bernardino and San Gabriel Mountains are comprised of Mesozoic and crystalline basement terrain. More recent sedimentary deposits consist of alluvium outcroppings. Alluvial fans extending downslope from the mountain canyons consist of coarser grained cobbles, gravels, sands, silts, and clays that decrease in size and abundance at lower elevations. Floodplain deposits from the Mojave River are made up predominantly of sand, sandy silt, and silt. The alluvial fan and floodplain deposits are intermixed and form a highly variable layering of different sizes of alluvial materials.

The Town of Apple Valley is located in the Mojave Desert geomorphic province. This desert environment is comprised of large and smaller scale mountain foothills and alluvial fans with a coarse sandy floor. Intense desert rainstorms exposes bare rock and gravel, which covers the ground near the bases of hills and low mountains. Alluvial fans and terraces occur throughout the Town and surrounding areas. Some areas have well developed surface exposures of meta-volcanic cobble, commonly known as “desert pavement”, which is composed of gravel and small rocks overlain with a thin layer of clay.

Soils identified as occurring in the Specific Plan area include, Cajon sand, Cajon loamy sand, Cajon-Arizo complex, Cajon Wasco, Helendale loamy sand, Mirage-Joshua complex, Nebona-cuddleback complex and Rosamond loam. Helendale-Bryman loamy sands are predominant across the project site and are a series of the Aridosol Soil Order occurring on 0 to 2 percent slopes. Bryman soils are found on terraces and older alluvial fans, and are formed by the mixing of alluvium derived mainly from granite sources in combination with erosion caused by wind and water.¹

Soils on the project site are well drained with slow runoff and moderately slow permeability, and the filtering capacity of these soils is considered to be very limited. Much of the Specific Plan area is subject to flooding from December to early February.

Geology

The geological character of Apple Valley and the surrounding region has been formed by its proximity to large, active fault systems, including the San Andreas Fault Zone. Fault activity in this region continues to result in ground rupture, major groundshaking, subsidence, uplift and mountain building, landform compression and extension. The San Andreas Fault Zone is the main plate boundary between the Pacific and North American tectonic plates. In southern California, the San Andreas Fault consists of three segments: the Mojave Desert segment, the San Bernardino Mountains segment, and the Coachella Valley segment.

The Mojave Desert segment of the San Andreas Fault passes through the region approximately 25 miles south-southwest of Apple Valley. This fault extends from the Tejon Pass to the San Bernardino valley, where it becomes the San Bernardino strand. The 1857 Tejon Pass earthquake occurred along the Mojave Desert segment and had an estimated Richter magnitude of 7.9.

¹ “Soil Survey of San Bernardino County, California, Mojave River Area,” prepared by the US Natural Resource Conservation Service, 1994.

According to the Southern California Earthquake Data Center, the average recurrence interval for this fault is estimated to be approximately 140 years, give or take 40 years.

The Helendale fault is located approximately 8 miles east of Apple Valley. This fault extends from Highway-56 just north of Edwards Air Force Base, southeast through Helendale, north of Apple Valley, and terminating at the North Frontal fault just south of Lucerne Valley. According to the California Integrated Seismic Network, the epicenter of the 2003 Big Bear earthquake was located approximately 6 miles south of where the Helendale fault intersects with the North Frontal fault and had an estimated Richter magnitude of 5.2.

The proximity to these faults makes the Specific Plan area and the region susceptible to seismically induced hazards, including strong groundshaking. The potential geological hazards and potential impacts associated with the proposed project are addressed in Section III-E.

E. Hydrology

The geographic and geophysical isolation of Apple Valley and the Mojave Desert region from marine influences to the west has resulted in a local subtropical climate with very limited rainfall through much of the year. While annual rainfall typically ranges from 4 to 6 inches, the surrounding mountains are generally subject to cooler temperatures and receive more rainfall than the lower elevations. In the project vicinity, most rainfall occurs between November and March, but occasional high-intensity thunderstorms may occur during late summer and early fall. Although the desert floor can be dry at the beginning of a rainstorm, the ground can quickly become saturated during periods of intense rainfall, substantially decreasing percolation and increasing runoff. Increased runoff produced upstream can potentially result in short significant storm flows, which increases the potential for damage downstream. Urban development, which generally results in large impervious areas, also increases the amount of runoff that can be produced.

The Apple Valley watershed is located in the high desert of southern California, and encompasses 98 square miles that drain into the Apple Valley Dry Lake. The Apple Valley watershed boundary is generally defined by the Ord Mountains to the south, the Granite and Fairview Mountains on the east; and Black Mountain on the north. The project area drains naturally from the northeast to the southwest, and slopes are generally one percent or less throughout the area. The Specific Plan area is located on an alluvial fan created by the deposition of sediment from the drainage of the local mountains.

The Specific Plan area is located within Flood Zone D, as indicated on the Federal Emergency Management Agency's Flood Insurance Rate Map. The flood zone is used to identify areas that have undetermined, but possible, flood hazards. The Town and the County of San Bernardino Department of Public Works, Flood Control, provide stormwater management for the Specific Plan area and the vicinity. The aforementioned drainage areas ultimately discharge primarily into the Mojave River approximately 4 miles to the southwest. A more detailed discussion of hydrology issues is included in Section III-F of this document.

F. Water Resources/Quality

The Alto Subarea of the Mojave River Basin serves as the primary water resource for Apple Valley and the Specific Plan area. The Alto Subarea consists of water-bearing strata underlying a 35-mile length of the Mojave River. The Subarea generally encompasses the communities of Apple Valley, Victorville, Adelanto, Hesperia, Helendale, and Phelan.

The Subarea is generally bounded on the south by the non-water-bearing rocks of the San Bernardino Mountains, by the non-water bearing rocks of the San Gabriel Mountains to the west, and by the Helendale Fault on the north-northeast. To the south are the headwaters of the Mojave River. To the east (up-gradient) the Subarea merges with the Este Subarea. To the west (up-gradient) the Subarea merges with the Oeste Subarea, and to the north (down-gradient) the Subarea merges with the Centro Subarea. The Altos Subarea is recharged from the snowmelt of the San Bernardino Mountains and the Mojave River. Due to its close proximity to the headwaters of the Mojave River, the Alto Subarea has the largest water supply in the Mojave River Groundwater Basin.²

The project area and the surrounding vicinity are within the service area of the Apple Valley Ranchos Water Company (AVR). The Urban Water Management Plan prepared by AVR for compliance with the California Department of Water Resources indicates that the subbasin contains approximately 82,400 acre feet (ac-ft) of water, with out-flows and losses calculated at 47,700 ac-ft. Thus the net volume of water in the Alto Subarea is estimated to be 34,700 ac-ft of water.³ AVR draws all of its water from 22 deep wells in the Subarea.

The proposed project will increase demand for water resources, and therefore will have a cumulative impact on groundwater supplies. However, a draft Water Supply Assessment, as mandated by SB 610, has been prepared to assess AVR's ability to adequately serve the proposed project's water demand in addition to the urban water system's existing and planned future uses. The project will not result in alteration or interception of an aquifer, or in substantial loss of groundwater recharge capability.

Water quality is generally good to excellent in the Town of Apple Valley. Exceptions are generally limited to zones of high mineral concentrations, particularly areas with older alluvium where the groundwater receives very little recharge and limited groundwater movement. In order to ensure water quality and safety, water agencies in the Town comply with regulations set forth by state and federal agencies, including the US Environmental Protection Agency (EPA) and State Department of Health Services.

The project's potential impacts to water resources and quality are evaluated in Section III-G.

² "Mojave Basin Area Watermaster Summary Report Subsurface Flows Between Subareas," prepared by Robert C. Wagner, P.E., Watermaster Engineer, February 2006.

³ "Year 2005 Urban Water Management Plan," prepared by the Apple Valley Ranchos Water Company, November 2005.

G. Biological Resources

The Town occurs within the Mojave Desert of southern California. In general, four plant communities occur within Town, including Chenopod Scrub, Riparian Woodland, Mojavean Desert Scrub and Rock Outcrop.

The Specific Plan area has been classified as a Low Cover Woodland by the Bureau of Land Management (BLM), and consists primarily of Saltbush Scrub and Creosote Scrub plant communities. The southern half of the Specific Plan area has been significantly disturbed by livestock grazing, road construction, off-road vehicle use, illegal dumping and development, resulting in ruderal areas. Fencing has also caused habitat fragmentation throughout the area, and particularly in the southern portions of the Specific Plan area.

The predominant plant species identified in the northern portion of the Specific Plan area include Creosote Bush, Burrobush, Golden Cholla, Pencil Cholla, Cheesebush, Cooper's Boxthorn and Rubber Rabbitbush. The ruderal areas include species such as Filaree, Tumbleweed, Brome Grasses, Mediterranean Splitgrass, and several Mustard species. Special status plants with a potential to occur in the Specific Plan area include Booth's Evening Primrose, Desert Cymopterus and Joshua Trees.

Wildlife species identified throughout the Specific Plan area are typically associated with disturbed Creosote Scrub and Saltbush Scrub habitats, and include birds such as Common Raven, House Finch, House Sparrow, Black-throated Sparrow, Western Meadowlark, Cactus Wren, Common Roadrunner, Loggerhead Shrike, and Northern Mockingbird. Potential sensitive bird species in the Specific Plan area include Le Conte's Thrasher, Great Horned Owl, Barn Owl, Burrowing Owl and Prairie Falcon.

California Harvester Ants, Crater-nest Ants, Argentine Ants, Creosote Bush Grasshopper and Broad-necked Beetle are common invertebrates in the Specific Plan area.

The Black-tailed Jack Rabbit, White-tailed Ground Squirrel, California Ground Squirrel, Botta's Pocket Gopher, Kangaroo Rats, Pocket Mice, Coyote, and Kit Fox are all common mammals expected to occur in the Specific Plan area. Special status mammals with a potential to occur in the Specific Plan area include Burrowing Owl, the Le Conte's Thrasher and the Prairie Falcon.

Common reptiles including the Western Whiptail, Zebra-tailed Lizard, Side-blotched Lizard, Desert Iguana, Western Patch-nosed Snake, Coachwhip, Sidewinder and Mojave Rattlesnakes are expected to occur in the Specific Plan area. Special status species which potentially occur in the Specific Plan area include Coast Horned Lizard and Desert Tortoise.

Section III-D of this EIR addresses the actual species identified and likely to occur within the Specific Plan boundary, and potential impacts of the Specific Plan on plant and animal communities within the area.

H. Cultural Resources

The prehistoric Native American record (the period prior to European contact) in the Western Mojave Desert has been divided into five periods: the Lake Mohave Period (12,000 to 7,000 years ago), the Pinto Period (7,000 to 4,000 years ago), the Gypsum Period (4,000 to 15,000 years ago), the Saratoga Springs Period (1,500 to 800 years ago), and the Protohistoric Period (800 years ago to European contact). More recent Native American history, beginning with the first European contacts (1500 to 1770s), also includes the Mission Period (1770s to 1830s), the Rancho Period (1830s to 1850s), the American migration to California (1850s to 1880s), and the Reservation Period (1880s to the present).

The Town of Apple Valley and the Specific Plan area are within the traditional homeland of the Serrano Indians, who were hunters and gatherers in the San Bernardino Mountains. Serrano settlements occurred near water sources, particularly in the High Desert, where proximity to water was critical to survival. The Serrano were organized in clans headed by a hereditary leader, but little is known of their structure or function. Clans were autonomous political and landholding units, and were not politically tied together. It is believed that Serrano contact with Europeans may have occurred as early as 1771, but that Europeans had no significant influence until 1819, when a mission *assistencia* was established on the southern border to their territory by the Spanish. The descendants of the Serrano now are part of the San Manuel and Morongo Indian Reservations.

The first European traveler in the Victor Valley was the Spanish explorer Francisco Garces in 1776, who accessed the area on an Indian trading route known as the Mojave Trail. European settlement of the Victor Valley did not begin until the early 1860s, using the same trail, which had been incorporated into what is now known as the Old Spanish Trail between southern California and Santa Fe, New Mexico. Until the completion of the Santa Fe railroad in the 1880s, settlement was limited due to the harsh conditions and limited resources. The most active settlement occurred from the 1880s through the 1910s, when fertile land and plentiful groundwater led to cultivation of alfalfa, fruit and poultry. Apple Valley's name, originally used for the area at the turn of the 20th century, reflects one such cultivation effort. Apple Valley's growth, however, did not begin until the development of a subdivision by developer Newton Bass in 1945. This led to a post-World War II development boom for Apple Valley and the Victor Valley in general, culminating in the Town's incorporation in 1988.

The paleontological history of the Apple Valley area is tied to Apple Valley Dry Lake, a Holocene-age and possibly Pleistocene-age freshwater lake that occurred at the 2,909 foot elevation. This elevation of the prehistoric Dry Lake occurs approximately 1,000 feet south of the Specific Plan area. The area's topography, however, indicates that the lake may have extended to an elevation of 2,920 to 2,930 feet above mean sea level. Under this circumstance, the southern edge of the Specific Plan area has the potential to contain paleontological resources, should Pleistocene-age soils be disturbed.

Detailed review of the area's prehistory, history, and paleontologic resources are provided in Section III-H of this EIR.

I. Visual Resources

The Town of Apple Valley is located primarily on alluvial slopes with a topography that is characterized by gradual slopes inclining towards the San Bernardino Mountains to the south as well as the scattered knolls and low mountains to the north and east of the Town. The Mojave River floodplain is a broad floodplain with scattered bluffs and terraces. The terrain of the adjacent mountains, hills and terraces offers dramatic contrasting topographic features and warm earth-tone colors, and provides the backdrop for the project area. The visual character of the project site and vicinity are somewhat impacted by urban development, including scattered residential, as well as local roadways, and undeveloped lands. Sensitive viewsheds include those visible from Dale Evens Parkway and from surrounding residential development located in the project vicinity. These viewsheds have already been impacted somewhat by existing development, including existing industrial and residential land uses. Viewsheds have also been impacted by the existing Apple Valley Airport located at the center of the proposed project.

The proposed project may generate additional light and glare from interior and exterior lighting sources, building materials, project-related vehicular traffic and parking lots. However, standard design features will be used to mitigate potential impacts to acceptable levels. These mitigation measures will include features such as shielding and directing all outdoor lighting downward to preserve the night sky, as required by Town Ordinance. No illumination of land outside the project's perimeter shall be permitted. Building practices will be consistent with those used in surrounding development, which minimize the use of glass and other reflective surfaces. The proposed project is anticipated to have a less than significant impact to day or nighttime views in the area through the use of standard design features in accordance with the Town's lighting requirements. The Specific Plan's potential impacts on visual resources are presented and discussed in Section III-J of this EIR.

J. Air Quality

The Mojave Desert Air Quality Management District (MDAQMD) is responsible for establishing criteria by which air quality in Apple Valley and the surrounding region is measured. For any particular locale, air quality is based on the amount of pollutants emitted and dispersed, and the climatic conditions that may reduce or enhance the formation of primary and secondary pollutants. While Apple Valley's air quality is generally considered good, especially as compared to other, more densely populated areas of Southern California, deterioration of air quality has been noted over the past few decades and is largely attributable to increased development and population growth, traffic, construction activity, and other site disturbances. While some air pollutants are generated from sources within Apple Valley, the most evident degradation of regional air quality, with the exception of fugitive dust, is due to sources outside the area, including the San Bernardino and Los Angeles County air basins.

Criteria air pollutants consist of those pollutants from mobile and stationary sources that are regulated by federal and state governments. These criteria pollutants can be either primary or secondary pollutants. Primary air pollutants are emitted directly from generation and emission sources and include carbon monoxide (CO), reactive organic gases (ROG), nitrogen oxides

(NO_x), sulfur dioxide (SO₂), and fine particulate mater (PM₁₀). Secondary pollutants are formed through chemical and photochemical reactions that occur in the atmosphere, and include ozone (O₃) and nitrogen dioxide (NO₂). Regional air quality monitoring stations in the project vicinity are located in Victorville, Lucerne, and Hesperia, which routinely measure these pollutants.

The most common air pollutants in Apple Valley are ozone and PM₁₀. Ozone is a pungent, colorless, toxic gas commonly referred to as smog. It forms when byproducts of combustion react in the presence of ultraviolet sunlight. PM₁₀ (particulate matter with a diameter of 10 microns or less) consists of fine, suspended particles, such as soot, dust, smoke, and aerosols, which are byproducts of fuel combustion, tire wear, and natural wind erosion processes. Both pollutants can pose a significant public health threat and may result in diminished breathing capacity, increased sensitivity to lung infections, inflammation of the lung tissue, and other respiratory distress. Suspended particulate matter occasionally exceeds both state (50 micrograms per cubic meter, or >50 µg/m³) and federal (>150 µg/m³) standards for PM₁₀.

The Specific Plan area is primarily underlain by coarse sands, which have erosion and soil blowing hazard potential. Development of the proposed project will include grading, buildings, and other improvements. This construction activity can be expected to result in the generation of PM₁₀ (fugitive dust) emissions. Potential project impacts and recommended mitigation measures are discussed in Section III-C of this EIR.

K. Noise

Noise can represent one of the most pervasive elements of the built environment. Intrusive noise levels can reduce the quality of life, and can include temporary or permanent physical damage, psychological distress, hearing loss, stress, high blood pressure, sleep loss, anxiety, distraction and lost productivity.

Most common sounds occur in the range of 40 to 100 decibels (dB). Normal human conversation at three feet is approximately 60 dBA, while the noise of a loud jet engine, which can create serious discomfort equates to about 110 dBA. Community noise impacts are generally assessed using the Community Noise Equivalent Level (CNEL) noise index. The CNEL index converts the effect of daily noise exposure into a single number and is weighted to account for the increased noise sensitivity people experience during sensitive evening and nighttime hours.

The Town of Apple Valley currently enjoys a relatively quiet noise environment. The primary source of noise is motor vehicle traffic, and in and around the Specific Plan area also includes airplane operations. The most impacted areas of Town are the Highway 18 corridor, and major arterial roadways such as Dale Evans Parkway and Central Road. Lands north of the Specific Plan area and adjacent to I-15 are also impacted by noise from that roadway. In the future, the construction of the High Desert Corridor through the Specific Plan area can be expected to affect the noise environment on lands surrounding its right of way.

Other sources of noise include construction and mechanical equipment serving commercial land uses and major institutions, as well as industrial operations. The noise analysis in Section III-I of

this EIR addresses both temporary and permanent noise impacts which can be expected as a result of implementation of the Specific Plan.

L. Traffic/Circulation

Primary roadways in and around the Specific Plan area include Dale Evans Parkway, Central Road, Corwin Road, Quarry Road, Johnson Road, Waalew Road, Interstate 15 and Highway 18. At the current time, local roadways generally operate at acceptable levels of service, with minimum delays and efficient operations.

The majority of roadways within the Specific Plan area are currently unpaved local streets with minimum traffic operations. The Specific Plan proposes industrial and commercial land uses which will require the upgrading of this road system in a manner which is consistent with the General Plan of Roads for the Town. This Plan includes roadway classifications ranging from major arterials to collectors, with varying right-of-way widths and lane requirements.

The build out of the Specific Plan, and the Town in general, will impact not only roadways immediately adjacent and within the Specific Plan area, but also throughout the region. The construction of the High Desert Corridor, which is mapped to occur through the southern edge of the Specific Plan area, will affect regional circulation significantly.

The current functionality of the local circulation system and projected future demands associated with Specific Plan build out are discussed in detail in Section III-B of this document.

M. Public Facilities and Services

Water Services

Apple Valley Ranchos Water Company is the private water supplier whose district includes all of the North Apple Valley Industrial Specific Plan Area. The Apple Valley Ranchos Water Company has no exact plans for expansion of its water lines inside the project area⁴, however it will provide water line extensions in any portion of the Specific Plan area as demand grows. Water lines are located throughout the Specific Plan area and include 14-inch lines, 12-inch lines, 10-inch lines, and 8-inch lines. Demand for existing domestic water demand generated by the project is evaluated in Section III-M of this EIR.

Wastewater Treatment

Apple Valley is located in the Victor Valley Wastewater Reclamation Authority area. The majority of the treated wastewater is discharged into the Mojave River, and a smaller amount is used to irrigate landscaping at a nearby golf course. User charges are based on volumes of wastewater requiring treatment, and surcharges are added for wastewater having concentrations of biological oxygen demand, concentrations of total suspended solids and concentrations of ammonia. Sewer lines currently serve a limited area within the project site, primarily near the center of the Specific Plan area, adjacent to and south of the airport. Demand for existing collection and treatment system capacity generated by the project are evaluated in Section III-M of this EIR.

⁴ Personal communication, Apple Valley Ranchos Water Company General Manager Jack Clarke, February, 2006.

Solid Waste

Solid Waste and recycling services in the Town of Apple Valley are contracted by the Town through Burrtec Waste Industries of Fontana, California. Solid waste from Apple Valley is hauled to the Victorville landfill which is part of the San Bernardino County landfill system. The closing date for the Victorville landfill is estimated to be 2055. The County has acquired additional acreage at the landfill to expand capacity. Solid waste generated by the project is further discussed and evaluated in Section III-M of this EIR.

Storm Water

Almost all waters in Apple Valley, except the extreme northwest, drain into the Apple Valley Dry Lake. Apple Valley Dry Lake is located about one mile south of the Specific Plan area. The dry lake area extends about a mile to the south, over a mile to the west, and almost two miles to the east. The Town has a history of flooding problems in and around the dry lake. The Specific Plan area drains naturally from the northeast to the southwest, and slopes are generally one percent or less throughout the area. Stormwater generated by the build out of the Specific Plan is further discussed and evaluated in Section III-M of this report.

Law Enforcement

The Town of Apple Valley contracts with the San Bernardino County Sheriff's Department for police services. The Apple Valley police force consists of 1 captain, 1 lieutenant, 7 sergeants, 5 detectives/corporals, 34 patrol deputies, 5 sheriff's service specialists, 1 secretary, and 7 station clerks, for a total of 61 personnel.⁵ The potential demand for law enforcement services due to build out of the Specific Plan is further discussed in Section III-M of this EIR.

Fire and Emergency Services

The Apple Valley Fire Protection District is an independent District whose western boundary is the Mojave River. The district extends as far as the dry lakes toward Lucerne Valley. The Fire Protection District has six fire stations, staffed by paid, professional personnel and support staff. Four of the stations are staffed 24-hours per day, seven days per week, for emergency response. Two of the stations are staffed as needed by on-call firefighters. The fire stations that are closest to the Specific Plan area include one at Yucca Loma Lane, Central Road, and Highway 18; another station near the intersection of Highway 18, Wakita Boulevard, Standing Rock Avenue, and Central Road; and a third at the intersection of Highway 18 and Tao Road, less than one half mile south of Corwin Road. The potential demand for fire and emergency response services generated by the build out of the Specific Plan is addressed in Section III of this EIR.

Natural Gas

Southwest Gas provides natural gas service to the Specific Plan area. Southwest Gas has one gas main within the right of way of Central Road. The gas main is supplied by the Pacific Gas & Electric Company through a main in Quarry Road on the Town's northern boundary. At the intersection of Quarry Road and Central Road, Southwest Gas connects with the Pacific Gas & Electric system. Southwestern Gas has the capacity to expand its delivery system throughout the Specific Plan area to serve future development. The costs associated with infrastructure improvements are borne by Southwest Gas and its users.

⁵ Personal Communication, Sergeant Randy Gwaltney, Apple Valley Police Department, July 12, 2006.

Electric Services

Southern California Edison is the electric supplier for all of the Town of Apple Valley including the Specific Plan area. Four major electric transmission corridors, each with 115 kV lines, cross through the Town. Currently all new electric lines of 66kV or less are placed underground within the Town boundaries. Southern California Edison administers a range of energy conservation programs for its consumers, including financial incentives to use high efficiency heating and cooling equipment and the promotion of energy saving appliances and equipment.

Telephone and Cable

Charter Communications provides a wide range of residential and commercial telephone services to the Town of Apple Valley. Additional services such as Internet and high-speed DSL data connections are also available. Charter Communications currently services all developed areas in the project vicinity. Additional lines will be constructed in the Specific Plan area once demand is in place to support this additional infrastructure. All Charter lines are aerial and in all cases Charter is co-located with the lines of Southern California Edison.

N. Jobs and Housing

According to the U.S. Census, the population of the Town of Apple Valley has increased from 46,079 in 1990, to 54,239 in 2000, an increase of 17.7%. The California Department of Finance further estimates that the Town's population in January 2006 was 67,507, or 24.5% more than in the year 2000.

The U.S. Census indicates that the Town's median age was 35.4 in 2000. According to the U.S. Census, the Town had a total of 16,672 housing units in 1990, and 20,163 housing units in 2000. By 2006, the number had increased to 23,782. The average persons per household went from 2.9 in 2000 to 3.07 in 2006.

The 1990 Census identified the Town's median household income as \$34,050. Based on U.S. Census 2000, the Town's median household income was \$40,421, which represents an 18.7% increase over the Town's 1990 median household income. The 2000 Census also indicates that the per capita income was \$17,830.

According to the Inland Empire Quarterly Economic Report, the median home price in Town in the second quarter of 2005 was \$255,185 for existing homes and \$284,966 for new homes. This compares with \$310,000 and \$335,000 for existing and new homes in San Bernardino County for the same period.

In 1990, the Town had 20,396 residents in the labor force. By 2000, this had grown to 21,748 residents. The Town's largest occupational segment was "Management, professional and related occupations", with 6,143 of the population employed in these occupations in 2000, followed by "Sales and office occupations," with 5,269 employees.

Impacts associated with the implementation of the proposed Specific Plan are further analyzed in Section III-L, Jobs and Housing.

O. Hazards and Hazardous Materials

The Town works with the Hazardous Materials Division (HMD) of the County Fire Department and this Division has been designated by the State as the Certified Unified Program Agency for handling hazardous waste and materials in this area.

Title 22 of the California Code of Regulations defines hazardous materials as substances that are toxic, ignitable, flammable, reactive, or corrosive. Every year, local businesses must certify any hazardous materials at their facilities to the County HMD. The Division performs compliance inspections of facilities that handle hazardous materials. The California Department of Toxic Substances' (DTSC) Hazardous Waste and Substance Site List (Cortese List) identifies 28 active hazardous waste sites in San Bernardino County. None of these cleanup sites are located in Apple Valley. Interstate-15 and Highway 18 carry hazardous materials, creating a potential for spills and leaks from moving sources. The California Highway Patrol is in charge of spills along highways, and it works with CalTrans, and the local sheriffs and fire departments for additional assistance.

Hazardous wastes could potentially be generated from development of the proposed project. In addition, hazardous materials may be stored, transported or distributed through the businesses which will occur in the Specific Plan area.

Finally, a portion of the Specific Plan area was previously used as a bombing range for military training purposes. The potential hazards associated with this past activity, as well as hazardous and toxic materials are analyzed in more detail in Section III-K.

P. Schools

Public education services and facilities are provided to the Town of Apple Valley and the project site by the Apple Valley Unified School District (AVUSD). The AVUSD currently operates 8 elementary schools, 2 middle schools, and 3 high schools. The Academy for Academic Excellence, a kindergarten through 12th grade charter school, is located at the Lewis Center for Educational Research, with an emphasis on science and space.

Three additional schools, an elementary, a kindergarten through 8th grade magnet school, and a middle school, are expected to open by fall 2006 semester.⁶ Current (2005) enrollment in AVUSD is approximately 14,725. The Alternative Education program serves approximately 600 students. AVUSD also serves over 300 pre-school students in state pre-school programs.⁷ There are 4 private schools located in the Town of Apple Valley. They include Apple Valley Christian School, Mojave Christian School, St. Mary's Regional Catholic School, Valley Christian School and St. Timothy's Episcopal School.⁸ Impacts associated with the implementation of the proposed Specific Plan on schools is further analyzed in Section III-M, Public Services and Facilities.

⁶ Apple Valley Unified School District website, www.avusd.org/district_profile/index.html, accessed July 24, 2006.

⁷ Ibid.

⁸ Apple Valley Chamber of Commerce, <http://www.avchamber.org/dem03.html>, accessed July 24, 2006.

NORTH APPLE VALLEY INDUSTRIAL SPECIFIC PLAN

DRAFT ENVIRONMENTAL IMPACT REPORT

III. EXISTING CONDITIONS, PROJECT IMPACTS AND MITIGATION MEASURES

Introduction

Section III of the Environmental Impact Report addresses those issues of concern identified in the Initial Study and the Notice of Preparation and responses thereto, which may have a significant effect on the use of the subject property resulting from the development of the project. Issues raised are those that constitute potentially significant environmental hazards or impacts to important resources. Existing conditions are discussed, the project's potential hazards and/or impacts are assessed, and potential mitigation measures are presented. Prescribed mitigation measures are described as "required", "shall", or "will". Recommended mitigation measures are so stated, but are not required to adequately mitigate impacts. Where appropriate, mitigation monitoring and reporting programs are recommended in conformance with AB 3180 (California Public Resources Code 21081.6). This bill is intended to ensure the implementation of measures that public agencies impose to mitigate or avoid any significant adverse impacts.

A. Land Use Compatibility

The land use compatibility section examines a project's appropriateness and suitability with existing and planned land uses in the project vicinity. The compatibility of the proposed project is based on the analysis of the potential impacts of the proposed improvements on the character of existing and surrounding lands. The proposed Specific Plan may be analyzed in terms of compatibility with the surrounding (existing and planned) land uses, as well as consistency with general plan and land use designations in the project area. The following discussion reviews the potential effects of the Specific Plan on surrounding existing and planned land uses, and recommends measures to ensure compatibility.

1. Existing Conditions

The Specific Plan area is located in the western Mojave Desert region of Southern California, in the southwestern portion of San Bernardino County. This desert environment is characterized by low mountains and foothills, dry lakes and alluvial fans with a coarse sandy floor. The project area generally slopes from northeast to southwest where it meets the Mojave River, a typically

dry river that winds through the region from the San Bernardino Mountains to the south toward the north-northeast.

Urban development in the region has taken place primarily along the Mojave River and along Interstate-15, also known as the Mojave Freeway and historic Route 66, and State Highways 18 and 247. During the late 19th and early 20th centuries settlers attempted, albeit with limited success, to cultivate agricultural crops due to the fertile lands and abundance of groundwater. The area's growth as a bedroom community began during the 1950's, aided by natural assets such as mountain views, varied wildlife and good air quality. These features have contributed to the character and desirability of the locale, and have become progressively important assets of the local economy and environment.

Current Land Use on the Subject Property

The subject property encompasses 4,937± acres located in the northern portion of the Town of Apple Valley. The project site is generally bounded by Quarry Road on the north, by Central Road on the east, by Waalew Road on the south and by Dale Evans Parkway on the west. The project location may also be described as Sections 15, 16, 21, 22, 27, 28, and portions of Sections 10, 33, and 34, Township 6 North, Range 3 West, San Bernardino Baseline and Meridian, in the County of San Bernardino.

The project site is sparsely developed with a mix of industrial and limited single-family residential land uses, and the Apple Valley Airport, which is located in the center of the Specific Plan area. Much of the Specific Plan area consist of vacant desert with scattered vegetation, of which portions have been used for illegal dumping, primarily of domestic waste such as appliances and furniture. The site shows evidence of disturbance from off-road vehicles and roaming by domestic pets. The area continues to support a variety of plant and wildlife species despite these disturbances. Primary site access to the project site is from the existing roadways, which include Dale Evans Parkway, Corwin Road, Central Road, Johnson Road, and Quarry Road.

Current Land Use and Zoning Designations on the Subject Property

Currently, lands within the Specific Plan area are General Plan-designated Planned Industrial and Community Reserve, with a pocket of Commercial land immediately west of the airport. Current zoning designations on the project site are Planned Industrial, Light Industrial and General Industrial, as well as residential with Very Low Density Residential (1 dwelling unit per 5+ gross acres) and Low Density Residential (1 dwelling unit per 2.5 to 5 gross acres). The aforementioned commercial lands located near the airport at the center of the project are zoned General Commercial. Lands in the southwestern portion of the Specific Plan area are designated for development of the future High Desert Corridor, as identified by the California Department of Transportation. It should be noted that the latter is not a General Plan designation. Please see Exhibit III-1, General Plan Land Use. Table III-1, below, shows the acreage of each of these designations.

**Table III-1
 Existing General Plan Land Use Designations**

Land Use Designation	Acres Vacant	Acres Developed	Acres Total	Existing Square Footage*	Potential Square Footage*	Total Square Footage*
General						
Commercial	19.9	16.6	36.5	159,081	190,706	349,787
Planned						
Industrial	2,205.2	698.0	2,903.2	6,689,074	21,132,873	27,821,946
Community Reserve	1,896.2	19.7	1,915.9	20 ¹	1,896 ¹	1,916 ¹
High Desert Corridor ²	73.7	8.0	81.7	N/A	N/A	N/A
Total	4,195.0	742.3	4,937.3			

¹Dwelling Units.

²High Desert Corridor is not a General Plan designation, but is included in these calculations because of the future potential for these lands being lost to development.

*Assumes 22% building coverage, regardless of development type.

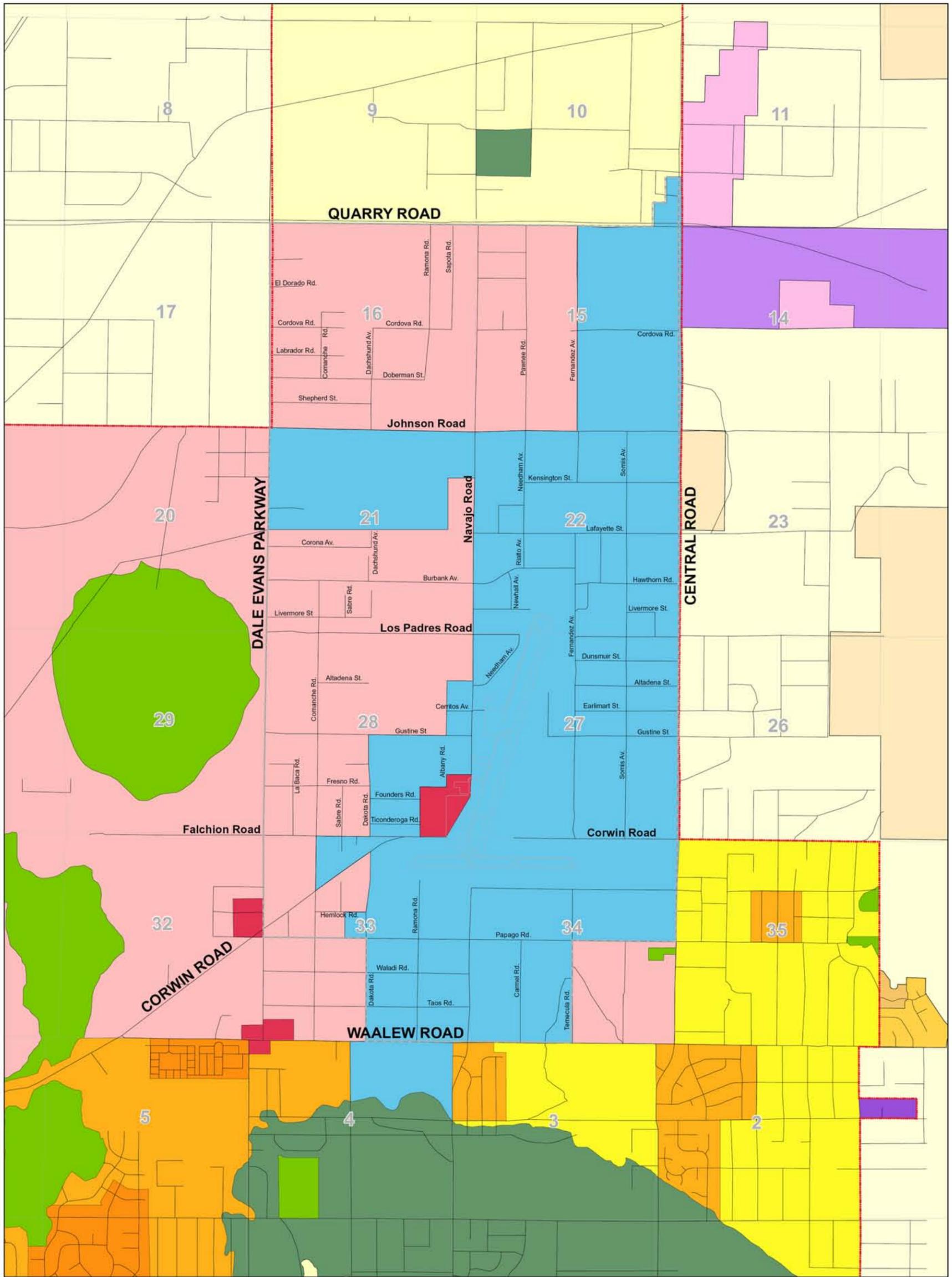
Current Land Uses on Surrounding Land Use

The lands surrounding the Specific Plan area are largely vacant desert lands, with scattered single-family residential development. Additional residential development is located within one mile south of the project site, with most of the Town's development located approximately three to four miles to the southwest. Please see Exhibit II-1 for an aerial view of the subject property and surrounding lands.

Lands to the west and north are primarily vacant, with scattered single-family development on larger lots. Lands to the northeast consist of the active Black Mountain quarry, located outside Town limits in the unincorporated County of San Bernardino. U.S. Interstate-15 is located two and a half miles to the northwest. Lands to the east are mostly vacant, with single-family homes located on the east side of Central Street, outside Town limits. These homes are primarily adjacent to the southern half of the Specific Plan area. Lands to the south are primarily developed in single-family homes at varying densities. The Rio Vista Elementary School, which is part of the Apple Valley Unified School District, is located approximately one-half mile south/southeast of the Specific Plan area.

Current Land Use and Zoning Designations on Surrounding Lands

Lands to the west of the Specific Plan area are designated Community Reserve in the Town General Plan. The Community Reserve designation provides for residential densities not to exceed 2 dwelling units per gross acre subject to criteria defined for this designation, and is intended to provide for a mix of residential, commercial and industrial development that will support viable neighborhoods or villages. Lands to the north are designated Low Density Residential. Lands to the east within Town limits are designated Estate Residential, (1 dwelling unit per 1.0 to 2.5 gross acres) and lands to the south are designated Community Reserve and Planned Industrial, which provides for light manufacturing and industry, including warehousing, research and development, and administrative functions. Lands to the east outside Town limits are designated Rural Living, Regional Industrial, Community Industrial, and Resource Conservation in the San Bernardino County General Plan. Lands to the west outside the Town limits are designated Rural Living in the San Bernardino County General Plan.

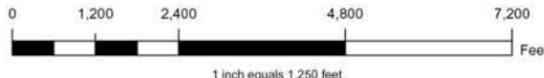


Map Version No.: 4
 Specific Plan by: Terra Nova Planning and Research
 Map Prepared by: Aerial Information Systems
 Map Prepared on: July 10, 2006

Data Sources:
 Town of Apple Valley
 Southern California Association of Governments
 Thomas Brothers Maps
 MetaData:
 Projection = Stateplane; Units = Feet; Zone = CA6



Legend			



2. Project Impacts

As discussed in Section I, the proposed Specific Plan is intended to facilitate the development of a high quality industrial complex to provide for the Town's economic future. The Specific Plan establishes development standards and guidelines for the purpose of guiding landowners and developers in the design of specific projects, which are further discussed below. The following discusses proposed land use designations within the Specific Plan area. Section I of this EIR provides a list of key features for each of these designations. Section III of the Specific Plan document includes a detailed list of allowable uses for each designation.

Proposed Land Use Designations

The proposed Specific Plan (also referred to as the Preferred Alternative) Land Use Plan is represented in Exhibit III-2. General Plan land use and zoning designations are identical. This map has been developed to maximize development potential and consider the logical location of land uses. There are four General Plan land use designations, which comprise land use districts, in the Specific Plan area. These land use designations are expansions of existing General Plan land uses. Each is discussed briefly, below.

Industrial

Industrial land uses were seen as having the highest potential to provide employment opportunities, improve the Town's tax base, and contribute to a stable and varied economy for the Town's future. Therefore, these uses were determined to be the most important within the Specific Plan area. The Specific Plan includes three types of industrial designations: Industrial – Specific Plan, Industrial – General, and Industrial – Airport, discussed below. Permitted uses within the Industrial – Specific Plan designation include a range of uses, from warehousing to manufacturing, which must be conducted entirely within a structure. Industrial – General provides for more intense industrial uses, including those requiring outdoor manufacturing facilities. The Specific Plan provides for a potential increase in of 24.7 percent in Industrial development over the current General Plan.

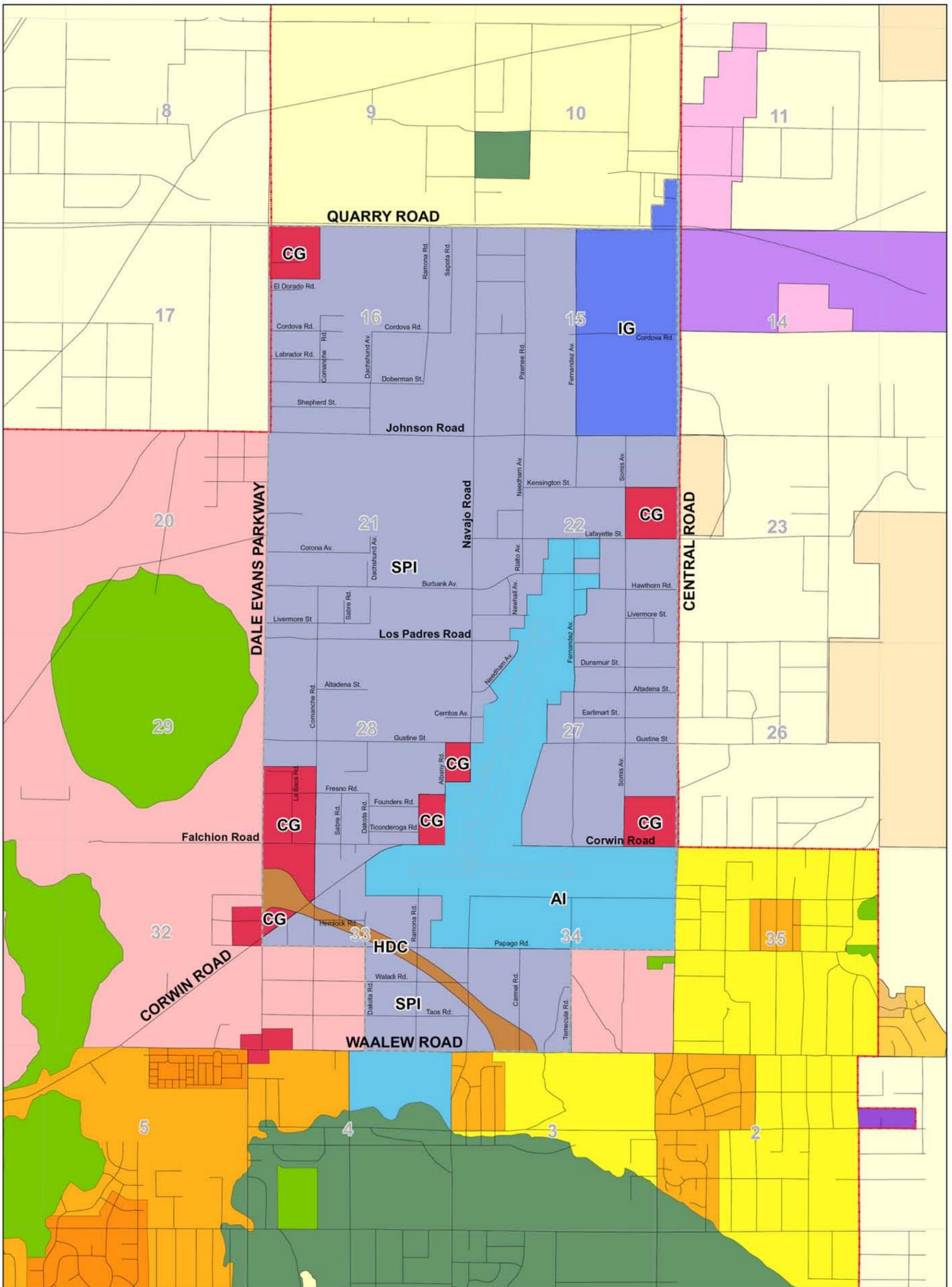
Land use designations in proximity to the Apple Valley Airport have been specifically developed by the Town of Apple Valley to include components of commercial and quasi-industrial development that will support and enhance airport operations. These uses are designated Industrial – Airport on the land use plan.

Commercial

It is expected that future industrial development will require support services, generating the need for commercial development to serve businesses and employees, as well as providing such support for the immediate area. The proposed Specific Plan provides for commercial nodes to be located at major intersections in the Specific Plan area. It should be noted that commercial development within the Specific Plan is not intended to replace the core of the Town's commercial development along State Highway 18 (Happy Trails Highway), but is intended to support the intensity of development within the Specific Plan. The Specific Plan Land Use Plan includes one commercial designation, referred to as General Commercial. Under the proposed Specific Plan, General Commercial development would increase approximately 86 percent over the existing General Plan.

In addition to the proposed land use designations, the Specific Plan includes an overlay, provided for the High Desert Corridor, which is currently in the planning stages by the California

Department to Transportation (CalTrans). Should development be proposed on these lands, it can occur within the limits of lands designated General Commercial – Specific Plan for lands west of Corwin Road, and within the limits of lands designated Industrial – Specific Plan for lands east of Corwin Road, as shown in Exhibit III-2.



Map Version No.: 4
 Specific Plan by: Terra Nova Planning and Research
 Map Prepared by: Aerial Information Systems
 Map Prepared on: July 10, 2006

Data Sources:
 Town of Apple Valley
 Southern California Association of Governments
 Thomas Brothers Maps
 MetaData:
 Projection = Stateplane; Units = Feet; Zone = CA6



Legend	
	General Plan Res.



Proposed Specific Plan land use designations and acreages are summarized in Table III-2, below.

**Table III-2
 Specific Plan Land Use Designations
 Buildout Summary**

Designation	Acres Vacant	Acres Developed	Acres Total	Existing Square Footage*	Potential Square Footage**	Total Square Footage**
General Commercial	256.0	4.9	260.9	46,958	2,453,299	2,500,257
Industrial - Airport	329.7	410.7	740.4	N/A	N/A	N/A
Industrial - Specific Plan	3,201.9	312.5	3,514.4	2,994,750	30,684,448	33,679,198
Industrial - General	334.0	6.1	340.1	58,458	3,200,789	3,259,246
High Desert Corridor	73.7	8.0	81.7	N/A	N/A	N/A
Total	4,195.3	742.2	4,937.5	3,100,165	36,338,536	39,438,701

*Assumes that existing development, which is generally non-conforming under the Specific Plan, will be re-developed with up to 22% building coverage.

**Assumes new development at 22% building coverage.

As shown in the table, the Specific Plan area has the potential to generate up to 39,428,701 square feet of industrial and commercial space. As previously stated, this represents an increase of approximately 86 percent of commercial and 24.7 percent of industrial development over existing conditions.

Site Development Standards and Guidelines

In addition to uses provided for under the four General Plan land use designations, or districts, and as previously noted, the Specific Plan establishes development standards and guidelines for future development. These standards are consistent with the requirements of the Town Development Code. The Specific Plan also includes several special provisions to address factors such as location and economic development potential. Further, these provisions are more restrictive than the General Plan in order to reduce potential impacts and address community concerns identified during public meetings. Section III of the Specific Plan document establishes the Specific Plan standards, guidelines and special provisions, which are summarized below.

Purpose

The purpose of the land use districts in the North Apple Valley Industrial Specific Plan is to encourage the development of well-planned projects that are consistent with the goals and objectives of the Town's General Plan and the subject Specific Plan. The Specific Plan land use districts are intended to provide lands for clean industrial and quasi-industrial land uses that further the Town economic development and land use goals, located in such a manner as avoid nuisances and hazards for the Town's residents. The Specific Plan also intends to support these uses through the provision of lands for retail and office commercial land uses, while providing for the development of coordinated and adequately sized infrastructure to serve the development potential of the industrial district.

Land Use Districts and Allowable Uses

As noted above, the Specific Plan establishes four land use districts that correspond with the General Plan land use and zoning designations shown in Table III- 2, above. Each district is generally consistent with, and typically more restrictive than, land use districts set forth in the Town Development Code.

Allowable uses within each district are defined as those that are permitted, permitted with a Conditional Use Permit, permitted with a Special Use Permit, or not allowed. These are shown in Section III of the Specific Plan document. Uses that are not listed are subject to review by the Community Development Director upon written request and in conformance with the provisions of the Town Development Code. Based on this review, the Director may determine that the proposed unlisted use is permitted, or requires a Conditional or Special Use Permit. Applications for Conditional Use Permits and Special Use Permits shall be processed pursuant to the standards and requirements of Chapter 9.16 of the Town's Development Code.

All allowable uses provided for in the Specific Plan will be applied to requests for new development, expansion of existing uses, tenant improvements resulting in a listed use, or change in occupancy. All uses shown as permitted in the Specific Plan require the approval of a Site Plan Review (SPR) permit. Approval is subject to requirements and application processes set forth in the Specific Plan, including submittal of a complete application form, applicable fees, and supplemental exhibits and materials as set forth in the Section III of the Specific Plan, and any additional information that the Director may request.

Development Standards

Site development standards for each land use/zoning district within the Specific Plan Area are shown in Table III-3, below. These standards will be applied to development projects in conjunction with the permitted use standards, specific use regulations, and the design standards and guidelines provided in Section III of the Specific Plan.

**Table III-3
 Proposed Specific Plan
 Land Use Development Standards**

	SP G-C	I-SP	I-G	I-A
Min. Lot Size (Ac)	1	1	5	n/a
Min. Lot Width (Feet)	200	100	200	200
Min. Lot Depth (Feet)	200	100	200	200
Min. Front Setback or Street Side Setback (Feet)				
<u>Landscaping</u>				
• On Dale Evans Pkwy	25	25	n/a	n/a
• On Central Road	25	25	25	25
• On Papago Rd., Dakota Rd., Waalew Rd., or Fernando Ave.	50	50	n/a	n/a
• On any other road	15	15	15	15
<u>Building</u>				
• On Dale Evans Pkwy	50	50	n/a	n/a
• On Central Road	50	50	50	50
• On Papago Rd., Dakota Rd., Waalew Rd., or Fernando Ave.	75	75	n/a	n/a
• On any other road	25	25	25	25
Min. Building Rear Setback (Feet)	0	15	15	15
Min. Building Interior Side Yard Setback (Feet)	0	0	0	0
Max. Bldg. Coverage (%)	65	35	35	60
Maximum Height (Feet)				
• Within Airport Influence Area	35	35	35	35
• Outside Airport Influence Area	35	50	100	50

Where applicable, the Specific Plan applies development standards set forth in the Town Development Code to the Specific Plan area. It establishes new standards where necessary and appropriate for the land uses included within the Specific Plan area. The Specific Plan includes standards and guidelines for: Airport Overlay Districts, buffering and screening, accessory uses and structures, parking and loading requirements, outdoor uses, pre-fabricated structures, trash enclosures and utilities. The Specific Plan also provides for an intensity bonus, to be determined by the Community Development Director, for projects that include amenities for employees, customers, and or the general public. Such amenities may include on-site child daycare care, fitness facilities, and others.

Design Standards and Guidelines

The Specific Plan provides architectural and landscape design standards and guidelines to ensure that future development incorporates architecture and landscape reflective of the Town's desert setting and long term values, proper building massing with a mix of one and two story profiles, building design options that are compatible with existing development, proper screening of rooftop mechanical and electrical equipment, similar architectural treatments that create a sense of unity within the development, and use of building elements and orientation to optimize sun and wind protection, vistas, and noise buffering. The Specific Plan also sets standards for

building scale, materials and colors, walls and fences and signage. It also establishes standards for exterior lighting that are consistent with the Town's General Plan Dark Sky and Lighting Policy, as well as performance standards set forth in Town Development Code.

The Specific Plan landscape guidelines provide for use of principles of xeriscape landscaping, appropriate to the high desert environment. The Specific Plan includes a comprehensive plant palette for each planting area, including major and secondary entries, parkways, and roadways. It limits turfed areas unless reclaimed water is available for irrigation.

Specific Plan Relationship to the General Plan

The General Plan for the Town of Apple Valley includes a number of Special Study Areas in which additional planning and land use studies have been recommended to address unique challenges and opportunities associated with developing these areas. These Special Study areas include, among others, the Airport Influence Area, which is at the center of the North Apple Valley Industrial Specific Plan.

The North Apple Valley Industrial Specific Plan is a tool for implementing the goals of the Town's General Plan related to the area that includes and surrounds the Apple Valley Airport. The Specific Plan is consistent with the Apple Valley General Plan, and implements the goals of the General Plan related to the Airport Influence Area.

Analysis of Impacts to Land Use Compatibility

Issues of land use compatibility as they relate to lands within the Specific Plan area, as well as surrounding lands and land uses, have been assessed by Town staff throughout the Specific Plan process. As noted in Section I of this EIR, comments received during the Notice of Preparation comment period have been addressed where appropriate in this EIR, as well as comments and concerns raised during the public scoping meeting held by the Town in April 2006. The latter primarily related to transportation and circulation, Specific Plan boundaries, utilities and infrastructure provision and financing, the status of existing residential development in the area, and phasing of development within the Plan area.

Issues related to traffic and noise impacts have been analyzed and are addressed in this EIR in Sections III-B and III-I of this EIR. These impacts are expected to be less than significant. Impacts related to provision of infrastructure are addressed in Section III-M, and are less than significant. Other impacts, such as those associated with air and water quality, visual resources and the potential for buildout of the Specific Plan to generate hazardous and toxic materials are also addressed in this EIR. In recognition of existing conditions, the Specific Plan provides for the most potentially intense industrial land uses to be located furthest from existing and approved residential development within the Town. It further provides for landscaping and building setbacks on the perimeter streets within the Specific Plan to assure that sufficient distance is provided between the industrial and commercial uses and the residences across each of these streets. It provides for land uses and development standards within the Airport Influence Area that are also compatible with airport operations.

As previously stated, the North Apple Valley Industrial Specific Plan is consistent with the Town of Apple Valley General Plan, as required by state law. The General Plan EIR analysis of land use compatibility provides for Town review of all development plans in order to assure that

individual projects, especially those proposed in proximity to sensitive land uses, are fully assessed during the project review process. This assessment is intended to ensure that all land use compatibility issues are addressed and mitigated, as necessary, to reduce impacts to less than significant levels. As stated above, the proposed Specific Plan has been assessed throughout the process.

The Specific Plan does not propose development that would physically divide an existing community. As noted above, it is consistent with the Town General Plan, and does not conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project. As discussed in Section III-D, it does not conflict with any applicable habitat conservation plan. The potential for sensitive species on site is further addressed in Section III-D, and mitigation is provided to ensure that potential impacts to such species are reduced to less than significant levels.

3. Mitigation Measures

The North Apple Valley Industrial Specific Plan is consistent with the provisions and requirements of the Town of Apple Valley General Plan and Zoning Ordinance, as required by state law. As previously noted, consistency between the Town General Plan and the North Apple Valley Industrial Specific Plan has been demonstrated through analysis included in the Specific Plan document.

Viewshed impacts associated with building height are mitigated by application of the most limiting criteria practical, and by the provision of landscape and setback buffers along perimeter roads. Tallest structures are limited to lands designated for Industrial – General, which occur in the northeastern-most portion of the Specific Plan area, furthest from existing development within the Town. Lighting standards set forth in the Specific Plan are in compliance with Town’s General Plan Dark Sky and Lighting Policy and Town development code performance standards.

The potential for the project to generate increases in traffic and noise are addressed in Sections III-B and III-I, respectively, of this EIR, and are expected to be less than significant. In the overall, with the implementation of mitigation set forth in this EIR, land use impacts are expected to be less than significant. The Town General Plan incorporates a wide range of policies and programs, the implementation of which will address land use compatibility issues as they arise. Further, development guidelines set forth in the proposed Specific Plan, which are typically more restrictive than those set forth in the General Plan and Town development code, will further address potential issues. However, in order to assure that potential changes in land use are adequately assessed, the following mitigation measure shall be implemented.

1. Individual projects, especially those located nearby or adjacent to sensitive lands or uses, shall be fully evaluated during the project review process to assure that all land use compatibility issues are addressed and mitigated.

Mitigation Monitoring/Reporting Program

1. Prior to issuance of building permits, the Town shall review detailed development plans to assure that all land use compatibility issues are addressed and mitigated.

Responsible Parties: Project Proponent, Planning Division, Building Division.

B. Traffic and Circulation

Introduction

A traffic study was prepared for the North Apple Valley Industrial Specific Plan project by Urban Crossroads, Inc.¹ to identify potentially significant traffic-related impacts associated with the implementation of the North Apple Valley Industrial Specific Plan. The traffic study is included in Appendix C. This analysis has been prepared in accordance with the requirements of the San Bernardino County Congestion Management Plan (CMP). SANBAG has prepared a regional transportation Development Mitigation Nexus Study, which is to serve as the basis for local development impact mitigation programs. The Town of Apple Valley has not yet implemented such a program. Therefore, it has been necessary to prepare the subject CMP Traffic Impact Analysis (TIA) for intersections within five miles of the subject property that may be impacted by 50 or more project-related trips.

Project Overview

Implementation of the North Apple Valley Industrial Specific Plan (Preferred Project) has the potential to generate up to approximately 33.7 million square feet of industrial space, 3.2 million square feet in general light industrial; space, and 2.5 million square feet of general commercial (retail, office, etc.). The 740.4 acres of "Airport Industrial" is comprised of approximately 500 acres of runways and associated airport facilities, and lands available for ancillary airport uses, including machine shops, research facilities and other activities associated with the airport's capacity to service up to 368 general aviation aircraft.

Study Area

The North Apple Valley Industrial Specific Plan traffic analysis encompassed a study area that is generally defined by the US Interstate-15 corridor to the west, the Dale Evans Parkway/I-15 interchange to the north, Joshua Road (extended) to the east and Ottawa Road (extended) to the south. Regional influences include the aforementioned I-15, SR 18 (Happy Trails Highway), and local area traffic associated with urban development of Victorville and Hesperia. The future High Desert Corridor, which will pass through the southwest corner of the Specific Plan area, will also provide major additional connectivity.

Comprehensive Transportation Plan Traffic Model

The subject traffic impact analysis for the Specific plan was based upon the Comprehensive Transportation Plan (CTP) traffic model, which includes the geographic area of the Town of Apple Valley, and is the only approved travel demand forecasting tool for this study area. The methodologies used in the traffic analysis are consistent with the requirements of the San Bernardino County Congestion Management Plan (CMP). Traffic count data were collected in Spring of 2006, which have been used to weight and update the model to account for current conditions.

CTP Truck and Automobile Submodels

The traffic analysis procedures for the CTP model are applied independently for truck/buses and passenger car vehicles, yielding different peak hour volumes by vehicle type. The application of

¹ "North Apple Valley Specific Plan CMP Traffic Impact Analysis", prepared by Urban Crossroads, Inc. June 9, 2006 (Revised July 21, 2006).

the model also yields a "passenger car equivalent" factor by which the effects of trucks and other multi-axle vehicles can be calculated against roadway and intersection capacity. Thereby, the existing and anticipated mix of vehicles is aggregated to a single passenger car equivalent (PCE) number.

Table III-4
North Apple Valley Industrial Specific Plan
CTP Peak Hour Traffic Assignments & Passenger Car Equivalent Factors*

Vehicle Type Factor	AM Peak Hour Factor	PM Peak Hour Factor	PCE
Passenger Car	0.38	0.28	
Truck/Multi-Axle	0.333	0.25	
Buses/RVs			1.5
Veh. w/3 Axles			2.0
Veh. w/4 or More Axles			3.0

* The factors convert the effects of multi-axle vehicles on capacity by multiplying the number of the multi-axle vehicles by the factor to get the equivalent in passenger cars.

The model projects area traffic out to the year 2030 and is based upon a model validation (base) year of 2000 for passenger car and 1994 for the truck model. The truck model is assumed to be functionally equivalent to 2000 conditions. Reduction factors have been applied in the model to account and adjust for incremental growth to reflect year 2006 traffic count conditions. The traffic model also includes calculations which establish the degree of model bias when analyzing future highway interchanges (see page 1-13 of the Traffic Impact Analysis in Appendix C). The aforementioned volume adjustments are also applied to the intersection analysis.²

Trip Generation and Traffic Routing

The proposed Specific Plan encompasses a large area and involves a substantial level of development with a mix of trip generation characteristics. The traffic calculated to be generated by buildout of the North Apple Valley Industrial Specific Plan have been estimated using a manual approach as described by the County CMP Guidelines. Trip generation rates were taken from the Institute of Transportation Engineers (ITE) Trip Generation, 7th Edition for the General Commercial, General Aviation Airport and Single-Family Detached land uses. Trip generation rates for Light Industrial and Industrial Park land uses were obtained from the City of Fontana’s “Truck Trip Generation Study”, August 2003. The Fontana rates were used for these land uses since they reflect local rates. A copy of the Fontana study is included in the Traffic Impact Study’s appendices.

Once the project traffic generation has been calculated, the SANBAG-maintained transportation model is used to evaluate the likely distribution and travel routes of project traffic in the 2030 horizon year and a select zone analysis was performed. Project traffic volumes were then added to the projected background traffic for 2030 and were analyzed at intersections within and adjacent to the Specific Plan site. A validation of and adjustments (where appropriate) to these assignments were made to achieve traffic flow conservation, minimized growth, diversion between parallel routes, volume mirroring, and appropriate peak hour traffic and average daily traffic volume relationships.

² Ibid. Methodology is consistent with the National Cooperative Highway Research Program (NCHRP) Report 255.

Levels of Service

The “Level of Service” (LOS) is a qualitative measurement, which describes operational conditions within a traffic stream and considers speed, travel time, driving comfort, safety and traffic interruptions. Levels of Service are described as a range of alphabetical connotations, “A” through “F,” which are used to characterize roadway operating conditions. LOS A represents the best, free flow conditions, and LOS F indicates the worst conditions and system failure. Levels of service are represented as volume to capacity ratios, or vehicle demand divided by roadway capacity. As the ratio approaches 1.00, roadway operations approach LOS F. Uninterrupted flow is generally found only on limited access (freeway) facilities in urban areas.

**Table III-5
 Roadway Level of Service Descriptions**

Level of Volume/Capacity	Quality of Traffic Flow	Service Ratio
A	Represents free traffic flow, with individual drivers being virtually unaffected by the presence of others in the traffic stream.	0.00 - 0.60
B	Stable traffic flow but the presence of other users in the traffic stream beginning to be noticeable. Freedom to select desired speeds is relatively unaffected, but there is a slight decline in the freedom to maneuver.	0.61 - 0.70
C	Stable flow with operating speeds and maneuverability closely controlled by other traffic; recommended ideal design standard or “Design Capacity.” Most drivers feel somewhat restricted by interactions with others in the traffic flow.	0.71 - 0.80
D	Represents high density but stable traffic flow and tolerable operating speeds; often used as design standard in urban areas. Speed and freedom to maneuver are severely restricted, and driver experiences a generally poor level of comfort and convenience. This level is the lower limit of acceptable operation to most drivers.	0.81 - 0.90
E	Represents operating conditions at or near capacity level and the theoretical maximum traffic volume a roadway can accommodate. Speeds are reduced to a low, but relatively uniform value. At 100% capacity (V/C-1.0), it theoretically represents the most vehicles that a particular intersection or roadway can accommodate. However, small increases in flow will cause breakdowns in traffic movement.	0.91 - 1.00
F	System failure; long queues of traffic; unstable flows; stoppages of long duration; traffic volume and speed can drop to zero; traffic volume will actually be less than the LOS E volume.	Not Meaningful

Source: Derived from the Highway Capacity Manual, Highway Research Board - Special Report 209, National Academy of Science, Washington, D.C. 2000.

Intersection Capacity

At intersections, the level of service is typically dependent on the quality of traffic flow. The 2000 Highway Capacity Manual (HCM) methodology expresses the level of service at an intersection in terms of delay time for the various intersection approaches. The procedures used to determine levels of service vary with the type of intersection controls, including signs and signals. The levels of service are defined in the following table.

**Table III-6
 Levels-of-Service for Intersections**

Level of Service	Average Total Delay Per Vehicle	
	Signalized	Unsignalized
A	0 to 10.00	0 to 10.00
B	10.01 to 20.00	5.01 to 15.00
C	20.01 to 35.00	15.01 to 25.00
D	35.01 to 55.00	25.01 to 35.00
E	55.01 to 80.00	35.01 to 50.00
F	80.01 and up	50.01 and up

A. Existing Conditions

This section discusses the existing roadway conditions in the project vicinity with focused attention on those required by the County CMP Horizon Year (2030) model. Detailed traffic counts were taken at intersections in March and April of 2006. The existing number of lanes and the type of traffic control devices at each intersection were also recorded. Average daily trip data were collected directly through 24-hour counts or were derived from peak hour counts.

Roadways in Project Vicinity

As noted above, the Specific Plan area is well located and has excellent existing and planned access to major transportation links in the immediate vicinity, including US Interstate-15, Dale Evans Parkway, State Highway 18 (Happy Trail Highway), Stoddard Wells Road and the future High Desert Corridor. Local access is provided by a variety of arterial roadways, including Quarry Road, Johnson Road, Saugus Road, Gustine Street, Corwin Road, Waalew Road and Central Road. Major relevant roadways in the vicinity are briefly examined below.

Existing Traffic Conditions

The following briefly summarizes the existing roadway network, current levels of improvements and General Plan buildout conditions on these roadways. Existing average daily trips (ADT) are based upon the latest traffic data collected in Spring of 2006, as well as from estimated ADT based upon measured AM and PM peak hour trips data.

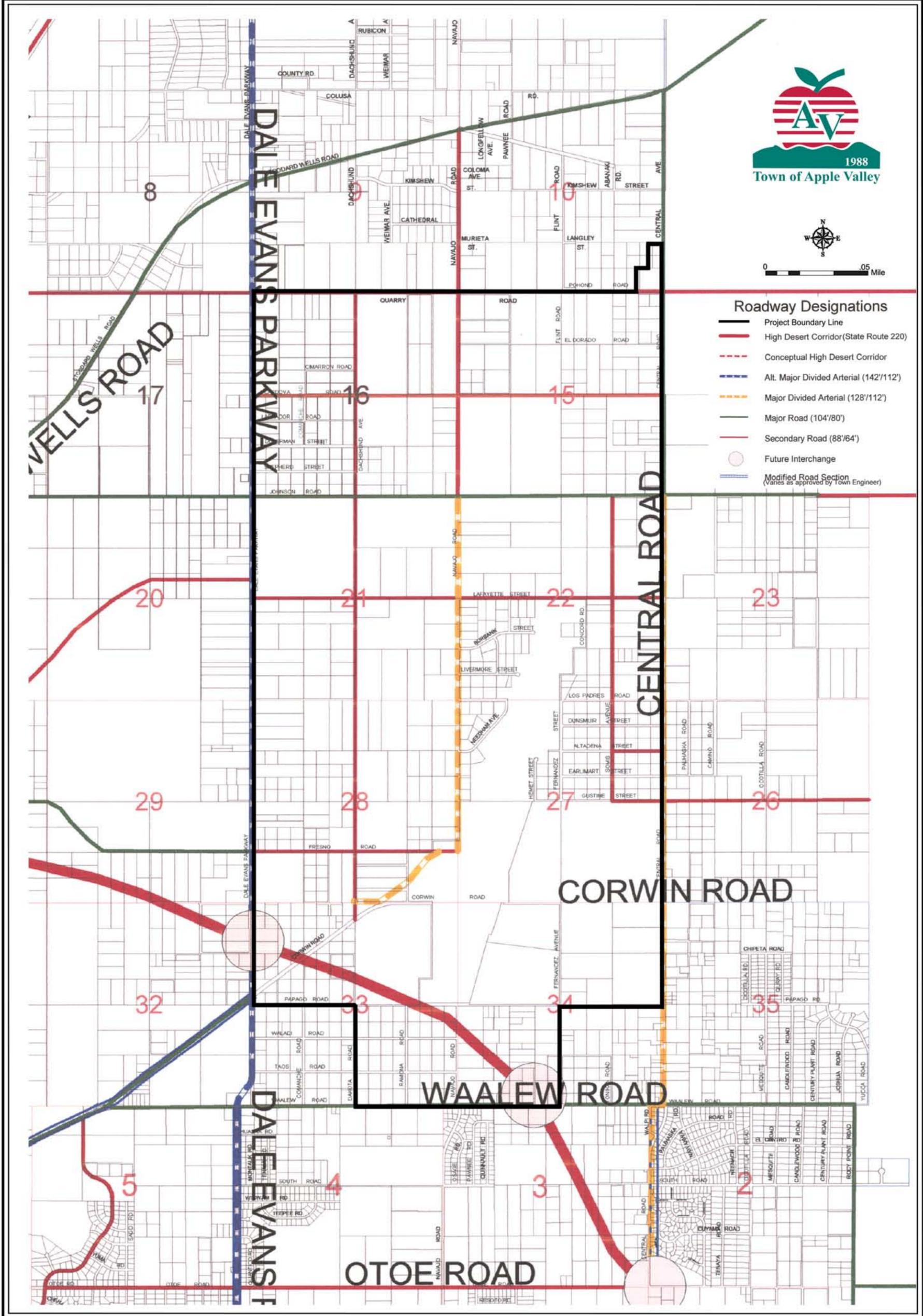
Dale Evans Parkway: This roadway, which forms the western boundary of the Specific Plan project area, is currently improved as a two-lane undivided roadway with little or no curb or gutter improvements along its frontage with the subject property. It serves as an important connector between the airport, industrial and other lands in the northern part of the Town and the established business district and (as extended) State Highway 18. This roadway currently extends from Waalew Road northward to its intersection (interchange) with US I-15. Current traffic volumes range from 3,400 ADT between Johnson Road and Quarry Road to 4,100 ADR just north of the planned High Desert Corridor (See Exhibit 3-2 in the Traffic Impact Report). Dale Evans Parkway is designate as an Alternate Major Divided Arterial with a 142-foot right-of-way and 112-foot paved section providing six travel lanes and a 20-foot median.

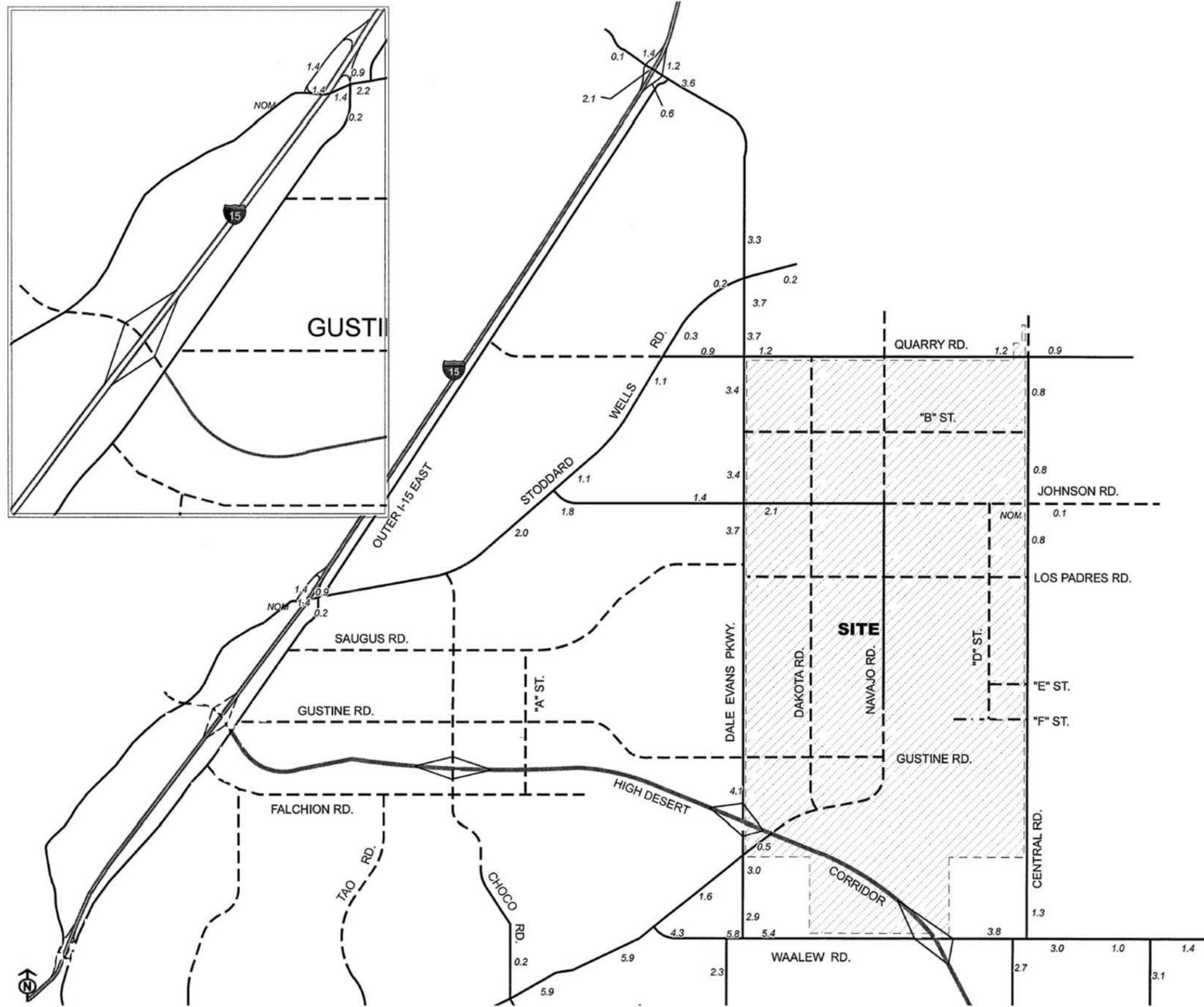


0 .05 Mile

Roadway Designations

- Project Boundary Line
- High Desert Corridor (State Route 220)
- Conceptual High Desert Corridor
- Alt. Major Divided Arterial (142'/112')
- Major Divided Arterial (128'/112')
- Major Road (104'/80')
- Secondary Road (88'/64')
- Future Interchange
- Modified Road Section (Varies as approved by Town Engineer)





LEGEND:
10.0 = VEHICLES PER DAY (1000's)



State Highway 18/Happy Trail Highway: Also delineated as SR 18, this roadway is currently improved as a four-lane divided restricted access highway serving the established business district of the community and providing regional connectivity with Victorville to the west and the Lucerne Valley to the east. In the project vicinity, current traffic volumes range from 44,600 ADT west of Apple Valley Road down to 8,000 ADT east of Central Road. (See Exhibit 3-2 in the Traffic Impact Report). SR 18 is designated as a Major Divided Arterial with a 120-foot right-of-way and 104-foot paved section providing four travel lanes and a 12-foot median.

Central Avenue: This roadway, which forms the eastern boundary of the Specific Plan area, is currently improved as a two-lane undivided roadway serving lands east of the airport and the Town business district and lands south of SR 18. Current traffic volumes range from 800 ADT south of Quarry Road to the north, to 8,000 ADT in the vicinity of SR 18. Central Road, between Quarry Road and Johnson Road, is designated as a Major Road with a 104-foot right-of-way and an 80-foot paved section. South of Johnson Road and extending to Waalew Road, Central is designated as a Major Divided Arterial with a 120-foot right-of-way and 104-foot paved section providing four travel lanes and a 12-foot median. South of Waalew Road, central Road continues as a Major Divided Arterial but with a variable right-of-way as determined appropriate by the Town Engineer.

Quarry Road: This roadway, which forms the northern boundary of the Specific Plan area, is currently improved as a two-lane undivided roadway serving lands to the east and providing connectivity to Dale Evans Parkway, Stoddard Wells Road and US I-15. Current traffic volumes on this roadway range from 900 ADT east of Central Road to 1,200 ADT just east of Dale Evans Parkway. This roadway is designated as a Secondary Arterial with a planned 80-foot right-of-way and a 64-foot paved section providing four travel lanes of 11-feet each and no median. This roadway is planned for a westward extension to US I-15. Quarry Road is apparently private and it may be necessary to secure an easement from the owner in the future to secure public use.

Stoddard Wells Road: This roadway is currently improved as a two-lane undivided roadway that extends from east of Dale Evans Parkway to and crossing US I-15. It serves to connect lands north and west of the airport and Specific Plan area to lands to the southwest. Current roadway volumes range from 200 ADT east of Dale Evans Parkway to 2,000 ADT in the vicinity of I-15. Stoddard Wells Road is designated as a Major Road with a 104-foot right-of-way and an 80-foot paved section

Waalew Road: This roadway, which forms most of the southern boundary of the Specific Plan area, currently is improved two-lane undivided roadway, and extends east beyond Joshua Road and connects with Corwin Road on the west. This roadway provides important connectivity between the eastern portion of the Town and business district, and connects to SR 18 via Corwin Road. Current roadway volumes on Waalew Road range from 1,400 ADT east of Joshua Road to 5,800 ADT immediately west of Dale Evans Parkway.

Future Development and Background Traffic

For purposes of analyzing the long-term impacts of the proposed Specific Plan project on local streets, the buildout traffic that is projected to result from the incremental buildout of the Town General Plan was used to provide the basis for calculating future background traffic. The project buildout year is projected at 2030.

Intersections: Existing Conditions

The capacities of the various roadway segments within the Specific Plan area are defined by several variables, including the number of travel lanes, the number of access points onto the roadway, and the roadway geometry, i.e. is it divided or undivided, the width of travel lanes, and other constraints. However, the most constraining and defining portions of the roadway network are intersections, which are typically the ultimate arbiters of capacity.

Detailed analysis has been conducted for more than eighty-six (86) existing and future intersections, including current conditions at forty (40) existing intersections during AM and PM peak hours, which provide important perspective on the current levels of demand occurring at these locations. Planned future improvements to intersection are not considered in the table, which follows. The Specific Plan Traffic Report also sets forth the intersection geometries that must ultimately be constructed at each location under the current Town General Plan. Currently (2006), all but 7 of the 40 intersections are operating at acceptable levels of service (LOS C or better).

**Table III-7
Existing Average Daily Traffic (ADT)
Intersection Analysis For Existing Conditions**

INTERSECTION	TRAFFIC CNTRL ³	INTERSECTION APPROACH LANES ¹									DELAY ² (SECS.)		Level of Service				
		NORTH- BOUND			SOUTH- BOUND			EAST- BOUND			WEST- BOUND			AM	PM	AM	PM
		L	T	R	L	T	R	L	T	R	L	T	R				
I-15 SB Ramps (NS) at:																	
• Dale Evans Pkwy. (EW)	CSS	0	0	0	0.5	0.5	1	0	1	0	0.5	0.5	0	9.8	11.2	A	B
• Stoddard Wells Rd. (EW)	CSS	0	0	0	0	1	0	0.5	0.5	0	0	1	1>>	9.0	9.1	A	A
I-15 NB Ramps (NS) at:																	
• Dale Evans Pkwy. (EW)	CSS	0.5	0.5	1	0	0	0	0.5	0.5	0	0	1	0	10.6	11.2	B	B
• Stoddard Wells Rd. (EW)	CSS	0	1	0	0.5	0.5	1	0	1	0	0	1	0	9.3	11.2	A	B
Apple Valley Road (NS) at:																	
• Happy Trails Hwy. (SR-18) (EW)	TS	1.5	0.5	1	1	1	1	2	2	1>>	1	2	1	75.4	-- ⁴	E	F
• Yucca Loma Rd. (EW)	TS	1	1	1	1	1	1	1	2	1	1	1	1	23.8	27.3	C	C
Kasota Road (NS) at:																	
• Happy Trails Hwy. (SR-18) (EW)	TS	0	1	0	0	1	0	1	2	1	1	2	1	25.7	26.1	C	C
Corwin Road (NS) at:																	
• Happy Trails Hwy. (SR-18) (EW)	TS	0	0	0	1	0	2>	1	2	0	0	2	0	13.0	10.7	B	B
• Waalew Rd. (EW)	CSS	0	1	0	0.5	0.5	0	0	0	0	0	1	0	13.4	11.5	B	B
Tao Road (NS) at:																	
• Corwin Rd. (EW)	AWS	0	1	0	0	1	0	0	1	0	0	1	0	15.0	11.5	C	B
Choco Road (NS) at:																	
• Corwin Rd. (EW)	CSS	0	1	0	0	1	0	0	1	0	0.5	0.5	1	11.4	12.9	B	B
Stoddard Wells Road (NS) at:																	
• Johnson Rd. (EW)	CSS	0	1	0	0.5	0.5	0	0	0	0	0	1	0	9.6	10.3	A	B
• Quarry Rd. (EW)	CSS	0	1	0	0.5	0.5	0	0	0	0	0	1	0	9.0	8.9	A	A
Rancherias Road (NS) at:																	
• Otoe Rd. (EW)	CSS	0	1	0	0	1	0	0	1	0	0	1	0	9.1	9.4	A	A
• Thunderbird Rd. (EW)	CSS	0	1	1	1	1	0	0	0	0	1	0	1	40.1	47.5	E	E
• Happy Trails Hwy. (SR-18) (EW)	TS	1	1	0	1	1	1	1	2	1	1	2	1	29.1	35.4	C	D
Rincon Road (NS) at:																	
• Yucca Loma Rd. (EW)	AWS	0	1	0	0	1	0	1	1	0	1	1	0	--	68.7	F	F
Dale Evans Parkway East (NS) at:																	

**Table III-7
 Existing Average Daily Traffic (ADT)
 Intersection Analysis For Existing Conditions**

INTERSECTION	TRAFFIC CNTRL ³	INTERSECTION APPROACH LANES ¹												DELAY ² (SECS.)		Level of Service	
		NORTH-BOUND			SOUTH-BOUND			EAST-BOUND			WEST-BOUND			AM	PM	AM	PM
		L	T	R	L	T	R	L	T	R	L	T	R				
Stoddard Wells Rd. (EW)	CSS	0	1	0	0	1	0	0	1	0	0	1	0	10.8	12.5	B	B
Quarry Rd. (EW)	CSS	0	1	0	0	1	0	0	1	0	0	1	0	11.7	13.3	B	B
Johnson Rd. (EW)	CSS	1	1	1	1	1	0	0	1	0	0.5	0.5	1>>	12.6	16.4	B	C
Corwin Rd. (EW)	CSS	0	1	0	0	1	0	0	1	0	0	1	0	12.4	11.8	B	B
Waalew Rd. (EW)	CSS	0	0	0	0	1	0	0.5	0.5	0	0	1	0	11.5	14.6	B	B
Dale Evans Parkway West (NS) at:																	
Waalew Rd. (EW)	CSS	0	1	0	0	0	0	0	1	0	0.5	0.5	0	10.4	11.9	B	B
Otoe Rd. (EW)	CSS	0	1	0	0	1	0	0	1	0	0	1	0	10.6	11.9	B	B
Thunderbird Rd. (EW)	AWS	1	1	1	1	1	1	1	1	1	1	1	1	12.4	10.6	B	B
Happy Trails Hwy. (SR-18) (EW)	TS	1	1	0	1	1	0	1	2	1	1	2	1	10.7	12.7	B	B
Kiowa Road (NS) at:																	
Happy Trails Hwy. (SR-18) (EW)	TS	1	1	0	1	1	0	1	2	1	1	2	1	19.7	19.8	B	B
Yucca Loma Rd. (EW)	AWS	0	1	0	0	1	0	1	1	0	1	1	0	10.1	13.5	B	B
Ottawa Rd. (EW)	CSS	1	1	0	1	1	0	0	1	0	0	1	0	16.7	20.8	C	C
Navajo Road (NS) at:																	
Thunderbird Rd. (EW)	AWS	0	1	0	0	1	0	0	1	0	0	1	0	12.5	10.5	B	B
Happy Trails Hwy. (SR-18) (EW)	TS	1	2	0	1	2	0	1	2	1	1	2	1	35.7	36.0	D	D
Ottawa Rd. (EW)	CSS	1	2	1	1	2	1	0	1	0	0	1	0	36.6	--	E	F
Central Road (NS) at:																	
Quarry Rd. (EW)	CSS	0	1	0	0	0	0	0	1	0	0.5	0.5	0	9.1	9.2	A	A
Johnson Rd. (EW)	CSS	0	1	0	0	1	0	0	1	0	0	1	0	8.5	9.2	A	A
Waalew Rd. (EW)	AWS	0	1	0	0	1	0	0	1	0	0	1	0	8.6	9.0	A	A
Otoe Rd. (EW)	CSS	0	1	0	0.5	0.5	0	0	0	0	0	1	0	10.8	11.3	B	B
Thunderbird Rd. (EW)	CSS	0.5	0.5	0	0	1	0	1	0	1	0	0	0	13.6	14.4	C	B
Happy Trails Hwy. (SR-18) (EW)	TS	0.5	0.5	1	0.5	0.5	1	1	2	1	1	2	1	16.9	16.9	B	B
Ottawa Rd. (EW)	CSS	0	1	0	0	1	0	0	1	0	0	1	0	--	25.1	F	D
Joshua Road (NS) at:																	
Waalew Rd. (EW)	CSS	0	1	0	0	1	0	0	1	0	0.5	0.5	0	9.1	9.0	A	A

¹ When a right turn is designated, the lane can either be striped or unstriped. To function as a right turn lane there must be sufficient width for right turning vehicles to travel outside the through lanes.

L = Left; T = Through; R = Right; > = Right-Turn Overlap Phasing; >> = Free-Right Turn

² Delay and level of service calculated using the following analysis software: Traffix, Version 7.7 R5 (2005). Per the 2000 Highway Capacity Manual, overall average intersection delay and level of service are shown for intersections with traffic signal or all way stop control. For intersections with cross street stop control, the delay and level of service for worst individual movement (or movements sharing a single lane) are shown.

³ TS = Traffic Signal; AWS = All-Way Stop; CSS = Cross Street Stop

⁴ -- = Ave. Delay > 50 for AWS/CSS or >100 for TS, Critical Vol/Cap >1.0, Intersection Unstable, Level of Service "F".

As noted above, the Town General Plan sets a minimum intersection Level of Service of LOS C³. As indicated in the above table, six intersections currently operate at LOS D or worse during the AM and PM peak hour, and one operates at LOS D during the PM peak hour. These include:

- Apple Valley Road @SR 18 (AM = LOS E; PM = LOS F)⁴
- Rancherias Road @ Thunderbird Road (AM = LOS E; PM = LOS E)
- Rancherias Road @ SR 18 (AM = LOS C; PM = LOS D)
- Navajo Road @ SR 18 (AM = LOS D; PM = LOS D)
- Navajo Road @ Ottawa Road (AM = LOS E; PM = LOS F)
- Central Road @ Ottawa Road (AM = LOS F; PM = LOS D)
- Rincon Road @ Thunderbird Road (AM = LOS E; PM = LOS F)

Traffic signal warrant analyses were performed for existing non-signalized study area intersections and can be found in Appendix 3.3 in the Specific Plan Traffic Report. Of the above cited intersections with unacceptable Levels of Service, current traffic volumes at six of the seven warrant signalization, the exception being Rancherias Road at SR 18.

Planned Transportation Improvements

Long range improvement plans will be made to the Town and regional roadway network as growth continues in the Specific Plan study area and the Town and region. The current network is expected to undergo significant change and upgrading in the coming years, implementing the local and regional circulation system as set forth in the Town and County General Plans, as well as the long-term plans of Caltrans. The Town General Plan Circulation Plan and roadway cross-sections are also provided in the Specific Plan Traffic Impact Report.

2. Project Impacts

As noted in the introduction to this discussion, the traffic impact analysis for the North Apple Valley Industrial Specific Plan was conducted in conformance with the County CMP, which prescribes certain analysis parameters, including the Horizon Year to be used for analysis. For purposes of this analysis, a Horizon Year of 2030 was used, with traffic volume forecasts for incremental General Plan buildout and for buildout of the subject Specific Plan area. A growth increment process based on volumes predicted in the CTP 2000 and the 2030 traffic models were used to develop the 2030 average daily trip volumes.

Zone and Network System

The traffic model divides the Specific Plan area into a number of analysis zones. Specific Plan area and other boundaries were used to assure an adequately detailed analysis. Traffic volumes have been generated for each TAZ based upon the mix and acreage of each land use in each TAZ, with land uses being factored into the model as either trip “productions” or “attractions”.

³ "Circulation Element of the Town of Apple Valley General Plan", prepared by the Town of Apple Valley. 1998. The General Plan states that: "Road performance during peak periods and/or on a daily basis should not operate below Level of Service C whenever possible.

⁴ Town staff note that the Apple Valley Road/SR 18 intersection has been recently improved and is operating at LOS C.

Trip Generation

Vehicle trips generated within each of the analysis zones are based on land use data on existing uses and proposed uses as shown on the General Plan land use maps. The model breaks down Specific Plan area land uses into four variables, ranging from "General Aviation Airport" and "General Commercial", to "Light Industrial" and "Industrial Park" land uses. As noted in the introduction to this section, both Light Industrial and Industrial Park trip generation rates are taken from the "City of Fontana's Truck Trip Generation Study", whereas the General Aviation Airport, General Commercial and Single Family Detached land uses are taken from the Institute of Transportation Engineers "Trip Generation", 7th Edition.

Traffic volumes were also calculated with a provision of 15 to 25% of potential Specific Plan trips being accounted for as "passer-by trips", meaning that this percentage of total potential trips is expected to represent traffic to the project that will already be on the area roadways for other purposes, hence stopping at the project while passing by.

Table III-8
Commercial and Airport Trip Generation Rates
Institute of Transportation Engineers⁵

LAND USE	ITE CODE	QUANTITY	UNITS ²	PEAK HOUR						DAILY
				AM			PM			
				IN	OUT	TOTAL	IN	OUT	TOTAL	
General Commercial	820	2,500.2	TSF	0.26	0.17	0.43	1.01	1.09	2.10	22.01
General Aviation Airport	22	368	BA	0.20	0.04	0.24	0.17	0.20	0.37	5.00

⁶ Source: "Trip Generation Manual, 7th Edition", prepared by the Institute of Transportation Engineers. 2003

Table III-9
Commercial and Airport Trip Generation Rates
Fontana Truck Trip Generation Study

LAND USE CLASSIFICATION: Light Industrial (Independent Variable X = TSF ²)	RECOMMENDED TRIP GENERATION RATES AND EQUATIONS				
	AM		PM		DAILY (Total Vehicles)
	Total Vehicles	Trucks	Total Vehicles	Trucks	
Weighted Average Trips	(0.679 * X)	(0.268 * X)	(0.436 * X)	(0.101 * X)	(11.744 * X)
Linear Regression	NA	NA	(0.193 * X) + 7.240	(0.056 * X) + 1.323	Marginal
Logarithmic Regression	NA	NA	8.152 * (1.013)^X	Marginal	NA
<i>Used (most conservative estimate)</i>	(0.679 * X)	(0.268 * X)	(0.436 * X)	(0.101 * X)	(11.744 * X)
LAND USE CLASSIFICATION: Light Industrial	RECOMMENDED VEHICLE ENTER/EXIT SPLITS				
	AM		PM		DAILY (Total Vehicles)
	Total Vehicles	Trucks	Total Vehicles	Trucks	
Entering	60.49%	37.50%	29.17%	66.67%	50.00%
Exiting	39.51%	62.50%	70.83%	33.33%	50.00%
Total	100.00%	100.00%	100.00%	100.00%	100.00%

⁵ "Trip Generation Manual, 7th Edition", prepared by the Institute of Transportation Engineers. 2003.

⁶ Trip Generation based on the "Truck Trip Generation Study" conducted by the City of Fontana, dated August 2003.

Table III-9 (cont'd)
Commercial and Airport Trip Generation Rates
Fontana Truck Trip Generation Study

LAND USE CLASSIFICATION: Industrial Park (Independent Variable X = TSF ²)	RECOMMENDED TRIP GENERATION RATES AND EQUATIONS				
	AM		PM		DAILY (Total Vehicles)
	Total Vehicles	Trucks	Total Vehicles	Trucks	
Weighted Average Trips	(0.095 * X)	(0.039 * X)	(0.096 * X)	(0.048 * X)	(1.236 * X)
Linear Regression	NA	NA	NA	NA	NA
Logarithmic Regression	NA	NA	NA	NA	NA
<i>Used (most conservative estimate)</i>	<i>(0.095 * X)</i>	<i>(0.039 * X)</i>	<i>(0.096 * X)</i>	<i>(0.048 * X)</i>	<i>(1.236 * X)</i>
LAND USE CLASSIFICATION: Industrial Park	RECOMMENDED VEHICLE ENTER/EXIT SPLITS				
	AM		PM		DAILY (Total Vehicles)
	Total Vehicles	Trucks	Total Vehicles	Trucks	
Entering	60.99%	50.00%	32.87%	37.50%	50.00%
Exiting	39.01%	50.00%	67.13%	62.50%	50.00%
Total	100.00%	100.00%	100.00%	100.00%	100.00%

² TSF = Thousand Square Feet

Trip Distribution and Traffic Assignment

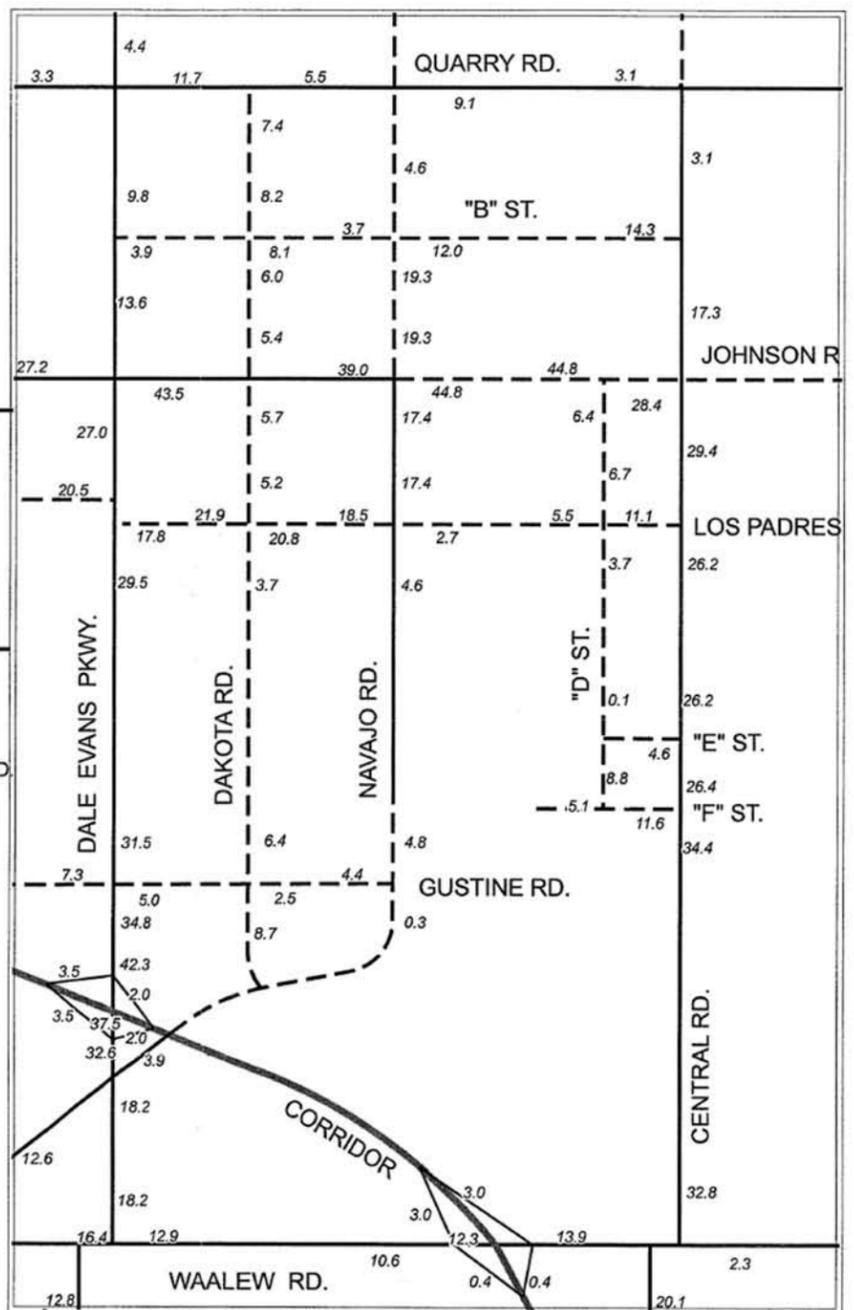
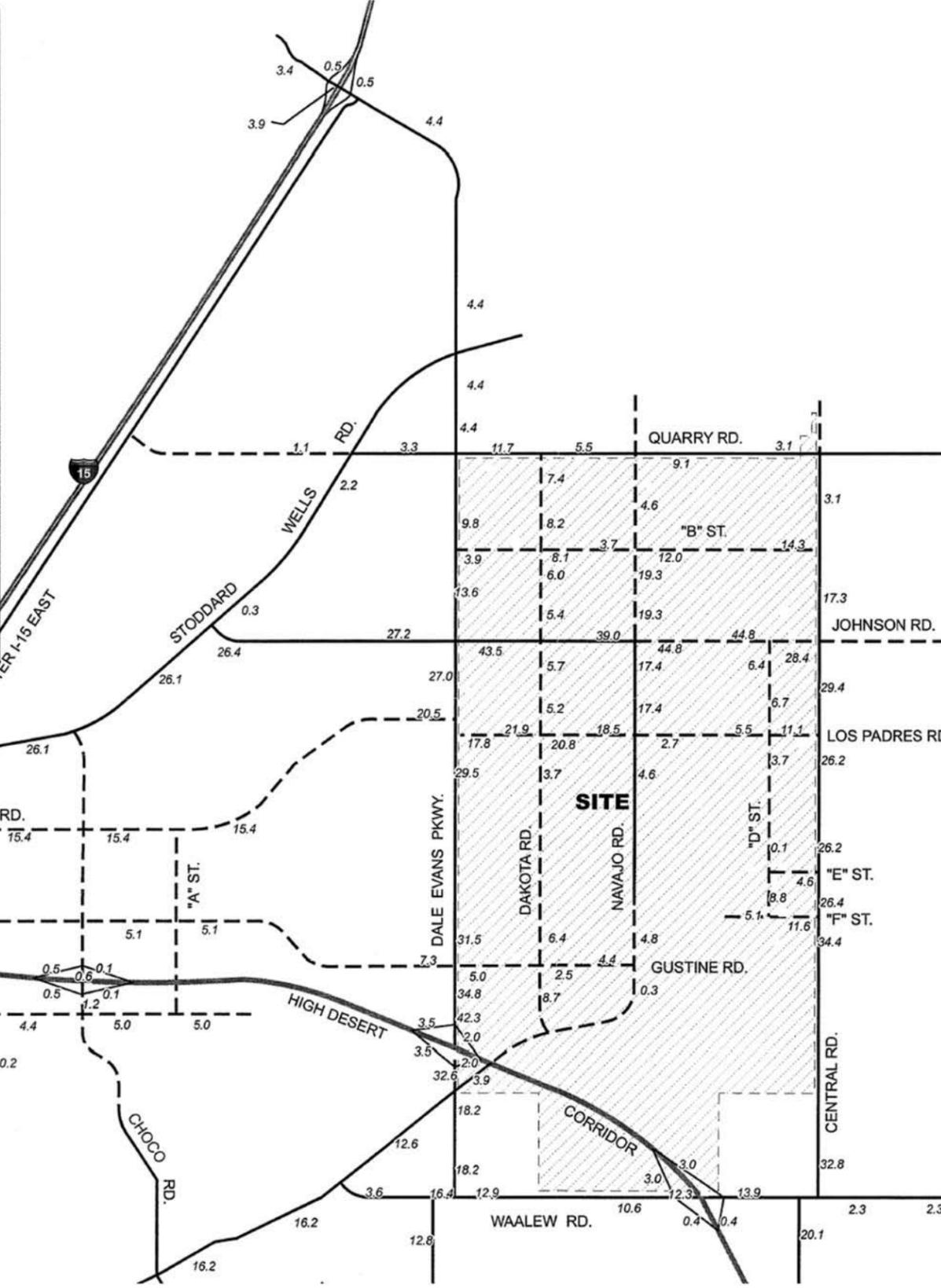
The Town and Specific Plan area have been broken down into analysis zones, the trip generation for each is calculated, and the trip distribution and assignment functions of the County CMP and CTP traffic models, which include the Town of Apple Valley, are applied. This next step involves providing a general directional distribution of these trips and then finally assigning them to specific streets. As mentioned above, trips are either attractions or productions; that is, they are either drawing trips into an analysis zone or are exporting trips. Typically, this distribution of trips is accomplished using a “gravity distribution model”, based on the formula that the distribution of trips is proportional to the “attractiveness” of the land use and the distance (or travel time) from the point of trip production. Each type of trip purpose has its own specific travel time distribution function or curve.

Traffic is assigned to the roadway network over three distinct time periods, AM peak hour, PM peak hour, and average daily trips. Traffic assignment involves the specific route paths of the various trip interchanges between analysis zones identified in the trip distribution process. The end result forecasts of daily traffic volumes yield the aggregate assignment of trips to roadways between and connecting analysis zones throughout the Town and study area.

Average daily traffic levels have been calculated for the Preferred Alternative and are presented in the following two exhibits. Buildout of the proposed project (Preferred Alternative) generates

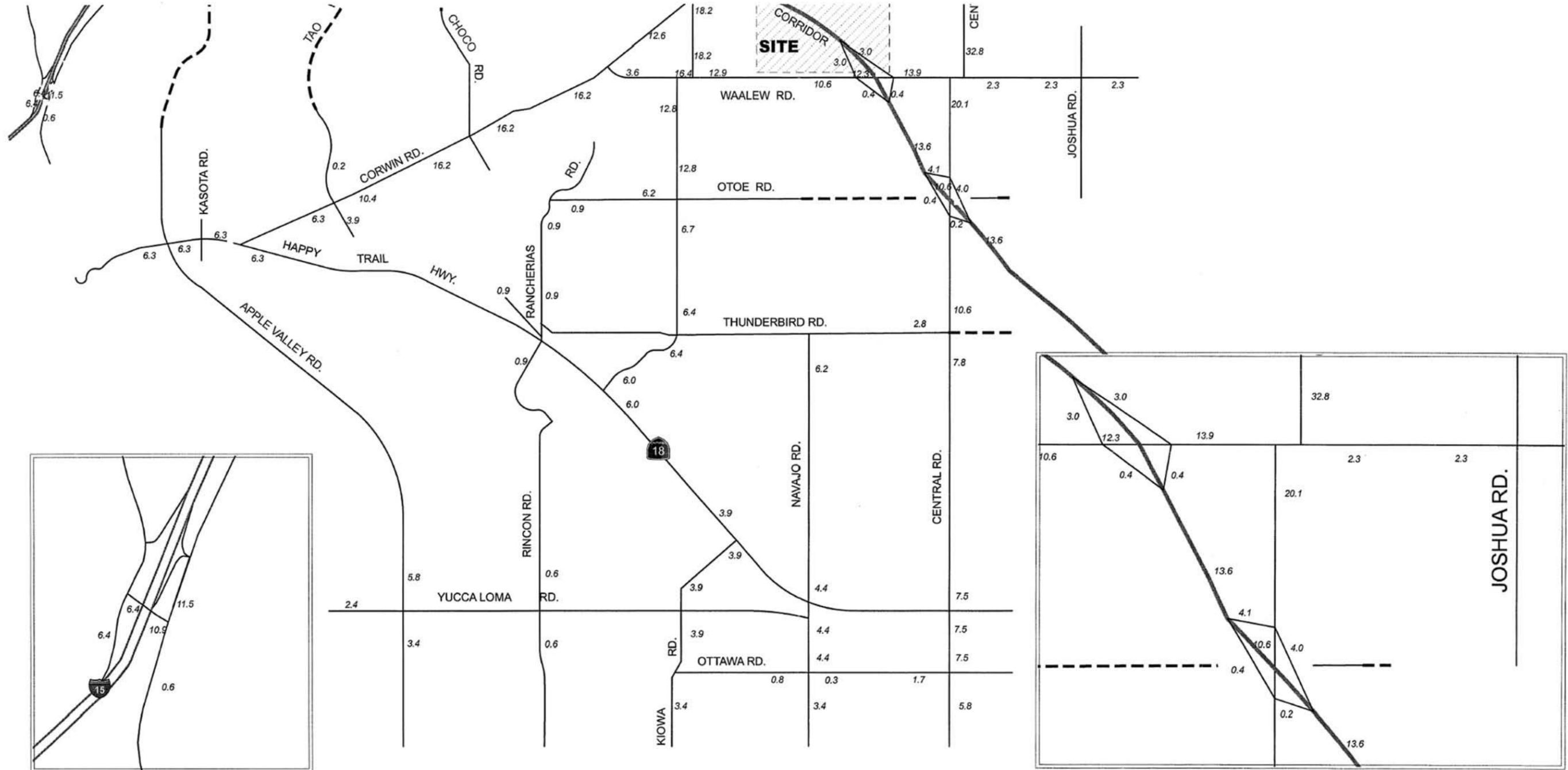
approximately 168,609 ADT. A more detailed discussion of link or segment can be found in the Specific Plan Traffic Report in the appendix of this document. (See Exhibits III-7 & 8, below.)

The incremental growth in background traffic, based upon General Plan land use designations and the County CMP and CTP models, has also been calculated and added to the projected Preferred Alternative 2030 (buildout) Specific Plan traffic projections. (See Exhibit III-10). An analysis of other project alternatives, including one for existing General Plan land use designations, can be found in Section V of this EIR.



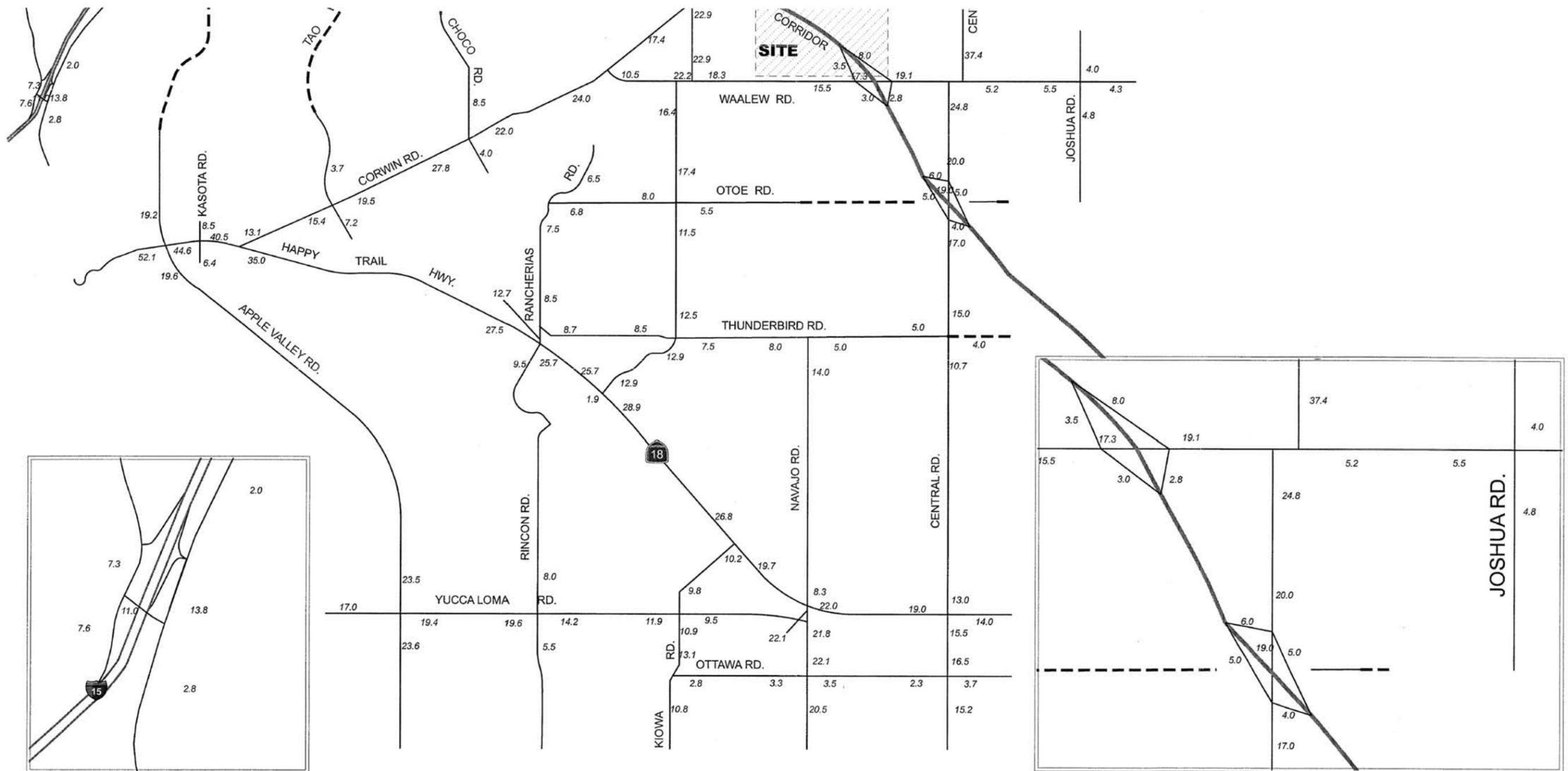
LEGEND:
10.0 = VEHICLES PER DAY (1000's)





LEGEND:
 10.0 = VEHICLES PER DAY (1000's)





LEGEND:
 10.0 = VEHICLES PER DAY (1000's)



Intersection Levels-of-Service (LOS) and Impact Analysis

As noted above, intersections are the arbiters of roadway network performance, representing the greatest constraint on operations and levels of service. The existing Town General Plan Circulation Element establishes and directs actions to maintain acceptable levels of service on all community roadways. The Town traffic engineers and transportation planners are expected to continue to strive to provide optimum roadway operating conditions while controlling the costs of building and maintaining infrastructure to assure those conditions.

It should again be noted that the Town cites Level of Service C as the target LOS for all Town roadways and intersections. For many years, LOS C was considered the desirable and optimal level of traffic volume on any given roadway, and may still be an appropriate policy target for lower traffic areas. However, LOS C represents a standard that is progressively more difficult and costly to achieve in urban areas. For peak operating periods, LOS D and/or a maximum volume to capacity ratio of 0.90 is gaining wider acceptance as a target LOS, especially in areas of more intense urban development. Nonetheless, the subject assessment of impacts is measured against the Town's LOS C target standard.

The following table identifies impacts to 86 intersections identified most likely to be impacted by buildout of the Specific Plan study area and which meet the criteria for analysis set forth in the County CMP. The analysis is based upon a conservative estimate of the ultimate level of buildout in the study area and should be viewed accordingly. The table identifies the current operating conditions and those associated with buildout of the Preferred Alternative. Operating conditions are represented by the delay or wait in seconds at the intersection and determines the LOS for each.

Based upon the analysis of the projected buildout traffic of the Specific Plan project and the growth in background traffic through the 2030 Horizon Year, the proposed project is expected to have a less than significant impact on the various intersections. The following table provides a summary of the intersection analysis for the Specific Plan Preferred Alternative (2030 Horizon Year) incremental background traffic.

**Table III-10
 Intersection Analysis for 2030 Preferred Alternatives
 and Background Traffic**

INTERSECTION	TRAFFIC CONTRL	Intersection Approach Lanes												Delay ² (Secs.)		Level of Service	
		North-Bound			South Bound			East Bound			West Bound			AM	PM	AM	PM
		R	L	T	R	L	T	R	L	T	R	L	T	AM	PM	AM	PM
Stoddard Wells Rd. (NS) at: • High Desert Corridor (EW) - with improvements	TS	1	1	1	1	1	1	1	2	0	1	2	0	34.1	33.5	C	C
I-15 SB Ramps (NS) at: • Dale Evans Pkwy. (EW) with improvements	CSS	0	0	0	0.5	0.5	1	0	1	0	0.5	0.5	0	22.0	19.1	C	C
• Stoddard Wells Rd. North (EW) - with improvements	TS	0	0	0	1	0	1	1	1	0	0	1	1>>	10.8	11.3	B	B
• High Desert Corridor (EW) - with improvements	TS	0	0	0	1	0	1	0	2	1	2	2	0	22.7	32.6	C	C
• Stoddard Wells Rd. South (EW) - with improvements	TS	0	0	0	1	0	1	0	1	1	2	1	0	14.2	16.0	B	B
I-15 NB Ramps (NS) at: • Dale Evans Pkwy. (EW) - with improvements	CSS	1	0	1	0	0	0	1	1	0	0	1	0	16.6	15.8	C	C
• Stoddard Wells Rd. North (EW) - with improvements	TS	1	1	0	2	1	0	1	2	0	2	2	1	34.0	32.3	C	C
• High Desert Corridor (EW) - with improvements	TS	1	0	1>>	0	0	0	1	2	0	0	2	1	17.6	10.7	B	B
• Stoddard Wells Rd. South (EW) - with improvements	TS	1	0	1	0	0	0	1	1	0	0	1	1	17.5	22.7	B	C

Table III-10 (cont'd)
Intersection Analysis for 2030 Preferred Alternatives
and Background Traffic

INTERSECTION	TRAFFIC CONTRL	Intersection Approach Lanes															
		North-Bound			South Bound			East Bound			West Bound			Delay ² (Secs.)		Level of Service	
		R	L	T	R	L	T	R	L	T	R	L	T	AM	PM	AM	PM
Outer I-15 Highway (NS)																	
• Saugus Rd. (EW)																	
- with improvements	TS	0	1	1	0.5	0.5	0	0	0	0	2	0	1	8.3	10.2	A	B
• Gustine Rd. (EW)																	
- with improvements	TS	0	2	0	1	2	0	0	0	0	2	0	1	8.9	16.3	A	B
• High Desert Corridor (EW)																	
- with improvements	TS	1	2	0	1	2	1>>	2	2	1	1	2	1	34.9	33.5	C	C
• Falchion Rd. (EW)																	
- with improvements	TS	0	1	1	1	1	0	0	0	0	1	0	1	12.9	19.8	B	B
• Stoddard Wells Rd. South (EW)																	
- with improvements	TS	0.5	0.5	0	0	1	1	1	0	1	0	0	0	14.3	17.0	B	B
Apple Valley Rd. (NS) at:																	
• Falchion Rd. (EW)																	
- with improvements	TS	1	0	1	0	0	0	0	1	1	1	1	0	10.9	9.5	B	A
• Happy Trails Hwy. (SR-18) (EW)																	
- with improvements	TS	2	3	1>	2	3	1>	2	3	1>>	2	3	1>	32.5	34.8	C	C
• Yucca Loma Rd. (EW)																	
- with improvements	TS	2	2	1>	2	2	1>	2	2	1>	2	2	1>	33.4	32.5	C	C
Kasota Rd. (NS) at:																	
• Happy Trails Hwy. (SR-18) (EW)																	
- with improvements	TS	0	1	0	0	1	0	1	2	1	1	2	1	25.3	28.5	C	C

Table III-10 (cont'd)
Intersection Analysis for 2030 Preferred Alternatives
and Background Traffic

INTERSECTION	TRAFFIC CONTRL	Intersection Approach Lanes												Delay ² (Secs.)		Level of Service	
		North-Bound			South Bound			East Bound			West Bound			AM	PM	AM	PM
		R	L	T	R	L	T	R	L	T	R	L	T				
Corwin Rd. (NS) at: Happy Trails Hwy. (SR-18) • (EW) - with improvements	TS	0	0	0	1	0	2>	2	2	0	0	2	0	16.2	12.1	B	B
Corwin Rd. (NS) at: Waalew Rd. • (EW) - with improvements	TS	0	2	1	1	2	0	0	0	0	1	0	1	14.7	17.0	B	B
Tao Rd. (NS) at: Falchion Rd. • (EW) - with improvements	TS	1	0	1	0	0	0	0	1	0	1	1	0	12.8	10.1	B	B
Corwin Rd. • (EW) - with improvements	TS	1	1	1	1	1	1	1	2	1	1	2	1	16.8	18.8	B	B
Choco Rd. (NS) at: Stoddard Wells Rd. North (EW) - with improvements	TS	1	0	1	0	0	0	0	2	0	1	2	0	4.5	4.1	A	A
Saugus Rd. • (EW) - with improvements	TS	1	1	0	1	1	0	1	1	0	1	1	1	18.0	16.8	B	B
High Desert Corridor WB Ramp (EW) - with improvements	TS	1	1	0	0	1	1	0	0	0	1	0	1	13.3	12.9	B	B
High Desert Corridor EB Ramp (EW) - with improvements	TS	0	1	1	1	1	0	1	0	1	0	0	0	14.8	13.9	B	B
Falchion Rd. • (EW) - with improvements	TS	1	1	0	1	1	0	1	1	0	1	1	0	20.1	20.5	C	C

Table III-10 (cont'd)
Intersection Analysis for 2030 Preferred Alternatives
and Background Traffic

INTERSECTION	TRAFFIC CONTRL	Intersection Approach Lanes												Delay ² (Secs.)		Level of Service		
		North-Bound			South Bound			East Bound			West Bound			AM	PM	AM	PM	
		R	L	T	R	L	T	R	L	T	R	L	T					
• Corwin Rd. (EW) - with improvements	TS	1	1	1	1	1	1>	1	1	1	1	1	1	21.5	25.8	C	C	
"A" St. (NS) at: Saugus Rd. • (EW) - with improvements	TS	1	0	1	0	0	0	0	1	1	1	1	1	0	13.3	10.6	B	B
• Gustine Rd. (EW) - with improvements	TS	1	1	0	1	1	0	1	1	0	1	1	0	28.0	29.9	C	C	
• Falchion Rd. (EW) - with improvements	TS	0	0	0	1	0	1	1	1	0	0	1	1	14.3	17.8	B	B	
Stoddard Wells Rd. (NS) at: Johnson Rd. • (EW) - with improvements	TS	0	1	1>	1	1	0	0	0	0	2	0	1	12.0	14.2	B	B	
• Quarry Rd. (EW) - with improvements	CSS	0.5	0.5	1	0	1	0	0	1	0	1	1	0	14.0	14.7	B	B	
Rancherias Rd. (NS) at: • Otoe Rd. (EW) - with improvements	TS	1	1	0	1	1	0	1	1	0	1	1	0	25.6	27.9	C	C	
• Thunderbird Rd. (EW) - with improvements	TS	0	1	1	1	1	0	0	0	0	1	0	1	16.3	15.0	B	B	
• Happy Trails Hwy. (SR-18) (EW) - with improvements	TS	1	1	0	1	1	1	1	2	1	1	2	1	29.7	33.0	C	C	
Rincon Rd. (NS) at: Yucca Loma Rd. • (EW) with improvements	TS	1	1	0	1	1	0	1	2	0	1	2	0	18.6	21.1	B	C	

Table III-10 (cont'd)
Intersection Analysis for 2030 Preferred Alternatives
and Background Traffic

INTERSECTION	TRAFFIC CONTRL	Intersection Approach Lanes												Delay ² (Secs.)		Level of Service	
		North-Bound			South Bound			East Bound			West Bound			AM	PM	AM	PM
		R	L	T	R	L	T	R	L	T	R	L	T				
Dale Evans Pkwy. East (NS) at:																	
• Stoddard Wells Rd. (EW) - with improvements	CSS	1	1	0	1	1	0	0	1	0	0	1	0	23.2	24.2	C	C
• Quarry Rd. (EW) - with improvements	TS	1	1	0	1	1	0	1	1	0	1	1	0	17.7	19.3	B	B
• "B" St. (EW) - with improvements	TS	0	1	1	1	1	0	0	0	0	1	0	1	11.7	11.6	B	B
• Johnson Rd. (EW) - with improvements	TS	1	2	1>	1	2	1	1	2	1>	2	2	1>>	27.7	26.9	C	C
• Los Padres/Saugus Rd. (EW) - with improvements	TS	1	2	1	1	2	1	2	1	1	2	1	1	28.9	31.9	C	C
• Gustine Rd. (EW) - with improvements	TS	2	2	1	1	2	1	2	1	1>	2	1	1	26.3	29.5	C	C
• High Desert Corridor WB Ramp (EW) - with improvements	TS	1	2	0	0	2	1	0	0	0	1	0	1	15.7	15.2	B	B
• High Desert Corridor EB Ramp (EW) - with improvements	TS	0	2	1	2	2	0	2	0	1	0	0	0	18.6	15.1	B	B
• Corwin Rd. (EW) - with improvements	TS	1	2	1	2	2	1>	2	1	1	2	1	1	28.1	30.9	C	C
• Waalew Rd. (EW) - with improvements	TS	0	0	0	2	0	2	2	2	0	0	2	0	27.5	22.0	C	C

Table III-10 (cont'd)
Intersection Analysis for 2030 Preferred Alternatives
and Background Traffic

INTERSECTION	TRAFFIC CONTRL	Intersection Approach Lanes												Delay ² (Secs.)		Level of Service	
		North-Bound			South Bound			East Bound			West Bound			AM	PM	AM	PM
		R	L	T	R	L	T	R	L	T	R	L	T				
Dale Evans Pkwy. West (NS) at: Waalew Rd. • (EW) - with improvements • Otoe Rd. (EW) - with improvements Thunderbird Rd. • (EW) - with improvements Happy Trails Hwy. (SR-18) • (EW) - with improvements	TS	1	0	1	0	0	0	0	1	1	2	1	0	18.9	21.2	C	C
	TS	1	1	1	1	1	1>	1	1	0	1	1	0	30.0	28.5	C	C
	TS	1	1	1	1	1	1	1	1	1	1	1	1	26.2	29.5	C	C
	TS	1	1	0	1	1	0	1	2	1	1	2	1	15.0	24.5	B	C
"C" St. (NS) at: Quarry Rd. • (EW) - with improvements • "B" St. (EW) - with improvements Johnson Rd. • (EW) - with improvements Los Padres/Saugus Rd. (EW) - with improvements Gustine Rd. • (EW) - with improvements	TS	1	0	1	0	0	0	0	1	1	1	1	0	7.3	10.0	A	B
	TS	1	1	0	1	1	0	1	1	0	1	1	0	16.0	17.8	B	B
	TS	1	1	0	1	1	0	1	2	1	1	2	1	13.4	15.9	B	B
	TS	1	1	0	1	1	0	1	1	1	1	1	1	14.2	14.9	B	B
Kiowa Rd. (NS) at: Happy Trails Hwy. (SR-18) • (EW) - with improvements	TS	2	1	0	1	1	0	1	2	1	1	2	1	31.0	27.1	C	C

Table III-10 (cont'd)
Intersection Analysis for 2030 Preferred Alternatives
and Background Traffic

INTERSECTION	TRAFFIC CONTRL	Intersection Approach Lanes												Delay ² (Secs.)		Level of Service	
		North-Bound			South Bound			East Bound			West Bound			AM	PM	AM	PM
		R	L	T	R	L	T	R	L	T	R	L	T				
• Yucca Loma Rd. (EW) - with improvements	TS	1	1	0	1	1	0	1	2	1	1	2	0	26.0	28.7	C	C
• Kiowa Rd. (NS) at: Ottawa Rd. (EW) - with improvements	TS	1	1	0	1	1	0	1	1	0	1	1	0	15.5	14.9	B	B
• Navajo Rd. (NS) at: Quarry Rd. (EW) - with improvements	TS	1	1	0	1	1	0	1	1	0	1	1	0	7.6	6.9	A	A
• "B" St. (EW) - with improvements	TS	1	1	0	1	1	0	1	1	0	1	1	0	23.6	18.6	C	B
• Johnson Rd. (EW) - with improvements	TS	1	1	1	1	1	1	2	2	0	2	2	1	29.0	27.9	C	C
• Los Padres/Saugus Rd. (EW) - with improvements	TS	1	1	0	1	1	1	2	1	0	1	1	0	18.5	15.6	B	B
• Gustine Rd. (EW) - with improvements	CSS	1	1	0	0	1	1	1	0	1	0	0	0	9.9	10.8	A	B
• Thunderbird Rd. (EW) - with improvements	TS	1	1	0	1	1	0	1	1	0	1	1	0	19.4	20.4	B	B
• Happy Trails Hwy. (SR-18) (EW) - with improvements	TS	2	2	1>	1	2	0	1	2	1>	2	2	1	30.1	33.9	C	C
• Ottawa Rd. (EW) - with improvements	TS	1	2	1	1	2	1	1	1	0	1	1	0	14.5	13.4	B	B

Table III-10 (cont'd)
Intersection Analysis for 2030 Preferred Alternatives
and Background Traffic

INTERSECTION	TRAFFIC CONTRL	Intersection Approach Lanes												Delay ² (Secs.)		Level of Service	
		North-Bound			South Bound			East Bound			West Bound			AM	PM	AM	PM
		R	L	T	R	L	T	R	L	T	R	L	T	AM	PM	AM	PM
High Desert Corridor EB Ramp (NS) at: Waalew Rd. • (EW) - with improvements	TS	0	0	0	1	0	1	0	1	1	1	0	11.9	11.6	B	B	
High Desert Corridor WB Ramp (NS) at: Waalew Rd. • (EW) - with improvements	TS	1	0	1	0	0	0	1	1	0	0	1	1	12.6	10.7	B	B
"D" St. (NS) at: Johnson Rd. • (EW) - with improvements	TS	1	1	0	1	1	1>	2	2	1	1	2	1	26.5	30.0	C	C
Los Padres/Saugus Rd. (EW) • - with improvements	TS	1	1	0	1	1	0	1	1	0	1	1	0	8.2	8.8	A	A
"E" St. (EW) - with improvements	CSS	0	1	0	0.5	0.5	0	0	0	0	0	1	0	11.0	11.5	B	B
"F" St. (EW) - with improvements	TS	0	0	0	1	0	1	1	1	0	0	1	1	16.5	16.8	B	B
Central Rd. (NS) at: Quarry Rd. • (EW) - with improvements	CSS	0	1	0	0	0	0	0	1	0	0.5	0.5	0	10.6	10.2	B	B
"B" St. (EW) - with improvements	TS	2	1	0	0	1	0	1	0	1	0	0	0	19.0	15.5	B	B
Johnson Rd. • (EW) - with improvements	TS	2	1	1	1	1	1	1	1	1	1	1	0	32.7	31.8	C	C

Table III-10 (cont'd)
Intersection Analysis for 2030 Preferred Alternatives
and Background Traffic

INTERSECTION	TRAFFIC CONTRL	Intersection Approach Lanes												Delay ² (Secs.)		Level of Service	
		North-Bound			South Bound			East Bound			West Bound			AM	PM	AM	PM
		R	L	T	R	L	T	R	L	T	R	L	T				
• Los Padres/Saugus Rd. (EW) - with improvements	TS	1	2	0	0	2	1	1	0	1	0	0	0	8.6	12.6	A	B
• "E" St. (EW) - with improvements	TS	1	2	0	0	2	1	1	0	1	0	0	0	7.4	10.3	A	B
Central Rd. (NS) at:																	
• "F" St. (EW) - with improvements	TS	2	2	1	1	2	1	1	1	0	1	1	0	17.8	21.1	B	C
• Waalew Rd. (EW) - with improvements	TS	1	2	1	1	2	1	1	1	0	1	1	0	19.7	20.6	B	C
• High Desert Corridor WB Ramp (EW) - with improvements	TS	1	2	0	0	2	1	0	0	0	1	0	1	16.9	14.7	B	B
• High Desert Corridor EB Ramp (EW) - with improvements	TS	0	2	1	1	2	0	1	0	1	0	0	0	18.6	19.2	B	B
• Thunderbird Rd. (EW) - with improvements	TS	1	1	0	1	1	0	1	1	0	1	1	0	30.0	31.8	C	C
• Happy Trails Hwy. (SR-18) (EW) - with improvements	TS	2	1	0	1	1	1	1	2	1	1	2	1	32.8	31.6	C	C
• Ottawa Rd. (EW) - with improvements	TS	1	1	0	1	1	0	1	1	0	1	1	0	19.0	15.4	B	B
Joshua Rd. (NS) at:																	
• Waalew Rd. (EW) - with improvements	CSS	1	1	0	1	1	0	1	1	0	1	1	0	21.7	22.1	C	C

- ¹ When a right turn is designated, the lane can either be striped or unstriped. To function as a right turn lane there must be sufficient width for right turning vehicles to travel outside the through lanes.
L = Left; T = Through; R = Right;
1 = Current Phase Improvement; > = Right-Turn Overlap Phasing
- ² Delay and level of service calculated using the following analysis software: Traffix, Version 7.7 R5 (2005). Per the 2000 Highway Capacity Manual, overall average intersection delay and level of service are shown for intersections with traffic traffic signal or all way stop control. For intersections with cross street stop control, the delay and level of service for worst individual movement (or movements sharing a single lane) are shown.
- ³ TS = Traffic Signal; AWS = All-Way Stop; CSS = Cross Street Stop
- ⁴ -- = Ave. Delay ≥ 50 for AWS/CSS or > 100 for TS, Critical Vol/Cap > 1.0 , Intersection Unstable, Level of Service "F".

As noted above, all study area intersections are expected to operate at LOS C or better during the AM and/or PM peak hour periods upon buildout of the Specific Plan and at the 2030 Horizon Year.

Summary of Impacts

The buildout of the North Apple Valley Industrial Specific Plan Preferred Alternative is expected to have a less than significant impact on local or regional roadways. All major roadways and intersections in the Specific Plan area are expected to operate at acceptable levels of service or better.

Potential Financial Impacts of Project

The costs associated with the buildout of on-site and off-site roadway/intersections for the Specific Plan Preferred Alternative (and other alternatives) are analysed in Section 6.0 of the Specific plan Traffic Study, and represent rough order of magnitude cost estimates. These are meant to serve as the basis for comparison of the Preferred Alternative to other alternatives, including the existing General Plan land use designations for the Specific plan area.

Based on this analysis, it is estimated that the costs of the on-site intersection improvements for the Specific Plan are approximately \$4,125,000 (approximately 20% increase) higher than costs projected for buildout under the existing general Plan. The off-site intersection improvement costs for the Specific plan project are estimated to be about \$4,300,000 (14%) higher than costs associated with the existing General Plan. The overall cost increase for on-site and local intersection improvements from the Specific Plan are estimated at \$8,425,000.

3. Mitigation Measures

As discussed above, the proposed project is not expected to have a significant adverse impact on local or regional traffic conditions, either during the construction of operational phases of the project. Neither is there a need for special off-site improvements to accommodate the projected additional traffic the project will generate. Nonetheless, additional measures are recommended to further reduce potential impacts during both the construction and operational phases of the project. The following improvements are recommended to accommodate project access circulation needs:

On-Site Improvements

1. On-site roadway improvements will be required in conjunction with the buildout of the various land uses provided for in the Specific Plan. It is recommended that the roadway design standards for classifications for certain roadways within the Specific Plan area be adopted as a part of the Specific Plan to address anticipated capacity needs. These are primarily associated with increasing the "Secondary" roadway right-of-way width from 8-feet to 88-feet. Full-section improvements are required for roadways located within the entire Specific Plan boundary, and half-width improvements shall be required for roadways that straddle the Specific plan boundaries. (Also see Exhibit 7-1 of the Specific Plan Traffic Report, which shows the on-site roadways of concern.)
2. Given the programmatic nature of the Specific Plan and the associated traffic analysis, updated site-specific traffic studies will be required on a project-by-project basis prior to the implementation of such projects as tentative tract maps, conditional land uses or plot plan approvals within the boundaries of the Specific Plan. Subsequent traffic studies shall analyses the-existing traffic conditions and potential traffic impacts from each project. The need for subsequent traffic analysis shall be made on a case-by-vase basis by the Town Engineer.

Off-Site Improvements and Phasing

Required off-site intersection (and roadway) improvements set forth above to mitigate potential impacts of the Specific Plan, are those generally set forth in the Town and County General Plans, and as planned by Caltrans. The proposed project does not have a significant effect on these future roadways and intersections, however, the implementation of the Specific Plan and the accommodation of incremental growth in background traffic permitted by the local General Plans for the 2030 Horizon Year are dependent upon the incremental implementation of the General Plan roadways.

The primary finding source for roadway improvements in the Town of Apple Valley is the Town's fee program. Development within the Specific Plan project area should be required to contribute towards the cost of necessary study area improvements on a fair-share or "pro-rata" share basis. The costs associated with these improvements shall be collected through the payment of development impact fees and/or additional fair-share contributions towards improvements not included in the adopted fee program.

Mitigation via Roadway/Intersection Improvements

1. As set forth in the Circulation Element of the Apple Valley General Plan, the Town shall make a good faith effort to assure that intersections operate at LOS C or better. The improvements set forth in Table III-44, above, are mitigation measures designed to reduce Post 2030 Horizon Year traffic impacts to levels of insignificance. The improvements include the provision of new or additional turn lanes and through lanes, and in a few instances may include limitations on pedestrian green-time. None of the prescribed limitations on pedestrian access are a significant impediment to pedestrian use and are located at intersections with the highest volumes and widest cross sections.
2. The California Public Utilities Commission (the state agency responsible for rail safety within California) recommends that any development projects panned adjacent to or near the Northern Mojave Mining Railroad right-of-way be planned with the safety of the rail

corridor in mind. New developments may increase traffic volumes not only on streets and at intersections, but also at at-grade highway-rail crossings. This includes considering pedestrian circulation patterns/destinations with respect to railroad right-of-way.

Safety factors to consider include, but are not limited to, the planning for grade separations for major thoroughfares, improvements to existing at-grade highway-rail crossings due to increase in traffic volumes and appropriate fencing to limit the access of trespassers onto the railroad right-of-way.

The above-mentioned safety improvements should be considered when approval is sought for the new development. Working with Commission staff early in the conceptual design phase will help improve the safety to motorists and pedestrians in the Town.

On-Going Monitoring and Analysis

1. The programmatic level of the Specific Plan study suggests that on-going and project-specific traffic monitoring is required to assure adequate levels of service in the long-term. The Town shall periodically monitor conditions along roadway segments where General Plan and Specific plan level analyses indicate high levels of traffic congestion. In these areas of the roadway network intersection and progression analysis shall also be conducted to advance infrastructure planning to address areas of existing and anticipated traffic congestion.

Mitigation via Alternative Modes of Transportation

The traffic impact analysis conducted for the Specific Plan does not consider the effects of the use of mass transit, biking or pedestrian-accessible land use planning on traffic volumes or roadway operations. While the traffic model is not intended to reflect vehicle trip reduction characteristics associated with the benefits of mass transit systems, an especially well developed bus transportation system could potentially reduce vehicle traffic substantially for workers within the Specific plan area.

Mitigation via Implementation of General Plan Policies and Programs

The Circulation Element of the Draft Comprehensive General Plan includes twenty-two (22) goals and policies, which are designed to enhance the operation and efficiency of all aspects of the transportation system serving the Specific Plan area. Goals and policies address the on-going monitoring and management of traffic volumes and operating conditions, and the timing of required improvements to maintain acceptable levels of service.

Summary of Mitigation

The North Apple Valley Industrial Specific Plan, this EIR and the Specific Plan Traffic Study provide both programmatic and concrete/prescriptive actions and measures that are expected to reduce transportation impacts associated with the implementation of the proposed Specific Plan below levels of significance. In conjunction with the existing various regional transportation initiatives coordinated through the Town, San Bernardino County, SANBAG and Caltrans, the performance of transportation systems serving the Town and Specific Plan area can be further enhanced. Controlling access onto major arterial roadways will also serve to preserve capacity and limit the costs associated with expanded roadway infrastructure.

Mitigation Monitoring/Reporting Program

1. The Town shall review and update the master plan of roads, including standards for ultimate rights-of-way and pavement width, and provide a schedule for securing right-of-way and constructing improvements consistent with the projected needs and standards set forth in the General Plan Circulation Element and the Specific Plan EIR and traffic study.
Responsible Parties: Town Council, Planning Division, Public Works Division.

2. The Town shall establish and maintain ongoing consultation and coordination with adjoining planning and engineering staffs of adjoining jurisdictions and transportation planning agencies to study and implement effective means of preserving and improving capacity along major roadways. Coordination efforts may include synchronized signalization, consolidation of access drives and restriction of access, construction of additional travel and turning lanes, raised median islands, and improvements to critical intersections.
Responsible Parties: Planning Division, Public Works Division, Adjoining Jurisdictions, SANBAG, San Bernardino County, CalTrans.

3. The Town shall periodically evaluate the operating conditions at each of the Interstate-15 interchanges and the existing and future intersections and interchanges with the High Desert Corridor and SR 18 serving the Town, and shall make recommendations to responsible agencies regarding needed improvements.
Responsible Parties: Planning Division, Public Works Division, Caltrans, San Bernardino County, SANBAG.

4. The Town shall pro-actively consult and coordinate with SANBAG, SCAG and Caltrans and represent the Town in transportation planning meetings to assure that the Town General Plan and North Apple Valley Industrial Specific Plan policies, programs and strategies are given full consideration in resolving regional transportation issues affecting the community.
Responsible Parties: Town Council, Co Planning Division, Public Works Division, SANBAG, SCAG, Caltrans, San Bernardino County.

5. The Town shall continue to consult and coordinate with the Victor Valley Transit Authority and encourage the development of rideshare and other alternative, high occupancy transit programs for employers with sufficient numbers of employees, and for individuals seeking to locate potential rideshare partners.
Responsible Parties: Town Council, Planning Division, Victor Valley Transit Authority.

6. The Town shall periodically review roadway design specifications, design standards and guidelines for public and private streets, and their effectiveness at meeting existing and anticipated demand, reducing traffic speeds in neighborhoods, and facilitating safe and efficient use of bicycles and other alternative modes of transportation.
Responsible Parties: Planning Division, Public Works Division, Planning Commission, Town Council.

C. Air Quality

1. Existing Conditions

The air quality of a particular locale is based on the amount of emitted and dispersed pollutants, and upon climatic conditions that may reduce or enhance the formation of pollutants. In the Town of Apple Valley over the past few decades a noticeable air quality deterioration has occurred due to increased local development and population growth, traffic, construction activity and various site disturbances. It is apparent that although air pollution is emitted from various sources in Apple Valley and the local vicinity, some of the degradation of air quality can be attributed to sources outside of the area, including Los Angeles County and other air basins to the west and southwest.

Climatic Conditions and Air Quality

The project area and the Town of Apple Valley is influenced by the moderate coastal influences, though it is far enough inland that temperatures can reach over 100 F during the summer and drop into the 20s F during the winter. Wind patterns in the area are controlled by on-shore westerly winds during the day and off-shore easterly winds in the evenings and at night. During fall and winter months climatic conditions associated with high pressure can drive and low humidity winds from north to a low pressure system to the south and create a condition known as the Santa Ana winds, which can blow for multiple days. These strong winds sweep up, suspend and transport large quantities of sand and dust, reducing visibility, damaging property and constituting a significant health threat.

The Mojave Desert Air Basin and the Town of Apple Valley are susceptible to air inversions, which trap a layer of stagnant air near the ground where it can be further loaded with pollutants. Due to the local climatic conditions inversions generally occur 6,000 to 8,000 feet above the desert surface. These occasional inversions create conditions of haziness caused by moisture, suspended dust and a variety of chemical aerosols emitted by trucks and automobiles, furnaces and other sources. During the past few decades, the region has experienced an obvious decline in air quality as a result of increasing development and population growth, traffic, construction activity and various site disturbances.

Air Quality Management and Regulation

Federal and state governments have established air quality standards for a variety of pollutants. In 1971, the Environmental Protection Agency (EPA) established the National Ambient Air Quality Standards (NAAQS). The California Clean Air Act (CCAA) became effective on January 1, 1989 and mandated health-based air quality standards at the state level. The California Air Resources Board (CARB) developed these state standards, which are generally more stringent than federal standards. State Implementation Plans (SIP) may also be prepared to help regional air quality management districts meet the federal and state ambient air quality standards by the deadlines specified in the federal Clean Air Act (CAA) and emission reduction targets of the California Clean Air Act.

Regional and local agencies have assumed some responsibility for assuring that state and federal air quality standards are achieved. The Town of Apple Valley is located within the Mojave Desert Air Basin (MDAB). The Mojave Desert Air Quality Management District (MDAQMD) is

responsible for establishing air quality measurement criteria and relevant management policies for the SoCab and neighboring air basins.

The Town of Apple Valley is subject to the provisions of the MDAQMD Rule Book⁷, which sets forth policies and other measures designed to help the District achieve federal and state ambient air quality standards. These rules, along with the MDAQMD CEQA and Federal Conformity Guidelines⁸, are intended to satisfy the planning requirements of both the federal and state Clean Air Acts. The MDAQMD also monitors daily pollutant levels and meteorological conditions throughout the District.

Primary and Secondary Pollutants

Pollutants are generally classified in two categories, primary and secondary. Primary pollutants are primarily a direct consequence of energy production and utilization, typically affect only local areas and do not undergo chemical modification or further dispersion. Primary sources and their pollutants are mostly a direct consequence of the combustion of petroleum and other fuels resulting in the production of oxides of carbon, sulphur, nitrogen and a number of reactive hydrocarbons and suspended particulates.

Secondary pollutants are those that undergo chemical changes after emission. Secondary pollutants disperse and undergo chemical changes under conditions of high ambient temperatures and high rates of solar insolation. Principal secondary pollutants are termed oxidants and include ozone (O₃), peroxy nitrates, nitrogen dioxide (NO₂) and chemical aerosols.

Ozone (O₃), commonly known as smog, is formed primarily when byproducts of combustion react in the presence of ultraviolet sunlight. This process takes place in the atmosphere where oxides of nitrogen combine with reactive organic gases, such as hydrocarbons, in the presence of sunlight. Ozone is a pungent, colorless, toxic gas, and a common component of photochemical smog. Most ozone pollutants are transported inland by coastal winds from the Los Angeles and Riverside/San Bernardino air basins, thereby contributing to occasionally high ozone concentrations in the area.⁹

Exposure to ozone can result in diminished breathing capacity, increased sensitivity to infections, and inflammation of the lung tissue. Children and people with pre-existing lung disease are most susceptible to the effects of ozone.¹⁰ Ozone can also cause extensive damage to vegetation. Studies have indicated that leaf drop, stunted growth, burnt tissues, and fewer seeds produced are defects directly resulting from the ozone pollutant.

Particulate Matter (PM₁₀) consists of fine suspended particles of ten microns or smaller in diameter, which are byproducts of road dust, sand, diesel soot, wind storms and the abrasion of tires and brakes. Fine particulate matter poses a significant threat to public health. The elderly,

⁷ "Mojave Desert Air Quality Management District Rule Book," prepared by the Mojave Desert Air Quality Management District, September 2005.

⁸ "Mojave Desert Air Quality Management District California Environmental Quality Act and Federal Conformity Guidelines," prepared by the Mojave Desert Air Quality Management District, May 2006.

⁹ "2003 Air Quality Management Plan," prepared by South Coast Air Quality Management District, December 2003.

¹⁰ Ibid.

children and adults with pre-existing respiratory or cardiovascular disease are most susceptible to the effects of PM₁₀. More than half the smallest suspended particles can be inhaled and deposited in the lungs, resulting in permanent lung damage.¹¹ Elevated PM₁₀ levels are also associated with an increase in respiratory infections and occurrences of asthma attacks.

Existing federal and state standards have been directed at reducing particulate matter of 10 microns or smaller. However, new standards are currently being developed for particles of 2.5 microns or smaller (PM_{2.5}).

State and federal ambient air quality standards for ozone, particulate matter and other primary and secondary pollutants are shown in Table III-11. State standards are generally more restrictive than federal standards.

¹¹ "1997 Air Quality Management Plan," prepared by South Coast Air Quality Management District, 1997.

**Table III-11
 State and Federal Ambient Air Quality Standards**

<u>Pollutant</u>	<u>State Standards</u>		<u>Federal Standards</u>	
	Averaging Time	Concentration	Averaging Time	Concentration
Ozone	1 hour	0.09 ppm	1 hour	0.12 ppm
Carbon Monoxide	1 hour	20.0 ppm	1 hour	35 ppm
	8 hours	9.0 ppm	8 hours	9.0 ppm
Nitrogen Dioxide	1 hour	0.25 ppm	annually	0.053 ppm
Sulfur Dioxide	1 hour	0.25 ppm	annually	0.03 ppm
	24 hours	0.04 ppm	24 hours	0.14 ppm
Suspended				
Particulate Matter	24 hours	50µg/m ³	24 hours	150µg/m ³
	AGM	30µg/m ³	AAM	50µg/m ³

Notes: ppm = parts per million

AGM = Annual Geometric Mean

µg/m³ = micrograms per cubic meter of air

AAM = Annual Arithmetic Mean

Source: "1997 Air Quality Management Plan," prepared by South Coast Air Quality Management District.

Regional Pollutants of Concern

The Mojave Desert Air Basin covers 21,480 square miles, including the desert portions of San Bernardino County, Riverside County, Los Angeles County and Kern County. Air in the Mojave Desert Basin (which includes the Town of Apple Valley) exceeds state and federal standards for fugitive dust, and the area is considered to be in extreme non-attainment for ozone. However, air quality in the Town does not exceed state and federal standards related to carbon monoxide, nitrogen oxides, and sulfur dioxide.

The Mojave Desert Air Quality Management District operates and maintains regional air quality monitoring stations at numerous locations throughout its jurisdiction. The local monitoring stations is the Victorville Monitoring Station. Table III-12 shows the maximum concentration of PM₁₀, and the number of days exceeding state standards in Victorville from 2001 through 2005. From 2001 through 2005, state standards for ozone and PM₁₀ levels were exceeded. Recorded data from 2001 through 2005 indicate that ozone levels in the Apple Valley area relatively stable, though they have exceeded State 1-hour standards an average of almost 19 days a year and Federal 1-hour ozone standards a total of 7 times between during that same period. In the MDAQMD as a whole, the concentrations of criteria pollutants have decreased and or leveled off over the past 30 years (1975 to 2005).¹²

¹² "The California Almanac of Emissions and Air Quality 2006 Edition," prepared by the Planning and Technical Support Division of the California Air Resource Board, 2006.

**Table III-12
 Ambient Air Quality Monitoring Data
 Victorville Monitoring Station**

Carbon Monoxide	2001	2002	2003	2004	2005
State 1-hour \geq 20.0 ppm	0	0	0	0	0
State 8-hour \geq 9.0 ppm	0	0	0	0	0
Federal 1-hour \geq 35.0 ppm	0	0	0	0	0
Federal 8-hour \geq 9.0 ppm	0	0	0	0	0
Maximum 1-hour Concentration ppm	3.8	3.0	3.9	2.4	2.5
Maximum 8-hour Concentration ppm	1.7	1.8	2.0	1.7	1.6
Nitrogen Dioxide	2001	2002	2003	2004	2005
State 1-hour \geq 0.25 ppm	0	0	0	0	0
Maximum 1-hour Concentration ppm	0.10	0.085	0.090	0.080	0.077
Ozone	2001	2002	2003	2004	2005
State 1-hour \geq 0.09 ppm	15	30	22	8	18
Federal 1-hour \geq 0.12 ppm	0	3	2	0	2
Federal 8-hour \geq 0.08 ppm	12	27	19	4	12
Maximum 1-hour Concentration ppm	0.114	0.127	0.145	0.111	0.131
Maximum 8-hour Concentration ppm	0.104	0.111	0.126	0.090	0.031
Sulfur Dioxide	2001	2002	2003	2004	2005
State 1-hour \geq 0.25 ppm	0	0	0	0	0
State 24-hour \geq 0.04 ppm	0	0	0	0	0
Federal 24-hour \geq 0.14 ppm	0	0	0	0	
Maximum 1-hour Concentration ppm	0.012	0.011	0.011	0.011	0.012
Maximum 24-hour Concentration ppm	0.005	0.006	0.006	0.003	0.003
Particulate Matter 10 Microns (PM10)	2001	2002	2003	2004	2005
State 24-hour \geq 50 micrograms/cubic meter	21	34	19	13	7
Max. 1-hour Concentration micrograms/cubic meter	807	671	907	802	330
Max. 24-hour Concentration micrograms/cubic meter	281	255	361	199	77

Source: Victorville Monitoring Station, Mojave Desert Air Quality Management District, 2001 – 2005.

2. Project Impacts

Implementation of the proposed North Apple Valley Industrial Specific Plan will result in the disturbance and grading of approximately 4,937.5± acres of the project site. It will also result in the construction of about 36,938,444 square feet of industrial space and 2,500,257 square feet of commercial space and, at buildout, could result in a total of approximately 131,892 daily vehicle trips per day, which includes 95,175 passenger vehicular trips per day, as well as 5,193 2-axle and 31,524 3+ axle diesel truck trips per day.¹³

The project will result in the direct and indirect generation and emission of air pollutants both locally and regionally. Emissions will contribute to regional air quality degradation in the Town of Apple Valley. The most significant impacts are expected to come from the emission of pollutants generated by vehicular and truck traffic.

Other important sources of pollutants will be emissions generated during site preparation activities, including fugitive dust from site disturbance and other construction activities, and from project operations. The utilization of natural gas and electricity will also contribute to the degradation of air quality. The following discussion describes the major sources of air pollutants associated with the development of the project and calculates the potential emissions.

Project construction impacts are based the assumption that project buildout will occur in the year 2025¹⁴, with new project development beginning in 2007. The project site includes 4,937.5± acres undeveloped acres, averaging approximately 270 acres per year. For purposes of estimating project impacts associated with construction, 10%, or 27± acres, was assumed to be potentially developable on any single day Monday through Friday.

Fugitive Dust

Fugitive dust generation is associated with the grubbing, grading and development of 27± acres of the project site. The formula for estimating fugitive dust generation associated with the project, and its direct application to project acreage, is presented below.

**Table III-13
 Calculations of Fugitive Dust Potential**

Area to be Disturbed	Factor	Total Potential Dust Generation
27.0 ± acres	26.4 lbs./day/acre	712.8 lbs./day

Source: Table A9-9, "CEQA Air Quality Handbook," prepared by South Coast Air Quality Management District, April 1993.

¹³ Percentage truck mix was based on the "Fontana Truck Trip Generation Study," prepared by the City of Fontana, dated August 2003; passenger car equivalent conversion factors were based on the "Passenger Car Equivalents for Heavy Vehicles at Freeways and Multilane Highways: Some Critical Issues," article prepared by Ahmed Alkaisy, Institute of Transportation Engineers Journal, March 2006.

¹⁴ Buildout year 2025 was used to calculate air quality impacts because the emissions factors provided by the California Air Resources Board are only projected through 2025.

Fugitive dust generation is expected to occur on a short-term basis, with mass grading of the entire site to occur in the initial phase of development. Therefore, these emissions estimates are indicators of potential maximum short-term impacts during the site grading and site preparation period. As discussed above, development grading and site stabilization is tightly regulated in the Mojave Desert Air Quality Basin. Detailed grading and dust control plans must be approved prior to any site disturbance. Therefore, likely actual daily emissions associated with grubbing, grading and other site disturbance will be substantially lower. The estimate fugitive dust potential of the project site presented above table, nonetheless, provides a benchmark by which the potential of phased development to generate fugitive dust can be measured.

Site Preparation/Grading Related Emissions

Local air quality will be impacted during the site preparation/grading phase of the project. Emissions will be generated by grading equipment as well as vehicles transporting workers to and from the project site. The following table shows projected moving exhaust emissions for workers associated with grading and site preparation of a typical 27.0± acre project site. Total number of vehicle trips per day assume travel between work and home, with one trip each way, or two per worker per day.

**Table III-14
 Site Preparation/Grading Worker Moving Exhaust Emissions
 (pounds per day)**

Total No. Vehicle Trips/Day		Ave. Trip Length (miles)		Total miles/day	
15	x	30	=	450	
Pollutant	Carbon Monoxide	Nitrogen Oxides	ROG	Sulfur Oxides	PM₁₀
Pounds	5.769	0.612	0.622	0.004	0.052

Source: California Air Resources Board's EMFAC 2002 Version 2.2 Emissions Tables. Scenario year 2007, model years 1965 - 2007.

The following table (Table III-15) lists the pieces of equipment that will be utilized during site preparation and grading activities, their hours of operation and the resultant emissions per day.

Table III-15
Site Preparation/Grading Equipment Emissions – Diesel-powered
(pounds per day)

Equipment	No. Pieces	No. Hrs/day	CO	ROG	NOx	SOx*	PM₁₀
Crawler Tractor/Dozer	1	8	10.75	1.45	11.08	1.12	0.50
Scraper	3	8	92.88	10.92	68.37	11.04	2.85
Tractor/Loader/Backhoe	1	8	4.82	0.65	4.97	1.14	0.22
Rubber Tired Dozer	2	4	27.11	3.66	27.95	1.32	1.25
Motor Grader	1	8	14.98	1.76	10.81	0.72	0.41
Off-Highway Trucks (Water Truck)	2	8	61.24	7.20	44.16	2.24	1.68
Total:			211.78	25.64	167.34	17.58	6.91

Source: URBEMIS2002 Version 8.7 Emissions Estimation for Land Use Development Projects, Appendix H Scenario Year 2007, South Coast Air Quality Management District, April 2005.

*South Coast Air Quality Management District, "Air Quality Handbook," Table A9-8-A.

The following table (Table III-16) summarizes worst-case projected emissions in pounds per day from site preparation and grading related activities for the proposed project. Table III-16 also shows that one threshold criteria is expected to be exceeded without the implementation of mitigation measures during this phase of the project, this emission is nitrogen oxide. The emissions were calculated based upon the daily use of different type of construction equipment during the entire period. However, it should be noted that not all equipment will be utilized everyday and estimates represent a worst case, and that these air quality impacts are short-term and will occur only during site preparation/grading phases of the project.

Table III-16
Aggregate Site Preparation/Grading Emissions
(pounds per day)

Activity	ROG	CO	NOx	SOx	PM₁₀
Equipment Emissions	25.64	211.78	167.34	17.58	6.91
Workers' Vehicle Emissions	0.62	5.77	0.61	0.004	0.05
Total Emissions	26.26	217.55	167.95	17.59	6.96
MDAQMD Thresholds of Significance	137.00	548.00	137.00	137.00	82.00

Construction Related Emissions

Air quality will be affected during the construction phase of the project. Emissions will be generated by construction equipment and vehicles transporting construction workers to and from the project site as well as asphalt and architectural coatings. The proposed project will be developed in phases. In order to conservatively estimate the average air quality impacts of project development, construction was assumed to start in 2007 with buildout occurring in 2025, the remaining acreage to be developed includes 4,937.5 acres, and 261 weekdays per year. Distributed linearly, this project is expected to develop an average of 270 acres per year. Assuming that 10% of this area could be developed at any one time, an average project site of 27 acres was assumed in order to estimate air quality impacts associated with site development. Additional construction equipment estimates were made based on the development of a 261,360 square foot building, which follows the assumed 22% building coverage across the site.

**Table III-17
 Construction Worker Moving Exhaust Emissions
 (pounds per day)**

Total No. Vehicle Trips/Day		Ave. Trip Length (miles)		Total miles/day	
20	x	30	=	600	
Pollutant	Carbon Monoxide	Nitrogen Oxides	ROG	Sulfur Oxides*	PM₁₀
Pounds	7.69	0.82	0.83	0.01	0.07

*South Coast Air Quality Management District, "Air Quality Handbook," Table A9-8-A.

Source: California Air Resources Board's EMFAC 2002 Version 2.2 Emissions Tables. Scenario year 2007, model years 1965 - 2007.

The following table (Table III-18) lists the pieces of equipment that will be utilized during typical construction activities, their hours of operation and the resultant emissions per day.

**Table III-18
 Construction Equipment Emissions - Diesel powered
 (pounds per day)**

Equipment	No. Pieces	No. Hrs/day	ROG	CO	NOx	SOx*	PM₁₀
Crane	1	8	12.27	1.44	8.72	1.12	0.31
Excavator	4	8	62.56	7.36	42.68	14.72	1.16
Off-Highway Tractor	2	8	27.26	3.68	28.10	2.91	1.26
Paver	1	8	11.62	1.37	8.12	1.46	0.26
Rough Terrain Forklift	3	8	20.10	2.37	14.04	2.06	0.45
Trencher	3	8	25.59	3.00	17.46	3.43	0.48
Total:			159.40	19.22	119.12	25.70	3.92

Source: URBEMIS2002 Version 8.7 Emissions Estimation for Land Use Development Projects, Appendix H Scenario Year 2007, South Coast Air Quality Management District, April 2005.

*South Coast Air Quality Management District, "Air Quality Handbook," Table A9-8-A.

In addition to emissions associated with construction equipment and worker's vehicles, two additional factors are considered during construction, asphalt off-gassing and architectural coating emissions. Table III-19 identifies the estimated average asphalt-off gassing potential and Table III-20 identifies the estimated average architectural coating emission potential of the project during construction.

Table III-19
Calculations of Asphalt Off-Gassing Potential

Max Asphalt Acreage per Day	VOC Factor (lbs./acre)	Total Potential VOC Generation (lbs.)
5.0	2.62	13.10

Source: URBEMIS2002 Users' Guide Version 7.4 May 2003.

Table III-20
Calculations of Architectural Coating Emissions Potential

Maximum Daily Building Coverage (sqft)*	VOC Factor (lbs./1,000 sqft)	Total Potential VOC Generation (lbs.)
2,500	18.5	46.3

*Estimated maximum area that could be coated in one day during construction activities.

Source: Table A9-13, "CEQA Air Quality Handbook," prepared by South Coast Air Quality Management District, April 1993.

The following table (Table III-21) summarizes worst-case projected emissions in pounds per day from construction related activities for the proposed project. The table below shows that no threshold criteria are expected to be exceeded during construction activities. As with other project emissions, the emissions were calculated based upon the daily use of different type of construction equipment during the entire period. However, it should be noted that not all equipment will be utilized everyday and estimates represent a worst case, and that these air quality impacts are short-term and will occur only during the construction of the project.

Table III-21
Aggregate Construction Emissions
(pounds per day)

Activity	ROG	CO	NOx	SOx	PM ₁₀
Equipment Emissions	11.91	99.26	73.23	15.06	2.40
Workers' Vehicle Emissions	0.83	7.69	0.82	0.01	0.07
Asphalt Paving Emissions	13.10	-	-	-	-
Architectural Coatings Emissions	46.25	-	-	-	-
Total Construction Emissions	72.09	106.95	74.05	15.06	2.47
MDAQMD Thresholds of Significance	137.00	548.00	137.00	137.00	82.00

Operational Emissions

Stationary Source Emissions

Calculations of stationary source emissions include emissions from electrical power plants and from the consumption of natural gas for space and water heating, cooking and related activities. Power plant emissions consist primarily of combustion products, such as carbon monoxide, oxides of nitrogen, sulfur oxides, particulate matter and reactive organic gases (ROG).

Table III-22 shows potential power plant emissions associated with annual electricity consumption by development on the project site. Electricity usage is estimated by applying the Southern California Edison electrical power usage rates to anticipated development on a per square foot basis. These figures are multiplied by the emission generation factors set forth in the South Coast Air Quality Management District (SCAQMD) EIR Handbook.¹⁵

The SCAQMD Handbook separates the uses by different types. For the following table, the electrical power factor for industrial uses was selected. By utilizing the annual consumptive factor for retail and restaurant space, the table below provides a conservative estimate of annual electricity usage and associated emissions.

**Table III-22
 Annual Power Plant Emission Projections at Buildout
 (pounds per 1,000 kwh)**

	Annual Electric Energy Usage (kwh/sqft/year)	Total No. Square Feet	Total Annual Electric Usage (kwh)
Industrial Land Use	10.50	36,938,444	387,853,662
Commercial Land Use	13.55	2,500,257	33,878,481
		Total	421,732,143

Pollutants	Carbon Monoxide	Nitrogen Oxides	Sulfur Oxides	Particulates	Reactive Organic Gases
Project (mw/yr) Factor	421,732	421,732	421,732	421,732	421,732
(lbs/mw/hr)	0.2	1.15	0.12	0.04	0.01
Lbs./Year	84,346	484,992	50,608	16,869	4,217
Lbs./Day	231.1	1,328.7	138.7	46.2	11.6

Based on per unit usage and emissions factors provided in Tables A9-11-A and A9-11-B, "CEQA Air Quality Handbook," prepared by the South Coast Air Quality Management District, April 1993. Assumes continued availability and use of natural gas in power plants and an average contribution from hydro-electric sources. Represents total pounds emitted per year by all commercial development at buildout.

¹⁵ Table A9-11-A, "CEQA Air Quality Handbook," prepared by the South Coast Air Quality Management District, April 1993.

Natural gas emissions are calculated using the average monthly consumption factor established by Southern California Gas Company/Sempra Energy. The same pollutants for power plant emissions are calculated for natural gas with emission factors specific to use of this fuel. Also, as with power plant emissions, the consumption factors vary with type of land use.

Table III-23
Emissions Associated with Natural Gas Consumption at Buildout
(lbs./cubic foot)

Estimated Total Monthly Natural Gas Usage	Square Feet	Usage Rate (cf/sqft/month)	Cubic Feet per Month		
Industrial Land Use	36,938,444	2.94	108,599,025		
Commercial Land Use	2,500,257	10.5	26,252,697		
		Total	134,851,723		

Pollutants	Carbon Monoxide	Nitrogen Oxides	Sulfur Oxides	Particulates	Reactive Organic Gases
Project (cf/month/mil.)	134.85	134.85	134.85	134.85	134.85
Factor (lbs/mil. sqft)	20.00	120.00	-	0.20	5.30
Lbs./Month	2,697.03	16,182.21	-	26.97	714.71
Lbs./Day	89.90	539.41	-	0.90	23.82

Based on cf/square foot usage and emissions factors for "Industrial" as provided in Tables A9-12-A and A9-12-B, "CEQA Air Quality Handbook," prepared by South Coast Air Quality Management District, April 1993.

Calculation of Moving Emissions

A comprehensive traffic impact analysis was prepared to evaluate the potential traffic and circulation impacts associated with buildout of the project (See Appendix C). According to the traffic study, project buildout is expected to result in 95,175 passenger vehicle trips per day, 5,193 delivery truck trips per day, and 31,524 heavy duty truck trips per day.

Moving emissions associated with project buildout are shown in Table III-24, below. Emissions are calculated using emission factors provided by the California Air Resources Board (CARB) URBEMIS Model Version 2.2, in which emissions are projected to Year 2025. Per mile emissions over subsequent years can be expected to decrease, to some extent, as combustion technologies continue to improve.

Table III-24
Daily Exhaust Emissions at Project Buildout
(pounds per day)

Total No. Vehicle Trips/Day		Average Trip Length (miles)		Total miles/day	
95,175	x	15	=	1,427,625	
Total No. Delivery Truck Trips/Day		Average Trip Length (miles)		Total miles/day	
5,193	x	10	=	51,930	
Total No. HD Diesel Truck Trips/Day		Average Trip Length (miles)		Total miles/day	
31,524	x	25	=	788,100	
Pollutant	CO	NO_x	ROG	SO_x	PM₁₀
Passenger Vehicles	4,591.2	434.0	618.2	12.8	178.5
Diesel Delivery Trucks	257.5	258.8	59.2	1.8	18.6
HD Diesel Trucks	2,140.7	4,588.2	376.3	36.4	211.9
Total pounds per day	6,989.4	5,281.0	1,053.6	51.1	408.9

Based on California Air Resources Board's EMFAC 2002 Emissions Model. Assumes Year 2025.

Summary of Operational Impacts

The following table summarizes the potential generation and emission of pollutants associated with day-to-day operations of the proposed project at buildout, including power plant emissions, emissions associated with the consumption of natural gas and vehicular emissions. The level of impact anticipated with the proposed project is expected to be significant. These impacts can be mitigated, however, once mitigated development of the Specific Plan will still represent a significant additional increment to the cumulative air quality impacts in the Apple Valley area. The proposed project represents a 25% increase in operational air quality impacts over the development potential of the existing General Plan land use designations (see Section V No Project Alternative for more information).

As the majority of the area's electrical power is generated in the air basins outside the area, projects within the Town will also contribute to the cumulative impacts on air quality elsewhere. However, a local 830-megawatt (peak) power plant has been in operation just outside of Victorville at the site of the former George Air Force Base since 2003. This plant is scheduled to burn clean natural gas using state-of-the-art emission controls. Greater reliance on transitional fossil fuels such as natural gas will continue to lower pollutant emissions per kilowatt in the near to mid-term.

Table III-25 summarizes the worst case projected emissions in pounds per day at buildout of the project. As shown in the table, all threshold criteria are expected to be exceeded without the application of mitigation measures. It is important to recognize that these pollutants will not be emitted in any short-term or concentrated manner, but represent 24-hour emissions.

**Table III-25
 Anticipated Cumulative Project-Related Emissions
 Associated with Buildout of the Proposed Project**

	Stationary Source Emissions		Moving Source Emissions	Total Anticipated Emissions (lbs./day)	Total Anticipated Emissions (Tons/Yr)*	MDAQMD Threshold Criteria** (Tons/Yr)
	Power Plants	Nat.Gas Consumption				
Carbon Monoxide	231.1	89.9	6,989.4	7,310.4	954.0	100.0
Nitrogen Oxides	1,328.7	539.4	5,281.0	7,149.2	933.0	25.0
Sulfur Oxides	138.7	0.0	1,053.6	1,192.3	155.6	25.0
Particulates	46.2	0.9	408.9	456.0	59.5	25.0
Reactive Organic Gases	11.6	23.8	1,053.6	1,089.0	142.1	15.0

*Based on 261 work days per year because consumption only includes commercial and industrial uses. **Threshold criteria offered by the Mojave Desert Air Quality Management District for assistance in determining the significance of air quality impacts.

It should be noted that the emission generation factors used in the above moving emission calculations are partially based on projected motor vehicle rates of emission for the year 2025. It is expected in all cases that, in the future, emitters will become more efficient and will emit less pollutants as new combustion technologies come on-line. The impact of new technologies is difficult to anticipate; and even projected future rates of emissions for vehicular traffic cannot be considered definitive, although substantial progress continues to be made in reductions per vehicle mile traveled.

Furthermore, localized impacts to air quality may be further exacerbated in the short term prior to the completion of the local roadway and intersection improvements that are required to accommodate this project and other future growth. Prior to the completion of these improvements, it is likely that there will be many areas of congestion on Dale Evens Parkway and possibly on Interstate-15 as a result of this project and surrounding growth. Emissions may, therefore, increase further as a result of idling vehicles, traffic backups, and increased driving times. Therefore, the impact of these emissions upon nearby sensitive receptors that are in the project vicinity must be considered.

3. Mitigation Measures

The need for additional fossil fuel-based generating capacity has been and will continue to be replaced by alternative methods of electrical power generation. The evolution of higher efficiency automobiles and cleaner fuels will, in all likelihood, continue. While these emissions may be beyond the direct control of local regulators, mandatory smog checks implemented by the State of California help assure compliance of motor vehicles with existing and presumably future standards.

It is fair to assume that combustion technology, particularly that associated with vehicular movement, will continue to improve, and overall reductions in pollutant emissions from improved efficiency can be expected. Given that the desert environment places stringent performance demands on development, it can be expected that building technologies to be applied to this project will be superior. These technologies can also be expected to reduce the impacts of pollutant emissions from power plants and the use of natural gas, through the implementation and updating of California Title 24 building codes and the more efficient use of energy.

There are, nonetheless, several actions that can be taken to further reduce the various project impacts on air quality. Mitigation measures listed below are embodied in the Town's General Plan Policies and associated EIR, as well as other measures promulgated by the Town and Mojave Desert Air Quality Management District to mitigate development impacts within the Town of Apple Valley and the surrounding areas. These measures shall be applied to all phases of project development and are expected to reduce air quality impacts to the greatest extent possible. However, operational air quality impacts are expected to be significant, even with the implementation of mitigation measures.

General Control and Mitigation Measures

As described above, the level of air quality impacts anticipated from project construction are not expected to be significant with the implementation of mitigation measures. Construction related activities will require the implementation of mitigation measures in order to reduce potential air quality impacts below the MDAQMD Threshold Criteria. The following general control and mitigation measures shall ensure that construction related impacts are reduced to levels below significance.

**Table III-26
 Available Emission Reduction Technologies**

1. Diesel Equipment	Daily Emission Reduction Factors				
	ROG	NO _x	PM ₁₀	CO	SO _x
Aqueous Fuel	0%	14%	63%	0%	0%
Diesel Particle Filter	0%	0%	80%	0%	0%
Cooled Exhaust Gas Recirculation	90%	40%	85%	90%	0%
Lean NO _x Catalyst	0%	20%	0%	0%	0%
Diesel Oxidation Catalyst	0%	20%	0%	0%	0%
Worker Trips	ROG	NO_x	PM₁₀	CO	SO_x
Use Shuttle to Retail Establishments at Lunch	1%	1.3%	1.3%	1.3%	1.3%

Source: Urban Emissions Model (URBEMIS2002) version 8.7.0 April 2005; developed by the California Air Resources Board (CARB) as a modeling tool to assist local public agencies with estimating air quality impacts from land use projects when preparing a CEQA environmental analysis.

1. Grading and development permits shall be reviewed and conditioned to require the provision of all reasonably available methods and technologies to assure the minimal emissions of pollutants from the development (see Table III-27 below), including proper vehicle maintenance and site watering schedules (see detailed list below under Developer’s Air Quality Management Resources). The Town Planning and Building Divisions shall review grading plans to ensure compliance with the mitigation measures set forth in the project’s environmental documentation and as otherwise conditioned by the Town.

2. The Town shall coordinate with the project developers to encourage the phasing and staging of development to assure the lowest construction-related pollutant emission levels practical. As part of the Town’s grading permit process, the applicant shall concurrently submit a dust control plan as required by MDAQMD in compliance with Rule 403. Mitigation measures to be implemented through this plan include, but are not limited to, the use of water trucks and temporary irrigation systems, post-grading soil stabilization, phased roadway paving, as well as other measures which will effectively limit fugitive dust emissions resulting from construction or other site disturbance (see Table III-27 below).

**Table III-27
 Fugitive Dust Control Methods**

Daily PM₁₀ Reduction	
Apply Soil Stabilizers to Inactive Areas	30%
Replace Ground Cover in Disturbed Areas Quickly	15%
Water Exposed Surfaces 2 Times Daily	34%
Water Exposed Surfaces 3 Times Daily	50%

Source: Urban Emissions Model (URBEMIS2002) version 8.7.0, April 2005.

3. As future demand warrants, developers shall work with the Town to promote and support the development of bus routes/public transit that serve those residing at and employed by the project.

Developer’s Air Quality Management Resources

In response to requirements of MDAQMD to monitor air quality impacts associated with fugitive dust from site disturbance and grading activities, all construction activities within the project boundary shall be subject to Rule 401 Visible Emissions, Rule 402 Nuisance, and Rule 403 Fugitive Dust.¹⁶ A wide variety of methods for controlling impacts and a list of vendors providing dust control and other pollution management services is also available from the Town and MDAQMD. Consistent with these management programs, developers shall assure implementation of appropriate grading and construction management programs.

¹⁶ “Final Mojave Desert Planning Area Federal Particulate Matter (PM₁₀) Attainment Plan,” prepared by the Mojave Desert Air Quality Management District, July 31, 1995.

To reduce PM₁₀ emissions, the developer shall implement the following (required on sites 100+ acres, and to be followed to the greatest extent practicable):

- chemically treat soil at construction sites where activity will cease for at least four consecutive days;
- pave on-site construction access roads as they are developed; extend paving at least 120 feet from roadway into construction site and clean roadways at the end of each working day;
- restore vegetative ground cover as soon as construction activities have been completed
- chemically treat unpaved roads that carry 20 vehicle trips per day or more;
- plant tree windbreaks utilizing non-invasive species on the windward perimeter of construction projects, where feasible;
- all construction grading operations and earth moving operations shall cease when winds exceed 30 miles per hour;
- prior to turf raking, implement effective PM₁₀ control programs for turf over-seeding as outlined in the CV-SIP.
- water site and equipment morning and evening and during all earth-moving operations;
- spread soil binders on site, unpaved roads, and parking areas;
- operate street-sweepers on paved roads adjacent to site;
- re-establish ground cover on construction site through seeding and watering or other appropriate means;
- pave construction access roads, as appropriate.

To minimize construction equipment emissions, the developer and contractors shall implement the following:

- wash off trucks leaving the site;
- require trucks to maintain two feet of freeboard;
- properly tune and maintain construction equipment;
- use low sulfur fuel for construction equipment.

To reduce construction-related traffic congestion, the developer and contractors shall implement the following:

- configure construction parking to minimize traffic interference;
- provide a flag person to ensure safety at construction sites, as necessary;
- schedule operations affecting roadways for off-peak hours, as practical.

To minimize indirect source emissions, the developer shall:

- install low-polluting and high-efficiency appliances;
- install energy-efficient street lighting;
- landscape with native and other appropriate drought-resistant species to reduce water consumption and to provide passive solar benefits.

To minimize building energy requirements, the developer may also implement the following:

- assure the thermal integrity of buildings and reduce the thermal load with automated time clocks or occupant sensors;
- use efficient window glazing, wall insulation and ventilation methods;

- introduce efficient heating and other appliances, such as water heaters, cooking equipment, refrigerators, furnaces and boiler units;
- incorporate appropriate passive solar design, including solar heaters, and solar water heaters, to the greatest extent feasible;
- use devices that minimize the combustion of fossil fuels;
- capture waste heat and re-employ this heat, where feasible.

Implementation of the mitigation measures outlined above under the General Control and Mitigation Measures and the Developer's Air Quality Management Resources will reduce the potential air quality impacts to the greatest extent practicable. In addition, the following Mitigation, Monitoring and Reporting program shall ensure that the required mitigation measures are followed throughout the development process.

Mitigation, Monitoring and Reporting

In accordance with the terminology outlined in Section 15005 of the California Environmental Quality Act, the following words are used to indicate whether a particular subject in the Guidelines is mandatory, advisory, or permissive: "must" or "shall" identifies a mandatory element which all public agencies are required to follow; "should" identifies guidance provided by the Secretary for Resources based on policy considerations contained in CEQA, in the legislative history of the statute, or in federal court decisions which California courts can be expected to follow. Public agencies are advised to follow this guidance in the absence of compelling, countervailing considerations; "may" identifies a permissive element which is left fully to the discretion of the public agencies involved.

1. Grading and development permits, as well as required dust control plans, shall be reviewed and conditioned to require the provision of all appropriate methods and technologies to assure the minimal emissions of pollutants from the development, in accordance with existing standards as revised and updated by the Town. The appropriate Town division(s) shall review grading and dust control plan applications to ensure conformance with the mitigation measures set forth in the required CEQA documentation and as otherwise conditioned by the Town.
Responsible Parties: Apple Valley Public Works and Building and Safety Divisions.
2. The appropriate code enforcement division shall record and document all violations or potential violations of clean air regulations, these mitigation measures or the conditions of approval of this project. Development may be temporarily halted until inadequate controls or unacceptable conditions are corrected to the satisfaction of the Town.
Responsible Parties: Apple Valley Public Works and Building and Safety Divisions, MDAQMD.
3. Building and landscape plans shall be reviewed for assurance of optimized energy efficiency and soil stabilization, respectively. California Code of Regulations Title 24 and other applicable energy efficiency codes and regulations shall be appropriately applied.
Responsible Parties: Apple Valley Public Works and Building and Safety Divisions.

D. Biological Resources

1. Existing Conditions

An assessment of the biological resources within the Specific Plan area was prepared by AMEC Earth and Environmental, and is included in Appendix B of this EIR¹⁷. The research and documentation for the study included a literature review of the California Natural Diversity Data Base (CNDDDB), botanical and wildlife reference documents specific to Apple Valley and its surroundings, data on soils from the Natural Resources Conservation Service's National Cooperative Soil Survey, and the West Mojave Plan Species Accounts prepared by the Bureau of Land Management (BLM). The project biologist also conducted field visits of the area to determine habitat types, location of blue line streambeds, and level of urban intrusion in the native environment. The following discussion summarizes the findings of the biological study.

Regional Biological Setting

The Specific Plan area, and the Town of Apple Valley, are located in the Mojave Desert of southern California. More specifically, the Town is located in the Victor Valley, a broad valley which extends from the San Bernardino and San Gabriel mountains to the south. The Valley is shaped by the alluvial soils which have been transported from these mountains and deposited on the valley floor. The region is arid, characterized by hot summer temperatures, cool winters and low annual rainfall.

The Specific Plan area occurs at an elevation ranging from 2,910 to 3,180 feet above sea level. The area gently slopes from north to south, with scattered, and pronounced rocky outcroppings prominent in the landscape. The Natural Resources Conservation Service has identified 10 soil series in the Specific Plan area, including Cajon Sand, Cajon Loamy Sand, Cajon-Arizo Complex, Cajon Wasco, Helendale Loamy Sand, Helendale-Bryman Loamy Sands, Mirage-Joshua Complex, Nebona-Cuffeback Complex, Rock Outcrop-Lithic Torriothents Complex, and Rosamond Loam. The most prevalent of these in the Specific Plan area is Helendale Loamy Sand. The soil series are typical of alluvial fans, and demonstrate slow runoff potential and low permeability, resulting in flooding potential during sudden rain storms.

A number of blue line streams occur in the area, consisting of narrow dry washes which generally extend from the northeast to the southwest. The streambeds do not contain riparian vegetation, and are generally comprised of unconsolidated sandy and porous soil. The washes occurring in Section 16, in the northwestern corner of the Specific Plan area, flow into the Bell Mountain Wash during storm events, and from there into the Mojave River. The other washes in the Specific Plan area do not flow into a river or stream, but rather into a dry lake bed located southwesterly of the area.

The Specific Plan area has been significantly impacted by human activity, particularly in its southern half. Clearing and grubbing, dirt roads, and scattered development have affected the native environment in the area, particularly in Sections 27, 33 and 34, the southeastern portion of Section 27, and the eastern portion of Section 33. Off-road vehicle use and cattle grazing have also affected the habitat, as does fencing and development. These activities have affected the integrity of the habitat throughout the Specific Plan area.

¹⁷ "Town of Apple Valley, North Apple Valley Specific Plan Biological Resources," prepared by AMEC Earth and Environmental, May 2006.

Natural Communities

The Specific Plan area is composed of the Ruderal Scrub Plant Community, the Saltbush Scrub Plant Community and the Creosote Scrub Plant Community. The plants in the Creosote Scrub community are characterized by Creosote Bush, Burrobush, Golden Cholla, Pencil Cholla, Cheesebush, Cooper's Boxthorn and Rubber Rabbitbrush, primarily in the northern portion of the Plan area. In the Saltbush Scrub community, typical plant species include Allscale Saltbush, Cheesebush and Anderson Boxthorn. A few scattered Joshua Trees can also be found in the area. Finally, the disturbed areas including typical ruderal species, including non-native grasses, Filaree, Tumbleweed, Brome Grasses, Mediterranean Splitgrass and several Mustard species.

Wildlife Habitat

A number of common species are expected to occur in the Specific Plan area, most of which are associated with disturbed Creosote Bush Scrub and Saltbush Scrub habitats.

Typical bird species in the area include Common Raven, House Finch, House Sparrow, Black-throated Sparrow, Western Meadowlark, Cactus Wren, Common Roadrunner, Loggerhead Shrike and Northern Mockingbird. Except for the House Sparrow, all these birds are considered migratory, and are protected under the Migratory Bird Treaty Act. The requirements of the Act are discussed in greater detail under Mitigation Measures, below.

Invertebrates expected to occur in the Plan area include California Harvester Ant, Crater-nest Ant, non-native Argentine Ants, Creosote Grasshopper and Broad-necked Darkling Beetle.

Small mammals include Black-tailed Jack Rabbit, White-tailed Ground Squirrel, California Ground Squirrel, Round-tailed Ground Squirrel, Botta's Pocket Gopher, Kangaroo Rats and Pocket Mice. Also occurring are Coyote and Kit Fox. No bat roosts were identified within the Plan area.

A number of reptiles occur in the area, including Western Whiptail, Zebra-tailed Lizard, Side-blotched Lizard, Desert Iguana, Western Patch-nosed Snake, Coachwhip, Sidewinder and Mojave Rattlesnake.

All the species listed above are common species which have not been designated of concern by any agency or organization.

Sensitive Species

Special Status species are those designated by the US Fish and Wildlife Service (USFWS) or the California Department of Fish and Game (CDFG) as threatened or endangered, based on the criteria set in either the federal or state Endangered Species Act. In addition, the California Native Plant Society (CNPS) maintains a list of plants which it believes are rare or endangered. Table III-28 and Table III-29 below list those species of plants or animals which may occur in the Apple Valley area which are considered Special Status Species by these organizations, their status, and the likelihood of their occurrence in the Specific Plan area.

**Table III-28
 Special Status Plant Species
 Reported from North Apple Valley**

Common Name	Scientific Name	Habitat	Local or State Status	Federal Status	Reported Proximal to and Potentially Occurring in Planning Area
Booth's Evening Primrose	<i>Camissonia boothii</i> ssp. <i>Boothii</i>	Sandy West Mojave near Mojave River	CNPS List 2	None	Yes
Desert Cymopterus	<i>Cymopterus Deserticola</i>	Sandy West Mojave	CNPS List 1B	None	Yes
Joshua Tree	<i>Yucca Brevifolia</i>	Creosote Bush Scrub	AV Ordinance Protected	None	Yes

**Table III-29
 Special Status Animal Species
 Reported From North Apple Valley**

Common Name	Scientific Name	Habitat (General Habitats Occurring In Planning Area)	State and/or California Department of Fish & Game Status	Federal Status	Reported Proximal to and Potentially Occurring in Planning Area
Burrowing Owl	<i>Athene Cunicularia</i>	Creosote Bush Scrub	Special Con. Protected	Special Concern	Yes
Coast Horned Lizard	<i>Phrynosoma coronatum (blainvillei)</i>	Creosote Bush Scrub	Special Concern	Special Concern	Yes
Desert Tortoise	<i>Gopherus Agassizii</i>	Creosote Bush Scrub	Threatened	Threatened	Yes
Le Conte's Thrasher	<i>Toxostoma Lecontei</i>	Desert Wash Scrub	Special Concern	Special Concern	Yes
Mohave Ground Squirrel	<i>Spermophilus mohavensis</i>	Creosote Bush Scrub & Saltbush Scrub	Threatened	None	No
Prairie Falcon	<i>Falco Mexicanus</i>	Creosote Bush Scrub & Ruderal Scrub	Protected	None	Yes
Pale Big-eared Bat	<i>Corynorhinus townsendii pallescens</i>	Creosote Bush Scrub near H2O and Mineshafts	Special Concern	Special Concern	No
Pallid San Diego Pocket Mouse	<i>Chaetodipus fallax pallidus</i>	Mojave River Sands	Special Concern	None	No

As shown in the Tables, a total of eleven Special Status Species have the potential to occur within the Specific Plan area. All of the Special Status Species are discussed individually below.

Booth's Evening Primrose

Booth's Evening Primrose is a small annual herb which occurs at the base of the San Bernardino Mountains, near the Mojave River. It has been found in Hesperia and in the southern end of Apple Valley. Its preferred habitat is sandy flats and loose slopes, which occur in the northeastern portion of the Specific Plan area. Its potential for occurrence is low, due to the distance to its recorded occurrences, far south of the Plan area.

Desert Cymopterus

Desert Cymopterus has been recorded in sandy flats and slopes of the West Mojave Desert, in the vicinity of Edwards Air Force Base. It was also been recorded immediately west of the Plan area, and along Highway 18 in the first half of the 20th century, but it has been heavily impacted by off-road vehicle use, cattle and Jack Rabbit grazing and urbanization. The species has a low potential of occurring in the northeastern portion of the Plan area, where the sandy habitat it prefers occurs.

Joshua Trees

Joshua Trees are found throughout the High Desert, on desert flats and slopes, and in washes and riparian areas. The species can grow to heights of 45 feet, and can be found in dense woodlands, as well as scattered through the desert. A few 3' to 6' Joshua Trees occur within the Plan area, in Sections 15 and 16, the northernmost sections in the Plan area. The species is protected by Town ordinance, which prescribes avoidance, transplantation or adoption for the species if it occurs on a project site. The areas where the species is likely to occur are depicted in Exhibit III-11.

Burrowing Owl

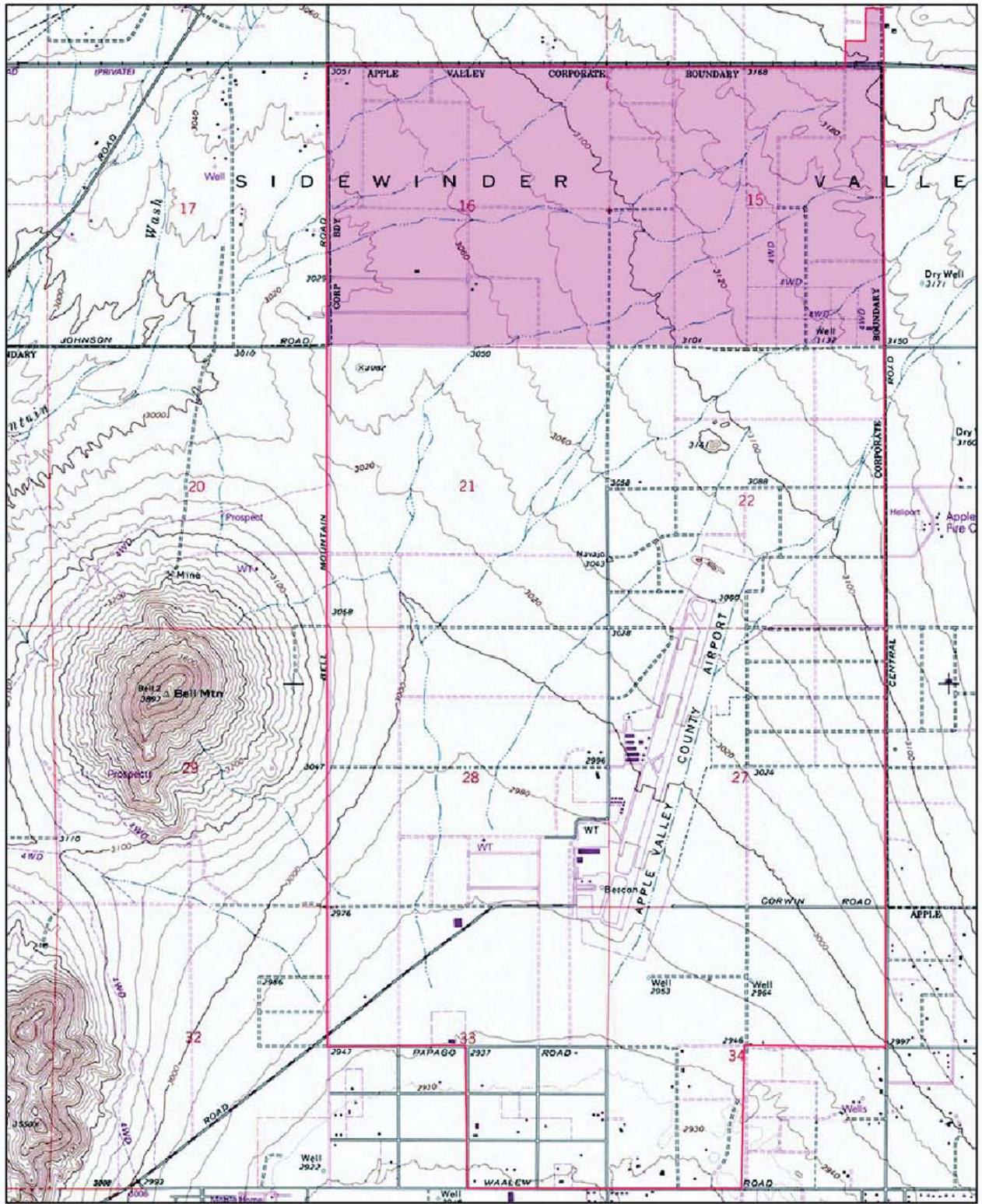
Burrowing Owl nest in the High Desert, using burrows created by other species, such as Desert Tortoise, Kit Fox or ground squirrels. Open areas on the desert floor are its preferred habitat. The species is protected by the state, and specific mitigation is required to avoid impacts to active nests. The species has a low potential to occur in the Plan area, as shown in Exhibit III-12.

LeConte's Thrasher

LeConte's Thrasher is a non-migratory bird which is endemic in the southwest. They have a widespread range, but are rare in desert scrub habitats. They avoid Creosote Bush Scrub habitat, which does not provide sufficient cover or nesting areas, but they do occur in sandy washes. The species has been identified adjacent to the Plan area, and has a high potential of occurring in the dry washes within the Plan area. The areas where the species is likely to occur are depicted in Exhibit III-13.

Prairie Falcon

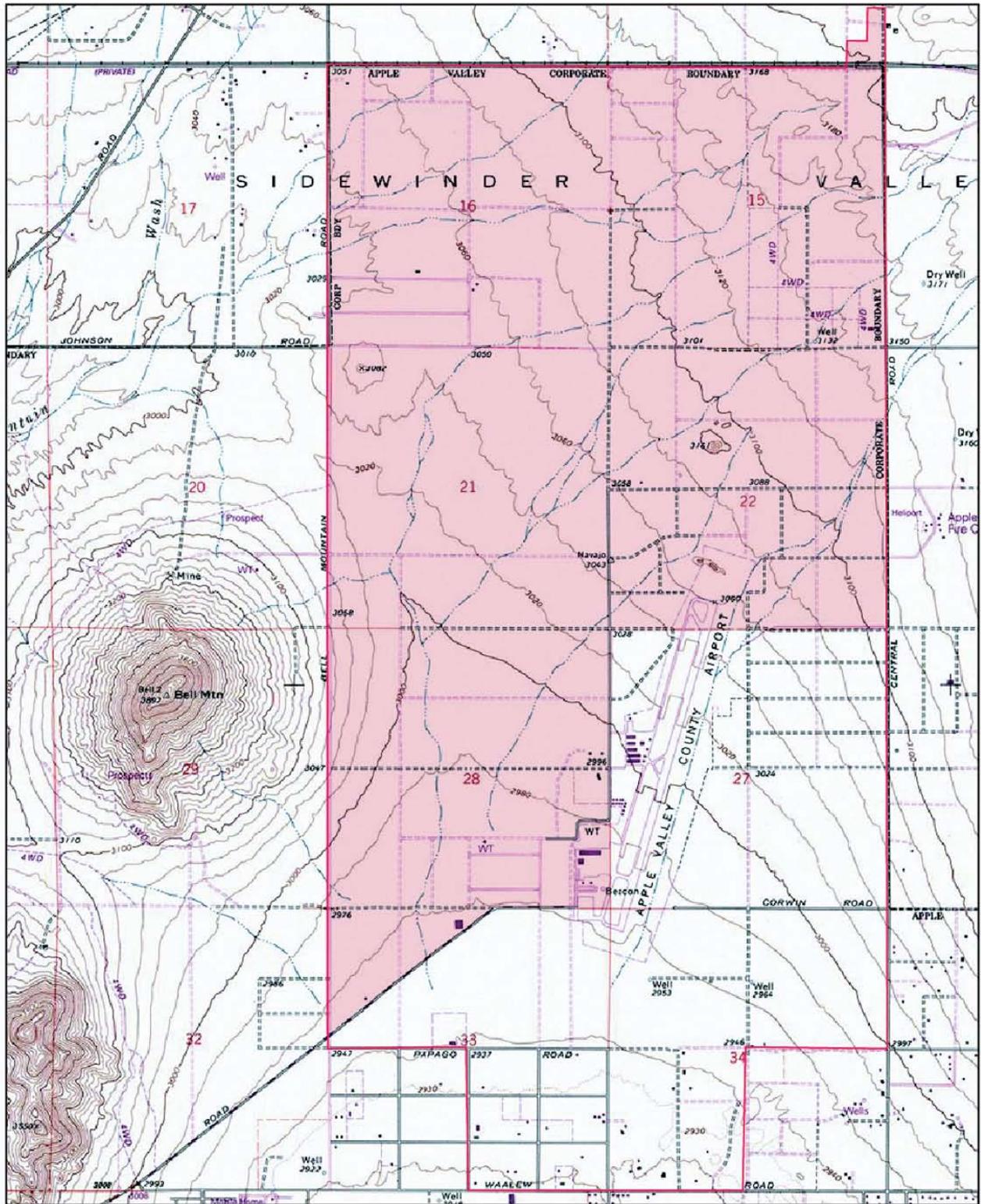
Prairie Falcon prefer open desert and prairie, as they provide ideal hunting habitat for birds and small mammals. They nest on cliffs and rock ledges. Nests have been recorded in the Fairview Mountains, two miles east of the Plan area. They use large boulders for perching when foraging, and such large boulders occur in the eastern portion of the Plan area, in the north half of section 22. Potential foraging areas for the species within the Plan area are depicted in Exhibit III-14.



 Project Area
  Scattered Low Density Occurrence
 



Map Source: USGS 7.5' Apple Valley North Quadrangle



Project Area



Low Potential



0 2200
FEET



Map Source: USGS 7.5' Apple Valley North Quadrangle

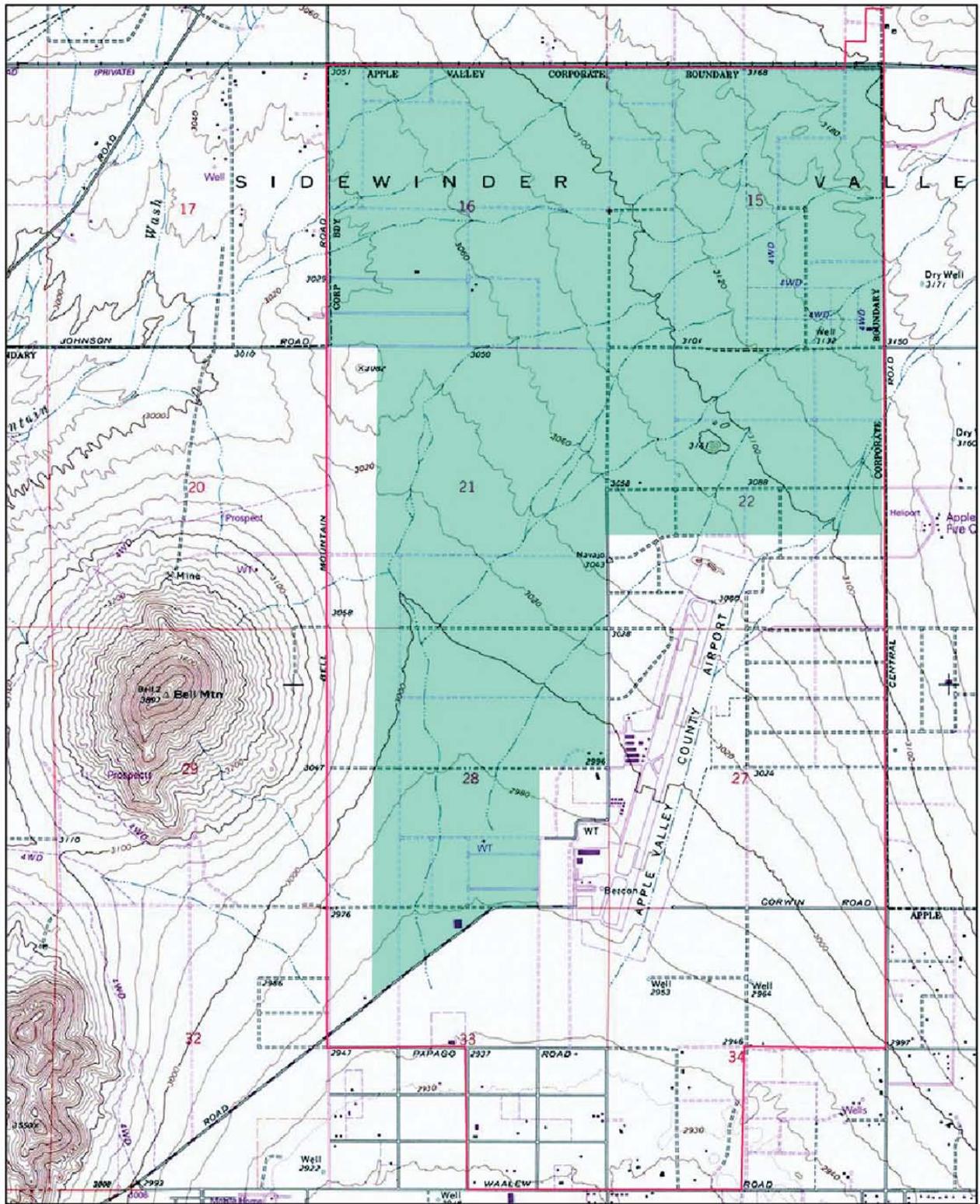


TERRA NOVA[®]
Planning & Research, Inc.

**North Apple Valley Industrial Specific Plan
Burrowing Owl Area of Potential Occurrence
Apple Valley, California**

Exhibit

III-12



Project Area High Potential



0 2200
FEET



Map Source: USGS 7.5' Apple Valley North Quadrangle

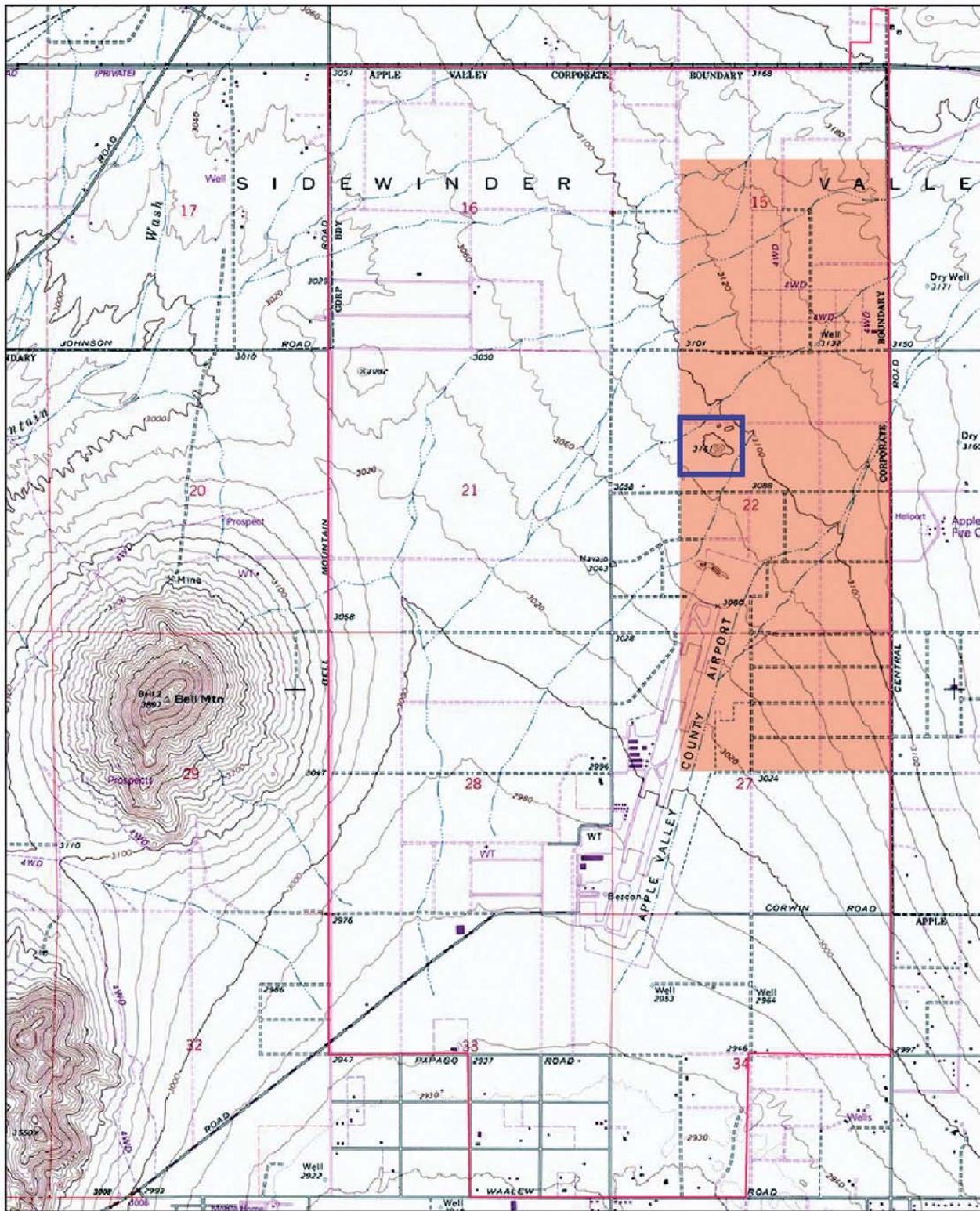


TERRA NOVA[®]
Planning & Research, Inc.

**North Apple Valley Industrial Specific Plan
Le Conte's Thrasher Area of Potential Occurrence
Apple Valley, California**

Exhibit

III-13



 Project Area

 Foraging Use Area
 Perching Habitat Potential



0 2200
FEET



Map Source: USGS 7.5' Apple Valley North Quadrangle

Pale Big-eared Bat

Pale Big-eared Bats occur in undisturbed roosts, usually near water. Caves and mine shafts provide ideal habitat for the species, and it has been recorded in the Ord Mountains, northeast of the Plan area. The Plan area does not include areas with appropriate roosts, or open water sources, and the species is therefore considered unlikely to occur.

Pallid San Diego Pocket Mouse

The Pallid San Diego Pocket Mouse is known to occur primarily in eastern San Diego County, but has been collected ten miles southeast of Hesperia. No pocket mouse burrows were identified during the biological field survey within the Plan area, and it is not believed to occur, both because of the northerly location, and because of the lack of suitable habitat.

Coast Horned Lizard

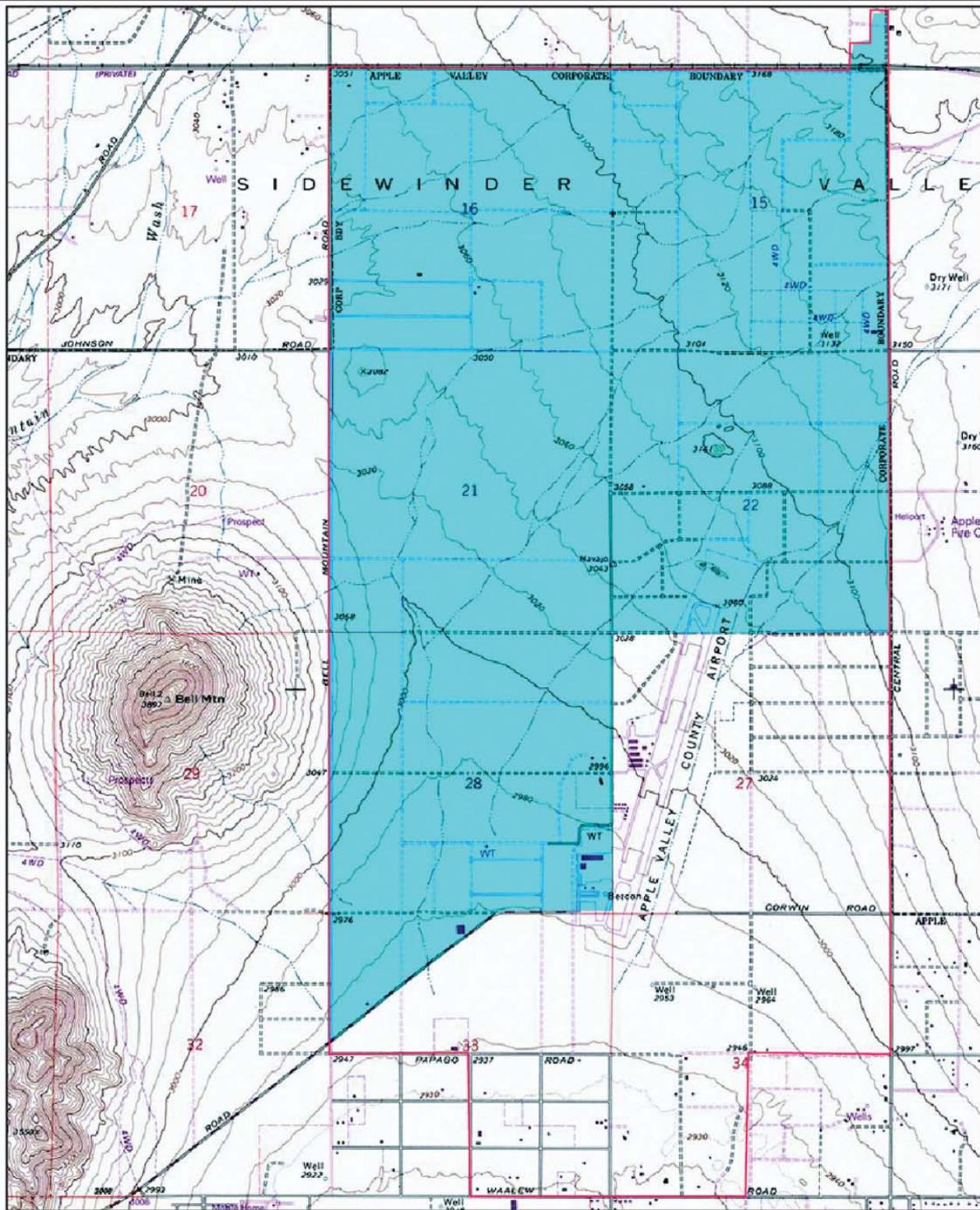
The Coast Horned Lizard prefers coastal sage scrub and chaparral habitats, with rocky or shallow sandy soils and scattered shrubs. The species has been observed 3.5 miles southeast of Hesperia. The western half of the Plan area provides only marginal habitat for the species.

Desert Tortoise

The Desert Tortoise is the official California Reptile, and is state and federally listed as threatened. A recovery plan for the species was completed in 1994, and included critical habitat. The closest critical habitat to the Plan area is the Ord-Rodman Desert Wildlife Management Area. In the West Mojave Desert, the species prefers Creosote Bush Scrub and Mojave Desert Wash habitats. No sign of the species was observed during the field survey, but suitable habitat does occur north and west of the airport, and the species has a low potential of occurring in the Plan area (please see Exhibit III-15).

Mohave Ground Squirrel

The Mohave Ground Squirrel's range extends from the San Bernardino Mountains to the Avawatz, Coso and Granite Mountains; and from Palmdale to the Mojave River. The species is believed to be extirpated from most of the Victor Valley, due to agricultural activity and urbanization, as well as the expansion of territory by the California and Round-tailed Ground Squirrels. Plan area occurs within the historic range of the species, however (please see Exhibit III-16A).



Project Area



Low Potential



0 2200
FEET



Map Source: USGS 7.5' Apple Valley North Quadrangle.

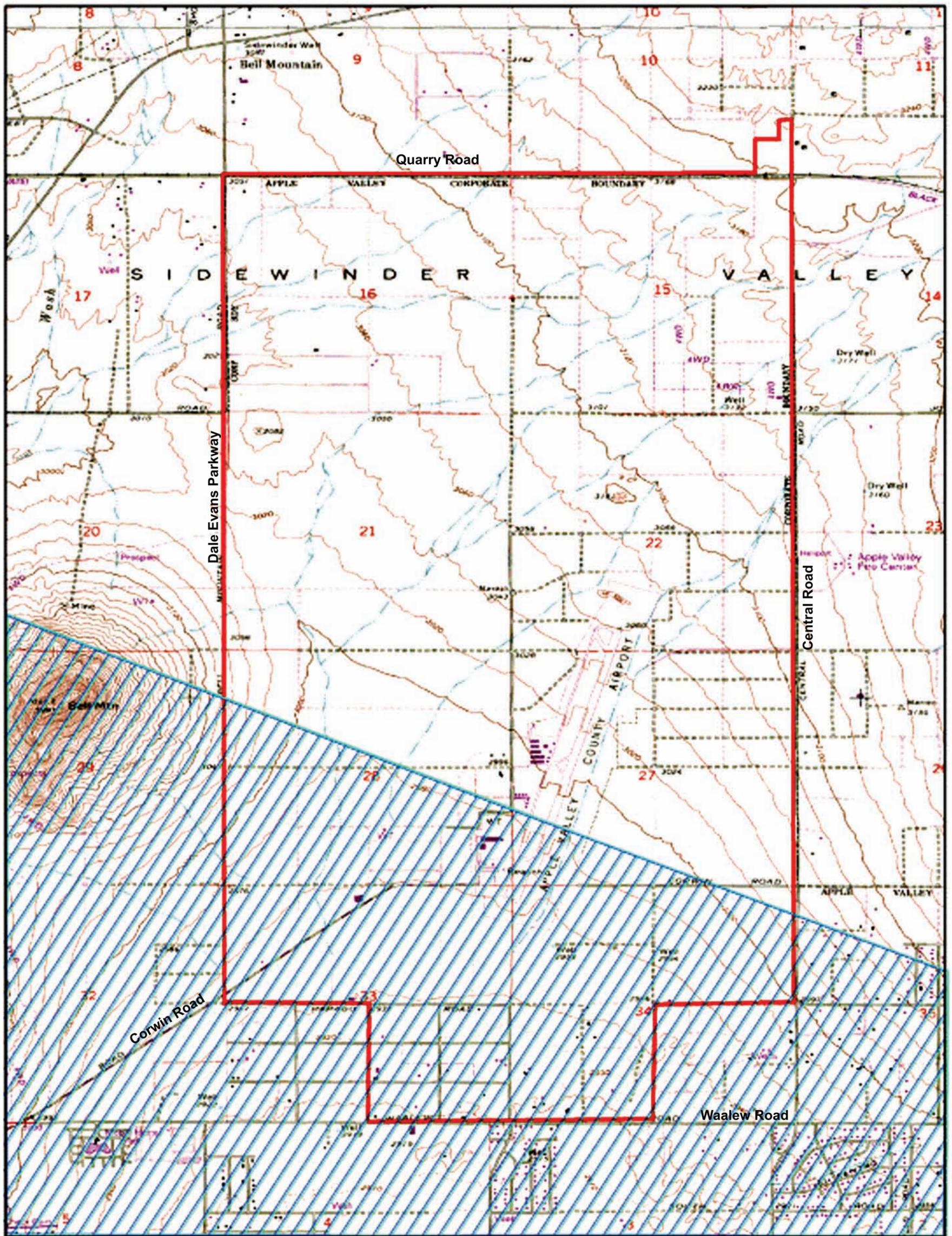


TERRA NOVA[®]
Planning & Research, Inc.

**North Apple Valley Industrial Specific Plan
Desert Tortoise Area of Potential Occurrence
Apple Valley, California**

Exhibit

III-15



Sources: West Mojavo Plan FEIR/S map 3.15; AMEC

 Project Site

 Mohave Ground Squirrel Historic Range



0 .05 Mile

West Mojave Public Land Use Plan

The West Mojave Plan, a multiple-species Habitat Conservation Plan (HCP) designed to protect over 100 species, has been prepared and released for public comment. The Plan would protect the Desert Tortoise and Mohave Ground Squirrel, among others, occurring on 9.3 million acres in San Bernardino, Kern, Los Angeles and Inyo counties.

The HCP is not complete, but would address all the species with potential to occur within the Specific Plan area. The HCP would include boundaries for identified conservation areas, survey requirements, funding, and implementation measures for conservation. Its completion date is unknown, and although it would include all of the Specific Plan area, it currently has no jurisdictional authority over the Plan area.

2. Impacts

The primary impacts to biological resources expected to result from build out of the proposed Specific Plan include the loss, fragmentation and degradation of viable habitat. This would result in the removal of breeding and/or foraging habitat, the removal of native plant communities and their inherent wildlife habitat value, and the associated loss of wildlife species. Secondary impacts to biological resources may include the introduction of non-native plant species, which can disrupt and overrun natural communities, increased vehicle use and foot traffic, and predation of wildlife by domestic pets. Additional potential impacts to biological resources in the Plan area are discussed below.

Potential Impacts to Plant Communities

Grading and development of lands within the Plan area have the potential to result in the destruction of entire populations of common and sensitive plant species. The plant communities within the Plan area are common in California, and build out of the Plan area will not impact a sensitive plant community. Booth's Evening Primrose and Desert Cymopterus have a low potential of occurring in the northeastern portion of the Plan area. Neither of these species is listed as endangered or threatened by the USFWS or the CDFG, and impacts to these species are expected to be less than significant. Joshua Trees occur within the Plan area, and have a potential to be impacted by build out of the Plan. However, the species is protected by local ordinance, and the number of individuals is small, so impacts to the species are expected to be less than significant.

Potential Impacts to Animals

Urbanization has the potential to affect special status animals, including migratory birds, Desert Tortoise and LeConte's Thrasher. Permanent loss of this habitat has the potential to impact individual animals.

Development of the Plan will result in habitat degradation and the direct loss of foraging and nesting sites for a variety of common and special-status bird species. Indirect impacts could include increased predation by domestic pets, increased competition of limited nesting sites, pesticide ingestion, and the introduction of parasites. Certain birds that are capable of tolerating human disturbance will continue to inhabit developed areas, and may be attracted to newly landscaped areas. Burrowing Owl, and other migratory birds which are covered by the California

Fish and Game code, may be impacted by conversion of desert lands to urban development. The Act requires that bird nests be protected if found on potential construction sites, until the nests are vacated by the species. This requirement will assure that impacts to these species are less than significant.

Build out of the Plan area has the potential to impact the federally and state listed Desert Tortoise, which has a potential of occurring north of the Apple Valley airport. Development in the area has the potential to destroy burrows and eliminate habitat for the species. As a listed species, the Desert Tortoise requires special consideration, and survey requirements are listed below to assure that impacts are reduced to less than significant levels.

In addition, build out of the Plan area has the potential to impact the state listed Mohave Ground Squirrel, which has a potential of occurring in the southern portion of the Specific Plan area. Development in the area has the potential to eliminate habitat for the species. As a Threatened species, the Mohave Ground Squirrel requires special consideration, and survey requirements are listed below to assure that impacts are reduced to less than significant levels.

3. Mitigation Measures

To ensure that impacts to biological resources are reduced to a less than significant level, the following mitigation measures shall be implemented.

1. Pre-construction biological surveys for burrowing owls shall be performed by a qualified biologist on all lands within the Specific Plan area. The surveys shall be consistent with the protocol established by CDFG at the time the survey is proposed. Should the species be identified, the biologist shall recommend avoidance or relocation measures to assure that there is no impact to the species.
2. Pre-construction biological surveys shall be conducted by a qualified biologist for Desert Tortoise in the areas designated in Exhibit III-29. The surveys shall be consistent with the protocol established by the USFWS and CDFG at the time the survey is proposed.
3. Any project proposing land disturbing activities between February 1 and June 30 shall be required to perform a nesting bird survey consistent with the requirements of the Migratory Bird Treaty Act.
4. Surveys for Mohave Ground Squirrel shall be conducted by a qualified biologist in the areas designated in Exhibit III-16A. The surveys shall be consistent with the protocol established by the CDFG at the time the survey is proposed. Should the species be identified, the biologist shall recommend avoidance or relocation measures to assure that there is no impact to the species.

Mitigation Monitoring/Reporting Program

1. Potential impacts to biological resources from development projects shall be evaluated and assessed on a project-by-project basis, through the Initial Study review process. Impacts shall be clearly documented and mitigation measures recommended where necessary.
Responsible Parties: Planning Division, Developer/Consulting Biologist.

2. Prior to the issuance of building permits, the Town shall assure that all required biological resource mitigation actions, including but not limited to off-site mitigation and/or the payment of appropriate impact fees, have been satisfied.
Responsible Parties: Planning Division, Building and Safety Divisions, Developer/Consulting Biologist.

E. Geology and Soils

1. Existing Conditions

Numerous resources were utilized in preparing this discussion of the soils and geologic conditions for the Specific Plan area; these include the Apple Valley General Plan and Technical Reports of the General Plan EIR¹⁸, U.S. Geological Survey information resources, and the site specific biological resources study for the project. Issues relevant to the site's soils and geology include strong ground motions due to earthquakes, and related considerations for site preparation, building foundations, building floor slabs, and pavements.

Soils

The San Bernardino and San Gabriel Mountains are comprised of Mesozoic and crystalline basement terrain. More recent sedimentary deposits consist of alluvium outcroppings. Alluvial fans extending downslope from the mountain canyons consist of coarser grained cobbles, gravels, sands, silts, and clays that decrease in size and abundance at lower elevations. Floodplain deposits from the Mojave River are made up predominantly of sand, sandy silt, and silt. The alluvial fan and floodplain deposits are intermixed and form a highly variable layering of different sizes of alluvial materials.

The Town of Apple Valley is located in the Mojave Desert geomorphic province. This desert environment is comprised of large and smaller scale mountain foothills and alluvial fans with a coarse sandy floor. Intense desert rainstorms exposes bare rock and gravel, which covers the ground near the bases of hills and low mountains. Alluvial fans and terraces occur throughout the Town and surrounding areas. Some areas have well developed surface exposures of meta-volcanic cobble, commonly known as "desert pavement", which is composed of gravel and small rocks overlain with a thin layer of clay.

Soils identified as occurring in the Specific Plan area include, Cajon sand, Cajon loamy sand, Cajon-Arizo complex, Cajon Wasco, Helendale loamy sand, Mirage-Joshua complex, Nebona-

¹⁸ "Town of Apple Valley, General Plan Environmental Impact Report," prepared by CBA Inc., May 1991.

cuddleback complex and Rosamond loam. Helendale-Bryman loamy sands are predominant across the project site and are a series of the Aridosol Soil Order occurring on 0 to 2 percent slopes. Bryman soils are found on terraces and older alluvial fans, and are formed by the mixing of alluvium derived mainly from granite sources in combination with erosion caused by wind and water.¹⁹ Exhibit III-16B illustrates the project area soil classifications.

¹⁹ “Soil Survey of San Bernardino County, California, Mojave River Area,” prepared by the US Natural Resource Conservation Service, 1994.



- 113 Cajon Sand
- 117 Cajon Loamy Sand
- 118 Cajon-Arizo Complex
- 119 Cajon-Wasco
- 132 Helendale Loamy Sand
- 133 Helendale-Bryman Loamy Sands
- 149 Mirage-Joshua Complex
- 151 Nebona-Cuddeback Complex
- 158 Rock Outcrop-Lithic Torriorthents Complex
- 159 Rosamond Loam



Source: Natural Resources Conservation Service 07.06.06

Soils on the project site are well drained with slow runoff and moderately slow permeability, and the filtering capacity of these soils is considered to be very limited. Much of the Specific Plan area is subject to flooding from December to early February.

Wind Erosion

The entire site occurs within an area of moderate wind in Sidewinder Valley and close to the foothills and edges of the San Bernardino Mountains and has a moderate level of susceptibility to brush fires and wind related soil erosion.

Regional Geological Setting and Active Faults

The geological character of Apple Valley and the surrounding region has been formed by its proximity to large, active fault systems, including the San Andreas Fault Zone. Fault activity in this region continues to result in ground rupture, major groundshaking, subsidence, uplift and mountain building, landform compression and extension. The San Andreas Fault Zone is the main plate boundary between the Pacific and North American tectonic plates. In southern California, the San Andreas Fault consists of three segments: the Mojave Desert segment, the San Bernardino Mountains segment, and the Coachella Valley segment.

Seismic Risk Assessment

Earthquake severity is classified according to magnitude and seismic intensity. Magnitude measures the amount of energy released when a fault ruptures, while intensity estimates the damage caused by an earthquake at a given location. A maximum credible earthquake (MCE) is the largest earthquake likely to occur on a fault or fault segment. MCE's are also referred to as "characteristic earthquakes." Characteristic earthquakes are used by scientists and engineers to evaluate a region's seismic hazard in order to plan for various levels of earthquake severity and associated risk. Seismic design parameters, which are based upon maximum credible earthquakes, include peak ground acceleration (PGA), period of ground motion, and duration of strong ground shaking, and allow for safety margins to be established.

Peak ground acceleration (PGA) measures the maximum horizontal ground motion generated by an earthquake. It measures acceleration of gravity equal to 32 feet per second squared, or 980 centimeter per second squared. It is usually expressed as a percentage of gravity (g).²⁰ Peak ground acceleration and seismic intensity values generally decrease as distance from the causative fault decreases. Other factors, including rock and soil deposit attenuations, direction of rupture and type of fault, may cause variability in ground motion within an area.

Fault Zones

The Mojave Desert segment of the San Andreas fault passes through the region approximately 25 miles south-southwest of Apple Valley. This fault extends from the Tejon Pass to the San Bernardino valley, where it becomes the San Bernardino strand. The 1857 Tejon Pass earthquake occurred along the Mojave Desert segment and had an estimated Richter magnitude of 7.9. According to the Southern California Earthquake Data Center, the average recurrence interval for this fault is estimated to be approximately 140 years, give or take 40 years.

²⁰ "Natural Hazard Mapping, Analysis, and Mitigation: Technical Background Report in Support of the Safety Element of the New Riverside County 2000 General Plan," prepared by Earth Consultants International, August 1, 2000.

The Helendale fault is located approximately 8 miles east of Apple Valley. This fault extends from Highway-58 just north of Edwards Air Force Base, southeast through Helendale, north of Apple Valley, and terminating at the North Frontal fault just south of Lucerne Valley. According to the California Integrated Seismic Network, the epicenter of the 2003 Big Bear earthquake was located approximately 6 miles south of where the Helendale fault intersects with the North Frontal fault and had an estimated Richter magnitude of 5.2.

The proximity to these faults makes the Specific Plan area susceptible to seismically induced hazards, including strong groundshaking. The potential geological hazards and potential impacts associated with the proposed project are addressed in below.

Seismic Hazards

Ground shaking associated with earthquakes can produce secondary seismic hazards. These may include liquefaction, subsidence, seismically induced settlement, slope instability, flooding, rockfall, tsunamis and seiches. The site is located far inland, making the risk from tsunamis non-existent. Nor is the site located down-slope of a water storage tank or rock slopes, making the risks associated with these hazards non-existent.

Strong ground shaking may cause soils to densify and settle, reducing the thickness of the soil column and resulting in settling. Soils in the subject property are generally unconsolidated. Therefore compacted fill is anticipated. Subsidence of the site due to settlement of fill during the planned grading operation is expected to be minimal.

Ground shaking can cause soils to lose strength and, under certain conditions, behave as liquid. Liquefaction occurs primarily in saturated, loose, fine to medium-grained soils. Liquefaction of soil does not generally occur below depths of 40 to 50 feet below the ground surface due to the confining pressure at that depth. In addition, saturated fine sands with relative densities of approximately 70 percent or greater are not likely to liquefy, even under severe seismic events.

2. Project Impacts

The proposed development includes the construction of buildings, interior streets, new drainage systems, and other infrastructure improvements. The site encompasses approximately 4,937.5 acres and is located in the vicinity of major earthquake faults. Onsite soils may pose some challenges to the constructions of the warehouse buildings and other site improvements. Proper design, site preparation, and grading procedures can eliminate any difficulties, however.

Onsite soils contain some cobble and boulders. Particles greater than three inches in diameter in the upper two feet of the building pad sub-grade interfere with the utility and foundation excavations, therefore such materials will be removed from the top two feet of ground surface. The new structural fill soils are expected to extend to depths of at least three feet below the foundation bearing grades, and another foot or more of soil beneath this will be densified and moisture conditioned. Impacts to the site related to soil stability, infill, erosion, water runoff, and a number of geotechnical elements can be reduced to less than significant levels through the implementation of mitigation measures that are discussed below.

Soils

Expansion

Soil expands when its temperature rises and contracts when its temperature is lowered. It differs from most other materials in that the range of temperature variation is not constant throughout its depth. At the surface, the temperature variation is near that of the air. At some depth, the temperature is nearly constant throughout the year. Although the problem of expansive soils is aggravated by moisture and vegetation, and there is little vegetation on the project site. The sandy and soils in the Specific Plan area site are not considered to be expansive.

Settlement

When the weight of a building is applied to soil, this causes the soil bed to compress, and the air and water that fill the voids are squeezed out of the soil. This process is called pre-consolidation. The result of the process of consolidation is soil settlement. The Specific Plan area consists of alluvial soils. The alluvial soils have various strengths and may not be sufficiently uniform or compact to support the foundation loads of new buildings. Reliance upon these existing soils to support new buildings could lead to unacceptably levels of post-construction settlement. Therefore, grading will be required in order to remove any low-density soils that have the potential to collapse and to be compressed. After grading, post-construction settlements onsite is expected to be within tolerable limits.

Shrinkage and Subsidence

The presence of vegetation has marked influence on the stability of the upper layers of a soil mass. Brush and grass act as insulation, reducing frost heave. In seasons of abundant rainfall, vegetation exerts very little influence on soil volume change. When the weather is dry, plants draw even more out than normally is lost through evaporation and lowering of the water table. This results in greater shrinkage in the upper portions of soil. Generally stable areas may have pockets of unstable ground within them. Caverns and underground mines, and water and oil bearing strata subject to pumping are especially prone to cause significant subsidence. However, due to the arid alluvial nature of the soils on site, such conditions are not expected on site.

Liquefaction

Liquefaction is a phenomenon in which the strength and stiffness of soil is reduced by earthquake shaking or other rapid loading. Earthquake-related liquefaction has been responsible for tremendous damage in earthquake areas in California and beyond. Liquefaction occurs in saturated soils, in which the space between individual particles is completely filled with water. This water exerts a pressure on the soil particles that influences how tightly the particles themselves are pressed together. Prior to an earthquake (or blasting activities), water pressure is relatively low. Earthquake shaking can cause the water pressure to increase to the point where the soil particles can readily move with respect to each other. The Specific Plan area generally consists of granular soils with historic groundwater depths ranging from approximately 105 feet below the surface to 155 feet below the surface.²¹ Thus, the site is not considered susceptible to liquefaction during seismic events in nearby faults. Likewise, groundwater is not expected to impact grading or foundation construction activities.

²¹ California Department of Water Resources, Groundwater Level Data, State Well Numbers 06N03W21P0015 and 06N03W04E001S, 1957.

Water Erosion

The Specific Plan area is susceptible to seasonally heavy rains and these may cause soil erosion and damage to manmade features such as drainage channels and building foundations. No permanent streams or rivers are present on the site, thus no significant watercourse will be impacted by water erosion. Storm water systems on site shall be designed to minimize erosion and siltation both onsite and off-site. The hydrology chapter of this Environmental Impact Report addresses the requirement for submission of a Storm Water Prevention Pollution Plan (SWPPP). The SWPPP addresses a range of measures including temporary and permanent erosion control practices; construction practices that minimize storm water contamination; grading and compaction requirements; coordination of Best Management Practices with construction and post-construction activities; and compliance with Town, county, state and federal requirements.

Wind Erosion

The Specific Plan area is susceptible to strong winds and wind erosion hazards. Site development will result in the disturbance of surface soils and will aggravate the potential for wind erosion during the site preparation and building construction process. The control of fugitive dust during construction, as well as the control of other contaminants during and after the construction process, is discussed in considerable detail in the Air Quality section of this EIR, and mitigation measures are contained therein.

Geology

Ground Shaking

The Specific Plan area consists primarily of gently sloping terrain with sandy, silty, and gravelly soils, therefore hazards associated with slope instability and liquefaction are considered to be quite low. Any manufactured slopes on the site must be designed to minimize potential instabilities. The warehouse and other buildings will be exposed to seismic activity and high levels of ground shaking. Should strong ground shaking occur, some seismically induced settlement may be expected.

Although the sections of the site that are intended for buildings, streets, and other improvements have only a slope of two percent or less, slope design for development in the Specific Plan area will be based on stability analyses using parameters established in development specific geotechnical investigations, including subsurface investigations and laboratory testing. Testing parameters will be based upon the anticipated ground shaking potential in the Specific Plan area.

The Uniform Building Code provides procedures for quake resistant structural design that adjusts for on-site soil conditions, seismic zoning, occupancy, as well as the configuration of the structure including the structural system and height. These procedures and related engineering standards have been followed during design and of this project. Related requirements such as excavation and compaction are outlined in the mitigation section below.

Surface Rupture

Surface rupture occurs when movement on a fault deep within the earth breaks through to the surface. With its location between a major fault zone, the Specific Plan area is likely to experience strong ground motions due to earthquakes. However, the site is not located within an Alquist-Priolo Fault Zone, and, therefore, the likelihood of significant rupture at ground surface is low.

3. Mitigation Measures

Based upon soils surveys and geotechnical literature development of the Specific Plan is feasible on the project site from a geotechnical perspective. With the implementation of standard construction practices for the area, damage to structures from potential earthquakes will be mitigated to less than significant levels. Additional site-specific geotechnical investigations will be necessary in order to refine engineering design parameters such as site preparation, grading, and foundation design, as well as to assure that design criteria are responsive to onsite soils and to the effects of differential settlements resulting from potential ground shaking. Any refinements to the geotechnical analysis will need to be completed prior to the approval of development plans. Potential impacts from geotechnical and soil-related factors can be mitigated through the measures required below.

Site Clearance

1. Based on conditions encountered at the time of the subsurface exploration, stripping of moderate native grass and weed growth is expected to be necessary prior to the commencement of grading activity. Initial site stripping shall include removal of any surfacial vegetation. Man-made objects shall be over-excavated and exported from the site. Removal of unsuitable materials may require excavation to depths of four feet or more below the existing site grade.
2. Asphaltic pavements and building foundation remnants shall be demolished and the resulting debris shall be properly disposed of off-site, or crushed to a particle size of two inches or less for eventual use as structural fill or for use as new pavement sub-base.
3. Zeolite stockpiles may be mixed with onsite soils and used in compacted fills. All fill soil, whether onsite or imported, shall be approved by the project soils engineer prior to placement as compacted fill. All fill soil shall be free from vegetation, organic material, debris, as well as cobbles and boulders over eight inches in diameter. Approved fill soil shall be placed in horizontal lifts of appropriate thickness as prescribed by the soils engineer, watered and aerated as necessary to obtain near-optimum moisture content.

Excavation

1. Soils within the proposed building areas shall be over-excavated to a depth of at least three feet below existing grade or proposed building pad sub-grade elevation, whichever is greater. All existing fill soils should be over-excavated in their entirety throughout the site.
2. Once the existing onsite settling basins are drained, initial site preparation shall include over-excavation of any loose or softened soils, such as silt deposits or organic materials.
3. Sub-grade preparation for parking areas shall begin with the removal of all soils disturbed during the stripping and demolition process. Over-excavation of the existing soils in the new parking areas will be required where fill areas are greater than five feet, and where lower strength, or unstable soils are identified during grading.
4. If caving occurs within shallow excavations, flattened excavation slopes shall be used to provide excavation stability. Deeper excavations may be used to provide external stabilization such as shoring or bracing.

Compaction

1. Utility trench backfill shall be compacted to at least ninety percent of the ASTM D-1557 maximum dry density. As an alternative, clean sand may be placed within trenches and compacted in place. Surficial organic materials may be blended with the new fill soils, but may not exceed 3% percent of content.

Grading

1. Remedial grading will be warranted in some the building areas and fill areas to remove and replace looser and lower quality soils with compacted structural fill. The structural fill that is used as replacement soil shall consist of fine, well-graded soils that have a very low expansive potential.
2. To avoid ponding and building damage from storm water, adequate sloping shall be established during the final grading process so that there is a two percent grade away from every structure for at least three feet, and a one percent or more grade beyond this point to the street, curb, or formal drainage system. All roof and canopy drainage shall be properly conducted away from all buildings and off the site, or to on-site detention facilities in an approved and non-erosive manner.

Construction

1. The floors of the new structures shall be constructed as conventional slabs-on-grade supported on newly placed structural fill, extending to at least three feet below the proposed building pad sub-grade. Minimum slab thickness shall be six inches.
2. Post-construction planting and other erosion control methods shall be implemented to minimize slope erosion and improve slope stability.

Wind Erosion Prevention

1. A wind erosion and dust control plan shall be submitted to and approved by the Town prior to issuance of grading permits. The control of fugitive dust during construction, as well as the control of other contaminants during and after the construction process, is discussed in considerable detail in the Air Quality chapter of this report, and mitigation measures are contained therein.
2. Construction management shall provide for maintaining appropriate soil moisture, applying soil binders, the planting of stabilizing vegetation, and erecting temporary and/or permanent wind breaks to mitigate wind erosion. Soils shall be pre-watered prior to grading and the project proponent shall maintain site-watering activities during grading operations and over the course of construction.
3. In accordance with standard policies, buildings, light poles, street lights, and signs must be designed and constructed to withstand extreme wind velocities.

Mitigation Monitoring and Reporting Program

1. Throughout the site preparation process, the Town Building and Safety Division shall inspect the site to ensure compliance with Apple Valley ordinances and conditions of approval, as well as additional site clearance, excavation, compaction, grading, construction, and erosion control mitigation measures specified in this document.
Responsible Parties: Building and Safety Division.

2. After final development plans and specifications have been prepared, but prior to construction and grading, building foundation plans shall be reviewed by a geotechnical consultant and the Town to verify compatibility with site soils and geotechnical conditions, and conformance with recommendations in development specific geotechnical report.
Responsible Parties: Building and Safety Division.

3. When so required, rough grading shall be performed under geological and engineering observation of a geological consultant and/or the Town Engineer. Rough grading includes, but is not limited to, grading of over-excavation cuts, fill placement, and excavation of temporary and permanent cut slopes. In-place soil density should be determined by a method acceptable to the Building and Safety Division.
Responsible Parties: Town Engineer, Building and Safety Division, Geotechnical Consultant.

4. When deemed appropriate by the Town Engineer and/or geotechnical consultant, the consultant or engineer shall perform the following observations and actions during site grading and construction of foundations:
 - Observation of all grading operations
 - Geologic observation of all cut slopes
 - Observation of all key cuts and fill benching
 - Observation of all retaining wall back cuts, during and following completion or excavation
 - Observation of all surface and subsurface drainage systems
 - Observation of backfill wedges and drains for retaining walls
 - Observation of pre-moistening of sub-grade soils and placement of sand cushion and vapor barrier beneath the slab
 - Take sufficient tests to verify moisture content, uniformity, and degree of compaction obtained.
 - Observation of all foundation excavations for the structure or retaining walls prior to placing forms and reinforcing steel
 - Observation of compaction of all utility trench backfill
 - Observation of post-construction planting to minimize erosion
 - Observation of the proper installation of roof drainage to prevent erosion.Responsible Parties: Town Engineer, Geotechnical Consultant, Site Developers/Engineers.

5. To ensure the development of the project site in conformance with sound engineering practices and the recommendations of the engineering report, the Town Engineer and Building and Safety Division shall be provided with copies of geotechnical reports. Recommendations based upon subsequent geotechnical analysis shall serve as the basis for final engineering design parameters.
Responsible Parties: Site Developers/Engineers.
6. Geotechnical observations and testing shall continue over the course of project construction. Field review during site grading shall allow the evaluation of exposed soil conditions, and the confirmation or revision of the assumptions and extrapolations made in formulating the design parameters set forth in the geotechnical report. Construction shall be observed and documented by a geotechnical engineer at the following stages:
- Upon completion of clearing and during excavation of building and pavement areas
 - During all stages of earthwork and grading operations, including scarification, recompaction, and utility trench backfilling
 - Prior to paving or other construction over fill or backfill, and
 - When any unusual soil conditions are encountered during construction.
- Responsible Parties: Site Developers/Engineers, Building and Safety Division.
7. A final report upon the completion of construction, summarizing compliance with the recommendations of geotechnical reports and observations during the grading work shall be prepared. In the event that conditions during construction appear to vary from those indicated in the geotechnical reports, a certified geotechnical engineering consultant shall be contacted immediately to assure conformance with sound engineering practices.
Responsible Parties: Building and Safety Division.

F. Hydrology

The following discussion addresses existing drainage conditions in the Specific Plan area and the future drainage system. It then reviews the potential impacts of the proposed project on the local and regional drainage system. The discussion is based on sources including the Apple Valley General Plan and associated Environmental Impact Report²², the Mojave Water Agency²³, as well as the biological study for the project²⁴, and the current Master Plan of Drainage²⁵.

1. Existing Conditions

Regional Conditions

The Town of Apple Valley and the Specific Plan area are located on an alluvial plain in the Mojave Desert, generally north of the San Bernardino Mountains. The area drains the surrounding mountains and foothills to the Mojave River. Flooding from short intense rainstorms is a potential hazard in the Town, especially at the base of the foothills, and around streams and washes. The 100-year flood zones in the Town are concentrated around the Mojave River and its immediate tributaries, as well as the Apple Valley Dry Lake.

Rain averages less than an inch per month during most of the year in Apple Valley and the surrounding communities, however rain typically exceeds this amount in the months of January, February, and March, as well as July and August, and less in other months. Much of this rain can be attributed to moisture that is carried inland from the Pacific Ocean. Rainfall received in nearby mountain slopes increases with elevation. In addition, the mountains are also cooler, and experience a four to five degree temperature drop with every one thousand foot increase in elevation. Summer daily high temperatures for July, August, and September are in the low to mid 90s. Winter highs in December, January, and February are in the mid to upper sixties.

The region is susceptible to localized, high-intensity thunderstorms, tropical storms, and winter storm conditions. A strong thunderstorm can result in as much as an inch of rain in an hour. Although the ground may generally be dry at the beginning of a storm, the amounts and intensities of rainfall can quickly saturate the ground, thereby reducing percolation and increasing runoff. Development tends to increase runoff by creating large areas of covered, paved, or otherwise impermeable surfaces, thus decreasing the areas in which rainwater can percolate into the ground, and increasing the need for planned drainage systems.

Local and Onsite Conditions

The Apple Valley watershed is located in the high desert of southern California, and encompasses 98 square miles that drain into the Apple Valley Dry Lake. The Apple Valley watershed boundary is generally defined by the Ord Mountains to the south, the Granite and Fairview Mountains on the east; and Black Mountain on the north. A portion of the westerly boundary is defined by Bell Mountain and by Catholic Hill (just south of Corwin Road and east

²² "Apple Valley General Plan EIR," prepared by Cotton/Beland/Associates, May 1991.

²³ "Historic and Present Conditions in the Upper Mojave Basin," prepared by the Mojave Water Agency, 1985.

²⁴ "Town of Apple Valley, North Apple Valley Specific Plan, Biological Resources," prepared by AMEC, May 2006.

²⁵ "Apple Valley Master Plan of Drainage," prepared by San Bernardino County Flood Control District, 1991.

of Rimrock), while the remaining westerly boundary follows a ridge line between Apple Valley and Victorville. Apple Valley has steep impervious mountains with incised channels on the perimeter of the watershed, and the remainder of the watershed is valley floor which slopes gently to the dry lake.

The Specific Plan area encompasses about 4,937.5 acres in the northeastern portion of the Town. The project boundary is generally defined by Quarry Road to the north, Waalew Road to the South, Central Road to the east and Dale Evens Parkway to the west, entirely encompassing the Apple Valley Airport. Natural drainage features of the site have been altered to some extent due to the introduction of roadway and the sparse development on site. Much of the Specific Plan area is in a natural state with little development. Hendale-Bryman loamy sands are predominant across the project site and are a series of the Aridosol Soil Order occurring on 0 to 2 percent slopes. These soils are found on terraces and older alluvial fans, and are formed by the mixing of alluvium derived mainly from granite sources in combination with erosion caused by wind and water.²⁶

Almost all waters in Apple Valley, except the extreme northwest, drain into the Apple Valley Dry Lake. The portion of Apple Valley that does not drain into the Apple Valley Dry Lake is in the northwest corner of the Specific Plan area, north of Johnson Road and west of Central Road. Apple Valley Dry Lake is located about one and one quarter miles south of the Apple Valley Airport's crosswinds (east-west) runway. The dry lake area extends about a mile to the south, over a mile to the west, and almost two miles to the east. The Town has a history of flooding problems in and around the dry lake.

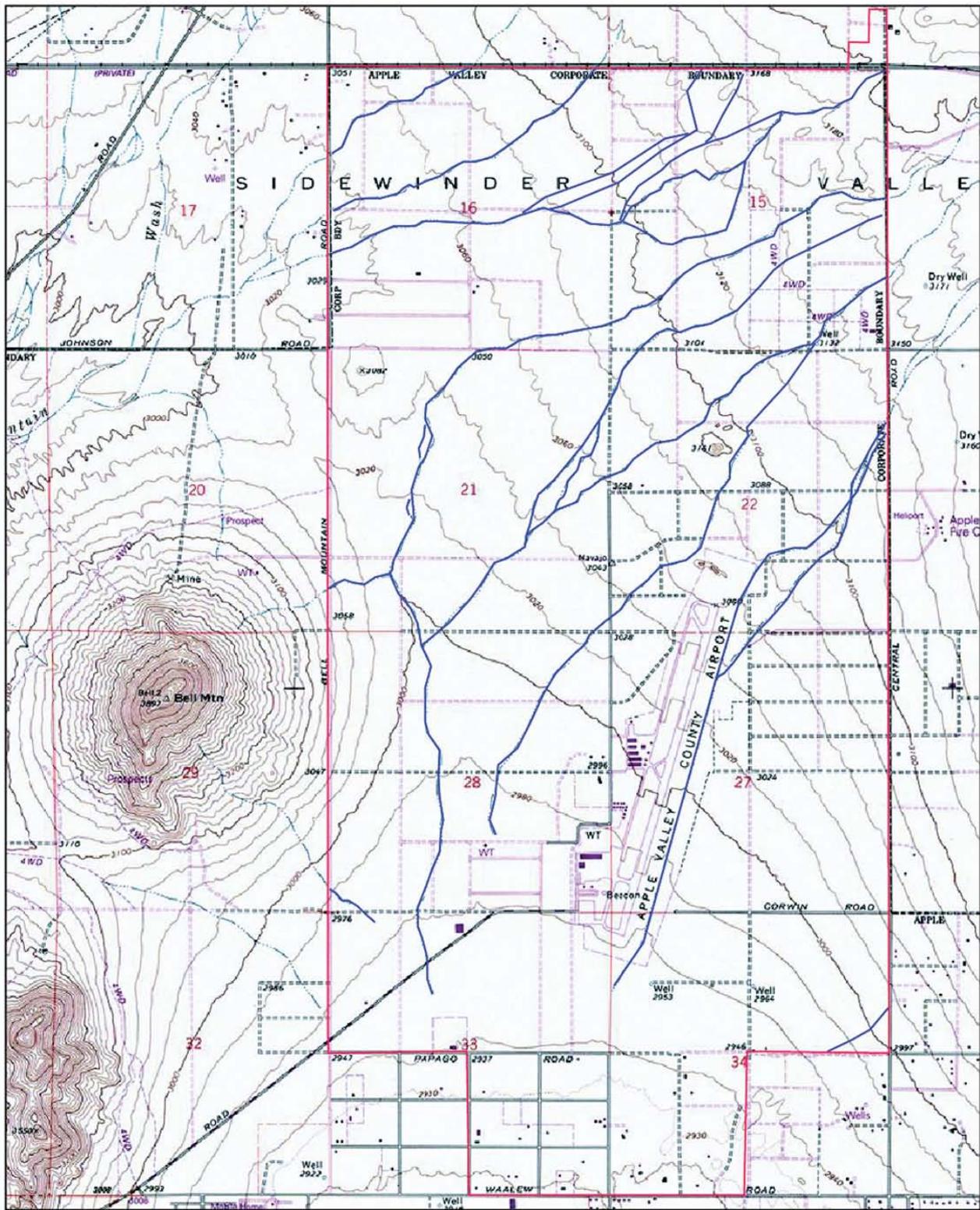
The North Apple Valley Industrial Specific Plan area drains naturally from the northeast to the southwest, and slopes are generally one percent or less throughout the area. The intersection of Quarry Road and Central Road is the highest point in the Specific Plan area at 3,200 feet above sea level. The corner of the Specific Plan area at Papago and Central Road has an elevation of 2,997 feet. On the west side of the Specific Plan area, the intersection of Quarry Road and Dale Evens Parkway is at 3,051 feet above sea level, and the corner at Papago Road and Corwin Road is at 2,947 feet above sea level. The southernmost points in the Specific Plan area are along Waalew Road between Fernandez Avenue and Dakota Road, with elevation is in the range of 2,918 to 2,930 feet.

The Specific Plan area includes several shallow dry wash "blue-line streams" as identified on the 1970 (Revised 1993) United States Geological Survey 7.5 minute Apple Valley North Quadrangle. These washes were noted to exhibit poorly defined stream banks and are comprised of unconsolidated, sand and highly porous soils.²⁷ In addition, no riparian vegetation was identified within these streambeds, nor were any seeps, springs, ponds, lakes or other wetlands noted to occur within the Specific Plan area. However, during extreme flood events the blue-line streams found in the northwest corner of the Specific Plan area (Section 16) are believed to flow into the Bell Mountain Wash, which subsequently drains into the Mojave River (see Exhibit III-17). Because the Mojave River is classified as both a state and federal water, surface disturbance altering the bed and banks of blue-line streams that ultimately flow

²⁶ "Soil Survey of San Bernardino County, California, Mojave River Area," prepared by the US Natural Resource Conservation Service, 1994.

²⁷ Ibid.

into the river may require compliance with the Federal Clean Water Act. The remaining blue-line streams do not flow into the Mojave River and therefore disturbance of these streambeds may only require compliance with state permitting requirements. In either case, if these blue-line streams do not exhibit a definable bed and bank, and have no connection to waters of the United States, no specialized state or federal permitting is required.



Project Area



"Blue-line" Streambeds



Map Source: USGS 7.5' Apple Valley North Quadrangle



TERRA NOVA[®]
Planning & Research, Inc.

**North Apple Valley Industrial Specific Plan
Project Area Drainages
Apple Valley, California**

Exhibit

III-17

Apple Valley's Master Plan for Drainage²⁸

Many drainage courses exist in Apple Valley, however, very few are located in the North Apple Valley Industrial Specific Plan area because the northern part of the Town is relatively undeveloped and because the portions of the Town where flooding is of the greatest concern are outside the Specific Plan area. This includes the Apple Valley Dry Lake, which is south of Waalew Road, and the portions of the Town located closer to the Mojave River. All of the Specific Plan area lies higher in elevation than these more flood-prone areas.

The Town's Master Plan for Drainage proposes numerous drainage courses and regional drainage facilities in the northern part of Town. Those with the prefix "N" lie north of the Apple Valley Dry Lake. Maintenance of, and improvements to, these flood control facilities will expedite development of the North Apple Valley Industrial Specific Plan area. The flood control facilities include:

Facility N-01 is an unimproved, open channel, and collects runoff from eight different sources in Fairview Mountain, all of which are diffused on the valley floor. The interception of this runoff from a 3.3 square mile area provides flood protection for buildings east of Central Road.

Facility N-02 is a shallow earthen channel adjacent to the airport, that runs through the majority of the Specific Plan area from Central Road (north of Johnson) to Waalew Road (west of Navajo Road). Runoff transported by Facility N-02 originates from the south side of Black Mountain and from the northeast side of Fairview Mountain, and covers an 8.7 mile area.

Facility N-03 is a riprap-lined channel that transports runoff from the industrial area east of the airport, and merges with facility N-02 south of Papago Road.

Facility N-04. Drainage facility N-04 is a fully leveed channel that conveys runoff southward from Black Mountain which is located north of the Mojave Northern Railroad. Channel N-04 drains an area of 7.6 square miles. A debris basin has been recommended for the railroad, because upstream of the railroad lines, there many drainage paths through the Black Mountain area.

Facility N-05. Drainage facility N-05 is an earthen channel (a portion of which has a riprap lining) that transports runoff generated entirely from the industrial area north of the airport. It merges with N-04 just south of Gustine Street where an earthen levee collects flows.

Facility N-06. Drainage facility N-06 carries runoff generated by Bell Mountain, Little Bell Mountain, and Catholic Hill – all on the western edge of the Specific Plan area. Channel N-06 drains 1.6 square miles of tributaries. It is a natural earthen channel in some areas; has riprap in other sections; and is fully leveed in its southernmost sections. Containment levees are needed on the east side of the upper portions of the channel. In addition debris basins may be required, since the natural channels that drain Bell Mountain are intercepted.

²⁸ "Apple Valley Master Plan of Drainage," prepared by San Bernardino County Flood Control District, 1991.

Facility N-07. Drainage facility N-07 is a riprap-lined channel that carries runoff from Little Bell Mountain and Catholic Hill. This channel parallels Corwin Road and merges with N-06 at the intersection of Corwin Road and Papago Road. This facility requires a containment levee along Corwin Road to channelize flows, and a debris basin will be needed since the natural channels that drain Catholic Hill are intercepted.

2. Project Impacts

Improvements to the site are expected to include buildings totaling approximately 39,438,701 square feet of space, interior roads, and landscaped areas along building perimeters, interior roadways, and parking lots. Build-out of the site will result in the construction of impermeable surfaces that will significantly increase storm water runoff potential generated at the site.

Flooding

Implementation of the proposed Specific Plan will result in increased urban development and associated increase in impervious surfaces, such as roadway, sidewalks, and parking lots, which will reduce the infiltration rate of rainfall and therefore increase runoff. Future development facilitated by the proposed development could also potentially alter and/or disturb existing drainage patterns, which can result in increased sedimentation downstream in the event of a major storm. Development will incorporate a network of channels, which can include greenbelts, and open space areas to convey and collect on-site runoff.

Without mitigation, portions of the project and those areas immediately south of the project may be susceptible to storm-induced flooding, primarily from sheet flow and ponding of water behind embankments. Based on the FEMA maps for the Town, the Specific Plan Area is located in Flood Zone D (“Undetermined”), which is outside of the 100-year and 500-year flood zones. The 100-year flood zone is located approximately one-half mile south of the project at the Apple Valley Dry Lake. The most flood prone areas in Town are located at the Mojave River, approximately four miles southwest of the Specific Plan area.

The surrounding mountains and hillsides have the potential to contribute debris to flood flows, which may increase flood problems by blocking structures meant to convey water through the project and the Town. Swollen streams have the potential to carry sedimentation loads that may exacerbate the flooding problem. The sediment-transport and erosion processes of the fluvial streams during floods can result in a scouring action on streambeds thereby undermining flood control structures as well as roadways.

In order to minimize potential flooding impacts, flood control structures will be installed throughout the Specific Plan area to help reduce potential flood damage. In general, the proposed drainage systems shall be designed in such a way to limit flood hazards, protect the natural watersheds, and thereby protecting the lives and properties in areas subject to flooding. Water runoff from the site will be controlled through future flood control structures and detention basins. Thus, existing storm water infrastructure south of the project site will not be overburdened or negatively impacted by the project.

There are no levees or dams whose failure would cause property damage or loss of life in the Specific Plan area, and threats from mudflow are less than significant on site. In addition, the

Safety Element of the General Plan sets forth a number of goals and policies intended to address potential flooding hazards and hydrology issues in the Town and the Study Area as a whole. It also establishes measures directed at minimizing the impacts of increased development on storm water control facilities.

Contaminants

Vehicle washing will require the installation of clarifiers and oil separators onsite. Once collected, the dirty water would be pumped into a specialized tanker truck and hauled off-site. Potential runoff from onsite storage areas, vehicle and equipment maintenance, waste handling, delivery areas, and loading docks will be carefully managed. No substantial new sources of polluted runoff are expected, and the proposed development will not violate water quality standards or waste discharge requirements.

Groundwater

Future detention basins will be designed to decrease runoff, and increase percolation into the watershed. The development of storm water systems in the Specific Plan area will be designed not to interfere with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level.

3. Mitigation Measures

Design Standards

The Town's Master Plan for drainage recommends maintaining natural drainage alignments whenever possible, and utilizing improved earthen channels unless flow velocities require the channels to be lined with riprap or concrete. Underground, urban-style storm drains have generally not been recommended. The Master Plan of Drainage (1991) recommends that channel alignments that are already present should continue to be used. The high percolation rates in local soils enable flash flows to subside within the channel system, often dissipating before reaching the dry lake. In addition to regional facilities, on-site retention will continue to be required for individual projects, to ensure water reclamation and conservation; control of nuisance flows such as runoff from over-irrigation of landscaping; flood control; and flood channel erosion control.

The high desert area receives little rainfall, but is subject to intense short duration rainstorms that can cause significant flooding, especially near the dry lake. Future development must meet certain drainage criteria prior to the issuance of building permits.

Design standards for property owners shall include the following:

- Building pads must be elevated two feet above the existing ground elevation with drainage swales graded around buildings unless they can be shown to be outside of the 100 year floodplain.
- No buildings may be constructed within 200 feet of any known water course, or within 50 feet of anticipated or existing drainage rights-of-way.

Design standards and actions involving the Town shall include the following:

- The Town should begin to purchase rights of way and accept dedications for drainage channels. If a proposed development lies within the way of a drainage facility identified

in the Town's Master Plan for Drainage, no building permit should be issued until the Town has received the associated dedication or a drainage easement.

- Debris basins should be constructed along the east side of Bell Mountain (just west of Dale Evans Parkway) as development in and around the Specific Plan Area occurs. Basin construction could be funded by the Town in conjunction with the San Bernardino County Flood Control District.
- Retention/detention basins should be considered for several regional channels if rights of way can be obtained in a timely manner to facilitate their construction. The County Flood Control District should have primary funding responsibility, as the tributaries and runoff areas for drainage channels that impact the Specific Plan Area are generally located well outside the Town limits.
- Natural channel alignments should be maintained unless redirecting flows proves to be economically beneficial. The main drainage facilities in the northern portion of Apple Valley are primarily open channels where slopes are generally less than one percent, and where there is a high potential for debris production.
- Open channels should be designed for clear water flow with no debris, due to assumed upstream debris basins.
- All improved channels must be fenced for safety.
- There will be a 15-foot access road along each side of every improved channel.
- Improved earthen channels shall generally be very shallow with trapezoidal 3:1 side slopes.

Drainage Impact Fees

The Town of Apple Valley requires developers to pay mitigation fees depending upon their runoff potential. The Town assesses a drainage impact fee on residences, industrial facilities, and other properties in town. For industrial and commercial facilities, the fee is 11.5 cents per square foot of building footprint. For the proposed development footprint of 39,438,701 square feet, the total drainage impact fees would come to over \$4.5 million.

General Mitigation Measures

The following mitigation measures shall ensure that project impacts are reduced to levels below significance:

1. In conformance with the Clean Water Act, project developers shall prepare a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP shall address the potential sources and locations of storm water contamination, the characteristics and impacts of specific contaminants, temporary and permanent erosion control practices, as well as include water sampling data, construction practices that minimize storm water contamination, coordination of Best Management Practices with planned construction activities, and compliance with Town, county, state, and federal regulations.
2. To keep pollutants out of surface and ground waters, standard mitigation measures shall include the periodic cleaning of interior roads and parking courts, the careful control and monitoring of pesticides and fertilizer, and the treatment of runoff prior to discharge into detention basins.

3. Disturbance of any of the several shallow dry wash blue-line streams (as identified on the 1970 [Revised 1993] United States Geological Survey 7.5 minute Apple Valley North Quadrangle) shall require additional analysis in order to determine if they have definable bed or bank, and if they have any connection to waters of the United States. If it is determined after conferring with the California Department of Fish and Game and the US Army Corps of Engineers that a blue-line stream meets state and or federal requirements, specialize permitting shall be required. The required permits may include:

- Discharge of fill material - Clean Water Act (CWA) §401 water quality certification for federal waters; or Waste Discharge Requirements for non-federal waters; and
- Land disturbance - CWA §402(p) storm water permit, to include the development of a Stormwater Pollution Prevention Plan and a NPDES general construction Stormwater Permit and/or a NPDES General Industrial Stormwater Permit. These permits are accessible on the State Board's Homepage (www.swrcb.ca.gov).

If the project is not subject to federal requirements, activities that involve fill or alteration of surface waters including drainage channels may still be subject to state permitting. Please see information at the Regional board web site at:

- http://www.waterboards.ca.gov/lahontan/Permitting_Questions.htm ; and
- http://www.waterboards.ca.gov/lahontan/files/general_permits4lahontan.pdf.

4. All development in the Specific Plan area shall conform to any future updates or revisions to the Town's Master Plan of Drainage. Site specific hydrology analysis may be required of development within the Specific Plan area, as determined by the Town of Apple Valley Engineering Division.

Mitigation Monitoring/ Reporting Program

1. The applicant's SWPPP shall be submitted to the Lahontan Regional Water Quality Control Board. Proof of said approved plan and associated certification shall be provided to the Town prior to the issuance of grading permits.
Responsible Parties: Developer, Lahontan Regional Water Quality Control Board, Apple Valley Engineering Division.
2. Control of polluted runoff from interior roads, parking courts, landscaped areas, the hillside, and other portions of the site will be managed by future developers and tenants of the Specific Plan area, and shall be monitored by the Town.
Responsible Parties: Future developers and tenants, Apple Valley Engineering Division, Lahontan Regional Water Quality Control Board.
3. Disturbance of any of any blue-line streams (as identified on the 1970 [Revised 1993] United States Geological Survey 7.5 minute Apple Valley North Quadrangle) shall require additional analysis in order to determine if they have definable bed or bank, and if they have any connection to waters of the United States. If it is determined that a blue-line stream meets state and or federal requirements, specialize permitting shall be required.

Responsible Parties: Developers, Apple Valley Engineering Division, Lahontan Regional Water Quality Control Board, California Department of Fish and Game, US Army Corps of Engineers.

4. Final hydrology analyses and final grading plans for development in the Specific Plan area shall quantify retention/detention volumes and assure the provision of necessary storm water facilities on site. Implementation of the Town approved onsite drainage plans shall be reviewed for compliance by qualified Town staff.

Responsible Parties: Developers, Lahontan Regional Water Quality Control Board, Apple Valley Engineering Division.

G. Water Resources/Quality

Introduction

The following discussion addresses existing conditions with respect to water supply and water quality in the Town of Apple Valley. It places the discussion of existing and future water demand within the context of existing and future water availability. It discusses the reliability of water supply and demand and related factors such as State Water Project deliveries, water shortages in dry years and multiple-dry years, reclamation opportunities, groundwater recharge, additional sources of water, and other users of the Mojave Groundwater Basin – the Town’s primary water source.

The discussion is also centered on the Mojave Water Agency (MWA), a state contractor for State Project Water and Watermaster for the Mojave Groundwater Basin, as well as the Apple Valley Ranchos Water Company (AVR), which is the water supplier to the project site. AVR is a private supplier whose district includes all of the North Apple Valley Industrial Specific Plan area. Potential impacts of the proposed Specific Plan and associated mitigation measures are also clarified in this section.

Information sources used in this discussion include the Town’s General Plan, daily flow reports, publications of the Apple Valley Ranchos Water Company as well as the Mojave Basin Area Watermaster, the AVR 2005 Urban Water Management Plan update, and materials from other entities such as the US Geological Survey. A key source of information about water that places the project in a regional context is the Water Supply Assessment for the North Apple Valley Industrial Specific Plan²⁹.

1. Existing Condition

Regional Context

The AVR is located within the boundary of the Town and is the primary water provider for the Town. Its service area includes a total of approximately 43 square miles in southwestern San Bernardino County, which includes an estimated population of 50,415 people.³⁰ AVR’s territory includes the most of Apple Valley, portions of unincorporated San Bernardino County, and a

²⁹ “Water Supply Assessment for the North Apple Valley Industrial Specific Plan,” prepared by Terra Nova Planning & Research, September 13, 2006.

³⁰ “Year 2005 Urban Water Management Plan,” prepared by the Apple Valley Ranchos Water Company, November 2005.

small portion of the City of Victorville. AVR completed an Urban Water Management Plan in November 2005 for their service area. AVR operates 22 domestic wells in Apple Valley with a total capacity of approximately 31.7 million gallons per day. AVR's water system includes about 350 miles of water lines and 8.6 million gallons of storage.

The Specific Plan area receives water from AVR, and this water company in turn extracts all of its water from a large underlying aquifer is the Alto Subarea of the Mojave Groundwater Basin. The Mojave Water Basin was adjudicated in 1996. The adjudication process of the groundwater in the Mojave Water Basin began in 1990 with cross complaints filed in 1991. In 1992 numerous parties agreed to conduct good faith negotiations. In 1993 over 75 percent of the parties involved agreed to the Stipulated Judgment, thus binding the involved parties. In 1995 a trial of the non-stipulated parties was completed. The final judgment was entered in 1996 adopting the physical solution set forth in the Stipulated Judgment. The purpose of the Stipulated Judgment was to create incentives to conserve local water, guarantee that downstream producers will not be adversely affected by upstream producers, and assess producers to obtain funding for the purchase of imported water.

The Alto Groundwater Subarea

The Alto Subarea, which is managed by Mojave Basin Area Watermaster, consists of water-bearing strata underlying a 35-mile length of the Mojave River. The Subarea generally encompasses the communities of Apple Valley, Victorville, Adelanto, Hesperia, Helendale, and Phelan. The Subarea is bounded on the south by the non-water-bearing rocks of the San Bernardino Mountains, by the non-water bearing rocks of the San Gabriel Mountains to the west, and by the Helendale Fault on the north northeast. To the south are the headwaters of the Mojave River, to the east (up-gradient) the Subarea merges with the Este Subarea, to the west (up-gradient) the Subarea merges with the Oeste Subarea, and to the north (down-gradient) the Subarea merges with the Centro Subarea. The Altos Subarea is recharged from the snowmelt of the San Bernardino Mountains and the Mojave River. Due to its close proximity to the headwaters of the Mojave River, the Alto Subarea has the largest water supply in the Mojave River Groundwater Basin.

The Urban Water Management Plan prepared by AVR for compliance with the California Department of Water Resources, indicates that the subbasin contains approximately 82,400 ac-ft of water with out-flows and losses calculated at 47,700 ac-ft.³¹ Thus the net volume of water in the Alto Subarea is estimated to be 34,700 ac-ft of water. AVR draws all of its water from 22 deep wells in the Subarea. Table III-30 (next page) illustrates the Alto Subarea annual production from 1994 through 2005.

Factors that contribute to increases and decreases in the amount of water stored in the Alto Subarea include precipitation levels, percolation levels, the movement of water from dams and water transmission lines into the basin, and the amount of water withdrawn by AVR (for residential, industrial, and all other uses), as well as the amount of water withdrawn by other water purveyors that rely upon the Alto Subarea for their water supply.

³¹ Ibid.

Table III-30
Alto Subarea Verified Annual Production
1994 – 2005

Year	Acre-Feet	Million Gallons
1994	81,100	26,427
1995	75,100	24,471
1996	87,500	28,512
1997	88,500	28,838
1998	75,900	24,732
1999	83,300	27,143
2000	88,300	28,773
2001	82,800	26,980
2002	87,100	28,382
2003	86,700	28,251
2004	92,700	30,206
2005	88,900	28,968

Source: Mojave Basin Watermaster Annual Reports, as summarized in the 2004 Regional Water Management Plan, November 2005.

Within the AVR area of benefit, the groundwater production from the aquifer has ranged from 14,741 to 16,189 acre-feet per year since 1999, with an average of approximately 15,600 acre-feet per year, as shown on Table 31. Users within the AVR area of benefit include residential, commercial, industrial, golf courses, agricultural and animal facilities.

Table 31
Apple Valley Ranchos Annual Water Production
1999 - 2005

Year	Acre-Feet	Million Gallons
1999	14,916	4,860
2000	16,002	5,214
2001	14,741	4,803
2002	15,853	5,166
2003	15,536	5,062
2004	16,100	5,246
2005	16,189	5,275

Source: "Urban Water Management Plan," Table 6, prepared by Apple Valley Ranchos Water Company, 2005.

The 2005 pumpage in the Alto Subarea by all users amounted to approximately 88,900 ac-ft. Of the 88,900 ac-ft, pumpage within the AVR area of benefit amounted to approximately 16,189 ac-ft, which represents approximately 18% of the total pumpage within the Alto Subarea.

Groundwater Recharge

The weather in Apple Valley can alternate between the extreme of drought and short rainy periods. Rainfall measured at the Apple Valley Airport from 1990 through 2005 has averaged approximately five inches per year. During rainy periods, surface water flows from the ephemeral washes and local drainage system. The water that does not percolate into the ground ultimately flows into the Mojave River which assists in the replenishment of the Alto Subarea. Additional flows also come from the importation of water from outside the basin. However, the majority of groundwater recharge occurs from the Mojave River and the upstream stormwater and snowmelt. In addition, the MWA imports water from the California State Water project that is spread in the Mojave River to assist in the recharge of ground water in the basin.

Water Reclamation

Wastewater for buildings and uses in the Town of Apple Valley is collected by the Town and is conveyed to regional interceptor lines operated by the Victor Valley Wastewater Reclamation Authority and treated at the Victor Valley Wastewater Treatment Plant. The Authority operates an 11 MGD wastewater treatment water reclamation facility for Apple Valley, Victor Valley, Victorville, Hesperia, and San Bernardino County Service Areas 42 (Oro Grande) and 64 (Spring Valley Lake), serving a population of about 200,000. The existing plant treats a portion of the flow to a tertiary level for discharge into the Mojave River Basin and a local golf course, where as remaining flows are treated to a secondary level for percolation. Expansion plans are currently underway to increase the plants capacity by an additional 3.5 MGD.

State Water Project

MWA is a State Water Project (SWP) contractor, and AVR contracts with MWA. From Lake Oroville in the north to Lake Perris in the south the SWP includes 660 miles of aqueduct and conveyance facilities. The SWP is contracted to deliver 4.1 million ac-ft/yr to 29 contracting agencies. Reliability factors of 69% to 77% SWP were utilized in MWA UWMP which yield a conservative 53,800 to 58,400 ac-ft of entitlement for MWA. MWA’s estimated entitlement to SWP water is shown in Table III-32 below.

**Table III-32
 Mojave Water Agency State Water Project
 Available Water Supply Sources through 2025**

Supply Type	2010	2015	2020	2025
Natural*	65,500	65,500	65,500	65,500
SWP	53,800	55,300	58,400	58,400
Total	119,300	120,800	123,900	123,900

Source: Draft 2005 Urban Water Management Plan Update, "Table 4-9(s): Available Water Supply Sources Through 2030, Mojave Water Agency, 2005.

A copy of MWA’s SWP entitlement is available for review at the MWA administrative offices. To illustrate the potential fluctuation in SWP deliveries, in December 1999 DWAs initial allocation for MWAs 2000 entitlement was only 37,900 acre-feet, which was 50% of their entitlement of 75,800 acre-feet. This reduced allocation was due to dry conditions. In contrast, the allocation approved April 2006 was 100% of the entitlement due to increased precipitation and positive water conditions. This was the first year since 1999 that the allocation has been 100%.

MWA has recognized the need for additional imported water in order to eliminate groundwater overdraft, and has purchased additional water from the SWP when available. Additional SWP water is not expected to be available on a regular basis in the future and should not be relied upon as the only long-term source of overdraft reduction in the Alto Subarea, and the Mojave Water Basin. Purchase of additional SWP water involves the purchase of water on the spot market, as opposed to the purchase of entitlement to an ongoing supply of that water.

Future Water Supply and Demand

AVR is located in the Mojave Water Basin and is subject to the Mojave Basin Judgment. As a result of the adjudication of the basin, MWA has assigned AVR a free production allowance of 8,567 acre-feet per year. All groundwater pumped beyond this amount is subject to replacement, which is possible through payment to the Watermaster of \$246 per acre-foot (as of 2005-06), or through the transfer of unused water rights within the Alto Subarea to another party to the judgment. For water year 2005-06 AVR's consumption will achieve a safe yield, that is, imports and inflows will equal consumption.

In addition, the project is subject to the MWA's Regional Water Management Plan (November 2005). This plan identifies steps that will make it possible to meet future water demands in the Mojave water basin. Implementation of the plan is expected to meet 99% of future demand, achieve a safe yield (balance) to all aquifers in the Mojave water basin.

In 2003, MWA reached agreement with the Metropolitan Water District of Southern California (MWD) to store an additional 60,000 acre feet of water in the Mojave basin in exchange for MWD to have the right to withdraw an equal amount of water in the future should there be a significant drought that would reduce imported water to the MWD.

The AVR UWMP assessed water demands in terms of its reliability to deliver water in terms of typical years as well as single and multiple dry years. The critical variable for these dry years is the amount of water than can be purchased from MWA. The following table illustrates the AVR estimate for water supply and demand for a normal water year.

**Table III-33
 Apple Valley Ranchos Projected Water Supply and Demand
 (acre-feet/year)**

Water Supply Sources	2010	2015	2020	2025
Groundwater Replacement Water				
Purchased from MWA	20,000	21,250	27,250	33,760
Groundwater (FPA)	8,567	8,567	8,567	8,567
Purchased Water Rights	500	1,500	1,500	1,500
Jess Ranch Water Supply				
Contract(s)	4,488	4,488	4,488	4,488
Additional Replacement Water				
Purchased from MWA	0	0	1,311	3,195
Subtotal	33,555	35,805	43,116	51,510
Estimated AVR Water Use	-21,412	-25,311	-29,919	-35,367
Net Water Total	12,143	10,494	13,197	16,149

Source: "Water Supply Assessment for the Proposed North Apple Valley Industrial Specific Plan and Associated Land Use Approvals," Table 4, prepared by Terra Nova Planning & Research, Inc., September 13, 2006.

The AVR UWMP estimates for single dry years is based on a 25% reduction in a normal year water supply. The AVR single dry year scenario estimates a surplus in water through 2025. The multiple dry year supply and demand estimates are based on a 15% reduction in a normal water year supply. Under each of these scenarios in the UWMP, AVR estimates that supplies will meet demand with a surplus through 2025. The details of these estimates are illustrated below in the tables under Project Impacts.

During drought scenarios, AVR responds with conservation measures and the pursuit of additional water for purchase to fill the gap in supply and demand. Conservation methods include best management practices, including water audits, incentive programs, plumbing standards and retrofits, distribution leak detection and repair, large landscape conservation programs, conservation programs for commercial, industrial and institutional uses, high efficiency appliance rebate programs, and public education.

Water Quality

The Apple Valley Ranchos Water Company Consumer Confidence Report 2003/2004 documents the quality of AVR's water supply. According to this report, hundreds of water samples are taken every month and analyzed to assure that all health related and aesthetic drinking water standards are met. And as a result, the water provided by AVR does not exceed any federal or state drinking water standards.

Notable test results for primary water standards included lead and arsenic.

Lead: AVR has no lead service lines or other plumbing components in their water system that could add lead to water delivered their customers. Since 1992, AVR has conducted eight rounds of lead monitoring of homes with what USEPA defines as the “highest risk” to lead corrosion. Although rarely detected, when lead has been detected, the levels have been well below maximum allowable levels. Results have been so good that monitoring has been reduced and is performed once every three years. The lead standards have never been exceeded by AVR.

Arsenic: In January 2006 the US Environmental Protection Agency lowered the maximum containment level of arsenic from 50 parts per billion (ppb) to 10 ppb. The highest sample found in the AVR system was 7 ppb, with an average of 2 ppb.

Other notable chemicals tested included chromium, copper, fluoride, nitrates, radium 226 and 228, and uranium all of which were found to be at levels that were at a fraction of the maximum allowable contaminant levels. With respect to secondary and aesthetic standards for water quality, turbidity, total dissolved solids, sulfates, chlorides, and iron were all found to be at acceptable containment levels. In terms of the components of water quality related to the distribution system, levels of copper, coliform bacteria, trihalomethanes, and haloacetic acids were all well below maximum contaminant levels allowed. In summary, the quality of water supplied by AVR is considered to be very high.

Protection of the Groundwater Supply

The source of Town’s drinking water is from wells that have been tapped into the Alto Subarea. Unprotected groundwater supplies may become contaminated from various sources, including untreated source water containing viruses and bacteria, septic system leachate, livestock operations, urban storm water runoff, industrial wastewater discharges, pesticides and herbicides that come from agriculture, petroleum production, leaky gas stations, and many other sources.

In Apple Valley, a vital role of the Town is to make sure that industrial and commercial sources of groundwater contaminants are minimized or eliminated. This is achieved through many channels, including public education programs, water quality monitoring programs, the permitting process, requirements for effective storm water systems including debris traps, operation of state-of-the-art water reclamation facilities, removal and capping of underground storage tanks, and the implementation of effective programs to facilitate the proper disposal of hazardous wastes and toxins from local businesses, homes, medical facilities, and industries.

2. Project Impacts

The proposed project will generate a substantial demand for local water resources. Demand for the project is associated with commercial and industrial development. Future water usage associated with the projects may be estimated using a variety of published water consumption rates. Such consumption figures are offered as guides, and should be evaluated for appropriateness to specific projects.

Project Water Demand

Water demand at buildout of the Specific Plan was estimated in the North Apple Valley Industrial Specific Plan Water Supply Assessment to be 5.5 million gallons per day, or 6,199.7

acre-feet per year at buildout.³² Project water demand is illustrated in Table III-34 below. This demand was estimated using the commercial and industrial square footages of the proposed development multiplied by water use coefficients established in the southern California desert region.³³

**Table III-34
 Project Water Demand**

Land Use	AF/YR	MGD
General Commercial (256.0 acres)	506.9	0.453
Industrial (3,535.9 acres)	5,692.8	5.082
Total Water Demand	6,199.7	5.535

Source: "Water Supply Assessment for the Proposed North Apple Valley Industrial Specific Plan and Associated Land Use Approvals," Table 1, prepared by Terra Nova Planning & Research, Inc., September 13, 2006.

The following table illustrates the Specific Plan area estimated water consumption in the context of the 2005 AVR Urban Water Management Plan projected water supply and demand through 2025. A linear growth pattern was applied to the Specific Plan area in order to estimate a buildout scenario that was used to put the project in the context of the AVR water projections. However, it is unlikely that the project will build out in such a short period of time and with such intensity, therefore these estimates should be considered conservative.

**Table III-35
 Projected Water Supply and Demand
 Normal Year with Project (acre-feet/year)**

Water Supply Sources	2010	2015	2020	2025
Groundwater Replacement Water Purchased from MWA	20,000	21,250	27,250	33,760
Groundwater (FPA)	8,567	8,567	8,567	8,567
Purchased Water Rights	500	1,500	1,500	1,500
Jess Ranch Water Supply Contract(s)	4,488	4,488	4,488	4,488
Additional Replacement Water Purchased from MWA	0	0	1,311	3,195
Subtotal	33,555	35,805	43,116	51,510
Estimated AVR Water Use	-21,412	-25,311	-29,919	-35,367
Subtotal	12,143	10,494	13,197	16,149
Project Water Demand*	-1,550	-3,100	-4,650	-6,200
Net Water Total	10,593	7,394	8,547	9,943

Source: "Water Supply Assessment for the Proposed North Apple Valley Industrial Specific Plan and Associated Land Use Approvals," Table 4, prepared by Terra Nova Planning & Research, Inc., September 13, 2006.

* Assumes linear site development starting in 2007 with project buildout in 2025.

³² "Water Supply Assessment for the Proposed North Apple Valley Industrial Specific Plan and Associated Land Use Approvals," Table 1, prepared by Terra Nova Planning & Research, Inc., September 13, 2006.

³³ "Water System Backup Facilities Charge Study," Table 11-Annual Consumption Factors by Development Type Factors, prepared by the Coachella Valley Water District Engineering Department, September 2004.

The following table illustrates the impacts of the Specific Plan to AVR water supplies during single dry years.

Table III-36
Projected Water Supply and Demand
Single Dry Year with Project
(acre-feet/yr)

Water Use	2010	2015	2020	2025
AVR Water Supply	25,166	26,854	32,338	38,632
AVR Estimated Demand	-19,378	-22,906	-27,077	-32,007
Subtotal	5,788	3,948	5,261	6,625
Project Water Demand*	-1,403	-2,805	-4,208	-5,611
Net Water	4,385	1,143	1,053	1,014

Source: "Water Supply Assessment for the Proposed North Apple Valley Industrial Specific Plan and Associated Land Use Approvals," Table 4, prepared by Terra Nova Planning & Research, Inc., September 13, 2006.

* Assumes linear site development starting in 2007 with project buildout in 2025; also assumes a 9.5% reduction in consumption to match AVR reduction during dry years, which is assumed because retail demand is expected to decline in response to appeals for conservation and mark pressures during drought conditions.

The following tables illustrate the impacts of the Specific Plan to AVR water supplies during multiple dry year scenarios. For the multiple (five) year drought scenario from 2006 through 2010, AVR water supplies in the subarea in the year 2010 would be 28,522 acre-feet or a 15% decrease in planned water supplies in the normal year 2010. As illustrated in the following table, adequate public water supplies in the subbasin will be available during and multiple year drought conditions through 2010.

Table III-37
Projected Water Supply and Demand
Multiple Dry Years 2006 - 2010 with Project
(acre-feet/yr)

Water Use	2006	2007	2008	2009	2010
AVR Water Supply	20,873	22,785	24,697	26,610	28,522
AVR Estimated Demand	-16,990	-17,587	-18,184	-18,781	-19,378
Subtotal	3,883	5,198	6,513	7,829	9,144
Project Water Demand*	0	-561	-842	-1,122	-1,403
Net Water	3,883	4,637	5,671	6,707	7,741

Source: "Water Supply Assessment for the Proposed North Apple Valley Industrial Specific Plan and Associated Land Use Approvals," Table 8, prepared by Terra Nova Planning & Research, Inc., September 13, 2006.

* Assumes linear site development starting in 2007 with project buildout in 2025; also assumes a 9.5% reduction in consumption to match AVR reduction during dry years, which is assumed because retail demand is expected to decline in response to appeals for conservation and mark pressures during drought conditions.

For the multiple (five) year drought scenario from 2011 through 2015, planned water supplies in the subarea in the year 2015 would be 30,434 acre-feet or a 15% decrease in AVR water supplies in the normal year 2015. As illustrated in the following table, adequate public water supplies in the subbasin will be available during and multiple year drought conditions through 2015.

Table III-38
Projected Water Supply and Demand
Multiple Dry Years 2011 – 2015 with Project
(ac-ft/yr)

Water Use	2011	2012	2013	2014	2015
AVR Water Supplies	28,904	29,287	29,669	30,052	30,434
AVR Estimated Demand	-20,084	-20,789	-21,495	-22,201	-22,906
Subtotal	8,820	8,498	8,174	7,851	7,528
Project Water Demand*	-1,683	-1,964	-2,244	-2,525	-2,805
Net Water	7,137	6,534	5,930	5,326	4,723

Source: "Water Supply Assessment for the Proposed North Apple Valley Industrial Specific Plan and Associated Land Use Approvals," Table 9, prepared by Terra Nova Planning & Research, Inc., September 13, 2006.

* Assumes linear site development starting in 2007 with project buildout in 2025; also assumes a 9.5% reduction in consumption to match AVR reduction during dry years, which is assumed because retail demand is expected to decline in response to appeals for conservation and mark pressures during drought conditions.

For the multiple (five) year drought scenario from 2016 through 2020, AVR water supplies in the subarea in the year 2020 would be 36,649 acre-feet or a 15% decrease in planned water supplies in the normal year 2020. As illustrated in the following table, adequate public water supplies in the subbasin will be available during and multiple year drought conditions through 2018 with the proposed project.

Table III-39
Projected Water Supply and Demand
Multiple Dry Years 2016 – 2020 with Project
(ac-ft/yr)

Water Use	2016	2017	2018	2019	2020
AVR Water Supplies	31,454	32,602	33,951	35,301	36,649
AVR Estimated Demand	-23,740	-24,575	-25,409	-26,243	-27,077
Subtotal	7,714	8,027	8,542	9,058	9,572
Project Water Demand*	-3,086	-3,366	-3,647	-3,928	-4,208
Net Water	4,628	4,661	4,895	5,130	5,364

Source: "Water Supply Assessment for the Proposed North Apple Valley Industrial Specific Plan and Associated Land Use Approvals," Table 10, prepared by Terra Nova Planning & Research, Inc., September 13, 2006.

* Assumes linear site development starting in 2007 with project buildout in 2025; also assumes a 9.5% reduction in consumption to match AVR reduction during dry years, which is assumed because retail demand is expected to decline in response to appeals for conservation and mark pressures during drought conditions.

For the multiple (five) year drought scenario from 2021 through 2025, planned water supplies in the subarea in the year 2025 would be 43,784 acre-feet or a 15% decrease in planned water supplies in the normal year 2025. As illustrated in the following table, adequate public water supplies in the subbasin would be available with the project during multiple year drought conditions 2025. In addition, it is expected that further conservation efforts in combination with water purchases could address the additional 1% to 7% of water demand presented by the project.

Table III-40
Projected Water Supply and Demand
Multiple Dry Years 2021 - 2025 with Project
(ac-ft/yr)

Water Use	2021	2022	2023	2024	2025
AVR Water Supplies	38,051	39,484	40,918	42,350	43,784
AVR Estimated Demand	-28,063	-29,049	-30,035	-31,021	-32,007
Subtotal	9,988	10,435	10,883	11,329	11,777
Project Water Demand*	-4,489	-4,769	-5,050	-5,330	-5,611
Net Water	5,499	5,666	5,833	5,999	6,166

Source: "Water Supply Assessment for the Proposed North Apple Valley Industrial Specific Plan and Associated Land Use Approvals," Table 11, prepared by Terra Nova Planning & Research, Inc., September 13, 2006.

* Assumes linear site development starting in 2007 with project buildout in 2025; also assumes a 9.5% reduction in consumption to match AVR reduction during dry years, which is assumed because retail demand is expected to decline in response to appeals for conservation and mark pressures during drought conditions.

Apple Valley General Plan

Total estimated water demand for the project includes 39,438,701 square feet of commercial and industrial development within the project boundaries. This represents an increase in square footage of approximately 28.6% over the commercial and industrial development proposed in the Apple Valley General Plan for this area. In other words, the Apple Valley General Plan buildout scenario has accounted for approximately 71.4% of the proposed projects development square footage. However, Only about 6 acre-feet per year of this buildout consumption was accounted for in the AVR 2005 Urban Water Management Plan (UWMP). Thus, the AVR UWMP did not account for the buildout conditions of the Town's General Plan.

The 6,199.7 acre feet of water per year required by the proposed Specific Plan represents a 38% increase in the amount of ground water pumped by AVR in 2005. Buildout year of the project is 2030, and a linear growth rate from 2007 through 2030 would only represent a yearly increase of 1.7% over the amount of ground water pumped by AVR in 2005. Because the General Plan accounts for 71.4% of the project's projected development square footage, the project would only represent a 0.5% yearly increase over the amount of water necessary for linear development of the General Plan.

Conclusion

Based on the information and findings documented in this WSA, there is evidence to support a determination that there will be sufficient water supplies to meet the demands of the project during normal years, single dry years, and multiple dry years through 2025. This is based on the fact that AVR has existing water entitlements, rights and contracts to meet future demand as needed over time, and has committed sufficient capital resources and planned investments in various water programs and facilities to serve all of its existing and planned customers. No shortages are anticipated within the AVR's service area in average/normal year through 2025.

Supply has been historically available within the Alto Subarea. During the 1987 to 1991 shortage, AVR's customers were not affected by the dry conditions because the groundwater basin provided adequate supply. In a multiple year drought, the groundwater basin would be pumped to meet demands. In addition, the proposed Specific Plan will facilitate development within the project boundaries, though the actual rate of buildout is unknown. However, in order to provide a conservative analysis a linear growth rate was used with project buildout at 2025.

Overall, the total amount of water required by the project represents a decrease of approximately 13% in consumption as compared to the development potential of the existing General Plan land use designations within the project boundary (see Section V No Project Alternative for more information).

Water Conservation

In order to reduce project water consumption, the Town shall impose a number of standard conditions and requirements, which will be required of the proposed project. Please note that the following conservation measures were not included in project's water consumption estimates.

- Provision of water conservation and reduction plans by large commercial and industrial water users.
- A prohibition against run-off and wash down of impervious surfaces such as driveways and sidewalks.
- A prohibition against wasting water or allowing water that has been used on premises to flow into gutters or storm drains.
- A prohibition against washing cars, trucks or other vehicles unless the hose used has an automatic shutoff device.
- Implementation of a wide range of Best Management Practices.
- The installation of efficient irrigation systems that minimize runoff and evaporation and that maximize effective watering of plant root systems shall be required.
- The use of low flush toilets and water-conserving shower heads and faucets in conformance with Section 17921.3 of the Health and Safety Code, Title 20, California Code of Regulations Section 1601(b), and the applicable sections of Title 24 of the State Code.

Onsite Groundwater Recharge

Engineers of future development on the project site shall adhere to local, state and federal regulations for the location and size of detention basins for each future development site. On site

detention basins on the subject property will allow surface flows from the project site and its tributaries to percolate into the ground. Several storm drain systems will discharge water runoff into this system. The 100-year storm event peak flows from development on site will be required to be retained on site.

Water Quality Regulation

A number of federal and state laws have been established to assure adequate planning, implementation, management and enforcement of water quality control efforts. Federal water quality legislation includes the Clean Water Act and the National Environmental Policy Act (NEPA). California statutes and administrative laws that are applicable to water quality include, but are not limited to the California Water Code, California Environmental Quality Act (CEQA), California Code of Regulations and other codes such as the Health and Safety Code, Fish and Game Code and Public Resources Code. The Lahontan Regional Water Quality Control Board (WCQB) implements federal and state laws pertaining to water quality.

The primary issues addressed by the WCQB are, include leaking fuel storage tanks, illegal discharges or human or animal waste, and the dumping of waste oils and other hazardous liquids into ground and surface water. Most recently, in January 2006 the WCQB penalized a local wastewater reclamation authority \$500,000 for the accidental release of 8.7 million gallons of undisinfected secondary-treated sewage into the Mojave River from a percolation pond adjacent to the river.

Water Quality

The Town is required by the federal government to comply with all requirements of the National Pollutant Discharge Elimination System (NPDES). NPDES is a part of the Federal Clean Water Act Amendments of 1992, and it requires all local government agencies and major private industries to take all practical measures in reducing pollution discharges into water bodies. Compliance with the requirements of NPDES will ensure that water quality will not be degraded by the proposed project.

The development proposed for the project site is not expected to have significant impacts upon waste discharge requirements or operations. Future developers and tenants will be required to prevent hazardous and other wastes from being discharged into the local storm water system or sanitary sewer system. Vehicle washing will require the installation of clarifiers and oil separators onsite. Once collected, the dirty water would be pumped into a specialized tanker truck and hauled off-site. Potential runoff from onsite storage areas, vehicle and equipment maintenance, waste handling, delivery areas, and loading docks will be carefully managed. No substantial new sources of polluted runoff are expected, and the proposed development will not violate water quality standards or waste discharge requirements.

In summary, development of the North Apple Valley Industrial Specific Plan on the project site is expected to have a less than significant impacts upon potable water use and overall water quality in the project vicinity and the Town.

3. Mitigation Measures

The following mitigation measures shall ensure that project impacts are reduced to levels below significance:

1. As part of the Stipulated Judgment, the average annual obligation of any Subarea to another was set equal to the estimated average annual natural flow between the Subareas over a 60 year period (water years 1930-1931 through 1989-1990). The average obligation of the Alto Subarea has been set at 23,000 acre-feet per year. If this obligation is not met, the producers in the upstream Subarea must pay the Watermaster for makeup water to be delivered to the downstream Subarea. The 2004-2005 replacement water assessment rate was \$281.00 per acre-foot.³⁴
2. In order to maintain a safe water balance within each Subarea, the Judgment established a Free Production Allowance (FPA) in each Subarea, which the Court reviews and adjusts on an annual basis. Each year the Watermaster takes an account of the average and minimum annual flows, which must be maintained between Subareas. The Judgment requires that all water produced in excess of any producer's share of the FPA must be replaced by the producer, which is typically in the form of payment to the Watermaster of funds sufficient to purchase an equal amount of replacement water. It should be noted that an underlying assumption of the Judgment is that sufficient water supplies will be made available to meet the needs of the basin in the future from a combination of natural supply, imported water, water conservation, water reuse and transfers of FPA among producers.
3. According to the MWA 2005 Urban Water Management Plan Update, as water demands increase over the next 20 years, additional projects and water management actions are needed to continue to recharge the groundwater basins to maintain groundwater levels and protect groundwater quality for municipal, agricultural, industrial, recreational, and environmental uses. If such projects are not implemented and groundwater overdraft persists or intensifies, the presiding Judge for the Mojave Basin Area Judgment could require mandatory cutbacks in production.
4. In conformance with the Clean Water Act, project developers shall prepare a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP shall address the potential sources and locations of storm water contamination, the characteristics and impacts of specific contaminants, temporary and permanent erosion control practices, as well as include water sampling data, construction practices that minimize storm water contamination, coordination of Best Management Practices with planned construction activities, and compliance with Town, county, state, and federal regulations.
5. To keep pollutants out of surface and ground waters, standard mitigation measures shall include the periodic cleaning of interior roads and parking courts, the careful control and monitoring of pesticides and fertilizer, and the treatment of runoff prior to discharge into detention basins.

³⁴ "Twelfth Annual Report of the Mojave Basin Area Water Master, Water Year 2004-05," prepared by the Mojave Basin Area Watermaster, April 2006.

Mitigation Monitoring/ Reporting Program

1. Maintain estimated average annual natural flow between Subareas in the Mojave Water Basin, and assure that all water produced in excess of any producer's share of the FPA must be replaced by the producer.
Responsible Parties: Mojave Basin Area Water Master.

2. Continue implementation of water projects and water management actions needed to continue recharge groundwater, maintain groundwater levels, and protect groundwater quality.
Responsible Parties: Mojave Basin Area Water Master, Presiding Judge for the Mojave Basin Area Judgment.

3. The applicant's SWPP shall be submitted to the Lahontan Regional Water Quality Control Board. Proof of said approved plan and associated certification shall be provided to the Town prior to the issuance of grading permits.
Responsible Parties: Future Developers/Project Engineers, Lahontan Regional Water Quality Control Board, Apple Valley Public Works Division.

4. Control of polluted runoff from interior roads, parking courts, landscaped areas, the hillside, and other portions of the site will be managed by future developers and tenants of the Specific Plan area, and shall be monitored by the Town.
Responsible Parties: Future Developers and Tenants, Apple Valley Public Works Division, Lahontan Regional Water Quality Control Board.

H. Cultural Resources

The California Environmental Quality Act is prescriptive in how the Town must address issues related to archaeological, historic and paleontological resources. The CEQA Guidelines state that the term "historical resources" applies to any such resources listed in or determined to be eligible for listing in the California Register of Historical Resources.

According to Public Resources Code Section 5020.1, "historical resources" include but are not limited to an object, building site, area, place, record, or manuscript which is historically or archaeologically significant. This definition also applies to architectural, engineering, scientific, economic agricultural, educational, social, political, military, or cultural annals of California.

In preparation of this EIR, cultural and paleontological resource studies were prepared by CRM Tech, and are summarized below.³⁵ The studies are included in Appendix F and G of this document.

³⁵ "Cultural Resources Technical Report, North Apple Valley Specific Plan and EIR," prepared by CRM Tech, March 2006; and "Paleontological Resources Technical Report, North Apple Valley Specific Plan and EIR," prepared by CRM Tech, March, 2006.

1. Existing Conditions

Pre-Historic Chronological Context

The pre-historic record is divided into five periods defined by the changes in remains which have been found in the Mojave Desert by archaeologists, showing how native peoples adapted to the environment and conditions around them. These periods are defined as:

- The Lake Mojave Period – 12,000 to 7,000 years ago.
- The Pinto Period – 7,000 to 4,000 years ago.
- The Gypsum Period – 4,000 to 1,500 years ago.
- The Saratoga Springs Period – 1,500 to 800 years ago.
- The Protohistoric Period – 800 years ago to first European contact.

The chronology applied by historians is further defined, after the first European contact, as:

- Long-distance contact with Europeans – 1500-1770s
- Mission Period – 1770's to 1830s
- Rancho Period – 1830s to 1880s
- Reservation Period – 1880s to present

Pre-Historic Context in the Mojave Desert

The Mojave Desert, including the Specific Plan area, is part of the traditional homeland of the Serrano Indians, whose territory in the Mojave Desert extended from Victorville to Twentynine Palms. The Serrano were hunters and gatherers who based their settlements on the availability of water sources, particularly in the southern Mojave.

The Serrano were organized into clans led by hereditary heads, with clans affiliated with two moieties. Although little is known about clan structure, they are believed to have been autonomous, and did not form unions among themselves.

Serrano artifacts indicate that they made tools from stone, bone and wood; jars, bowls and seed parching trays in pottery; and ceremonial regalia such as baskets, bags and nets.

During the last ice age, which ended about 10,000 years ago, the Victor Valley experienced higher rainfall, and included lakes at lower elevations, including what is now known as Apple Valley Dry Lake. There was considerably more vegetation, including grasslands and oak groves. These lands would have provided the native peoples with food resources including seeds and plants, as well as hunting opportunities.

The Serrano had brief contact with Europeans as early as 1771 or 1772, but were not influenced by European settlers until 1819, when an extension of a mission, known as an *assitencia*, was established in the southern end of their territory in the San Bernardino Mountains. From 1819 to the end of the Mission Period, the Serrano were displaced to missions outside their territory. The present-day descendants of the Serrano are now part of the San Manuel and Morongo Indian Reservations.

Historic Settlement

The first known European travelers through the Victor Valley was the Spanish explorer Francisco Garces, who traveled through the area in 1776 on an old Indian trail, now known as the Mojave Trail. The Trail has remained an important inter-state connection, being incorporated into the Mormon Trail from southern California to Utah; the Santa Fe Railroad; historic Route 66; and the current Interstate 15.

Settlement of the area did not occur until the 1860s, primarily due to the isolation and harsh climate of the Valley. In the 1880s, when the railroad came through the Valley, it experienced a boom which reached its peak in the 1910s. The primary activity in the area was agriculture, and a number of crops were attempted, including apples, which led to the naming of Apple Valley at the turn of the 20th century. Newton Bass created the first subdivision in Apple Valley in 1945, and the post-War boom years brought expansion and growth to the Victor Valley and the Town, which incorporated in 1988.

Archaeological Resources in the Specific Plan Area

With the exception of two cultural resources surveys performed for the Airport Master Plan and the Wal-Mart Distribution Center, the Specific Plan area has not been comprehensively surveyed for archaeological resources. These and other small-scale surveys have identified and recorded seven archaeological/historic sites and two isolates within the Specific Plan area. Two isolates, consisting of chert flakes, were identified on the Airport property, and one chipped stone flake scatter was located during a linear survey for a transmission line along Navajo Road. The remaining six sites are historic rather than pre-historic, and are discussed below. None of the archaeological resources have been identified as eligible for designation in either the National or the California Registers of Historic Places.

Outside the Specific Plan area and within one half mile of it, three pre-historic sites have been identified. They consist of a flake scatter located 650 feet northeast of the Specific Plan boundary, and two camp sites found south of the Specific Plan boundary. The two camps consisted of chalcedony, agate and jasper flakes, projectile points, manos, metates, cooking rocks and ashy soils. The camps are evidence of settlements found on the shoreline of the ancient Apple Valley Dry Lake, whose north shore occurred south of the Specific Plan area. The other sites indicate that Native Americans used the area for tool making by collecting raw stone.

Literature searches for the study did not identify any village sites in or near the Specific Plan area. Given the area's vegetation, however, it is likely that the central portion of the Specific Plan area, dominated by creosote bush, would have been used for small mammal hunting, while the northern portion of the area, with sparser vegetation and rockier soils, would have been used for rock collection for tool making.

Historic Resources in the Specific Plan Area

Regional records indicate that six historic sites have been identified within the Specific Plan area in previous studies, including three trash scatters, a rock alignment, and two wood-lined pits identified during the Airport study. None of the historic resources have been identified as eligible for designation in either the National or the California Registers of Historic Places.

Seven historic sites have previously been identified within one mile of the Specific Plan area. They include two early roads: the Mormon Trail and Stoddard Wells Road; a segment of the San Bernardino-Boulder Dam transmission line; remains associated with mining activities; remains associated with Murray's Dude Ranch; a trash scatter; and a residence. All of these sites are associated with early settlement and development in the Apple Valley area.

Historic maps of the Specific Plan area indicate that structures occurred by the 1950s south of Papago and Waalew Roads, and at Corwin and Navajo Roads. The former survived, while the latter appear to have been torn down to accommodate construction of airport facilities. The bulk of the Specific Plan area has never been developed, and has remained rural in nature.

Potentially Sensitive Areas for Cultural Resources

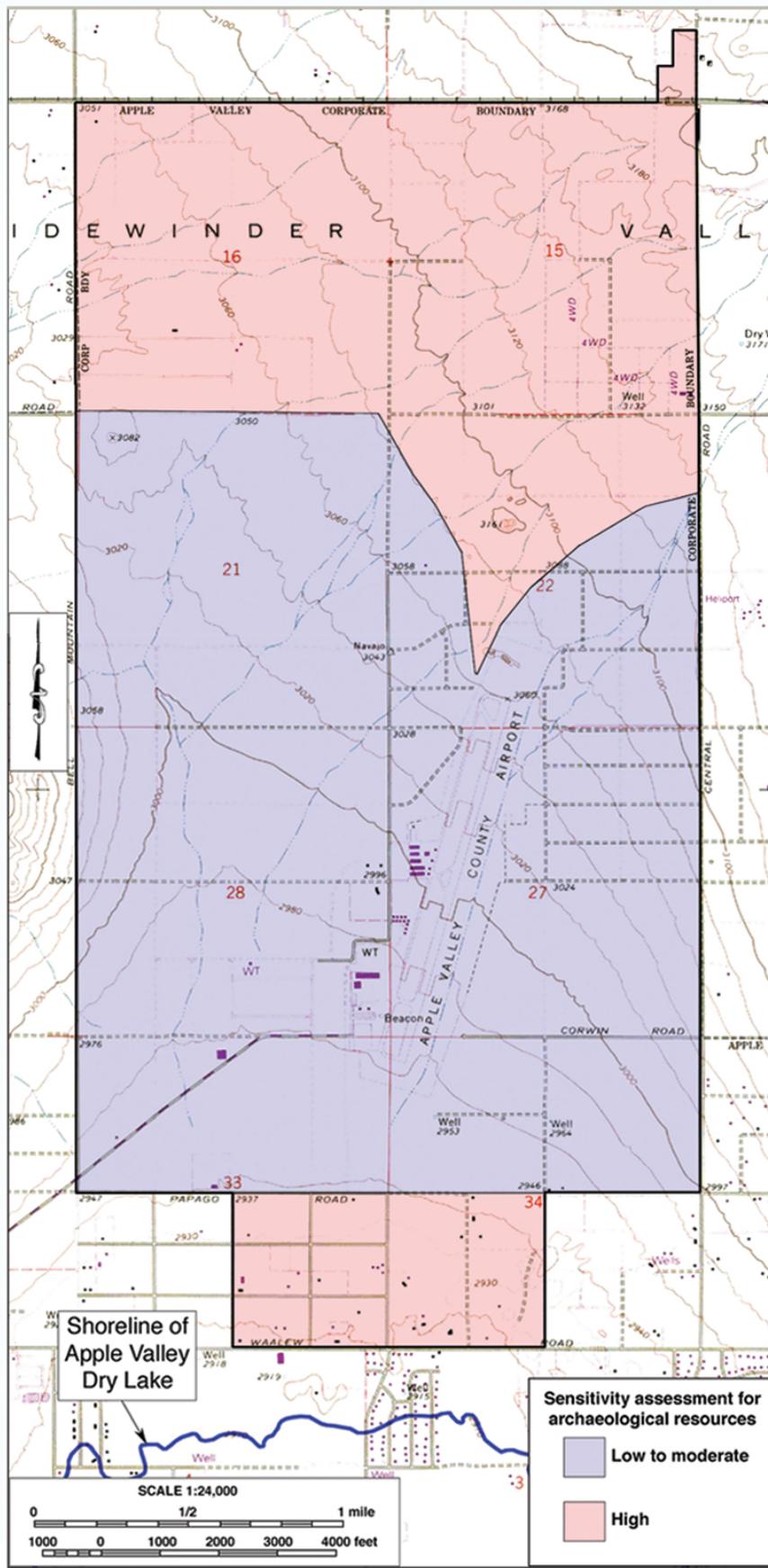
As shown in Exhibit III-18, the northern portion of the Specific Plan area has the potential for high sensitivity for pre-historic resources, as an area for collection of stone for tool making. In addition, the area at the southern end of the Specific Plan, south of Papago Road, occurs in an area which would have been the shoreline of the ancient lake, and is likely to be highly sensitive for pre-historic sites. In these areas, the resources are likely to have been buried by alluvial sediments, and not detectable at the surface.

Historic sensitivity is illustrated in Exhibit III-19, and shows that the southern portion of the Specific Plan area, south of Papago Road, is likely to harbor historic-period residential structures.

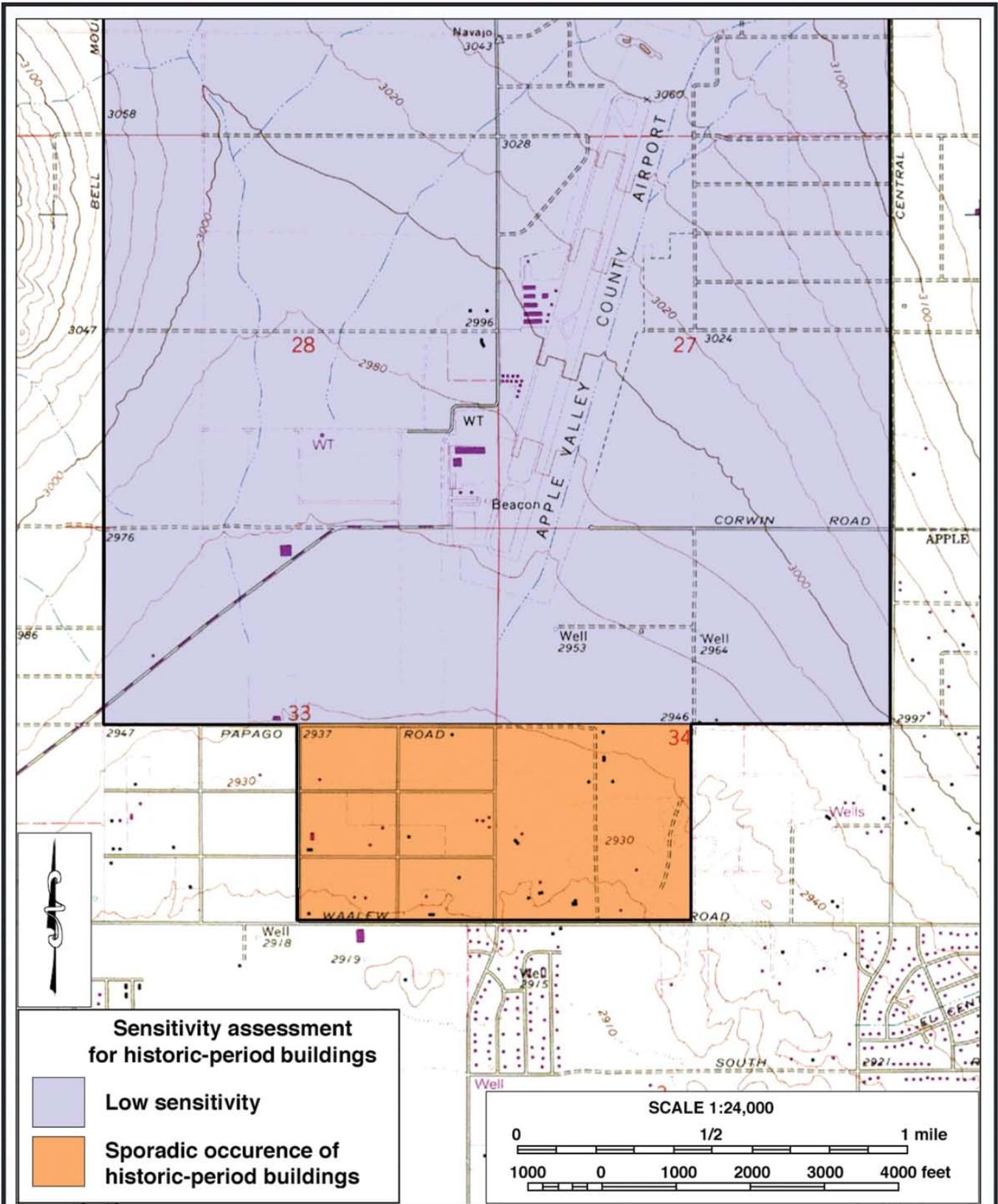
Paleontological Resources

As previously stated, the Victor Valley was once much more temperate, and included lakes and grasslands. The Apple Valley Dry Lake, a Holocene-age freshwater lake which still experiences flooding, is located south of the Specific Plan area. Its ancient shoreline has been documented to occur at the 2,909 foot elevation, about 1,000 feet south of the Specific Plan area, and may have extended as high as 2,920 to 2930 elevation. These latter elevations occur within the southernmost boundary of the Specific Plan area (see Exhibit III-20). Because of its age, the ancient lake has the potential to yield fossilized remains of Holocene-age and Pleistocene-age flora and fauna. Fossils of extinct faunal species have been recovered from the Mojave River, in Pleistocene-age sediments.

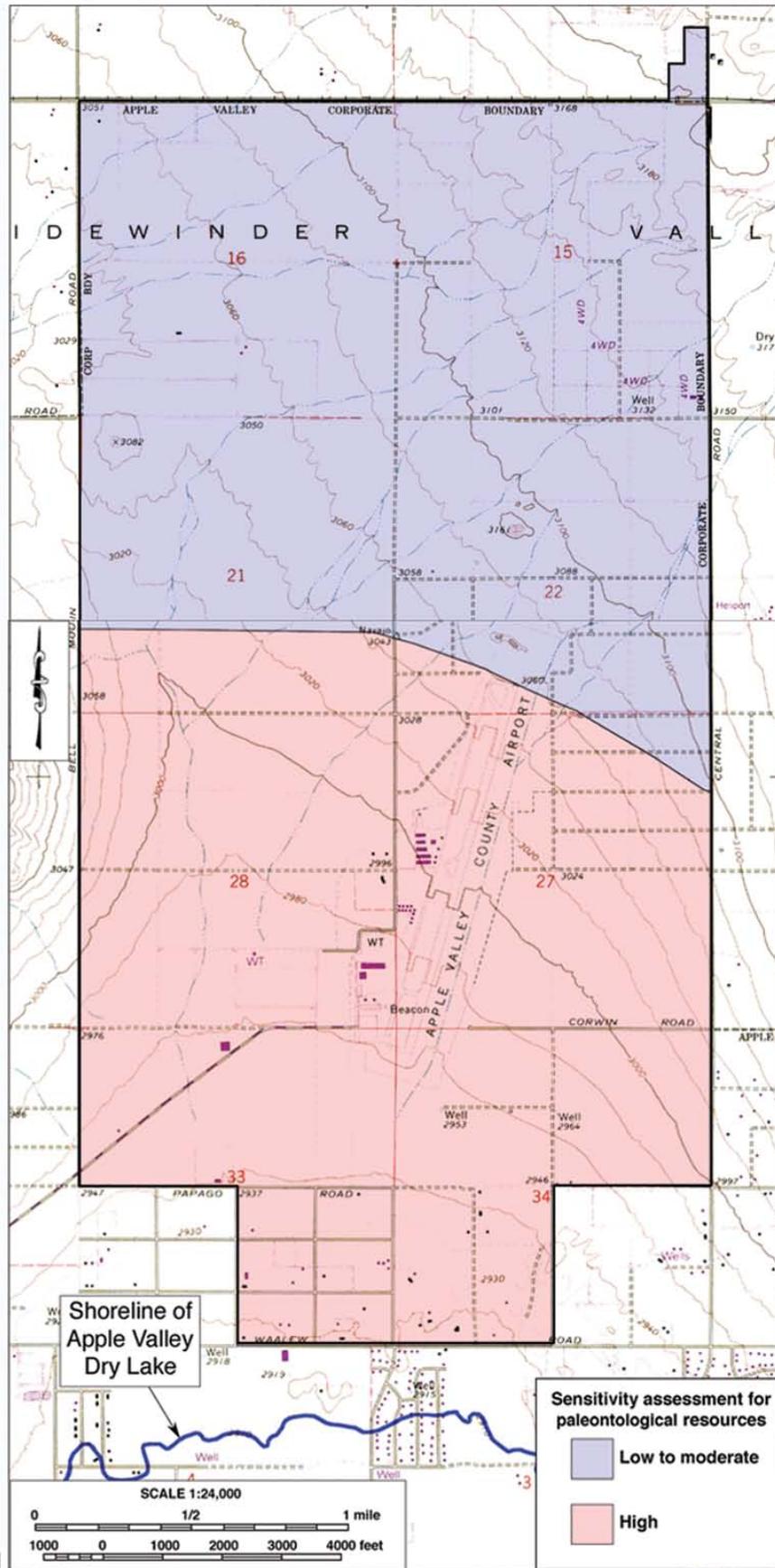
Based on the soils in the Specific Plan area, the majority of the area contains rocky soils which have a low probability of yielding paleontological resources. The finer alluvial soils located in the southern portion of the Plan area, however, may have been part of ancient Apple Valley Dry Lake, and may include fossil remains. Further, the Holocene-age soils in this area may overlay older, Pleistocene soils at unknown depths, which have the potential to contain mammal fossils from the last ice age, over 10,000 years ago.



Source: CRM TECH



Source: CRM TECH



Source: CRM TECH

2. Project Impacts

Historically significant sites and structures are those that are 50 years of age or older and provide evidence of past human activities. Based on CEQA Guidelines, Appendix K, cultural resources must be evaluated for their importance or significance. “An important archaeological resource” is defined by CEQA as one which:

- A. Is associated with an event or person of:
 - 1. Recognized significance in California or American history, or
 - 2. Recognized scientific importance in prehistory;
- B. Can provide information which is both of demonstrable public interest and useful in addressing scientifically consequential and reasonable or archaeological research questions;
- C. Has a special or particular quality such as oldest, best example, largest, or last surviving example of its kind;
- D. Is at least 100 years old and possesses substantial stratigraphic integrity; or,
- E. Involves important research questions that historical research has shown can be answered only with archaeological methods.

Based on the findings of the cultural resources study, the Specific Plan area includes lands of high sensitivity for prehistoric and archaeological artifacts, as well as moderate sensitivity for historic structures.

Future development projects of the Specific Plan area could result in direct and/or indirect disturbance or destruction of sensitive archaeological and historic resources. Site surveys should be conducted on all future development projects in areas of sensitivity, to determine the presence and significance of archaeological and historic resources.

Future development in the Specific Plan area could also impact paleontological resources, should Pleistocene-age soils be disturbed by grading or excavation. Since the depth of the Holocene-age soils is not known, Pleistocene-age soils may be sufficiently close to the surface to be disturbed by grading activities. Monitoring of grading activities should occur in areas where Pleistocene-age soils will be disturbed.

3. Mitigation Measures

In order to assure that development and build out of the Specific Plan area will not have a significant effect on cultural resources, the following mitigation measures shall be implemented:

- 1. Cultural resource studies shall be required prior to development for all lands identified as having a high potential for historic or archaeological resources in Exhibits III-19 and III-20. The studies shall be reviewed and approved by the Town Planning Division prior to the issuance of any ground-disturbing permit. The recommendations of the studies shall be made conditions of approval of the ground disturbing permits.

2. Paleontological resource studies shall be required prior to development for all lands identified as having a high potential for paleontological resources in Exhibit III-20. The studies shall be reviewed and approved by the Town Planning Division prior to the issuance of any ground-disturbing permit. The recommendations of the studies shall be made conditions of approval of the ground disturbing permits.

Mitigation Monitoring /Reporting Program

1. Potential impacts of development projects on cultural resources shall be evaluated through the preparation of special studies. Impacts shall be clearly documented and mitigation measures recommended where appropriate.
Responsible Parties: Planning Division, Developer/Consulting Archaeologist.

I. Noise

The noise environment can have a significant influence on the health and comfort of any community, whether a resident, business owner, employee or visitor. Assessment of the noise environment in the Specific Plan study area included the preparation of a noise study by Urban Crossroads.³⁶ The study examines the existing noise environment in the Specific Plan study area and projects the future noise impacts associated with Specific Plan buildout. This analysis included the collection of short-term noise level measurements at ten different locations on March 24, 2006. This noise analysis is included in its entirety in Appendix D of this document. The noise impact analysis is also considered in terms of compatibility with the Town of Apple Valley General Plan Noise Element and Noise Control Ordinance.

1. Existing Conditions

Noise is simply defined as unwanted sound. Excessive noise affects physical health, psychological well-being, social cohesion, property values and economic productivity. The effects of noise on people include such subjective effects as annoyance and nuisance; interference with activities such as conversation and sleep; and psychological and physiological effects ranging from startle to hearing loss. Noise generators include components of urbanization such as construction equipment and activities, motor vehicles, air and rail traffic, mechanical equipment, household appliances and other sources.

Generally, the Town of Apple Valley enjoys a quiet noise environment, with existing community noise being dominated primarily by constant motor vehicle traffic on highways and major arterials. The noise environment of the Specific Plan study area is currently especially affected by local airport operations, which on a daily basis averages approximately 348 flight operations (take-offs and landings) per day. All of these operations were associated with general aviation aircraft. Given its location in the center of the planning area and the lack of other noise generators in the vicinity, the Apple Valley Airport currently has the greatest impact on the noise environment in the Specific Plan study area. General aviation at the airport occasionally has an intrusive but intermittent impact on the community's noise environment. Current airport operations were analyzed during field monitoring, discussed below, and were determined to be barely perceptible in the planning area.

³⁶ "North Apple Valley Specific Plan EIR Noise Analysis", prepared by Urban Crossroads, Inc. June 8, 2006 (Revised July 21, 2006).

There are currently very few sensitive receptors within the Specific Plan study area, include a single family home in the extreme northwest corner of the planning area. Other noise sensitive residential areas in the vicinity include homes along Waalew Road and Corwin Road, where current noise levels generated by local vehicular traffic are experiencing unmitigated exterior noise levels that approach 65 dBA CNEL. Other sensitive residents are located east of Central Road. A rail line located adjacent to Quarry Road serves the Mojave Northern Mining quarry located to the east and generates approximately 2 to 4 trains per day. Noise impacts from rail line operations are considered less than significant. Noise impacts are potentially greater in these areas due to their remote and rural settings.

Noise Rating System

Noise rating systems are utilized to evaluate community noise. Noise is most commonly measured with the A-weighted decibel (dBA), which is defined as a measurement of the noise energy received while monitoring a noise source. A normal conversation at 5 feet typically measures 55 dBA. The quiet rustling of leaves, which is barely audible, typically registers at 10 dBA, while the sound of a jet aircraft taking off at 200 feet registers at approximately 125 dBA.

A number of noise rating scales are used in California to evaluate land use compatibility. The equivalent sound, or Leq scale, represents the average constant noise level over a given period of time, and is the basis for the Ldn and CNEL scales. The Ldn value represents a summation of hourly Leq's over a period of 24 hours, and includes a weighting factor, or penalty, for noise occurring in the nighttime period between 10:00 p.m. and 7:00 a.m. The Community Noise Equivalent Level (CNEL) represents a 24-hour average noise level, which includes a 5 dBA penalty for noises occurring during the evening time period (from 7 p.m. to 10 p.m.) and a 10 dBA penalty for noises occurring during the nighttime period (from 10 p.m. to 7 p.m.). These additions are made during these time periods because during the evening and night hours there is a decrease in the overall amount and loudness of noise generated, when compared to daytime hours, resulting in an increased sensitivity to sounds. For this reason sounds seem louder during these periods of lower ambient noise and are weighed accordingly. Basically, during these evening and night hours the maximum tolerable overall noise levels should be 5 to 10 dBA lower, and the CNEL number is weighted to assure this bias.

Specific Plan Monitoring Sites

Noise monitoring conducted for the proposed Specific Plan focused on vehicular noise levels adjacent to Town roadways. Each of the 10 monitoring sites are listed and described. Table III-41 shows the location and the monitored noise level. Exhibit III-21 is a graphic display of the monitoring sites. Measurements were taken from these sites, which included major transportation corridors, land use transition areas, and sensitive receptors such as residential neighborhoods. A brief discussion of each of the monitoring sites is provided in Table III-41, below.

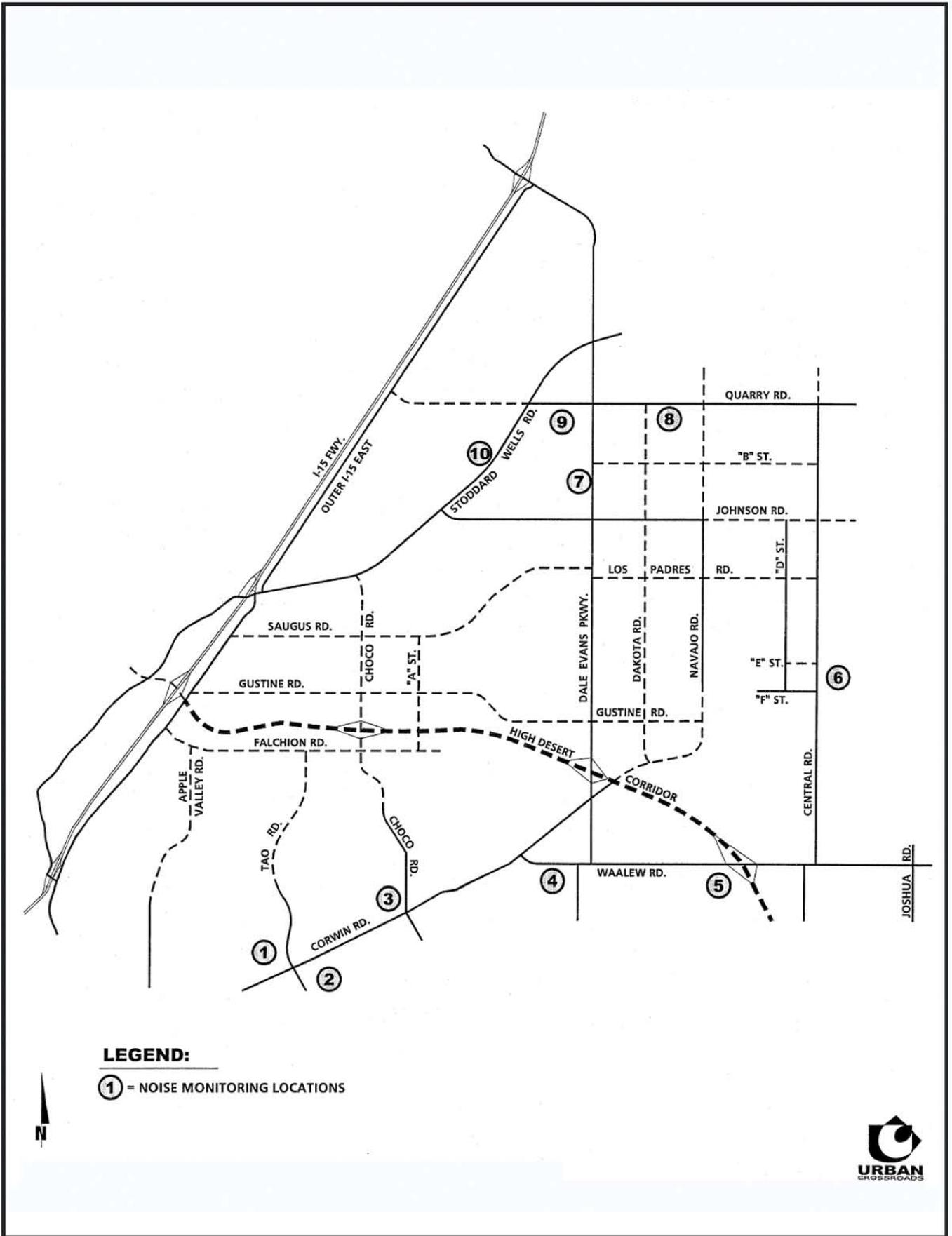
**Table III-41
 Noise Monitoring at Selected Location and CNEL Values**

OBSERVER LOCATION²	DESCRIPTION	TIME OF MEASUREMENT	PRIMARY NOISE SOURCE	MEASURED NOISE LEVELS (Leq dBA)	CALCULATED NOISE LEVELS (Leq CNEL)
1	Located 50 feet from the road centerline by the Valley Crest Residential Care.	8:30 a.m.	traffic noise from Corwin Road	65.2	65.8
2	Located approximately 150 feet from the road centerline by the Corwin Park.	8:50 a.m.	traffic noise from Corwin Road	56.5	57.1
3	Located 50 feet from the road centerline in a residential area along Corwin Road south of Waalew.	9:10 a.m.	traffic noise from Corwin Road	66.8	67.4
4	Located 50 feet from the road centerline in front of the Rancho Del Lago residential community near a 7-foot high masonry wall.	9:30 a.m.	traffic noise from Corwin Road	62.1	62.7
5	Located 50 feet from Waalew Road centerline in a single family frontyard across the Specific Plan area.	9:50 a.m.	traffic noise from Waalew Road.	63.2	63.8
6	Located 50 feet from Central Road near residential developments.	10:20 a.m.	traffic noise from Central Road.	62.5	63.1
7	Located approximately 100 feet from Dale Evans Parkway south of Johnson.	10:40 a.m.	traffic noise from Dale Evans Pkwy.	59.4	60.0
8	Located 50 feet from Quarry Road centerline east of Dale Evans Pkwy.	11:10 a.m.	traffic noise from Quarry Rd.	62.1	62.6

**Table III-41
 Noise Monitoring at Selected Location and CNEL Values**

OBSERVER LOCATION ²	DESCRIPTION	TIME OF MEASUREMENT	PRIMARY NOISE SOURCE	MEASURED NOISE LEVELS (Leq dBA)	CALCULATED NOISE LEVELS (Leq CNEL)
9	Located 30 feet from the centerline of Quarry Road in front of a house.	11:30 a.m.	traffic noise from Quarry Rd.	62.5	63.0
10	Located 50 feet from the centerline of Stoddard Wells Road by a single family home.	11:50 a.m.	traffic noise from Stoddard Wells Rd.	57.5	58.0

¹ Noise measurements taken by Urban Crossroads, Inc. on March 24, 2006
² See Exhibit 5-A for the location of the monitoring sites, and Appendix B for Study Aea Photos.
³ Taken with a Larson Davis 824 Series Type 1 noise meter.
⁴ Weather conditions:Sunny, Temperature= 70-80F, wind = calm.



1. North of Corwin Road at Tao Road: Monitoring site was located north of Corwin Road about 50-feet from the center line of the roadway and in the vicinity of the Valley Crest Residential Care facility. The primary noise source was vehicular traffic with calculated CNEL levels of 65.8 dBA.
2. South of Corwin Road and East of Tao Road: This monitoring site was located approximately 150-feet south of the center line of Corwin Road by the Corwin Park. The primary noise source was vehicular traffic with calculated CNEL levels of 57.1 dBA.
3. North of Corwin Road and West of Choco Road: This monitoring site was located approximately 50-feet north of the center line of Corwin Road in a residential area located south of Waalew Road. The primary noise source was vehicular traffic with calculated CNEL levels of 67.4 dBA.
4. South of Waalew Road and East of Corwin Road: This monitoring site was located approximately 50-feet north of the centerline of Corwin Road in the Rancho Del Lago residential community located south of Waalew Road. The primary noise source was vehicular traffic on Corwin Road with calculated CNEL levels of 62.7 dBA.
5. South of Waalew Road and West of Future High Desert Corridor: This monitoring site was located approximately 50-feet north of the centerline of Waalew Road in the front yard of a single family home across the street from the Specific Plan area. The primary noise source was vehicular traffic on Waalew Road with calculated CNEL levels of 63.8 dBA.
6. East of Central Road Between E & F Streets: This monitoring site was located approximately 50-feet east of the centerline of Central Road near residences. The primary noise source was vehicular traffic on Central Road with calculated CNEL levels of 63.1 dBA.
7. West of Dale Evans Parkway and South of B Street: This monitoring site was located approximately 100-feet west of the centerline of Dale Evans Parkway. The primary noise source was vehicular traffic on Dale Evans Parkway with calculated CNEL levels of 60.0 dBA.
8. South of Quarry Road and East of Dakota Road: This monitoring site was located approximately 50-feet south of the centerline of Quarry Road. The primary noise source was vehicular traffic on Quarry Road with calculated CNEL levels of 62.6 dBA.
9. South of Quarry Road and West of Dale Evans Parkway: This monitoring site was located approximately 50-feet east of the centerline of Quarry Road in front of a single family home. The primary noise source was vehicular traffic on Quarry Road with calculated CNEL levels of 63.0 dBA.
10. West of Stoddard Wells Road and South of Quarry Road (Extended): This monitoring site was located approximately 50-feet west of the centerline of Stoddard Wells Road in front of a single family residence. The primary noise source was vehicular traffic on Central Road with calculated CNEL levels of 58.0 dBA.

Primary Sources of Noise

The primary sources of noise in the Specific Plan study area include vehicular traffic on highways and major arterials, railroad activities serving the nearby quarry, and general aviation aircraft noise from overhead flights and take-off and landings Apple Valley Airport. Noise is also related to mechanical and industrial activities associated with the currently limited development located within the Specific Plan study area. The following discussion describes the primary sources of noise in the Specific Plan study area.

Motor Vehicle Noise

The principal noise generator within the community of Apple Valley is vehicular traffic, which includes automobiles, trucks, buses, and motorcycles. The level of noise produced by vehicular traffic generally varies in relation to the volume of traffic, the percentage of trucks, and average traffic speed. Adjacent to the 44 roadway segments modeled for noise contour evaluation indicates that the noise environment in the Specific Plan study area currently ranges from 50.9 CNEL at Stoddard Wells Road west of Dale Evans Parkway, to 71.3 CNEL along SR 18 west of Corwin Road, as calculated at a distance of 100 feet from the street centerline. Existing traffic noise contours on area roads are shown in Table III-42.

**Table III-42
 Existing Traffic Noise Contours on Area Roads**

ROAD	SEGMENT	CNEL AT 100 FEET (dBA)	DISTANCE TO CONTOUR (FEET)			
			70 dBA CNEL	65 dBA CNEL	60 dBA CNEL	55 dBA CNEL
Central Avenue	s/o Waalew Road	62.5	RW	68	146	315
Central Avenue	s/o Otoe Road	62.9	RW	72	156	335
Central Avenue	s/o Thunderbird Road	65.4	RW	106	228	492
Central Road	s/o Quarry Road	55.1	RW	RW	RW	102
Central Road	s/o Johnson Road	57.5	RW	RW	68	147
Central Road	s/o Los Padres Road	-	-	-	-	-
Central Road	s/o "F" Street	-	-	-	-	-
Corwin Road	s/o Dale Evans Parkway	58.1	RW	RW	75	162
Corwin Road	s/o Waalew Road	63.8	RW	83	179	386
Corwin Road	s/o Choco Road	63.8	RW	83	179	386
Corwin Road	s/o Tao Road	64.6	RW	94	203	437
Dale Evans Pkwy	s/o I-15	62.0	RW	RW	137	294
Dale Evans Pkwy	s/o Stoddard Wells Road	62.1	RW	RW	139	300
Dale Evans Pkwy	s/o Quarry Road	61.8	RW	RW	131	283
Dale Evans Pkwy	s/o Johnson Road	62.1	RW	RW	139	300
Dale Evans Pkwy	s/o Los Padres Road	-	-	-	-	-
Dale Evans Pkwy	s/o Gustine Road	62.6	RW	RW	149	321

**Table III-42
 Existing Traffic Noise Contours on Area Roads**

ROAD	SEGMENT	CNEL AT 100 FEET (dBA)	DISTANCE TO CONTOUR (FEET)			
			70 dBA CNEL	65 dBA CNEL	60 dBA CNEL	55 dBA CNEL
Dale Evans Pkwy	s/o High Desert Corridor	-	-	-	-	-
Dale Evans Pkwy	s/o Corwin Road	61.2	RW	RW	121	260
Dale Evans Pkwy	s/o Waalew Road	61.7	RW	RW	129	278
Dale Evans Pkwy	s/o Otoe Road	61.8	RW	RW	131	283
Dale Evans Pkwy	s/o Thunderbird Road	64.9	RW	98	211	454
Gustine Road	w/o Choco Road	-	-	-	-	-
Gustine Road	e/o Choco Road	-	-	-	-	-
Happy Trail Highway	w/o Corwin Road	71.3	122	263	566	1,219
Happy Trail Highway	e/o Corwin Road	70.5	109	234	504	1,085
Johnson Road	w/o Dale Evans Parkway	57.6	RW	RW	69	148
Navajo Road	s/o Thunderbird Road	64.0	RW	86	185	399
Otoe Road	w/o Dale Evans Parkway	55.4	RW	RW	49	107
Quarry Road	e/o Stoddard Wells Road	54.5	RW	RW	43	93
Quarry Road	e/o Dale Evans Parkway	55.8	RW	RW	52	113
Quarry Road	e/o Navajo Road	56.1	RW	RW	55	119
Saugus Road	w/o Choco Road	-	-	-	-	-
Saugus Road	e/o Choco Road	-	-	-	-	-
Stoddard Wells Road	w/o Dale Evans Parkway	50.9	RW	RW	RW	53
Stoddard Wells Road	s/o Quarry Road	56.5	RW	RW	58	126
Stoddard Wells Road	s/o Johnson Road	59.5	RW	RW	93	200
Stoddard Wells Road	w/o Choco Road	-	-	-	-	-
Thunderbird Road	w/o Dale Evans Parkway	65.2	RW	103	221	477
Thunderbird Road	e/o Dale Evans Parkway	63.3	RW	77	167	359
Waalew Road	w/o Dale Evans Parkway	62.4	RW	67	145	313
Waalew Road	e/o Dale Evans Parkway	61.9	RW	62	134	288
Waalew Road	e/o High Desert Corridor	-	-	-	-	-
Waalew Road	e/o Central Road	57.2	RW	RW	65	141

¹ RW: Noise contour located within the road right of way.

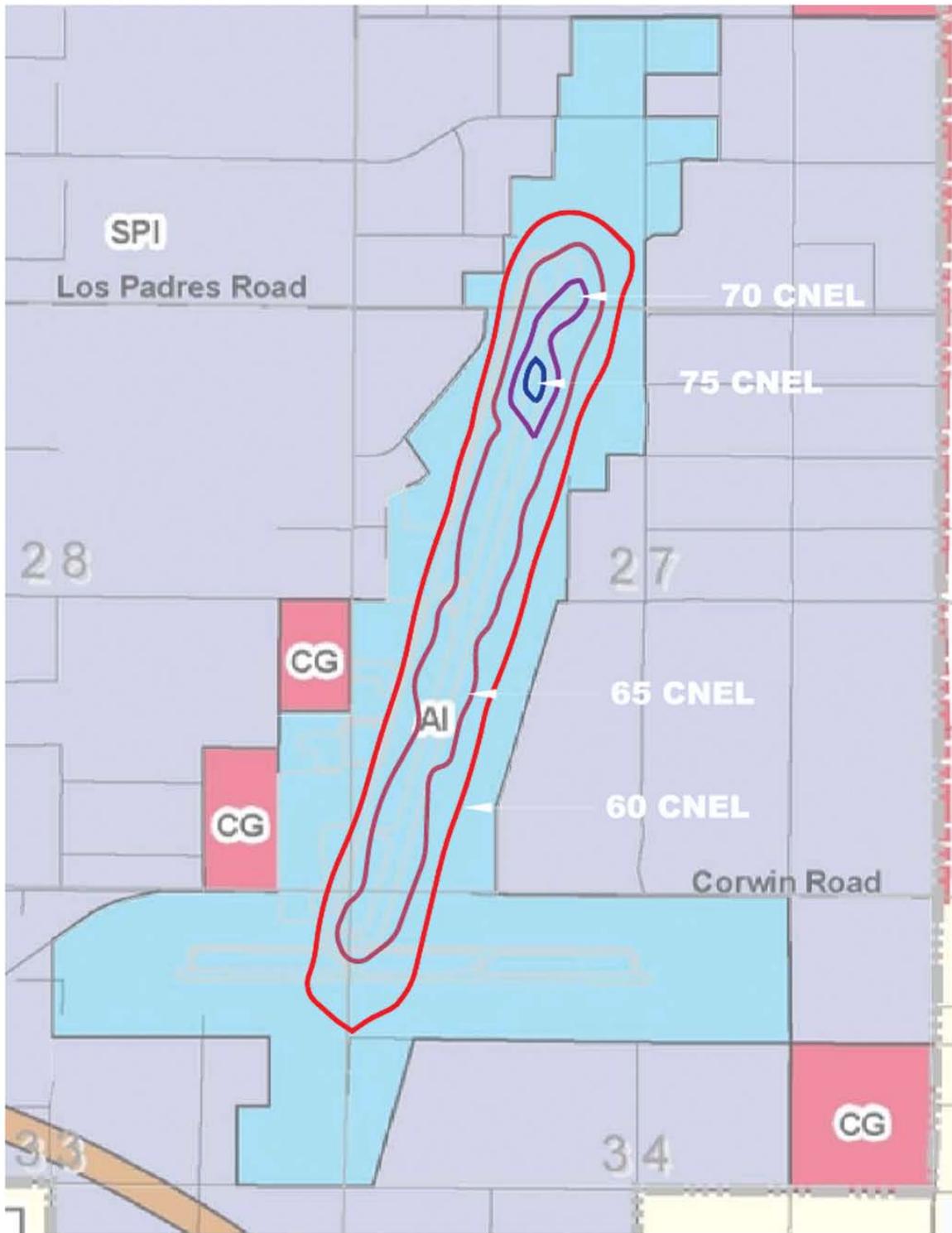
Aircraft Operations Noise

Aircraft noise associated with flight operations at the Apple Valley Airport affects the Specific Plan study area. The airport is located between Papago Road on the south and Lafayette Street on the north. It facilitates approximately 127,000 aircraft (take-offs and landings) per year, however, it has a projected maximum capacity of approximately 151,000 operations per year.³⁷ Airport operations are busiest during the winter season and slower during the summer months.

In 1989, the airport had approximately 174 based aircraft. That number is projected to reach 368 by 2010.³⁸ The Apple Valley Airport does not accommodate regular commercial aviation services. Exhibit III-22, below, shows the 2003 CNEL noise contours generated by airport operations, and indicate that the 65 dBA CNEL contour is located in proximity to the immediate vicinity of the runway, while the 60 dBA CNEL contour lies approximately 100-feet outside the 65 dBA contour. Currently, airport operations are having no significant adverse effect on the local noise environment.

³⁷ "Apple Valley Airport Master Plan", prepared for the Department of Airports, County of San Bernardino. Prepared by P&D Aviation. February 1991.

³⁸ Ibid.



Mechanical and Industrial Noise

Existing and future sensitive noise receptors in the Specific Plan study area will also be potentially subjected to mechanical and industrial noise. Activities related to industrial operations such as construction, rock crushing and equipment repair could produce substantial noise problems. Loading and materials transfer areas, outdoor materials warehousing operations and other acoustically unscreened operations will also raise issues of impact and compatibility. Existing industrial developments in the Specific Plan study area are very limited in extent, with the exception of the WalMart distribution center.

The operation of mechanical equipment is another source of potentially significant noise. This category includes refrigerator units, chillers, and heating/air conditioner equipment associated with commercial and industrial centers. Roof-mounted equipment generates noise that can penetrate into adjacent neighborhoods and affect sensitive receptors. The constant drone produced by fans and compressors can degrade the enjoyment of the outdoors and negatively affect the quality of life for nearby residents. Substantial progress has been made in noise analysis and mitigation through effective monitoring equipment and computer modeling, careful equipment design and ever-improving baffling and noise cancellation technologies.

Town Noise Standards and Regulations

The Town has established two sets of guidelines and regulations to control the community noise environment. These include the Noise Element of the Town General Plan³⁹ and the Town Noise Control Ordinance.⁴⁰ The Noise Element identifies noise from the airport, US Interstate-15, major streets, railroads and mining operations as the potentially most significant noise issues facing the community, and is the most effective regulatory resource to control transportation-related noise in the community. The Noise Element also includes seven goals and policies meant to facilitate effective control of the community noise environment.

The Town Noise Control Ordinance (Development Code Section 9.73 et seq.) is the most effect tool for addressing and regulating non-transportation sources of noise. These include truck deliveries, truck loading facilities, speakerphones, trash compactors, HVAC equipment and certain manufacturing equipment. The ordinance also sets maximum permissible noise levels for various land uses. The following table summarizes the maximum exterior noise levels permitted under the Noise Control Ordinance.

³⁹ "Noise Element" of the Apple Valley General Plan, 2000.

⁴⁰ "Chapter 9.73 Noise Control" of the Town of Apple Valley Development Code. 2000.

Table III-43
North Apple Valley Industrial Specific Plan
Maximum Exterior Noise Levels (dBA)
Town Noise Control Ordinance

Receiving Land Use Category	Max. Exterior Noise Level (dBA)	
	7 AM to 10 PM	10 PM to 7 AM
Single Family Residential	50	40
Multi-Family Residential & Public Space	50	45
Limited Commercial and Office	60	55
General Commercial	65	60
Light Industrial	70	70
Heavy Industrial	75	75

Other Noise Standards and Regulations

The Federal Highway Program Manual Vol. 7, Ch. 7, Section 3, 1982 provides a land use compatibility chart for community noise. According to this chart, “normally acceptable” noise limits are 50 to 60 db for residential land uses (single and multi family dwellings, group quarters, and mobile homes), and 50 to 65 db for commercial land uses. Noise levels up to 70 db are considered “conditionally acceptable” for residential, transient lodging, schools, libraries and commercial uses. However, noise exposure up to only 65 db is considered “conditionally acceptable” for recreational uses.

The California Department of Health Services has developed guidelines for establishing compatible land uses and limiting human exposure to noise.⁴¹ This particular state guideline recommends that “normally acceptable” noise limit is 60 db for residential land uses (including single-family dwellings, duplexes, and mobile homes) and 65 db for multifamily residential dwellings and transient lodging. Noise levels up to 70 db are “normally acceptable” for commercial land uses. Noise levels up to 70 db are considered “conditionally acceptable” for residential, lodging, schools, libraries, churches and hospitals.

Maximum noise level standards and recommendations have also been established by other agencies, including the U.S. Department of Housing and Urban Development and U.S. Environmental Protection Agency (EPA). The California Administrative Code implements noise insulation standards for new multifamily structures within the 60 CNEL contour adjacent to roads, railroads, airports, industrial areas, and rapid transit lines. Acoustic analysis is mandatory to demonstrate that these multifamily units are designed to limit interior noise levels, with doors and windows closed, to 45 CNEL in any habitable room.

2. Project Impacts

In addition to the physical monitoring of existing noise conditions in the Specific Plan study area, a computerized noise model was prepared to assess the impacts of land use patterns, traffic and development on the noise environment. Table III-44 provides projected Specific Plan

⁴¹ California Department of Health Services, “Guidelines for the Preparation and Content of the Noise Element in the General Plan,” 1990.

buildout noise conditions at specific locations and along major roadway segments with the buildout of the proposed Specific Plan. Noise contours are described in terms of distance to each noise contour (55, 60, 65 and 70 dBA) from the centerline of the subject roadway. Table III-45, which follows, shows the dBA contribution of the buildout of the proposed Specific Plan on noise levels along planning area roadways both with and without the Specific Plan project. The calculated noise contours do not take into account the effect of any existing noise barriers or topography that may affect ambient noise levels.

As noted above, the existing noise sensitive residential areas are generally located along segments of Corwin Road between SR 18 and Waalew Road, on segments of Quarry Road between Dale Evans Parkway and Stoddard Wells Road, south of Waalew Road and east of Central Road. As shown above, residential areas along Waalew Road and Corwin Road currently experience unmitigated noise levels approaching the Town's 65 dBA CNEL noise standard.

Basis for Community Noise Impact Assessment

The traffic noise impacts of the Specific plan project on the community noise environment is measured by the level of additional contribution to community noise that can be directly associated with project traffic. In the present instance, this difference is that between the traffic and resulting noise associated with the current, adopted Town General Plan versus the contribution (addition) of traffic from buildout of the proposed Specific Plan. In community noise assessments, changes in noise levels greater than 3 dBA are often identified as "barely perceptible". While changes of 5 dBA are characterized as being "readily perceptible". While some are more sensitive than others to changes in noise levels, a change in noise levels in excess of 3 dBA is generally characterized as potentially significant.

The Town Noise Control Ordinance also sets maximum acceptable noise levels for stationary and mobile construction equipment, as discussed above. The significance of noise impacts is determined by the nature of the impacted land use, time of day and whether the noise source is mobile or stationary. For single-family residential land uses the maximum allowable mobile and stationary equipment noise levels between 7 AM and 7 PM (weekdays and Saturdays) at the property line are 75 dBA and 60 dBA Leq, respectively. For nighttime hours between 7 PM and 7 AM on Sundays and holidays, the maximum noise levels for mobile and stationary equipment are 60 dBA and 50 dBA Leq, respectively.

**Table III-44
 Projected Specific Plan and 2030 Buildout Noise Contours
 Adjacent to Town Roadways**

ROAD	SEGMENT	CNEL AT 100 FEET (dBA)	DISTANCE TO CONTOUR (FEET)			
			70 dBA CNEL	65 dBA CNEL	60 dBA CNEL	55 dBA CNEL
Central Avenue	s/o Waalew Road	70.3	105	225	486	1,046
Central Avenue	s/o Otoe Road	68.7	81	175	378	813
Central Avenue	s/o Thunderbird Road	66.6	60	129	277	597
Central Road	s/o Quarry Road	69.1	87	186	402	865
Central Road	s/o Johnson Road	71.5	127	273	589	1,268
Central Road	s/o Los Padres Road	71.1	118	255	549	1,182
Central Road	s/o "F" Street	72.2	141	303	652	1,405
Corwin Road	s/o Dale Evans Parkway	68.5	79	171	369	794
Corwin Road	s/o Waalew Road	69.9	98	212	457	984
Corwin Road	s/o Choco Road	70.5	109	234	504	1,085
Corwin Road	s/o Tao Road	68.0	73	158	340	732
Dale Evans Pkwy	s/o I-15	66.1	RW	119	257	554
Dale Evans Pkwy	s/o Stoddard Wells Rd.	65.2	RW	102	221	476
Dale Evans Pkwy	s/o Quarry Road	69.1	87	188	405	873
Dale Evans Pkwy	s/o Johnson Road	71.7	130	280	603	1,299
Dale Evans Pkwy	s/o Los Padres Road	72.3	143	307	662	1,425
Dale Evans Pkwy	s/o Gustine Road	73.5	171	369	795	1,713
Dale Evans Pkwy	s/o High Desert Corridor	72.4	144	310	667	1,438
Dale Evans Pkwy	s/o Corwin Road	70.1	101	218	469	1,010
Dale Evans Pkwy	s/o Waalew Road	68.9	84	181	390	841
Dale Evans Pkwy	s/o Otoe Road	67.4	RW	145	313	674
Dale Evans Pkwy	s/o Thunderbird Road	67.5	68	146	314	677
Gustine Road	w/o Choco Road	64.5	43	93	201	433
Gustine Road	e/o Choco Road	67.9	73	157	338	729
Happy Trail Highway	w/o Corwin Road	72.4	145	313	673	1,451
Happy Trail Highway	e/o Corwin Road	71.8	132	284	611	1,316
Johnson Road	w/o Dale Evans Parkway	70.9	115	249	536	1,154
Navajo Road	s/o Thunderbird Road	67.6	69	148	319	687
Otoe Road	w/o Dale Evans Parkway	64.0	40	86	186	400
Quarry Road	e/o Stoddard Wells Rd.	61.1	RW	55	119	256
Quarry Road	e/o Dale Evans	66.2	56	121	260	561

Table III-44
Projected Specific Plan and 2030 Buildout Noise Contours
Adjacent to Town Roadways

ROAD	SEGMENT	CNEL AT 100 FEET (dBA)	DISTANCE TO CONTOUR (FEET)			
			70 dBA CNEL	65 dBA CNEL	60 dBA CNEL	55 dBA CNEL
	Parkway					
Quarry Road	e/o Navajo Road	65.5	50	108	232	500
Saugus Road	w/o Choco Road	67.4	67	145	312	671
Saugus Road	e/o Choco Road	67.6	69	150	322	694
Stoddard Wells Road	w/o Dale Evans Parkway	60.1	RW	RW	101	218
Stoddard Wells Road	s/o Quarry Road	63.2	RW	75	163	350
Stoddard Wells Road	s/o Johnson Road	70.8	113	244	526	1,134
Stoddard Wells Road	w/o Choco Road	70.9	114	246	531	1,144
Thunderbird Road	w/o Dale Evans Parkway	65.5	RW	108	232	500
Thunderbird Road	e/o Dale Evans Parkway	65.1	RW	102	220	473
Waalew Road	w/o Dale Evans Parkway	69.0	86	186	400	862
Waalew Road	e/o Dale Evans Parkway	68.1	74	160	346	744
Waalew Road	e/o High Desert Corridor	67.4	67	144	311	670
Waalew Road	e/o Central Road	63.5	RW	79	171	368

¹ RW: Noise contour located within the road right of way.

**Table III-45
 Project Traffic Contributions to 2030 Noise Contours**

ROAD	SEGMENT	CNEL AT 100 FEET (dBA)			POTENTIAL SIGNIFICANT IMPACT? ¹
		WITHOUT PROJECT	WITH PROJECT	PROJECT CONTRIBUTION	
Central Avenue	s/o Waalew Road	67.4	70.3	2.9	NO
Central Avenue	s/o Otoe Road	67.0	68.7	1.6	NO
Central Avenue	s/o Thunderbird Road	66.6	66.6	0.0	NO
Central Road	s/o Quarry Road	65.5	69.1	3.5	YES
Central Road	s/o Johnson Road	66.0	71.5	5.5	YES
Central Road	s/o Los Padres Rd.	65.9	71.1	5.2	YES
Central Road	s/o "F" Street	67.8	72.2	4.4	YES
Corwin Road	s/o Dale Evans Parkway	67.5	68.5	1.0	NO
Corwin Road	s/o Waalew Road	68.8	69.9	1.1	NO
Corwin Road	s/o Choco Road	69.6	70.5	0.9	NO
Corwin Road	s/o Tao Road	67.3	68.0	0.6	NO
Dale Evans Pkwy	s/o I-15	65.5	66.1	0.7	NO
Dale Evans Pkwy	s/o Stoddard Wells Road	64.3	65.2	0.8	NO
Dale Evans Pkwy	s/o Quarry Road	65.7	69.1	3.4	YES
Dale Evans Pkwy	s/o Johnson Road	68.1	71.7	3.6	YES
Dale Evans Pkwy	s/o Los Padres Rd.	69.0	72.3	3.3	YES
Dale Evans Pkwy	s/o Gustine Road	70.5	73.5	3.0	NO
Dale Evans Pkwy	s/o High Desert Corridor	69.9	72.4	2.5	NO
Dale Evans Pkwy	s/o Corwin Road	68.9	70.1	1.1	NO
Dale Evans Pkwy	s/o Waalew Road	66.7	68.9	2.2	NO
Dale Evans Pkwy	s/o Otoe Road	66.7	67.4	0.8	NO
Dale Evans Pkwy	s/o Thunderbird Road	66.8	67.5	0.7	NO
Gustine Road	w/o Choco Road	63.9	64.5	0.7	NO
Gustine Road	e/o Choco Road	67.1	67.9	0.9	NO
Happy Trail Highway	w/o Corwin Road	71.6	72.4	0.8	NO
Happy Trail Highway	e/o Corwin Road	70.8	71.8	1.0	NO
Johnson Road	w/o Dale Evans Parkway	67.9	70.9	3.1	YES
Navajo Road	s/o Thunderbird Road	66.9	67.6	0.7	NO
Otoe Road	w/o Dale Evans Parkway	62.9	64.0	1.2	NO

**Table III-45
 Project Traffic Contributions to 2030 Noise Contours**

ROAD	SEGMENT	CNEL AT 100 FEET (dBA)			POTENTIAL SIGNIFICANT IMPACT? ¹
		WITHOUT PROJECT	WITH PROJECT	PROJECT CONTRIBUTION	
Quarry Road	e/o Soddard Wells Road	59.9	61.1	1.2	NO
Quarry Road	e/o Dale Evans Parkway	62.2	66.2	4.0	YES
Quarry Road	e/o Navajo Road	61.8	65.5	3.7	YES
Saugus Road	w/o Choco Road	64.4	67.4	3.0	YES
Saugus Road	e/o Choco Road	65.8	67.6	1.8	NO
Stoddard Wells Road	w/o Dale Evans Parkway	60.1	60.1	0.0	NO
Stoddard Wells Road	s/o Quarry Road	63.1	63.2	0.1	NO
Stoddard Wells Road	s/o Johnson Road	68.0	70.8	2.9	NO
Stoddard Wells Road	w/o Choco Road	68.5	70.9	2.4	NO
Thunderbird Road	w/o Dale Evans Parkway	63.5	65.5	2.0	NO
Thunderbird Road	e/o Dale Evans Parkway	64.8	65.1	0.3	NO
Waalew Road	w/o Dale Evans Parkway	67.5	69.0	1.5	NO
Waalew Road	e/o Dale Evans Parkway	66.5	68.1	1.6	NO
Waalew Road	e/o High Desert Corridor	65.0	67.4	2.4	NO
Waalew Road	e/o Central Road	62.9	63.5	0.6	NO

¹ A potential significant impact occurs when the With Project is greater than 65 dBA and the project contribution is greater than 3 dBA.

Specific Plan Traffic Noise Impacts

As noted in this and the above discussion on traffic impact, the future buildout period analyzed in this EIR is for the 2030 Horizon Year with the proposed Specific Plan project and incremental buildout of the Town General Plan. As can be seen from the two following tables, traffic associated with the buildout of the North Apple Valley Industrial Specific Plan will have a less than significant impact the noise environment on all but eleven (11) roadway segments in the planning area. Potentially impacted roadway segment that may have 3 dBA or greater increase in noise levels that contribute to an exceedance of 65 dBA CNEL, and their respective increases in CNEL dBA, are as follows:

- Central Ave south of Quarry Road: 3.5 dBA
- Central Ave south of Johnson Road: 5.5 dBA
- Central Ave south of Los Padres Road: 5.2 dBA
- Central Ave south of F Street: 4.4 dBA
- Dale Evans Pkwy south of Quarry Road: 3.4 dBA
- Dale Evans Pkwy south of Johnson Road: 3.6 dBA
- Dale Evans Pkwy south of Los Padres Road: 3.3 dBA
- Johnson Road west of Dale Evans Pkwy: 3.1 dBA
- Quarry Road east of Dale Evans Pkwy: 4.0 dBA
- Quarry Road east of Navajo Road: 3.7 dBA
- Saugus Road east of Choco Road: 3.0 dBA

It should be noted that the potentially significant impacts to the noise environmental along the above cited 11 roadway segments range from very marginal for five segments, to moderately significant for the other six segments. It should also be noted that cited impacts are for unmitigated conditions, which do not consider the noise buffering effects of masonry walls, earthen berms or other buffers that may be constructed in the future along these potentially affected roadways. Based on the results of this analysis, the traffic noise associated with the North Apple Valley Industrial Specific Plan will create limited but potentially significant permanent increases in transportation-related ambient noise levels or potential expose persons to noise levels in excess of the standards established by the Town.

Specific Plan Stationary Noise Source Impacts

The aforementioned stationary sources of noise that may be associated with the buildout of the Specific plan include truck deliveries, loading and unloading docks and areas, manufacturing and transport machinery and equipment noise, speakerphones and loudspeakers, trash compactors and HVAC equipment. Nearby residences are expected to be the potentially most impacted sensitive receptors, especially those located across Waalew Road and Central Road. No residential land uses are proposed within the Specific plan planning area under the Preferred Alternative, which further reduces the potential for stationary noise impacts to sensitive residential receptors. Nonetheless, mitigation measures are recommended below to further minimize potential stationary noise impacts to surrounding sensitive receptors.

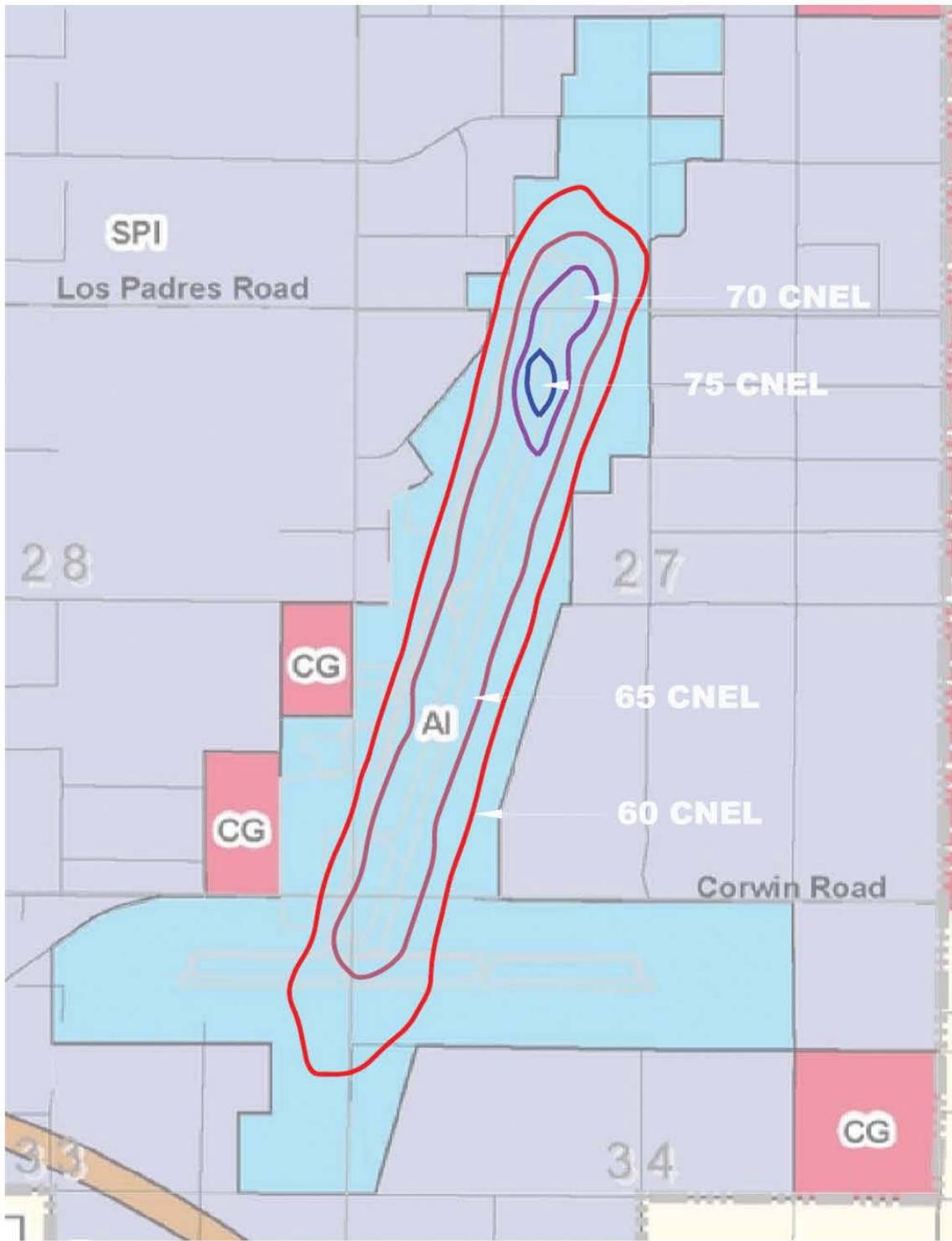
Railroad Corridor

The rail line located adjacent to Quarry Road serves only the Mojave Northern Mining quarry and is expected to remain at its current operational level of 2 to 4 trains per day with up to 20

freight cars per day. Based on the very limited number of rail operations and the nature of the land uses proposed in the Specific Plan, the continued operation of this rail line is not expected to have a significant adverse impact on the Specific plan planning areas.

Aircraft Operations Noise

Airport operations at the Apple Valley Airport are expected to be limited to general aviation operations and the level of operations in the future (2023) are expected to be compatible with the various land uses proposed in the Specific plan. As shown on Exhibit III-23 (next page), the anticipated future growth in airport operation will generate very modest and less than significant increases in the CNEL contours generated by the operation of this airport.



TERRA NOVA[®]
 Planning & Research, Inc.

**North Apple Valley Industrial Specific Plan
 Future (2023) Apple Valley Airport Noise Contours
 Apple Valley, California**

Exhibit

III-23

Construction Noise

Construction noise constitutes a short-term impact on adjacent land uses. Typical construction equipment includes graders, backhoes, front-end loaders, haul trucks, water trucks, pavers, cement trucks, etc. Significant noise impacts could result from construction activities such as the operation of heavy construction equipment, that can generate noise levels ranging from 68 dBA to 100 dBA when measured at 50 feet from the noise source, and typically fall into the 80 to 85 dBA range at 50-feet. Construction noise lessens with distance, with an approximate 6 dBA reduction in noise levels with each doubling of distance from the noise source. It should also be noted that these noise levels would lessen over time and ceased entirely once construction is completed. The subject analysis has been carried out assuming overall grading noise levels of 89 dBA at 50-feet; grading generally represents the highest potential source of construction noise impacts.

Existing and proposed residential development south of Waalew Road and east of Central Road will experience the greatest impacts associated with site grading in the Specific plan area. Due to distances from the site and with consideration for existing and future traffic noise on these roadways, construction noise levels are expected to be below the 75 dBA standard for mobile grading equipment for daytime hours between 7 AM and 7 PM, and the 60 dBA Leq standards for stationary equipment. Nonetheless, mitigation measures are recommended below to further assure that construction-related noise impacts are kept to a less than significant level.

3. Mitigation Measures

Continued growth and development in the Specific Plan study area has the potential result in potentially significant impacts associated with noise. Strategic land use and transportation planning, project design mitigation, and acoustical barriers contribute highly to the management of the Town's noise environment. The Specific Plan land use plan appears to minimize the potential adverse noise impacts of the buildout of the planning area with surrounding land uses.

Town Noise Ordinance

In 2000, the Town of Apple Valley adopted Chapter 9.73 of its Municipal Development Code (Noise Control Ordinance), which established community-wide noise standards to emphasize the value of an acceptable noise environment. The Town Noise Control Ordinance provides regulations for noise measurement and monitoring and cites special provisions of, and exemptions to, the ordinance. It is intended to regulate excessive noise from existing uses and associated activities, and to serve as a reference guide for identifying other pertinent noise regulations. The Apple Valley Noise Control Ordinance provides definitions of key terms and establishes exterior noise level standards on a time-of-day basis along with adjustments for intensity and duration.

Noise Barriers

Because of the linear qualities of noise, such barriers as walls and earthen berms can be very effective in reducing noise impacts. It is important to note, however, that noise barriers must be of sufficient height and length to obstruct the noise source entirely (generally in North Apple Valley Industrial Specific Plan area this noise source will be the Town's roadways). Reductions of 10 to 15 dBA can be achieved with effective solid walls, which block the line of site from a

home to the adjacent roadway. These types of noise barrier should be effective at adequately mitigating all project-related traffic noise impacts along affected roadway segments.

The noise standards in the Town General Plan and Noise Control Ordinance are intended to guide the location of future noise generators and sensitive land uses. The following mitigation measures shall be implemented to reduce impacts associated with noise to less than significant level.

Categorical Mitigation Measures

The following discussion describes the specific mitigation measures, which are stated on a categorical basis to address identified impacts.

Construction Noise

1. The Town shall restrict grading and construction activities that may affect residential neighborhoods and other sensitive land uses to specified days of the week and times of the day.
2. All construction equipment operating in the Specific Plan study area shall be fitted with well maintained functional mufflers to limit noise emissions.
3. To the greatest extent feasible, earth moving and hauling routes shall be located away from nearby existing residences.
4. Any portion of development in the Specific Plan study area involving blasting or pile driving operations shall have a focused acoustical study conducted, to establish the level and duration of off-site noise and vibration impacts and appropriate mitigation measures.
5. In instances where construction may impact nearby residences, construction contractors shall locate equipment staging areas that will create the greatest distance between construction-related noise sources and noise sensitive receptors nearest the project site during all construction.
6. Construction contractors shall limit haul truck deliveries to the same hours specified for construction equipment. To the extent feasible, haul routes shall not pass sensitive land uses or residential dwellings.

On-Site Stationary Noise Sources

7. The design, selection and placement of the mechanical equipment for various buildings within the Specific Plan study area shall include consideration of the potential noise impact on nearby residences, both within the any development and in the surrounding community.
8. Silencers and/or barriers shall be provided where necessary at outdoor equipment, such as cooling towers, air cooled condensers and refrigeration compressors/condenser units, and at the air intake and discharge openings for building ventilation systems.

9. Appropriate sound barriers shall be provided surrounding any and all public facilities capable of generating disturbing levels of noise, such as water pumping stations.
10. All development within the North Apple Valley Industrial Specific Plan shall comply with Town stationary source (nuisance noise) standards included in the Town Noise Control Ordinance.
11. Future development plan approvals shall make every effort to maximize the distance between high noise generating activities (such as freight loading docks) and any potentially affected noise sensitive residential areas.
12. Truck access shall be limited to industrial areas and major haul routes and truck traffic on local residential streets shall be prohibited to the greatest extent practicable.
13. On a case-by-case basis, the Town shall require the preparation of project-specific noise impact studies that evaluate and minimize the potential for stationary noise sources to adversely impact sensitive noise receptors in the vicinity.

Off-Site Traffic Noise

14. Potential noise impacts shall be considered in the final site plans for all proposed projects within the Specific Plan study area. Factors to be considered shall include the strategic arrangement of uses and activities to provide necessary shielding of nearby sensitive land uses, the incorporation of additional setbacks from roadways, and/or the construction of additional noise barriers, as necessary.
15. Land uses that are compatible with higher noise levels shall be located adjacent to the Town's major arterial roads and highways, including the Interstate-15 corridor, to maximize noise related land use compatibility.
16. The Town shall require the preparation of a noise impact analysis for all commercial and industrial projects, which are to be located adjacent to or in proximity of residential land uses or other sensitive land use designations. The required noise impact analysis shall evaluate potential impacts of the project and provide for adequate mitigation measures to assure that Town standards for residential and/or other sensitive land uses are maintained.
17. The Town shall encourage a project circulation pattern, which places primary traffic loads on major arterials and preserves local neighborhood noise environments by limiting roadways to local traffic to the greatest extent practical.

Mitigation Monitoring/Reporting Program

1. Establish and periodically update an inventory of existing significant noise sources and incompatible areas, and develop procedures to reduce the noise effects on these areas, where economically and aesthetically feasible.
Responsible Parties: Planning Division.

2. Periodically review land use patterns and the community noise environment, and amend the Specific plan land use map as appropriate to assure reasonable and use/noise compatibility.
Responsible Parties: Planning Division, Planning Commission, Town Council.
3. In areas subject to potentially significant noise impacts, the Town shall require new development to monitor and document compliance with all applicable noise level limits.
Responsible Parties: Planning Division.

Pre-Construction

4. During project-specific site planning and building design, ensure acoustical analysis takes into consideration the following:
 - selection and placement of mechanical equipment for all buildings,
 - shielding and buffering of mechanical equipment for all buildings,
 - strategic location in consideration of nearby residences to provide shielding of outdoor living spaces,
 - theme wall is constructed to noise barrier specifications,
 - designate acceptable truck/construction equipment route(s), as appropriate,
 - construction drawings shall include exact acoustical specifications for window glass in buildings with unshielded first and second floor windows which experience noise exposures above CNEL 65 and,
 - verify that design plans of specific projects within the Specific Plan study area comply with State Code requirements of unit-to-unit airborne sound isolationResponsible Parties: Developers, General Contractors and Town Planning Department.

During Construction

5. Ensure functional mufflers on all construction equipment.
Responsible Parties: Developer, General Contractor, Building Division
6. Ensure that designated truck/construction equipment routes are being utilized.
Responsible Parties: General and Grading Contractors, Building and Safety Division.
7. Ensure construction equipment operates during the hours set in the Town Noise Ordinance, except in emergencies.
Responsible Parties: General Contractors, Building and Safety Division.

J. Visual Resources

1. Existing Conditions

Regional Setting

The Town of Apple Valley is located primarily on alluvial slopes, and topography in the region generally rises from the southwest to northeast. Elevations in the Town range from approximately 2,800 feet above sea level near the Mojave River, rising to approximately 3,200 feet above sea level at the northeast corner of Town. The Mojave River floodplain is broad, with scattered bluffs and terraces. The valley floor is characterized by dry lakes, alluvial fans and rocky washes that drain the adjacent foothills.

The San Gabriel Mountains, approximately 10 miles to the south of Town, rise to a peak elevation of 10,064 feet above sea level. Approximately 75 miles northwest of the Town are the Tehachapi Mountains, with a peak elevation of 7,986 feet above sea level. The Town's topography is characterized by gradual slopes inclining towards the San Bernardino Mountains to the south, as well as the scattered knolls and low mountains to the north and east of the Town.

Planning Area Setting

Topographic relief in the Specific Plan area is characterized by alluvial deposits and minor drainages as a result of flows from the adjacent foothills. In general, the site slopes from north to south, with the highest elevation at approximately 3,200 feet above sea level in the northeastern-most portion of the site. The lowest elevation occurs at approximately 2,920± feet in the southwestern most portion of the site. Topography in the project vicinity includes Bell Mountain, which has an elevation of 3,897 feet above sea level and is located about one mile west of the site. Fairview Mountain, located approximately one mile east of the project site, has an elevation of 4,329 feet above sea level. The terrain of adjacent mountains, hills and terraces, as well as the warm earth tones of surrounding landforms and features provide dramatic contrasts that create the backdrop for the project area.

The visual character of the project site and vicinity is somewhat impacted by urban development. Development in the vicinity includes scattered residential and industrial uses, the Apple Valley Airport, and local roadways. The Specific Plan area and vicinity also includes large areas of undeveloped desert lands.

Town of Apple Valley Exterior Lighting Standards

The General Plan sets forth dark sky and lighting policies designed to preserve views of night skies. Further, the Town has established development performance standards for exterior lighting in Chapter 9.70.020 of the Town's municipal code.

2. Project Impacts

Approval of the proposed Specific Plan will provide for development of commercial and industrial land uses on approximately 4,937 acres approximately 4 miles to the northwest of the most urbanized portions of the Town of Apple Valley. As previously noted, development in this area is currently sparse, and development of the proposed Specific Plan area over time is expected to change the existing character of the Specific Plan area, and to some extent, that of surrounding lands. The Specific Plan does not identify particular users for specific sites, and development plans are not currently available.

Sensitive viewsheds include those visible from Dale Evans Parkway and from surrounding residential development located in the project vicinity. These viewsheds have already been impacted somewhat by existing development, including existing industrial and residential land uses. Viewsheds have also been impacted by existing development of the Apple Valley airport in the central portion of the Specific Plan area.

Specific Plan Development Guidelines

The Specific Plan includes four zoning districts, and a range of allowable and conditionally allowable uses are provided for within these districts. Not all uses are allowable within each district, and some uses are allowed only by special permit within some districts.

The Specific Plan provides development standards within each of the four zoning districts. Building heights are limited to 35 feet for all buildings within the Airport Influence Area and within areas designated for General Commercial uses. Building heights are limited to 50 feet in all other zoning districts, with the exception of the northeastern-most portion of the site, in which would be allowed the heaviest industrial uses on the site. Landscaping setbacks along perimeter roadways are a minimum of 25 feet, and building setbacks along those roadways are a minimum of 50 feet. Setbacks along Waalew Road are 50 feet and 75 feet for landscaping and buildings, respectively.

Building massing standards within the Specific Plan are limit building coverage over portions of the site designated/zoned for Specific Plan Industrial, which encompasses most of the site, to approximately 35 percent, or 15,246± square feet per acre. Site coverage on other lands, including those designated/zoned for Airport Industrial and General Commercial, range from 60 to 65 percent per acre. It should be noted, however, that in all cases per acre building coverage is likely to be at levels closer to those currently existing in the Specific Plan area, which are approximately 22 percent per acre (9,583± square feet per acre). Building coverage guidelines set forth in the Specific Plan represent allowable maximums but do not necessarily represent expected buildout conditions.

The Specific Plan also establishes standards for landscaping and planting materials that will utilize native and appropriate non-invasive, non-native planting materials. Landscaping designs and materials will be used to establish and enhance visual order to streetscapes, parking areas, building perimeters and common open space areas.

It also establishes standards for building design and finishes, as well as walls and fences. Specific Plan standards provide for architecture that reflect the Town's desert setting and long-term traditional values, and building design options should be compatible with existing development to the greatest extent possible. A variety of building designs and a mixture of one and two story profiles are encouraged. Rooftop mechanical equipment must be properly screened. The Specific Plan is also prescriptive regarding the maximum height, number and location of on-site signage. Standards for outdoor lighting are discussed below.

Light and Glare

Development of the Specific Plan may generate additional light and glare from interior and exterior lighting sources, building materials, project-related vehicular traffic and parking lots. Standard design features will be used to mitigate potential impacts to acceptable levels, such as shielding and directing all outdoor lighting downward to preserve the night sky, as set forth in the General Plan and Town performance standards. No illumination of land outside the project's perimeter shall be permitted, and building practices will be consistent with those used in surrounding development. This includes minimizing the use of glass and other reflective surfaces. Lighting fixtures in the vicinity of the airport shall be compatible with airport

operations. The proposed project is anticipated to have a less than significant impact to day or nighttime views in the area through the use of standard design features in accordance with General Plan policies and Town performance standards.

Summary of Impacts

Development within the Specific Plan area will result in changes to the existing visual character. The Specific Plan provides for development of buildings of 50 to 100 feet in height, as well as additional sources of light and glare from building lighting, night-time operations and vehicle headlights, which may particularly impact the more sensitive residential land uses surrounding the project site.

The application of Specific Plan design guidelines for building setbacks, building design and exterior finishes, landscape, walls and fences, and exterior lighting, along with implementation of mitigation measures set forth herein, are expected to reduce potentially significant impacts to visual resources to less than significant levels.

3. Mitigation Measures

1. Project design guidelines, architecture and materials used in the development shall conform with the project design guidelines set forth in the North Apple Valley Industrial Specific Plan, as reviewed and amended by the Town of Apple Valley.
2. Landscaping plans and materials applied to development area boundaries shall serve to create a harmonious transition and complement to the built environment. Native and appropriate non-invasive non-native plants shall be utilized. Landscape designs and materials should be used to establish or enhance visual order to streetscapes, parking areas, building perimeter landscaping and common open space areas.
3. Walls and fences shall be constructed in conformance with the North Apple Valley Industrial Specific Plan Design Guidelines, and shall utilize materials consistent with other structures in the Specific Plan area. Walls shall incorporate landscaping to obscure or soften hard edges. Internal security fencing shall use quality materials, and perimeter walls shall not exceed six feet in height except as otherwise approved by the Town.
4. All outdoor lighting shall be in compliance with the dark sky policies of the General Plan. Other lighting recommendations include the following:
 - a. Outdoor lighting shall be limited to the minimum height, number and intensity of fixtures needed to provide security and identification, taking every reasonable effort to preserve the community's night skies.
 - b. Lighting fixtures shall be of appropriate scale, style and character of the architecture. No lighting which incorporates flashing, pulsing or is otherwise animated shall be permitted.
 - c. The intensity of light at the boundary of any development onsite shall not exceed seventy-five (75) foot lamberts from a source of reflected light.

- d. All glare shall be directed onto the site and away from adjacent properties
- e. Lighting fixtures in the vicinity of the airport shall be compatible with airport operations.
5. All development plans, including grading and site plans, detailed building elevations and landscape plans shall be submitted to the Town for review and approval prior to the issuance of building permits.
6. The development shall provide adequately and appropriately screened outdoor storage/loading and other service areas, protected and enhanced outdoor seating areas, as necessary, and appropriate levels of lighting, limited signage, and the thoughtful use of landscaping that preserves and enhances visual resources.
7. Development within the Specific Plan area shall be designed with particular attention to limiting the lighting impacts on adjacent residential neighbourhoods.
8. All project signage shall be in compliance with the Design Guidelines set forth in the North Apple Valley Industrial Specific Plan. Signage shall be limited to the minimum size, scale and number needed to provide functional identification and exposure necessary for identification and to provide direction, while minimizing impacts on traffic safety, streetscape, scenic viewsheds and the aesthetic character of the development.

Mitigation Monitoring/Reporting Program

1. Development plans for specific development projects shall be reviewed to assure their substantial compliance with the basic design parameters set forth in the above mitigation measures and as conditioned by Town approvals.
Responsible Parties: Planning Division, Building and Safety Division and Town Engineer.
2. Prior to the issuance of grading permits, building design elements for future development projects, including but not limited to walls/roofs/glazing, screen walls and fences, and other structures shall be reviewed for their responsiveness to the design criteria set forth in the North Apple Valley Industrial Specific Plan Design Guidelines, the above mitigation measures and as otherwise required by Town.
Responsible Parties: Planning Division, Building and Safety Division, Planning Commission.
3. Prior to the issuance of grading permits, landscaping palette and design, as well as lighting elements for future development projects of the project, shall be reviewed for their responsiveness to design issues addressed in the North Apple Valley Industrial Specific Plan Design Guidelines, above mitigation measures, and as elsewhere required by other mitigation measures and conditions set forth by the Town.
Responsible Parties: Planning Division, Building and Safety Division.

K. Hazardous and Toxic Materials

1. Existing Conditions

The use, storage and disposal of hazardous materials and wastes are regulated by a variety of state, federal, and regional agencies, based on the type and volume of these materials generated and stored. When federal regulation is warranted, such as for “large-scale” generators of hazardous materials and wastes, such uses are regulated by the U.S. Environmental Protection Agency (EPA).

The Town of Apple Valley is a member of the Southern California Hazardous Waste Management Authority, a joint powers authority between Southern California Association of Governments (SCAG) member counties. SCAG is currently updating its Regional Comprehensive Plan (RCP), which addresses a number of areas of resource management. The RCP will include an overview of current solid and hazardous waste management planning process in Southern California, and will discuss potential strategies and actions for improving the SCAG region's solid and hazardous waste management system.⁴²

The Town works with the Hazardous Materials Division (HMD) of the San Bernardino County Fire Department, which has been designated by the State as the Certified Unified Program Agency for handling hazardous waste and materials in this area. Local businesses must certify any hazardous materials at their facilities to the County HMD on an annual basis. HMD performs compliance inspections of facilities that handle hazardous materials, which are defined by California Code of Regulations (Title 22) as substances that are toxic, ignitable, flammable, reactive, or corrosive. The Apple Valley Fire District Duty Chief acts as liaison with HMD in the event of a hazardous materials spill or leak.

The Town and the Specific Plan area are located in proximity to Interstate-15 and Highway 18, as well as to the Atchison Topeka & Santa Fe Railroad. These transportation facilities carry hazardous materials, and there is potential for spills and leaks from moving sources. The Town is responsible for clean up of hazardous materials spills along highways within its incorporated limits, however, California Highway Patrol is responsible for those occurring along highways in the unincorporated County. CHP coordinates with CalTrans, and the local sheriff and fire departments for additional assistance.⁴³ CHP also conducts a Commercial Industry Education Program (CIEP) to educate operators of commercial vehicles on a variety of safety topics, including hazardous materials inspection requirements.⁴⁴ Spills along rail lines are the responsibility of the County HMD. The Apple Valley Fire District hazardous materials team acts a first responder and coordinates with County HMD to mitigate releases.⁴⁵

The Town maintains a State Emergency Management Systems (SEMS) Multi-hazard Function Plan that complies with State and Federal requirements. Emergency evacuation routes and emergency service locations are identified in the Safety Element of the Town's General Plan.⁴⁶

⁴² “<http://www.scag.ca.gov>, accessed June 30, 2006.

⁴³ Personal Communication, Sergeant Chet Yun, Apple Valley Fire District, July 7, 2006.

⁴⁴ <http://www.chp.ca.gov/html/ciep.html>, accessed June 30, 2006.

⁴⁵ Personal Communication, Sergeant Doug Qualls, Apple Valley Fire District, July 11, 2006.

⁴⁶ “Town of Apple Valley General Plan,” October 1998.

The planning area is accessible via several major local roadways, including Dale Evans Parkway, Corwin Road and Central Road.

Planning Area Conditions

A review of environmental databases was conducted by Environmental Data Resources, Inc. for the Specific Plan area and adjoining properties (see Appendix H).⁴⁷ Existing land uses in the Specific Plan area and vicinity include commercial and industrial development, including the Apple Valley Airport. Sensitive land uses in area include scattered single-family residential development and the Rio Vista Elementary School, which is located approximately one-half mile south of the Specific Plan area.

Risk of Upset

As discussed in Section III-E, the Specific Plan area is not located within an Alquist-Priolo Earthquake Fault Zone, and no active or potentially active faults are known to cross the subject property.⁴⁸ The Town of Apple Valley and the Specific Plan area are located in proximity to large, active fault systems. These include the Mojave Desert segment of the San Andreas fault, which occurs approximately 25 miles south-southwest of Apple Valley, and the Helendale fault, which occurs approximately 8 miles east of Apple Valley. Earthquakes along these faults within the last 150 years have been measured at Richter magnitudes of between 5.2 (Big Bear, 2003) and 7.9 (Tejon Pass, 1857).

As noted above, the Apple Valley Airport is located in the central portion of the Specific Plan area. Potential impacts of future development and the implementation of measures to assure that land uses constructed within the airport influence area do not pose a hazard to airport operations are discussed below.

Based on a review of the California Department of Toxic Substances' (DTSC) Hazardous Waste and Substance Site List (Cortese List), there are 28 active hazardous waste sites in San Bernardino County, none of which are located in Apple Valley. A review of environmental databases conducted in May 2006⁴⁹ reviewed databases covering the Specific Plan area and adjoining properties. The report identified 15 properties within the geographic area studied that are currently listed on environmental databases. Of these, four are described as having a moderate potential for hazardous materials spills because they maintain underground fuel storage sites. These include the Wal-Mart Distribution Center, which is located in the northeastern portion of the Specific Plan area; a trucking company located in the southwestern portion of the Specific Plan area; the Apple Valley Airport and a gasoline station on the airport property, which occur in the central portion of the Specific Plan area. Leakage from underground fuel storage tanks is common due to tank corrosion, leaking fittings, or improper installation. However, regular maintenance and testing of these tanks is required, and no hazardous materials releases have been reported at these properties.

The Apple Valley Airport is listed as having a Moderate to High potential for such spills because of on-site wastewater treatment and disposal. The airport sewage treatment facilities process less than 1,000 gallons of wastewater per day.

⁴⁷ "Apple Valley Study" prepared by Environmental Data Resources, Inc., May 1, 2006.

⁴⁸ Apple Valley General Plan Environmental Impact Report," prepared by CBA Inc, May 1991.

⁴⁹ "Apple Valley Study" prepared by Environmental Data Resources, Inc., May 1, 2006.

Victorville Pre-Bomb Range

A fifth site within the project study area is the Victorville Pre-Bomb Range site, which the database records indicate encompasses approximately 560 acres. This site was used as a practice bombing range for military training purposes during World War II. Based on the known location of the bombing target area, the former bombing range would be bound by Johnson Road to the north, Navajo Road to the east, Los Padres Road to the south, and Dale Evans Parkway to the west. During its use as a bombing range the U.S. Army Air Force constructed limited structures such as fencing, gates, frame butts and appendages, and a target area approximately 600 feet in diameter comprised of concentric circles and transecting asphalt strips. Portions of the latter are still apparent on aerial photographs of the site. According to the database records, this site is undeveloped; however, a portion of the site has been developed for the Wal-Mart distribution facility, which is located at the southwest corner of Dale Evans Parkway and Johnson Road. (Please see Exhibit II-1, Aerial View of Planning Area).

A Phase I Environmental Site Assessment conducted for Pluto Development in 2001,⁵⁰ prior to construction of the Wal-Mart facility, included a review of available historic photographs of the area. A 1953 photograph, the earliest available to the reviewer, showed a circular-shaped graded area with a “target mark” in the center in the southern portion of the Wal-Mart site, which the report speculated may have been a marker used by aerial photographers as a reference point. Neither the database search conducted for the 2001 site assessment, nor the report itself, noted the former bomb range. The concentric circles and transecting strips noted above are visible in current aerial photographs, approximately 1,150 feet south of the Wal-Mart distribution center.

Based on the EDR review of database records the site is “known or suspected of containing military munitions and explosives of concern (unexploded ordnance).” Investigation and/or removal of unexploded ordnance have been underway for over a decade, with approximately \$1.3 million budgeted for this effort. Potential impacts associated with this site are further discussed under Project Impacts, below.

2. Project Impacts

The proposed Specific Plan establishes development standards and guidelines for the eventual development of a master planned industrial park. Currently vacant lands would be designated for a variety of clean manufacturing and warehousing, such as furniture manufacture and warehouse distribution facilities. Land use designations proposed under the Specific Plan will also provide for more intense manufacturing uses. The Specific Plan will also provide for the potential development of general commercial uses, such as hotels and motels, professional services, retail commercial uses, and heavier commercial uses, such as vehicle repair and storage. A more detailed listing of allowable uses under proposed land use designations is set forth in Section III-A, Land Use, as well as within the Specific Plan document.

⁵⁰ “Phase I Environmental Site Assessment, Pluto Development, APN 463-231-01,02,03,04 and 05,” prepared by Lilburn Corporation, March 2001.

As noted previously, there are four known properties within the Specific Plan area that are listed on environmental databases because they maintain underground fuel storage tanks. These facilities, which include the Apple Valley Airport, are characterized as having moderate to high potential for hazardous materials spills. Wastewater treatment and disposal facilities at the airport process less than 1,000 gallons per day. The potential for hazardous materials releases from this facility are characterized as moderate to high, although the Waste Discharge System (WDS) database characterizes the wastewater treated at this facility as posing a minor threat to groundwater quality.

The proposed Specific Plan will not result in increased generation or disposal of hazardous materials and wastes associated with existing facilities. However, the Specific Plan is expected to provide for the development of new businesses within the Specific Plan area that will increase the exposure of people to existing sources of potential hazard. Development guidelines are provided in the Specific Plan to guide future development and ensure compatibility of land uses within the Specific Plan area.

Future development in the Specific Plan area will also include commercial and industrial development that may have potential to store, transport or distribute hazardous materials, and to generate hazardous wastes. Potential use and generation of such materials and wastes is dependent on the size and type of the business, chemicals and processes used, and other factors. Quantification of potential hazardous material use or waste generation for specific users is beyond the scope of this study. As previously noted, however, the use, storage, and disposal of hazardous materials and wastes is regulated by a variety of agencies. Development within the Specific Plan area that use or generate hazardous materials and wastes will be required to obtain all applicable permits for such activities.

Lands within the Specific Plan area are designated for development of the future High Desert Corridor as identified by the California Department of Transportation. This corridor may also constitute an additional transportation route for hazardous materials within and adjacent to the Specific Plan area. Development of the highway is not a part of this project, and potential impacts associated with its construction and operation will be subject to future environmental review.

Future development within the Specific Plan area has potential to impact airport operations. However, the Specific Plan is designed to ensure land use compatibility between the airport and surrounding uses. Lands designated for use by potentially heaviest industrial development are located in the northeastern portion of the Specific Plan area. The Town and the County Department of Airports should review proposed development plans within the Airport Area of Influence to further assure that the land uses constructed within this area do not pose a hazard to airport operations.

Scattered single-family residential development is located within and near the Specific Plan area. The Rio Vista Elementary School is located approximately one-half mile south/southeast of the Specific Plan area. The Specific Plan proposes land uses in the Specific Plan area that will ensure compatibility with these sensitive residential and school land uses. It designates lands with potential for heaviest industrial uses at the northeastern portion of the Specific Plan area, furthest from these sensitive receptors

The Specific Plan area is currently accessible via local roadways, including those along the perimeter of the site. Many of the roads within the Specific Plan area are currently unpaved. Buildout of the Specific Plan will require construction and paving of existing and new roadway to provide access to future development and ensure adequate emergency access to all parts of the Specific Plan area. The Town shall review all future development plans to assure that adequate emergency access is provided to all sites. Issues related to project and emergency access are further discussed in Section III-B, Traffic and Circulation.

The Victorville Pre-Bomb Range site, which encompasses approximately 560 acres of the Specific Plan area, is considered a high risk due to unexploded military weapons (bombs). A portion of this site has been developed for the Wal-Mart distribution facility. Database records indicate that clean up of the former bomb range is on-going. Existing threat or impacts to soil and groundwater quality are not known, based on information available in environmental databases surveyed. Unexploded ordnance, such as that thought to be present at this site, has potential to contain lead, nitrates, and other chemicals that were used in the manufacture of military ordinance during World War II. Therefore, the Town should require site-specific hazardous materials assessments prior to approval of future development plans within this site. These assessments should include soil and groundwater investigations to identify and provide for mitigation of potential risks to human health to less than significant levels.

Summary

A review of environmental databases has identified several facilities within the Specific Plan area and vicinity that have potential for hazardous materials spills. The proposed Specific Plan area is expected to attract a variety of new commercial and industrial businesses with potential to use, store, transport and distribute hazardous and toxic materials. These businesses may also generate, and periodically store and dispose of hazardous wastes. The development of these businesses will expose more people to existing sources of hazardous and toxic materials and wastes, as well as creating new sources that may use and generate such materials and wastes.

These activities are strictly regulated by a variety of federal, state and regional permitting agencies. Further, one of the primary purposes of the Specific Plan is to locate industrial land uses so as to avoid nuisances and hazards for the Town's residents. Proposed land use designations within the Specific Plan area are designed to appropriately segregate heavier industrial uses, which may have potential to result in larger-scale use and generation of hazardous and toxic materials. These heavier uses are generally located in the most northeastern portion of the Specific Plan area, at the greatest distance from the Town and sensitive receptors in the Specific Plan area and vicinity.

The Town works with the Hazardous Materials Division (HMD) of the San Bernardino County Fire Department to ensure compliance with state permitting requirements for the handling of hazardous waste and materials in this area. The Town maintains a state and federal-compliant SEMS Multi-hazard Functional Plan that defines emergency responses and procedures, as well as evacuation routes and emergency services facilities.

Existing and future development that generates and uses hazardous and toxic materials within the Specific Plan area is subject to federal, state and regional permitting requirements that strictly

regulates such uses and activities. The proposed Specific Plan sets forth development guidelines designed to ensure the compatibility of land uses within the Specific Plan and with surrounding lands.

Approval of the proposed Specific Plan will provide for development of commercial and industrial uses within the Specific Plan area that may result in the generation of increased hazardous and toxic materials, and will expose a greater number of persons to such hazards from existing development. It may also provide for further development of lands identified as the "Victorville Pre-Bomb Range," thus exposing additional persons to potential hazards associated with this site. Approval of the proposed Specific Plan may therefore indirectly result in impacts that may be significant without the implementation of mitigation measures.

3. Mitigation Measures

1. Project proponents for future development within the Specific Plan area shall comply with all applicable federal, state and regional permitting requirements for hazardous and toxic materials generation and handling, including the following:
 - If it is determined that hazardous wastes are, or will be, generated by any proposed operations, the wastes must be managed in accordance with the California Hazardous Waste Control Law (California Health and Safety Code, Division 20, chapter 6.5) and the Hazardous Waste Control Regulations (California Code of Regulations, Title 22, Division 4.5). If so, the proposed facility shall obtain a United States Environmental Protection Agency Identification Number by contacting (800) 618-6942.
 - If hazardous wastes are (a) stored in tanks or containers for more than ninety days, (b) treated onsite, or (c) disposed of onsite, then a permit from the Department of Toxic Substances Control (DTSC) may be required. If so, the proposed facility shall contact DTSC at (818) 551-2171 to initiate pre application discussions and determine the permitting process applicable to the facility.
 - In addition, certain hazardous waste treatment processes may require authorization from the Local Certified Unified Program Agency (CUPA). Information about the requirement for authorization can be obtained by contacting the local CUPA, which includes the Victorville city Fire Department at (760) 955-5299 and the San Bernardino County Fire Department at (909) 386-8418.
2. During project construction and implementation, the handling, storage, transport, and disposal of all chemical, including herbicides and pesticides, runoff, hazardous materials and waste used on, or at, the project site, shall be accordance with applicable local, state, and federal regulations.
3. If existing structures within the Specific Plan area contain potentially hazardous materials (such as: asbestos-containing material, lead-based paint, and mercury-or PCB-containing material) such materials shall be removed properly prior to any demolition, and disposed of at appropriate landfills or recycled, in accordance with the regulatory guidance provided in California Code of Regulation (CCR) and following the requirements of the Universal Waste Rule (40 CFR part 9).

4. Project proponents for future development within the Specific Plan area shall coordinate with the Apple Valley Fire District to reduce the level of risk and facilitate fire department response to emergency events.
5. Project proponents for future development within the Specific Plan area shall ensure that storage of hazardous materials and waste shall be secured so as to minimize risk of upset in the event of groundshaking associated with earthquakes.
6. The Town of Apple Valley and San Bernardino County Department of Airports shall review all proposed development plans within the Airport area of influence to assure that the land uses constructed within this area do not pose a hazard to airport operations.
7. The Town of Apple Valley shall review all proposed development plans within one mile of sensitive residential development and school facilities to assure that such development does not result in land use incompatibilities with potential to expose sensitive receptors to risk of hazardous substances, or accidental release of materials.
8. Project proponents for future development within the area identified as the “Victorville Pre-Bomb Range” shall handle and dispose of all hazardous wastes and materials in the manner specified by the State of California Hazardous substances Control Law (Health and Safety Code Division 20, Chapter 6.5) and according to the California Code of Regulations, Title 22, Division 4.5.
9. Prior to issuance of grading permits for future development within the area identified as the “Victorville Pre-Bomb Range, on-site investigations and assessments (Environmental Site Assessment) for the potential presence of hazardous materials shall be conducted by a qualified environmental consultant (REA or above). The handling and disposal of any hazardous material shall be conducted in accordance with Mitigation Measure 8, above.
10. The large size of the project area increases the probability that there may be wells that are abandoned on site. Therefore, any abandoned wells found on site that need to be destroyed, shall be done so under permit with County of San Bernardino Environmental Health Services.
11. In accordance with the County of San Bernardino Environmental Health Services recommendations, consideration should be made for vector related issues to reduce the potential of disease spread or injury prior to the demolition of any existing structures located within the bounds of the Specific Plan.

Mitigation Monitoring and Reporting

1. Prior to issuance of grading permits for future development within the project area, project proponents for future development within the Specific Plan area shall comply with all applicable federal, state and regional permitting requirements for hazardous and toxic materials generation and handling in accordance with Mitigation Measures 1 and 2 above.
Responsible Parties: Project Proponent, Town Building Division, and San Bernardino County Department of Environmental Health.

2. Prior to issuance of grading permits for future development within the project area, demolition of any structures containing potentially hazardous materials (such as: asbestos-containing material, lead-based paint, and mercury-or PCB-containing material) shall be removed properly prior to any demolition, and disposed of at appropriate landfills or recycled, in accordance with the regulatory guidance provided in California Code of Regulation (CCR) and following the requirements of the Universal Waste Rule (40 CFR part 9) in accordance with Mitigation Measure 3, above.
Responsible Parties: Project Proponent, Town Building Division, and San Bernardino County Department of Environmental Health.

3. Prior to the issuance of grading permits for future development within the Specific Plan area, project proponents shall submit a detailed description of any hazardous materials use, as well as detailed plans for location of any hazardous materials storage and management facilities to the Town, Apple Valley Fire District, San Bernardino County Department of Environmental Health and San Bernardino County Fire Department for approval.
Responsible Parties: Project Proponent, Town of Apple Valley Apple Valley Fire District, San Bernardino County Department of Environmental Health, and San Bernardino County Fire Department Hazardous Materials Division.

4. Prior to the issuance of grading permits for future development within the Airport area of influence, project proponents shall submit development plans to the Town of Apple Valley and the San Bernardino Department of Airports for approval.
Responsible Parties: Project Proponent, Town of Apple Valley, San Bernardino County Airport Authority.

5. Prior to the issuance of grading permits for future development within one mile of residential or school sites, project proponents shall submit development plans to the Town of Apple Valley for approval.
Responsible Parties: Project Proponent, Town of Apple Valley, and Apple Valley Fire District.

6. Prior to issuance of grading permits for future development within the area identified as the “Victorville Pre-Bomb Range,” on-site investigations and assessments (Environmental Site Assessment) for the potential presence of hazardous materials shall be conducted by a qualified environmental consultant (REA or above). A copy of the assessment report shall be provided to the Town for approval. The handling and disposal of any hazardous material shall be conducted in accordance with Mitigation Measure 8, above.
Responsible Parties: Project Proponent, Town Building Division.

L. Jobs and Housing

1. Existing Conditions

Population

The Town of Apple Valley is estimated to have a population of 67,507 in 2006, an increase of 24.5% over year 2000 Census population⁵¹. The Southern California Association of Governments (SCAG) estimates that Apple Valley’s population will rise to 70,873 in 2010, 83,707 in 2020, and 95,675 in 2030. By 2030, therefore, the Town is expected to have 28,168 more residents than it currently has, or an increase of 41.7%.

**Table III-46
 SCAG Population, Household and Employment Projections**

2010	2020	2030	2010	2020	2030	2010	2020	2030
Pop.	Pop.	Pop.	HH	HH	HH	Emp.	Emp.	Emp.
70,873	83,707	95,675	24,022	30,457	36,958	19,338	24,443	29,670

Source: Southern California Association of Governments, Growth Forecasts 2004.

Employment

In 1990, the Town had 20,396 residents in the labor force. By 2000, this had grown to 21,748 residents. The Town’s largest occupational segment was “Management, professional and related occupations”, with 6,143 of the population employed in these occupations in 2000, followed by “Sales and office occupations,” with 5,269 employees. Employment by industry is provided in Table III-47. As shown in the Table, the industries with the most employees are educational, health and social services; retail trade; and transportation, warehousing and utilities. SCAG estimates that by 2030, the Town will have 29,670 residents in the labor force. The Town’s current unemployment rate varies, but is approximately 4.5% in 2006⁵².

⁵¹ California Department of Finance, Report E-5, “City/County Population and Housing Estimates, 1/1/2006.

⁵² “California Labor Market Information,” Employment Development Department, 2006.

**Table III-47
 Employment by Industry**

Industry	No. of Employees
Agriculture, forestry, fishing, hunting & mining	251
Construction	1,414
Manufacturing	1,445
Wholesale trade	569
Retail trade	2,568
Transportation, warehousing & utilities	1,817
Information	292
Finance, insurance, real estate, rental and leasing	1,182
Professional, scientific, management, administrative & waste management	1,327
Educational, health & social services	5,036
Arts, entertainment, recreation, accommodation & food services	1,492
Other services	1,204
Public administration	1,161

Source: 2000 Census

Particularly germane to the proposed project, 17.6% of employed residents have occupations relating to manufacturing, wholesale trade or transportation or warehousing.

The major employers of Town residents include the Fort Irwin National Training Center (8,406 employees), the Southern California Logistics Airport (1,900 employees), Apple Valley Unified School District (1,825 employees), the Wal-Mart Retail and Distribution Center (1,512 employees), Saint Mary Medical Center (1,254 employees), and Victor Valley College (1,100 employees). As this listing demonstrates, current Town residents are commuting to other communities for their work, since the two largest employers in the area are not located in Town.

Further analysis shows that the Town currently has 1.09 jobs per household, based on current employment statistics. The Census also identified that the average commute to work in Apple Valley in 2000 is 33 minutes, indicating that the majority of Town residents are working outside the Town limits.

Housing Units and Households

According to the U.S. Census, the Town had a total of 16,672 housing units in 1990, and 20,163 housing units in 2000. By 2006, the number had increased to 23,782. The Town’s vacancy rate in 2006 is estimated at 7.96%, with an average of 3.07 persons per household⁵³. SCAG estimates that by 2030, the Town will have 36,958 households.

According to the Inland Empire Quarterly Economic Report, the median home price in Town in the second quarter of 2005 was \$255,185 for existing homes and \$284,966 for new homes. This compares with \$310,000 and \$335,000 for existing and new homes in San Bernardino County for the same period. Home prices have, like all of southern California, experienced considerable increases in value in the last several years, as illustrated in Table III-48.

⁵³ California Department of Finance, Report E-5, “City/County Population and Housing Estimates, 1/1/2006.

**Table III-48
Town of Apple Valley Home Values
2000 to 2005**

Year	Existing Home Value	New Home Value	% Change Existing/ New
2001	\$89,900	175,800	n/a
2002	\$110,346	\$192,186	22%/9%
2003	\$129,847	\$143,106	18%/ -23%
2004	\$184,272	\$173,250	42%/21%
2005	\$255,185	\$284,966	38%/65%

Source: Inland Empire Quarterly Economic Report, October 2001, 2002, 2003, 2004, 2005.

Although continued increases at the rates seen in the last few years are unlikely, the market appears to be able to support healthy housing growth.

General Plan Build Out Forecasts

Build out of the General Plan is expected to generate a total of 86,814 housing units, 12,268 of which would be multiple family units, and 74,546 of which would be single family homes⁵⁴.

2. Impacts

Build out of the proposed Specific Plan will result in the development of industrial and commercial land uses which will directly result in new jobs within the Town, and indirectly result in a need for additional housing. The total potential square footage which could be generated by the project is illustrated in Table III-49, below.

⁵⁴ Town of Apple Valley, July 2006.

**Table III-49
 Specific Plan Land Use Summary**

Land Use	Acres Vacant	Acres Developed	Acres Total	Existing Square Footage*	Potential Square Footage*	Total Square Footage*
General						
Commercial	256.0	4.9	260.9	46,958	2,453,299	2,500,257
Industrial - Airport	329.7	410.7	740.4	N/A	N/A	N/A
Industrial - Specific Plan	3,201.9	312.5	3,514.4	2,994,750	30,684,448	33,679,198
Industrial - General	334.0	6.1	340.1	58,458	3,200,789	3,259,246
High Desert Corridor	73.7	8.0	81.7	N/A	N/A	N/A
Total	4,195.3	742.2	4,937.5	3,100,165	36,338,536	39,438,701

*Assumes 22% building coverage, regardless of development type.

It is difficult to estimate the number of jobs which the square footage above could generate, since the nature of development is not known at this time. Depending on the type of industrial development which occurs within the Specific Plan area, jobs created could vary considerably. For purposes of this analysis, however, it has been assumed that industrial lands would generate one job per 1,250 square feet, and commercial lands would generate one job per 300 square feet. On this basis, build out of the Specific Plan could result in 29,551 industrial jobs, and 8,334 commercial jobs, for a total of 37,885 total jobs. Based on the Town's current average of 1.09 jobs per household, build out of the Specific Plan would result in the creation of 34,757 households.

As discussed above, the majority of Town residents community outside of Town for work. Although it cannot be determined what percentage of these residents commute, an average of 33 minutes for commuting clearly indicates that the majority of jobs are outside the Town limits, most likely in Victorville, and communities to the south. Given that the jobs to be created by the proposed project will provide a broad range of opportunities, the proposed project has the potential to allow residents of Apple Valley to find employment within their community, and reduce commuting time for many.

The potential creation of 37,885 jobs, and the associated need for housing for the households of these employees will also result in the need for additional housing.

The Housing Element of the General Plan estimates that the Town currently has sufficient lands to accommodate a total of 38,860 housing units. There are currently 23,782 housing units in the community. Vacant residentially designated lands in the community therefore, currently have the potential to generate approximately 15,078 housing units. Included in these calculations, however, are 1,916 acres of lands designated Community Reserve in the General Plan within the boundaries of the Specific Plan area. With approval and implementation of the Specific Plan, these lands would be converted to industrial and commercial land use designations, and would no longer be available for residential development. It has been assumed that these lands would

have a potential of yielding 1,916 housing units at the build out of the General Plan. With implementation of the Specific Plan, however, these housing units will not occur. Therefore, the Town's current residential land use inventory has the capacity of generating an additional 13,162 housing units. Although this is more than sufficient to address the current Town requirements for its Regional Needs Assessment under Housing Element law in California, elimination of the 1,916 acres of residential land, and conversion of these lands for industrial development in the Specific Plan area, has the potential to significantly impact housing resources in the community.

Build out of the Specific Plan is estimated to occur in 2030. Assuming concurrent build out of the General Plan land uses, in 2030 the Town would experience a shortfall of 21,595 housing units in order to house all potential employees of the Specific Plan area.

Given the regional nature of the communities in the Victor Valley, it is unlikely that communities will ever achieve a true jobs/housing balance. Furthermore, the demographics of the Town are likely to change over time, and the number of employees per household is likely to increase, resulting in a greater number of employed persons per household, as is typical in most Inland Empire communities. For example, the City of Victorville currently has 1.2 employees per household; the City of Riverside has 1.4 employees per household; and the City of Ontario has 1.6 employees per household. A change in Apple Valley to 1.4 employees per household would result in 27,061 households created by the project, rather than the 34,747 currently anticipated. This in turn would mean that at General Plan build out, the current General Plan land use inventory would not be able to accommodate 13,899 housing units, rather than the 21,595 cited above.

The changes in the community over a 25 year build out for the Specific Plan area, and associated revisions to the General Plan as time passes, is likely to result in changes to land use patterns, particularly in the residential land use designations. The long term impacts associated with the provision of housing for this project, however, cannot be effectively quantified immediately, and will require on-going monitoring.

3. Mitigation Measures

In order to mitigate potential impacts associated with jobs and housing, the following mitigation measures shall be implemented.

1. Within five years of adoption of the Specific Plan, or in conjunction with the next General Plan update, whichever occurs first, the Town shall process General Plan Amendment(s) which result in the potential for an additional 1,916 housing units north of Highway 18. This amendment can be accomplished by either increasing density on existing residentially designated lands, or converting lands designated for other uses to residential development.
2. Annually through build out of the Specific Plan area, the Town shall prepare, or shall cause to be prepared, an inventory of the development occurring within the Specific Plan Area, the number of jobs created, and the city or town of residence of the employees. This data shall be supplemented by the equivalent data for projects approved but not yet constructed within the Specific Plan area. After the first year, the data shall be

cumulative. The data shall be compared analytically with the residential units approved for construction, under construction or proposed north of Highway 18 during the same time period. The analysis shall consider whether there are sufficient units available or planned to accommodate at least 80% of the employees added to the Specific Plan area in that year. Units permitted under General Plan residential land use categories can be included in the analysis. Should the analysis show a shortfall, the Town shall consider General Plan Amendments to assure that sufficient land is designated for housing 80% of the employees of the Specific Plan area.

Mitigation Monitoring /Reporting Program

1. The Town shall process a General Plan Amendment to allow up to 1,916 additional housing units on lands within Town limits within 12 months of certification of this EIR.
Responsible Parties: Planning Division.
2. The Town shall prepare a jobs/housing balance analysis annually until build out of the Specific Plan.
Responsible Parties: Economic and Planning Divisions.

M. Public Services and Facilities

1. Water Services

Existing Conditions

Apple Valley Ranchos Water Company is the private water supplier whose district includes all of the North Apple Valley Industrial Specific Plan area. The Apple Valley Ranchos Water Company has no exact plans for expansion of its water lines inside the project area⁵⁵, however it will provide water line extensions in any portion of the Specific Plan area as demand grows. Water lines are located throughout the Specific Plan area and include 14-inch lines, 12-inch lines, 10-inch lines, and 8-inch lines.

Project Impacts

Water demand at buildout of the Specific Plan was estimated in the North Apple Valley Industrial Specific Plan Water Supply Assessment to be 5.5 million gallons per day, or 6,199.7 acre-feet per year at buildout.⁵⁶ Project water demand is illustrated in Table III-50 below. This demand was estimated using the commercial and industrial square footages of the proposed development multiplied by water use coefficients established in the southern California desert region.⁵⁷

⁵⁵ Personal communication, Apple Valley Ranchos Water Company General Manager Jack Clarke, February, 2006.

⁵⁶ "Water Supply Assessment for the North Apple Valley Specific Plan," prepared by Terra Nova Planning & Research, September 13, 2006.

⁵⁷ "Water System Backup Facilities Charge Study," Table 11-Annual Consumption Factors by Development Type Factors, prepared by the Coachella Valley Water District Engineering Department, September 2004.

**Table III-50
Project Water Demand**

Land Use	AF/YR	MGD
General Commercial (256.0 acres)	506.9	0.453
Industrial (3,535.9 acres)	5692.8	5.082
Total Water Demand	6,199.7	5.535

Source: "Water Supply Assessment for the North Apple Valley Industrial Specific Plan," prepared by Terra Nova Planning & Research, September 13, 2006.

While the proposed project will result in an increased demand for water services, the buildout of the project is anticipated to occur gradually through 2030. For this reason, the increase in demand for water services would be similarly phased and will not occur all at one time.

Mitigation Measures

1. The Town shall assure provisions of adequate on-site stormwater retention/detention basins that enhance bio-filtration and percolation.
2. The Town shall make extensive use of xerophytic (drought-tolerant) landscaping as part of the overall water efficiency program. All development plans shall be required to conform with the Facilities Master Plan landscape guidelines.
3. As the project site is developed, development plans shall be reviewed by the Town and made available to the Apple Valley Ranchos for review.

Mitigation, Monitoring and Reporting

1. Project developers shall prepare and submit plans, secure all necessary approvals and pay applicable facilities and connection fees.
Responsible Parties: Apple Valley Public Works Division, Apple Valley Ranchos Water Company.

2. Wastewater Treatment

Existing Conditions

The project site is located within the Victor Valley Wastewater Reclamation Authority (VWVRA) area. The majority of the treated wastewater is discharged into the Mojave River, and a smaller amount is used to irrigate landscaping at a nearby golf course. User charges are based on volumes of wastewater requiring treatment, and surcharges are added for wastewater having concentrations of biological oxygen demand, concentrations of total suspended solids and concentrations of ammonia. Sewer lines currently serve a limited area within the project site, primarily near the center of the Specific Plan area, adjacent to and south of the airport, and extending as far north as Johnson Road. There are no sewer lines on Dale Evans Parkway within the Specific Plan area. VWVRA has a current capacity of 11 MGD, with an expansion of 3.5 MGD to be completed in 2007

Project Impacts

Wastewater flows from commercial space average about 1.38 gallons per square foot per day, and industrial uses are about 0.32 gallons per square foot per day.⁵⁸ Thus, 2,500,257 square feet of commercial development could generate 3.45 million gallons per day and 36,938,444 square feet of industrial could generate approximately 11.8 million gallons per day, for a project total of 15.3 million gallons of wastewater per day. While the proposed project will result in an increased demand for sewage collection and treatment services, the buildout of the project is anticipated to occur gradually through 2030. For this reason, the increase in demand for wastewater collection and sewage disposal and treatment would be similarly phased and will not occur all at one time.

Mitigation Measures

The subject property will require connections to the existing sewer system, Sewer system connection fees and facility fees shall be collected as the development builds out and will finance plant and other facility expansions as needed. No additional mitigation measures are required.

Mitigation Monitoring/Reporting Program

1. Project developers shall prepare and submit plans, secure all necessary approvals and pay applicable facilities and connection fees.

Responsible Parties: Project Developers/Engineers, Victor Valley Wastewater Reclamation Authority, Town Engineer and Public Works Division.

3. Solid Waste

Existing Conditions

The Town of Apple Valley contracts for solid waste and recycling services through Burrtec Waste Industries of Fontana, California. Solid waste from Apple Valley is hauled to the Victorville landfill, approximately 12 miles to the northwest, which is part of the San Bernardino County landfill system. The County has acquired additional acreage at the landfill to expand capacity. The closing date for the Victorville landfill is estimated to be 2055, based on this expansion.⁵⁹

The County's landfill in Victorville is permitted to accept up to 1,600 tons of solid waste per day.⁶⁰ Although it approaches that limit during two to three days per month, it typically receives approximately one thousand tons per day.

The Victorville landfill accepts non-hazardous industrial wastes. Hazardous industrial waste is collected by private contractors and disposed of elsewhere by County approved hazardous waste disposal firms. Disposal of hazardous waste is coordinated through the County Fire Department. Disposal of such wastes has commonly taken place at Cattleman's Hill in central California.

Recycling Efforts

In 1989, the State of California passed the Integrated Waste Management Act (AB 939) legislation, which requires every California city and county to implement programs designed to recycle, reduce at the source, and compost 25 percent of their solid waste by 1995 and 50 percent by the year 2000.

⁵⁸ John G. Rau and David C. Wooten, "Environmental Impact Analysis Handbook," 1980.

⁵⁹ Personal Communication, Dan Burger, Victorville Landfill Site Supervisor, July 25, 2006.

⁶⁰ Personal Communication, Mark Dvorak, San Bernardino County Waste Department, 2006.

The Town of Apple Valley participates with other cities in the Zero Waste Communities of San Bernardino County partnership (ZWC). ZWC sponsors programs aimed at: educating residents, businesses and organizations about waste reduction and recycling; providing outlets for recycling and waste diversion; and increasing manufacturer's accountability for proper product disposal.⁶¹

Through ZWC, the Town of Apple Valley participates in the Reuse-A-Shoe Program, coordinated by the National Recycling Coalition (NRC) and Nike. This program recycles and grinds athletic footwear, converting them for use as sports surfaces. NRC provides technical assistance to the Town, and Nike collects shoes from the recycling centers.⁶²

Burrtec provides weekly curbside pick-up of recyclable materials for residential, commercial and industrial development. It transports and recycles materials to a materials recovery facility located in Victorville. The facility is jointly owned by the Town of Apple Valley and the City of Victorville, and also serves other communities in the high desert region, including the Needles, Barstow, Yucca Valley, Victorville, and Adelanto. The facility processes over 710 tons of solid waste per week.⁶³

Project Impacts

Buildout of the Specific Plan area will generate additional solid waste and the need for landfill facilities. On-going recycling within the Town will help lessen impacts to local landfills and assist with the Town's and County's compliance with AB 939.

At buildout of the Specific Plan area, there will be approximately 2,500,257 square feet of commercial development, and 36,938,444 square feet of General and Specific Plan industrial development. Solid waste generation rates established by the California Integrated Waste Management Board were used to provide estimates of the potential solid waste generated at buildout. The commercial and industrial land uses in the Specific Plan area could potentially generate 404,936 tons of solid waste per year.⁶⁴ This estimate represents buildout at 22 percent building coverage, regardless of development type.

In addition to the solid waste estimates shown for commercial and industrial development, solid waste will also be generated by airport industrial development. However, available generation rates are based on number of employees. In the absence of development plans, potential solid waste generation for this land use cannot be quantified at this time; however, this development is not expected to produce unusually high quantities of solid waste. All future development will be required to establish recycling programs, and will be subject to other mitigation measures set forth in this EIR to further reduce potential solid waste.

Buildout of the proposed Specific Plan land is not expected to produce unusually high quantities of solid waste, or unusual hazardous conditions. However, development of the proposed

⁶¹ www.zerowastecommunities.org, accessed July 7, 2006.

⁶² Ibid.

⁶³ Personal communication, Scott Wolff, Burrtec Waste Industries, July 25, 2006.

⁶⁴ California Integrated Waste Management Board compilation of waste generation rates. Rates used are from Ventura County Solid Waste Management Department, "Guidelines for Preparation of Environmental Assessments for Solid Waste Impacts," May 1998.

Specific Plan will result in a significant increase in the volume of solid waste generated over time. In order to ensure the safe and cost effective disposal of solid waste associated with this project, monitoring of waste management is necessary. The Specific Plan area will develop gradually and will permit time to evaluate these impacts as they occur.

Mitigation Measures

1. All new development shall establish recycling programs as part of the planning process.
2. Recycling provisions for commercial, industrial and business establishments should include separate recycling bins. Items to be recycled at commercial establishments may include white paper, computer legal paper, cardboard, glass and aluminum cans.
3. Developers of commercial and industrial projects shall contract for professional landscaping services from companies that compost green waste. On-site composting and grass recycling (whereby lawn clippings are left on the lawn) is also encouraged, wherever possible.
4. Recycling of construction waste through on-site grinders and the use of wood waste recycling facilities are encouraged, wherever possible.
5. The Town shall ensure that all hazardous materials, whether from construction or operation of land uses within the Specific Plan area, are handled, stored, and/or disposed of according to all existing laws and standards at the time such activity takes place.
6. The Town shall work closely with Burrtec Waste Industries to evaluate alternative landfill sites.

Mitigation Monitoring/Reporting Program

1. All development plans shall be inspected for conformance with all applicable solid waste disposal requirements.
Responsible Parties: Burrtec Waste Industries, Town Manager and Town Building Division.

4. Electricity

Existing Conditions

Southern California Edison (SCE) provides electricity to the Specific Plan area. SCE distributes its power generated from a variety of sources, including coal, nuclear, wind, solar and hydroelectric. In 1998, California deregulated its electric power industry to increase competition and bring a wider range of choices to consumers. As a result of the deregulation, SCE no longer owns or operates general facilities. SCE maintains high and low voltage transmission lines, as well as substations to step down power for local distribution throughout the project area. Electric power in the project vicinity includes four major electric transmission corridors, each with 115 kV lines, cross through the Town and provide power to local businesses, manufacturing plants, institutions, and homes. Currently all new electric lines of 66kV or less are placed underground within the Town boundaries. No significant barriers to providing electrical power to the project site have been identified.

Project Impacts

The subject property will generate additional demand for electrical power. Annual consumption factors for industrial and commercial uses, as set forth in the South Coast Air Quality Management Handbook⁶⁵, are utilized here as well as in the Air Quality discussion earlier in Section III. Based these factors above, the proposed project will generate an estimated demand of 421,732,143 kwh per year, as shown below. Actual demand may be affected by a number of factors, including project design.

**Table III-51
Projected Electric Demand at Project Buildout**

Land Use Type	Usage Factor	Projected Demand
Industrial (36,938,444 sq. ft.)	10.5 kw/ sq. ft./ year	387,853,662 kw/yr
Commercial (2,500,257 sq. ft.)	13.55 kw/ sq. ft./ year	33,878,481 kw/yr
		TOTAL: 421,732,143 kw/yr

Based on per unit usage and emissions factors provided in Tables A9-11-A and A9-11-B, "CEQA Air Quality Handbook," prepared by South Coast Air Quality Management District, April 1993.

Mitigation Measures

No significant impacts are associated with the provision of electricity. The project developers should be encouraged to utilize energy efficient designs that minimize summertime solar gains and reduce air conditioning loads and related power demands. Project designs should also incorporate energy efficient lighting fixtures throughout the project. Every effort should be made to assure the highest level of energy conservation practical. The proposed development is subject to the requirements of the Uniform Building Code and Title 24 of the California Code of Regulations. The County should strictly enforce Title 24 energy conservation code requirements.

Mitigation/Monitoring Reporting Program

1. Prior to the issuance of building permits, the Building and Safety Division shall inspect all detailed project plans for conformance with Title 24 energy conservation code requirements. The Building and Safety Division and Southern California Edison should provide project developers with references for energy efficient design.
Responsible Parties: Building and Safety Division, Southern California Edison, Project Developers/Engineers.

5. Natural Gas

Existing Conditions

Natural gas is used for space heating, commercial and industrial processes, domestic hot water, and air conditioning applications. Southwest Gas provides natural gas service to the Town and the Specific Plan area. Southwest Gas works closely with developers to accommodate service extensions. Southwest Gas has a gas main along Central Road to Papago Road, and continues southward beyond the North Apple Valley Industrial Specific Plan area to Waalew Road, and into the southern portions of the Town of Apple Valley. The pressure in this 8-inch steel gas main is 240 pounds per square inch (psi). There are several sites along Central Road where pressure can be stepped down from 240 psi to between 40 and 60 psi for distribution to industrial, commercial, and other users. These sites are at the intersections of Central Road and

⁶⁵ Table A9-11-A, Appendix to Chapter 9, "CEQA Air Quality Handbook," prepared by South Coast Air Quality Management District, April 1993.

Johnson Road; Dexter Lane (just south of Central Road); Cayman Road (just south of Virginia Park); and Waalew Road. Additional gas lines run throughout the project area to serve existing customers.

Project Impacts

The development will generate limited additional demand for natural gas. Projected commercial and industrial demand is based on monthly average consumption figures set forth in the South Coast Air Quality Management District CEQA Handbook.⁶⁶, as shown below.

**Table III-52
Projected Natural Gas Demand at Project Buildout**

Land Use Type	Usage Factor	Projected Demand
Industrial (36,938,444 sq. ft.)	2.94 cf/ sq. ft./ month	108,599,025 cf/mo
Commercial (2,500,257 sq. ft.)	10.5 cf/ sq. ft./ month	26,252,697 cf/mo
		TOTAL: 134,851,723 cf/mo

Based on per unit usage and emissions factors provided in Tables A9-12-A and A9-12-B, "CEQA Air Quality Handbook," prepared by South Coast Air Quality Management District, April 1993.

As shown in the table above, the project could generate a monthly demand of approximately 134,851,723 cubic feet of natural gas. The Gas Company has indicated that natural gas supplies are expected to be plentiful and affordable for the foreseeable future. Lines will need to be extended into the subject property. The projected level of use is expected to justify Southwest Gas's extension of these lines.

Southwestern Gas will expand its delivery system throughout the Specific Plan Area to serve the airport industrial park during the build out process. Pipeline extensions will be paid for by individual property owners, and are billed based upon a formula involving customer usage, account type, and the linear footage of pipeline that must be extended to service the incoming business or other account.

Mitigation Measures

1. The development shall use the efficient water heaters, furnaces and other equipment that uses natural gas. In kitchens and throughout the development, natural gas appliances should be encouraged.
2. The Town shall strictly enforce Title 24 of the California Code of Regulations, which is related to energy conservation for new development. Every effort should be made throughout the development to assure the highest level of energy conservation possible. The developer should investigate the potential for the use of alternative energy sources including solar and cogeneration technologies.

Mitigation Monitoring/Reporting Program

1. Prior to initiating construction of on-site and off-site natural gas systems, the Building and Safety Division shall inspect all detailed project plans for conformance with Title 24 energy conservation code requirements. The Building and Safety Division and Southwest Gas should provide project developers with references for energy efficient design.
Responsible Parties: Building and Safety Division, Southwest Gas, Project Developers/Engineers.

⁶⁶ "CEQA Air Quality Handbook," South Coast Air Quality Management District, April 1993.

6. Law Enforcement

Existing Conditions

The Town of Apple Valley contracts with the San Bernardino County Sheriff's Department for police services. The Apple Valley police force consists of 1 captain, 1 lieutenant, 7 sergeants, 5 detectives/corporals, 34 patrol deputies, 5 sheriff's service specialists, 1 secretary, and 7 station clerks, for a total of 61 personnel.⁶⁷ The Department prefers a ratio of 1 police officer per 1,500 population. The average response time for highest priority emergency calls is five minutes.

There is one staffed police station, located at 14931 Dale Evans Parkway. An unstaffed sub-station, used for report writing and other administrative tasks, is located at 21989 Outer State Highway 18.

Project Impacts

Buildout of the proposed Specific Plan will increase the demand for police protection services, which includes additional related staffing and equipment such as patrol vehicles. The cost to the Town could be significant to provide these increased services. However, the demand for additional police services will increase gradually, as development occurs. An increase in City revenues to fund police services can also be anticipated with buildout of the Specific Plan, generated primarily by property taxes, as well as some increases in sales tax revenues. Actual demand for police protection will be based on future development proposals in the Specific Plan area.

Mitigation Measures

1. The Town will require all development proposals to be transmitted to the Police Department for review and input, to be incorporated into project design or conditions of approval as appropriate.
2. The Town shall consult and coordinate long-term planning with the Police Department regarding the optimal location of future police stations, and to assure that adequate staffing levels are provided to meet the demand of future development in the Specific Plan area.
3. The Town shall require new development to incorporate crime prevention design techniques, such as the use of "defensible space," high security hardware, optimal site planning and building orientation, and other design approaches to enhance security.

Mitigation Monitoring/Reporting Program

1. The Police Department shall monitor calls in the Specific Plan area. The Town shall review response times and Police Department activity to assure adequate levels of protection.

Responsible Parties: San Bernardino Sheriff's Department, Town Manager.

⁶⁷ Sergeant Randy Gwaltney, Apple Valley Police Department, personal communication, July 12, 2006.

7. Fire and Emergency Services

Existing Conditions

The Apple Valley Fire Protection District is an independent District whose western boundary is the Mojave River, and extends east as far as the dry lakes toward Lucerne Valley. It serves the Town as well as unincorporated areas of San Bernardino County, over a total of 206 square miles. District staff includes paid, professional personnel and support staff. There are six fire stations in the District. Four of the stations are staffed 24-hours per day, seven days per week, for emergency response. Two of the stations are staffed as needed by on-call firefighters.

The following is a list of the stations within the District, number of personnel, and type of equipment at each:

- Station No. 331 at 22400 Headquarters Drive has 13 staff, and is equipped with a Type 1 Engine, a Type 2 Water Tender, a medium-level rescue vehicle, and a haz-mat trailer;
- Station No. 332 at 18857 Highway 18 has 9 staff. Equipment includes a Type 1 engine and a Type 3 engine.
- Station No. 333 at 20604 Highway 18 is equipped with a reserve Type 1 engine.
- Station 334 at 12143 Kiowa Road has 9 staff, a Type one engine, and a Type 3 engine;
- Station No. 335 at 21860 Tussing Ranch Road has 12 paid call staff, a Type 1 engine, a Type 2 Water Tender, and a Reserve Type 1 engine.
- Station No. 336 at 19235 Yucca Loma Road has 6 career and 12 paid call staff, and is equipped with a rescue squad vehicle, a Type 1 engine, a Type 6 engine, an Incident Command bus, and an Incident Support unit.

Station No. 332 is the closest to the project site. The District expects to add Station No. 337 at the Jess Ranch/Pulte development; it is expected to open by September 2007.

Current District staff includes 52 full-time and 25 part-time paid call staff, distributed across the six stations. Based on current population estimates, this meets or exceeds the District's desired ratio of approximately 1 full-time fire personnel per 1,500 population. The District is rated "Class 4" by the Insurance Service Office (ISO), a private insurance company that rates fire departments nationwide. ISO uses a rating system based on a scale of 1 to 10, with Class 1 being the highest possible score.

The Fire Protection District maintains a mutual aid agreement with Victorville, San Bernardino County Fire Department, and the Bureau of Land Management. This agreement allows for fire departments within the region to actively support one another regardless of geographic or jurisdictional boundaries.

The Apple Valley Fire Marshall provides project review services for all new development.

Project Impacts

Buildout of the Specific Plan will result in increased demand for fire services in an area where there is currently sparse development. Additional fire protection services will include an increase in staffing, firefighters, fire stations and equipment. Increased fire protection in portions of the Specific Plan area may also require the expansion of water mains and the provision of new fire hydrants. Additional fire protection services could result in increased costs to the Town. As the Specific Plan area builds out, it will be necessary to evaluate these impacts to fire protection services.

Mitigation Measures

1. The Town shall continue to promote close coordination with the Fire District for the timely expansion of services and facilities.
2. The Fire District shall continue to review new development proposals and assess the Department's capacity to provide sufficient fire protection services. This shall include, but is not limited to, review of internal circulation patterns, street names and numbering systems.
3. The Town and the Fire District shall continue to enforce fire codes and other applicable standards and regulations during review of building plans and conducting building inspections.
4. The siting of industrial facilities that involve storage of hazardous, flammable or explosive materials shall be conducted in a manner that will ensure the highest level of safety in strict conformance with the Uniform Fire Code and other applicable regulations.
5. The Town and the Fire District shall coordinate with the Apple Valley Ranchos Water District to assure adequate water supplies and pressure for existing and proposed development.
6. Developers of individual projects within the Specific Plan boundary shall be assessed a fire protection mitigation impact fee for commercial and industrial development.

Mitigation Monitoring/Reporting Program

1. The Apple Valley Fire Protection District shall inspect all detailed project plans for conformance with all applicable fire protection requirements.
Responsible Parties: Apple Valley Fire Protection District

8. Schools

Existing Conditions

Public education services and facilities are provided to the Town of Apple Valley and the project site by the Apple Valley Unified School District (AVUSD). The AVUSD currently operates 8 elementary schools, 2 middle schools, and 3 high schools. The Academy for Academic Excellence, a kindergarten through 12th grade charter school, is located at the Lewis Center for Educational Research, with an emphasis on science and space. Three additional schools, an elementary, a kindergarten through 8th grade magnet school, and a middle school, are expected to open by fall 2006 semester.⁶⁸

⁶⁸ Apple Valley Unified School District website, www.avusd.org/district_profile/index.html, accessed July 24, 2006.

Current (2005) enrollment in AVUSD is approximately 14,725. The Alternative Education program serves approximately 600 students. AVUSD also serves over 300 pre-school students in state pre-school programs.⁶⁹ Existing and planned schools are shown in Table III-53, below.

**Table III-53
 Apple Valley Unified School District Facilities**

Elementary Schools	Location
• Desert Knolls	18213 Symeron
• Mariana	10601 Manhasset
• Mojave Mesa	15552 Wichita
• Rancho Verde	14334 Pioneer
• Rio Vista	13590 Havasu
• Sandia	21331 Sandia
• Sitting Bull*	19355 Sitting Bull Road
• Sycamore Rocks	23450 South Road
• Yucca Loma	21351 Yucca Loma
K-8 Magnet School	
• Vanguard Preparatory*	12951 Mesquite
Middle Schools	
• Apple Valley	12555 Navajo Road
• Vista Campana	20700 Thunderbird Road
• Sitting Bull*	19445 Sitting Bull Road
K-12 Schools	
• Academy for Academic Excellence	17500 Mana Road
High Schools	
• Apple Valley	11837 Navajo Road
• Granite Hills	22900 Esaws Road
• Willow Park/Alternative Education Center	21950 Nisqually

*Facilities expected to open fall 2006.

Source: Apple Valley Unified School District website,
www.avusd.org/district_profile/index.html, accessed July 24, 2006.

There are 4 private schools located in the Town of Apple Valley. They include Apple Valley Christian School, Mojave Christian School, St. Mary's Regional Catholic School, Valley Christian School and St. Timothy's Episcopal School.⁷⁰

School Development Fees

In 1986 the State of California passed AB 2926, which authorized school districts to levy a per square foot fee for residential, commercial and industrial developments. Developers must pay these fees directly to school districts before building permits are issued. The fees are used to assist in the construction or reconstruction of school facilities. Currently, the fee for commercial or industrial development is 0.36 per square foot. The fee for residential development is \$2.24 per square foot.

⁶⁹ Ibid.

⁷⁰ Apple Valley Chamber of Commerce, <http://www.avchamber.org/dem03.html>, accessed July 24, 2006.

Project Impacts

As indicated above, the subject property lies within the boundaries of the Apple Valley Unified School District. Commercial and industrial development associated with the project will not result in direct generation of new students. However, such development will result in creation of new jobs and may therefore attract new residents to the area. Therefore the project has potential to indirectly result in an increase in student population within the District. Student generation rates are typically based on a per-dwelling unit factor, and are therefore not quantifiable for this analysis.

Commercial and industrial development will also be required to pay school development fees. Buildout of the project has potential to result in up to 2.5 million square feet of commercial development, and approximately 36.9 million square feet of industrial development. Based on current school development fees for commercial and industrial development, at buildout the project will generate approximately \$13.4 billion in school development fees.

School districts also benefit from school bonds approved by the California electorate. State Average Daily Attendance (ADA) funds. The aforementioned impact fees, along with other funding sources available to the school district, are expected to reduce project impacts to insignificant levels.

Mitigation Measures

Developers of individual projects within the Specific Plan area will be assessed the statutory school mitigation fees for commercial and industrial development.

Mitigation Monitoring/Reporting Program

1. The Town shall assist the school district in assuring that statutory mitigation fees are paid.
Responsible Parties: Planning Division, Apple Valley Unified School District, developer.

NORTH APPLE VALLEY INDUSTRIAL SPECIFIC PLAN

DRAFT ENVIRONMENTAL IMPACT REPORT

IV. UNAVOIDABLE SIGNIFICANT IMPACTS

Introduction

Unavoidable significant impacts are those that cannot be reduced to acceptable or insignificant levels by the implementation of realistic and feasible mitigation measures. The proposed project represents infill of development of lands on the valley floor, while mitigating impacts. Impacts associated with development of the project are addressed in detail in Section III of this EIR, with comprehensive mitigation and monitoring and reporting programs having been developed to address potential impacts. The mitigation measures set forth herein will demonstrably and effectively reduce almost all potentially significant impacts to levels of insignificance. However, one issue area cannot be mitigated to less than significant levels, this includes air quality.

A. Air Quality

The development of the proposed Specific Plan will result in the generation and emission of air pollutants both locally and regionally. Site disturbance, including grading and construction activities are expected to generate potentially significant impacts with mitigation. However, these activities will be phased, of short duration and will cease with completion of the project. Grading and development permits shall be reviewed and conditioned to require the provision of all reasonably available methods and technologies to assure the minimal emissions of pollutants from the development, including proper vehicle maintenance and site watering schedules. In addition, mitigation measures to be implemented include, but are not limited to, the use of water trucks and temporary irrigation systems, post-grading soil stabilization, phased roadway paving, as well as other measures which will effectively limit fugitive dust emissions resulting from construction or other site disturbance.

Operation of the 2,500,257 square feet of commercial space and 36,938,444 square feet of industrial space is estimated to generate approximately 131,892 trip-ends per day, with 95,175 trips for passenger vehicles, 5,193 trips for delivery trucks, and 31,524 trips for heavy-duty diesel trucks. Daily operation of these vehicles will result in the direct and indirect generation and emission of air pollutants both locally and regionally. The most significant impacts are expected to come from the emission of pollutants generated by vehicular and truck traffic. Other important sources of pollutants will be emissions generated during construction activities, as well as fugitive dust from site disturbance and other activities. The utilization of natural gas and

electricity will also contribute to the degradation of air quality. Emissions will contribute to regional air quality degradation in the Town of Apple Valley. In general, the proposed project represents a 25% increase in operational air quality impacts over the development potential of the existing General Plan land use designations (see Section V No Project Alternative for additional information).

With the application of mitigation measures, operation of the project is expected to result in the exceedance of all emissions threshold criteria, primarily due to the operation of heavy-duty diesel trucks. The pollutant generation factors used in the moving emission calculations are based on projected rates of emission for the buildout year 2025 because of the limitations of the emission factors. However, it is unlikely that the project will buildout in this short time period. It is expected that project buildout will occur in the year 2030 or beyond. In any case, it is expected in all cases that in the future emitters will become more efficient and will emit less pollutants as alternative fuel and new combustion technologies come on-line. Though the mitigation measures prescribed in this EIR will substantially reduce the potential level of emissions, the proposed project results in unmitigatable increases in project-related air pollutant generation.

This EIR provides for the review and approval of all grading and development permits, and the provision of all reasonably available methods and technologies to assure the minimal emissions of pollutants generated by the project. The EIR also directs the Town to assure the implementation of federal, state, regional, and local programs that reduce construction emissions and provide monitoring of grading and construction activities.

The EIR also directs future developers to, as feasible, incorporate energy conservation measures and features into project design and development. Mitigation measures are derived from the South Coast Air Quality Management District's CEQA Air Quality Handbook, the Mojave Desert Air Quality Management District, and from Town and other SCAQMD policies. Implementation of the mitigation measures in Section III of this EIR is expected to reduce project operational impacts to air quality to the greatest extent practicable.

NORTH APPLE VALLEY INDUSTRIAL SPECIFIC PLAN

DRAFT ENVIRONMENTAL IMPACT REPORT

V. PROJECT ALTERNATIVES

A. Introduction

Section III of this EIR provided detailed analyses of potentially significant environmental impacts in a number of areas, and discussed suggested mitigation of these impacts for the development of the Specific Plan area as proposed. Impacts analyzed included those pertaining to land use, traffic and circulation, geology and soils, air and water quality, hydrological issues, and impacts to biological, cultural and visual resources.

This section sets forth the key objectives which development of this project seeks to fulfill. In addition, it also analyzes and compares several project alternatives to the development of the project as proposed. The project alternatives included in this section are as follows: “No Project” Alternative, which analyzes impacts associated with existing General Plan densities; a “More Intense” Project Alternative, and a “Less Intense” Project Alternative. Finally, this section discusses a fourth alternative, which involves the possibility of identifying a different site for project development. For purposes of comparison, each of the areas of environmental impact that were analyzed in Section III is also analyzed in this section for each of these four alternatives.

B. Statement of Project Objectives

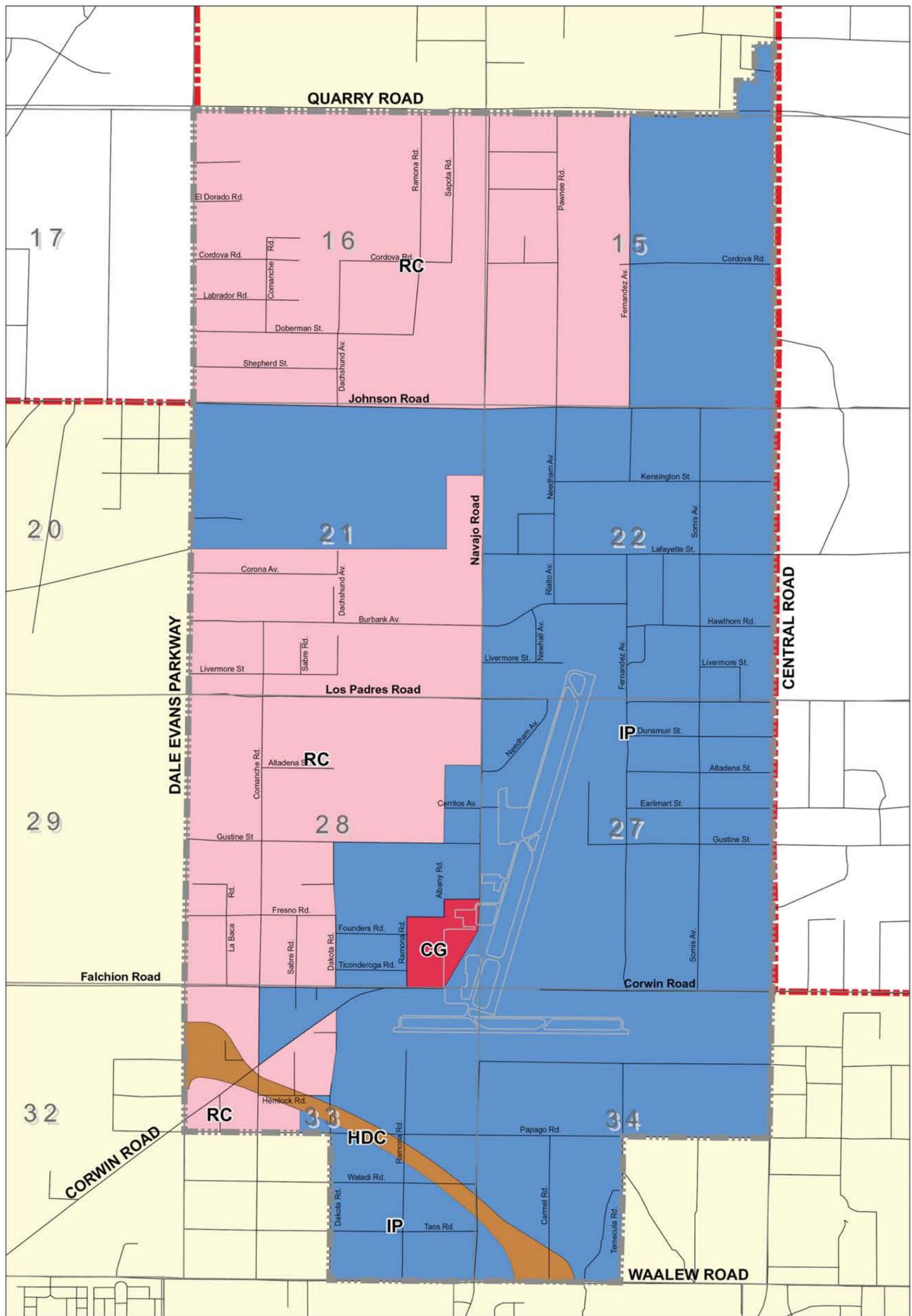
The Specific Plan has been developed to provide landowners, developers, business owners and the Town with development standards and guidelines which lead to:

- Long term economic growth.
- Clean industry, ranging from manufacturing to warehousing.
- A wide range of employment opportunities.
- Adequate and available backbone infrastructure – roads, water, sewer and utilities.
- A streamlined permitting process.
- Flexibility for individual properties and developers.
- High quality construction.

C. Alternative Projects Selected for Detailed Analysis

1. No Project Alternative

This alternative assumes that the General Plan designations currently assigned would be built out. This would result in 1915.9 acres of Community Reserve, with a build out potential of 1916 units, assuming a density of 1 unit per acre; 2,903.2 acres of Planned Industrial, with a build out potential of 27,821,946 million square feet of industrial space; and 36.5 acre of General Commercial, with a build out potential of 349,787 square feet (see Exhibit V-1). The airport would remain under this alternative. Under this alternative, development would occur without a Specific Plan, as market pressures caused demand for the land. Roadways would be expected to be constructed as designated in the General Plan.

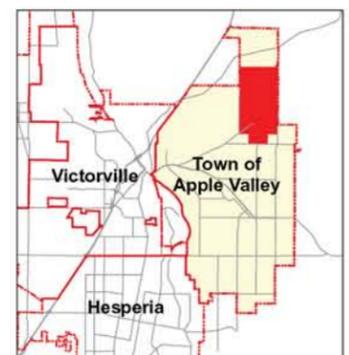


Map Version No.: 1
 Specific Plan by: Terra Nova Planning and Research
 Map Prepared by: Aerial Information Systems
 Map Prepared on: May 2, 2006

Data Sources:
 Town of Apple Valley
 Southern California Association of Governments
 Thomas Brothers Maps
 Metadata:
 Projection = Stateplane; Units = Feet; Zone = CA6



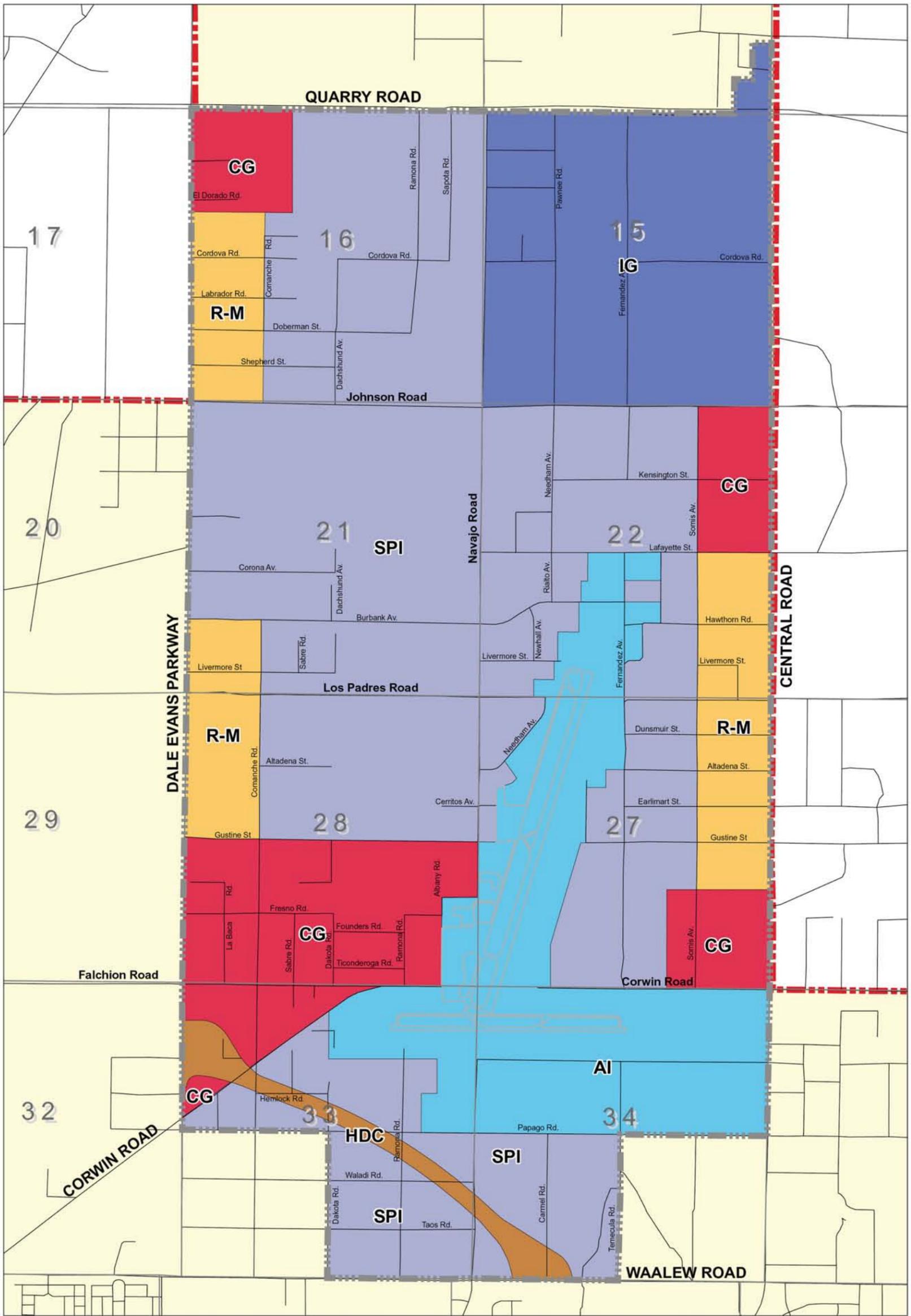
Legend	
	Specific Plan Study Area
	Township/Range Sections
	Streets & Highways
	Town of Apple Valley
	General Commercial
	Proposed High Desert Corridor
	Planned Industrial
	Community Reserve



2. Alternative I: More Intense Alternative

The More Intense Alternative assumes several changes in the land use map, as follows:

1. Lands in the General Industrial designation at the northeast corner of the Specific Plan area would be increased to 662.9 acres, with a potential for 6,294,246 square feet of industrial space.
2. General Commercial lands would be increased to a total of 618.3 acres, with a potential for 5,882,168 square feet of retail and office space.
3. Lands within the airport would remain Airport Industrial.
4. Lands on the east side of Dale Evans Parkway, north and south of the Wal-Mart distribution facility, would be designated Medium Density Residential. These lands would total 422.5 acres, and would yield 3,169 dwelling units.
5. Lands designated Specific Plan Industrial would total 2,411.7 acres, and would yield 23,111,803 square feet of industrial space.

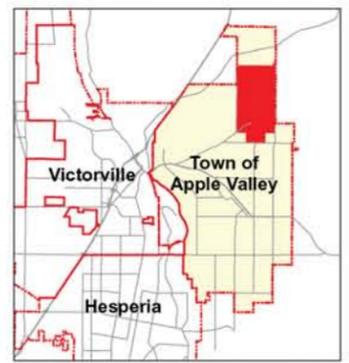


Map Version No.: 1
Specific Plan by: Terra Nova Planning and Research
Map Prepared by: Aerial Information Systems
Map Prepared on: May 2, 2006

Data Sources:
 Town of Apple Valley
 Southern California Association of Governments
 Thomas Brothers Maps
Metadata:
 Projection = Stateplane; Units = Feet; Zone = CA6

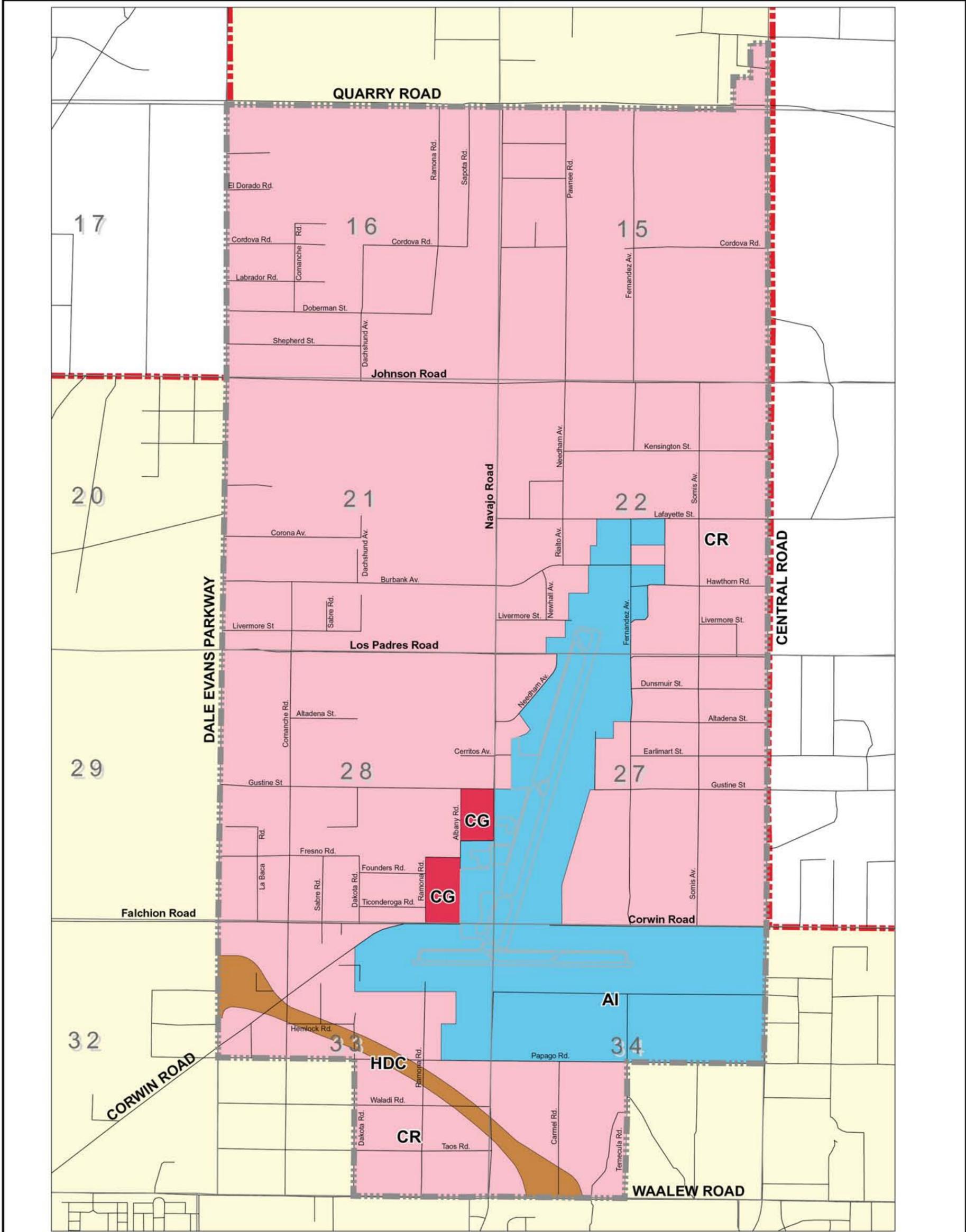


Legend	
	Specific Plan Study Area
	Township/Range Sections
	Streets & Highways
	Town of Apple Valley
	Airport Industrial
	General Commercial
	Proposed High Desert Corridor
	General Industrial
	Medium Density Residential
	Specific Plan Industrial



2. Alternative II: Less Intense Alternative

This alternative assumes that the entire Specific Plan area would be designated Community Reserve, with an Estate Residential zoning designation allowing one unit per acre, with the following exceptions. The airport would remain under this alternative, and its development would continue as anticipated. It is also assumed that the 35.7 acres of General Commercial located immediately west of the airport would remain. All existing non-industrial land uses would be converted to residential uses by build out of this alternative. This alternative will result in 4,079.7 acres of Community Reserve land, which would generate 4,080 single family housing units; 35.7 acres of General Commercial land with a build out potential of 342,120 square feet; and 740.4 acres of Airport Industrial for the airport facilities.

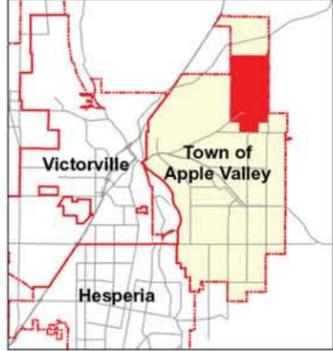


Map Version No.: 1
 Specific Plan by: Terra Nova Planning and Research
 Map Prepared by: Aerial Information Systems
 Map Prepared on: May 2, 2006

Data Sources:
 Town of Apple Valley
 Southern California Association of Governments
 Thomas Brothers Maps
 MetaData:
 Projection = Stateplane; Units = Feet; Zone = CA6



Legend	
— Specific Plan Study Area	— Airport Industrial
— Township/Range Sections	— General Commercial
— Streets & Highways	— Community Reserve
— Town of Apple Valley	— Proposed High Desert Corridor



D. Alternative Projects Analysis

1. Land Use Compatibility

The land use compatibility analysis set forth in Section III concluded that the Preferred Alternative will not result in any significant land use compatibility issues. The following discussion evaluates the potential land use compatibility issues associated with each of the project alternatives.

No Project Alternative

As noted above, the No Project Alternative would result in implementation of the existing General Plan land use and zoning designations within the Specific Plan area. This alternative is expected to generate 349,787 square feet of General Commercial, and 27,821,946 square feet of Planned Industrial development. Allowable uses for these designations correspond to the General Commercial and Specific Plan Industrial designations proposed under the Preferred Alternative. This Alternative would result in 86.0 percent less commercial development than the Preferred Alternative, and approximately 17.4 percent less industrial development. It would, however, result in development of up to 1,916 dwelling units under the Community Reserve designation, which is intended to provide for mixed residential, commercial and light industrial uses within a Specific Plan. Allowable residential densities under this designation are up to 2 dwelling units per gross acre, subject to criteria defined for this designation.

One of the key project objectives is to set forth development standards and guidelines for land uses within the area through the approval of a Specific Plan for land use. The land use concept for the proposed Specific Plan is to facilitate the development of high quality industrial development and to maximize development potential and consider the logical locations of land uses. The current General Plan would not provide for approval of a Specific Plan for these lands. It would devote substantial lands within the Specific Plan area to residential land uses, reducing that available for commercial and industrial uses and siting more sensitive land uses in proximity with less sensitive land uses. Potential for land use compatibility issues may include impacts to noise, traffic, visual resources, and risk of exposure to hazardous and toxic materials. Although land use compatibility issues are not expected to be significant, in the overall, this alternative is less desirable than the Preferred Alternative since it does not meet the primary or other key project objectives. Mitigation measures set forth in Section III will reduce potential impacts to less than significant levels.

More Intense Alternative

The More Intense Alternative would result in an increase of commercial development of approximately 57.5 percent over the Preferred Alternative. It would provide for 31.4 percent less Industrial – Specific Plan development, but would nearly double the amount of Industrial – General development. As previously noted, the latter allows for the heaviest type of industrial uses among those proposed for the Specific Plan area. Land use patterns are similar to the Preferred Alternative, in that Industrial – General lands are located in the northeastern portion of the planning area, with Industrial – Specific Plan lands comprising much of the balance of the lands surrounding the area designated for Industrial – Airport. However, this alternative provides for development of up to 3,169 single and multi-family dwelling units at densities of 2 to 10

units per net acre. Residential development would be located adjacent to General Commercial and Industrial – Specific Plan uses, and along Dale Evans Parkway and Central Road. While this alternative satisfies the Specific Plan land use concept’s intention to maximize land uses, it has potential to result in land use compatibility issues because of the proximity of residential development to industrial uses. These may include traffic, noise, visual resources, light and glare, and potential to expose a greater number of persons to risks associated with accidental release of hazardous and toxic materials.

Less Intense Alternative

As with the No Project Alternative, this alternative provides for substantial lands to be designated as Community Reserve, and would result in development of up to 4,080 dwelling units at densities allowable under that designation. Although Community Reserve lands are intended to include commercial and industrial development that supports the residential uses, lands designated strictly for commercial and industrial development are limited to the area surrounding the airport. Further, the Less Intense scenario would result in development of 86.3 percent less commercial development than the Preferred Alternative, and industrial development would be comprised only of Airport – Industrial. In addition to the potential land use compatibility issues associated with the proximity of residential development to airport industrial uses, this alternative does not maximize the development potential of these lands and would not be expected to improve the Town’s tax base to the same extent as the Preferred Alternative. From a land use perspective, this alternative appears to be less desirable than the Preferred Alternative.

While each of the project alternatives meet some of the project objectives, based on this analysis, the Preferred Alternative appears to be the most desirable land use scenario in that it meets all of the key project objectives and maximizes commercial and industrial land uses. Further, it presents the least potential for land use compatibility issues associated with proximity to additional residential development. Nonetheless, mitigation measures set forth in Section III are expected to reduce potentially significant impacts to less than significant levels for any of the development scenarios.

2. Traffic/Circulation

The Specific Plan Traffic Study evaluated each of the four project alternatives and includes an assessment of impacts for each. While intersection analysis was not conducted for all of these alternatives, mid-block segment analysis was conducted and is an effective baseline for comparison of the alternatives. The No Project alternative evaluated the traffic consequences of buildout of the current Town General Plan designations across the planning area. Traffic impacts associated with each of the alternative Specific Plan projects are presented below.

No Project Alternative

As mentioned, the No Project alternative involves the buildout of the existing Town General Plan land use designations on the planning area. The existing General Plan designations and development potential are summarized as follows:

**Table V-1
 Land Uses and Development Potential
 No Project/Existing General Plan Alternative**

Land Use Designation	Acres	Development Potential
Community Reserve (1 du/ac)	1,915.9 acres	1,915.9 dwelling units
Planned Industrial	2,903.2 acres	27,822,000 sq. ft.
• General Light Industrial		2,455,000 sq. ft.
• Industrial Park		25,367,000 sq. ft.
General Commercial	36.5 acres	349,800 sq. ft.
Existing Airport		368 based aircraft

In the 2030 Horizon Year, the No Project (Existing General Plan) Alternative will generate a total of approximately 126,199 average daily trips (ADT). This represents a 42,410 ADT (25.2%) reduction in the total number of trips when compared to the Preferred Alternative. Under the No Project Alternative, five (5) of the study area intersections are projected to operate at LOS D or worse during either the AM or PM peak hour, or both. These intersections and their anticipated 2030 Horizon Year levels of service are listed below.

**Table V-2
 Intersections Projected to Operate at LOS D or Worse
 No Project/Existing General Plan Alternative (2030)**

Intersection	Level of Service (Peak Hour)	
	AM	PM
Outer I-15 Highway @ Stoddard Wells Road	D	C
"C" Street @ Gustine Road	C	F
Navajo Road @ "B" Street	F	F
Navajo Road @ Los Padres Road	D	C
Central Road @ "B" Street	D	B

It should be noted that for the above listed intersections, the delays that push the level of service beyond LOS C occur on the cross streets of these unsignalized intersections. The delays are due to inadequate gaps in the traffic on the through streets to allow traffic on the cross-streets to make left turns onto the through streets. LOS C could be achieved by installing traffic signals, however, none of these intersections meet the planning-level traffic signal warrants for 2030 conditions. Until traffic signal warrants are met, LOS C could be achieved by prohibiting left turns from the side streets. By these means, all of the potentially impacted intersections may be further improved to allow 2030 Horizon Year operation at or near LOS C, consistent with the General Plan. It should again be noted that the Town is obliged to make a good faith effort to achieve the LOS C standard but that certain physical or other constraints may limit the Town's options.

As with the other alternatives, the highest daily traffic volumes occur most often at Dale Evans Parkway at B Street, Johnson Road at Central Road, High Desert Corridor at Outer I-15 Highway, High Desert Corridor at I-15, Dale Evans Parkway at High Desert Corridor and Waalew Road at Corwin Road. Other projected high volume intersections include Los Padres Road at Dale Evans Parkway, Saugus Road at Stoddard Wells Road, and Choco Road at Falchion Road.

In the overall, the No Project alternative is roughly equal to the Preferred Alternative but is generally superior to the Preferred Alternative in terms of the total number of trips generated.

More Intense Alternative

The More Intense Alternative is designed to evaluate the consequences of a more intense use of the subject lands and thereby achieve enhanced efficiencies in such areas as land use, transportation infrastructure, which are not assumed in this alternative but would be enhanced under the More Intense alternative. The alternative provides for a substantial number of single family residential developed on relatively small lots, making these more affordable and more efficient in terms of proximity to employment and demand for transportation infrastructure and associated resource. Greater per capita use of non-motorized modes of transportation might also result. The following summarizes the land use breakdown and resulting scale of development resulting from this alternative.

**Table V-3
 Land Uses and Development Potential
 More Intense Alternative**

Land Use Designation Potential	Acres	Development
Medium Density Residential	422.5 acres	3,169 detached units
General Light Industrial	662.0 acres	6,352,700 sq. ft.
Specific Plan Industrial	2,411.7 acres	23,111,800 sq. ft.
General Commercial	618.3 acres	2,500,000 sq. ft.
Existing Airport		368 based aircraft

In the 2030 Horizon Year, the More Intense Alternative will generate a total of approximately 251,630 average daily trips (ADT). This represents a 83,021 ADT (49.2%) increase in the total number of trips when compared to the Preferred Alternative. Under the More Intense Alternative, roadway segment and intersection volumes would be nearly half again higher than those for Preferred Alternative and about 99.3% greater than impacts associated with the No Project (Existing General Plan) alternative. A substantially greater number of intersections would fall below the LOS C operating conditions in the 2030 Horizon Year under this alternative and mitigation would be progressively more difficult. The More Intense alternative is inferior to the No Project and the Preferred Alternatives.

Less Intense Alternative

The Less Intense Alternative is designed to evaluate the consequences of a substantially less intense use of the subject lands and thereby achieve substantial reductions in traffic generation and needed roadway improvements. What is lost in this alternative are enhanced efficiencies in such areas as land use and transportation infrastructure, which are not assumed in this alternative

but would be less efficiently developed and financed under the Less Intense alternative. The alternative provides for more than 4,000 single family residences developed on one-acre lots. No industrial, aside from that incidental to the general aviation functions at the airport, would be developed under this scenario. Land use, roadway infrastructure and other community facilities would still need to be developed but would be reduced in scale. The following summarizes the land use breakdown and resulting scale of development resulting from this alternative.

**Table V-4
Land Uses and Development Potential
Less Intense Alternative**

Land Use Designation Potential	Acres	Development
Community Reserve (1 du/ac)	4,079.7 acres	4,080 dwelling units
General Commercial	35.7 acres	342,100 square feet
Existing Airport	740.4	368 based aircraft

In the 2030 Horizon Year, the Less Intense Alternative will generate a total of approximately 52,215 average daily trips (ADT). This represents a 73,984 ADT (58%) reduction in the total number of trips when compared to the No Project (Existing General Plan) alternative. The Less Intense Alternative represents a 116,394 ADT (69%) reduction in the total number of daily trips when compared to the Preferred Alternative.

Under the Less Intense Alternative, roadway segment and intersection volumes would be more than two-thirds lower than those for Preferred Alternative and about 58% less than impacts associated with the No Project (Existing General Plan) alternative. Substantially fewer, if any, intersections in the planning area would fall below the LOS C operating conditions in the 2030 Horizon Year and mitigation would be more easily accomplished than under any of the other alternatives. From a strictly traffic volume perspective, the Less Intense alternative is superior to the No project, Preferred Alternatives or More Intense Alternatives.

3. Air Quality

Under the Preferred Alternative, air quality impacts would be significant for all criteria pollutants. These levels of emissions are depicted in Table V-5 on the next page.

**Table V-5
 Anticipated Cumulative Project-Related Emissions
 Associated with Buildout of the Preferred Alternative**

	Stationary Source Emissions		Moving Source Emissions	Total Anticipated Emissions (lbs./day)	Total Anticipated Emissions (Tons/Yr)*	MDAQMD Threshold Criteria** (Tons/Yr)
	Power Plants	Nat.Gas Consumption				
Carbon Monoxide	231.1	89.9	6,989.4	7,310.4	954.0	100.0
Nitrogen Oxides	1,328.7	539.4	5,281.0	7,149.2	933.0	25.0
Sulfur Oxides	138.7	0.0	1,053.6	1,192.3	155.6	25.0
Particulates	46.2	0.9	408.9	456.0	59.5	25.0
Reactive Organic Gases	11.6	23.8	1,053.6	1,089.0	142.1	15.0

*Based on 261 work days per year because consumption only includes commercial and industrial uses. **Threshold criteria offered by the Mojave Desert Air Quality Management District for assistance in determining the significance of air quality impacts.

No Project Alternative

The air quality impacts associated with construction of the Less Intense Alternative would be less than the Preferred Alternative due to the reduction in building square footage and paved surfaces. The project-specific analysis of traffic alternatives indicates that traffic impacts for the No Project Alternative are less with an estimated reduction in total miles per day of about 25%. As a result, the No Project Alternative would generate 1,696,027 total miles traveled per day versus 2,267,655 total miles per day from the Preferred Alternative.

Based on the decrease in miles traveled, adverse air quality impacts from carbon monoxide, sulfur oxides, nitrogen oxides, particulates and reactive organic compounds associated with the No Project Alternative are estimated to be about 25% less than the impacts associated with the Preferred Alternative (see Table V-6). Even with this reduction in emissions, the No Project alternative would still generate many times over the MDAQMD air quality threshold criteria.

**Table V-6
 Anticipated Cumulative Project-Related Emissions
 Associated with Buildout of the No Project Alternative**

	Stationary Source Emissions		Moving Source Emissions	Total Anticipated Emissions (lbs./day)	Total Anticipated Emissions (Tons/Yr)*	MDAQMD Threshold Criteria** (Tons/Yr)
	Power Plants	Nat.Gas Consumption				
Carbon Monoxide	168.6	63.6	5,225.9	5,458.2	712.3	100.0
Nitrogen Oxides	969.3	381.9	3974.2	5325.3	695.0	25.0
Sulfur Oxides	101.1	0.0	788.4	889.6	116.1	25.0
Particulates	33.7	0.6	306.5	340.9	44.5	25.0
Reactive Organic Gases	8.4	16.9	788.4	813.7	106.2	15.0

*Based on 261 work days per year because consumption is heavily weighted towards industrial uses.

**Threshold criteria offered by the Mojave Desert Air Quality Management District for assistance in determining the significance of air quality impacts.

More Intense Project Alternative

Under the More Intense Project Alternative scenario, the air quality impacts associated with construction would increase over the Preferred Alternative due to the construction of additional General Industrial building square footage and over 3,000 Medium Density residential units. Construction related pollution, including fugitive dust and equipment exhausts, could increase as daily post-construction pollution is expected to increase due to the additional buildings that would be developed.

Due to the construction of the residential units, almost double the General Industrial and Commercial building space associated with the More Intense Alternative, the total miles traveled per day by cars and trucks would increase from by almost 50% over the Preferred Alternative. As a result, emissions from carbon monoxide, sulfur oxides and reactive organic compounds associated with the More Intense Alternative are estimated to be over 30% higher than those of the Preferred Alternative (see Table V-7).

Table V-7
Anticipated Cumulative Project-Related Emissions
Associated with Buildout of the More Intense Project Alternative

	Stationary Source Emissions		Moving Source Emissions	Total Anticipated Emissions (lbs./day)	Total Anticipated Emissions (Tons/Yr)*	MDAQMD Threshold Criteria** (Tons/Yr)
	Power Plants	Nat.Gas Consumption				
Carbon Monoxide	223.0	83.1	10,949.4	11,255.5	1,468.8	100.0
Nitrogen Oxides	1282.0	498.7	5471.1	7251.9	946.4	25.0
Sulfur Oxides	133.8	0.0	1591.5	1725.2	225.1	25.0
Particulates	44.6	0.8	558.1	603.6	78.8	25.0
Reactive Organic Gases	11.1	22.0	1591.5	1624.6	212.0	15.0

*Based on 261 work days per year because consumption is heavily weighted towards industrial uses.

**Threshold criteria offered by the Mojave Desert Air Quality Management District for assistance in determining the significance of air quality impacts.

Less Intense Project Alternative

The air quality impacts associated with construction activities of the Less Intense Alternative could be about the same as the Preferred Alternative due to the over 4,000 residential dwelling units that would be developed under the Less Intense Alternative. The impacts of the Less Intense Alternative would hinge on the average number of acres that would be prepared for each new residential development tract.

The project-specific analysis of traffic alternatives has indicated that traffic generated by the Less Intense Alternative would result in 783,225 total miles traveled per day versus 2,267,655 total miles traveled per day by the Preferred Alternative. Based on the decrease in development and mileage, adverse air quality impacts from carbon monoxide, nitrogen oxides, sulfur oxides, particulates, and reactive organic compounds associated with the Less Intense Alternative are estimated to be more almost 70% less than the impacts associated with the Preferred Alternative (see Table V-8). However, all of these pollutants exceed the MDAQMD threshold criteria for all pollutants except particulates.

Table V-8
Anticipated Cumulative Project-Related Emissions
Associated with Buildout of the Less Intense Project Alternative

	Stationary Source Emissions		Moving Source Emissions	Total Anticipated Emissions (lbs./day)	Total Anticipated Emissions* (Tons/Yr)	MDAQMD Threshold Criteria** (Tons/Yr)
	Power Plants	Nat.Gas Consumption				
Carbon Monoxide	15.1	18.8	2,518.9	2,552.8	465.9	100.0
Nitrogen Oxides	86.9	112.7	238.1	437.8	79.9	25.0
Sulfur Oxides	9.1	0.0	339.1	348.2	63.5	25.0
Particulates	3.0	0.2	97.9	101.1	18.5	25.0
Reactive Organic Gases	0.8	5.0	339.1	344.9	62.9	15.0

*Based on 365 days per year because consumption is heavily weighted towards residential use. **Threshold criteria offered by the Mojave Desert Air Quality Management District for assistance in determining the significance of air quality impacts.

4. Biological Resources

No Project Alternative

Under this alternative, it can be assumed that the western half of the Specific Plan area would be developed for residential land uses on lots of at least one acre. As a result, some native habitat could be preserved in this portion of the Plan area. The balance of the Plan area would develop at densities and land uses similar to those proposed by the Specific Plan, insofar as Planned Industrial and Commercial designations are currently assigned to these lands.

The No Project Alternative would impact biological resources somewhat less than the Preferred Project, in that some open space areas would be preserved on the residential lots. However, this reduction would be limited, as residential development would also, like the Specific Plan, introduce other types of non-native vegetation.

Under this alternative, studies would be required for the same species as are required for the Specific Plan, because these species are protected regardless of the type of development to occur. Therefore, there would be no expected take of the Desert Tortoise, Mohave Ground Squirrel, or of the Burrowing Owl.

Lands developed for residential purposes on the northern end of the Specific Plan area, where blue line streams occur, would be required to secure the same types of permits as would development under the Specific Plan, should alteration of these streams be required. However,

because of the less intense nature of residential development, it would be more likely that these streams could be avoided, and preserved as they currently occur.

More Intense Project Alternative

Impacts to biological resources associated with the More Intense Alternative would be similar to those associated with the Preferred Project. Development of all the acreage would be at urban densities similar to those of the Preferred Project, and disturbance and elimination of native habitat would occur throughout the Plan area. Similar to the Preferred Project, native habitat would be replaced with landscaping which will include a mixture of indigenous and native materials, and may provide habitat for common species currently occurring in the Plan area.

Under this alternative, studies would be required for the same species as are required for the Specific Plan, because these species are protected regardless of the type of development to occur. Therefore, there would be no expected take of the Desert Tortoise, Mohave Ground Squirrel, or of the Burrowing Owl.

Lands developed on the northern end of the Specific Plan area, where blue line streams occur, would be required to secure the same types of permits as would development under the Specific Plan, should alteration of these streams be required. Since development under this alternative would be of a similar intensity as under the Preferred Project, it would be expected that streambed alteration would be required for most of the streams, requiring permitting and mitigation to meet the requirements of the responsible agencies, including the California Department of Fish and Game, and the US Army Corps of Engineers.

Less Intense Project Alternative

Under this alternative, all lands within the Specific Plan area would be built out at residential densities of one home per acre. Under this alternative, it would be expected that native habitat would remain on parts of the residential lots, insofar as residential pads and associated landscaping would be limited, and portions of at least some lots would remain in their natural condition.

Under this alternative, studies would be required for the same species as are required for the Specific Plan, because these species are protected regardless of the type of development to occur. Therefore, there would be no expected take of the Desert Tortoise, Mohave Ground Squirrel, or of the Burrowing Owl.

Lands developed for residential purposes on the northern end of the Specific Plan area, where blue line streams occur, would be required to secure the same types of permits as would development under the Specific Plan, should alteration of these streams be required. However, because of the less intense nature of residential development, it would be more likely that these streams could be avoided, and preserved as they currently occur.

5. Geology and Soils

Geology

The geological character of Apple Valley and the surrounding region has been formed by its proximity to large, active fault systems, including the San Andreas Fault Zone. Fault activity in

this region continues to result in ground rupture, major groundshaking, subsidence, uplift and mountain building, landform compression and extension. The Mojave Desert segment of the San Andreas fault passes through the region approximately 25 miles south-southwest of Apple Valley. The Helendale fault is located approximately 8 miles east of Apple Valley. The proximity to these faults makes the planning area susceptible to seismically induced hazards, including strong groundshaking.

From a geotechnical perspective, the No Project and the Less Intense Alternative reduce potential exposure of people to geotechnical impacts. The Preferred Alternative would expose more people to geotechnical impacts, followed by the More Intense Alternative. Additional detailed geotechnical and engineering analysis shall be undertaken prior to development of any of the alternatives. The mitigation measures set forth in Section III, including strict adherence to the provisions of the Uniform Building Code, are expected to reduce potential geotechnical impacts associated with construction of all structures to less than significant levels, regardless of which project alternative is implemented.

Soils

The project area consists of alluvial fans extending downslope from the mountain canyons consist of coarser grained cobbles, gravels, sands, silts, and clays that decrease in size and abundance at lower elevations. Floodplain deposits from the Mojave River are made up predominantly of sand, sandy silt, and silt. The alluvial fan and floodplain deposits are intermixed and form a highly variable layering of different sizes of alluvial materials. Intense desert rainstorms exposes bare rock and gravel, which covers the ground near the bases of hills and low mountains. Soils identified as occurring in the planning area include, Cajon sand, Cajon loamy sand, Cajon-Arizo complex, Cajon Wasco, Helendale loamy sand, Mirage-Joshua complex, Nebona-cuddleback complex and Rosamond loam. Hendale-Bryman loamy sands are predominant across the project site and are a series of the Aridosol Soil Order. These soils are formed by the mixing of alluvium derived mainly from granitite sources in combination with erosion caused by wind and water. Soils on the project site are well drained with slow runoff and moderately slow permeability, and the filtering capacity of these soils is considered to be very limited.

With regard to on-site soils, each alternative would require similar mitigation measures including those related to site preparation, grading, foundation design. Therefore, no alternative is superior to the Preferred Alternative

6. Hydrology

The Apple Valley watershed is located in the high desert of southern California, and encompasses 98 square miles that drain into the Apple Valley Dry Lake, which ultimately discharges primarily into the Mojave River approximately to the southwest. The planning area drains naturally from the northeast to the southwest, and slopes are generally one percent or less throughout the area. The planning area is located on an alluvial fan created by the deposition of sediment from the drainage of the local mountains.

Annual rainfall typically ranges from 4 to 6 inches, but occasional high-intensity thunderstorms do occur. Although the desert floor can be dry at the beginning of a rainstorm, the ground can

quickly become saturated during periods of intense rainfall, substantially decreasing percolation and increasing runoff. Increased runoff produced upstream can potentially result in significant storm flows and increases the potential for damage downstream. Urban development, which generally results in large impervious areas, also increases the amount of runoff that can be produced. The planning area is located within Flood Zone D, as indicated on the Federal Emergency Management Agency's Flood Insurance Rate Map. The flood zone is used to identify areas that have undetermined, but possible, flood hazards. The Town and the County of San Bernardino Department of Public Works, Flood Control, provide stormwater management for the Specific Plan area and the vicinity.

On-site hydrology is a factor for any of the project alternatives. Each alternative will require a similar level of hydrologic analysis. The No Project and the Less Intense Alternative reduce potential exposure of people to potential flooding. The Preferred Alternative would expose slightly more people to flooding impacts, followed by the More Intense Alternative. Additional detailed hydrologic analysis shall be undertaken prior to development of any of the alternatives. The mitigation measures set forth in Section III, including erosion control, are expected to reduce potential hydrologic impacts associated with development to less than significant levels, regardless of the alternative that is developed.

7. Water Resources/Quality

No Project Alternative

The No Project Alternative assumes a buildout of 1,916 dwelling units and yields approximately 5,556 residents after applying Apple Valley's average household size of 2.9 persons.¹ Using a daily per capita consumptive demand rate of 550 gallons² results in 3.05 million gallons per day. Commercial space averages approximately 1.98 acre feet per acre per year, and industrial uses are about 1.61 gallons per square foot per year.³ Thus, the No Project Alternatives 19.9 acres of commercial development could generate 0.035 million gallons per day and 2,205.2 acres of industrial could generate approximately 3.17 million gallons per day, for a project total of 6.26 million gallons of water per day, which is 13.1% more than the Preferred Alternative.

More Intense Project Alternative

The More Intense Project Alternative assumes a buildout of 3,169 dwelling units, and at an average household size of 2.9 persons yields 9,190 residents. At a daily per capita consumptive demand rate of 550 gallons per person, would result in 5.06 million gallons per day. The More Intense Alternative proposes 608.9 acres of commercial development, which could generate 1.08 million gallons per day, and 2,766.2 acres of industrial could generate approximately 3.98 million gallons per day, for a project total of 10.11 million gallons of water per day, which is 82.6% higher than the Preferred Alternative.

Based on these figures, the More Intense Project Alternative is projected to increase the daily project consumption by 1,718,750 gpd, or 92.6% more than the Preferred Alternative.

¹ Lori Lamson, Principal Planner, Town of Apple Valley, personal communication, July 11, 2006.

² Coachella Valley Water District, average daily per capita consumptive demand rate.

³ Coachella Valley Water District, average yearly consumptive demand rates.

Less Intense Project Alternative

The Less Intense Project Alternative assumes a buildout of 4,080 dwelling units, and at an average household size of 2.9 persons yields 11,832 residents. At a daily per capita consumptive demand rate of 550 gallons per person, would result in 6.51 million gallons per day. The Less Intense Alternative proposes 34.9 acres of commercial development, which could generate 0.06 million gallons per day, for a project total of 6.57 million gallons of water per day, which is 18.7% higher than the Preferred Alternative.

8. Cultural Resources

No Project Alternative

The No Project Alternative would have somewhat lower potential impacts on archaeological, historic and paleontological resources in the Specific Plan area, insofar as residential development on the western half of the Plan area would be likely to disturb less of the land than the Preferred Alternative. On the eastern half of the Plan area, however, impacts would be equivalent to those of the Specific Plan, as development would occur at similar intensities.

Studies for cultural resources would still be required under this alternative, for areas of high sensitivity, prior to the issuance of any ground disturbing permit. This would result in similar protection of the resources as under the Preferred Alternative. Under either alternative, destruction of the resources would not be permitted, and preservation or recovery would occur. Overall impacts associated with cultural resources would be marginally lower under the No Project Alternative.

More Intense Project Alternative

Impacts to cultural resources under the More Intense Alternative would be similar to those under the Preferred Alternative, since development would occur in similarly urban densities throughout the Specific Plan area. As with the Preferred Alternative, studies would be required for areas of sensitivity to these resources, and the level of protection afforded these resources would be identical. It would not be expected that this alternative would result in any more or lower impacts to cultural resources.

Less Intense Project Alternative

Under the Less Intense Alternative, the entire Specific Plan area would be developed for residential land uses. Because of the larger size of the residential lots, and the lower intensity of residential development, it would be expected that the impacts would be reduced somewhat, insofar as some resources would not be disturbed on portions of lots not developed. Studies for cultural resources would still be required under the Less Intense Alternative, and the level of protection afforded these resources would be identical to that under the Preferred Alternative. Overall impacts would be somewhat lower under this alternative than under the Preferred Alternative.

9. Noise

As noted in Section III of this report, an assessment of the noise environment in the Specific Plan study area included the preparation of a noise study by Urban Crossroads.⁴ The study examines the existing noise environment in the Specific Plan study area and projects the future noise impacts associated with Specific Plan buildout. The noise analysis is included in its entirety in Appendix D of this document.

The alternatives analysis examines the effects of the predominate noise source, traffic, which is directly related to the mix and location of different land uses set forth in the alternative. In addition to the Preferred Alternative analyzed in detail in Section III, this discussion evaluates the No Project (Existing General Plan Designations) alternative traffic on the local noise environment. The More Intense and Less Intense Alternatives are assessed by comparing their respective traffic volumes to the Preferred and No Project Alternatives. Other project-related noise sources, including airport operations, construction and stationary noise sources are also briefly discussed below.

Summary of Existing Conditions

Generally, the Town of Apple Valley enjoys a quiet noise environment, with existing community noise being dominated primarily by constant motor vehicle traffic on highways and major arterials. The current noise environment in the Specific Plan study area is especially affected by local airport operations, which on a daily basis average approximately 348 flight operations (take-offs and landings) per day. All of these operations were associated with general aviation aircraft and impacts from airport operations are considered to be less than significant.

There are currently few sensitive receptors within the Specific Plan study area, including a single-family home in the extreme northwest corner of the planning area. Other noise sensitive residential areas in the vicinity include homes along Waalew Road and Corwin Road, where current noise levels generated by local vehicular traffic are experiencing unmitigated exterior noise levels that approach 65 dBA CNEL. Other sensitive residents are located east of Central Road. A rail line located adjacent to Quarry Road serves the Mojave Northern Mining quarry located to the east and generates approximately 2 to 4 trains per day. Noise impacts from rail line operations are considered less than significant. Noise impacts are potentially greater in these areas due to their remote and rural settings.

Traffic Noise Analyses

The following discussion characterizes the impacts to the noise environment from the traffic noise projected to result from the implementation of each of the Specific Plan alternatives.

No Project Alternative

As described in the introduction to this section, the No Project alternative involves the buildout of the existing Town General Plan land use designations on the planning area. The existing General Plan designations and development potential yields approximately 1,916 single-family residences, almost 28,000,000 square feet of industrial and business park space, about 350,000 feet of commercial retail space and the existing airport facilities. In the 2030 Horizon Year, the

⁴ "North Apple Valley Specific Plan EIR Noise Analysis", prepared by Urban Crossroads, Inc. June 8, 2006, Revised July 21, 2006.

No Project (Existing General Plan) Alternative will generate 42,410 less ADT (25.2% reduction) when compared to the Preferred Alternative.

As noted in Section III, a change of at least 3 dBA represents the threshold by which the potential significance of noise impacts is typically measured. The No Project Alternative noise contours result from the projected 25.2% reduction in traffic that would be generated by this alternative. In the overall, the No Project (Existing General Plan) alternative results in noise impacts that are comparable but 0 to 5.5 dBA lower than those associated with the Preferred Alternative. The most significant noise reductions, when compared to the Preferred Alternative occur along Central Road south of Quarry Road, F Street and Johnson Road. In the overall, the No Project alternative is roughly equal to the Preferred Alternative but is modestly superior to the Preferred Alternative.

More Intense Project Alternative

The More Intense Alternative is designed to evaluate the consequences of a more intense use of the subject lands and the potential for increased noise impacts from traffic it would generate. The alternative provides for about 3,169 single-family residences developed on relatively small lots and an average density of 7.5 dwelling units per acre. The More Intense Alternative also provides almost 29,000,000 square feet of industrial space, 2,500,000 square feet of commercial space and uses, and existing airport operations and facilities.

In the 2030 Horizon Year, the More Intense Alternative will generate 83,021 ADT (49.2%) increase in traffic when compared to the Preferred Alternative. Under the More Intense Alternative, roadway traffic volumes and associated traffic noise along these roadways would be nearly one-third higher than those for Preferred Alternative and about 99.3% greater than impacts associated with the No Project (Existing General Plan) alternative.

A substantially greater number of roadway segments would see CNEL noise level increases greater than the 3.0 dBA threshold. A total of 19 roadway segment of the 44 segments analysed would exceed CNEL levels projected for the No Project (Existing General Plan) alternative, with increases in dBA measured at 100-feet ranging from 0.00 to 7.4 dBA.

As can be seen from the following table, the More Intense alternative is clearly inferior to the No Project and the Preferred Alternatives. For a more detailed discussion of this alternative, please see the Specific Plan Noise Analysis, which is Appendix D of this Draft EIR.

**Table V-9
 Apple Valley Industrial Specific Plan
 More Intense Alternative Noise Impacts**

ROAD	SEGMENT	CNEL AT 100 FEET (dBA)			POTENTIAL SIGNIFICANT IMPACT? ¹
		WITHOUT PROJECT	WITH PROJECT	PROJECT CONTRIBUTION	
Central Avenue	s/o Waalew Road	67.4	71.9	4.5	YES
Central Avenue	s/o Otoe Road	67.0	69.9	2.9	NO
Central Avenue	s/o Thunderbird Road	66.6	68.1	1.4	NO
Central Road	s/o Quarry Road	65.5	71.2	5.6	YES
Central Road	s/o Johnson Road	66.0	73.4	7.4	YES
Central Road	s/o Los Padres Road	65.9	73.0	7.1	YES
Central Road	s/o "F" Street	67.8	74.1	6.3	YES
Corwin Road	s/o Dale Evans Parkway	67.5	69.7	2.2	NO
Corwin Road	s/o Waalew Road	68.8	71.0	2.2	NO
Corwin Road	s/o Choco Road	69.6	71.5	1.9	NO
Corwin Road	s/o Tao Road	67.3	68.7	1.4	NO
Dale Evans Pkwy	s/o I-15	65.5	67.1	1.6	NO
Dale Evans Pkwy	s/o Stoddard Wells Road	64.3	66.3	2.0	NO
Dale Evans Pkwy	s/o Quarry Road	65.7	70.6	4.9	YES
Dale Evans Pkwy	s/o Johnson Road	68.1	73.3	5.2	YES
Dale Evans Pkwy	s/o Los Padres Road	69.0	73.8	4.8	YES
Dale Evans Pkwy	s/o Gustine Road	70.5	74.8	4.3	YES
Dale Evans Pkwy	s/o High Desert Corridor	69.9	73.7	3.8	YES
Dale Evans Pkwy	s/o Corwin Road	68.9	71.3	2.4	NO
Dale Evans Pkwy	s/o Waalew Road	66.7	70.1	3.4	YES
Dale Evans Pkwy	s/o Otoe Road	66.7	68.3	1.6	NO
Dale Evans Pkwy	s/o Thunderbird Road	66.8	68.3	1.5	NO
Gustine Road	w/o Choco Road	63.9	64.9	1.0	NO
Gustine Road	e/o Choco Road	67.1	68.5	1.5	NO

Table V-9
Apple Valley Industrial Specific Plan
More Intense Alternative Noise Impacts

ROAD	SEGMENT	CNEL AT 100 FEET (dBA)			POTENTIAL SIGNIFICANT IMPACT? ¹
		WITHOUT PROJECT	WITH PROJECT	PROJECT CONTRIBUTION	
Happy Trail Highway	w/o Corwin Road	71.6	72.7	1.1	NO
Happy Trail Highway	e/o Corwin Road	70.8	72.1	1.3	NO
Johnson Road	w/o Dale Evans Parkway	67.9	72.6	4.8	YES
Navajo Road	s/o Thunderbird Road	66.9	68.2	1.4	NO
Otoe Road	w/o Dale Evans Parkway	62.9	65.3	2.5	NO
Quarry Road	e/o Soddard Wells Road	59.9	62.7	2.8	NO
Quarry Road	e/o Dale Evans Parkway	62.2	68.3	6.0	YES
Quarry Road	e/o Navajo Road	61.8	67.4	5.6	YES
Saugus Road	w/o Choco Road	64.4	68.8	4.4	YES
Saugus Road	e/o Choco Road	65.8	68.9	3.2	YES
Stoddard Wells Road	w/o Dale Evans Parkway	60.1	60.1	0.0	NO
Stoddard Wells Road	s/o Quarry Road	63.1	64.1	1.0	NO
Stoddard Wells Road	s/o Johnson Road	68.0	72.5	4.6	YES
Stoddard Wells Road	w/o Choco Road	68.5	72.6	4.0	YES
Thunderbird Road	w/o Dale Evans Parkway	63.5	65.5	2.0	NO
Thunderbird Road	e/o Dale Evans Parkway	64.8	65.7	0.9	NO
Waalew Road	w/o Dale Evans Parkway	67.5	70.4	2.9	NO
Waalew Road	e/o Dale Evans Parkway	66.5	69.3	2.9	NO
Waalew Road	e/o High Desert Corridor	65.0	69.1	4.1	YES
Waalew Road	e/o Central Road	62.9	64.4	1.4	NO

¹ A potential significant impact occurs when the With Project is greater than 65 dBA and the project contribution is greater than 3 dBA.

Less Intense Project Alternative

The Less Intense Alternative is designed to evaluate the consequences of a substantially less intense use of the subject lands and thereby achieve substantial reductions in traffic-related noise. The alternative provides for more than 4,000 single family residences developed on one-acre lots. No industrial, aside from that incidental to the general aviation functions at the airport, would be developed under this scenario, and about 342,100 square foot of commercial space could be developed.

In the 2030 Horizon Year, the Less Intense Alternative will generate a total of approximately 73,984 fewer ADT (a 58% reduction) when compared to the No Project (Existing General Plan) alternative. The Less Intense Alternative represents a 116,394 ADT (69%) reduction in the total number of daily trips when compared to the Preferred Alternative.

Under the Less Intense Alternative, roadway segment volumes and associated increases noise contours would be more than two-thirds lower than those for Preferred Alternative and about 58% less than impacts associated with the No Project (Existing General Plan) alternative. The alternative would generally reduce traffic-related noise along the major roadways in the planning area. From a strictly traffic noise perspective, the Less Intense alternative is superior to the No Project, Preferred Alternatives or More Intense Alternatives.

As shown in the table below, when compared to the No Project (Existing General Plan) alternative the Less Intense Alternative would result in buildout CNEL levels that range from a single 2.0 dBA increase (Thunderbird Road west of Dale Evans Parkway) to a 3.4 dBA reduction at Central Avenue south of Thunderbird Road. The lone projected increase is associated with the difference in trip assignments caused by the differences in land uses in the planning area for this alternative.

**Table V-10
 North Apple Valley Industrial Specific Plan
 Less Intense Alternative Noise Impacts**

ROAD	SEGMENT	CNEL AT 100 FEET (dBA)			POTENTIAL SIGNIFICANT IMPACT? ¹
		WITHOUT PROJECT	WITH PROJECT	PROJECT CONTRIBUTION	
Central Avenue	s/o Waalew Road	67.4	66.0	-1.4	NO
Central Avenue	s/o Otoe Road	67.0	65.9	-1.1	NO
Central Avenue	s/o Thunderbird Road	66.6	63.3	-3.4	NO
Central Road	s/o Quarry Road	65.5	62.8	-2.7	NO
Central Road	s/o Johnson Road	66.0	66.4	0.4	NO
Central Road	s/o Los Padres Road	65.9	65.9	0.0	NO
Central Road	s/o "F" Street	67.8	67.2	-0.6	NO
Corwin Road	s/o Dale Evans	67.5	65.7	-1.8	NO

Table V-10
North Apple Valley Industrial Specific Plan
Less Intense Alternative Noise Impacts

ROAD	SEGMENT	CNEL AT 100 FEET (dBA)			POTENTIAL SIGNIFICANT IMPACT? ¹
		WITHOUT PROJECT	WITH PROJECT	PROJECT CONTRIBUTION	
	Parkway				
Corwin Road	s/o Waalew Road	68.8	67.3	-1.5	NO
Corwin Road	s/o Choco Road	69.6	68.4	-1.2	NO
Corwin Road	s/o Tao Road	67.3	66.6	-0.7	NO
Dale Evans Pkwy	s/o I-15	65.5	64.2	-1.2	NO
Dale Evans Pkwy	s/o Stoddard Wells Road	64.3	62.6	-1.7	NO
Dale Evans Pkwy	s/o Quarry Road	65.7	66.2	0.5	NO
Dale Evans Pkwy	s/o Johnson Road	68.1	68.2	0.1	NO
Dale Evans Pkwy	s/o Los Padres Road	69.0	69.3	0.3	NO
Dale Evans Pkwy	s/o Gustine Road	70.5	70.5	-0.1	NO
Dale Evans Pkwy	s/o High Desert Corridor	69.9	69.1	-0.8	NO
Dale Evans Pkwy	s/o Corwin Road	68.9	67.1	-1.8	NO
Dale Evans Pkwy	s/o Waalew Road	66.7	65.9	-0.8	NO
Dale Evans Pkwy	s/o Otoe Road	66.7	65.6	-1.1	NO
Dale Evans Pkwy	s/o Thunderbird Road	66.8	65.7	-1.0	NO
Gustine Road	w/o Choco Road	63.9	63.4	-0.4	NO
Gustine Road	e/o Choco Road	67.1	66.5	-0.6	NO
Happy Trail Highway	w/o Corwin Road	71.6	71.9	0.3	NO
Happy Trail Highway	e/o Corwin Road	70.8	71.2	0.4	NO
Johnson Road	w/o Dale Evans Parkway	67.9	65.8	-2.1	NO
Navajo Road	s/o Thunderbird Road	66.9	66.1	-0.7	NO
Otoe Road	w/o Dale Evans Parkway	62.9	60.7	-2.2	NO
Quarry Road	e/o Soddard Wells Road	59.9	57.0	-2.9	NO
Quarry Road	e/o Dale Evans Parkway	62.2	61.7	-0.5	NO

Table V-10
North Apple Valley Industrial Specific Plan
Less Intense Alternative Noise Impacts

ROAD	SEGMENT	CNEL AT 100 FEET (dBA)			POTENTIAL SIGNIFICANT IMPACT? ¹
		WITHOUT PROJECT	WITH PROJECT	PROJECT CONTRIBUTION	
Quarry Road	e/o Navajo Road	61.8	59.9	-1.9	NO
Saugus Road	w/o Choco Road	64.4	63.1	-1.3	NO
Saugus Road	e/o Choco Road	65.8	63.6	-2.2	NO
Stoddard Wells Road	w/o Dale Evans Parkway	60.1	60.1	0.0	NO
Stoddard Wells Road	s/o Quarry Road	63.1	61.5	-1.5	NO
Stoddard Wells Road	s/o Johnson Road	68.0	65.8	-2.2	NO
Stoddard Wells Road	w/o Choco Road	68.5	66.0	-2.6	NO
Thunderbird Road	w/o Dale Evans Parkway	63.5	65.5	2.0	NO
Thunderbird Road	e/o Dale Evans Parkway	64.8	65.3	0.5	NO
Waalew Road	w/o Dale Evans Parkway	67.5	65.4	-2.1	NO
Waalew Road	e/o Dale Evans Parkway	66.5	65.1	-1.4	NO
Waalew Road	e/o High Desert Corridor	65.0	62.5	-2.4	NO
Waalew Road	e/o Central Road	62.9	61.9	-1.0	NO

¹ A potential significant impact occurs when the With Project is greater than 65 dBA and the project contribution is greater than 3 dBA.

Other Potential Noise Impacts

Aircraft Operations Noise

Aircraft noise associated with flight operations at the Apple Valley Airport have a limited adverse effect on the Specific Plan study area. The airport facilitates approximately 127,000 aircraft operations (take-offs and landings) per year; however, it has a projected maximum capacity of approximately 151,000 operations per year.⁵ Airport operations are busiest during the winter season and slower during the summer months.

The number of aircraft based at the airport is projected to reach a maximum of 368 by 2010.⁶ The Apple Valley Airport does not accommodate regular commercial aviation services. The 2003 CNEL noise contours generated by airport operations generate a 65 dBA CNEL contour in

⁵ "Apple Valley Airport Master Plan", prepared for the Department of Airports, County of San Bernardino. Prepared by P&D Aviation. February 1991.

⁶ Ibid.

proximity to the edge of the runway, while the 60 dBA CNEL contour lies approximately 100-feet outside the 65 dBA contour, both well within the airport property.

As noted above, airport operations at the Apple Valley Airport are expected to be limited to general aviation operations and the level of operations in the future (2023) are expected to be compatible with the various land uses proposed in the Specific Plan. The anticipated future growth in airport operation is the same under all of the project alternatives, and will generate very modest and less than significant increases in the CNEL contours generated by the operation of this airport.

Construction Noise

Regardless of the alternative implemented, construction noise will constitute a short-term impact on adjacent land uses. Significant noise impacts could result from construction activities such as the operation of heavy construction equipment, that can generate noise levels ranging from 68 dBA to 100 dBA when measured at 50 feet from the noise source, and typically fall into the 80 to 85 dBA range at 50-feet. Construction noise lessens with distance, with an approximate 6 dBA reduction in noise levels with each doubling of distance from the noise source. It should also be noted that these noise levels would lessen over time and cease entirely once construction is completed. The subject analysis has been carried out assuming overall grading noise levels of 89 dBA at 50-feet; grading generally represents the highest potential source of construction noise impacts.

The impacts associated with construction noise are dependent upon two factors, (1) the extent and time required to construct each of the project alternatives, and (2) the relative proximity of sensitive receptors. The More Intense Alternative represents the most expansive development scenario and also introduces up to 3,169 residences (sensitive receptors) into the planning area. The potential for significant off-site effects is also greatest under this alternative, with traffic and other construction noise having a greater impact on nearby neighborhoods. The Less Intense Alternative would result in a greatly reduced development scenario but would also result in up to 4,080 residences (sensitive receptors) being developed in the planning area. This could result in long-term compatibility issues with on-going airport operations, although airport buildout will still result in modest increases in community noise levels.

The No Project alternative results in impacts comparable to those associated with the Preferred Alternative, with the important exception that there is no residential development in the planning area under the Preferred Alternative, thereby precluding land use conflicts at least within the Specific Plan planning area itself.

For all the alternatives, existing and proposed residential development south of Waalew Road and east of Central Road will experience the greatest impacts associated with site grading in the Specific plan area. Due to distances from the site and with consideration for existing and future traffic noise on these roadways, construction noise levels are expected to be below the 75 dBA standard for mobile grading equipment for daytime hours between 7 AM and 7 PM, and the 60 dBA Leq standards for stationary equipment.

Mechanical and Industrial Noise

Existing and future sensitive noise receptors in the Specific Plan study area will also be potentially subjected to mechanical and industrial noise from all but the Less Intense Alternative, which does not provide for industrial development. Activities related to industrial operations such as construction, rock crushing and equipment repair could produce substantial noise problems. Loading and materials transfer areas, outdoor materials warehousing operations, loudspeakers, and other acoustically unscreened operations will also raise issues of impact and compatibility depending on the type of adjacent or nearby land uses.

The operation of mechanical equipment will be another source of potentially significant noise. This category includes refrigerator units, chillers, and heating/air conditioning equipment associated with commercial and industrial centers. Roof-mounted equipment generates noise that can penetrate into adjacent neighborhoods and affect sensitive receptors. The constant drone produced by fans and compressors can degrade the enjoyment of the outdoors and negatively affect the quality of life for nearby residents. Substantial progress has been made in noise analysis and mitigation through effective monitoring equipment and computer modeling, careful equipment design and ever-improving baffling and noise cancellation technologies.

No residential land uses are proposed within the Specific plan planning area under the Preferred Alternative, which serves to reduce or preclude the potential for stationary noise impacts to sensitive residential receptors at least within the planning area. The No Project Alternative results in a mix of land uses, including up to 1,916 residences, that may increase land use/noise compatibility issues as this alternative buildout. Only the Less Intense Alternative precludes industrial development, although it does provide for up to 342,100 square feet of commercial space. The Less Intense Alternative would result in very limited mechanical (HVAC, etc.) noise and is the superior alternative in this regard.

Railroad Corridor

The rail line located adjacent to Quarry Road serves only the Mojave Northern Mining quarry and is expected to remain at its current operational level of 2 to 4 trains per day with up to 20 freight cars per day. Based on the very limited number of rail operations and the nature of the land uses proposed in the Specific Plan alternatives, the continued operation of this rail line is not expected to have a significant adverse impact on the Specific plan planning areas regardless of which alternative is implemented.

10. Visual Resources

As discussed in Section III-J, the Specific Plan area and vicinity is characterized by sparse single-family residential, commercial and industrial development on gently sloping lands. Adjacent desert mountains, hills terraces provide a visual backdrop. Buildout of the proposed Specific Plan will result in potentially significant impacts to the visual character of the area for all Project Alternatives, including the No Project Alternative, which would result in development of additional commercial, industrial and residential development based on development standards provided for under the current General Plan and Zoning Ordinance.

Development of all other alternatives would be based on development guidelines established in the North Apple Valley Specific Plan. As compared with the Preferred Alternative, the More

Intense Alternative would nearly double the area designated for General Industrial, wherein building heights of up to 100 feet are allowed. It would also result in construction of approximately 3,200 dwelling units at average densities of approximately 7.5 dwelling units per acre along portions of Dave Evans Parkway and Central Road. This Alternative would also provide for additional General Commercial development, much of which would be near the perimeters of the Specific Plan area. The Less Intense Alternative would designate the largest portion of the planning area as Community Reserve, which provides for mixed use residential, commercial and industrial uses.

In the overall, the No Project and Less Intense Alternatives may result in slightly reduced impacts to visual resources as compared with the Preferred Alternative, although as stated above, all of the development scenarios have potential to significantly alter the visual character of the planning area and to result in new sources of light and glare. The More Intense Alternative would be expected to result in most impacts to visual resources, and is from that standpoint the least desirable of all project alternatives.

With the application of development standards and guidelines set forth in the Specific Plan and mitigation measures included in Section III-J of this EIR, potentially significant impacts associated with any of the project alternatives will be reduced to less than significant levels.

11. Hazardous and Toxic Materials

Buildout of the Specific Plan will result in development of commercial and industrial uses that have potential to generate and use hazardous materials, and could involve the release of hazardous materials into the environment. This is true of all Project Alternatives, although the potential scope of such hazards may be increased or decreased by the type and intensity of development on the site. The Preferred and More Intense Alternative designate lands for heavier types of industrial development than do either the No Project or Less Intense Alternatives, and this type of development may be assumed to pose a greater risk based on allowable uses. The More Intense Alternative would also result in development of more residential dwelling units than would either the No Project or Preferred Alternatives, thereby locating a greater number of persons in proximity to industrial and commercial uses and associated potential hazards. The Less Intense Alternative, although it proposes more dwelling units than the More Intense Alternative, would provide primarily for more “light” industrial and commercial uses that are more compatible with residential development.

In the overall, all development scenarios would expose more people to hazards associated with generation and use of hazardous materials and risk of accidental release of such materials. All alternatives would result in development of new generators or users of such materials. The No Project and Less Intense Alternatives are likely to pose slightly less risk of such hazards than either the Preferred or More Intense, and in this regard are the more desirable alternatives. Development standards and guidelines set forth in the Specific Plan and mitigation measures included in Section III-K of this EIR would apply to any of the Project Alternatives, and are expected to reduce potentially significant impacts to less than significant levels for all alternatives.

12. Jobs and Housing

No Project Alternative

The No Project Alternative would result in 1,916 residential units, 349,787 square feet of commercial space, and 27,821,946 square feet of industrial space within the Specific Plan area, as shown in Table V-10. Under this alternative, the residential land currently available for development on the west side of the Plan area would not be eliminated, and the units could be built as currently planned. Therefore, this alternative would have a lower impact on housing in the immediate vicinity of the project than the Preferred Alternative.

**Table V-11
 No Project Alternative Land Use Summary**

	Acres Vacant	Acres Developed	Acres Total	Existing Square Footage*	Potential Square Footage*	Total Square Footage*
General						
Commercial	19.9	16.6	36.5	159,081	190,706	349,787
Planned						
Industrial	2,205.2	698.0	2,903.2	6,689,074	21,132,873	27,821,946
Community						
Reserve	1,896.2	19.7	1,915.9	20	1,896	1,916
High Desert						
Corridor	73.7	8.0	81.7	N/A	N/A	N/A
Total	4,195.0	742.3	4,937.3	6,848,155	21,323,578	28,171,733

*Assumes 22% building coverage.

Under the No Project Alternative, a total of 22,258 jobs could be created, resulting in a need for 20,420 new housing units. The Town residential land inventory currently has capacity for 15,078 units, including the lands on the west side of the Specific Plan area. Therefore, under this Alternative, there would be a shortfall of 7,180 units available within Town limits to accommodate all employees of the project. As with the Preferred Alternative, it would be unlikely in the regional setting for all employees within the Specific Plan area to reside within Apple Valley. Therefore, under the No Project Alternative, most of the housing necessary to support the jobs created could be provided within Town limits.

Under this alternative, there would be no need to require mitigation for the loss of the 1,916 units, as there is with the Preferred Alternative. There would, however, be a need to monitor job and housing balance, and potentially to proposed General Plan Amendments in the future, to assure that at least 80% of the required housing for employees of the Specific Plan area could be provided within the Town limits. This alternative, therefore, would result in somewhat lower impacts associated with housing than the Preferred Alternative.

More Intense Project Alternative

Under the More Intense Alternative, as illustrated in Table V-11, there would be 3,169 residential units built on 422.5 acres of Medium Density Residential lands. These units exceed the total potential units which occur under the No Project Alternative by 1,253 units. Therefore, under this alternative, the project would supply some of the units necessary to support the jobs created by industrial and commercial development within the Specific Plan area. This represents a beneficial impact, when compared to the Preferred Alternative.

**Table V-12
 More Intense Alternative Land Use Summary**

	Acres Vacant	Acres Developed	Acres Total	Existing Square Footage*	Potential Square Footage*	Total Square Footage*
General						
Commercial	608.9	9.4	618.3	46,958	5,835,210	5,882,168
Industrial -						
Airport	329.3	410.7	740.0	N/A	N/A	N/A
Industrial -						
Specific Plan	2,109.4	302.3	2,411.7	2,897,001	20,214,802	23,111,803
Industrial -						
General	656.8	6.1	662.9	58,458	6,294,246	6,352,703
High Desert						
Corridor	73.7	8.0	81.7	N/A	N/A	N/A
Medium Density						
Residential	416.9	5.6	422.5	-	3,169	3,169
Total	3,778.1	736.5	4,514.6	3,002,417	28,962,347	31,964,764

*Assumes 22% building coverage.

The More Intense Alternative would also result in 5,882,168 square feet of commercial development, and 29,464,506 square feet of industrial development. This development has the potential to generate 19,607 commercial jobs, and 23,572 industrial jobs, for a total of 43,179 new jobs within the Specific Plan area. These jobs would require approximately 39,614 housing units to accommodate the new households created. The Town residential land inventory currently has capacity for 15,078 units. The More Intense Alternative creates capacity for an additional 1,253 units, net of the 1,916 units already accounted for in the west portion of the Specific Plan area. Therefore, under this alternative, the Town has a residential land inventory capacity of 16,331, which would result in a shortfall of 23,283 units at build out of the Specific Plan. This alternative would result in a shortfall which is approximately 8% greater than under the Preferred Alternative.

Even with the preservation and addition of housing under the More Intense Alternative, this alternative results in a greater shortfall in housing units than the Preferred Alternative. This alternative would not require a General Plan Amendment for the loss of on-site residential lands, but would require monitoring to assure that 80% of the housing units require for the project employees could be provided within Town limits.

Less Intense Project Alternative

Under the Less Intense Alternative, a total of 3,757 residential units would be built within the Specific Plan area, and 342,120 square feet of commercial development would occur. Under this alternative, there would be no industrial development. The commercial development under this alternative would result in the creation of 1,140 new jobs, which would require approximately 1,046 new housing units. Since under this alternative almost 4,000 housing units would also occur, this alternative would have a beneficial impact on the Town’s residential lands inventory, insofar as this alternative would add to the total residential units built within Town limits.

**Table V-13
 Less Intense Alternative Land Use Summary**

	Acres Vacant	Acres Developed	Acres Total	Existing Square Footage*	Potential Square Footage*	Total Square Footage*
General						
Commercial	34.9	0.8	35.7	7,667	334,454	342,120
Industrial - Airport	329.7	410.7	740.4	N/A	N/A	N/A
Community Reserve	3,757.0	322.7	4,079.7	323	3,757	4,080
High Desert Corridor	73.7	8.0	81.7	N/A	N/A	N/A
Total	4,195.3	742.2	4,937.5	7,667	334,454	342,120

*Assumes 22% building coverage.

Under this alternative, however, the limited number of jobs created by the project would not result in long term economic growth, would not create employment opportunities, would not support the construction of backbone infrastructure, and would therefore not meet most of the primary objectives of the project. Therefore, although this alternative would result in beneficial impacts to housing, and would eliminate the impacts associated with the Preferred Alternative, it would not be superior because of its inability to fulfill project objectives.

13. Public Services and Facilities

Water Services

Although water service is considered a public facility/service, a separate and more detailed discussion specific to Water Quality/Resources is also included in Section V-7 above, due to the significance of this resource to the community.

Wastewater Treatment

Domestic wastewater flows average about 100 gallons per capita per day.⁷ This factor, combined with the Town’s average household size of 2.9 persons per household⁸, and a buildout of 1,916 residential dwellings for the No Project Alternative, yields an estimated 0.56 million gallons of wastewater per day. Wastewater flows from commercial space average about 1.38 gallons per

⁷ “Environmental Impact Analysis Handbook,” edited by John Rau and David Wooten, 1980.

⁸ Lori Lamson, Principal Planner, Town of Apple Valley, personal communication, July 11, 2006.

square foot per day, and industrial uses are about 0.32 gallons per square foot per day.⁹ Thus, the No Project Alternatives 349,787 square feet of commercial development could generate 0.48 million gallons per day and 27,821,946 square feet of industrial could generate approximately 8.9 million gallons per day, for a project total of 9.94 million gallons of wastewater per day, which is 34.9% less than the Preferred Alternative.

The More Intense Alternative proposes 2,500,257 square feet of commercial development, which could generate 3.45 million gallons per day and 29,464,507 square feet of industrial could generate approximately 9.4 million gallons per day, for a project total of 12.9 million gallons of wastewater per day, which is 15.7% less than the Preferred Alternative.

And finally, the Less Intense Alternative proposes 4,080 residential dwellings, which yields an estimated 1.18 million gallons of wastewater per day, and 342,120 square feet of commercial development, which could generate 0.47 million gallons per day, for a project total of 1.66 million gallons of wastewater per day, which is 89.2% less than the Preferred Alternative.

Solid Waste

The California Integrated Waste Management Board has compiled waste generation rates, which were used to calculate solid waste projections for each of the four project alternatives. These are as follows:

**Table V-14
 Solid Waste Generation
 Project Alternatives**

	Solid Waste Generation (tons/year)¹	Difference from Preferred (tons/year)	Percentage of Preferred Alternative
Preferred Alternative	404,936	N/A	100%
No Project Alternative*	305,225	(99,711)	75.4%
Less Intense Alternative*	9,144	(395,792)	2.3%
More Intense Alternative*	338,798	(66,138)	83.7%

*More conservative residential (per dwelling unit) waste generation rates for single-family used to estimate residential solid waste for Community Reserve and Medium Density residential land use designations.

¹Does not include quantification of solid waste for airport industrial uses for Preferred, Less Intense and More Intense Alternatives. Waste generation rates for this land use based on a per-employee factor; employee generation data not available.

As shown in the table, the Preferred Alternative is expected to produce the largest volumes of solid waste. The More Intense Scenario is expected to produce approximately 16.3 percent less, and the No Project Alternative approximately 24.6 percent less. The Less Intense Scenario is expected to produce much less than any of the other development scenarios, and in this regard is the most environmentally desirable. It should be noted that each of the alternatives other than the Preferred provide for development of from 1,916 to 4,080 dwelling units, which are expected to generate less solid waste overall than the commercial and industrial development which comprises the Preferred Alternative.

⁹ John G. Rau and David C. Wooten, "Environmental Impact Analysis Handbook," 1980.

Nevertheless, implementation of any of these project alternatives will result in impacts to landfills. The mitigation measures provided in Section III of this document are expected to reduce project-related impacts to acceptable levels.

Electricity

The Preferred Alternative is expected to generate an estimated demand for electric power of 421,732,143 kilowatt-hours (kwh) of electricity per year, based on annual consumption factors provided by the South Coast Air Quality Management District.¹⁰ The No Project Alternative is expected to generate demand for an estimated 307,650,421 kwh of electricity per year. This represents an annual decrease of 114,081,722 kwh per year, or an decrease of 27.1% compared to the Preferred Alternative. Based on the same factors, the More Intense Alternative is expected to generate a demand for 406,911,078 kwh per year, resulting in an annual decrease of 14,821,064 kwh, or 4%, annually when compared to the Preferred Alternative. And finally, the Less Intense Alternative is expected to generate a demand for 27,591,846 kwh per year, resulting in an annual decrease of 394,140,297 kwh, or 93.5% less usage annually when compared to the Preferred Alternative.

The Less Intense Alternative represents a substantial decrease in electric usage as compared to the any of the other alternatives. However, none of the alternatives are expected to have a significant impact on electric power supplies or the ability of the provider to deliver electric power mainly because project development is expected to occur gradually over time, with buildout estimated in 2030.

With regard to mitigation, all of the alternatives are subject to the requirements of the Uniform Building Code and Title 24 of the California Administrative Code. Project developers shall be encouraged to utilize an energy efficient design that minimizes summertime solar gains in order to reduce air conditioning loads and related power demands. The use of energy efficient lighting fixtures throughout the project shall also be encouraged. Every effort should be made to assure the highest level of energy conservation possible. The Town Building and Safety Division should strictly enforce Title 24 energy conservation code requirements. No significant impacts are associated with the provision of electricity.

Natural Gas

The No Project Alternative will result in a decrease of commercial and industrial development as compared to the Preferred Project, and will generate an associated decrease in demand for natural gas. The No Project Alternative could generate a demand of about 95,469,756 cubic feet per month, a decrease of approximately 29.2% from the Preferred Alternative. The More Intense Alternative will result in the construction of additional residential units over the Preferred Project as well as commercial square footage, but with a reduction in industrial square footage. Thus, the More Intense Alternative could generate a monthly demand of about 124,687,465 cubic feet of natural gas. The Less Intense Alternative will result in an increase single-family residents, but a significant decrease of commercial development and no industrial development compared to the Preferred Project, and will generate an associated decrease in demand for natural gas. The Less Intense Alternative could generate a demand of about 28,185,348 cubic feet per month, a decrease of approximately 79.1% from the Preferred Alternative.

¹⁰ Table A9-11-A, "CEQA Air Quality Handbook," South coast Air quality Management District, April 1993.

As set forth in Section III, all development shall use the most efficient water heaters, furnaces, heaters and other equipment that use natural gas. In kitchens and throughout the project, natural gas appliances should be encouraged. The Town Building and Safety Division shall strictly enforce Title 24 of the California Code of regulations, which is related to energy conservation for new development. Every effort should be made throughout the project to assure the highest level of energy conservation possible. Project developers should investigate the potential for the use of alternative energy sources including solar and cogeneration technologies.

Law Enforcement

As indicated in Section III, the San Bernardino Sheriff's Department intends to provide a police-staffing ratio of at least 1 sworn officer per 1,500 residents for Apple Valley. For the Preferred Alternative, no residential development is proposed.

Under the No Project Alternative, development of up to 1,916 dwelling units would result in an increased population of 5,882, based on an average household size of 3.07 persons.¹¹ Under this alternative, the County Sheriff's Department will need to provide approximately 4 additional officers to maintain a police-staffing ratio of at least 1 officers per 1,500 residents.

At buildout of the Specific Plan under the Less Intense Alternative, development of up to 4,080 dwelling units is expected to result in a population increase of 12,526. In order to meet the desired police-staffing ratio, a total of 9 additional officers would be required.

Under the More Intense Alternative, with development of up to 3,169 dwelling units, the Town's population is expected to increase by 9,729. To meet the desired level of police projection, the County Sheriff's Department would need a total of 7 additional officers.

Of the three project alternatives that would result in residential development, the No Project alternative requires the least increase in the amount of police officers. Although not quantifiable for the Preferred Alternative based on the staffing ratios provided by the County Sheriff's Department, implementation of any one of the four alternatives would involve additional police staffing. Regardless of which alternative is implemented, mitigation measures included in Section III are expected to reduce project-related impacts to acceptable levels.

Fire and Emergency Services

Growth facilitated by any of project alternatives is anticipated to increase the demand for fire protection services. Given that the More Intense Alternative facilitates the most development in the Specific Plan area, it is expected to place the highest demand on fire protection services. Of the four project alternatives, the Less Intense Alternative proposes the least amount of development and appears to require the least amount of fire protection. However, the Less Intense Alternative could result in construction of up to 4,080 dwelling units, more residential development than any of the other alternatives. Nonetheless, an increase in the demand for fire protection services involves additional provision of staffing, fire stations, fire engines and related equipment and would be expected to result from any of the alternatives. The mitigation

¹¹ California Department of Finance, Report E-5, "City/County Population and Housing Estimates, 1/1/2006.

measures provided in Section III are expected to reduce project-related impacts to less than significant levels.

Schools

As discussed in Section III-M of this EIR, the Preferred Alternative will provide for commercial and industrial development only, and will therefore result in no direct student population generation. Commercial and industrial development under the Preferred Alternative would be subject to developer impact fees to off-set potential indirect impacts to schools.

Each of the other project alternatives would provide for a mix of commercial, industrial and residential development. The construction of residential dwelling units under these scenarios would be expected to directly generate an increase in student population. The projected number of dwelling units for the No Project Alternative is 1,916 units, the Less Intense Alternative includes 4,080 units, and the More Intense Alternative includes 3,169 units.

Estimates of student generation are based on factors provided by each school district for elementary, middle, and high school grade levels. These factors vary according to the type of residential development (e.g., single-family or multi-family), with multi-family units typically associated with a lower student generation rate. The student generation rates are then multiplied by the total number of units by unit type, at buildout, to provide an estimate of buildout enrollment.

In the absence of development plans, it is unclear how many of the dwelling units provided for under each development scenario would be single-family versus multi-family. However, based on the estimates shown above, the Less Intense Alternative would provide for 53 percent more dwelling units than the No Project/Existing General Plan Alternative. The More Intense Alternative would provide for 39.5 percent more dwelling units than the No Project Alternative. Based on these estimates, and assuming a similar mix of single-family versus multi-family units for each alternative, the Less Intense Alternative would be expected to result in the highest increase in student population, while the No Project Alternative would be expected to result in the lowest increase.

It should be noted that for all alternatives, these increases in student populations are not expected to be significant, and would occur incrementally over the period of project buildout. Further, as noted in Section III of this EIR, developer impact fees for residential, commercial and industrial development associated with each of these alternatives, as well as other funding sources available to the school district, are expected to reduce project impacts to insignificant levels. No further mitigation is necessary.

Mitigation Measures

The impacts associated with each alternative would not be significantly different or greater than those associated with the proposed project. Therefore, the same mitigation measures applicable to the Preferred Alternative would also be expected to be applied to each of the alternatives. No additional mitigation measures would be required to reduce potential impacts to public services to less than significant levels.

E. Off-Site Project Alternative

An Off-Site Project Alternative for the Specific Plan was determined to be infeasible in the Town, given that the existing site is almost 5,000 acres and about 85% vacant, located adjacent to an existing airport, an interstate, and existing infrastructure. The Specific Plan includes the construction of new buildings, however, a significant portion of the Specific Plan area involves development already planned for in the Apple Valley General Plan. Therefore, if the proposed improvements were not developed on the project approximately 75% of the project site would still be developed with industrial and commercial uses. Thus, an off-site scenario for the Specific Plan would not meet the planning goals and objectives of the project.

In addition, the existing site is already provided with adequate public services and facilities to accommodate buildout, whereas additional off-site facilities may require further extension of such services and facilities. Internal traffic capture and other on-site land use synergies would be lost by locating these facilities off-site, and the re-location would be expected to generate more trips between off-site and on-site facilities. Impacts to regional air quality could be increased. Project goals and objectives related to achieving functional relationships between the proposed facilities would be significantly compromised by locating these facilities off-site.

In summary, an Off-Site Alternative could not meet the criteria established for the Preferred Alternative, which include specific improvements to the existing site in order to facilitate future development. The proposed project (Preferred Alternative) has been designed to be sensitive to the adjacent community, and with mitigation measures set forth herein reduces many of the potential impacts below levels of significance. Therefore, an Off-Site Project Alternative would not be viable and does not warrant further consideration.

F. Environmentally Superior Alternative

Of all the alternatives considered, overall, the Less Intense Alternative would result in the least magnitude of impacts on the site. Of the development alternatives considered, the Less Intense Alternative would reduce traffic impacts, marginally reduce noise impacts, and reduce operational air quality impacts. Even with this alternative, however, short term impacts associated with traffic and construction related impacts could be significant and unmitigatable, and long term operational air quality impacts would be significant and unmitigatable.

NORTH APPLE VALLEY INDUSTRIAL SPECIFIC PLAN

DRAFT ENVIRONMENTAL IMPACT REPORT

VI. SHORT-TERM USE VERSUS LONG-TERM PRODUCTIVITY

Introduction

This section of the EIR discusses the long-term effects of the build out of the Specific Plan. It evaluates the relationship between the short-term uses of the environment and the maintenance and enhancement of long-term productivity. Those environmental issue areas that affect the beneficial uses of the environment or pose long-term risks to health and safety are discussed further below. These areas include biological resources, water quality, air quality and noise. This section also analyzes why the adoption and implementation of the Specific Plan is justified at this time.

A. Biological Resources

Development of the Specific Plan area will result in the destruction of native habitat, and the elimination of foraging and nesting locations for a number of common species. The build out of the area will also contribute to fragmentation and degradation of native habitat, and the loss of corridors for several species. The Specific Plan area is potential habitat for several special status species, including Burrowing Owl, Mohave Ground Squirrel, and Desert Tortoise. These species are protected, however, and should they occur in the Specific Plan area, will be relocated under the provisions of the Fish and Game Code or the Endangered Species Act.

B. Water Resources

Development of the Specific Plan will result in increased demand for domestic water. As discussed in Section III of this EIR, the Apple Valley Ranchos Water Company has indicated the ability to provide water to the Specific Plan area and the region, through the use of imported water to supplement local supplies, even under the extreme drought conditions. Even so, development within the Specific Plan will be required to implement water conserving provisions of the Uniform Building Code. The Specific Plan also requires the use of drought tolerant and native species in landscaping plans, to reduce water consumption. Build out of the Specific Plan as commercial and industrial space is likely to result in a reduction in water demand over that likely for General Plan build out, insofar as the western 1,916 acres of the Specific Plan area are currently designated for residential development, which is a more intensive water consuming land use.

C. Air Quality

As discussed in Section III of this EIR, air quality is a regional concern that is influenced by various pollutants generated both locally and regionally. Both the Specific Plan and other development throughout the Valley will increase vehicular traffic, grading and construction, and energy consumption, thereby increasing locally-generated pollutants and degrading regional air quality. Increased emissions caused by build out of the Specific Plan, as well as local climatic and physiographic conditions, are expected to facilitate the generation of some pollutants, including ozone and particulate matter (PM10). The use of natural gas for heating and industrial processes will also contribute to regional generation of nitrogen oxides and hydrocarbons, not only in Town but elsewhere in California, where the energy is produced.

The development of the Specific Plan will result in air emissions which will exceed thresholds established by the Mojave Desert Air Quality Management District, and cannot be mitigated to a less than significant level. For comparison to the existing General Plan, the proposed project represents a 25% increase in operational air quality impacts over the development potential of the existing General Plan land use designations. Although it is likely that in the long term air emissions will be reduced by technological advances, the impacts associated with air quality cannot be eliminated.

D. Noise

The Specific Plan will result in development which will increase noise levels and impact the community. The primary source of noise will be from increases in traffic. Noise levels will also increase as a result of development in other parts of Town, which will also generate vehicle trips. Noise generated by construction equipment and machinery, which is generally temporary, will also increase and contribute to the degradation of the Town's noise environment.

Development standards in the Specific Plan are designed to provide a buffer between the Specific Plan land uses and the planned and existing residential development surrounding the area. Nonetheless, noise impacts will constitute a long-term impact to the community.

NORTH APPLE VALLEY INDUSTRIAL SPECIFIC PLAN

DRAFT ENVIRONMENTAL IMPACT REPORT

VII. IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF ENVIRONMENTAL RESOURCES

As required by CEQA, this EIR addresses the anticipated utilization of non-renewable resources during the course of development of the Specific Plan, and the continued use of these limited resources once development has been completed. Non-renewable resources generally refer to energy resources. However, they can also pertain to mineral and other resources, including the permanent loss of open space lands and biological and visual resources.

Build out of the Specific Plan area will result in the irretrievable and irreversible commitment of the following renewable and non-renewable natural resources: vacant land, energy resources (including natural gas, oil and other fossil fuels), water, construction materials (including lumber, gravel, sand, asphalt, and metals), minerals, and biological resources (including plants and animals and their habitats).

The continued consumption of natural gas and electrical energy will contribute to the on-going regional and global depletion of fossil fuel resources. The incremental use of fossil fuel will contribute to the depletion of an important source of chemical and material feedstocks, which will be irretrievable once consumed. Build out of the Specific Plan will also result in the irretrievable loss of habitat and other biological resources from the Specific Plan area. Grading and development activities will remove natural vegetation and wildlife in all or portions of development sites. Future development will irreversibly alter the viewsheds surrounding the Specific Plan area.

Nonetheless, long-term impacts to these resources are expected to be substantially reduced, given the regulatory framework in both the Town General Plan and the Specific Plan, which are intended to conserve and protect valuable resources. Impacts of urban development on open space, biological resources, and visual resources, are expected to be limited by the regulatory restrictions set forth in the Specific Plan, as well as the continued implementation of other applicable local, state and federal statutes. Local and regional water conservation efforts, including the use of imported water and artificial recharge are expected to reduce overall water consumption rates over the long-term. Technological advances in energy and mineral production are expected to reduce the impacts of urban development on finite fossil fuels.

NORTH APPLE VALLEY INDUSTRIAL SPECIFIC PLAN

DRAFT ENVIRONMENTAL IMPACT REPORT

VIII. GROWTH INDUCING AND CUMULATIVE IMPACTS

A. Growth Inducement

The development of the Specific Plan will, over time, induce growth in the Town to some extent, particularly since the anticipated development will generate jobs which were not anticipated in the General Plan land use element. The General Plan did anticipate development of industrial land uses in the west half of the Specific Plan area, and implementation of the Specific Plan will continue that original vision. However, the Specific Plan proposes the conversion of 1,916 acres of currently residentially designated lands to industrial and commercial land uses. This was not contemplated in the General Plan. Therefore, approximately 18,000,000 square feet of the space proposed within the Specific Plan boundary was not considered to occur in Town under the General Plan. This represents approximately half of the total developed square footage within the Specific Plan area.

Development in the area will also be required to extend or improve infrastructure, including water and sewer lines, and roads. These facilities will enable development to occur in areas surrounding the Specific Plan area, both in Town and on County of San Bernardino lands. Lands surrounding the Specific Plan, however, are generally designated for very low-density residential development, with the exception of County lands northeast of the Plan area. The Town has established policy significantly limiting single-family residential density, which will act to control future development surrounding the Specific Plan area. Similarly, County area planning for the lands east of the Specific Plan area focus on rural residential development, and do not support more dense development. This will also act to limit development potential on these lands.

Section III of this EIR requires that the Town provide for the residential units to be eliminated by the Specific Plan, and that the Town monitor and adjust land use designations to assure that sufficient housing is available for 80% of the employees within the Specific Plan area. This mitigation measure has the potential to induce growth, insofar as the Town is likely to have to increase densities on existing Town lands, unless annexation is considered.

The rate of development of the Specific Plan is difficult to predict. In this document, a build out by 2025-2030 has been estimated. Market forces will influence whether this time period is

shorter or longer. Market forces will also determine the need for housing to accommodate growth in Town, and whether additional housing is needed to support development of the Specific Plan area. Because the timeline for development is likely to be an extended one, the Town has the opportunity to plan for the growth anticipated by the Specific Plan, and mitigate its impacts appropriately.

To some degree, the growth-inducing impacts associated with the implementation of the proposed Specific Plan will be regulated and limited by policy and physical constraints, including those associated with topographic, hydrologic constraints and sensitive biological resources. The need to protect human life and property from environmental hazards will limit development intensities at some locations in Town.

B. Cumulative Impacts

Impacts associated with implementation of the Specific Plan must be considered along with the effects of other development, which may also occur outside the Town's jurisdiction. CEQA identifies these as cumulative impacts (21083 (b), CEQA Statutes, and Section 15355 of the CEQA Guidelines).

Adoption and implementation of the proposed Specific Plan will regulate development in this area of Town. As previously stated, the County General Plan limits development on lands to the east of the Specific Plan area to rural residential densities.

Land Use Compatibility

No significant cumulative impacts or land use incompatibilities are expected to result from adoption and implementation of the Specific Plan. Buffers have been integrated into the Specific Plan development standards to limit the potential impacts of industrial and commercial development on residential uses surrounding the area. The Town will need to provide additional residential lands as development occurs to accommodate the increased employment generated by the project. However, as this will be required over time, the Town will be able to address issues, and provide mitigation measures, as needed to lessen any potential impacts.

Traffic/Circulation

The Specific Plan traffic study provides a region-based analysis of traffic impacts that may be associated with the implementation of the Specific Plan. Build out of the Specific Plan will not significantly impact regional roadway systems. All impacts to roadways have been mitigated to acceptable levels, and have considered surrounding area growth in addition to the Specific Plan's build out.

Section III of this EIR provides average daily traffic levels for the proposed Specific Plan; all other alternatives are discussed in Section V. As noted above, acceptable levels of service are expected with the improvements recommended in the Specific Plan Traffic Study.

The development and implementation of Traffic Demand Management (TDM) techniques, the increased use of alternative modes of transportation, and the use of traffic congestion management should contribute to improvements in roadway functioning as the Specific Plan builds out.

Geology/Seismicity

Development in the Specific Plan area will be designed in accordance with policies and programs set forth in the General Plan, as well as seismic requirements of the Uniform Building Code and/or International Building Code. With the implementation of these and other appropriate design and engineering precautions for future development, no significant cumulative impacts associated with geotechnical hazards are expected to result from adoption and implementation of the Specific Plan.

Hydrology

Adoption and implementation of the Specific Plan will result in the construction of commercial and industrial development. This development will contribute to runoff generated in the entire watershed. The proposed Specific Plan intends to limit hydrology impacts by regulating development intensities and establishing policies and programs to ensure comprehensive flood control improvements. In addition, the Town will continue to implement its Master Plan to assure that storm water management facilities downstream of the Specific Plan area are adequate to meet the needs of all development.

Water Resources

Adoption and implementation of the Specific Plan will result in the consumption of additional water resources in the area. At buildout, the proposed development is estimated to result in the consumption of 5.54 million gallons of water per day (MGD). Though this is a considerable amount of water, it is approximately 13% less than that of the existing General Plan. This difference is primarily due to the removal of residential use from the Specific Plan area. Nevertheless, development of the area will contribute to the reduction in local water resources.

In order to provide thoughtful management of the local water resources, Mojave Water Agency (MWA) has recognized the need for additional imported water in order to eliminate groundwater overdraft, and has purchased additional water from the SWP when available. In 2003, MWA reached agreement with the Metropolitan Water District of Southern California (MWD) to store an additional 60,000 acre feet of water in the Mojave basin in exchange for MWD to have the right to withdraw an equal amount of water in the future should there be a significant drought that would reduce imported water to the MWD. In addition to the mitigation measures outlined in Section III of this EIR, it is expected that conservation efforts in combination with water purchases will address the additional water demand presented by the project to the greatest practicable.

Biological Resources

The Specific Plan will be developed consistent with the mitigation measures in Section III of this EIR, which require that special attention be paid to sensitive biological resources. Development of the Specific Plan area will reduce native habitat in the area, and will contribute to the cumulative loss of native habitat throughout the region. Cumulative adverse impacts that may result from continued clearing and development of land include: 1) reduction in foraging territory for ranging species; 2) disruption of species' migration patterns; 3) creation of isolated sub-populations; and 4) restriction in "gene flow" between existing sub-populations. The preservation of washes within the Specific Plan area for use as potential movement and migration corridors will limit cumulative regional disruption of wildlife movement. The Town's

participation in, and implementation of, the requirements of the Mojave Multiple Species Habitat Conservation Plan, should it be adopted, would also further address conservation throughout the region.

Cultural Resources

In order to reduce project-related cumulative impacts, Specific Plan development is required to mitigate potential impacts in areas with potential to harbor historical, archaeological and paleontological resources. The required study of these areas eliminates the potential for significant impacts within the Specific Plan area, and reduces the cumulative impacts throughout the region. No cumulative impacts associated with cultural resources are expected.

Air Quality

As discussed in Section III, the development of the Specific Plan can be expected to contribute incrementally to the emission of air pollutants in Apple Valley. Pollution sources will include grading and construction activities, the consumption of electricity and natural gas, and motor vehicles traveling to and from the project site. Analysis of project related emissions described in Section III indicates that the majority of pollutants will be generated by traffic associated with the project. As traffic volumes on regional roads continue to increase, lower emission motor vehicle technologies will be required to assure that this growth does not result in cumulatively significant air quality impacts.

Emissions associated with operation of the proposed project are expected to generate significant impacts to air quality, specifically those associated with vehicle emissions. Air in the Mojave Desert Air Basin (which includes the Town of Apple Valley) exceeds state and federal standards for fugitive dust, and the area is considered to be in extreme non-attainment for ozone. However, air quality in Apple Valley has not state and federal standards related to carbon monoxide, nitrogen oxides, and sulfur dioxide in the last 20 years.¹ The proposed project will contribute to these existing air quality impacts. Thus, the project's contribution to cumulative impacts associated with air quality may be considered significant.

Noise

Build out of the Specific Plan area will result in increased noise levels. Development in other areas of Town will also increase regional noise levels. Noise levels are not expected to exceed Town standards in areas immediately surrounding the Plan area. The Town, in addition, implements noise standards which are designed to limit the noise impacts for all uses, and particularly for sensitive receptors. As a result, no cumulative impacts associated with noise are expected.

Visual Resources

Sections II and III of this document describe the Town and region's valuable visual resources, including mountain ranges rising above the valley floor, and vegetation and other natural forms that form area's unique visual character. The Specific Plan facilitates continued development that will result in cumulative impacts to these natural resources. Measures included in the Plan provide for a thoughtful evaluation of potential impacts on mountain viewsheds and scenic

¹ Tony Malone, Air Quality Instrument Technician, Mojave Desert Air Quality Management District, personal communication, July 7, 2006.

resources associated with proposed development. These measures are designed to protect valuable visual resources. They include integration of landscape compatible with the region's visual character into urban design, as well as the use of drought-tolerant vegetation. However, build out of the area will contribute to the long-term deterioration of the region's unique scenic resources.

Public Services and Facilities

Demand for community services and facilities associated with future development facilitated by the Specific Plan is expected to increase incrementally and cumulatively. These services and facilities include police and fire protection, school and library services, parks and recreation facilities, and public and quasi-public utilities, including electricity, natural gas, water, sanitary sewer, telephone, cable and solid waste management.

Increased population facilitated by the Specific Plan will also result in cumulative impacts to landfills. The Town's General Plan provides goals, policies and programs that support recycling programs and aggressive waste minimization, which could significantly reduce cumulative impacts to landfills. Regionally coordinated recycling programs will also help preserve resources and reduce the amount of material being deposited in landfills.

Town-provided governmental services will also be subject to the cumulative impacts of increased population. Developer fees and assessment districts will help reduce direct and cumulative impacts on public services. It is expected that revenues generated by development in the Specific Plan area will be adequate to support necessary public services and facilities.

NORTH APPLE VALLEY INDUSTRIAL SPECIFIC PLAN

DRAFT ENVIRONMENTAL IMPACT REPORT

IX. ORGANIZATIONS, PERSONS AND DOCUMENTS CONSULTED

A. Project Proponent

Town of Apple Valley
14955 Dale Evans Parkway
Apple Valley, CA 92307

B. Planning/Environmental Consultant

Terra Nova Planning & Research, Inc.
400 South Farrell, Suite B-205
Palm Springs, CA 92262

C. Transportation Consultants

Urban Crossroads, Inc.
41 Corporate Park, Suite 300
Irvine, CA 92606

D. Biological Consultant

AMEC Earth and Environmental, Inc.
3120 Chicago Avenue, Suite 110
Riverside, CA 92507-3431

E. Cultural and Paleontological Consultant

CRM Tech, Inc.
4472 Orange Street
Riverside, CA 92501

F. Water Purveyors

Apple Valley Ranchos Water Company
Mojave Water Agency
Metropolitan Water District of Southern California

G. Utilities

Victor Valley Wastewater Reclamation Authority
Southern California Edison
Southwest Gas
Verizon
TimeWarner
Burtec

H. Public Agencies

Town of Apple Valley Planning Department
Town of Apple Valley Economic Development Department
Apple Valley Public Library
Apple Valley Unified School District
Apple Valley Fire Protection District
Apple Valley Chamber of Commerce
Victorville Landfill
San Bernardino County Sheriff's Department
San Bernardino County Public Works Department, Flood Control
San Bernardino Department of Airports
San Bernardino County Waste Department
California Office of Emergency Services
Mojave Desert Air Quality Management District
South Coast Air Quality Management District
California Department of Fish and Game
California Department of Finance
U.S. Bureau of Land Management
U.S. Fish and Wildlife Service

I. Documents

- Air Quality Management Plan, prepared by South Coast Air Quality Management District, 1997.
- Air Quality Management Plan, prepared by South Coast Air Quality Management District,
December 2003.

- Apple Valley Airport Master Plan, prepared for the Department of Airports, County of San Bernardino. Prepared by P&D Aviation. February 1991.
- Apple Valley Chamber of Commerce, <http://www.avchamber.org/dem03.html>, accessed July 24, 2006.
- Apple Valley General Plan EIR, prepared by Cotton/Beland/Associates, May 1991.
- Apple Valley General Plan Environmental Impact Report, prepared by CBA Inc, May 1991.
- Apple Valley Master Plan of Drainage, prepared by San Bernardino County Flood Control District, 1991.
- Apple Valley Study, (Hazardous Materials) prepared by Environmental Data Resources, Inc., May 1, 2006.
- Apple Valley Unified School District website, www.avusd.org/district_profile/index.html, accessed July 24, 2006.
- California Department of Finance, Report E-5, City/County Population and Housing Estimates, 1/1/2006.
- California Department of Health Services, Guidelines for the Preparation and Content of the Noise Element in the General Plan, 1990.
- California Department of Water Resources, Groundwater Level Data, State Well Numbers 06N03W21P0015 and 06N03W04E001S, 1957.
- Ventura County Solid Waste Management Department, Guidelines for Preparation of Environmental Assessments for Solid Waste Impacts, May 1998. (Compiled from the California Integrated Waste Management Board waste generation rates).
- California Labor Market Information, Employment Development Department, 2006.
- CEQA Air Quality Handbook, South Coast Air Quality Management District, April 1993.
- Chapter 9.73 Noise Control of the Town of Apple Valley Development Code, 2000.
- Circulation Element of the Town of Apple Valley General Plan, prepared by the Town of Apple Valley, 1998.
- Cultural Resources Technical Report, North Apple Valley Specific Plan and EIR, prepared by CRM Tech, March 2006; and Paleontological Resources Technical Report, North Apple Valley Specific Plan and EIR, prepared by CRM Tech, March, 2006.

- Draft Water Supply Assessment for the North Apple Valley Industrial Specific Plan, prepared by Terra Nova Planning & Research, July 25, 2006.
- Environmental Impact Analysis Handbook, edited by John Rau and David Wooten, 1980.
- Final Mojave Desert Planning Area Federal Particulate Matter (PM₁₀) Attainment Plan, prepared by the Mojave Desert Air Quality Management District, July 31, 1995.
- Fontana Truck Trip Generation Study, prepared by the City of Fontana, dated August 2003.
- Historic and Present Conditions in the Upper Mojave Basin, prepared by the Mojave Water Agency, 1985.
- <http://www.chp.ca.gov/html/ciep.html>, accessed June 30, 2006.
- <http://www.scag.ca.gov>, accessed June 30, 2006.
- Mojave Basin Area Watermaster Summary Report Subsurface Flows Between Subareas, prepared by Robert C. Wagner, P.E., Watermaster Engineer, February 2006.
- Mojave Desert Air Quality Management District California Environmental Quality Act and Federal Conformity Guidelines, prepared by the Mojave Desert Air Quality Management District, May 2006.
- Mojave Desert Air Quality Management District Rule Book, prepared by the Mojave Desert Air Quality Management District, September 2005.
- Natural Hazard Mapping, Analysis, and Mitigation: Technical Background Report in Support of the Safety Element of the New Riverside County 2000 General Plan, prepared by Earth Consultants International, August 1, 2000.
- Noise Element of the Apple Valley General Plan, 2000.
- North Apple Valley Specific Plan CMP Traffic Impact Analysis, prepared by Urban Crossroads, Inc. June 9, 2006 (Revised July 21, 2006).
- North Apple Valley Specific Plan EIR Noise Analysis, prepared by Urban Crossroads, Inc. June 8, 2006 (Revised July 21, 2006).
- Passenger Car Equivalents for Heavy Vehicles at Freeways and Multilane Highways: Some Critical Issues, article prepared by Ahmed Alkaisy, Institute of Transportation Engineers Journal, March 2006.
- Phase I Environmental Site Assessment, Pluto Development, APN 463-231-01,02,03,04 and 05, prepared by Lilburn Corporation, March 2001.

- Soil Survey of San Bernardino County, California, Mojave River Area, prepared by the US Natural Resource Conservation Service, 1994.
- The California Almanac of Emissions and Air Quality 2006 Edition, prepared by the Planning and Technical Support Division of the California Air Resource Board, 2006.
- Town of Apple Valley General Plan, October 1998.
- Town of Apple Valley, General Plan Environmental Impact Report, prepared by CBA Inc., May 1991.
- Town of Apple Valley, North Apple Valley Specific Plan Biological Resources, prepared by AMEC Earth and Environmental, May 2006.
- Trip Generation Manual, 7th Edition, prepared by the Institute of Transportation Engineers, 2003.
- Twelfth Annual Report of the Mojave Basin Area Water Master, Water Year 2004-05, prepared by the Mojave Basin Area Water Master, April 2006.
- Water System Backup Facilities Charge Study, Table 11-Annual Consumption Factors by Development Type Factors, prepared by the Coachella Valley Water District Engineering Department, September 2004.
- <http://www.zerowastecommunities.org>, accessed July 7, 2006.
- Year 2005 Urban Water Management Plan, prepared by the Apple Valley Ranchos Water Company, November 2005.