TOWN OF YUCCA VALLEY

COMPREHENSIVE GENERAL PLAN

CHAPTER IV

ENVIRONMENTAL RESOURCES

This chapter of the General Plan discusses the environmental resources of the Town and surrounding areas. The elements addressed in this chapter include Biological Resources, Archaeological and Historic Resources, Water Resources, Air Quality and Open Space, Mineral, Energy and Conservation Elements. The Town of Yucca Valley has substantial environmental resources which contibute to the quality of life for Town residents and attract a tourist trade. This chapter addresses their importance and need for conservation.

BIOLOGICAL RESOURCES ELEMENT

PURPOSE

The purpose of the Biological Resources Element is to identify the important and valuable biological resources occurring within the community and surrounding area. It is also meant to establish goals, policies and programs to utilize and conserve these resources for the benefit of the entire community. The Element is intended to provide the basis for and to reference other sources of information that guide decision makers in regulating land use and development, while protecting these critical community resources in the desert mountain setting.

BACKGROUND

This Element directly influences the Land Use Element, as well as the Open Space, Mineral, Energy and Conservation, Scenic Highways and Community Design Elements. The Biological Resources Element is also related to Arts, Culture and Humanities and Parks, Recreation, and Trails Elements, reflecting the enjoyment of and commitment of the community to its wildlife resources. The Town's biological resources are also proven marketable commodities. In this regard, the Biological Resources Element may influence and contribute to the effective implementation of economic development goals, policies and programs.

California Government Code Section 65302 (d) requires that the General Plan include an Element that addresses the conservation or preservation of wildlife resources. It also requires that the Element and supporting documentation provide inventories of natural vegetation, fish and wildlife and their habitat, including rare and endangered species. Consistent with requirements, this Element includes goals, policies and programs, as well as plans and resource maps showing areas important to the preservation of plant and animal life, including habitat for fish and wildlife species, and areas required for ecological and scientific study purposes. Programs which act to assure the preservation of biological resources are also included.

The Town is also host to lands owned and/or managed by State and federal agencies. The community is neighbor to one of the country's major biological resource areas, the Joshua Tree National Park (See Exhibit IV-1).

The Town of Yucca Valley is located on the southerly edge of the Mojave Desert. Through the Joshua Tree National Park and Little San Bernardino Mountains, the Town and vicinity are transitional between the Sonoran Desert to the immediate south and the Mojave Desert extending to the north. There are eight (8) identified plant communities located in or near the Yucca Valley General Plan Study Area. They range from the Joshua Tree Woodland, with which the community is identified, to the Mojavean pinion-juniper woodland scrub communities, with a diverse group of interwoven plant communities in between.

In the Town of Yucca Valley and surrounding land, and within the context of the General Plan, the Biological Resource Element plays a pivotal role in the rural character of the community. The varied and unique geographic and geophysical makeup of Yucca Valley and the Morongo Basin has created an environment for many diverse and occasionally highly specialized communities of plants and animals, which occupy ecological niches ranging from the open pinion woodlands in the Sawtooths to the Mojave wash shrub associated with sandy-bottomed major drainages.

Definition of Habitat

Biological resources are found in and are a part of a habitat, an ecological system or network of interrelationships between living things. Habitat values are controlled by tolerable climate, a varied terrain, adequate space, a dependable food and water supply, soils for healthy plant growth, and shelter and nesting sites. An animal may live across habitat lines to meet all of its needs.

Joshua Tree Woodlands

As the predominant plant community in the Yucca Valley General Plan Study Area, the Joshua Tree Woodland is a state designated "Community of Highest Inventory Priority". The plant community is considered "common" and is characterized by the Joshua tree's usual dominance as the only tree species in the community. The Mojave Yucca and the California Juniper are the usual shrubs species. Cactus wrens and Ladder-back Woodpeckers are commonly found in the Joshua Tree Woodland, and there are 12 common bat species. Small burrowing mammals are also common, as are a wide variety of reptiles; the 42 known species include the

Desert Iguana, Zebra-tailed Lizard, Desert Collared Lizard, Desert Horned Lizard and the Western Whiptail. A variety of venomous and non-poisonous snakes also occur within the Joshua Tree Woodland study area (see General Plan EIR & Technical Appendix).

The Joshua tree (Yucca brevifolia) is the largest of the Yucca family. The largest known specimen, named Emily's Tree, is 42 feet high with a crown of 34 feet, and is located in Joshua Tree National Park. The Joshua tree is one of the hardiest of the Mojave Desert plants, tolerating extremes of heat and cold, able to survive and even thrive after fire, and take advantage of nurse plants to get started. Their seeds are favorite food for numerous mammals. However, it remains very difficult to successfully transplant Joshua trees; the mortality rate is said to exceed 50%. In addition to being the symbol of the Mojave Desert, the Joshua tree is also an icon for the whole of the California Desert region.

Desert Tortoise and the Joshua Tree National Park

The range of the Desert Tortoise (Gopherus Agassizii) includes the Mojave Desert and the environs of the Yucca Valley General Plan Study Area. The Desert Tortoise has been listed as "endangered" by the federal government, and placed on the Endangered Species List, and as such requires the preparation of a Habitat Conservation Plan to protect existing populations and encourage recovery of the species (see the Program EIR and technical appendix for definitions and additional information on listings of sensitive species).

The listing also requires the preparation of a "10-A Permit" in order to legally "take" or remove the animals prior to grading and developing lands. Annually, populations have dropped in some areas, with human collection and destruction continuing to be the greatest cause. Predation and disease are also contributing substantially to tortoise mortality, as does habitat destruction and degradation.

The Joshua Tree National Park is included in efforts to protect and restore Desert Tortoise to its previous numbers. The U.S. Fish and Wildlife Service's Draft Recovery Plan for the Desert Tortoise (Mojave Population) includes plans to establish a Desert Wildlife Management Area (DWMA) within and east of the Park and encompassing 825 to 1,125 square miles. This recovery area has one of the most stable and least threatened populations in the region.

The Western Mojave Coordinated Management Plan (West Mojave Plan) is also under preparation by the U.S. Bureau of Land Management. As currently envisioned, the West Mojave Plan would provide a programmatic approach to the processing of 10a (1)(B)(Federal) or section 2081 (State) permits on sites where tortoise occur. This Plan is not expected to preserve this and other sensitive desert species living in the Yucca Valley environments.

Big Morongo Canyon Preserve

Located just a few miles west of the Yucca Valley General Plan Study Area, the Big Morongo Canyon Preserve is a 4,500 acre wildlife preserve, a rare creation of local drainage and a fault that allows groundwater to break out at the mouth of the canyon. Its varied terrain ranges from 1,700 to 3,050 feet, canyon floor to ridgetops. A culturally important site, the canyon springs have been essential to humans for thousands of years. Even more curious and rare are the rocks that date back nearly half the age of the Earth, almost two billion years. These are some of the oldest rocks in California (also see the Seismic Safety Element).

ACEC

The biological diversity of the Big Morongo Canyon is what makes this an important habitat preservation area. As a federally designated Area of Critical Environmental Concern (ACEC), the canyon provides critical habitat for the endangered Least Bells' Vireo, Willow Flycatcher, and Western Yellow-billed Cuckoos that either nest in the spring or summer there. The preserve is cooperatively managed by The Nature Conservancy, the BLM and through long-term lease agreements with San Bernardino County.

Sensitive, Rare and Endangered Species

The Yucca Valley General Plan Study Area is host to a wide variety of sensitive plant and animal species, some of which have been listed as threatened or endangered by the federal government. Animals listed as "threatened " are those whose numbers have dropped to such low levels, and/or whose populations are so isolated, that the continuation of the species could be jeopardized. "Endangered " species are those with such limited numbers or subject to extreme circumstances that the extinction is a real possibility.

Both "rare " and "sensitive " species are those determined less sensitive to impacts to their numbers, and where perpetuation does not appear significantly threatened. The

Biological Resources Sensitive Elements Map identifies sensitive plant communities and wildlife species known to occur within the Town and study area.

Plants especially note worthy are the Triple-ribbed Milk Vetch and the Parish's Daisy, both of which have been proposed for listing as an endangered. The Joshua Tree Woodland is designated as a "Community with Highest Inventory Priority" by the state. Sensitive animal species include the aforementioned federally listed Desert Tortoise, the Western Yellow-Billed Cuckoo (state listed as endangered), Willow Flycatcher (state listed as endangered), the red-tailed hawk, golden eagle and turkey buzzard, and several species of bats (state listed as a species of special concern). Exhibit IV-3 identifies locations of the regions sensitive species.

Biological Resources in Urbanizing Areas

From an examination of aerial photographs taken of the General Plan Study Area in the Spring 1993, it is evident that almost all urbanization clears the land. Whether one house on a large lot, a large subdivision or a master planned residential community, the native vegetation and its inherent wildlife habitat value are completely removed. Where landscaping has been introduced, exotic and other non-native plants prevail. These not only have little or no habitat value for native animals and birds, but they can "escape" and compete for nutrients and water in the wild with native plants for nutrients and water in the wild.

Multipurpose and Regional Wildlife Corridor

Proposal has been developed by the Town and the Hi-Desert Water District (HDWD) for the establishment of a multi-purpose natural system of water courses that could also provide enhanced habitat and could possibly serve as wildlife corridors. These corridors may also provide improved riparian habitat. As efforts to control stormwater runoff and to recharge the groundwater basin continue, this corridor concept may play an important role in providing additional wildlife habitat.

Other regional corridors are recommended for consideration, the primary one to connect the Joshua Tree National Park area with the Sawtooth Ridge area, through land use designations consistent with the sensitivity of these lands and physical constraints to development along portions of Town's southern border with the Park. A conceptual local corridor also appears feasible if incorporated into regional drainage facilities. The Biological Resource Values Map (Exhibit IV-2) assesses resource values within the General Plan study area, which influence land use decisions within the Town limits. Criteria for establishing these areas and corridors is discussed in detail in the General plan program EIR and technical appendix.

FUTURE DIRECTIONS

The Town of Yucca Valley is in the enviable position of preserving and enhancing its unique and valuable biologic resources before they are lost through development and mismanagement. The Town and its integral part of the Yucca Valley environment.

In every facet of community planning and development regulation, the Town will have the opportunity to control growth and limit impacts. This will be accomplished through the thoughtful implementation of the General Plan, Development Code and Subdivision Ordinance. It will also be accomplished through the integration of the biological resource and open space/conservation principles in public works projects, including road and highway development, and the design and construction of stormwater detention basins and drainage basins. Development on every level will provide an opportunity to protect and enhance the Town 's biological resources.

BIOLOGICAL RESOURCES
GOALS, POLICIES AND PROGRAMS

GOAL

Protect and preserve of the Town's biological resources, especially those sensitive, rare, threatened or endangered species of plants and wildlife and their habitats, and a functional, harmonious relationship and balance between nature and human development.

POLICY 1:

Maintain an accurate and regularly updated map and information base on sensitive plant and animal species occurring in the General Plan Study Area.

Program 1.A

The General Plan and related environmental data shall be periodically updated to maintain an accurate and effective mapping system and information base on sensitive plant and animal species occurring within the Town and vicinity.

Responsible Agency: Community Development Department
Schedule: Continuous; annual update

POLICY 2:
Support all practical efforts to maintain a broad variety of habitats, including suitable habitat for rare and endangered species occurring in the Town and vicinity.

Program 2.A
Establish and maintain a broad range of contracts with local, county, state, and federal agencies, as well as private non-profits, and cooperate in efforts to maintain and broaden habitat conservation, especially that essential for the preservation of endangered species.
Responsible Agency: Community Development Department
Schedule: Continuous

POLICY 3:
All development proposals on vacant lands shall be reviewed and evaluated to assure minimal impacts on existing habitat and wildlife.

Program 3.A
Conduct a thorough assessment of impacts to habitat and/or wildlife associated with proposed development, including requiring the preparation of detailed biological resource surveys and mitigation programs in identified sensitive areas of the Town.
Responsible Agency: Town Council; Planning Commission, Community Development Department
Schedule: Continuous

POLICY 4:
Assure that sensitive habitat and wildlife areas, as well as national park and wilderness lands, are appropriately buffered from urban development.

Program 4.A
The General Plan Land Use, Circulation, and Open Space, Mineral, Energy and Conservation Elements shall recognize, reflect and provide an effective buffer between urban-type development and other incompatible uses, and the Joshua Tree National Park and other sensitive wildlife and open space and conservation lands.
Responsible Agency: Town Council; Planning Commission; Community Development Department
Schedule: Continuous

POLICY 5:
Until such time as the Western Mojave Coordinated Management Plan is adopted, the Town shall continue to require Desert Tortoise surveys and, as appropriate, habitat Conservation Plans and will consult, confer and cooperate with the Bureau of Land management, U.S. Fish and Wildlife Service and other appropriate agencies on the Western Mojave Coordinated Management Plan (West Mojave Plan).

Program 5.A
Until adoption and implementation of the Western Mojave Plan, the Town shall continue to require Desert Tortoise surveys and, as necessary, Habitat Conservation Plans, for new development incompliance with Federal Section 10a (1)(B) of the Endangered Species Act.
Responsible Agency: Community Development Department
Schedule: Continuous

Program 5.B
Establish and/or maintain a formal liaison with the Bureau of Land Management and other appropriate federal and sate agencies to assure maximum input in the preparation, revision and implementation of the West Mojave Plan. Said liaison and associated consultation shall be directed to the achievement of a practical, coherent, efficient and cost-effective method of addressing impact assessment and mitigation associated with the Desert Tortoise.
Responsible Agency: Community Development Department; Bureau of Land Management; U.S. Fish and Wildlife Service; State Fish and Game.
Schedule: Immediate

POLICY 6:
To the greatest extent practical, the Town shall require developers to salvage native Joshua trees and shrubs for incorporation into project landscaping or transplant trees to other sites.

Program 6.A
Enforcing the Town 's Joshua tree removal permit process, also develop and make available information on salvaging and transplanting Joshua trees, and other appropriate native vegetation, and shall provide a list of qualified arborists as part of a program to preserve and extend the Joshua Tree Woodlands community throughout the Town.
Responsible Agency: Community Development Department
Schedule: 1995-1996

POLICY 7:
Encourage and cooperate in the establishment of multiple use corridors that use drainage channels and utility easements to provide wildlife corridors and public interconnection between open space areas in the community and vicinity.

Program 7.A
Consult and coordinate with the Hi-Desert Water District, San Bernardino County Flood Control, Southern California Edison and other appropriate public and quasi-public agencies, to encourage the establishment of a system of multiple use corridors for wildlife and public interconnection between open space areas in the community and vicinity.
Responsible Agency: Hi-Desert Water District; County Flood Control; Community Development Department; Southern California Edison
Schedule: 1994-1995; Continuous

POLICY 8:
Developers and others required to submit landscape plans to the Town for approval shall be required to use native and approved, non-native, drought tolerant plant species which provide or enhance wildlife habitat and serve to extend the local desert environment into the urban design of the Town.

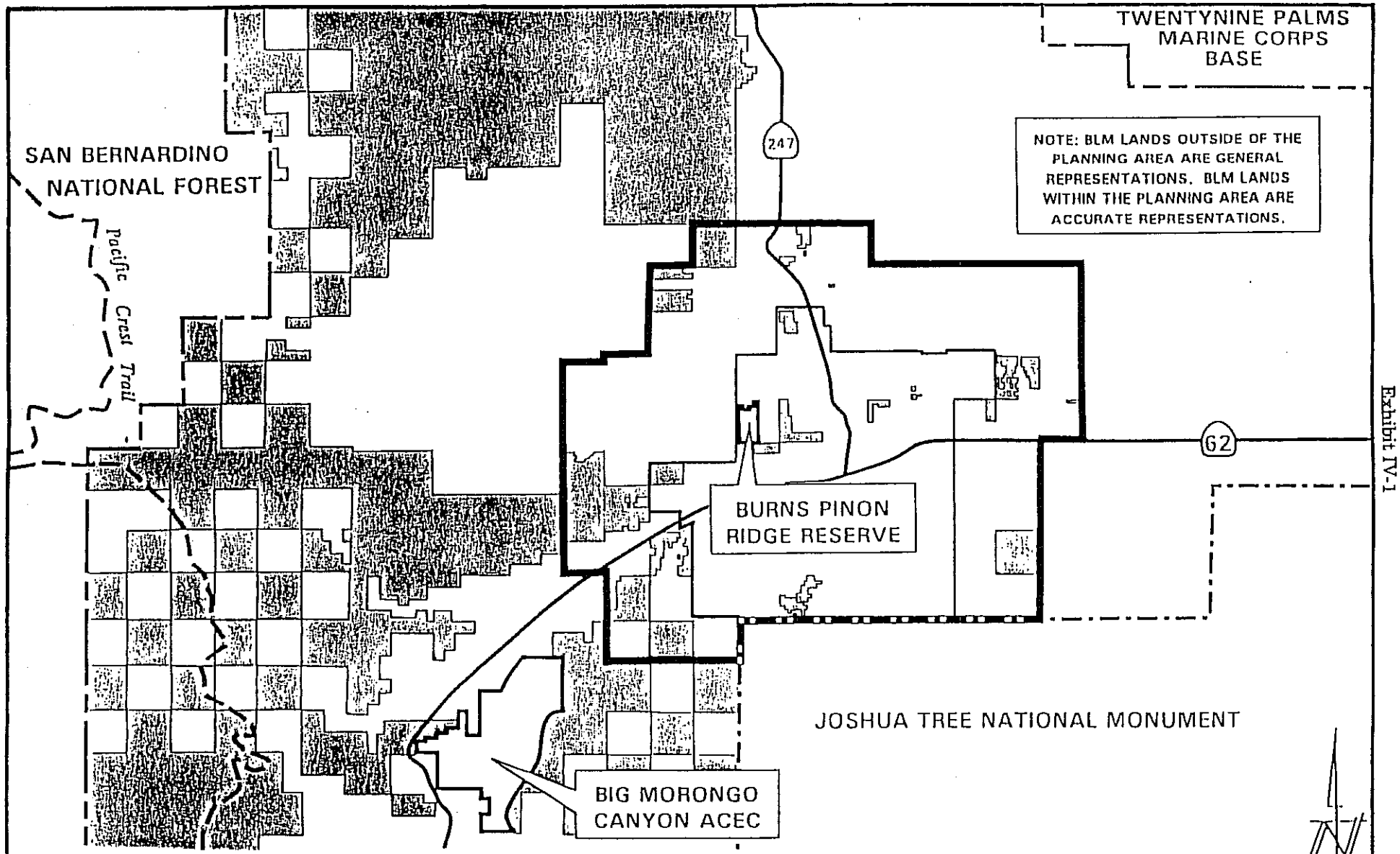
Pro-actively encourage and promote an appreciation of sensitive biological resources and the integrated local environment

Program 8.A
Prepare a comprehensive planting materials list, which shall include native and non-native, drought tolerant trees, shrubs and ground-covers, which complement the local environment, provide habitat for local wildlife, and extend the desert into the built environment.
Responsible Agency: Community Development Department; Hi-Desert Nature Museum; Hi-Desert Water District
Schedule: 1995-1996

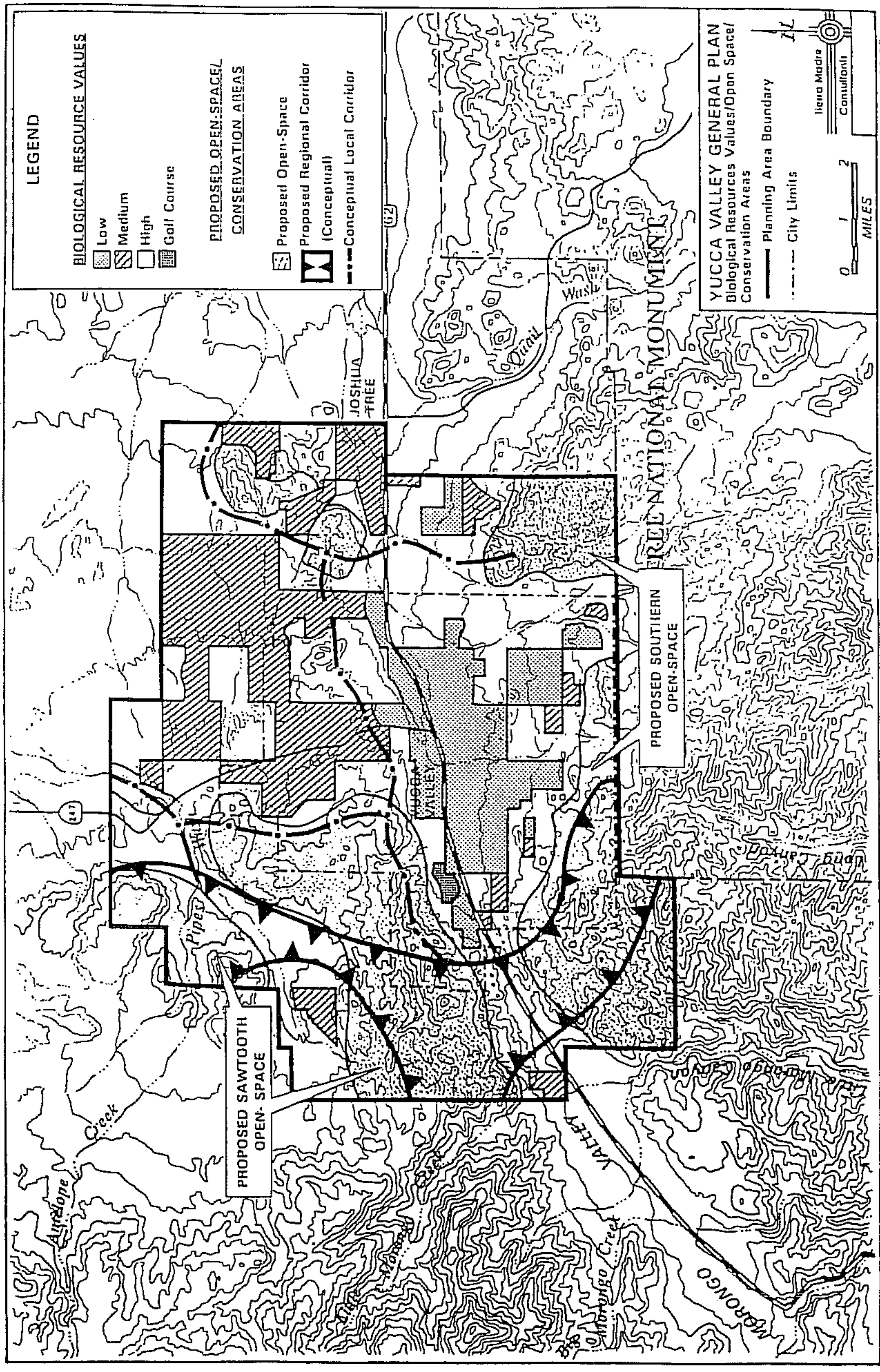
Program 8.B
Provide developers with detailed information on; preservation and re-use of valuable top soils; use of locally relevant xeriscape design concepts; and shall discourage unnecessary clearing of native desert landscape.
Responsible Agency: Community Development Department; Hi-Desert Nature Museum.
Schedule: 1995-1996

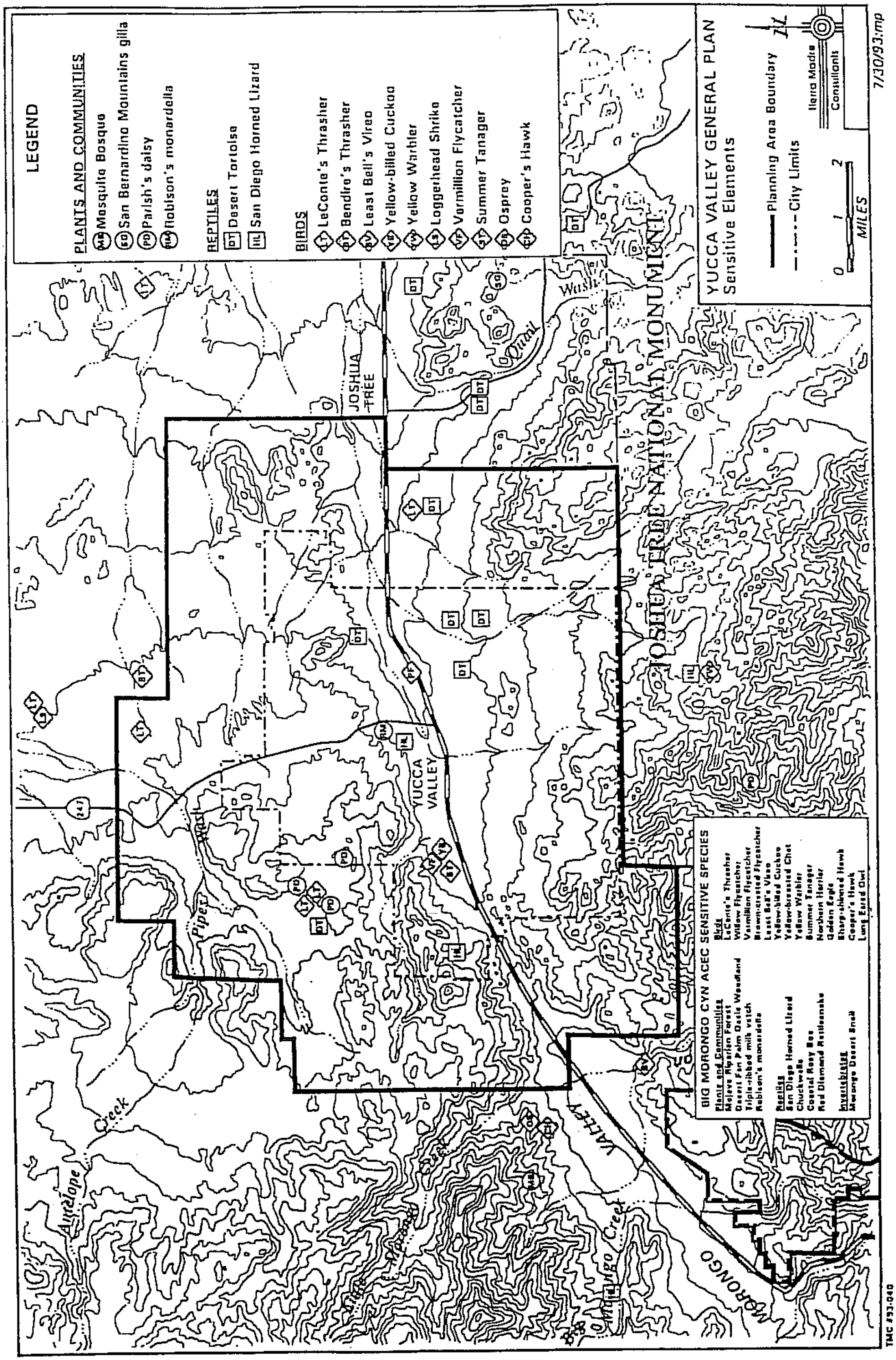
Program 8.C
Develop and promote a comprehensive educational program making the public more aware of the Town 's biological resources. In this effort, staff shall solicit the aid of the Morongo Unified School District and coordinate the program with a similar educational program for animal control.
Responsible Agency: Community Development Department; Community Service Department; MUSD
Schedule: 1995-1996

F:\GPLAN\CITZ\BIORES.SRS
Rev. 10



MAP 2. YUCCA VALLEY GENERAL PLAN: Regional State and Federal Land.


LEGEND
BIOLOGICAL RESOURCE VALUES
Low
Medium
High
Golf Course
PROPOSED OPEN-SPACE/
CONSERVATION AREAS
Proposed Open-Space
Proposed Regional Corridor (Conceptual)
Conceptual Local Corridor
YUCCA VALLEY GENERAL PLAN
Biological Resources Values/Open Space/
Conservation Areas
Planning Area Boundary
City Limits
0 1 2
MILES
Tierra Madre Consultants
7/30/93:mp
PROPOSED SOUTHERN OPEN-SPACE
PROPOSED SAWTOOTH OPEN-SPACE
JOSHUA TREE
JOSHUA TREE NATIONAL MONUMENT
Quail Wash
Pipes
Antelope Creek
MORONGO VALLEY
Big Morongo Creek
Little Morongo Creek


LEGEND
PLANTS AND COMMUNITIES
MB Mesquite Bosque
SG San Bernardino Mountains gilia
PD Parish's daisy
RM Robison's monardella
REPTILES
DT Desert Tortoise
HL San Diego Horned Lizard
BIRDS
LT LeConte's Thrasher
BT Bendire's Thrasher
LV Least Bell's Vireo
YB Yellow-billed Cuckoo
YW Yellow Warbler
LS Loggerhead Shrike
VF Vermillion Flycatcher
ST Summer Tanager
OS Osprey
CH Cooper's Hawk
YUCCA VALLEY GENERAL PLAN
Sensitive Elements
Planning Area Boundary
City Limits
0 1 2
MILES
Tierra Madre Consultants
7/30/93:mp
BIG MORONGO CYN ACEC SENSITIVE SPECIES
Plants and Communities
Mojave Riparian Forest
Desert Fan Palm Oasis Woodland
Triple-ribbed milk vetch
Robison's monardella
Reptiles
San Diego Horned Lizard
Chuckwalla
Coastal Rosy Boa
Red Diamond Rattlesnake
Invertebrates
Morongo Desert Snail
Birds
LeConte's Thrasher
Willow Flycatcher
Vermillion Flycatcher
Brown-crested Flycatcher
Least Bell's Vireo
Yellow-billed Cuckoo
Yellow-breasted Chat
Yellow Warbler
Summer Tanager
Northern Harrier
Golden Eagle
Sharp-shinned Hawk
Cooper's Hawk
Long Eared Owl
JOSHUA TREE
YUCCA VALLEY
JOSHUA TREE NATIONAL MONUMENT
MORONGO VALLEY
Pipes Wash
Quail Wash
Antelope Creek
Big Morongo Creek
TMC #93-040

ARCHAEOLOGICAL AND HISTORIC RESOURCES ELEMENT

PURPOSE

The Archaeological and Historic Resources Element of the General Plan is meant to provide a summary of the cultural and historical traditions of the Town of Yucca Valley and vicinity. It also provides the basis for the identification of and planning for present-day cultural activities and traditions. The Archaeological and Historic Resources Element is intended to briefly describe the documented pre-history and history of Yucca Valley, and set forth goals, policies and programs which preserve this heritage and help perpetuate it for future generations.

BACKGROUND

The Archaeological and Historic Resources Element is directly related to the Arts and Culture, Biological Resources, Land Use, and Open Space, Mineral, Energy and Conservation Elements, and may influence the Community Design Element.

Cultural traditions and artifacts are the most important links between the past, present and the future. They are the elements that bind communities together and are the common ground that provide community cohesiveness and historic and cultural perspective.

The issues addressed in the Archaeological and Historical Resources Element are a part of those set forth in subdivision (b) of California Government Code Section 65560 and Public Resources Code Section 5076. Also, the implementation of the California Environmental Quality Act (CEQA), Section 21083.2(g), empowers the community to require that adequate research and documentation be conducted when the potential for significant resources exists. A detailed discussion of resource management requirements and guidelines can be found in the General Plan Program EIR and its technical appendix. The Town currently has a project review agreement with the San Bernardino County Museum whereby Archaeological Information Center staff will review and provide comments on development proposals and the potential for impacts to archaeologically or historically significant resources. As development proposals are received, they will be evaluated and the need for cultural resource assessments will be determined.

The Prehistoric Period

Based upon the current knowledge of artifacts and habitation sites dating back approximately 12,000 years, archaeologists have divided the pre-European epoch into five periods: Lake Mojave Period, Pinto Period, Gypsum Period, Saratoga Period and the Prehistoric Period. Each is briefly discussed below.

The earliest prehistoric periods were distinguished by the use of large stone points to hunt and process large late ice-age mammals. As conditions and available food changed, local inhabitants started using smaller projectile points on the smaller game. From about 4000 years ago, seeds, and grains and their processing became more important, and stone-tools became more sophisticated.

Numerous types of habitation and village sites developed throughout the area. These included villages occupied for extended periods of time, milling sites used seasonally as particular foods become available, lithic workshops and quarries for making stone tools and weapons, and rock art sites that were used for artistic/religious expression.

Known Local Prehistoric Resource Areas

Recorded significant archaeological resources are so identified by a tri-nomial designation given the site by the Archaeological Information Center (AIC) at the San Bernardino County Museum. All or most prehistoric sites identified in the General Plan Study Area have been recorded by the AIC and include twenty-two recorded sites and three pending recordation. They include a prehistoric campsite near the Bartlett Mountains in the northeast quadrant of the study area, and a campsite on the terrace above Pipes Canyon near Old Woman Springs Road. Literally every vegetation and geologic zone in the study area was used and exploited at one time or another by native peoples of Yucca Valley.

Some major site types such as villages and rock art sites have not been recorded within the Town or General Plan study area. Still others are likely to be found near springs, of which a number exist in the east and southeast mountainous zones and in the Pinion-Juniper regions in these same areas.

Seasonal campsites were particularly important in the Yucca Valley area and are marked by milling features, lithic scatters, roasting areas and extensive pottery scatters.

The last native inhabitants of the Yucca Valley area were the Serrano, meaning mountain people. Two divisions of the various clans making up this tribe were the Wildcat and the Coyote moieties, which occupied the area. Between 1819 and 1834, most Serranos were moved onto mission lands, essentially bringing to an end the coherent social, political and religious organization.

Two large village sites with signs of extended habitation have been recorded just outside the General Plan study area, including the well-known village and rock site around Coyote Hole Springs southeast of Joshua Tree, and at Morongo Lakes centered at the head of Little Morongo Canyon.

ARP Map

The field survey techniques used for earlier recorded site surveys were more intuitive and less methodical than those practiced today. For further indications of potentially sensitive archaeological resources areas, please contact Town Planning staff. The Archaeological Resources Probability (ARP) Map is not published to protect resources from disturbance, damage or removal.

The Historic Period

Historically significant sites are generally more than forty-five to fifty years of age, but range from the period of the earliest European contacts, around the end of the 1700's to about the end of World War II. Types of sites range from permanent living areas to small-scale remains of single activities. A primary difficulty with regard to the significance of local historically significant sites and structures, is that none of these have yet been recorded or presumably adequately surveyed.

Earliest European History of the Yucca Valley Region

The Yucca Valley region was first explored by Spaniards making forays northward from Mexico along the coast and the Colorado River. Tradition has it that a Captain Juan Iturbe sailed a vessel into the Salton Sea and explored westerly as far as the Joshua Tree National Park area. No concrete evidence has been located to document this story.

The Spanish Period

The earliest documented period of Spanish influence began in 1769 when explorers moved into what was then referred to as Upper California to establish a military, political and religious foothold. The development of land routes to supply inland missions brought the Spanish into the region in the 1770's.

The Mexican and Post Mexican-American War Periods

In 1821, although there is no historical evidence of settlements in the Yucca Valley area, the region fell under the influence of Mexico, as it secured its independence from Spain at the time under the Treaty of Cordova. The issuance of land grants and the establishment of agricultural enterprises, under the organization of rancheros, dominated the region for the next thirty years. The defeat of Mexico in the Mexican-American War and the signing of the Treaty of Guadelupe Hidalgo in 1848 ushered in a new era.

With the region under American control and the discovery of gold in California the stage was set for admittance of California into the union in 1850, and led to the influx of peoples from many countries. The first U.S. Government Surveys were made in the Morongo Basin in 1855-56 by Colonel Henry Washington. Rancher Powell (Pauline) Weaver moved cattle between Arizona and California through the basin, taking advantage of watering holes along the way. The survey conducted by General William J. Palmer in 1867 recommended the Morongo Basin route between present day Needles and the coastal and inland missions west of the San Gorgonio Pass.

A Time of Cattle and Gold

Both cattle rustlers and legitimate cattlemen continued to use the area in the 1870's, and during this period Ben de Crevecoeur, Jr. become the first white child born in the area in 1874. From the early 1880's, both large and small gold mines were in operation in the area with several continuing in operation until about 1915. Many miners lived and traveled throughout the Morongo Basin during this period, often staying overnight at Warren's Ranch in Morongo Valley or Warren's Well in Yucca Valley.

Warren's Well

In 1881, Mark "Chuck" Warren wished to expand cattle operations east of his Big Morongo Canyon ranch and dug a well in what was to become Yucca Valley. The well, windmill and small frame house, located adjacent to the present day airport, became the focus of Yucca Valley for many years and, as a stage-stop, was one of the few local sources of water and became the nucleus for the Town's development.

In 1909 the stage service discontinued, and the well and structures changed hands over the years, continuing to serve local residents and cattlemen and eventually becoming a combination medical office and home of Dr. John Bendall. Despite the site's importance in the history of Yucca Valley, no Site Record Form, which would list the site as historically significant, has been filed and is designated as "pending" by the Archaeological Information Center.

Homesteading in the Morongo Basin

Following the ranchers and cattlemen were the homesteaders, less used to the demands of living a remote frontier existence, but being of strong and determined character. These early homesteaders included a Government land locator named Percy who filed in 1910, the same year that Joseph and Mary Susie Heard filed on 160 acres at today's Blue Skies Country Club. The slow but steady growth spurred the establishment of the first school in the area at Morongo Valley in 1915, the "school" being a tent with nine students. Yucca Valley's first at- home school followed in 1915 adjacent to the present high school, with fifteen students.

After the World Wars

After World War I, veterans and others, in search of healthful clean air, continued the settlement patterns established a decade earlier. The rate of growth was to accelerate after World War II when hundreds of five acre homesteads were filed by those seeking permanent homes and weekend retreats. In 1931, the first telephone in the area was at Geil's Lodge in Morongo Valley, with the first telephone in Yucca Valley not appearing until 1935. It was not until 1948 that the Town of Yucca Valley received electrical service.

When in 1923, Walter Harrell filed on lands he named the Lone Star Ranch, he also put in the first gas pump. It was 1945 before the first subdivisions were filed, streets were laid out and the first water system, Yucca Water Co., Ltd., was established. In 1946, Pioneertown was established and the era of Hi-Desert westerns began. The first airstrip was built in 1947 just north of the present day site of the Sands Motel and was used by movie makers to access Pioneertown.

Desert Christ Park

Perhaps one of the more noteworthy sites that deserves recognition as a present and future historical site is the Desert Christ Park built by members of the community with monumental biblical figures designed and sculpted by Frank Antone Martin. In 1951, the first statue, a monumental figure of Christ, was placed at a site secured by the Reverend Eddie Garver. Subsequent development included numerous sculptures of biblical figures and other structures, with new figures being added up until Martin's death in 1961.

Other Historic Sites

There are numerous other historically significant sites located in and around the Town of Yucca Valley which may merit future surveying, documentation, and preservation as important landmarks of local development. Insufficient information has been collected and recorded on these sites, and future development may jeopardize efforts to preserve or properly record their locations and document their resources. One of these sites is the Talmadge Brothers Tanks in the southwest quadrant of the study area, built at a spring in 1912 to water cattle and provide a place for local residents to do laundry. The old Yucca Valley Elementary School, now known as the "Scout House", located north of Yucca Trail, is also a site of special interest. Juney Joy Paxton's home on Paxton Road is another example an era in the history of Yucca Valley.

FUTURE DIRECTIONS

It is the obligation of the lead agency, the Town of Yucca Valley, to assure that every reasonable effort is made to locate, identify and evaluate archaeological, historical and cultural sites within its jurisdiction. The Town must determine what actions or development activities have the potential to adversely affect known or suspected sites of significance.

The manner in which the Town must review and address issues related to Archaeological and Historic Resources Element is set forth in the California Environmental Quality Act (CEQA, Appendix J, 1992 Edition).

As time passes and the community continues to develop, opportunities for documenting and preserving Archaeological and Historic sites and artifacts will decrease. The Town should encourage the research, documentation and recordation to register appropriate sites and structures within the community and vicinity. In this manner, positive action can be taken to identify, preserve and pass on the important traditions and history of the community.

ARCHAEOLOGICAL AND HISTORIC RESOURCES GOAL, POLICIES AND PROGRAMS

GOAL

Preservation, maintenance, continuity and enhancement of cultural heritage and resources in the Town of Yucca Valley, including historic and prehistoric cultural artifacts and traditions, and the broadening of cultural activities, experiences and resources throughout the community.

Policy 1
Establish and maintain an inventory of prehistoric and historic resource areas and sites, and shall register these resources with the appropriate institutions and agencies.

Program 1.A
An archaeological and historical resources data base shall be established and maintained at Town Hall, and shall incorporate information from the Archaeological Information Center (AIC), focused cultural resource studies conducted in the study area, and other resources. Confidential maps shall be prepared and maintained, as well as records and general information.
Responsible Agency: Community Development Department; Community Services Department
Schedule: Continuous; five year Element update

Policy 2
Exercise its responsibility to locate, identify and evaluate archaeological, historical and cultural sites, and shall assure that appropriate action is taken to protect these resources.

Program 2.A
Insure that development or land use proposals, which have the potential to disturb or destroy sensitive resources, shall be evaluated by a qualified professional through appropriate resource surveys, and that mitigation measures are implemented.
Responsible Agency: Community Development Department; Community Services Department
Schedule: Continuous

Policy 3
Make every effort to ensure the protection of sensitive archaeological and historic resources from vandalism and illegal collection.

Program 3.A
Maintain mapping information and similar location-oriented resources in a confidential manner and shall assure that only those with appropriate professional and organizational ties are provided access to these sensitive records.
Responsible Agency: Community Development Department; Community Services Department
Schedule: Continuous

Program 3.B
In the course of reviewing development proposals and cultural surveys that identify sensitive resources, staff shall, where appropriate, encourage in-place preservation or the recovery and preservation of materials for later study and display.
Responsible Agency: Community Development Department; Community Services Department
Schedule: Continuous

Policy 4
In cooperation with local historical associations, the Town shall periodically review the historical and archaeological resources of the area for possible application for status as a historical landmark or inclusion in the National Register of Historic Places.

Program 4.A
The Community Services Commission shall work with staff and elected officials in prioritizing and proposing action on the preservation and registration of important archaeological and historical resources in the community and vicinity.
Responsible Agency: Community Development Department; Community Services Department
Schedule: Continuous; with annual meetings

F:\GPLAN\CITZ\ARCHHIS.SRS
Rev 10

WATER RESOURCES ELEMENT

PURPOSE

The purpose of the Water Resources Element is to provide information and address the need on the quantity, quality and availability of water for current and future needs. An important aspect of this element is the coordination and cooperation between the Town of Yucca Valley and other water agencies responsible for supplying potable water to the area.

It is the intention of this element to provide information on the potential for additional water resources to provide adequate water supplies to help recharge the Warren Valley Groundwater Basin. This element also provides goals that will assist the Town of Yucca Valley to implement its policies and programs to ensure sufficient water supplies to the residents, now and in the future.

BACKGROUND

The Water Resources Element has a direct relationship to the Land Use Element, which has evolved to a major degree in response to limited water resources. Water resources issues are also associated with the Flooding and Hydrology Element, including opportunities to enhance groundwater recharge, as well as the Public Building, Facilities and Utilities and Fire and Police Protection Elements. The Water Resources Element is also related to the Community Design, Economic Development and Emergency Preparedness and Health Services Elements.

The Water Resources Element addresses topics set forth in subdivision (d) of the California Government Code Section 65302. Also, the implementation of the California Environmental Quality Act (CEQA), Section 21083.2 (g),empowers the community to require that adequate research and documentation be conducted when the potential for significant impacts to water and other important resources exists.

Early water production in the Yucca Valley area resulted in the drilling of a Warren's well in 1881, which became the focus of Yucca Valley. In 1912, the Talmadge Brothers Tanks were constructed at a spring to provide water to ranchers for cattle and for domestic uses such as laundry. Later, as the area developed, many privately owned water companies formed to provided water for domestic consumption. It was not until 1962 that several of these water companies merged to form the Yucca Valley County Water District (YVCWD), which is known today as the Hi-Desert Water District (HDWD).[1]

Prior to 1990, the two principal water purveyors offering service to the Yucca Valley area were the Hi-Desert Water District (HDWD) and the Yucca Water Company, Ltd. (YWC). However, in 1990, HDWD acquired YWC and assumed responsibility for water service in the Yucca Valley area, with the exception of the Blue Skies Country Club, the Institute of Mental Physics, and approximately 16 individual domestic users. These users have their own wells that extract water from the local groundwater basin.[2]

Domestic Water Resources

The Town of Yucca Valley lies within the Warren Valley Hydrologic Subarea. The sole source of water supply to the Town of Yucca Valley is the Warren Valley Groundwater Basin (WVGB) which is being recharged by the Morongo Basin Pipeline. Water use in the Town of Yucca Valley is primarily for domestic and municipal purposes.[3]

Yucca Valley is underlain by relatively permeable, unconsolidated gravel, sands and finer sediments shed from adjacent highlands which are composed of igneous and metamorphic rocks. The groundwater basin is structurally controlled by several northeast trending faults related to the Pinto Mountain fault zone. The groundwater basin is bordered by the Sawtooth Mountains to the north and the Little San Bernardino Mountains to the south. Groundwater in the valley is primarily recovered from recent and older alluvial deposits, and is surrounded and underlain by bedrock[4] (Please see Seismic Safety Element for more information).

The HDWD service area includes portions of the unincorporated areas outside the Town boundaries and is currently supplied by fifteen (15) wells with water storage facilities provided by sixteen (16) above-ground welded steel reservoirs with a total capacity of 12.41 million gallons.[5] The

1 .Final Draft, Warren Valley Basin management Plan, Warren Valley Basin Watermaster, Yucca Valley California, Prepared by Kenny/Jenks/Chilton, January 1991
2. Ibid,
3. Ibid,
4. Ibid.
5.Hi-Desert Water District, Marty Stockstell, Assistant General Manager of Operations, Yucca Valley CA August 1993.

Environmental Impact Report addresses water storage within the groundwater basin.

In 1987, the HDWD contracted with the Mainstream Water Development Company to locate and develop a well outside the overdrafted Warren Valley Basin and into another aquifer known as the Ames Groundwater Basin. The well, one of the fifteen cited above, was successful and is capable of producing approximately 2,100 acre feet of water per year. During the environmental review process, certain issues arose which prevented production of the well. After years of litigation, an agreement was reached which allows the HDWD to extract 800 acre feet per year and an additional one-half acre foot for every new service connection in the Yucca Mesa area. This agreement will allow the District to supply water to the Yucca Mesa area and ease the overdraft on the WVGB[6]. The mainstream well is currently operational and monitored by the HDWD.

Water Usage

The current per capita water usage excluding non-residential uses is approximately 103 gallon per day (gpd), compared to the statewide average of 140 gpd.[7] Usage is lower than the State's average as a result of minimal landscaping as compared to other parts of the State. When a combination of residential, commercial and other uses is considered, the aggregate per capita consumption in Yucca Valley is approximately 160 gallons per day (For additional information on water usage please refer to the Environmental Impact Report.)

Water Quality

According to the 1992 Annual Water Quality Report, quality of the groundwater basin is generally good. The maximum contaminant level allowed for total dissolved solids is 500 milligrams per liter. Tests showed that total dissolved solids range between 119 and 125 milligrams per liter. The maximum contaminant level allowed for nitrate is 45 milligrams per liter. Additional tests showed that with nitrate measurements ranging between 2.9 and 24.1 milligrams per liter.[8]

There are several sources of possible groundwater water contamination located within the Town, including septic tank systems and underground gasoline and oil storage tanks. One of HDWD's wells located west of the Blue Skies Country Club is listed as contaminated with high levels of nitrates. This well has been retired by the District and has been capped and filled.[9]

Groundwater Basin Overdraft Conditions

Groundwater is extracted from the Warren Valley Groundwater Basin primarily by the Hi-Desert Water District to serve residents and businesses within Yucca Valley and surrounding areas. The demand for the basin's resources far exceeds the natural supply. Since the 1950's, extractions from the Warren Valley Basin has exceeded its safe yield and have caused an overdraft condition. At current rates of draw-down, water quality can be expected to worsen, and the groundwater basin could eventually be exhausted. The shortage of a readily available long-term water supply has limited growth in the Yucca Valley area and has resulted in a water table decline of more than 200 feet during the past 50 years.[10]

In some areas, the groundwater tables currently being lowered by as much as 40 feet per year. In 1972, the United states Geologic Survey (USGS) estimated that the groundwater would be completely depleted by the year 2000.[11] Currently, the USGS is currently conducting a comprehensive study of the groundwater aquifer, which should be completed in 1997 or 1998.

Due to this increasing overdraft problem, the Warren Valley Groundwater Basin was adjudicated in 1977. In its adjudication judgement, the Court appointed a Hi-Desert Water District as Watermaster, and ordered the Watermaster to develop a physical solution to the basins overdraft problem. The Watermaster Board authorized the preparation of the Warren Valley Basin Management Plan, which resulted in various engineering evaluations and monthly review meetings, reflecting the significant levels of current HDWD activities. The plan is based on a 50 year water supply planning horizon, starting in 1991, and provides sufficient time to accommodate changing water supply and demand without unnecessary or premature commitment of financial resources. It is intended that the plan will be reviewed on an annual basis so that water supply planning remains 20 years ahead of water demands.[12]

6 Hi-Desert Water *District, Water Notes*, Yucca Valley CA June 1993.
7 Final Draft Report, *Warren Valley Basin Management Plan*, Warren Valley Basin Watermaster, Yucca Valley CA, Prepared by Kennedy/Jenks/Chilton, January 1991.
8 Water Quality Report, Calendar Year 1992, Hi-Desert Water District.
9 HDWD, Marty Stockstell, Assistant General Manager of Operation Yucca Valley, CA August 1993.
10 *Warren Basin Perennial Yield and Quality of Groundwater in Storage*, A Report for Hi-Desert Water District, Prepared by Robert C. Fox, Consulting Engineering Geologist and John Egan & Associates, Inc. Consulting Engineers, August 1991.
11 Final Draft Report, *Warren Valley Basin Management* Plan, Warren Valley Basin Watermaster, Yucca Valley CA, Prepared by Kennedy/Jenks/Chilton, January 1991.
12. Ibid

The entire community of Yucca Valley has and will continue to experience limitations on growth, due to groundwater conditions and residential water, delivery limitations. The water management plan, adopted by the HDWD controls growth at two (2) percent annually by limiting water connections to two hundred (200). A certain level of growth and expansion is important for the community to remain economically viable and healthy. A locally strong economy will allow Yucca Valley and the HDWD to plan for future domestic water sources and wastewater facilities. It is, therefore, essential for the District to accommodate growth within the limits of available water resources.[13]

Recharge of the Warren Valley Groundwater Basin

The natural source of recharge of the Warren Valley Groundwater Basin is precipitation and runoff within its limited watershed.[14] Natural groundwater recharge occurs as precipitation runs off from adjacent highlands and infiltrates all portions of the Basin, especially along washes which lead into Warren Valley Basin. According to the Warren Basin Management Plan, the Basin has an average recharge of approximately 200 acre feet per year (af/y).[15] In June 1991, the two (2) percent growth limit was enforced. The Court then, in February 1992, identified a safe yield was 900 acre feet per year.

There are several methods which enhance the recharging of the groundwater basin from natural sources. These include the development of on-site and regional stormwater retention/detention basins, as well as stormwater channels designed to enhance percolation. The feasibility of these and other methods of enhanced storage and percolation should be explored in the Town master Drainage Plan.

State Water Project and the Morongo Basin Pipeline

As part of a larger project of the Mojave Water Agency, the Morongo Basin Pipeline was recently completed to deliver State Water Project water to the HDWD's Warren Valley Groundwater Basin. The District has been allotted an entitlement of 4,282 acre feet per year, with delivery expected to begin in 1994. Annual deliveries of the District's allotment may vary depending on water availability and may exceed or fall below the annual allotment any given year. This resource will be used to recharge the groundwater basin and help relieve the overdraft condition. The construction of groundwater recharge basin was completed in 1994. As water in storage increases due to recharge, the court will, if petitioned by the Watermaster, be able to increase the number of connections permitted each year.

The Morongo Basin Pipeline has the technical capacity to deliver two to three times the Hi-Desert Water District's annual allocation. This maybe vitally important when surplus allocations are available and can be "banked" in the subbasin. This additional capacity would make it possible for the Hi-Desert Water District to negotiate for additional supplies/allotments to increase groundwater recharge and provide essential water resources for continued growth.

Community Wastewater Treatment

The Hi-Desert Water District is exploring the feasibility of constructing a wastewater collection and treatment facility to serve Yucca Valley and other parts of the District service area. Based upon analysis of topography and water reclamation consideration, a feasibility study for a wastewater collection system was developed. Treated wastewater could be safely percolated into the groundwater basin, and tertiary treated wastewater could be used on golf courses and landscape areas (Also see the Public Buildings, Facilities, and Utilities Element and the General Plan EIR for related discussions).

Water conservation is essential as both a short-term and long-term resource management strategy. With increasing demands on a dwindling water supply and the level of recovery of the groundwater basin uncertain, continuing efforts to reduce per capita consumption are a priority.

Water Conservation

One of the best opportunities for water conservation is the area of landscape design and maintenance. Fortunately, local residents' appreciation for the native desert environment provides an excellent opportunity to reduce the use of turf grasses and other types of heavily water dependent landscaping, with potentially significant water conservation. In addition, the Hi-Desert Water District has in effect, since 1990, Resolution No. 90-4 which mandates the retrofit of toilets, shower-heads and other fixtures to help reduce household water consumption. This is required upon transfer of real property or change of tenants in rental property.

13. Hi-Desert Water District, Water Supply Master Plan, Prepared by John Egan & Associates, Inc., Consulting Engineers, 1990
14. Final Draft Report, Warren Valley Basin Management Plan, Warren Valley Basin Watermaster, yucca Valley, Ca, Prepared by Kennedy/Jenks/Chilton, January 1991.
15. Ibid

Finally, water resources and their delivery cost money, whether the service is provided by a private company or a public agency. There is a direct relationship between the cost of a resource and how thoughtfully it is used. In 1993, the Hi-desert Water District raised rates to all its customers. As future costs of the resource and its delivery rise, individual conservation efforts can be expected to increase.

FUTURE DIRECTIONS

The future of the groundwater resource serving the Town will have a profound influence on current levels of domestic water service, as well as future growth and development. Both the Town and the Hi-Desert Water District have essential roles to play in optimizing the current and future use of scarce water resources.

First line efforts include the District's construction of groundwater recharge basins and pipelines for Sate water Project supplies coming on line in 1994. They also include the on-going review of development proposals by the Town and the District to assess and assure minimal impacts on water supplies.

The Town Development Code and master Drainage Plan can help limit the demand generated by future development on water resources, and facilitate development of stormwater detention and percolation basins which enhance groundwater recharge, respectively. The following goals, policies and programs are designed to encourage wise water use, enhance water conservation, and facilitate groundwater recharge and long-term recovery of the Warren Valley Groundwater Basin.

WATER RESOURCES GOALS, POLICIES AND PROGRAMS

GOAL 1:
A dependable supply of clean and healthful domestic water to meet the needs of all segments of the community.

GOAL 2:
An informed public which respects the Town's limited water resource and maximize conservation efforts for the benefit of the entire community.

POLICY 1:
Require the use of low water consuming, drought resistant landscape planting as a means of reducing water demand, and shall coordinate with the Hi-Desert Water District to establish a strong education/public relations program to inform residents of a wide range of water saving techniques.

PROGRAM 1.A
Continue implementation of the water conservation oriented landscape ordinance to comply with State Assembly Bill 325 (AB 325), by requiring the use of natural and drought resistant planting materials and irrigation systems.
Responsible Agency: Town Council, Planning Commission, Planning Department
Schedule: Continuous

Program 1.B
Coordinate and cooperate with the Hi-Desert Water District in the development of educational materials and programs that encourage and facilitate water conservation throughout the community and encourage the Morongo Unified School District to develop landscaping plans using desert plants consistent with water conservation.
Responsible Agency: Community Development Department; Hi-Desert Water District
Schedule: 1995 -1996, Continuous

POLICY 2:
Confer and coordinate with the County Transportation/Flood Control District to enhance groundwater recharge concurrent with flood plain management.

PROGRAM 2.A
To the extent practical, confer, coordinate, and cooperation planning efforts with the County Transportation/Flood Control and the Hi-Desert Water District to encourage the design of flood control facilities so as to enhance opportunities for use of stormwater for groundwater recharge and to minimize land use conflicts between percolation/recharge basins and/or stormwater detention basins and other land use.
Responsible Agency: Community Development Department; County Transportation/Flood Control; Hi-Desert Water District
Schedule: 1995; Immediate; Continuous

PROGRAM 2.B
Establish regulations and guidelines for the development and maintenance of project-specific on-site retention/detention basins which enhance groundwater recharge and complement regional flood control facilities.
Responsible Agency: Community Development Department; Warren Valley Basin Watermaster; Hi-Desert Water District; County Transportation/Flood Control
Schedule: 1995

POLICY 3:
Coordinate with the Hi-Desert Water District to compile an inventory of water supplies for present and future water demands.

PROGRAM 3.A
Confer and coordinate with the HDWD, to maintain a data base on the status of water production in acre feet per year, water quality, and additional potential water resources.
Responsible Agency: Community Development Department; Hi-Desert Water District; Mojave Water Agency.
Schedule: Continuous

POLICY 4:
Regulate land use and development, and confer and cooperate with the Hi-Desert Water District and County Transportation/Flood Control to facilitate recharging the Warren Valley Groundwater Basin.

PROGRAM 4.A
Confer, coordinate and cooperate in planning efforts with the HI-Desert Water District and County Transportation/Flood Control District to minimize land use conflicts between percolation/recharge basins and/or stormwater detention basins and other land uses.
Responsible Agency: Community Development Department; Hi-Desert Water District; County Transportation/Flood Control District
Schedule: Immediate; Continuous

POLICY 5:
Coordinate with the Hi-Desert Water District to share information on potential groundwater contaminating sources.

PROGRAM 5.A
Develop, maintain and share records and technical information on all sites which have the potential to contaminate groundwater resources with the Hi-Desert Water District and other agencies.
Responsible Agency: Community Development Department; Hi-Desert Water District; Regional water Quality Control Board.
Schedule: Continuous

PROGRAM 5.B
Evaluate all proposed land use and development plans for their potential to create groundwater contamination hazards from point and non-point sources, and shall confer with other appropriate agencies to assure adequate review.
Responsible Agency: Community Development Department; Hi-Desert Water District
Schedule: Continuous

POLICY 6:
Ensure the Hi-Desert Water District implements and develops a wastewater collection and treatment system, which will provide for long-range water quality protection and will provide for increased reclaimed water for groundwater recharge.

PROGRAM 6.A
Confer, coordinate and cooperate with the Hi-Desert Water District and lend its support to the development of a needs assessment and feasibility analysis of the design and construction of wastewater collection and treatment facilities in the community.
Responsible Agency: Hi-Desert Water District, Community Development Department.
Schedule: 1995-1996

PROGRAM 6.B
If and when the wastewater treatment facility is constructed, the Town shall encourage the Hi-Desert Water District to consult with appropriate agencies and potential end users, and evaluate the use of tertiary treated wastewater for golf course and landscaping irrigation, whenever feasible.
Responsible Agency: Hi-Desert Water District, Community Development and Community Services Departments.
Schedule: 1996-1998

F:\GPLAN\CITZ\WATERRES.SRS
rev. 10

AIR QUALITY ELEMENT

PURPOSE

The purpose of the Air Quality Element is to coordinate the planning of land use, circulation, housing and other Town policies with their potential effects on air quality. It is the intent of this element and air quality planning in the region and locally to meet ambient air standards set by the Federal Environmental Protection Agency (EPA) and the California Air Resources Board (CARB).

BACKGROUND

The Air Quality Element is directly related to the type and intensity of land uses established in the Land Use Element, and the number, length and timing of traffic trips established in the Circulation Element. This Element is also related to the amount and rate of housing development established in the Land Use and Housing Elements, and the amount of open space, with no potential for pollutant emission, established in the Open Space, Mineral, Energy and Conservation Element.

The State Legislature enacted Assembly Bill 2595 in 1988, which became known as the California Clean Air Act, in order to assure that the future health and welfare of the people of the State of California and the State's environment and economy are protected, regardless of action or direction from the federal government.

State Implementation Plans are designed to meet 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 (CCAA). These Acts base the extent of required emission reductions and the length of time to attain standards on the severity of a District's pollution.

The California Air Resources Board, which shares the primary responsibility for air quality management in the State, has taken a committed approach to expeditious implementation of the Act[1]. The CARB has been entrusted with an overseer role, to advise and evaluate local air pollution control agency and District efforts to comply with CCAA requirements.

The Town of Yucca Valley is located within the portion of the Southeast Desert Air Basin (SEDAB), which previously was regulated by the San Bernardino County Air Pollution Control District. In past years, the area was transferred to the South Coast Air Quality Management District (SCAQMD), and then back to the San Bernardino County Air Pollution Control District with revisions to District boundaries[2].

As of July 1, 1993 the Town of Yucca Valley was included in a new air quality management district. Several desert area communities coordinated the establishment of this new district, called the Mojave Desert Air Quality Management District (MDAQMD), replacing the San Bernardino County Air Pollution Control District. This District was officially instituted to contain a portion of the Mojave Desert region, including the following cities: Needles, Barstow, Adelanto, Victorville, Apple Valley, Hesperia, Twentynine Palms and Yucca Valley. Several other cities have indicated interest in the new District[3] (please see Exhibit IV-4).

The Mojave Desert region is a geographical and meteorological area wholly contained within the Southeast Desert Air Basin. The region currently has air pollution problems caused by the transport of air pollution from upwind districts, by the growing number of motor vehicles and numerous stationary sources, and by atmospheric and meteorological conditions which are conducive to the formation of a variety of pollutants[4]. The District was formed to assure the effective control of air pollution in the area through greater coordination between air quality management decisions and the land use and transportation decisions of local governments within the region.

The existing boundaries, responsibilities, regulations and resolutions of the San Bernardino County Air Pollution Control District have essentially remained the same; however, they are now implemented by the MDAQMD, which was instituted as an autonomous rather than a county agency. The participating cities have established a governing board consisting of eleven members. Eight of these members are representatives of the participating incorporated cities, and the remaining three are County representatives.

1 San Bernardino County Air Pollution Control District's Final 1991 Air Quality Attainment Plan, August 26, 1991.
2 Bob Ramirez, Supervising Air Quality Technician, Mojave Desert Air Quality Management District, Southeast Desert Air Basin, personal telecommunications August 19, 1993
3 Christian Ihenacho, Supervising Air Quality Planner, Mojave Desert Air Quality Management District, Southeast Desert Air Basin, person telecommunications August 17, 1993
4 California Health and safety Code "air Quality-Mojave Desert Air Quality Management District," Chapter 642: A.B. No 2522 Legislative Counsel's Digest, p 2446.

The County responsibilities, regulations and resolutions shall remain in effect and shall be enforced by the Mojave Desert District until superseded or amended by the Mojave Desert District Board[5].

The Mojave Desert District Board is required to adopt rules and regulations that are not in conflict with State and federal laws, and that reflect the best available technological and administrative practices. The rules and regulations adopted shall require the level of control necessary to achieve the emission reduction requirements of the federal Clean Air Act of 1988[6].

The Town of Yucca Valley, in relation to other areas in Southern California, essentially has good air quality. In the past few decades noticeable deterioration of air quality has occurred due to increased development and population growth, traffic, construction activity and various site disturbances. It is apparent that although air pollution is emitted from various sources in the Morongo Basin, the most evident degradation of air quality may be attributed mainly to sources outside of the area, including Los Angeles County, Riverside County and other portions of San Bernardino County.

Pollutants

Pollutants are generally classified in two categories, primary and secondary. Primary pollutants are those which are a direct consequence of energy production and utilization, while secondary pollutants are those which undergo chemical changes after emission. Primary pollutants typically affect only local areas, and do not undergo chemical modification or further dispersion. Secondary pollutants, on the other hand, do disperse and undergo chemical changes under conditions of high ambient temperatures and high rates of solar insolation. Primary sources and their pollutants are 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 particulate. Principal secondary pollutants are termed oxidants and include ozone (O_3), peroxynitrates, nitrogen dioxide (NO_2), and chemical aerosols.

There is widespread concern about the serious detrimental effects caused by even the most common pollutants. Ozone, particulate, carbon monoxide and other pollutants pose a very real threat to health and property in the desert. The following is a brief summary of the primary criteria pollutants that can be found in the Yucca Valley area.

Ozone (O_3)

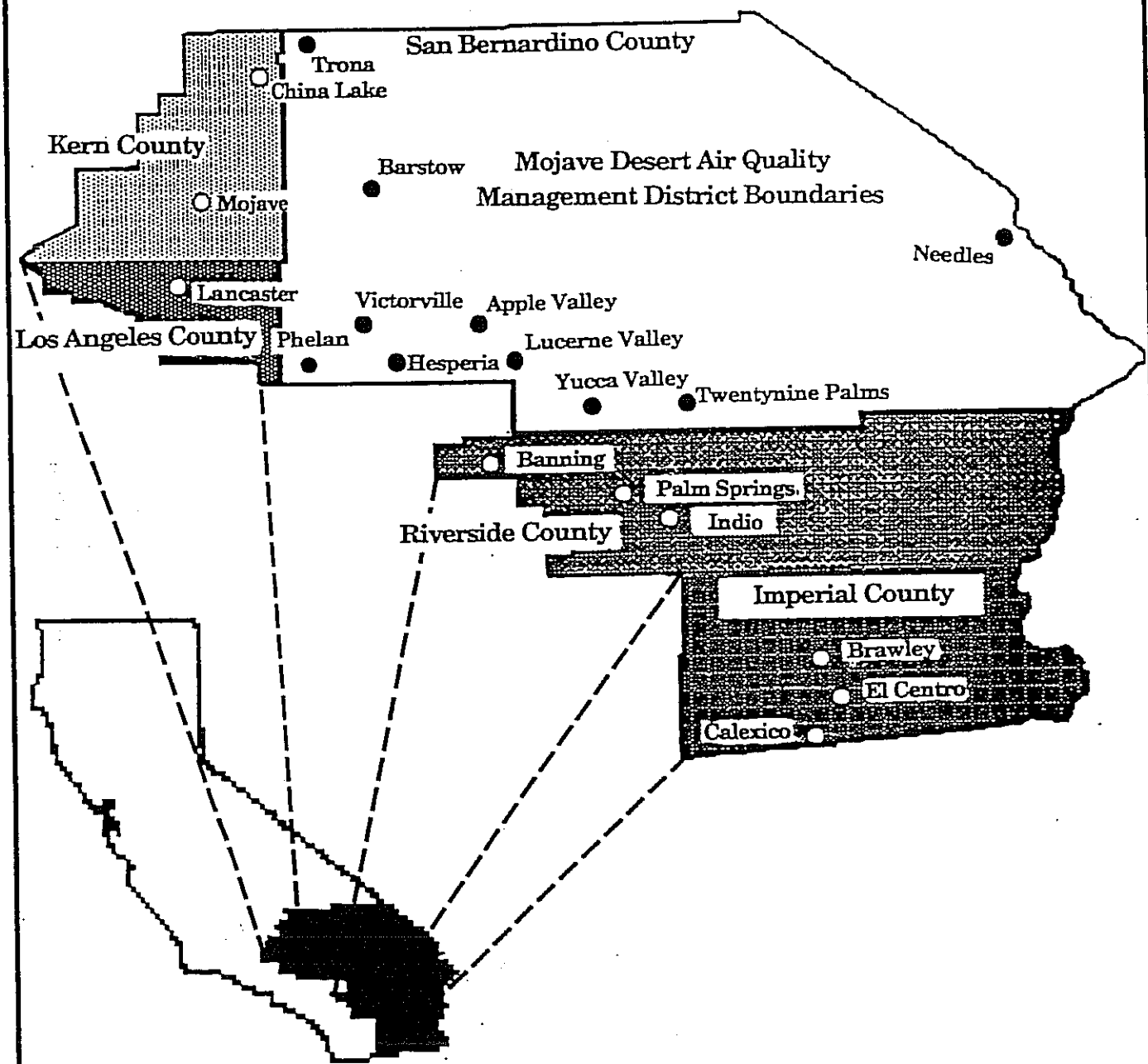
Most commonly known as smog, ozone is a pungent, colorless, highly reactive gas which is the main component of photochemical smog. This is a daily occurrence that commonly takes place from the pollution emitted by mobile sources[7]. The potential impact ozone can have on human health is significant, as the ozone molecules react with sensitive lung tissues, irritating and inflaming the lungs, compromising the body's ability to fight respiratory infections[8]. Ozone can also cause extensive damage to vegetation.

The majority of smog experienced in the Yucca Valley area results from the transport of pollutants from Los Angeles County, Riverside County and the Valley portions of San Bernardino County. During the winter months, in the Yucca Valley area, cooler ambient temperatures retard ozone formation and encourage the buildup of higher concentrations of oxides of nitrogen.

Particulate Matter (PM_{10})

Particulate Matter refers to small particles, both solid and liquid, such as dust, sand, metallic and mineral particles, road-surfacing materials, pollen, smoke, fumes and aerosols. These various particles are categorized by "settling" characteristics, and those which are the size of 10 microns or smaller in size are referred to as PM_{10}. PM_{10} particles can cause serious health problems, as they can pass through the lung's filtering system, lodge deep in the lung's tissues, and directly irritate these tissues[9]. PM_{10} is considered to be one of the most prevalent forms of air pollution in the Yucca Valley area, and therefore is discussed further in relation to "Blowsand Effects".

5 Ibid
6 Ibid
7 The California Environmental Quality Act Air Quality Handbook, prepared by the South Coast Air Quality Management District, April 1993
8 The San Bernardino County Air Pollution Control District's Final 1991 Air Quality Attainment Plan, August 26, 1991
9 The California Environment Quality Act Air Quality Handbook, prepared by the South Coast Air Quality Management District, April 1993



Source: The San Bernardino County Air Pollution Control District's Final 1991 Air Quality Attainment Plan August 26, 1991.

Exhibit IV-4

Mojave Desert Air Quality Management District Boundaries

Other Pollutants

Nitric Oxide (NO) and nitrogen dioxide (NO_2), commonly referred to as NO_x, are the two most significant oxides of nitrogen for air pollution. NO_x is formed primarily in automobile engines, railroad engines, refineries, electric power plants, and other large energy conversion processes[10]. It is neither an irritant nor a health threat at concentrations found in the ambient atmosphere, but is a major contributor to acid rain. Nitrogen dioxide, however, can be lethal in high doses, as it can damage the cell lining of the respiratory tract and increase susceptibility to respiratory infections.

Carbon Monoxide (CO) is a colorless, odorless, toxic gas which is generally produced by the incomplete combustion of carbon containing substances. The pollutant results from emissions from internal combustion engines, principally in automobiles and industrial uses. Carbon Monoxide passes through the lungs directly into the blood stream, binding with hemoproteins and reducing the amount of oxygen which reaches the vital organs such as the heart, brain and tissues[11].

Sulfur Dioxide (SO_2) is a heavy, pungent, colorless gas which primarily results from the combustion of sulfur containing fuels such as oil or coal. In the Yucca Valley area, the presence of sulfur dioxide arises from the use of sulfur rich fuel for combustion equipment, rather than from refineries and industrial boilers, which are considered traditional sources[12]. The health effects of SO_2 are irritation of the respiratory tract, impairment of respiratory functions, and the promotion of the development of lung disease.

Lead (Pb) exists in ambient air, as an inhalable particulate. The primary sources of lead in the air have included leaded fuels in motor vehicles, air stripping of contaminated soil and emissions released from smelters. Particles of lead, which are considered to be air pollutants, are so small that as much as fifty percent of what is inhaled may be retained[13] (Also see the Hazardous and Toxic Wastes Element).

Of all of these pollutants, Ozone and PM10 are the most prevalent in the Yucca Valley area. Therefore, part of the reasoning behind the establishment of the Mojave Desert Air Quality Management District was to address more efficiently the meteorological and climatic characteristics of the desert areas that result in higher levels of PM10 and Ozone during the summer months.

Blowsand Effects

PM10 in the Yucca Valley area comes mostly from locally generated fugitive dust. Each year, winter rains cause erosion of adjacent mountains, and water run-off produces substantial deposits of sand throughout the area. During the spring months, persistent, strong winds carry the sand methodically down the valley[14].

Sometimes referred to as "blowsand," this natural sand migration produces PM10 in two ways: (1) by direct particle erosion and fragmentation (natural PM10), and (2) by secondary effects, such as sand deposits on road surfaces which can be ground into PM10 by moving vehicles, and resuspended in the air by those vehicles (man-made PM10)[15].

Weather and PM10

In the spring and the early summer months, meteorological conditions favor the development of strong winds. Seasonally, as the deserts begin to heat up, surface pressures are systematically lowered. This creates a vacuum-like effect, whereby cooler, ocean-modified air is pulled toward the deserts. While rain storms may dampen and compact the desert soils, flooding can cause the exposure of new, silty materials that can easily be lifted into the air by lighter breezes, as well as by the strong winds, that are very common in the area. Desert visibilities, which typically exceed 35 miles, may be reduced to less than a mile by blowing sand and dust. In addition, on other occasions, summer thunderstorms generate strong gusts and can produce large scale dust storms.

Blowing particulate matter is deposited on fabrics, buildings and automobiles. Extensive wind borne soil can obliterate landscaping and dirty streets. Losses and damage occur to materials and finishes, as blowing sand can pit windshields, destroy finishes and require additional cleaning and sweeping of exposed areas. Dust on vegetation can suppress plant growth and interfere with respiration through leaves.

10 The California Environment Quality Act Air Quality Handbook, prepared by the South Coast Air Quality Management District, April 1993
11 The California Environment Quality Act Air Quality Handbook, prepared by the South Coast Air Quality Management District, April 1993
12 Ibid
13 Ibid
14 Ibid
15 The Federal Register, Vol 52, No. 126 "Rules and Regulations." Wednesday, July 1, 1987, p. 24725

State and Federal Standards

Federal and State ambient air quality standards are set at levels believed adequate to protect the health of the most sensitive population groups, particularly the elderly, children and people with respiratory diseases. State standards are more restrictive than federal.

The following table provides a breakdown of the pollutants monitored in the Mojave Desert Air Quality Management District and the applicable State and federal standards.

Table IV-1
State and Federal Ambient Air Quality Standards

Pollutant	State Standards Averaging Time	Conc.	Federal Standards Averaging Time	Conc.
Ozone	1 Hour	.09 ppm	1 Hour	.12ppm
Carbon Monoxide	1 Hour	20 ppm	1 Hour	35ppm
	8 Hr.Av.	9 ppm	8 Hr. Av.	9ppm
Nitrogen Dioxidem	1 Hour	.25 ppm	Annl. Av.	.035ppm
Sulfur Dioxide	1 Hour	.25 ppm	Dry Deposition Only	
	24 Hours	.05 ppm		
Particulate Matter*	Any Sample	50$\mu g/m^3$	24 Hour	150$\mu g/m^3$
	Annual Geo. Mean	30$\mu g/m^3$	Annual Arith.Mean	50μgm^3

ppm = parts per million
*:collected over a six hour period
Source: The San Bernardino County Air Pollution Control District's Final 1991 Air Quality Attainment Plan August 26, 1991.

Air Quality Monitoring Stations

There are seven air quality monitoring stations in the MDAQMD, outside of the Yucca Valley area, which are currently operated in the communities of Barstow, Hesperia, Phelan, Trona, Twentynine Palms, Victorville and Lucerne Valley. All of these monitors, with the exception of Lucerne Valley, are capable of monitoring wind speed and direction, which are critical in the evaluation of pollutant sources. The monitoring stations are strategically located throughout the District, set up in specific corridors, where intra-District and inter-District pollution levels may be monitored[16]. The monitoring stations measure the various pollutants indicated in the following table.

Table IV-2
Pollutants and Parameters Recorded at MDAQMD Monitoring Stations

Site:	Ozone	Nox	Sox	COPM10	Wind Speed	Wind Dir
Barstow:	Yes	Yes	No	Yes	Yes	Yes	Yes
Hesperia:	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Phelan:	Yes	Yes	Yes	Yes	No	Yes	Yes
Trona:	Yes	Yes	Yes	No	Yes	Yes	Yes
29 Palms:	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Victorville:	Yes	Yes	Yes	No	Yes	Yes	Yes
Lucerne Val.	No	No	No	No	Yes	No	No
Yucca Val.*	Yes	No	No	No	Yes	Yes	Yes

* Monitoring sites installed in the Town of Yucca Valley in August 1993.
Source: The San Bernardino County Air Pollution Control District's Final 1991 Air Quality Attainment Plan August 26, 1991. Mojave Desert AQMD, 1993.

Yucca Valley Monitors

In the beginning of August, 1993 the MDAQMD installed two monitoring devices at the Community Center Complex, located at 57090 Twentynine Palms Highway, in the Town of Yucca Valley[17]. These devices monitor Ozone and PM10 levels in the Town, along with wind speed and wind direction levels, and provide information essential to developing programs for preservation and enhancing area air quality. The monitoring stations need to collect a large amount of data which must be correlated in order to draw meaningful conclusions regarding air quality in the Town and region.

The first four months of data collected at the Yucca Valley Monitoring Site included Ozone, Wind Speed and Wind Direction measurements for July 19 through October 31, 1993. The instrument measuring particulate matter was not yet operational. An analysis of the data illustrated that the State standard for Ozone was exceeded a total of six times within this period, including August 2nd, 3rd, 4th, 6th and 29th, and September 11. It was also apparent that the highest ozone levels occurred between the hours of 4:00 and 7:00 PM[18], with wind direction generally from the southwest. This data, again suggests that this pollutant is transported into the Yucca Valley area from Los Angeles County, Riverside County and other portions of San Bernardino County.

16 San Bernardino County Air Pollution Control District's Final 1991 Air Quality Attainment Quality Plan, August 26, 1991
17 Bob Ramirez, Supervising Air Quality Technician, Mojave Desert Air Quality Management district, Southeast Desert Air Basin, personal telecommunications August 19, 1993
18 AQ-DHS Air Quality Data Report from the Yucca Valley Monitoring Site located at 57090 29 Palms Highway, August 1 thru August 24, 1993

However, although these measurements are important in the long run, their short term accuracy is questioned, as the EPA, which sets all federal air quality standards, suggests that at least a year of data (365 days) is necessary to begin to draw conclusions regarding air quality of a Planning Area. Most of the analyses required by EPA suggest a minimum of three years of data to prevent hasty and unfounded conclusions, which may affect State and federal mitigation measures required for the study area.

Therefore, in order to roughly gauge current (1994) air quality in the Town of Yucca Valley, data from the Twentynine Palms monitoring site shall be used. Twentynine Palms is similar to Yucca Valley in that it is a high desert community that shares the same geographic and meteorologic conditions. Due to these similarities, and its close proximity to Yucca Valley, the data from the Twentynine Palms monitoring facility is useful to illustrate the general air quality status of the Town.

The following table displays Ozone and PM10 levels in Twentynine Palms from 1989 to 1992.

Table IV-3
Exceedances of Standards and Maximum Concentrations at the Twentynine Palms Monitoring Site, 6078 Adobe Road

	Ozone			PM10		
Year	Days Over State Stand.	Days Over Fed. Stand.	Max 1-hr ppm	Days Over State Stand	Days Over Fed. Stand.	Max 24-hr $\mu g/m^3$
1989	33	3	.13	15	n/a	n/a
1990	37	1	.14	4	1	297
1991	61	6	.129	8	1	297
1992	33	0	.12	0	0	49

n/a: Data not available
Source: San Bernardino County Air Pollution Control District's "Annual Air Quality Reports" for 1989 and 1990, and "Air Quality Data" and "24-hour Summary Reports" for 1991 and 1992.

The Air Quality in Twentynine Palms is relatively good, with an average ozone level of 0.05 to 0.06 parts per million, and very few exceedances of PM10. In relation to other districts in Southern California, the air quality in the Twentynine Palms area is comparatively good.

The following table shows a comparison of the Ozone and PM10 levels recorded at six monitoring sites within the MDAQMD.

Table IV-4
California Ozone Standard Exceedance Days/Year

Site:	Year:					
	1985	1986	1987	1988	1989	1990
Hesperia	125	139	141	126	127	119
Phelan	n/a	n/a	n/a	136	107	105
Victorville	105	56	56	80	87	56
Barstow	34	46	31	77	67	35
29 Palms	n/a	n/a	n/a	37	33	37
Trona	n/a	6	8	10	5	1

n/a: Data not available.
Source: The San Bernardino County Air Pollution Control District's Final 1991 Air Quality Attainment Plan August 26, 1991.

A detailed analysis of the Ozone exceedance table illustrates that there is, in fact, a definite correlation between the exceedance dates for Twentynine Palms and those for Hesperia, Phelan and Victorville. Also, the Twentynine Palms monitoring station recorded fewer exceedances than the others. Therefore, it is most likely that the Ozone was transported from west to east, rather than produced locally.

In addition, the table shows that Twentynine Palms has the second to lowest level of PM10 and Ozone in the District. However, there are several instances of both pollutant levels exceeding the State and Federal standards. Therefore, it is evident that the air quality levels in Yucca Valley are relatively good, and in order to preserve this level of air quality, appropriate programs and policies must be implemented.

FUTURE DIRECTIONS

Residence within Yucca Valley and the Morongo Basin benefit from existing air quality. It is the responsibility of the Mojave Desert Air Quality Management District and the Town of Yucca Valley, to monitor pollutant levels and regulate air pollution sources. With the installation of the monitoring devices at the Town Community Center, the Town has already taken the first step in the implementation of the regulations of the CCAA which require adequate monitoring of pollutant levels throughout each AQMD. However, air quality management is an ongoing process, and the Town must determine what actions and development activities have the potential to adversely affect air quality in the area.

The issues addressed in the Air Quality Element are a part of those set forth in the California Government Code, Section 65302(b), where within the requirements set forth for the Circulation Element, the Government Code conditions that air quality trends and existing air quality levels be analyzed. In

addition, the California Clean Air Act (Assembly Bill 2595), necessitates the development of air quality policies and programs which will protect and preserve the environment and general public from harmful air pollutants.

AIR QUALITY GOAL, POLICIES AND PROGRAMS

GOAL

Preservation and enhancement of the Mojave Desert region's air quality, in order to assure long-term availability of clean and healthful air in the Town of Yucca Valley, for the protection of the health and welfare of the community as a whole.

Policy 1
Participate in the monitoring of all air pollutants of regional concern on a continuous basis, and shall maintain records of trends in regional air quality.

Program 1.A
Actively promote and pursue expansion of the existing air quality monitoring station, installed at the Community Center by the MDAQMD, to include NO_x, SO_x and CO.
Responsible Agency: MDAQMD; Community Development Department
Schedule: Continuous

Program 1.B
Be notified of all violations of air quality standards in an annual report, which shall document and illustrate trends and assess identifiable causes of exceedances.
Responsible Agency: Community Development Department; MDAQMD
Schedule: Annually; Continuous

Policy 2
Coordinate air quality planning efforts with other local, regional, and federal agencies.

Program 2.A
Coordinate activities with the MDAQMD in conjunction with other local and regional agencies and take an active role in the development and application of air quality regulations.
Responsible Agency: Town Council; Community Development Department
Schedule: Continuous

Program 2.B
Guidance of the MDAQMD shall be sought in the review of major or significant project proposals, through referral of development plans and/or draft environment impact reports and negative declarations, or through formal or informal consultation.
Responsible Agency: Community Development Department
Schedule: Continuous

Policy 3
Town land use planning shall include efforts to separate sensitive land uses from sources of air pollution.

Program 3.A
The Town Land Use Element shall be developed and maintained to locate air pollution point sources, such as manufacturing facilities, away from residential areas and other sensitive receptors.
Responsible Agency: Community Development Department
Schedule: Development and on-going maintenance of the Town Land Use Element; Continuous

Program 3.B
Include buffer zones within residential and other sensitive receptor site plans to separate those uses from highways, arterial, point sources and hazardous material locations.
Responsible Agency: Community Development Department
Schedule: Development and on-going maintenance of the Town Land Use Element, Continuous

Policy 4
Pursue programs which reduce emissions by creating a land use pattern which can be efficiently served by a diversified transportation system and which minimizes vehicle miles traveled.

Program 4.A
Coordinate with developers and regulate the phasing and staging of development to assure the lowest pollutant emission levels possible. In addition, the Town shall impose mitigation measures on all new development to provide for the adequate use of water trucks and other features which will effectively limit fugitive dust emissions resulting from construction.
Responsible Agency: Community Development Department
Schedule: Continuous

Policy 5
Promote the safe and efficient movement of people and materials into and through the Town as a means of reducing the impact of automobiles on local air quality.

Program 5.A
Promote the development and utilization of pedestrian/multi-use, and bike paths and lanes as a desirable

alternative to the generation of unnecessary vehicular traffic, and shall integrate and periodically update these components in the Circulation Element.
Responsible Agency: Parks and Recreation; Community Development Department
Schedule: Continuous

Program 5.B
Promote and support the development of a Park and Ride program to decrease existing and future traffic levels within the community.
Responsible Agency: Community Development Department; Traffic Advisory Committee
Schedule: Continuous

Program 5.C
Participate in the development and coordination of mass transit/shuttle service linking residential, potential resort and commercial centers of the Town, and shall participate with regional associations and service providers to improve and optimize regional transportation services.
Responsible Agency: Community Development Department; Traffic Advisory Committee
Schedule: Continuous

Program 5.D
Initiate and encourage the use of alternative (clean) energy sources for transportation, heating and cooling. The Town shall also initiate pilot studies and/or demonstration programs in order to promote these uses.
Responsible Agency: Community Development Department; Southern California Edison; Southern California Gas
Schedule: Continuous

Program 5.E
Take appropriate action to limit the excessive production of smoke in both residential and commercial areas.
Responsible Agency: Community Development Department; Code Enforcement
Schedule: Immediate; Continuous

Program 5.F
Coordinate with regional and State traffic agencies to analyze and improve roadway conditions, and propose appropriate mitigation measures to alleviate pollution caused by circulation patterns and inadequate roadway networks.
Responsible Agency: Community Development Department; Caltrans
Schedule: Immediate; Continuous

Policy 6
All development proposals brought before the Town will be reviewed for potential adverse effects on air quality and will be required to mitigate any significant impacts.

Program 6.A
Conduct an initial study for all applications which have the potential to affect air quality.
Responsible Agency: Community Development Department
Schedule: Continuous

Program 6.B
Projects which generate significant levels of air pollutants, such as manufacturing facilities and hazardous waste handling operations, shall be required by the Town to incorporate air pollution mitigation in their design, and to utilize the most advanced technological methods feasible. Limits shall be set on excessive production of toxic smoke by businesses or residences.
Responsible Agency: Community Development Department
Schedule: Continuous

Program 6.C
Develop an ordinance regulating the application of pesticides, fertilizers and herbicides in conjunction with agricultural activities and landscaped areas occurring in the Town.
Responsible Agency: Community Development Department; Town Council; Planning Commission
Schedule: Continuous

Policy 7
Due to the fact that some land uses support populations that are especially sensitive to air contaminants, such as schools and hospitals, the Town of Yucca Valley shall develop and support regulations with this sensitivity in mind.

Program 7.A
Formulate standards for the regulation of location and protection of sensitive receptors from excessive and hazardous emissions.
Responsible Agency: Community Development Department; Traffic Advisory Committee
Schedule: Continuous

F:\GPLAN\CITZ\AIRQUAL.SRS
rev. 10

OPEN SPACE, MINERAL, ENERGY AND CONSERVATION ELEMENT

PURPOSE

The purpose of the Open Space, Mineral, Energy and Conservation Element is to address the need for the preservation of open space lands and to ensure the conservation, diverse development and utilization of energy and natural resources, including watersheds, wildlife habitat, mineral and scenic resources in our rural Town. These finite resources can be preserved and reclaimed, but as growth continues so too will the demand for energy and natural resources, as well as open space lands. This Element quantifies current energy usage, mineral resource location and identification, and open space lands. The Open Space, Mineral, Energy and Conservation Element also identifies issues associated with energy, minerals, and open space, and provides approaches for conservation of these commodities.

It is the intent of this Element to define and establish open space and conservation areas in our rural town, mineral resource zones, and existing energy resources and consumption patterns, in an effort to preserve and expand these important resources and determine how they may be most effectively managed. Policies and programs will serve as the tools to insure the preservation and management of these resources and discourage premature or inappropriate conversion of mineral resource zones, and open space and conservation lands to urban uses, thereby assuring their long-term viability and integration with regional open space resources.

BACKGROUND

The broad and comprehensive nature of the issues and subjects of this Element relate directly and indirectly to many other Elements of this General Plan. The Land Use, Circulation, Scenic Highways, Parks, Recreation and Trails, Biological, Cultural Resources, Water Resources, and Seismic Safety Elements are directly related to the Open Space, Mineral, Energy and Conservation issues addressed in this Element. The Land Use, Air Quality, and Circulation Elements directly relate to the Open Space, Mineral, Energy and Conservation issues of this Element, and the Housing and Air Quality Elements have direct consequences upon energy resources. This Element is oriented almost exclusively towards natural resources, with particular focus on conservation and open space lands, and mineral and energy resources. Its design is not only the assurance of continued availability of land for the production, use and conservation of energy and natural resources, but also for the enjoyment of scenic beauty and recreational uses[1].

Open space land is defined as any parcel or area of land or water that is essentially unimproved and devoted to open space uses. These areas primarily include lands designated for the preservation of natural resources (plant and animal communities), rivers, streams and their banks, managed crop lands and mineral deposits, parks and recreational facilities, ad areas where the presence or existence of hazardous materials have prohibited development (Government Code Section 65560(b)).

The Open Space Lands Act (Government Code Section 65566) requires local governments to prepare open space plans before adopting required open space related zoning ordinances. This helps to ensure that open space zoning remains consistent with the open space plan. The Act marked the first legislative signal in the open space movement and has remained practically unaltered since its original enactment in 1970[2].

Minerals are considered to be any naturally occurring chemical elements or compounds, formed from inorganic processes and organic substances, including, but not limited to iron, limestone, coal, peat, bituminous rock, sand and gravel, but excluding geothermal resources, natural gas and petroleum. The importance of mineral deposits and their utilization is dependent upon their relative abundance and importance in commerce and industry. Deposits of rare or important industrial materials require careful consideration before their availability is precluded by urban development.

Recent federal legislation was adopted to reduce intensity of human use and increase environmental protection to a large

1 Office of Planning and Research, "Planning Law Analysis and Test Organizer (PLATO)", Sacramento, CA, August 1987, Page 16.
2 Office of Planning and Research, Sate of California General Plan Guidelines, Sacramento, CA June 1987 Page 216

portion of the California desert. The legislation turned approximately eight million acres of the California desert into national parks and wilderness areas, a large portion of which is located in San Bernardino County.

Energy resources are integral in residential, commercial and industrial land uses, and especially in transportation. Regional relatively high energy costs, a highly competitive economic environment, and substantial opportunities for conservation encourage the development and use of alternative energy resources. The overall quality of air and health of ecosystems are dependent upon sensible choices of energy production, use and conservation.

In 1976, San Bernardino County adopted the Joint Utilities Management Program (JUMP) to plan for energy conservation, production, and facilities siting[3]. Land use compatibility and environmental constraints prompted the development of siting criteria to guide the review of proposed facilities. The Town of Yucca Valley is part of this Plan.

Government Code Section 65302(d) requires that General Plans include elements addressing issues of resource conservation, and sets forth the areas that may be addressed, including reclamation, prevention of pollution or resource degradation, and protection of watersheds.

Open Space Categories

There are four types of open space categories described in this Element. Each type of open space contains its own set of issues regarding conservation.

I. Open Space for the Use of Outdoor Recreational Use

An essential priority in the community design of the Town is the investment in parks, community spaces, and open space and conservation areas. With an anticipated increase in the population of California, San Bernardino County, and the Yucca Valley region, it is necessary to plan for the preservation of valuable open space land. Open space within the Town can provide relief from urban congestion, while creating opportunities for recreational activities, settings for public activities, as well as a place to gather in a more natural environment.

Open space areas for the use of outdoor recreation include those areas with outstanding scenic, historic and cultural value; areas particularly suited for park and recreation purposes, including those accessible to streams; and areas which serve as links between major recreation and open space facilities. Examples of these lands include utility easements, steep terrain and mountainous areas, river, stream and wash beds and their banks, trails, and scenic highway corridors.

Joshua Tree National Park

Perhaps the largest and most well known park facility in the Yucca Valley area is the Joshua Tree National Park, which contains 792,000 acres of desert preserve administered by the National Park Service, and is located immediately south of the Town. Access to Joshua Tree National Park can be found off Black Rock Canyon Road where visitors may reach Black Rock Canyon Campground and a Ranger Station[4]. Located within the Park are "wilderness" campsites, and an extensive network of hiking trails and geographical features that attract rock climbers to some of the best all-year rock climbing in the world.

Prior to the adoption of the Yucca Valley General Plan, San Bernardino County expressed a concern for the need for open space along the Joshua Tree National Park's northern perimeter. Responding to this, a one mile policy area was proposed along this perimeter. This policy zone encompassed the entire six mile southern boundary of the Town of Yucca Valley. The purpose of the policy zone was to soften or mitigate the effects of one land use on the other. Responding to similar concerns and addressing the need to preserve sensitive and/or constrained open space lands, the Town has designated much of the area bordering the Park accordingly. The intent of this and the Land Use Element is to preclude land uses which might have an adverse impact on (or which were incompatible with) the Park.

Big Morongo Canyon Wildlife Preserve and the Burns Pinyon Ridge Reserve

The Big Morongo Wildlife Preserve, located seven miles west of the Town of Yucca Valley, is a desert oasis with perennial water flowing over three miles, supporting all types of riparian vegetation. The preserve is managed by the Nature Conservancy and the U.S. Bureau of Land Management consists of 4,500 acres. In the preserve, visitors can find lush vegetation and water providing a rich habitat for various bird species, some of which are quite rare and unusual. Desert mammals, reptiles, and amphibians can also be found in this unique wilderness environment.

3 Background Appendix to the San Bernardino County General Plan, Section II Planning Issues "Energy Telecommunications" Adopted July 1989, Revised August 1991, p. BA-II-D-203

4 Yucca Valley Chamber of Commerce, "Visit The Joshua Tree National Park Area And..." Yucca Valley Chamber of Commerce, 1992.

Within the Town limits, north of Highway 62 and west of Highway 247 is the Burns Pinyon Ridge Reserve. This 320 acre holding is a State owned site managed for the protection of rare plants and animals. This site is considered to provide important opportunities for scientific research in desert ecology and habitat and species conservation (Also see the Biological Resources Element).

Other Open Spaces

In addition to Joshua Tree National Park, the Big Morongo Wildlife Preserve, and undeveloped parklands, the Town of Yucca Valley also offers developed park facilities including the Community Center facilities, Hi-Desert Park, Machris Park, and Paradise Park. Desert Christ Park, owned and managed by the Museum Association, is another important open space and cultural resource site located within the Town. Little League Park, owned by the Tri-Valley Little League, is also located in the Town. These parks are scattered primarily through the southern portion of the Town since hilly topography can sometimes restrict recreation oriented open space in the northern areas. With scenic beauty as one of Yucca Valley's prime assets, it is important that residents have a park and open space system that will continue to grow and improve through time for current and future generations of residents.

The chart below illustrates the acreage of open space in 1994 in the Town of Yucca Valley and its surrounding areas. For further information as to the location of these open space areas, please see Exhibit IV-2, within the Biological Resources Element.

Table IV-5
Designated Undeveloped Open Space Lands
Town Of Yucca Valley and General Plan Study Area*

	Approx. Acres
Lands Designated	
Hillside Reserve - (HR)	
and not designated as parkland)[5]	3,737 acres
North Park	80 acres
South Park	40 acres
Desert Christ Park	3.3 acres
Burns Pinon Reserve	320 acres
Total (Approximately)	4,180.3 acres
Additional Open Space Lands near the Town of Yucca Valley	
Joshua Tree National Park	792,000 acres
Big Morongo Canyon Wildlife Preserve	4,500 acres

*Other park facilities providing open space experiences are discussed further in the Parks, Recreation and Trails Element.

Trails and Floodways

Floodway channels and utility easements serving also as trails can serve as public access links between open space areas, providing residents with alternate access. A significant opportunity for this type of floodway easement development exists in the Yucca Creek Control Channel north of Highway 62. The channel's banks can include limited pavement or other appropriate hard surface for use as a bike or pedestrian trail. The outer trail within the easement or the channel bottom may remain dirt for equestrian access (Please see the Flooding and Hydrology, Parks, Recreation and Trails, and Circulation Elements for more detailed information).

II. Open Space for the Preservation of Natural Resources

Open space for the preservation of natural resources encompasses an assortment of areas which are required to maintain biological diversity, to protect significant features, and to ensure that future generations will have access to natural environments. Conservation is defined as the management of natural resources to prevent waste, destruction, or neglect. Many finite and renewable resources are beginning to be depleted by population increases and development.

Natural resources can be categorized into two groups: renewable and finite. Renewable resources include fertile soils, forests, wildlife, water resources, streams, and scenic beauty. These resources can be refurbished by natural ecological cycles or sound management practices[6]. Careful planning and management is necessary to ensure that these resources remain renewable. Finite resources include fossil

5 Total lands DesignatedHillside Reserve (HR) = 4,177

6 Office of Planning and Research, State of California General Plan Guidelines, Sacramento, CA, June 1987, p 125

fuels, nonmetallic and metallic minerals. These resources are those that when destroyed or consumptively used cannot be replaced. Finite resources must be used sparingly in order to ensure their future availability. Although conservation may suggest the hoarding of natural resources for use at a later date, the aim of good conservation practices is to ensure a continuous yield of useful plants, animals, and materials by establishing a balanced cycle of harvest and renewal[7].

III. Open Space for the Managed Production of Resources

While the most prevalent use of land is for residential, commercial and other development, there are many economically productive uses which rely on open land that is not over-burdened with development.

Open space for the managed production of resources requires open areas which have not yet been urbanized, such as agricultural lands, areas containing major mineral deposits, areas of economic importance for the production of food, recreational uses, and areas required for the recharge of ground water basins and water storage.

IV. Open Space for Public Health and Safety

An important function of open space is its use as a buffer to separate people and buildings from hazards which could cause injury, damage, or death. Open space for public health and safety includes areas which require special management or regulation because of hazardous or special conditions. These include earthquake fault zones, unstable soil areas, flood plains, watersheds, areas presenting high fire risks, areas required for the protection of water quality and water reservoirs, and areas required for the protection and enhancement of air quality (Please see the Seismic Safety, Hydrology, Emergency Preparedness and Health Services, Fire and Police Protection, and Water Resources Element for more detailed information). Although these lands remain open due to hazardous situations, they have potential for other uses. Land along fault lines can be retained in its natural condition as a wildlife corridor and flood control facilities may be usable for natural open space and recreation.

MINERAL RESOURCES

Within the Town of Yucca Valley and vicinity, there are relatively few mineral resources, as the majority of the area is made up of alluvial fans, containing mostly sand, gravel and traces of clay. More particularly, the soil composition of the area consists of: older, undifferentiated alluvium, well dissected alluvial fans, sheared and deformed metamorphic rock (Gneiss), continental deposits (undifferentiated, fluvial gravel, sand, silt and clay), and Cretaceous or Jurassic Quartz Monzonite. A mineral investigation survey was conducted at a sand and gravel pit (Victor #1 Pit) located immediately northwest of the Town. At this site, Biotite and Muscovite, both rock-forming minerals with sheetlike structures of the mica group, were identified. According to the Department of Conservation, Division of Mines and Geology, neither of these materials are considered to be significant mineral resources.

The sand and gravel deposits within the area do represent an important economic resource, used for roadbase and similar applications. Other resources, such as limestone and marble which are found outside of the study area on the north slope of the San Bernardino Mountains, are also important environmental and economic resources.

Although none of the above mentioned minerals are listed as "strategic", they are considered to be in short domestic supply by the U.S. Bureau of Mines[8], as sand and gravel are in high demand for road base and other building materials. Efforts should be made to monitor and preserve these resources, with the threat of significant negative environmental and aesthetic effects still prevalent. Exhibit IV-5 identifies the predominant soil types located within the Town.

ENERGY RESOURCES

San Bernardino County has very limited fossil fuel resources, importing 90% of the fuel consumed from adjacent counties, states and foreign countries. The remaining 10% is supplied by small amounts of oil and natural gas produced from wells located in the Chino Hills and Prado Basin areas, and from solar and wind energy systems. With low local resource levels and high consumption rates, conservation and the development and utilization of alternative energy sources are imperative.

The hydropower resources in the County are harnessed by hydroelectric facilities located on the south sides of the San Bernardino and San Gabriel Mountains. These facilities

7 Owen, Oliver S., Natural Resource Conservation: An Ecological Approach, MacMilan Publishing Company, New York, NY, 1995, p11

8 Op cit., BA-II-C-229

which make limited contributions to regional energy generation, already harness the limited number of streams in the County and it is unlikely that future hydroelectric development could occur at a significant level.

Renewable Energy

There are three major and potentially significant alternative energy resources within the Yucca Valley area, which are solar, wind and solid waste. The region has one of the highest insulation values in the United States and is the site of major solar energy installations. The San Gorgonio Pass area is one of the world's most successful wind energy production sites, with the potential to generate up to 3,000 megawatts of electricity. Finally, solid waste, now largely deposited in landfills, is a potentially significant source of energy but is associated with significant environmental constraints.

Energy Services and Consumption

The Town of Yucca Valley is a desert mountain community, with temperatures that are usually 10 to 15F cooler than those of the communities of the nearby Coachella Valley. Temperatures occasionally exceed 110F in the summer months, and sometimes drop below freezing during the desert winter nights. With milder year round temperatures, compared to other desert communities, Yucca Valley residents still must factor substantial utility costs into their cost of living.

Precise figures on per capita or per household consumption of electricity and natural gas in the Town of Yucca Valley are not available and vary significantly with use, however, the South Coast Air Quality Management District (SCAQMD) and utility companies have developed assumptions to define the general level of consumption of energy on a use basis.

Gas Service

On average, the typical residential energy consumer uses approximately 6,665 cubic feet per unit per month of natural gas. Gas service is available to commercial, industrial and residential users in the Town, with costs varying with seasons and amount of use. Propane, coal and wood burning are also widely used in the Town of Yucca Valley for space heating, water heating and cooking. While these energy sources are efficient it should be noted that their extensive use has the potential to cause adverse impacts to ambient air quality due to emissions of carbon, nitrates and soot (Please see the Public Buildings, Facilities and Utilities Element for a more detailed discussion).

Electrical Service

On average, the typical residential electric customer uses approximately 5,626 kilowatt-hours per year of electricity. Electrical services are provided in the Yucca Valley area by Southern California Edison (SCE). There are two major electrical transmission lines that serve the Town of Yucca Valley, one runs along Highway 62, and the other just north of the Joshua Tree National Park. Both of these lines originate at the Devers substation near the City of Desert Hot Springs and have voltages of 115kv. Every year, residential users are offered various rebates for the installation of energy efficient equipment. Several rebates offered by SCE include: refunds for the replacement of a "through-the wall" heat pump; for the installation or replacement of a central electric air conditioner; for the replacement of a central electric heat pump; and for the replacement or retrofitting of a heat pump water heater, to name a few. In addition to providing electrical services to their customers, SCE has special rates for low income customers. (Please see the Public Buildings, Facilities and Utilities Element for a more detailed discussion).

Alternative Energy

Yucca Valley has a high potential for solar energy use, with year-round sunshine and intense summer heat providing an excellent setting for the use of this energy resource. Both residential and commercial uses in the Town utilize solar heating systems to heat swimming pools, and to provide hot water, lighting, air conditioning and heating. Although the initial cost of installation is relatively high for solar systems, a 70% reduction in electricity bills can be realized for certain applications, with an average pay-back of 1.5 years for residential, and 2.5 for commercial[9]. The most typical use of solar energy in the Town is for domestic water heating. Yucca Valley's climate calls for flexibility in design and materials in order to allow for alternate energy systems and maximum energy conservation.

9 Randy Varsnick, Service Planner, Southern California Edison, personal telecommunications July 6, 1993

Exhibit

Soil and Mineral Resourses
Within the Yucca Valley Town Limits

IV-5

The energy resources available to accomplish useful work are conservation, solar, geothermal, wind, hydropower, oil, propane, gas and uranium. Conservation is a special energy resource because it is the prudent use of all natural and man-made resources. Conservation is considered to be reduced demand resulting from life-style and technological changes, waste-to-energy conversion, recycling, cogeneration, and waste reduction from efficient building and equipment design standards, transportation habits and land use design. All of these conservation methodologies should be encouraged in the Town of Yucca Valley.

LAND ACQUISITION

One way to ensure the development or preservation of natural resources is through the designation of open space. Open space can allow the land to be used for the good of the entire community while remaining largely undeveloped. To help conserve open space in California, many conservation programs and legislative enactments have been put into effect. These programs include the Conservation Easement Act, Open-Space Easement Act of 1974, less-than-fee real property interests, and the Scenic Easement Deed Act[10].

The Conservation Easement Act (Civil Code Sections 815-816) enables a local government or a nonprofit organization to acquire continual easements for the conservation of agricultural and open space lands, and historic preservation. An agreement is made between the landowner and accepting agency as to the types of uses that can be permitted, which are then incorporated into the easement. The granting of a conservation easement may qualify as a charitable contribution for tax purposes or as an "enforceable restriction" for purposes of preferential assessment.

The Open Space Easement Act of 1974 (Government Code Sections 51070-51097) gives local governments the authority to accept easements granted to them or to nonprofit organizations for the purpose of conserving open space and agricultural lands.

State law facilitates preserving open space through a less-than-fee real property interest. This concept grants the land holder the right to prevent certain land uses. Easements qualify as less-than-fee interests, and are often used because they are less expensive than the purchase of full fee rights, can be more effective than zoning, do not displace, and often yield tax advantages to property owners. Local agencies may obtain these easements by purchase, exaction, or gift.

The Scenic Easement Deed Act (Government Code Sections 6950-6954) authorizes a local government to purchase fee or scenic easements, but there is no special mechanism for obtaining them. Land uses are regulated by the Act enabling local governments to adopt an ordinance for the purpose of establishing open space covenants with property owners.

A town may acquire real property rights in other various ways. The Town of Yucca Valley may wish to consider additional acquisition methods such as *acquisition of fee simple absolute interests, joint acquisition, and land swapping*, which are discussed in the General Plan EIR.

Public Land Trusts

A public land conservation trust is another type of vehicle devoted to protecting open space, agricultural lands, wildlife habitats, and natural resource lands. Land trusts achieve their objectives primarily through acquiring and managing interests in land.

Land conservation trusts preserve open space and resource lands in a variety of ways. Some use their funds to acquire fee simple interest in real estate and then manage or lease back their holdings. Others purchase conservation easements which protect sensitive land from development while allowing owners to sell their remaining property interests to whomever they please.

Since they are less fettered by red tape, private land trusts are usually able to respond more quickly than governmental entities to sudden and fleeting purchasing opportunities. They also use their real estate experience to help public agencies with the mechanics of acquisition. A public land trust helps to preserve environmentally sensitive open space and conservation lands, pursue State and Federal financing with grants and loans, and other assistance mechanisms for the preservation of open space.

Funding Mechanisms

Viable funding mechanisms will be essential to finance the acquisition of open space and may include State general obligation bonds, tax increment financing, and grants. In addition to the funding mechanisms mentioned, the Legislature has helped organizations create a broad range of categorical grant and loan programs that can help to finance open space and make its acquisition more economically feasible for smaller communities, including:

10 Office of Planning and Research, State of California General Plan Guidelines, Sacramento, CA June 1987, p 125

- Land and Water Conservation Fund/Department of Parks and Recreation
- Habitat Conservation Program/Department of Parks and Recreation
- Simms Trail Bill/Department of Parks and Recreation.
- Public Access Program/Department of Fish and Game
- Wildlife Conservation Board Program/Department of Fish and Game.
- Urban Forestry Program/California Department of Forestry

FUTURE DIRECTIONS

The Town of Yucca Valley is located in a natural setting where rocky ridges, blue skies and clean air maintain a high quality of life for its residents. In order to continue this rural life-style during future years of increased development, open space will need to be maintained and preserved for future generations.

The thoughtful implementation of the Town General Plan, Development Code and other regulatory mechanisms will play an essential role in preserving existing open space and conservation areas. They will also assure that continued development does not adversely impact these areas and may provide opportunities and mechanisms for long-term conservation of lands not currently under the Town's control.

The Town can also play an important role in encouraging the creation of non-profit conservation groups and assist in securing open space lands for long-term preservation. Assistance may also be provided in helping to secure state and federal grants for purchase of conservation easements and/or fee simple ownership interest. The on-going efforts of the Town and private interests can add to the conservation and preservation of one of the communities most valuable assets, its natural resources and open space lands.

The nonrenewable character of mineral deposits requires their careful evaluation and preservation to prevent unnecessary waste and/or exploitation. The California Surface Mining and Reclamation Act (SMARA) of 1975 was passed to identify and protect mineral resources in areas of high land used conflict and to insure the reclamation of mined lands[11]. Additionally, Government Code Section 65302(d) states that for the conservation, development and utilization of natural resources, the location, quantity and quality of rock, sand and gravel resources shall be identified. The state has already identified the majority of mineral resources within the Yucca Valley area. Public Resources Code Section 2762 indicates that mineral resource management policies shall be developed to establish the importance of the minerals to the market region[12]. Yucca Valley's compliance with these mandates will assure that adequate supplies of such resources will be available to meet the future needs of the Town, County and region.

Steadily increasing economic and environmental costs associated with energy production and use are forcing communities and countries to develop new energy policies and programs. The various constraints that have emerged can also be viewed as opportunities for economic development and environmental enhancement. Lowering demand will help to control costs. Encouraging development and use of alternative and renewable energy can expand economic opportunity. The community has an important and meaningful role in the encouragement of the wise use of energy resources.

The following goals, policies and programs provide the basis for the long-term viability of this important component of the community.

OPEN SPACE AND CONSERVATION GOALS, POLICIES AND PROGRAMS

GOAL 1

Conservation, preservation and management of open space areas and protection of environmental resources and threatened animal species, protection against environmental hazards, and provision of enhanced recreational opportunities, and scenic qualities of the Town.

GOAL 2

Preservation of the Town's rural atmosphere, including maintenance of natural and, scenic resources.

Policy 1
Identify and map lands suitable for the preservation as passive and active open space areas to be added to the already identified existing areas of this type.

11 Op Cit., BA-C-229
12 State California General Plan Guidelines, the Governors Office of Planning and Research, 1990

Program 1.A
Confer and coordinate with other responsible agencies to map and periodically update information on the various open space lands and facilities within the Town and immediate vicinity.
Responsible Agency: Community Development Department; Community Services Department; Bureau of Land Management; State Department of Fish and Game
Schedule: Implement initial mapping in 1994-95 Fiscal year; Continuous; every two years

Policy 2
Where appropriate, incorporate identified hazard zones (earthquake fault lines, floodways, floodplains, etc.) into the land use map designating these areas as open space.

Program 2.A
Assess and identify appropriate areas of the community for preservation as public or private, passive and active open space for consideration for future inclusion into the Town Open Space and Conservation system.
Responsible Agency: Town Council; Community Development and Community Services Departments
Schedule: Continuous; minimum every five years

Policy 3
With the approval of the local utilities and service providers and County Transportation/Flood Control Department, shall maximize use of flood control and utility easement areas to develop a multi-use trail system providing alternative transportation links to parks and open space areas.

Program 3.A
Confer and coordinate with the County Transportation/Flood Control Department and utility purveyors to, as practical, integrate a multiple use trail system that links Town parks and open space and conservation areas.
Responsible Agency: Community Development Department; Community Services Department; County Transportation/Flood Control; and public utility purveyors
Schedule: ~~Immediate, Continuous~~

Policy 4
Development and implement guidelines and regulations that assure provision of appropriate buffers between urban and open space/conservation areas.

Program 4.A
Establish land use and development guidelines and regulations in the General Plan and Development Code which ensure appropriate buffers between urban land uses and open space and conservation areas.
Responsible Agency: Town Council; Community Development Department; Community Services Department
Schedule: 1996, Continuous

Policy 5
Investigate and, if feasible, facilitate the development of a public land trust or similar mechanism to preserve environmentally sensitive open space and conservation lands.

Program 5.A
Investigate and, if appropriate participate in the establishment of a public land trust to preserve environmentally sensitive open space and conservation lands and to provide a mechanism for gifts and bequests of land to the trust.
Responsible Agency: Town Council; Community Development and Community Services Department
Schedule: 1995-1996; Continuous

Program 5.B
Assist a public land trust or similar private non-profit entity in pursuing private funding, as well as State and Federal grants, loans and other assistance for acquisition, preservation and management of open space and conservation lands.
Responsible Agency: Public Land Trust; Town community Development and Community Services Departments
Schedule: 1996-1997, Continuous

Policy 6
Adopt a Development Code which encourages the provision of open space areas through flexible development standards.

Program 6.A
Adopt and implement flexible development policies, standards, and guidelines, that encourage the provision of quality open space amenities within new residential subdivisions and planned developments There policies, standards and guidelines shall be incorporated into the Town Development Code and other appropriate regulatory documents.
Responsible Agency: Town Council; Community Development Department
Schedule: Immediate; Continuous

Policy 7
Adopt a comprehensive grading ordinance that will protect and conserve open space and natural resources (Also see Slopes, Sediment Control and Soil Element).

Program 7.A
Develop and adopt a comprehensive grading ordinance that protects hillsides and other open space and natural resource conservation areas sensitive in terms of topography and visibility, wildlife resources, water or mineral resources and air quality.
Responsible Agency: Town Council; Town Planning Commission; Community Development Department
Schedule: 1995-1996; Continuous

MINERAL RESOURCES ELEMENT GOALS, POLICIES AND PROGRAMS

GOAL

The controlled management and extraction of mineral resources in the Town of Yucca Valley, that assures their long-term value, protects and preserves aesthetic and natural resources, and assures minimal disturbance to the environment.

Policy 1
With the assistance of the State, identify regionally significant mineral deposits within the Town and surrounding area.

Program 1.A
Coordinate with the State of California Department of Conservation, Division of Mines and Geology in the identification and mapping of existing mineral resources.
Responsible Agency: Community Development Department; California Department of Conservation; Division of Mines and Geology
Schedule: 1995-1996

Policy 2
Regulate and monitor the extraction and use of all minerals, sand and gravel within the General Plan Study Area and vicinity.

Program 2.A
Prohibit surface and deep mining within the Town without extensive review of the environmental impacts and availability of alternative resources.
Responsible Agency: Community Development Department
Schedule: Immediate; Continuous

Policy 3
Protect valuable mineral resource areas from potential development that might preclude future extraction of the mineral resources.

Program 3.A
Maintain up-to-date information on existing and newly discovered deposits of valuable and/or significant mineral resources, and shall periodically review land use patterns to assure the long term availability of these resources.
Responsible Agency: Community Development Department; California Department of Conservation; Division of Mines and Geology
Schedule: Immediate; Continuous

Program 3.B
Develop and implement thoughtful review processes related to all development applications which have the potential to disturb existing mineral resources.
Responsible Agency: Community Development Department
Schedule: Immediate; Continuous

Policy 4
All existing and mined mineral resource areas shall have detailed mine reclamation programs which assure the restoration of these lands to an aesthetically and environmentally satisfactory condition.

Program 4.A
Coordinate with the State of California Department of Conservation, Division of Mines and Geology in the development of mine reclamation programs, where applicable, in the community and surrounding area.
Responsible Agency: Community Development Department; California Department of Conservation; Division of Mines and Geology
Schedule: Immediate; Continuous

ENERGY RESOURCES GOAL, POLICIES AND PROGRAMS

GOAL

The conservation of energy and fuels of all types, reduced demand for limited and non-renewable sources of energy, and broadened use of environmentally benign renewable resources.

Policy 1
Develop and implement long-term conservation management policies and standards.

Program 1.A
Implement and enforce California Title 24 building standards to reduce unnecessary energy use in new or substantially remodeled construction.

Responsible Agency: Community Development Department; Yucca Valley Building and Safety Department
Schedule: Immediate, Continuous

Policy 2
Support efforts to develop alternative energy technologies which have minimum adverse impacts on the environment.

Program 2.A
Implement and enforce the provisions of the State Solar Rights Act and Solar Shade Control Act to enhance the opportunities for the use of solar energy.
Responsible Agency: Community Development Department; Yucca Valley Building and Safety Department
Schedule: Immediate; Continuous

Policy 3
Promote energy conservation in public buildings and vehicles, to include a program of incentives to encourage the use of innovative methods of conserving energy.

Program 3.A
Research the availability of and apply for state and federal funding for demonstration projects on the use of passive and active solar power technologies for public buildings, vehicles and facilities.
Responsible Agency: Community Development Department
Schedule: Immediate, Continuous

Program 3.B
Through the proper maintenance of equipment and facilities, decreased levels of cooling and heating demand, and efficient use of lighting fixtures and technology, the Town of Yucca Valley shall encourage energy conservation.
Responsible Agency: Community Development Department
Schedule: Immediate; Continuous

Program 3.C
Research and promote the use of alternative fuels and energy sources and technologies (other than solar) for public buildings, vehicles and facilities.
Responsible Agency: Community Development Department
Schedule: Immediate; Continuous

Policy 4
Provide for the protection of and access to existing energy resources, and the development and utilization of these resources.

Program 4.A
Coordinate with Southern California Edison, Co., Southern California Gas Co., California Energy Commission and other appropriate public and private agencies in the utilization of available energy and alternative energy resources.
Responsible Agency: Community Development Department; Southern California Edison; Southern California Gas. Co.; California Energy Commission
Schedule: Immediate, Continuous

Policy 5
Promote the use of alternative energy sources through the informing of Town residents of available alternative energy programs and rebates.

Program 5.A
Collect, organize and disseminate free information on alternative energy-systems and energy conservation technologies to the residents of Yucca Valley.
Responsible Agency: Community Development Department; Public Utilities; California Energy Commission
Schedule: 1995-1996; Continuous

Program 5.B
Provide information and develop contacts between Town residents and Southern California Edison (SCE), and other companies and agencies, to maximize use of free and/or low cost energy conservation services and to take advantage of associated rebate programs.
Responsible Agency: Community Development Department; Southern California Edison Co.; Southern California Gas Company
Schedule: Immediate; Continuous

Policy 6
Promote the use of ride-sharing and mass transit as a means of reducing transportation related energy demand.

Program 6.A
Work closely with the Morongo Basin Transit Authority to assure the use of energy efficient fuels in all its vehicles, and to encourage the optimum use of MBTA buses and vans.
Responsible Agency: Community Services Department; MBTA
Schedule: Immediate; Continuous

F:\GPLAN\CITZ\OPNSPC.SRS
rev. 10