Conservation and Open Space

ELEMENT L
CONSERVATION AND OPEN SPACE

GOAL: Maintain and preserve the environmental systems as a major feature in the City.

Description of Conservation and Open Space

Conservation is the wise use, management, and preservation of natural resources to assure their continued availability and viability. Open space is defined as lands which provide for the preservation of natural resources such as plant and animal habitat, managed production of resources, outdoor recreation, or public health and safety (i.e., air crash hazard zones).

Since conservation of resources and open space are so closely related, these two required components of the General Plan are combined into one element. This element provides long-term guidance for the preservation of significant natural resources and open space areas. The value of this element is threefold. First, it provides mechanisms for ensuring a balance between the urban and natural environments within the City. Secondly, it recognizes natural and man-made hazards which might potentially affect the community if development were to occur. Finally, it provides specific policies and a program for preserving, managing, and using natural and man-made resources.

Existing Conditions

The City of Irvine lies within the coastal and foothill region of central Orange County. The major landforms are: 1) Santiago Hills; 2) Northern Flatlands; 3) Central Flatlands; and 4) San Joaquin Hills (these regions are shown on Figure L-1, Land Form Zones).

The major characteristics of the four landform areas and their associated biotic and societal systems are briefly discussed below.

Santiago Hills: The Santiago Hills form the City's northern sphere of influence boundary. They consist of moderately steep-to-steep unbuildable slopes, canyons, plateaus, and narrow ridges, which obtain an elevation of 1,700 feet. A series of eroded sandstone gorges known as the “sinks” are the most significant physical feature and are located in the southeast corner of the Santiago Hills. Other important features are the canyons, which include Aqua Chignon, Bee, Hicks, Little Joaquin, Rattlesnake, and Round.

The Santiago Hills, with the exception of several unimproved dirt roads and limited agricultural activities, have retained most of their natural biotic character. The biotic communities within this area are listed below:

1.	Freshwater marsh	Riparian
2.	Coastal sage scrub	Chaparral
3.	Oak woodland	Agricultural
4.	Introduced grassland	Urban

Presently man's effect on the topography and biotic systems of the Santiago Hills has been minimal with the exception of Frank Bowerman Landfill (Class III facility), the Eastern Transportation Corridor and a few flood control basins. Other important societal features of this area include extensive archaeological, historical, and paleontological resources and agricultural (orchards) and grazing lands.

Northern Flatlands: The flatlands extend from the Santiago Hills to the Santa Ana Freeway (I-5). This area, known as the Tustin Plain, is nearly flat and gradually slopes from the northeast to the southeast. Agua Chignon Wash, Bee Canyon Wash, Borrego Canyon Wash, Hicks Canyon Wash, and Peters Canyon Wash traverse this area. These streams are a part of the San Diego Creek watershed that originates in the Santiago Hills.

Generally, surface soils within the Northern Flatlands consist of fine-grained mixtures of sands, silts, and clay, and are classified as "prime" Class I and II agricultural soils by the U.S. Soils Conservation Service (1976).

The Northern Flatlands natural biotic communities have been altered by agricultural activities and urban development. As a result, this area's two

biotic communities, Farmland/Rural and Urban, are mostly environmentally simple and artificially managed. This area hosts orchards and row crops, eucalyptus windrows and non-native ornamental vegetation.

The notable societal features of this area include former MCAS El Toro, residential developments, agricultural lands, historical resources, and Rattlesnake, Siphon, and Lambert reservoirs.

Central Flatlands: The Central Flatlands are also a portion of the Tustin Plain between the Santa Ana Freeway (I-5) and the San Diego Freeway (I-405). The area is extremely flat. San Diego Creek and Peters Canyon Wash cross this area. The Flatlands natural biotic communities have for the most part been altered by agricultural activities and urban development. The primary biotic communities are farmland/rural, urban and riparian (San Diego Creek within Planning Areas 12 and 13). Overall, the biotic communities are ecologically simple and manipulated, except for the riparian community in Planning Areas 12 and 13.

Quail Hill

The Central Flatlands contain the City's core development area, and as such, the greatest amount of interaction among the built and environmental systems has occurred.

San Joaquin Hills: The San Joaquin Hills parallel the Pacific Ocean and form the City's southern boundary. The area consists of rolling terrain with moderately steep slopes, canyons, and narrow ridges. Other significant geophysical features are spectacular rock outcroppings, many of which contain eroded sandstone caves; Shady Canyon fault; Bommer, Coyote, and Shady Canyons; and Quail Hill.

As a consequence of development in this area, some native habitats have been modified while others, in the steeper hills and canyon bottoms, remain undisturbed. However, unique concentrations of animals, such as Canada Geese, occur in the San Joaquin Marsh and Sand Canyon Wash. In addition, the San Joaquin Hills provide an important link to larger regional habitat areas including Laguna Canyon, Laurel Canyon, Crystal Cove State Park, and the Irvine coastal dedication area.

This area contains the biotic communities listed below:

1.	Freshwater marsh	Riparian
2.	Coastal sage scrub	Chaparral
3.	Oak woodland	Agricultural
4.	Introduced grassland	Urban

Turtle Rock

Key societal features are former Coyote Canyon landfill; University of California at Irvine; archaeological, historical, and paleontological resources; agricultural row crops (Planning Areas 17 and 34); residential and industrial development; and San Joaquin Marsh, adjacent to the Upper Newport Bay Ecological Reserve.

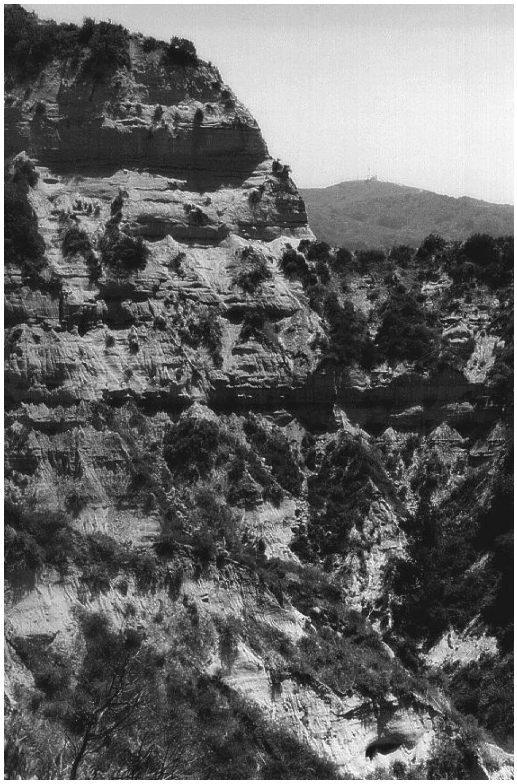
Conservation and Open Space Element Characteristics

The Conservation and Open Space Element land use diagram shows the location of open space areas (Figure L-2). As shown on the diagram, the Conservation/Open Space land use category contains six subcategories: Preservation, Recreation, Water Bodies, Agriculture, Golf Course Overlay, and Landfill Overlay. Specific definitions and uses are described in the Land Use Element.

Outlined below are the central concepts contained within this element:

1. Develop conservation and open space areas so that they form large contiguous areas and may be integrated into local and regional conservation and open space areas.

   For example, there are three large and contiguous blocks of land which may be integrated into local and regional conservation and open space areas. These areas are the Santiago Hills, San Joaquin Marsh, and San Joaquin Hills.



Limestone Canyon

2. Link conservation and open space areas together through a continuous linear system (open space spines) such as major drainage channels, public utility easements (gas, electric, and railroad rights-of-way), and other linear features (i.e., eucalyptus windrows).

   For example, the open space spine network is comprised of two north/south spines (Peters Canyon Wash and Jeffrey Road) and six east/west spines (Hicks Canyon Wash, Venta Spur Trail, Edison easement, San Diego Creek, Edison/I-405 easement, and University Drive/Mason Regional Park). Generally, the north/south open space spines link larger conservation and open space areas in the Santiago Hills to conservation and open space areas in the San Joaquin Hills.

Develop conservation and open space areas which result in the preservation of natural and man-made resources.

For example, the San Diego Creek riparian community and the San Joaquin Marsh wetlands have been designated for preservation because of their valuable biotic resources. The Lomas Ridge has been designated for preservation because of its unique geological formations (sinks) and geologic hazards (steep slopes and landslides), as well as for its cultural resources.

Designate conservation and open space areas that will minimize the impacts from natural and man-made hazards on development patterns.

For example, several areas have been designated for conservation and open space purposes in order to provide for public safety. Examples of such areas are the agricultural

lands around MCAS El Toro, Peters Canyon Wash (drainage), and the Lomas Ridge (steep slopes)(Figure L-2).
Assure the permanent preservation of conservation and open space areas through a phased dedication and compensating development opportunities program which transfers development opportunities from conservation and open space areas and consolidates development in appropriate areas.

Lomas de Santiago Hills

This phased dedication and compensating development opportunities program, also known as the "Implementation Action Program," links the Land Use and Conservation and Open Space Elements together through the development entitlement process. Areas covered by the Implementing Action Program are shown in Figure L-3.

The program provides for permanent protection of significant, large-scale conservation and open space areas by public ownership. Through this program, visually significant ridgelines and hillsides, significant biotic communities (e.g., Riparian, Marsh, and Oak Woodland), recreational lands, archeological and paleontological resources and areas subjected to geophysical and societal hazards are permanently preserved. As a result, development impacts such as habitat destruction, landform alteration, and visual and safety concerns are minimized. In addition, this program permits the integration of conservation and open space areas into the local and regional conservation and open space land use plans such as Limestone Regional Park and proposed Irvine Coast Wilderness Regional Park.

Land designated as preservation or recreation constitutes the majority of land to be dedicated through the Implementation Action Program. Community-level parks are to be dedicated separately according to the City's Local Park Code. Lands designated landfill overlay and water are not involved in the program since the land is already controlled by public and/or private agencies or utilities. As such, these areas are already set aside for conservation and open space purposes. Also, land designated as agriculture in Planning Areas 5, 6, 8 and 9 is not included in the program. Resolution of any phased dedication and compensating development opportunities program involving this area will occur at the time of annexation.

The Implementation Action Program is detailed in Objective L-1.

Trends

Examination of Orange County's land use and population growth patterns from 1950 to present indicates an increase in urban land uses and a corresponding decrease in conservation and open space areas. The early stages of urbanization focused on flat land areas such as agricultural lands, flood plains,

and wetlands while later stages of development have focused on more rugged terrain such as hillsides. During this time regional land use policies resulted in the conversion of approximately 100 acres of conservation and open space areas to urban land uses per every 1,000 people added to Orange County's population.

Initially the effects on the environmental systems (biotic processes, geophysical forces, and human intervention) due to the conversion of undeveloped land to urban land uses were incremental and localized, at both the county and the city level, since there were thousands of acres of undeveloped land. As such, management and preservation of these areas was not perceived as being urgent. As development continued, the cumulative effects of urbanization on the environmental systems resulted in loss of diversity and disruption of linkages between the environmental systems.

San Diego Creek

The resulting loss of open space to urban land uses increased public awareness of these shrinking resources. Consequently, the need to properly manage and preserve undeveloped land as designated conservation and open space areas, and increase conservation and open space planning became a high public priority. In response to this, especially during the late 1970s and 1980s, significant parcels of land were set aside throughout the county for preservation purposes.

Areas identified for their valuable biotic resources are also identified under the Natural Communities Conservation Plan/Habitat Conservation Plan (NCCP/HCP). This conservation strategy, aimed at preserving entire biotic communities, was developed as a result of the NCCP Act passed by the California Legislature in 1991. The successful implementation of this plan will allow conservation of large, diverse areas of natural habitat for the California gnatcatcher and 41 other "identified species" and their habitats. In May of 1996, the City of Irvine, the County of Orange, various other cities and landowners entered into an agreement to place certain lands within the NCCP Reserve and commit to certain responsibilities under this plan. Some of Irvine's responsibilities include considering General Plan amendments and ordinances to implement the plan, reviewing project proposals to ensure consistency with the NCCP, making efforts to acquire conservation easements from landowners not participating in NCCP, and formally committing city-owned lands to the reserve system. The NCCP Reserve and Special Linkage areas within the City and sphere have been identified on Figure L-4,

Biotic Resources, as well as on Figure A-3, the Land Use diagram.

Identification of Issues

1. **How can conservation and open space objectives be balanced with development objectives?**
2. **How can conservation and open space areas be integrated into urban development?**
3. **How can public access and enjoyment of conservation and open space areas be provided?**
4. **How can the environmental systems be maintained and preserved?**
5. **How can significant hazards and resource areas be identified and managed so as to protect the public's safety, health and welfare?**
6. **How can an effective and realistic policy program provide for the permanent preservation and management of conservation and open space areas be established?**

Response to Issues

The following objectives and policies have been formulated as a response to the identified conservation and open space issues.

OBJECTIVE L-1: IMPLEMENTATION ACTION PROGRAM

Establish an implementation action program that provides the opportunity to permanently protect and preserve designated conservation and open space areas as development of designated commercial, industrial, institutional, and residential areas occurs .

The following policies support Objective L-1:

Policy (a): Implement the phased dedication and compensating development program as described in Appendix A.

OBJECTIVE L-2: BIOTIC RESOURCES

Maintain and preserve areas with significant and diverse biotic communities.

The following policies support Objective L-2:

Policy (a): Utilize Figure L-4, which is derived from the City's Master Environmental Assessment (MEA) biotic database, resource map, and the City's land use impact model in the development review process as informational sources to determine the proximity and extent of biotic resources and potential level of impact.

- The Conservation and Open Space Element is intended to preserve those natural resource areas identified in the Master Environmental Assessment (MEA), which are the most viable and significant. The protection of large, contiguous preservation areas containing the uses set forth in the Implementation Actions Program in Objective L-1 is deemed, on balance, to better protect biotic resources than the protection of small, isolated resources within individual development areas. The Conservation and Open Space Element, through the Implementation Action Program (Objective L-1), will preserve specific MEA biotic resource areas, in whole or in part, as depicted on the Biotic Resources Map (Figure L-4).

Policy (b): Apply the following resource policies to development areas located within

areas identified on the Biotic Resources Map (Figure L-4):

- Resource Areas 16, 31, and 32: The preservation objectives and recommendations to protect 20 percent of the resource area for Buffer Areas 16, 31, and 32 will be achieved satisfactorily by the dedication of preservation areas in accordance with the procedures of the Implementation Actions Program in Objective L-1. Development areas located within Resource Areas 16, 31 and 32 shall not be subject to any biotic preservation, protection, requirements, measures, or mitigations set forth in the MEA for these Buffer Areas.

San Joaquin Marsh

- Resource Areas 6 and 13: Development as shown on the Land Use Element diagram will be allowed in Marsh Area 6 and Habitat Area 13 in recognition of the dedication of similar resources in the Preservation Areas. Development areas located within Areas 6 and 13 shall not be subject to any preservation, protection, requirements, measures, or mitigations set forth in the MEA for these areas except that riparian/wetland habitat adversely impacted by such development will be mitigated in accordance with procedures established in an open space management and conservation plan.

- Resource Area 28: Development as shown on the Land Use Element diagram will be allowed in Buffer Area 28 provided that any significant adverse development impacts on habitat in Riparian/Wetland Area 9 will be mitigated. The final mitigation measures shall be established in an open space management and conservation plan. Such mitigation measures shall be developed with consideration for the type and resilience of the habitat, the specific type and design of development, and the effect of natural and man-made barriers in the area.

- Eucalyptus Windrows**:** The integration eucalyptus windrows identified as Area 33 on the MEA and shown as a symbol on Figure L-4, into future development is to be determined by the City during subsequent project review. The Urban Forestry Guideline Manual, adopted by Ordinance 94-08, establishes treatment of windbreaks. However, use of Eucalyptus windrows will be limited in Very High Fire Hazard Severity Zones.

Policy (c): Prepare an Open Space Management and Conservation Plan (OSMCP) as the primary biotic implementation document for establishing compliance with the above (Objective L-2 a and b) Biotic Policies, the timing and phasing of mitigation measures, and the responsibility for implementing mitigation measures. This plan shall be prepared in conjunction with a concept plan and/or zone change application and in accordance with the City's guidelines for open space management and conservation plan reports. In addition, the plan will address transition zones as described below:

- Define transition zones of variable width, at the boundary between development and preservation areas, in the OSMCP where landscaping, fuel modification, and/or grading are proposed in conjunction with development. Where appropriate, the OSMCP will also establish landscaping, grading and/or maintenance guidelines to mitigate any adverse development impacts on Preservation Area lands to be conveyed. The OSMCP may also contain procedures for the conveyance of land and or easements at subsequent levels of development approval pursuant to the Implementation Actions Program. The OSMCP should include the following components, where appropriate:

    1. Compatibility Techniques: Use methods of landscaping transition zones and/or development areas which allow development to interface with conservation and open space areas in a manner which mitigates adverse impacts on Preservation Areas to be conveyed. Typically compatibility techniques are employed in transition zone areas and allow for the continued use of habitat and wildlife areas.

    2. Fuel Modification Zones: Use a non-combustible setback, irrigated and graduated clearing of vegetation and selected plant palettes to reduce fuel loads in areas adjacent to development.

    3. Plant Palettes: Use plant palettes which have the following characteristics: drought tolerance, wildlife habitat value, fuel loading and slope stabilization.

    4. Public Trails: Provide public access where appropriate, adjacent to development areas abutting the trail, and in accordance with the adopted master plan of bicycle, hiking and equestrian trails.

    5. Maintenance Responsibility: Ensure that the transition and fuel modification zones will be maintained by the appropriate property and/or homeowner associations and/or maintenance district.

Policy (d): Mitigation banks in the San Joaquin Marsh may be created for selected development in the City and its sphere of influence.

- That portion of the preservation area in San Joaquin Marsh subject to the Habitat Enhancement and Wetlands Program (approximately 85 acres) will be dedicated to the University of California Natural Reserve System in accordance with the program.
- Portions of the Preservation Area in San Joaquin Marsh not subject to the above program (see Area P in District N, Figure 2 of Appendix A) may be used as a mitigation bank for development impacts in development areas adjacent to the marsh and in other locations throughout the City. Riparian habitat within development areas may be modified subject to applicable state and federal regulatory requirements of the United States Fish and Wildlife Service,

Army Corps of Engineers and the California Department of Fish and Game and mitigation for such modification may be accomplished off site within the San Joaquin Marsh.

Policy (e): Maintain significant riparian areas in preservation areas as natural corridors and sources of shelter, water, and food for wildlife, except where required for infrastructure.

Policy (f): Locate intensive human use in preservation areas away from areas with rare or endangered species, including migratory bird species and rare plant species.

Policy (g): Allow the enhancement of habitat areas, particularly riparian habitat, in all preservation areas as mitigation for any development impacts in other areas. Promote agreements between the California Department of Fish and Game and the landowner to accomplish the creation of new habitat in preservation areas consistent with applicable standards and procedures.

Table D-1 on this page is a key to Figure L-4, Biotic Resources. The column on the left is a list of significant biotic factors, and the column on the right explains where each of these factors is to be found on the map.

Table D-1

Resource Areas	Resource Areas Nos.
Buffer Areas	15, 16, 17, 18, 24, 26, 29, 31, 32
Links - Habitat Areas	17, 18
Locally Significant Riparian Habitats	25
Locally Significant Freshwater Marsh Habitat	22
Locally Significant Stands of Native Vegetation	17, 32, 34
Open Water/Shoreline Local Value as Waterfowl Habitat	19, 20, 21, 23, 30
Rare, Endangered and Unique Species Habitat	10, 11, 12, 27
Regionally Significant Riparian Habitat	5, 7, 8, 9, 13, 14
Regionally Significant Oak Woodland Savannah Habitat	1, 2, 3, 4, 5, 14
Regionally Significant Freshwater Marsh Habitat	7, 9
Open Water/Shoreline Regional Significance - Waterfowl Habitat	10, 27
Prime Bird of Prey Foraging/Wintering Area	1, 14
Prime Bird of Prey Nesting/Roosting Area	1, 14
Major Wildlife Movement Corridor	1, 4, 5, 14
Woodland/Brushland - Grassland Ecotone	1, 2, 3, 4, 5, 14

Policy (h): Work cooperatively with the California Fish and Game Department to initiate a cooperative research project to identify wintering foraging preferences of the Canadian Geese. This may include further research efforts to band/tag Canadian Geese to investigate and monitor their movements in the wintering area.

Policy (i): Maintain and preserve the habitat components essential to the Canadian Geese. Measures may include eradicating the wild artichoke, protecting foraging areas from public access during wintering months, and minimizing disturbance of the geese.

Policy (j): Light-sensitive biotic areas should be protected from glare caused by outdoor lighting fixtures.

Policy (k): If determined necessary through project review, a wall or fence combined with vegetation screening shall be constructed between light-sensitive habitat areas and adjacent urban development. Similar measures should be taken wherever light and glare might produce adverse impacts upon light-sensitive biotic areas.

OBJECTIVE L-3: NCCP/HCP IMPLEMENTATION AREAS

Participate in the Natural Communities Conservation Plan/Habitat Conservation Plan (NCCP/HCP) program to accomplish multi-species and multi-habitat conservation.

The following policies support Objective L-3:

Policy (a): Review project proposals within the reserve system to assure consistency with the NCCP/HCP.

Policy (b): Assure that nonparticipating landowners provide evidence of payment of mitigation fees.

Policy (c): Record and compile Coastal Sage Scrub impacts within the jurisdiction and report the data annually to the County of Orange.

Policy (d): Ensure that NCCP construction-related minimization measures set forth in the NCCP are enforced.

Policy (e): Strive to acquire conservation easements of existing use areas owned by nonparticipating landowners.

Policy (f): Formally commit lands owned within the reserve system to the reserve system, and manage them in accordance with the adopted NCCP.

Policy (g): Use the NCCP as a Program EIR for CEQA purposes, applying the Coastal Sage Scrub (CSS) mitigation measures applicable to planned activities.

Policy (h): Adopt fuel modification ordinances and standards.

OBJECTIVE L- 4: GEOPHYSICAL HAZARDS

Minimize the danger to life and property from geophysical hazards, including, but not limited to, unstable soils, liquefaction, steep slopes, and floodways.

The following policies support Objective L-4:

Policy (a): Continue to coordinate General Plan level hazard information (i.e. Safety and Seismic Elements) to determine the level of hazardous condition(s) potentially affecting any proposed development.

Policy (b): Consider land which is unsuitable for development because of hazards to public health, safety, and welfare for an open space use.

Policy (c): Develop a program emphasizing public safety for geophysical hazardous areas.

Policy (d): Apply the following actions to dam inundation areas as identified in the City's Master Environmental Assessment:

- Require an analysis of the inundation hazards, and measures available to minimize risks, to persons working or residing in the area. These hazards should be identified prior to approval of a tentative map within a dam inundation area. Identify and include all feasible measures as conditions of approval of the tentative map.

Canyon Park

- Prepare an emergency evacuation plan pursuant to Government Code Section 8589.5, or as may be amended, for development within a dam inundation area, if, following a review of the inundation maps, the director of the California Office of Emergency Services finds that there exists a risk of injury or death as a result of partial or total dam failure. Should there be a previously approved emergency evacuation plan in effect for the area, that plan shall be updated in light of the current and proposed land uses and the revised plan shall be reconsidered by the state director of Emergency Services.
- Require applicants to submit a statement which assesses the effect of the project upon existing hazards. It should include

revised dam inundation maps reflecting changes, if any, resulting from the proposed development and its effect upon existing hazards and inundation boundaries. This should occur prior to the issuance of grading permits within a dam inundation area.

- Require the submittal of a document which will serve as an information notice to future property owners regarding dam inundation hazards and the existence of emergency evacuation plans for the area, if any, prior to the submittal of approvals for issuance of building permits within a dam inundation area.

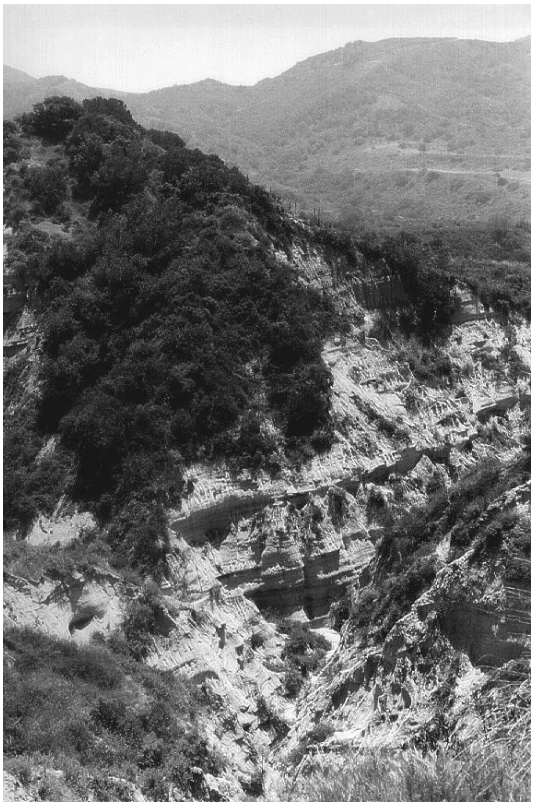
OBJECTIVE L- 5: GEOPHYSICAL RESOURCES

Use and preserve geophysical resources, including, but not limited to, ridgelines, hillsides, and waterways, as part of the City's land use pattern.

The following policies support Objective L-5:

Policy (a): Apply the following actions to all areas of the City and its sphere of influence:

- Encourage the use of development clustering approaches, landscaping, and grading techniques which will minimize physical and visual impacts on the City's valuable hillsides.
- Continue to coordinate General Plan level resource information (i.e. Land Use, Parks and Recreation, and Cultural Resources Elements) to determine the level and type of resource(s) potentially within any proposed development.



Limestone Canyon

- Promote the development of a flood control channel to handle projected floodwaters of the San Diego and Peters Canyon Washes. Where practicable, require that the channel be a natural swale channel with grass or other natural planting as an integral part of its design as opposed to a concrete design.
- Ensure environmental impact reports for future development to consider impacts to waterways.
- Pursue waterway preservation policies while considering drainage, water conservation, storage, and flood control purposes.

- Develop small lakes around existing waterways, where possible.
- Promote the development of all lakes and reservoirs for the public use and do not allow residential development at their edge.
- Study, where possible and practicable, the appearance and ecology of certain existing natural drainage channels to determine which channels or portions of the channels, conservation measures shall be applied to. Channels or portions of channels determined to be suitable for preservation purposes may be modified to enhance their ecology, long-term viability and maintenance. Those channels or portions of channels shall be integrated into the design of the surrounding development.
- Minimize alternations of major creek courses and bottoms.
- Allow no net loss quantity or quality of surface and subsurface water flow into the San Joaquin Marsh to occur as a result of development in Planning Area 23.

Policy (b): Apply the following actions to hillside areas within the City.

- Ensure that no significant change in the general configuration of the topography occurs where modifications of the natural topography are necessary.
- Locate buildings on sites which minimize the need for grading or removal of native plant material (except for fire trails).
- Ensure that any access roads or highways that must pass through hillside areas are the least environmentally damaging, feasible alternative which minimizes the impacts to the hillside ecological and/or aesthetic characteristics.
- Ensure that any proposed development in hillside areas is the least environmentally damaging feasible alternative and minimizes flood hazard and runoff impacts to the lowlands and hillsides.
- Prepare a detailed environmental impact report for all proposed development in the hillside areas.
- Include standards or criteria for the identification and preservation of visually significant natural features (i.e., skylines, major ridgelines, prominent rock outcroppings, ridges, and oak woodlands) in future development proposals.
- Develop grading standards which reflect sensitivity to landform, habitat, watershed protection, and appropriate land use intensities.
- Encourage cluster-housing techniques in hillside areas.
- Variations in minimum lot sizes may be proposed for lands when the area is designated Residential-Estate Density and it can be demonstrated that steep terrain and ridgelines will be preserved as natural, private open space.

Policy (c): Ensure development in the hillside areas retains the character and aesthetic value of the natural landform through use of the Hillside Development Ordinance.

OBJECTIVE L- 6: SOCIETAL HAZARDS

Minimize the danger to life and property from man-made hazards

including, but not limited to, Aircraft Accident Potential Zones (APZs), aircraft and vehicular noise, and landfills.

The following policies support Objective L-6:

Policy (a): Continue to coordinate General Plan level hazard information (i.e., Circulation, Noise, Integrated Waste Management, and Safety Elements) to determine the level of hazardous condition(s) potentially affecting any proposed development.

Policy (b): Consider for an open space use, land that is unsuitable for development because of hazards to public health, safety, and welfare.

Policy (c): Develop a program emphasizing public safety for hazardous areas.

OBJECTIVE L- 7: SOCIETAL RESOURCES

Use and maintain societal resources, including, but not limited to, archeological historical and paleontological resources, as part of the City's land use pattern.

The following policies support Objective L-7:

Policy (a): Continue to coordinate General Plan level resource information (i.e. Land Use, Parks and Recreation, and Cultural Resources Elements) to determine the level and type of resource(s) potentially impacted by proposed development.

Policy (b): Consider land which contains significant resource(s) for an open space use.

OBJECTIVE L- 8: PRESERVATION AREAS

Maintain and preserve large, contiguous areas which contain significant multiple hazards and resources.

The following policies support Objective L-8:

Policy (a): Consistent with Objective L-1, obtain lands through grant and/or easements for transition areas adjacent to preservation areas as shown in the Conservation and Open Space Element and Land Use Element.

Policy (b): Allow agricultural uses and other uses consistent with the preservation category in preservation areas prior to transfer to public ownership.

Policy (c): Limit agricultural uses on the frontal slopes of Quail Hill (P-11 and P-12 as shown on Figure 9 in Appendix A to cattle grazing.

Policy (d): Permit landform, vegetation, and drainage modifications pursuant to all allowable uses except in riparian vegetation areas.

Policy (e): Ensure that riparian vegetation is not significantly modified, except as necessary to provide fire protection, access roads, and flood control, drainage, water, sewer and utility facilities, and except where habitat is to be enhanced as part of a mitigation program approved by the California Department of Fish and Game.

Policy (f): Facilitate the interim preservation of The Irvine Company (TIC) land by entering Williamson Act contracts if requested by TIC. TIC may convey land or easements in preservation areas to public agencies and utilities for road, transportation, transit, drainage, flood control, water, sewer and utility purposes.

Policy (g): Participate in cooperative efforts with federal, state, and county agencies and landowners in planning and preserving regionally significant conservation and open space areas within the City and its sphere of influence (Lomas Ridge, Bommer and Shady Canyons, and San Joaquin Marsh).

Bommer Canyon entrance

Policy (h): Explore the possibility and feasibility of joint-use or other similar concepts of developing and maintaining large regional wilderness areas/parks in preservation areas such as the Lomas Ridge and Bommer and Shady Canyon areas.

Policy (i): Maintain significant riparian areas within preservation areas as natural corridors, sources of shelter, and water for wildlife.

Policy (j): Minimize intensive human use in preservation areas which sustain rare or endangered species, including migratory bird and rare plant species.

Policy (k): Preserve and enhance the San Joaquin Marsh as a habitat resource and mitigation bank through implementation of the "San Joaquin Marsh Habitat Enhancement and Wetlands Creation Program" [See Biotic Resources Program Objective L-2, policy (d)].

Policy (l): Seek the least environmentally damaging and feasible alternatives where modifications of the natural topography are necessary in preservation area.

Policy (m): Ensure that any public road, arterial highway, transportation corridor, or utility that must pass through preservation areas is the least environmentally damaging feasible alternative to the preservation area's environmental characteristics.

OBJECTIVE L- 9: RECREATION AREAS

Develop and maintain a network of recreational areas that provide a variety of recreational opportunities, and which link and integrate other conservation and open space areas into the land use fabric of the City.

The following policies support Objective L-9:

Policy (a): Obtain lands designated recreation as shown on the Conservation and Open Space Element and Land Use Element diagram, consistent with Appendix A, Objective A-2.

Policy (b): Continue to coordinate General Plan level recreational opportunities (i.e., Land Use, Circulation, and Parks and Recreation Elements) to ensure adequate and timely development of recreational areas.

Policy (c): Develop a network of open space spines as graphically depicted on the Land Use Element and Conservation and Open Space Element diagrams, and further described below:

- Conveyance of designated open space spines shown as S-IB, and S-3, on Figure 9 in Appendix A, and the minor Preservation Areas P-3, P-8, P-9, P-10, and P-13 as shown on Figure 1 in Appendix A, shall be made consistent with Appendix A, Objective A-2 in

conjunction with the recordation of final tract maps for adjoining development.

- Conveyance of Open Space Spine S-IA as shown in Figure 9 in Appendix A shall be made consistent with Appendix A, Objective A-2, in conjunction with the recordation of the final tract map for District O.

- The Peters Canyon and Hicks Canyon Open Space Spines as defined by mutual agreement between The Irvine Company and City (generally shown as S-5 and S-6 on Figure 9 in Appendix A) shall be conveyed consistent with Appendix A, Objective A-2, in conjunction with the recordation of final tract maps for adjoining development.

Policy (d): Require that an applicant submit a conceptual site plan for the treatment of open space spines as part of the zoning and concept plan request for a planning area and/or implementation district area containing the following open space spines: 1) Peters Canyon Wash corridor, 2) the San Diego Creek, 3) Planning Area 12 open space corridor, 4) Jeffrey Road Open Space Spine, 5) Northwood Railroad Right-of-Way, 6) Hicks Canyon Wash, 7) Edison easement (PA 15 and 38), 8) I-405/Edison easement, and 9) Mason Regional Park.

The conceptual site plan shall 1) encompass the entire open space spine within the planning area and/or implementation district, and will 2) establish the general relationship of the open space spine to adjacent developments. The plan shall address at a minimum the following items: a) type of trails; b) landscape elements and c) other special design features.

The plan shall be adopted and incorporated into the appropriate development approvals (i.e. Zoning Ordinance and Concept Plan). Further policies regarding individual open space spines are listed within Appendix L.

OBJECTIVE L- 10: PERMANENT AGRICULTURE

Encourage the maintenance of agriculture in undeveloped areas of the City until the time of development, and in areas not available for development.

The following policies support Objective L-10:

Policy (a): Provide for farming opportunities in the community, where feasible and appropriate, through an Agricultural Legacy Program facilitating limited scale agricultural operations and programs on public lands. The Program may include components such as edible landscape, metro-farming, heritage farming, model farming, educational and community service farming and other farm or farm market programs. Locations for implementation of the Agricultural Legacy Program to be considered should, at a minimum, include:

- Designated Open space spine network

- Designated Open space areas not subject to the NCCP
- Other appropriate publicly owned lands

Policy (b): Consider creating a "working model" farm to act as a center for education and enjoyment of all age groups pursuant to the Agricultural Legacy Program in conjunction with the City's planning efforts concerning the re-use of MCAS El Toro, or with the South Coast Research Extension owned by UC Regents.

Policy (c): Permit agricultural use of land which is unsuitable for building because it is within flood plains, or is subject to hazards to public health, safety, and welfare or similar constraints precluding development. Conversion from agricultural uses may be allowed where the identified hazard conditions have been eliminated.

Policy (d): Permit agriculture uses, on an interim basis, on land designated for development, and consider agricultural uses as a part of the City's planning efforts for the re-use of MCAS El Toro.

Policy (e): Encourage and support federal and state legislation proposed for the purpose of preservation of agricultural lands which are compatible with the City's goals and objectives.

Policy (f): Allow for conversion of interim and permanent agricultural uses to development to provide land for the construction of housing units consistent with the Land Use and Housing Elements, and the development of commercial and industrial buildings consistent with the provision of job opportunities as described in the Land Use Element, where such conversion does not conflict with other L-10 policies.

Policy (g): Pursue the open space policies contained in the Conservation and Open Space Element and address any open space or aesthetic impacts from the conversion of interim and permanent agricultural uses to development as part of the City's existing policies for the preservation of open space and existing policies for mitigation of views and aesthetic impacts under the policies in the Conservation and Open Space Element.

OBJECTIVE L- 11: LANDFILL OVERLAY

Coordinate landfill planning efforts with the appropriate federal, state & local agencies and landowners to minimize deleterious effects on surrounding land uses.

The following policies support Objective L-11:

Policy (a): Continue to coordinate General Plan level review of landfill facilities and activities (i.e., Integrated Waste Management Element).

Policy (b): Explore the possibility with the appropriate agencies and landowners of encouraging recreational opportunities and

uses as part of the landfill closure plan, at the time of the closure of the landfill.

OBJECTIVE L- 12: WATER

Coordinate land planning efforts with the appropriate federal, state & local agencies and landowners to encourage the integration of existing and future water sources (reservoirs, lakes, and drainage courses) into development.

The following policies support Objective L-12:

Policy (a): Integrate water feature opportunities and constraints through the development review process.

Policy (b): Study, where possible and practicable, the appearance and ecology of certain existing natural drainage channels to determine which channels, or portions of the channels, to which conservation measures shall be applied. Channels or portions of channels determined to be suitable for preservation purposes may be modified to enhance their ecology, long-term viability and maintenance. Those channels or portions of channels shall be integrated into the design of the surrounding development.

Policy (c): Develop, where possible, small lakes around existing waterways.

Policy (d): Ensure that, where possible and practicable, the development of all lakes and reservoirs is consistent with the policies of Objective L-2, and ensure that public use is consistent with subdivision requirements, and residential development is not allowed at their edge.

Policy (e): Include hiking, bicycling, and equestrian trails in the design of watercourses whether they are left in a natural state or channelized. A study should be prepared to determine which watercourses or portions thereof can be developed to include these trails.

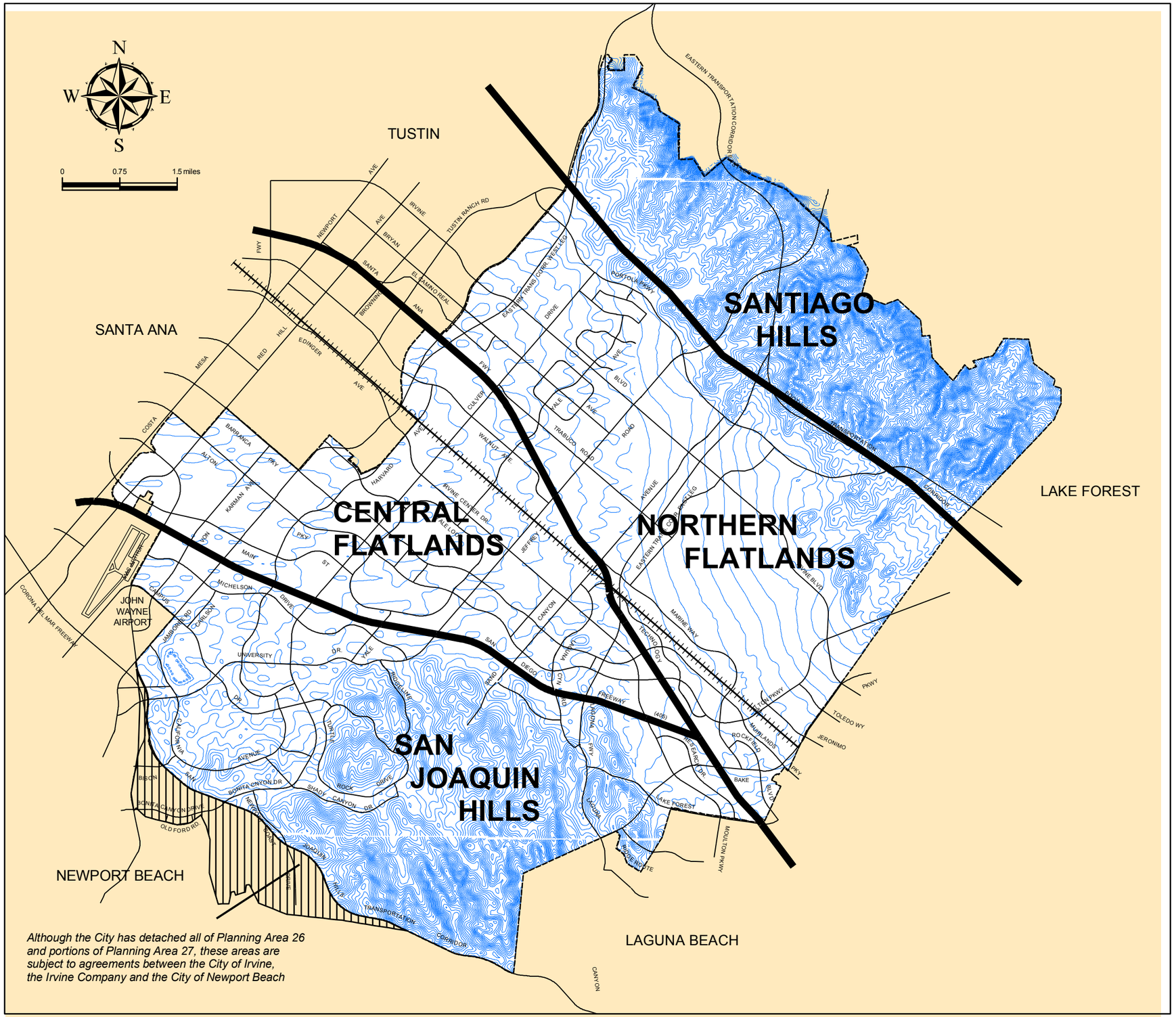
"The long fight to save wild beauty represents democracy at its best. It requires citizens to practice the hardest of virtues - self restraint."

Edwin Way Teale

RELATED OBJECTIVE NUMBERS

The following objectives are related to the Conservation and Open Space Element:

Land Use Element – A-1, A-3, A-4, A-7
Circulation Element - B-2, B-4, B-5,
Cultural Resources Element - E-2
Public Facilities and Services Element - G-1, G-4
Safety Element - J-1
Parks and Recreation Element - K-1, K-4



Although the City has detached all of Planning Area 26 and portions of Planning Area 27, these areas are subject to agreements between the City of Irvine, the Irvine Company and the City of Newport Beach

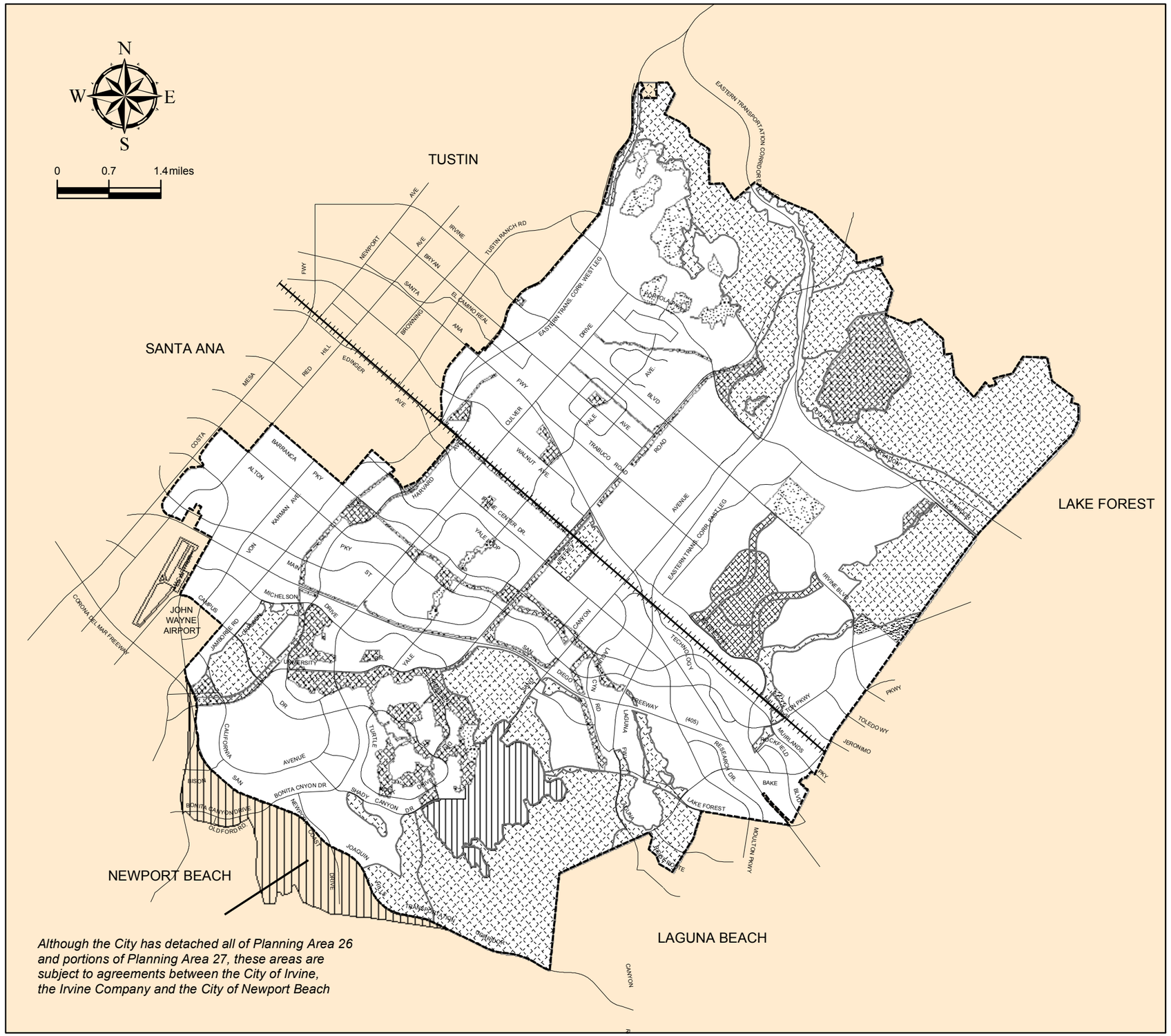
City of Irvine
General Plan

Figure L-1

LANDFORM ZONES

LEGEND

- City Sphere of Influence
- City Boundary
- Topographical Contour Line (interval is 25 feet)



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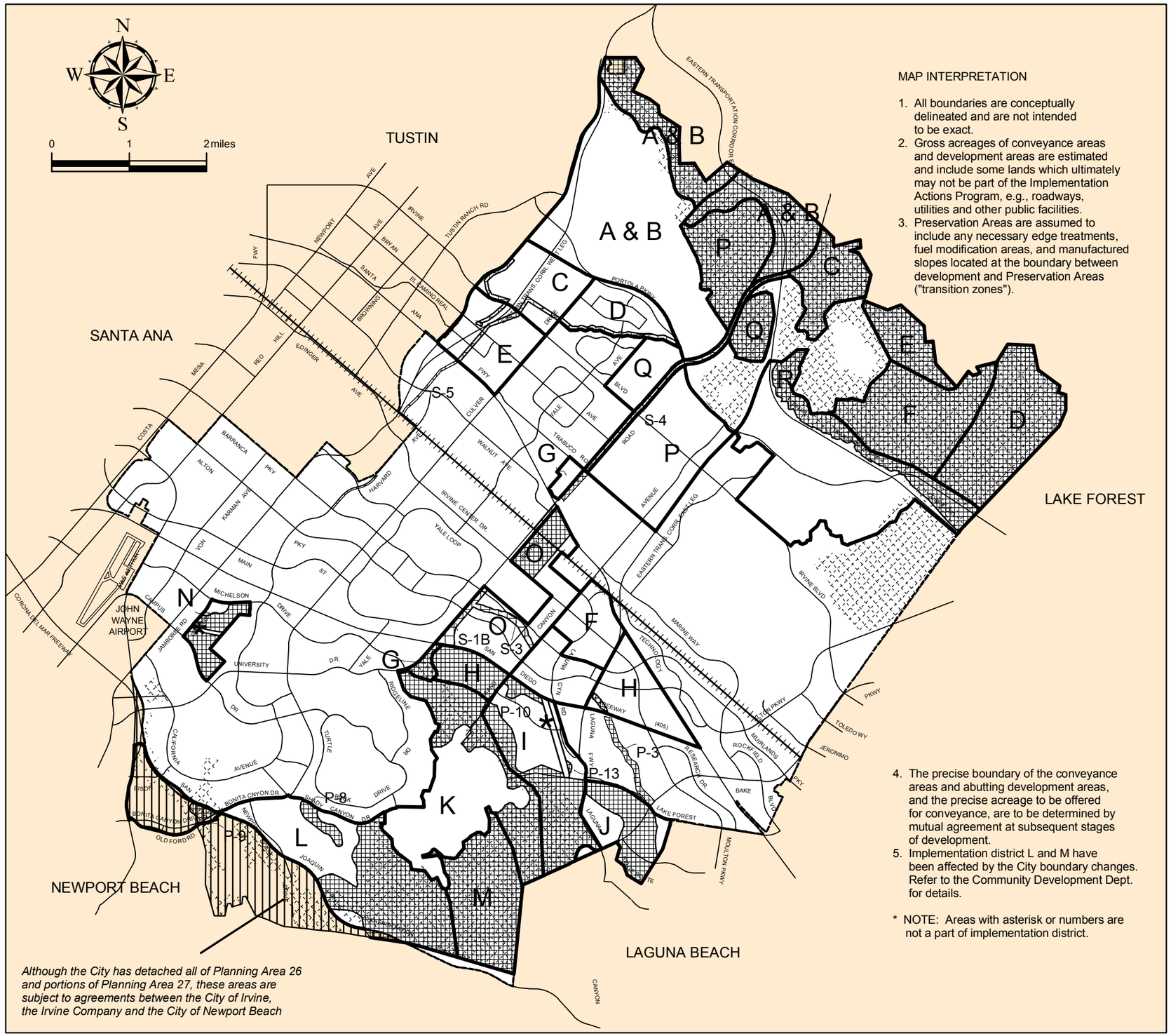
City of Irvine
General Plan

Figure L-2

CONSERVATION AND OPEN SPACE

LEGEND

- City Sphere of Influence
- Preservation
- Recreation
- Water Bodies
- Agriculture
- Golf Course Overlay
- Landfill Overlay



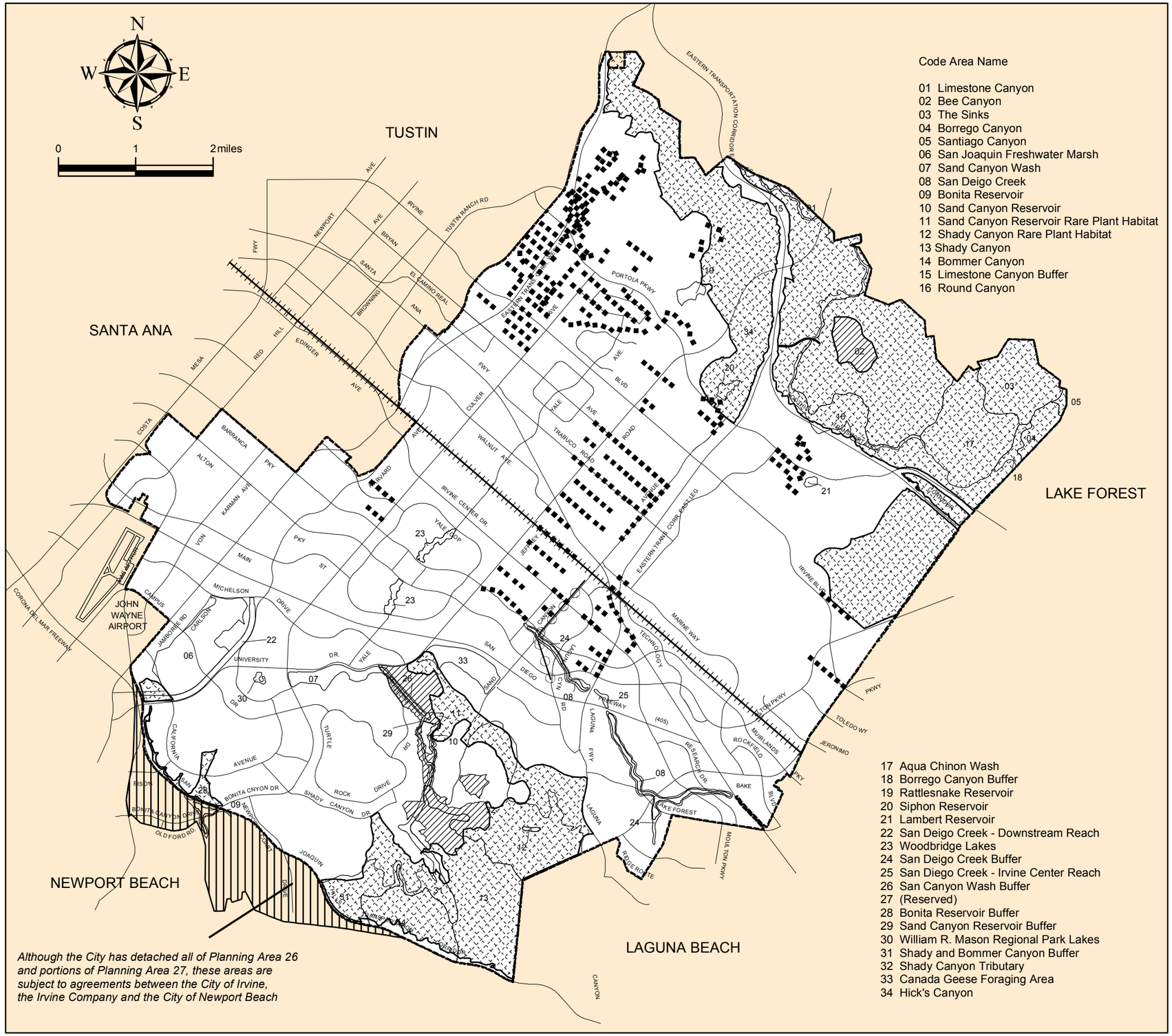
City of Irvine
General Plan

Figure L-3

IMPLEMENTATION DISTRICTS

LEGEND

- City Sphere of Influence
- Preservation Area
- Spine
- Development Area
- NCCP habitat identified for future public ownership by the Facilitation Agreement (see Appendix) between the City and the land owner.



City of Irvine General Plan

Figure L-4

BIOTIC RESOURCES

LEGEND

- City Sphere of Influence
- Eucalyptus Windrows
- Sand Canyon Oak Trees
- NCCP Habitat Reserve
- NCCP Special Linkage

Note: Eucalyptus Windrows located within Lower Peters Canyon Planning Area 4 are subject to the Eucalyptus Windrow Maintenance and Protection Plan for Lower Peters Canyon (September 1996)