

Chapter III.

ENVIRONMENTAL RESOURCES

ENERGY AND MINERAL RESOURCES ELEMENT

PURPOSE

Energy and mineral resources are an integral part of the community and local economy, with their existence and availability having a fundamental influence on patterns of land use and growth. Most conventional energy resources are finite and non-renewable, as are mineral resources. It is becoming increasingly evident that supplies are limited and costs extraction and production costs are increasing. Resulting shortages and rising utility rates have become an issue of serious concern throughout the United States, including Southern California.

The Energy and Mineral Resources Element of the General Plan is intended to guide the Town in the long-term management and well-considered use of its energy and mineral resources. The element addresses the community's dependence on limited resources and the need for local and regional energy policies. The Element also focuses on the increasing need for effective new policies concerning conservation, greater energy efficiency and renewable energy resources. Included in the Element are descriptions of conventional and renewable energy resources, as well as an outline of the location and identity of mineral resources in the area.

The Energy and Mineral Resources Element sets forth goals, policies and programs that assist the Town of Apple Valley to insure the availability, conservation and management of its resources. The goals, policies and programs also encourage the development of balanced, innovative and long-term strategies to improve energy efficiency, expand the use of renewable resources and create opportunities for more local control of energy production, distribution and consumption.

BACKGROUND

California Government Code Section 65560(b) requires cities and counties to provide for the preservation of resources including energy and mineral resource areas. The Section is one among many state and federal legislations and regulations that apply to energy and mineral resource issues. The various requirements directly apply to the planning area, where important mineral and energy resources have already been identified and developed.

General Plans are required by Government Code Section 65302(d) to include elements that address resource conservation and other appropriate matters, such as reclamation, prevention of resource degradation and preservation for long-term use. Local jurisdictions are authorized in Government Code Section 65303 to add other resource conservation or management subjects that where such topics relate to the physical development of the City or Town. Sections 2762, 2763 and 2764 of the Public Resources Code also address the regulation of mineral resources.

Among State regulations affecting mineral and energy resources are the State Solar Rights Act and Solar Shade Control Act. These acts facilitate the use of solar energy. Further, Title 24

building standards were promulgated to reduce unnecessary energy use in new or substantially remodeled construction.

The Energy and Mineral Resources Element is directly and indirectly related to other Elements in the Town of Apple Valley General Plan, including Land Use and Open Space and Conservation, Circulation, and Air Quality. It also relates to the Economic Development Element.

MINERAL RESOURCES

Mineral resources, which include sand and gravel, limestone, iron and coal, are differentiated from such resources as natural gas and petroleum, which are generally classified as energy resources rather than mineral resources. This Element defines a mineral resource as an economically valuable commodity that occurs naturally and is composed of solid crystalline substances, and which consist of chemical elements or compounds formed from inorganic processes and organic substances. As nonrenewable resources, mineral resources must be carefully managed and efficiently utilized to ensure they are neither wasted nor over exploited.

A variety of factors are used to determine the importance of mineral deposits, such as how abundant and accessible they are, and the level of business and industry demand for them. Utilization of mineral resources may conflict with other land uses; therefore planning agencies must carefully weigh all considerations when proposed urban development may effectively preclude or limit accessibility to rare or valuable mineral deposits.

The effects of surface mining, especially in desert areas, can remain evident for hundreds of years. To avoid such impacts, adequate reclamation must be implemented and may include redistribution of unmarketable (waste) materials, re-contouring, fine grading and re-vegetation. Even with such measures, surface mining reclamation plans may not entirely mitigate the significant environmental impacts associated with excavation of mineral resources. As discussed in the Open Space and Conservation Element, the Surface Mining and Reclamation Act of 1975 (SMARA) was developed to ensure that utilization of mineral resources is carried out in a sustainable manner, while at the same time addressing the need for environmental protection.

In the planning area, a variety of geological processes, including weathering and erosion have resulted in the accumulation of alluvial deposits with significant mineral resources in the vicinity of the Mojave River. These resources include sand, gravel and stone deposits that are suitable as sources of concrete aggregate, which is an important component in building and construction materials. Aggregate provides between 80% to 100% of material volume for asphalt, concrete, road base, stucco and plaster. Concrete, asphalt, and road base, as well as other aggregate materials, can be recycled to provide new base, concrete and asphalt products. According to the Conservation and Open Space Technical Report prepared for the adopted General Plan, the planning area and Sphere of Influence are thought to contain quantities of oil and gas, as well as geothermal resources.

Locally Important Mineral Resources

The State of California Division of Geology, as required by SMARA, has identified significant concrete aggregate deposits in Apple Valley. Mineral resources located in the planning area are found primarily along or near the Mojave River. These resources include sand, gravel and stone deposits that provide useful sources of concrete aggregate. Utilization of aggregate and limestone for cement manufacture will significantly impact and be impacted by urbanization and development of nearby properties. However, these are considered potentially important mineral resources. Aggregate Resource Areas (ARA), or areas with current land uses that may be compatible with resource exploitation, are identified on two Exhibits: III-8, Mineral Resource Zones-North/Mines and Prospects and III-9, Mineral Resource Zones-South/Mines and Prospects. The State Department of Conservation, Division of Mines and Geology has classified mineral resources according to the presence or absence of significant concrete-grade aggregate deposits. These classifications are presented in the form of Mineral Resource Zones (MRZ).

Mineral Resource Zone Designations

The following are State-established definitions for mineral resources, which are used uniformly to identify the potential for their occurrence in any area. These definitions are:

- MRZ-1:** Areas where available geologic information indicates that there is little likelihood that significant mineral resources exist.
- MRZ-2a:** Areas underlain by mineral deposits where geologic data indicate that significant measured or indicated resources are present. MRZ-2 is divided on the basis of both degree of knowledge and economic factors. Areas classified MRZ-2a contain discovered mineral deposits that are either measured or indicated reserves as determined by such evidence as drilling records, sample analysis, surface exposure, and mine information. Land included in the MRZ-2a category is of prime importance because it contains known economic mineral deposits.
- MRZ-2b:** Areas underlain by mineral deposits where geologic information indicates that significant inferred resources are present. For this report, areas classified MRZ-2b contain discovered mineral deposits that are significant inferred resources as determined by their lateral extension from proven deposits or their similarity to proven deposits. Further exploration work could result in upgrading areas classified MRZ-2b to MRZ-2a.
- MRZ-3a:** Areas containing known mineral occurrences of undetermined mineral resource significance. Further exploration work within these areas could result in the reclassification of specific localities into MRZ-2a or MRZ-2b categories. MRZ-3 is divided on the basis of knowledge of economic characteristics of the resources.
- MRZ-3b:** Areas containing inferred mineral occurrences of undetermined mineral resource significance. Land classified MRZ-3b represents areas in geologic settings that appear to be favorable environments for the occurrence of specific mineral

deposits. Further exploration work could result in the reclassification of all or part of these areas into the MRZ-2a or MRZ-2b categories.

MRZ-4: Areas of no known mineral occurrences where geologic information does not rule out either the presence or absence of significant mineral resources.

Aggregate Resource Areas In Apple Valley

The following areas include highly significant deposits of aggregate resources:

ARA-8: That part of the Mojave River MRZ-2b area between the Rock Springs Road crossing and the Bear Valley Road bridge. The size of this ARA is 2,758 acres. The aggregate resources in this area are about 71 feet thick, based on well logs in the area. ARA-8 is rated as Highly Significant and the highest probable use of material from this deposit is concrete aggregate.

ARA-9: That part of the Mojave River MRZ-2b area between the Bear Valley Road bridge and the Upper Narrows. The size of this ARA is 691 acres. The aggregate resources in this area are at least 100 feet thick, based on well logs in the area. ARA-9 is rated as Highly Significant and the highest probable use of material from this deposit is concrete aggregate.

Legend

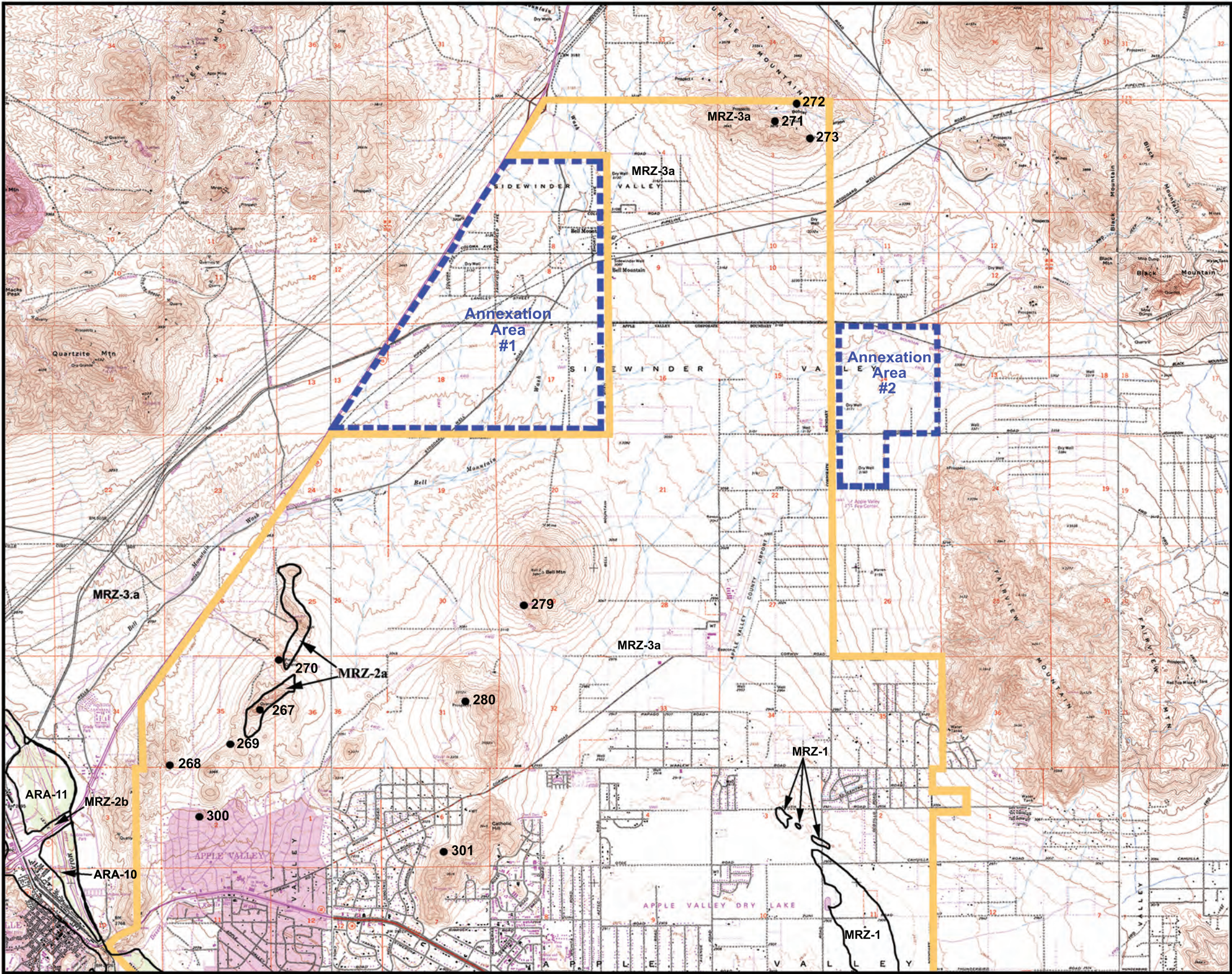
Map No.	Name	Commodity	Mineral Resource Zone
267	Scheerer Quarry	Limestone	MRZ 2a
268	Unknown	Limestone	MRZ 4
269	Unknown	Limestone	MRZ 4
270	Piercy	Limestone	MRZ 2a
271	Unknown	Limestone	MRZ 3a
272	Unknown	Gold	MRZ 3a
273	Unknown	Gold	MRZ 3a
279	Unknown	Gold	MRZ 4
280	Unknown	Gold	MRZ 4
300	Unknown	Unknown	MRZ 4
301	Unknown	Unknown	MRZ 4

- MRZ-1: Areas where available geologic information indicates that little likelihood exists for the presence of significant mineral resources.
- MRZ-2a: Areas underlain by mineral deposits where geologic data indicate that significant measured or indicated resources are present. MRZ-2 is divided on the basis of both degree of knowledge and economic factors. Areas classified MRZ-2a contain discovered mineral deposits that are either measured or indicated reserves as determined by such evidence as drilling records, sample analysis, surface exposure, and mine information. Land included in the MRZ-2a category is of prime importance because it contains known economic mineral deposits.
- MRZ-2b: Areas underlain by mineral deposits where geologic information indicates that significant inferred resources are present. For this report, areas classified MRZ-2b contain discovered mineral deposits that are significant inferred resources as determined by their lateral extension from proven deposits or their similarity to proven deposits. Further exploration work could result in upgrading areas classified MRZ-2b to MRZ-2a.
- MRZ-3a: Areas containing known mineral deposits of undetermined significance. Further exploration work within these areas could result in the reclassification of specific localities into MRZ-2a or MRZ-2b categories. MRZ-3 is divided on the basis of knowledge of economic characteristics of the resources.
- ARA-10: That part of the Mojave River MRZ-2b between the Upper Narrows and Highway 15 bridge. The size of this ARA is 119 acres. The aggregate resources in this area are about 40 feet thick, based on well logs in the area. ARA-10 is rated as Significant. The highest probable use of material from this deposit is concrete aggregate.
- ARA-11: That part of the Mojave River MRZ-2b between the Highway 15 bridge and a pipeline crossing near the Lower Narrows. The size of this ARA is 290 acres. The aggregate resources in this area are about 42 feet thick, based on well logs in the area. ARA-10 is rated as Highly Significant. The highest probable use of material from this deposit is concrete aggregate.

Source: USGS 7.45 Minute Maps;
Apple Valley North, CA 1970, revised 1993
Fairview Valley, CA 1993
Helendale, CA 1956 revised 1993
Turtle Valley, CA 1970, revised 1993
Victorville, CA 1956, revised 1993

0 2640 5280
SCALE IN FEET

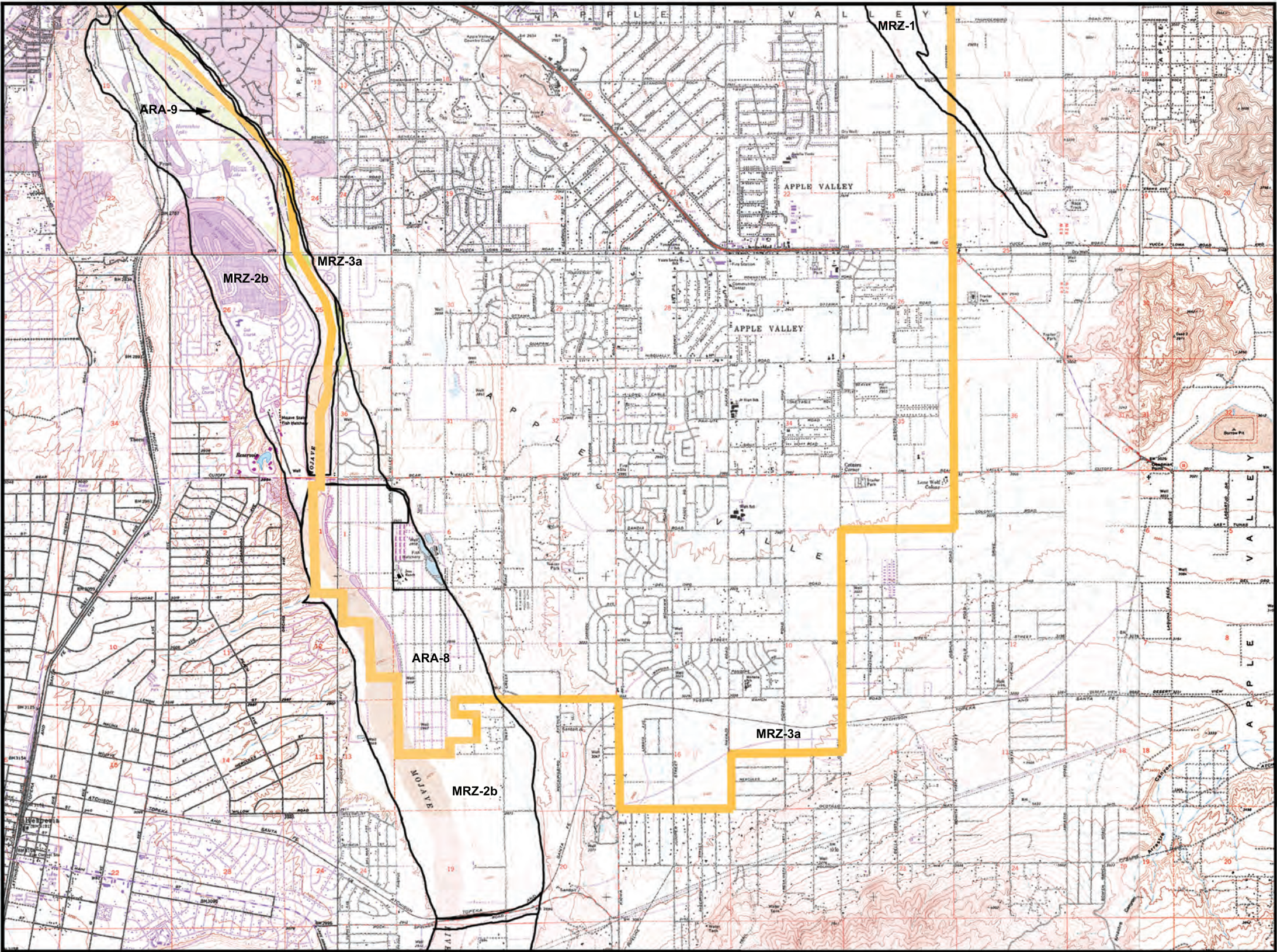
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Legend

- MRZ-1:** Areas where available geologic information indicates that little likelihood exists for the presence of significant mineral resources.
- MRZ-2a:** Areas underlain by mineral deposits where geologic data indicate that significant measured or indicated resources are present. MRZ-2 is divided on the basis of both degree of knowledge and economic factors. Areas classified MRZ-2a contain discovered mineral deposits that are either measured or indicated reserves as determined by such evidence as drilling records, sample analysis, surface exposure, and mine information. Land included in the MRZ-2a category is of prime importance because it contains known economic mineral deposits.
- MRZ-2b:** Areas underlain by mineral deposits where geologic information indicates that significant inferred resources are present. For this report, areas classified MRZ-2b contain discovered mineral deposits that are significant inferred resources as determined by their lateral extension from proven deposits or their similarity to proven deposits. Further exploration work could result in upgrading areas classified MRZ-2b to MRZ-2a.
- MRZ-3a:** Areas containing known mineral deposits of undetermined significance. Further exploration work within these areas could result in the reclassification of specific localities into MRZ-2a or MRZ-2b categories. MRZ-3 is divided on the basis of knowledge of economic characteristics of the resources.
- ARA-8:** That part of the Mojave River MRZ-2b area between the Rock Springs Road crossing and the Bear Valley Road bridge. The aggregate resources in this area occupy 2,758 acres, and are about 71 feet thick, based on well logs in the area. ARA-8 is rated as Highly Significant and the highest probable use of material from this deposit is concrete aggregate.
- ARA-9:** That part of the Mojave River MRZ-2b area between the Bear Valley Road bridge and the Upper Narrows. The size of this ARA is 691 acres. The aggregate resources in this area are at least 100 feet thick, based on well logs in the area. ARA-9 is rated as Highly Significant and the highest probable use of material from this deposit is concrete aggregate.

Source: USGS 7.45 Minute Maps;
Apple Valley North, CA 1970, revised 1993
Apple Valley South, CA 1971, revised 1980
Fairview Valley, CA 1993
Fifteenmile Valley, CA 1971
Hesperia, CA 1956, revised 1980
Victorville, CA 1956, revised 1993



Within the Town's Sphere of Influence are the CEMEX, and TXI Riverside Cement quarries. Other such facilities in the vicinity include the Alvic and Scheerer limestone quarries. These are further discussed in the Conservation and Open Space Element.

ENERGY RESOURCES

Most energy comes from non-renewable resources, which include oil, coal and natural gas; the generation and use of energy is typically harmful to the environment. Limited resources, increasing generation costs and the need for measures to offset the negative effects of energy consumption all result in escalating economic costs. However, energy sources are essential for transportation and for the operation of most land uses.

In general, local agencies do not have control or management of energy resources, or of the often-unpredictable supplies and high costs have created important issues around energy production and consumption. The community and environment both benefit from increased energy efficiency, the development and use of alternative and renewable energy resources, and a better understanding of conservation methods. Other benefits include reducing energy shortages, preventing future crises, generating increased options and greater flexibility, and contribute to a stable local economy.

A variety of sources, including utility providers, have been used to estimate per capita or per household electricity and natural gas consumption in the Town of Apple Valley. Factors affecting energy use rates include, among others, cost to generate and deliver these resources. The South Coast Air Quality Management District (SCAQMD) has collaborated with utility providers to develop a set of assumptions that generally define energy consumption by type of land use. The average residential user consumes approximately 79,000 cubic feet of natural gas and 6,000-kilowatt hours (kwh) per unit annually. For commercial users, these figures are based on square footage of development, and have been estimated at approximately 35 cubic feet of natural gas per square foot per year and between 9.95 to 53.3-Kwh per square foot per year, based on the type of commercial use.

Electric Power Services

Non-renewable fossil fuels continue to carry most of the base-load demand in the generation of electricity, with natural gas technology helping to meet peak power demand, and have supported the current automobile dependent society. As discussed in the Air Quality Element, air pollutants, hazardous waste products and climate change/vulnerability have all been linked to the burning of fossil fuels.

The use of nuclear power as an alternative to non-renewable resources was at its highest in the 1970s, but has since declined in popularity. Renewable resources, including wind and solar power, have heretofore been developed and utilized to a lesser extent than fossil fuels or nuclear power as a means of generating electric power. However, interest in and support for development of a variety of renewable resources is increasing and is expected to continue to do so over the next decades.

Rather than one dominant technology emerging, the future may see a variety of technologies finding a place in the mix of power generators. New systems would be based upon locally available resources and provide a more flexible capacity that is less susceptible to interruption. The use of small-scale systems that provide local on-site power, while also being connected to the larger regional power grid, may allow for a more decentralized system of power generation in the future.

Electric Power Deregulation

The electricity industry in California was deregulated in 1998, when Assembly Bill 1890 (AB 1890) came into effect. In addition to allowing California consumers to choose the type of energy they wished to support, AB 1890 resulted in a new statewide Renewable Energy Program to fund existing, new and emerging renewable technologies. Assembly Bill 99536 and Senate Bill 119437 were enacted in September 2000 to extend collection of the Public Goods Charge monies established under AB 1890. Under the joint direction of the two bills, the Renewable Energy Program is to receive \$135 million annually through 2011 from California's Investor Owned Utilities. From 1998 to 2005, Southern California Edison, Pacific Gas and Electric Company and San Diego Gas and Electric contributed \$1.09 billion to the Renewable Energy Program¹.

With the intention of increasing competition among generators and lowering the cost of electric power, the state's major utilities sold off generating facilities under deregulation. However, a number of factors in the early 1990s resulted in expensive and unreliable sources of electricity. The factors included greater than expected demand, lower rainfall and less available hydroelectric power, increased cost of natural gas for power generation, and the uncoordinated shutdown of power plants for maintenance. The new owners of power generation capacity after deregulation may also have taken the opportunity to reap significantly greater profits than was typical of integrated utility-owned generators. Finally, the economic viability of the restructured utilities was compromised after deregulation, as the charges of wholesale power generators were unregulated, while the rates that the retail power distributors could charge their customers were capped. The gap between wholesale prices and retail caps generated billions of dollars in debt for the restructured utilities.

As the effects of electric power deregulation continue to unfold, the Town will have important opportunities to influence energy policy on a regional and state level. It will also be able to shape the local electricity market through conservation initiatives, and the development and regulation of local power generation.

Southern California Edison

Southern California Edison Company (SCE) provides electricity to the Town of Apple Valley. SCE has four main transmission corridors across the area, each with 115kV lines. Within the SCE system, high voltage transmission lines deliver power to substations where power is stepped down and distributed through lower voltage lines. Individual homes and businesses then receive power through a final transformer, which brings voltages down to safer and more useful levels.

¹ "Following California's Public Goods Charge", California Energy Commission, Energy Policy Initiatives Center, September 2006.

In Apple Valley, distribution facilities include circuits ranging from 33kV to 6.9kV. There are three SCE substations in the Town, with voltages ranging from 33kV to 115kV, and one new substation is planned to serve newly developing areas by year 2013.

SCE administers several energy conservation programs for their customers. Financial incentives are offered to encourage energy conservation and the use of high efficiency equipment, with a variety of conservation services available to special needs groups.

New development with the Town of Apple Valley will increase the consumption of energy. However, the expected increase in local demand will form a small proportion of regional growth and it will not represent a significantly different energy consumption pattern from that of other comparable communities in the region.

The Town of Apple Valley is in a position to initiate development, promotion and implementation of innovative energy strategies and technologies that address electricity generation and use. Enhanced efficiency and conservation is one of the most cost-effective approaches, since energy conservation is significantly easier than production, and also directly addresses environmental issues associated with electric energy. Town initiatives in the areas of alternative fuels, advanced technologies and energy conservation will be fundamental to identifying effective strategies for a more secure, affordable and environmentally responsible energy future.

Natural Gas Services

Natural gas is found in association with petroleum crude oil deposits. High-pressure transmission lines are used to transport natural gas throughout the United States. While still in relatively abundant supply, natural gas is non-renewable and therefore warrants conservation. Natural gas is an important and widely utilized energy source that has historically been relatively inexpensive, clean burning and convenient. However, rapidly growing demand for use in utility-scale, base-load power generation is affecting its availability and cost.

Natural gas supplies to the Town are provided by the Southwest Gas Company; a 34-inch, high-pressure pipeline crosses the southern part of Town. A system of high- and medium-pressure pipelines is connected to the major pipeline, with pressure being gradually reduced at various limiting stations and regulator stations, which provide for delivery of natural gas to homes and businesses at safer and more useable pressure. Most development in the central core of Apple Valley is connected to the natural gas distribution system, although some rural, outlying areas may not be connected, given the prohibitive costs associated with extending the necessary infrastructure. Consumers in these remote areas rely on propane as an alternative fuel source.

Local Renewable Energy Resources

It is widely recognized that the true costs of energy from fossil or nuclear fuels are not yet fully factored into their market price. The development and utilization of local renewable energy resources could significantly reduce dependence on environmentally damaging and increasingly costly energy sources, with the exploitation and long-term use of renewable resources potentially

offering significant economic development opportunities for the Town. Renewable energy resources available in the region include sunshine, high temperatures and wind.

Wind Energy

Winds across the region are intermittent and therefore the generation of electricity from wind turbines would be as well. However, wind energy is providing an increasingly important alternative to conventional power systems, with the cost of wind-generated electricity now equal to or lower than electricity generated by coal or natural gas.

Solar Energy

Photovoltaic systems involve the direct conversion of sunshine to electricity, and over the past decade, photovoltaic technologies have made significant progress both as stand-alone power systems and when integrated into building design and construction. In recent years, the costs of manufacturing and installing such systems have been significantly reduced. While photovoltaic systems are still primarily used for special applications, such as providing power in remote locations, passive solar designs can also be used to provide lighting and space heating and have been used world-wide as a source of domestic hot water. .

The Town is ideally located to maximize the continued emergence and refinement of solar technologies and thereby reduce dependence on non-renewable energy resources. Photovoltaic technologies may also become integral to the emergence of a hydrogen fuel cycle, which could result in virtually pollution-free electric power and combustion fuel.

Hydrogen Fuel Cells

Fuel cell systems use hydrogen to generate electricity and the technology has the potential to become a major renewable energy source. Hydrogen is produced when water molecules are split, and the process generates no wastes other than heat and water vapor. Fuel cells efficiently convert chemical energy directly into electricity, and in conjunction with solar or wind technologies, hydrogen power can be effectively utilized on a large scale.

FUTURE DIRECTIONS

Energy and mineral resource production and use are fundamental components of infrastructure and technological development, and have greatly enhanced quality of life since the industrial revolution. However, the exploitation of non-renewable energy resources has increased exponentially and has resulted in major environmental degradation, impacting wildlife habitat, affecting water and air quality, and direct and indirect association with a wide range of adverse public health effects.

The increasingly evident economic and environmental costs associated with conventional and often indiscriminate mineral and energy production and use are driving the development of new policies and programs. Requirements for materials recycling, together with a reduction or change in energy consumption patterns, will encourage mineral and energy providers to achieve both greater production efficiency and cost effectiveness, while identifying new economic and environmental opportunities.

Economic opportunity can also be expanded through promoting conservation and stimulating the development and use of alternative and renewable energy, while the development and implementation of enlightened energy policies will assist in addressing issues of local and national economic security.

Developing energy policies that emphasize conservation, local control, greater use of renewable resources and community-scale technologies, are essential to and will help secure an environmentally friendly energy future.

GOAL, POLICIES AND PROGRAMS

Goal

Assure the long-term availability and affordability of energy and mineral resources through conservative consumption, efficient use and environmentally sensitive management practices.

Policy 1.A

The community and all economic sectors shall be urged to conserve energy, with particular focus on the inclusion of energy saving measures in transport systems, and in the planning and construction of urban uses.

Program 1.A.1

While considering the future development of more stringent local energy performance standards, the Town shall continue to rigorously enforce all state mandated energy-conserving development and building codes/regulations.

Responsible Agencies: Planning Division, Building and Safety Division.

Schedule: Ongoing

Program 1.A.2

The Town shall make available information to developers on energy efficient building design and conservation technologies addressing enhanced wall and ceiling insulation, efficient heating and cooling equipment, thermally efficient glazing, and efficient household appliances.

Responsible Agencies: Planning Division, Building and Safety Division

Schedule: Ongoing

Program 1.A.3

The Town shall periodically assess the local transportation system with a view to gaining greater efficiency in the movement of people and goods through the community. Opportunities to expand the public transport system, using buses equipped with bicycle racks and fueled by compressed natural gas or hydrogen, will be maximized. Widespread use of pedestrian pathways and alternative means of transport, such as bicycles and electric or hybrid vehicles, will be facilitated and encouraged.

Responsible Agencies: Town Engineer, Planning Division, Municipal Services Department

Schedule: Annually

Program 1.A.4

The Town shall strive for efficient community land use and transportation planning and design, and shall assure the provision of convenient neighborhood shopping, medical and other professional services appropriately located to minimize travel and facilitate the use of alternative means of transportation.

Responsible Agency: Planning Division.

Schedule: Ongoing

Policy 1.B

Promote building design and construction that integrates alternative energy systems, including but not limited to solar, thermal, photovoltaics and other clean energy systems.

Program 1.B.1

Building regulations and guidelines will facilitate the safe and efficient installation of alternative energy systems in new and existing buildings. The Town will promote the use of such systems to residents, businesses, and the building industry by disseminating information on commercially available conservation technologies, solar, thermal and photovoltaic energy systems, fuel cell and other alternative energy resources.

Responsible Agency: Planning Division.

Schedule: Ongoing

Program 1.B.2

The Town shall proactively promote alternative energy workshops and the local development of associated industries.

Responsible Agency: Economic Development Division

Schedule: 2010-2011, Ongoing

Policy 1.B.3

The Town shall encourage building design that takes advantage of shade, prevailing winds and sun screens. Energy efficient lighting and installation of colored “cool roofs”, cool pavement and strategically planted shade trees should also be encouraged. The Town shall support the installation of solar panels on carports and over parking areas where appropriate.

Responsible Agency: Planning Division, Building and Safety Division.

Schedule: Ongoing

Policy 1.C

Proactively support state and federal legislation and regulations and long-term strategies that assure affordable and reliable production and delivery of electrical power to the community.

Program 1.C.1

In coordination with state and federal legislators and regulators, the Town shall draw up a mutually agreed legislative and regulatory agenda to address its near and long-term energy and associated economic needs.

Responsible Agency: Town Manager’s Office, Town Council

Schedule: Annually

Policy 1.D

The Town will encourage and facilitate the exploitation of local renewable resources by supporting public and private initiatives to develop and operate alternative systems of electricity generation, using wind, solar and other renewable energies.

Policy 1.E

Assure the long-term availability of local mineral resources to provide a reliable and affordable supply of materials for the construction of buildings, roads, flood control facilities and other necessary improvements.

Program 1.E.1

To the extent practical, the Town shall monitor and regulate the safe and environmentally responsible extraction and recycling of significant local mineral resources.

Responsible Agency: Planning Division

Schedule: Ongoing

Program 1.E.2

The Town shall maintain a formal relationship with the County Geologist or other qualified agency to monitor mineral resource operations under SMARA.

Responsible Agency: Planning Division

Schedule: Ongoing

Program 1.E.3

The Town shall require the recycling of mineral-based construction materials, including asphalt, concrete, gypsum and similar materials, and the use of recycled materials in new construction.

Responsible Agency: Building and Safety Division, Municipal Services Department

Schedule: Ongoing