

SECTION 5.1 INTRODUCTION

The Conservation Element of the *Rolling Hills Estates General Plan* is concerned with the management of natural and cultural resources in the planning area. The Element identifies significant resources within the City and establishes a plan for their conservation, management, or preservation.

The Conservation Element is a state-mandated element as required by regulations in *Section 65302(d) of the California Government Code* and the *State Mining and Reclamation Act (SMARA)*. The Element is intended to increase public awareness concerning the presence and condition of natural and cultural resources and to promote their conservation and management.

The earth's resources are limited and often non-renewable. Ignorance, indifference and misuse could easily lead to their exploitation, destruction or neglect. As such, it is the City's responsibility to inform residents of the importance of local resources in relation to regional concerns. The City is empowered to regulate the use of certain local resources to prevent their destruction and exploitation and to ensure that conservation efforts are constant and equitable. Conservation includes the regulation of the extent of resource utilization, of the appropriate preservation techniques and of the conduct of activities which affect or preclude the use of resources.

Natural resources in the planning area include water, air, and biotic resources. Cultural resources include historical, archeological and paleontological sites and structures. The City's conservation plan will consist of independent programs for the managed use of mineral resources, the maintenance of good air quality, the protection of native plant and animal life and the preservation of cultural resources. The plan will help maintain ecological balance and improve the quality of life in Rolling Hills Estates.

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SECTION 5.2 GOALS AND POLICIES

The Conservation Element deals with the management of natural and cultural resources in the planning area. The Element is intended to increase awareness of the presence of natural and cultural resources in the community and to promote the conservation and management of these resources. The goals and policies of the Conservation Element address the managed use of water and land resources, the maintenance of good air quality, the protection of native plant and animal life, and the preservation of cultural resources and aesthetic amenities of the area.

Issue: Natural Environment

Local efforts to preserve the natural environment will promote harmony between nature and man. The City will support the preservation of those significant resources in the Palos Verdes Peninsula which make it unique from the rest of Los Angeles County.

Goal 1 Preserve the natural environment of the Palos Verdes Peninsula through the conservation of natural resources, the maintenance of a balanced ecology and the prevention of environmental degradation.

Policy 1.1 Maintain the natural canyons and hillside areas for passive open space and/or for incorporation into the Citywide trails system.

1.1.1 Implementation Measure: Implement the General Plan Land Use policy which indicates the location and extent of future land uses in the area.

Timing: Immediate and ongoing

Agency: Planning Department

Funding: General fund

Policy 1.2 Encourage planting of native drought tolerant plant species to minimize erosion and to provide habitats for wildlife while being sensitive to the wildfire hazard.

1.2.1 Implementation Measure: Publish and distribute a pamphlet outlining how drought tolerant landscaping and drip irrigation can save water and be aesthetically pleasing. The City will consider establishing a demonstration garden at City Hall if needed to supplement the South Coast Botanical Gardens which illustrates how drought tolerant vegetation can be used for landscaping.

Timing: 1993-1995

Agency: Planning Department and Community Service Department

Funding: General fund and Capital Improvement Budget

Policy 1.3 Discourage the excessive grading of slopes in those areas of the City that are undeveloped such as canyons, archaeological sites, and areas with established vegetation.

1.3.1 Implementation Measure: Future development must conform to all grading guidelines and requirements in the General Plan and Municipal Code. The Cultural Resource Overlay Zone requirements (Section 5.3) must be adhered to.

Timing: Immediate and ongoing

Agency: Planning Department

Funding: General fund

Policy 1.4 Require that all future developments connect to public sewers to prevent contamination and pollution of the local groundwater.

1.4.1 Implementation Measure: During site plan review, plans will be examined to ensure sewer connections are made. All new subdivisions will be required to connect to sewers.

Timing: Immediate and ongoing

Agency: Planning Department

Funding: General Fund

Policy 1.5 Develop and implement a comprehensive program for the recycling of waste such as paper, aluminum, bottles, organic waste, and motor oil pursuant with the requirements of AB939, AB1820, and AB2707.

1.5.1 Implementation Measure: The City will implement its Comprehensive Source Reduction and Recycling Element and Household Hazardous Waste Elements. The implementation of this program will be monitored by the designated environmental coordinator.

Timing: Immediate and ongoing

Agency: Public Information Officer

Funding: General fund

Policy 1.6 Participate in management programs established by Los Angeles County for water conservation, liquid and solid waste management, and flood control.

1.6.1 Implementation Measure: The City will continue to participate in programs designed to promote water conservation, recycling, and flood control. City staff (including the environmental coordinator) will review new development in the environmental review process to ensure that appropriate mitigation measures are identified.

Timing: Immediate and ongoing

Agency: Planning Department and City Manager

Funding: General fund

Policy 1.7 Provide guidelines for the protection of hillside slopes and canyons, the reduction of soil erosion and the control of the velocity of water run-off.

1.7.1 Implementation Measure: The City will review its grading ordinance and publish an informational brochure that outlines the grading ordinance requirements.

Timing: 1993

Agency: Planning Department

Funding: General fund

Policy 1.8 Inform residents of the environmental concerns regarding air quality, water resources, land and other ecological resources to solicit cooperation and support in the City's conservation plans.

1.8.1 Implementation Measure: The City will work with local organizations and other agencies in sponsoring a booth at the City Celebration and other events such as the Peninsula Street Fair, Las Amigas, and California Carriage Classic, in addition to newsletters, fliers, and brochures as needed.

Timing: Immediate and ongoing

Agency: Community Services Department and City Manager

Funding: General fund

Policy 1.9 Ensure that the long-term protection of the environment shall be a primary consideration in approving development projects. Require all future construction projects, both public and private, to mitigate their potential environmental impacts through the environmental review process.

1.9.1 Implementation Measure: City staff will prepare environmental guidelines concerning mitigation monitoring. The City will designate a staff person to serve as environmental coordinator. This person will be responsible in overseeing mitigation monitoring programs.

Timing: 1994
Agency: Planning Department
Funding: General fund

Policy 1.10 Environmental impact reports for future projects must address cumulative impacts which will include other projects on the peninsula, downstream traffic, regional air quality, sewage generation and other environmental constraints of the area.

1.10.1 Implementation Measure: City staff will compile and maintain a data base of "related projects" in the Peninsula which may result in cumulative impacts. This data base will begin with the Master Environmental Assessment that will be completed as part of the General Plan Update.

Timing: Immediate and ongoing
Agency: Planning Department
Funding: General fund

Policy 1.11 The City planning staff will strengthen enforcement of planning ordinances and standards, including those regulations concerning the maintenance of private property.

1.11.1 Implementation Measure: The Planning Department will review past and present code enforcement policies to ensure they are adequate. A report will be made to the City Council and Planning Commission on an annual basis.

Timing: Immediate and ongoing
Agency: Planning Department
Funding: General fund

Policy 1.12 The City will continue to assist the Lead Agency Authority for Chandler Quarry pursuant to the State Mining and Reclamation Act (SMARA) requirements related to A.B. 3551 and A.B. 3903 amendments.

1.12.1 Implementation Measure: Assist the Lead Agency by enforcing SMARA policies and Chandlers Condition Use Permit for landfill operations.

Timing: Immediate and ongoing

Agency: Planning Department

Funding: General fund

Issue: Biological Resources

The biological resources of the Peninsula are diverse and some are unique to the Peninsula. Due to existing development, the City should strive to maintain ecological balance through the protection of its remaining biological resources.

Goal 2: Preserve local plant and animal life and their habitats in the Peninsula.

Policy 2.1 Strive to protect the remaining wildlife population of the area and prevent the destruction of the remaining natural habitats.

2.1.1 Implementation Measure: All new development within areas determined to have a high ecological sensitivity will be required to submit biological field studies to identify potential impacts. All subdivision located within the Ecological Resources Overlay Zone will be required to comply with the General Plans special guidelines (refer to Section 53).

Timing: Ongoing

Agency: Planning Department

Funding: General fund

Policy 2.2 Preserve the existing vegetation in the open space corridors in its natural state while being sensitive to fire protection policies.

2.2.1 Implementation Measure: Implement the General Plan Land Use Policy, which calls for the maintenance and preservation of these areas through the Science Resources Overlay Zone. The City will consider establishing a demonstration garden if needed to supplement the South Coast Botanical Garden displays in order to illustrate how new development can utilize native vegetation in landscaping.

Timing: 1993 - 1995

Agency: Planning Department and Community Services Department Funding:

General fund: Capitol Improvement Budget

Policy 2.3 Encourage the re-establishment of appropriate native plants by requiring developments to prepare landscape plans that promote the preservation, protection, and enhancement of vegetation, wildlife and natural habitats.

23.1 Implementation Measure: The City will review and amend existing development standards if necessary so as to promote the use of native vegetation and maintenance of existing habitats.

Timing: Immediate and ongoing

Agency: Planning Department

Funding: General fund

Policy 2.4 Implement the General Plan guidelines for the restoration of habitats for sensitive and/or endangered species.

2.4.1 Implementation Measure: The City will consult with local environmental organizations to participate in the restoration or development of native wilderness areas in canyons or other public open space areas. The City will encourage private open space land to do likewise. Those areas under public control will be inventoried as candidate sites for restoration.

Timing: 1994-1996

Agency: Planning Department and Community Services Department

Funding: General fund

Issue: Cultural Resources

The rich and colorful history of the Peninsula provides the area with a sense of importance and historical pride. The preservation of cultural resources will enrich the educational and cultural aspirations of residents and visitors alike.

Goal 3: Promote the preservation of cultural, historical and natural resources within the City.

Policy 3.1 Implement General Plan guidelines for the protection of sites of paleontological, archaeological, historical or culturally valuable significance.

3.1.1 Implementation Measure: New development in areas designated as having a high cultural sensitivity will be required to have archaeological surveys and on-site

monitoring when deemed necessary. All development shall be subject to the provisions of Appendix K in the CEQA Law and Guidelines.

Timing: Immediate and ongoing
Agency: Planning Department
Funding: General Fund

Policy 3.2 Encourage and support local high quality projects and programs devoted to the visual and performing arts, the sciences, the humanities, and educational programs related to these topics.

3.2.1 Implementation Measure: The City will cooperate with local organizations to promote and advertise special events and activities in the City's newsletter and public access cable.

Timing: Immediate and ongoing
Agency: City Manager
Funding: General fund

Policy 3.3 Develop the George F. Canyon open space at Palos Verdes Drive North and Palos Verdes Drive East from the water district's pump and extending down the canyon, as a cultural and natural preserve. Encourage a cooperative effort to extend the formal preservation of George F. Canyon into Rolling Hills and Rancho Palos Verdes Canyon.

3.3.1 Implementation Measure: Implement the General Plan which calls for the development of this area as a historic and natural preserve. The Community Services Department will establish a timetable for the planning and development of this site.

Timing: 1992
Agency: Community Services Department
Funding: Pepper Tree Foundation

Policy 3.4 Explore funding for a nature/environmental center for the City, possibly to be connected with the George F. Canyon openspace/natural preserve. Work with the City of Rolling Hills to promote the preservation of the canyon areas within its corporate boundaries.

3.4.1 Implementation Measure: Pepper Tree Foundation will explore potential funding sources for the development of the natural/environmental center. The

project will be considered for the City's five year Capital Improvement Program or through the Pepper Tree Foundation.

Timing: 1993
Agency: Community Services Department
Funding: Pepper Tree Foundation

Policy 3.5 The City will continue to assist the Lead Agency Authority for Chandler Quarry pursuant to the State Mining and Reclamation Act requirements related to AB 3551 and AB 3903 amendment.

3.5.1 Implementation Measure: Assist Lead Agency by enforcing SMARA policies and Chandler's Conditional Use Permit for landfill operations.

Timing: Immediate and ongoing
Agency: Planning Department
Funding: General fund

Issue: Air Quality

The increasing awareness on air quality issues has prompted the adoption of state and regional legislation governing mobile and stationary air pollution sources. While the City has generally good air quality, the need for standards to control pollution should not be discounted.

Goal 4: Protect and maintain the air quality of the Peninsula.

Policy 4.1 Cooperate with the South Coast Air Quality Management District (SCAQMD) and surrounding cities to develop standards for the enforcement of regulations specific to Rolling Hills Estates.

4.1.1 Implementation Measure: The City Manager will designate an environmental coordinator to ensure the City's compliance with the SCAQMD's rules and regulations.

Timing: Immediate and ongoing
Agency: City Manager
Funding: General fund

Policy 4.2 The City will work with the other agencies in the region to ensure that motor vehicles comply with all standards for air pollution control.

4.2.1 Implementation Measure: The City will advertise the SCQAMD's program that involves reporting polluting vehicles to that agency. The City will prepare a flyer describing the program and the City's support for its continued implementation.

Timing: Immediate and ongoing

Agency: Planning Department and City Manager

Funding: General fund

Policy 4.3 Implement the clear air strategies outlined in the Conservation Element for the City to assist in the implementation of the Air Quality Management Plan.

4.4.1 Implementation Measure: The environmental coordinator will monitor the City's effectiveness in the implementation of those AQMP measures (referred to in Section 5.3) that are the City's responsibility.

Timing: Immediate and ongoing

Agency: City Manager

Funding: General fund

Issue: Aesthetics

The aesthetic qualities of the environment should be preserved along with its resources. Attractive vistas, panoramas and views are plentiful along the City's roadways contributing to the City's desirable environment.

Goal 5: Preserve the aesthetic quality of the area through the regulation of developments along view corridors and scenic roadways.

Policy 5.1 Encourage the preservation of view corridors and discourage developments and additions which obstruct view corridors.

5.1.1 Implementation Measure: The City will amend the neighborhood compatibility ordinance to consider preservation of significant view corridors. The criteria and guidelines listed in Section 5.3 will be implemented.

Timing: 1994
Agency: Planning Department
Funding: General fund

Policy 5.2 Implement the General Plan criteria for the designation of scenic roadways, with consideration for the visibility of scenery, major landform, vegetation, structures, and panoramas, and develop a plan for the undergrounding of existing telephone and electrical poles.

5.2.1 Implementation Measure: Implement the Scenic Highway Guidelines in the Conservation Element (Section 53) and works with the telephone company to prioritize the placement of telephone lines underground.

Timing: Immediate and ongoing
Agency: Planning Department and Public Works Department
Funding: General fund

Policy 5.3 Preserve the existing rural road character of Palos Verdes Drive North by maintaining the roadway's designation as a scenic corridor/roadway part of a peninsula wide loop.

5.3.1 Implementation Measure: None required. The roadway's designation is reflected in the Conservation Plan

Timing: Immediate and ongoing
Agency: Public Works Department
Funding: General fund

Policy 5.4 Implement criteria for the designation of scenic roadways in the City and evaluate existing roadways for their qualities as local scenic routes.

5.4.1 Implementation Measure: Implement the Scenic Highways Guidelines and overlay as outlined in the Conservation Plan.

Timing: Immediate and ongoing
Agency: Public Works Department
Funding: General fund

Policy 5.5 Implement criteria and procedures for the preservation and beautification of present and future roadways and for the designated scenic roadways.

5.5.1 Implementation Measure: The City will review existing ordinances and regulations to ensure the guidelines related to preservation and beautification of roadways are reflected.

Timing: Immediate and ongoing
Agency: Public Works Department
Funding: General fund

Policy 5.6 Continue to promote the rural environment of the City by discouraging light and glare except where lighting is required for public safety.

5.6.1 Implementation Measure: The City will require the use of low pressure sodium lighting for parking areas, street lighting, and other exterior lighting.

Timing: 1993
Agency: Planning Department
Funding: General Fund

Issue: Grading and Landforms

Grading and construction activities could disrupt the stability of soils and create geologic hazards. The City will make every effort to make sure new development will not result in unstable soils, soil erosion, or landslide.

Goal 6: **Minimize grading and significant changes in the natural topography and grading activities should be designed to preserve the unique and significant cultural and biologic features to maintain the identity, image and environmental qualities of the City.**

Policy 6.1 Evaluate and distinguish between the destruction of land and the enhancement of land. Discourage any grading beyond that necessary to create adequate building pads and reasonable recreation areas for equestrian use, pools, tennis courts, etc.

6.1.1 Implementation Measure: The City will review all grading plans to ensure they are in compliance with City standards.

Timing: Immediate and ongoing
Agency: Planning Department
Funding: General fund

Policy 6.2 The project review process must give major consideration to the health, safety, and welfare of the community without violating the homeowners' rights to modify/improve their property.

6.2.1 Implementation Measure: All new development will be reviewed by the environmental coordinator to make sure that this development will not adversely impact neighboring properties or residents.

Timing: Immediate and ongoing
Agency: Planning Department
Funding: General fund

Policy 6.3 Preserve natural land forms, vegetation, and wildlife by requiring more stringent regulations for the development and alteration of slopes greater than 2 to 1.

6.3.1 Implementation Measure: The City will review existing hillside and grading ordinances to make sure they reflect current City standards and amend these if necessary.

Timing: 1993
Agency: Planning Department
Funding: General fund

SECTION 53 CONSERVATION PLAN

INTRODUCTION

Most of the City is presently developed and open space is limited. Over time portions of the remaining undeveloped areas that are privately owned will experience pressure to develop. Nevertheless, the lower density character of the City, the City's topography, and canyons that have been maintained for recreation use, provide an abundance of opportunities for resource conservation.

A study was conducted as part of this General Plan to identify those areas within the planning area where significant resources are found. Many of these areas were not originally developed because they are subject to environmental constraints. These constraints include flooding problems, excessive slopes, and soil limitations. A substantial portion of the undeveloped land is located in those areas that are subject to these environmental constraints.

LAND USE POLICY

Land use policy outlined in the Land Use Element is instrumental in protecting many of the natural and cultural resources identified as being significant. A number of land use designations overlay zones will be used in either preserving environmentally significant areas or substantially reducing potential impacts from development through more stringent development standards. The base land use categories that will be effective in conserving important resources include the following:

Open Space: This designation applies to parkland and open space lands which are not going to be developed during the life of the General Plan. This designation applies to public parks, canyons, and other public and private land reserved from development.

Institutional: A number of public and private uses are included in this category. Portions of these uses could be used for resource conservation purposes.

Commercial Recreation: This category of development applies to a variety of land uses including private equestrian facilities, golf courses, and other types of privately-owned land used for recreational activities.

A number of General Plan Conservation Overlay Zone designations are included in the land Use Element. While not all Conservation Overlay Zones will be expressly used for

preserving environmentally significant areas, the majority indicates those areas where development standards are more stringent. In this way potentially adverse impacts from development can be minimized. The Overlay Zones include the following:

Ecological Resource Overlay: This overlay designation applies to those portions of the planning area where sensitive habitats are located.

Scenic Corridor Overlay: The scenic corridor designation applies to the major roadways in the area that have been designated as scenic corridors.

Cultural Resource Overlay: This designation applies to those areas that have been designated as having a high sensitivity for cultural resources and where future development may affect these resources.

Multi-Use Trail Overlay: The Open Space and Recreation Element's Master Plan of Trails indicated the placement of future trails and maintenance of existing trails. The Overlay Zone indicated the location and extent of both existing and future trails.

The following sections of the Conservation Plan describes standards and guidelines that apply to each overlay designation.

RESOURCE MANAGEMENT GUIDELINES

There are a number of goals and policies in the General Plan that are concerned with the maintenance, preservation, or conservation of natural resources. These natural resources include important ecological habitats found in the planning area. These policies will be effective in mitigating the impacts of development on sensitive ecological areas within or adjacent to properties undergoing development. The focus of the Resource Management Guidelines is to provide further direction related to the maintenance and preservation of these resources.

Significant natural resources within the planning area are described in detail in the Conservation Element Background Report (Section 5.4). For planning purposes, three sensitivity categories have been developed to identify the planning area's sensitivity to development. This sensitivity rating is described as follows:

Low Sensitivity: Areas with no significant natural habitats are in this classification. Past development in the urbanized areas is likely to have destroyed or significantly altered native plant communities and animal habitats. This designation is not

intended to undervalue the importance of introduced or existing vegetation in the developed areas.

Moderate Sensitivity: A number of areas in the City have been developed at densities sufficiently low so that remnants of environmentally significant habitats remain. In addition, some development is located adjacent to ecologically significant zones, which could be adversely impacted by any increase in density or intensity of development.

High Sensitivity: The Resource Management Technical Report identified those portions of the planning area that are judged to be ecologically significant by biologists and naturalists. These areas correspond with the Ecological Resource Overlay Zone shown in Exhibit 5-1. The Zone corresponds to those areas identified as having a high sensitivity. Areas presently developed are not included in overlay.

Development proposals within those areas with high sensitivity ratings identified in Exhibit 5-1 will be reviewed to determine the extent of significant ecological resources on the property and the potential impacts new development will have on these resources. The location of sensitive lands as shown in Exhibit 5-1 is generalized and not parcel-specific. Exhibit 5-1 is a tool to be used as an aid in locating sensitive lands, but is not an exact or exclusive determinant. However, a detailed identification and review of the presence of sensitive resources will be required with each development proposal within the areas located designated as having a high sensitivity.

For those areas located within the Ecological Overlay Zone, the guidelines listed below apply to new large scale development. The guidelines do not apply to minor lot improvements which might be undertaken by individual homeowners:

- # Field surveys to identify potential resources must be undertaken prior to any development or significant alteration of these areas.
- # Any fuel modification program for fire prevention must be evaluated by knowledgeable professionals to ensure appropriate mitigation is followed.
- # All new development in these areas must undergo appropriate environmental review pursuant to the California Environmental Quality Act.
- # Trustee agencies including the California Department of Fish and Game and local environmental organizations such as the Audubon Society must be

notified of large scale development proposals as part of the environmental review process.

- # When threatened and/or endangered species are encountered, the directives of the Department of Interior and the State of California Department of Fish and Game will be considered.

Preservation of Scenic Visual Resources

A number of policies in the General Plan are concerned with preserving scenic and visual resources in the planning area. For example, the Recreation Element provides for the development and maintenance of points within the existing parks, while the Land Use Element promotes urban design through the continued implementation of the neighborhood compatibility ordinance.

This section of the Conservation Element includes a Scenic Roadways Overlay Zone that identifies those corridors containing significant aesthetic and visual resources. Proposals for new development need to be evaluated to ensure that significant views along these corridors will be preserved. This designation is also applied to those roads that have been previously identified as Scenic Highways. Exhibit 5-2 indicates those areas and roadways that have been placed with a Scenic Roadways Overlay Zone.

The following criteria were used in designating Scenic Corridors in the City:

- # Areas which characterize the rural or urban form of the City of Rolling Hills Estates.
- # Significant historic places or sites of interest.
- # Outstanding topographic features or unique natural features.
- # Urban design and architecture unique to the City of Rolling Hills Estates.
- # Important viewsheds where preservation is warranted

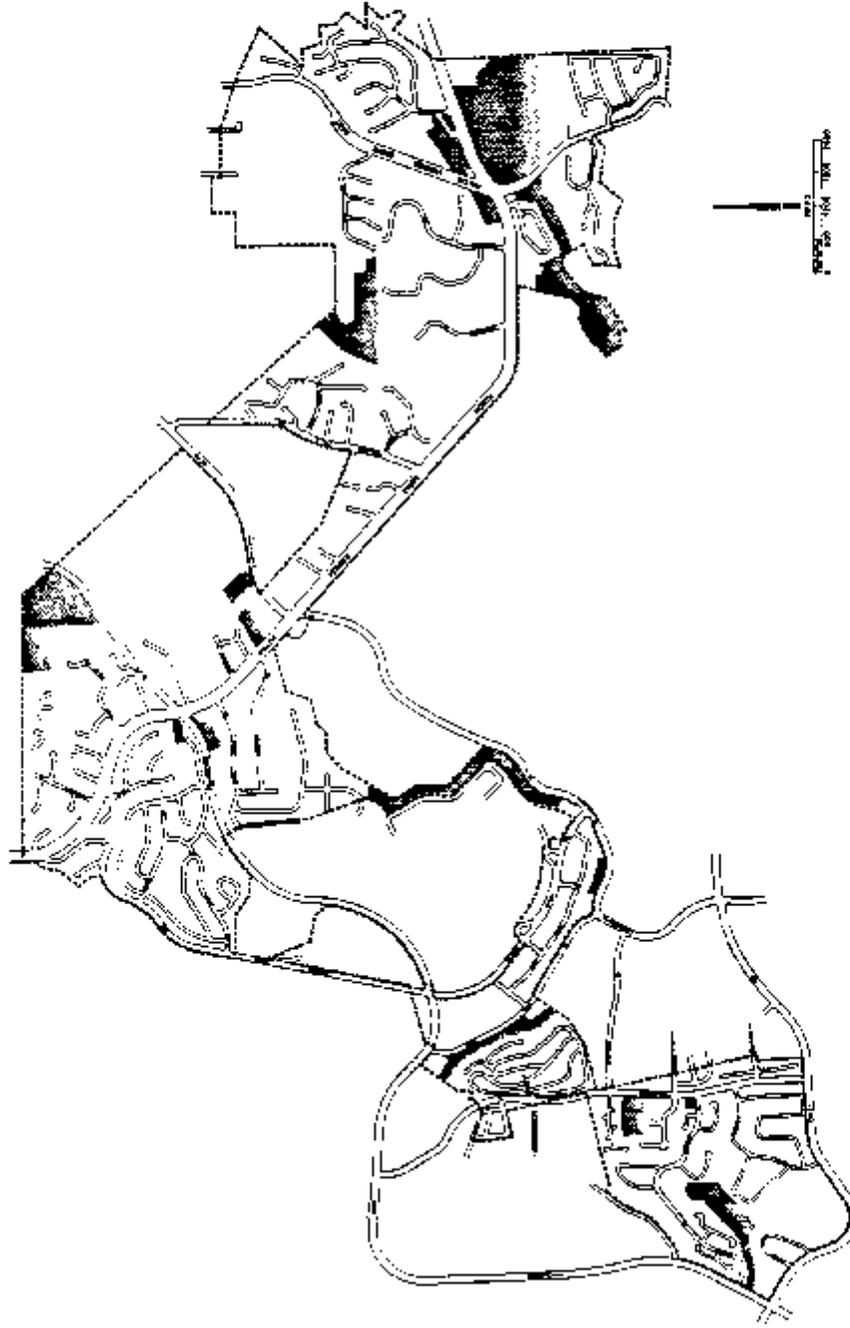
The following guidelines will apply to all scenic roadways and corridors:

- # The designated route must traverse an aesthetically significant viewing corridor.

City of
Rolling Hills Estates



GENERAL PLAN



ECOLOGICAL OVERLAY

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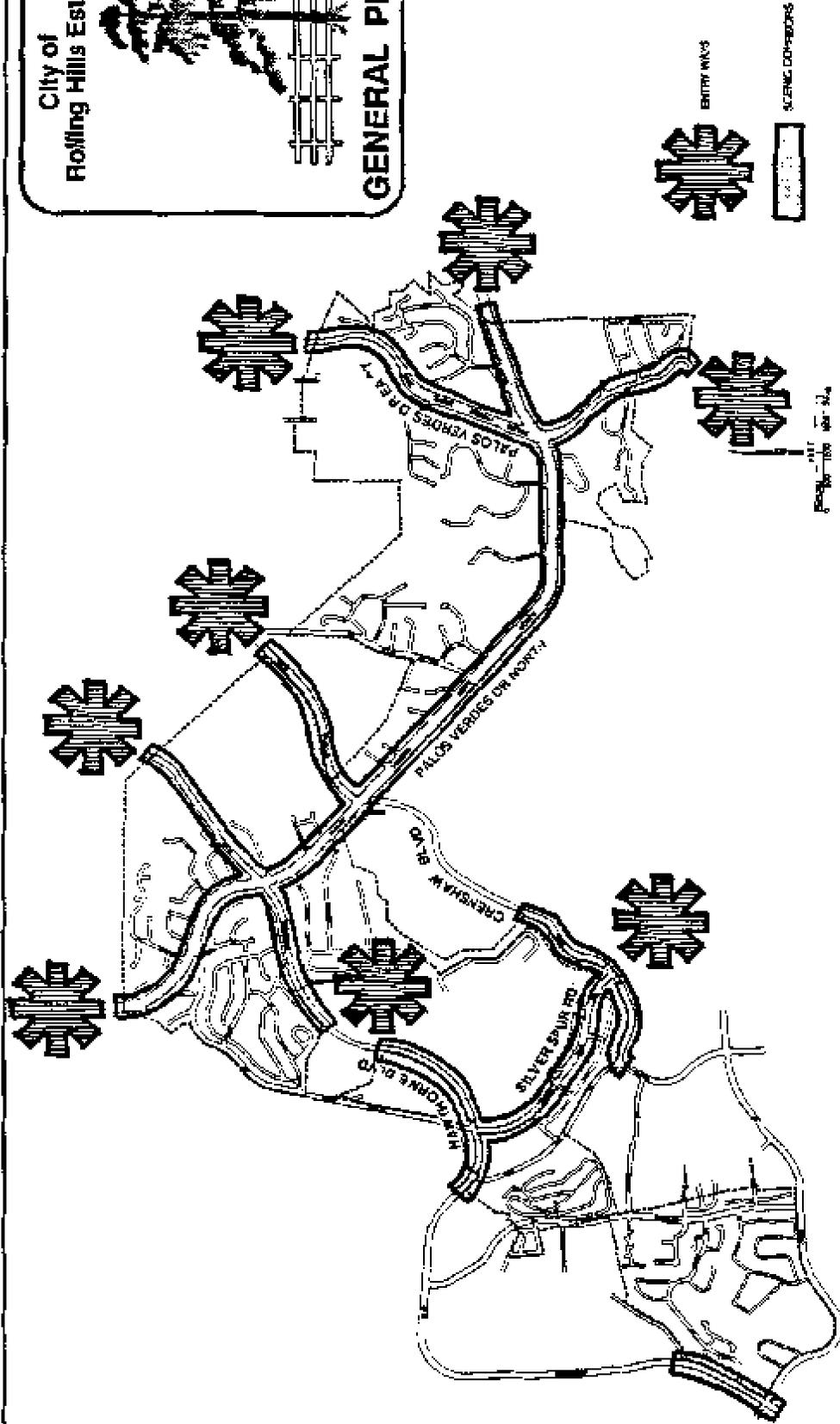
ECOLOGICAL OVERLAY ZONE

Exhibit 5-1

City of
Rolling Hills Estates



GENERAL PLAN



D. C. D. Dumb, Evans and Associates, Inc.

SCENIC HIGHWAYS OVERLAY

- # The route should be a significant entry into the City and those entryways should be marked with appropriate landmarks.
- # The establishment of a Scenic Route must be consistent with traffic circulation and will not affect the integrity of the area it traverses.
- # The scenic route system must be consistent with the capability of existing street systems and will not necessitate expansion.
- # Any improvement associated with a scenic route will be consistent with the character of the community and not result in any significant environmental impacts.

Pursuant to the above criteria, the following corridors (shown in Exhibit 5-2) have been placed within the Scenic Roadway Overlay Zone:

- # Hawthorne Boulevard
- # Palos Verdes Drive North
- # Crenshaw Boulevard
- # Silver Spur Road

The protection of scenic corridors is based on standards which will prevent the alteration of the significant views. Where it is determined by the City that specific portions of a scenic route require upgrading, a program of improvement will be established. The following principles provide a comprehensive outline of applicable standards that must be adhered to in future development.

- # **City Approval.** New projects planned along a Scenic Route will be subject to a comprehensive design review process outlined in the neighborhood compatibility guidelines.
- # **Grading.** Site preparation or cutting of hillside will be conducted in a manner where it is least visible from designated scenic corridors.
- # **Exterior Light.** Exterior lighting along scenic corridors will be limited to those systems necessary for security and safety. Lighting intensities will be kept to the lowest possible levels and all such lighting will be screened and

directed away from view of scenic routes. Special attention will be paid to the design of light poles used in the corridors, traffic signal standards, and other equipment.

- # ***Landscaping.*** Landscape plantings along scenic corridors will be regulated to prevent the blocking of the view of such corridors. Landscape beautification of scenic routes will be considered and, where necessary, a program for improvements commenced.
- # ***Structures.*** The construction, placement or relocation of any structure will not block or impair the view of any Scenic Corridor and these structures will be harmonious with surrounding uses.
- # ***Utilities.*** All new utility lines will be installed underground and a program of undergrounding existing utility lines along Scenic Corridors as expeditiously as practicable will be initiated.
- # ***Land Uses.*** Land uses which will have an adverse impact on any Scenic Corridor will be prohibited.
- # ***Signs.*** Signage along Scenic Routes will be regulated to prevent interference with the viewing of Scenic Corridors. Key entryways to the City will be attractive and well-maintained.
- # ***Equestrian and Bicycle Routes.*** Will be developed as part of the City's Scenic Route System wherever possible.
- # ***Route Improvement.*** A review of Scenic Routes in the City will be conducted to determine which features along that route will be screened or upgraded in the future.

Neighborhood Compatibility Guidelines

In addition to satisfying the pertinent requirements of the specific residential district, the following design criteria and review processes have been established to protect, and maintain the established character of all residential neighborhoods in the City:

- # **Natural Amenities.** Improvements to residential property shall respect and preserve, to the greatest extent possible, existing topography, landscaping and natural features.
- # **Neighborhood Character.** Proposals shall be compatible with the existing neighborhood character in terms of architectural style and materials, and the scale of development in relation to surrounding residences.
- # **Scale.** While many elements can contribute to the scale of a residential structure, designs should minimize the appearance of overbuilt property to both public and private view. The square footage of the residence and the total amount of lot coverage should reflect the rural character of the City and the respective neighborhood.
- # **Style.** Proposals shall address the following design elements to ensure the compatibility of development:

Facade treatments shall be designed to avoid stark, unbroken exterior walls and in general, shall be compatible with facade treatments in the neighborhood.

The height of structures shall reflect the rural character of the City as well as maintain consistency with neighboring properties.

Open spaces between proposed structures and subject property lines shall reduce the appearance of an overbuilt lot.

Roof design shall incorporate pitches that are compatible with the neighborhood.

The apparent bulk or mass of the structure shall be consistent with surrounding properties in the neighborhood.

Any appurtenances incorporated into the design plan (including, but not limited to: greenhouses, turrets, towers, chimneys, penthouses, solariums, porticos/loggias, atriums, garden walls and fences) shall be constructed so that they are compatible with the neighborhood.

- # **Privacy.** Proposed development shall be designed to preserve the open space and rural character of the surrounding neighborhood. Designs shall incorporate and maintain an adequate amount of separation between the proposed structure(s) and adjacent property lines. In addition, balconies, decks and windows will also be designed to respect the existing privacy of surrounding properties.
- # **Landscaping.** Designs shall incorporate existing and additional landscaping to ensure compatibility with the surrounding neighborhood. Landscaping shall not be used to create hedges in front yard areas nor diminish the open, spacious character of a neighborhood.
- # **Views.** Development will be designed with respect for neighboring views as required by the View Protection Ordinance, Section 1950.

Cultural Resource Management

Cultural resource management and historic preservation require the cooperation of many government agencies. Rolling Hills Estates alone, however, has the ability to preserve and enhance many of the City's cultural resources. Furthermore, it is the City's desire to establish facilities and programs which will inspire appreciation for the City's past and will encourage participation in a wide range of educational and social activities. The Cultural Resources in the City and their importance to the community is underscored in the designation of George F. Canyon open space as a natural and cultural preserve.

The existence of rich cultural resources in the Peninsula present some challenges for future development in the City. Some protection is afforded through The California Environmental Quality Act which requires that a project be considered "significant" in terms of impact if it will disrupt or adversely affect a site of archaeological, paleontological, or historical

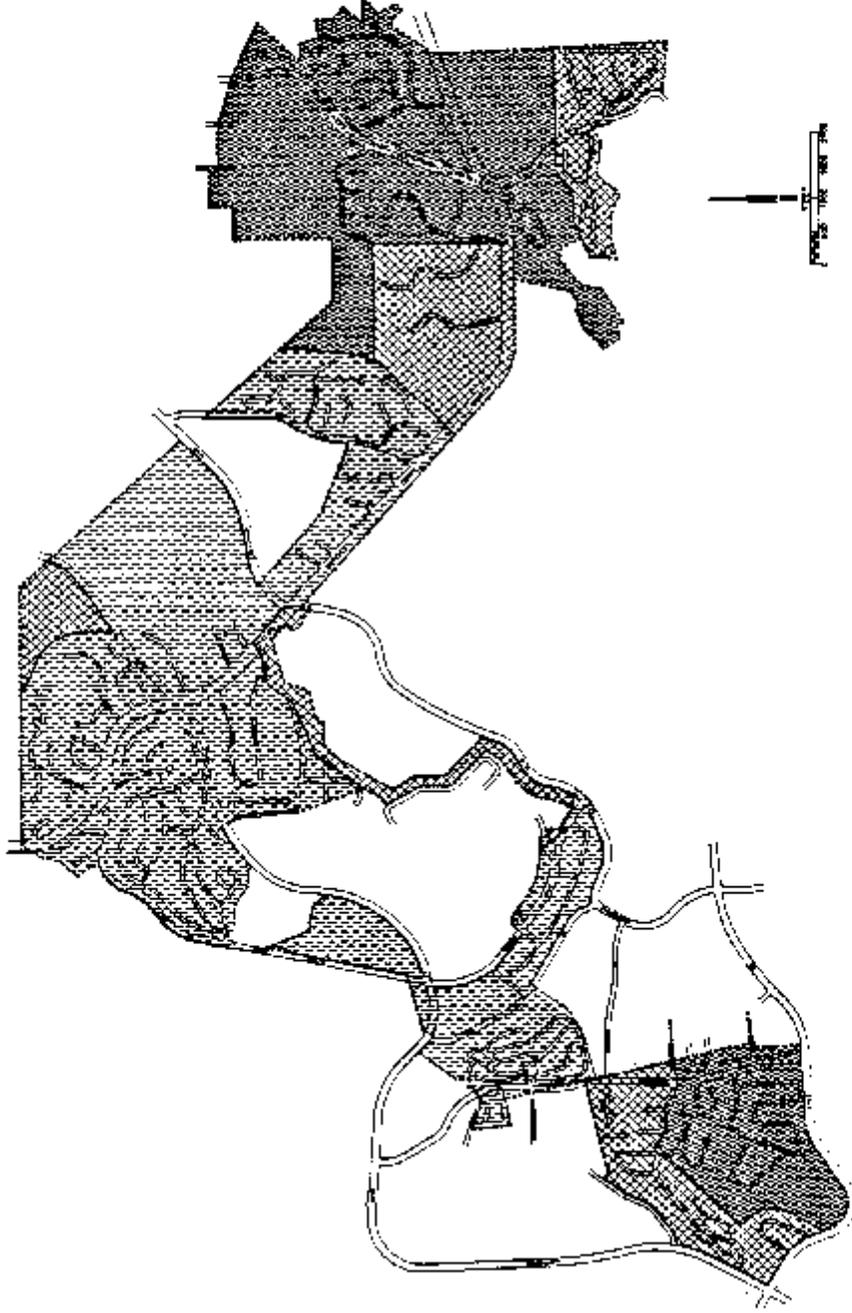
City of
Rolling Hills Estates



GENERAL PLAN

- HIGH SENSITIVITY *
- MEDIUM SENSITIVITY
- LOW SENSITIVITY

* High sensitivity areas included in Cultural Resources Overlay



historical significance. Protection of these resources during construction activities generally involve the salvage and curation of materials discovered at the site. Future development within the planning area and surrounding region is certain to result in the discovery of new sites. Other sites will also undoubtedly be discovered through the efforts of future archaeological field surveys.

A map indicating cultural resource sensitivity is provided in Exhibit 5-3. This exhibit identifies those areas where there is a high probability of discovering archaeological sites in the course of new development. A sensitivity rating has been applied to all of the planning area and is described as follows:

Low Sensitivity: Areas of low cultural resource sensitivity include those lands which have been surveyed with the express purpose of identifying cultural resource sites but which provided negative results. Low sensitivity areas also include land where development or grading has resulted in the movement or relocation of massive amounts of earth.

Moderate Sensitivity: Areas of moderate sensitivity include those lands which have been developed or altered by means which may not have resulted in the removal or relocation of earth on a large scale. Depending on the methods by which urbanization was accomplished, variable degrees of destruction to cultural resources can result. For example, agricultural fields represent areas where the surface has been disturbed though any buried artifacts have been preserved.

High Sensitivity: High sensitivity areas within the Peninsula planning area include those areas which have not been previously surveyed or have been subject to historic human disturbance other than agriculture. Based on the demonstrated prehistoric settlement pattern for coastal Southern California and on the density of recorded archaeological sites within the planning area, those portions of the planning area which retain their natural character and which have not been subject to surveys specifically related to the identification of cultural resources are considered to have a high potential for the presence of cultural resource sites.

A substantial number of archaeological sites have been discovered in those areas of the City that have undergone past development. For this reason, any proposed project that involves a significant amount of grading should have an archaeological survey conducted prior to construction. In addition, archaeological resources may be discovered in the course of construction and appropriate measures must be taken to ensure that artifacts are recorded and

salvaged. The City of Rolling Hills Estates will seek to avoid damaging effects on an archaeological resources whenever feasible. If avoidance is not feasible, the importance of the site shall be evaluated according to the following criteria.

- # The site's association with an event or person of recognized significance in California or American history, or scientific importance in prehistory.
- # The site's ability to provide information which is both of demonstrable public interest and useful in addressing scientifically consequential and reasonable or archaeological research questions.
- # The site's special or particular qualities such as oldest, best example, largest, or last surviving example of its kind.
- # The site's age being at least 100 years old and its stratigraphic integrity.
- # The site's potential for answering important research questions that historical research has shown can be answered only with archaeological methods.

In-situ preservation (leaving the site as is) is the preferred manner of avoiding damage to archaeological resources. Preserving the site is more important than preserving the artifacts alone because the relationship of the artifacts to each other in the site provides valuable information that can be lost when the artifacts are removed. Further, preserving the site keeps it available for more sophisticated future research methods. Preservation may also avoid conflict with religious or cultural values of groups associated with the site.

Avoiding damage to significant archaeological sites may be accomplished by any of the following approaches:

- # Planning construction to miss archaeological sites;
- # Planning parks, greenspace, or other open space to incorporate archaeological sites;
- # "Capping" or covering archaeological sites with a layer of soil before building tennis courts, parking lots, or similar facilities. Capping may be used where the soils to be covered will not suffer serious compaction; the covering materials are not chemically active; the site is one in which the natural processes of deterioration have been effectively arrested; and the site has been recorded.

- # Deeding archaeological sites into permanent conservation easements.

The City of Rolling Hills Estates has established additional guidelines for preserving potential archaeological resources in the community. The Conservation Element provides for a Cultural Resource Overlay Zone which is shown in Exhibit 5-3. Future development within this overlay zone must comply with the following guidelines:

- # An archaeological report must be provided to the City's environmental coordinator documenting known or suspected sites as part of the environmental review.
- # An archaeologist must be present during excavation or grading as part of the mitigation monitoring program.
- # All procedures related to the excavation and disposal of resources must comply with Appendix K of the CEQA Law and Guidelines.

California State Assembly Bill AB 492 and the adoption of the Appendix K in the CEQA Law and Guidelines provide direction with regard to the mitigation, preservation, or salvage of significant archaeological resources that are affected by development. The City will comply with the following provisions of CEQA in the event a significant archaeological site is discovered.

- # An excavation plan will be prepared according to the requirements outlined in CEQA-Appendix K;
- # If it is impossible to avoid disturbing the site through revisions in project design, the Lead Agency will initiate salvage efforts according to the parameters outlined in Appendix K, Section VII of the CEQA Law and Guidelines.
- # In the event of the discovery of human remains, procedures outlined in Section VIII of Appendix K contained in the CEQA Law and Guidelines will apply.

Air Quality Improvement Program

The City of Rolling Hills Estates is largely a suburban community with no polluting industrial activities.

Many local businesses are covered by Air Quality Management District (AQMD) regulations. Examples of the types of businesses regulated include those which conduct metal plating; manufacture fiberglass and plastic products; use or store organic solvents; utilize degreasing equipment; and use materials which emit hazardous air pollutants. Landfills are also subject to regulation. The AQMD controls solvent emissions from dry cleaners, print shops, metal platers, etc. Even commercial restaurants are subject to AQMD regulations covering charbroilers.

Any new, or modified existing, source of emissions that emits more than 1 pound a day of a regulated air pollutant is subject to the requirements of the recently revised AQMD Regulation X, which requires that all increases in emissions be offset by achieving at least an equal amount of reductions from existing sources. Small sources, i.e. sources emitting less than 2 tons/year of any regulated contaminant, are eligible to receive these offsets from the Community Bank, which is funded through shutdowns of facilities throughout the Basin. In addition, new or modified equipment is required to install Best Available Control Technology (BACT), as specified by the AQMD.

Facilities which do not directly emit pollutants but which attract concentrations of motor vehicles are referred to as indirect sources. Within this category, facilities with 100 or more employees are regulated by the AQMD's Regulation XV.

The South Coast Air Quality Management District's Regulation XV applies to all facilities which employ 100 or more persons at a single site. Employers subject to the regulation are required to develop plans which include sufficient incentives to bring the average vehicle ridership in employee vehicles to 1.5 persons. Some of the existing uses that will be subject to Regulation xv include the Northrop development, and the local High School.

The 1989 Air Quality Management Plan (AQMP) calls for local governments to specify the measures they will use to improve air quality in Air Quality Elements which are to be amended into each local General Plan. Emphasis in these elements is to be on actions to reduce local contributions to air pollution from vehicle trips, energy usage, local vehicle congestion (a major cause of carbon monoxide buildups), and local sources of particulates, including grading and construction. Those measures that apply to Rolling Hills Estates are summarized below:

Parking Management. The purpose of this strategy is to discourage use of single occupancy vehicles by restricting parking. Suggested measures in this category include:

1. Increase daytime parking fees.
2. Establish a surcharge on parking for single-occupant vehicles and/or a discount for multi-occupancy vehicles.
3. Eliminate peak-period on-street parking.
4. Eliminate 100% employer subsidized parking.
5. Require employer-sponsored preferential parking for ridesharers for employers of 100+ employees (short-term) and 25+ employees (long-term).
6. Implement short-term commercial parking zones.
7. Implement park and ride lots with shuttle service.
8. Increase parking enforcement.
9. Establish a cap on the number of parking spaces permitted per square foot for a particular use.
10. The environmental coordinator will provide data, monitor progress and effectiveness of the ordinance, and report results to SLAG annually.

Auto Use Restriction. This measure is directed at restricting vehicular traffic in areas with high pedestrian traffic. It is also directed at reducing congestion around centers such as the Rose Bowl, Anaheim Stadium, Disneyland, or any special event center with a capacity in excess of 10,000 vehicles. While no land use activity within the planning area falls into this category, provisions should be made to restrict auto use at other major generators such as schools. For cities which have such centers, ordinances are to be adopted which require off-site facility lots, shuttle buses, auto-free zones in the immediate vicinity of the event, etc.

Track Dispatching. This measure is directed at facilitating improved truck routing and delivery to reduce competition with peak hour automobile traffic. The measures call for ordinances and voluntary agreements with local businesses and delivery companies to change truck traffic to non-peak hours.

Growth Management. This measure is directed at improving job/housing balance in order to reduce vehicular miles traveled. It is based on the assumption that if people live and work in closer proximity, there will be less need to travel long distances. In the 1991 AQMP, job/housing balance is

changed to growth management and the goal is reductions in vehicle miles traveled through a number of actions, including job/housing balance.

Mineral Resources/Geology

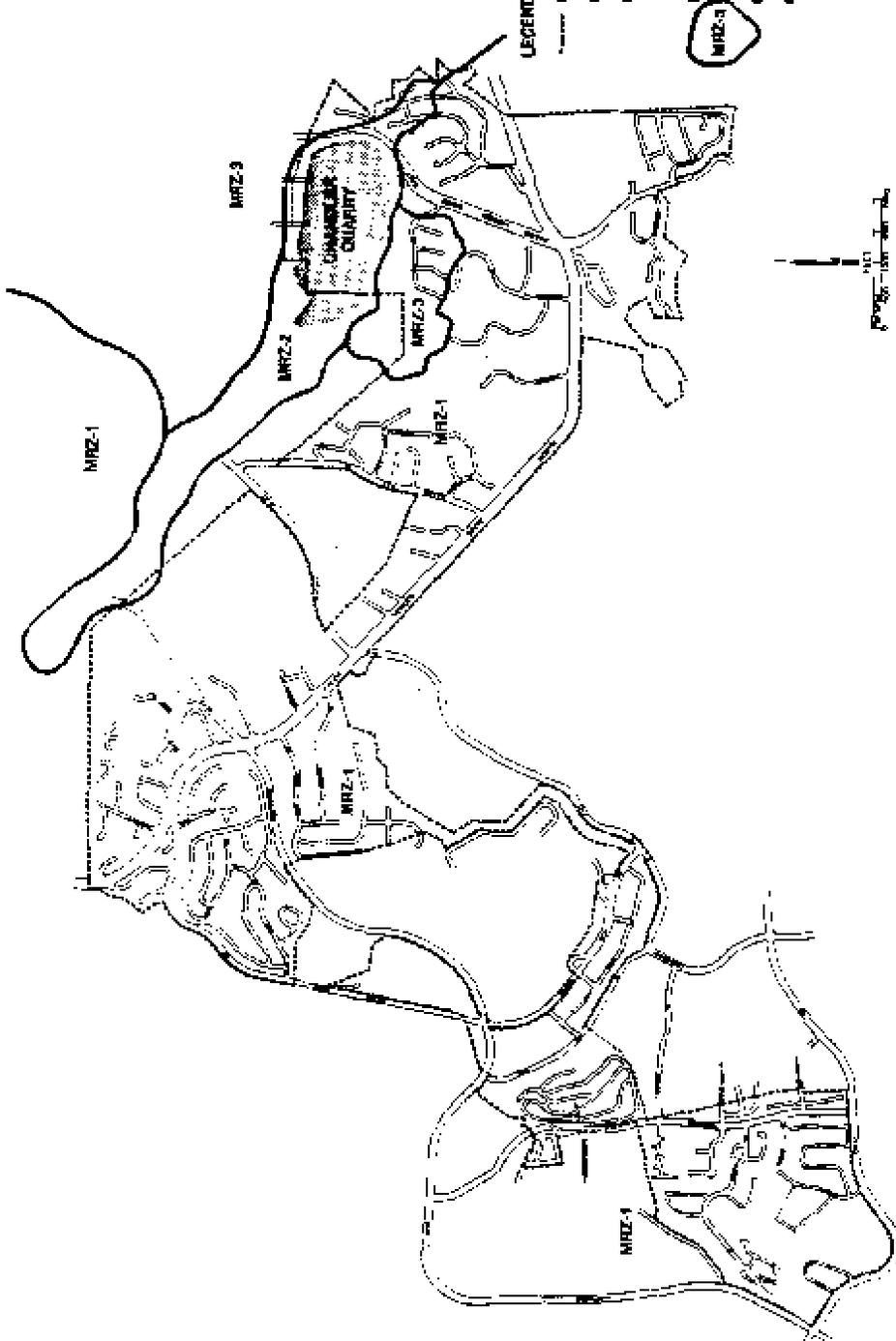
Section 5.4 of the Conservation Element describes the existing significant mineral resources in the City. As indicated in the Background Analysis and as shown in Exhibit 5-4, the State of California Division of Mines and Geology has assigned Mineral Resource Zone (MRZ) designations throughout the City. Only the northeastern portion of the City (refer to Exhibit 5-4) has been placed in a MRZ-2 designation which applies to areas where adequate information indicates that significant mineral deposits are present or where it is judged that a high likelihood for their presence exists. The presence of construction aggregate resources in the vicinity of Chandler Quarry led to the MRZ-2 designation.

The land use policy, as it applies to the Mineral Resource Zone designations does not promote the maintenance or preservation of the continued extraction of these resources. The Chandler Quarry area has been designated for lower density residential development in areas where this is feasible and commercial recreation in areas of uncompacted fill. The land use policy reflects the continuing reclamation program being undertaken by the property owner.

City of
Rolling Hills Estates



GENERAL PLAN



LEGEND

- CITY BOUNDARY
- MINERAL RESOURCE ZONE BOUNDARIES**
- MRZ-1** Areas where geologic information indicates that an significant mineral deposits are present, or where it is believed that they may be present, or where there are other geologic information indicating that significant mineral deposits are present or where it is judged that a high likelihood for their presence exists.
- MRZ-2** Areas containing mineral deposits, the abundance or which cannot be evaluated from available data, areas where geologic information is inadequate for judgment by any other MRZ zone.
- MRZ-3** Areas where geologic information indicates that significant mineral deposits are present or where it is judged that a high likelihood for their presence exists.

MINERAL RESOURCES

SECTION 5.4

BACKGROUND REPORT

INTRODUCTION

The Conservation Element Background Report identifies the biological, groundwater, mineral, air quality, and cultural resources of the planning area. These are nonrenewable or limited resources in the environment which need to be preserved and managed in order to ensure that they are available for future generations. Conservation, managed use and development of local resources will limit the disruption of natural cycles and lead to ecological balance.

GEOLOGY AND GROUNDWATER RESOURCES

The majority of the Palos Verdes Peninsula is a consolidated rock formation where no groundwater resources are found. At the northern foot of the Palos Verdes Hills, groundwater levels are between 20 to 30 feet below sea level. The Los Angeles River winds down to the area from the Coast Range Mountains. The river originally emptied into the area which now includes the cities of Compton, Torrance, Wilmington and Lomita. Heavily wooded areas and shrubs were found on the north side of the peninsula in the vicinity of the original stream bed. During the great flood of 1825, the river cut its way through a gorge into the present site of the Los Angeles Harbor, thus, draining the higher swamp lands. As water receded from the area, native trees, left with no water source, soon disappeared. Extensive landscaping by the first developers of the area has resulted in the revegetation of both native and non-native trees.

Mineral Resources

The Palos Verdes Peninsula contains soil formations which include a variety of sedimentary rocks. As part of the mineral land classification of the Greater Los Angeles area, all areas in the region were evaluated for the presence of significant mineral deposits. Most of the Palos Verdes Peninsula and the City of Rolling Hills Estates have been classified as areas where no significant sand and gravel resources are present and little likelihood exists for their presence. Only a small portion is classified to have a potential for sand and gravel resources.

The San Pedro sandstone is a marine deposit which can be seen on the northern and northeastern edges of the Palos Verdes Hills. This sandstone layer forms a belt from San Pedro to Malaga Cove. The San Pedro sandstone is believed to have formed in a coldwater marine environment during the period of glaciation. Tectonic uplift of the entire Palos Verdes Peninsula left the marine deposits hundreds of feet above sea level. The sandstone

sandstone consists of quartz and feldspathic sands which are poorly consolidated, unaltered, coarse and uncemented. They extend to depths of 600 feet and are mainly homogenous, containing less than 2 percent pebbly gravel. The sandstone is covered by mid-Pleistocene (1 million years before present) to Holocene (past 10,000 years), non-marine terrace 50 feet thick for the most part and up to 100 feet in others.

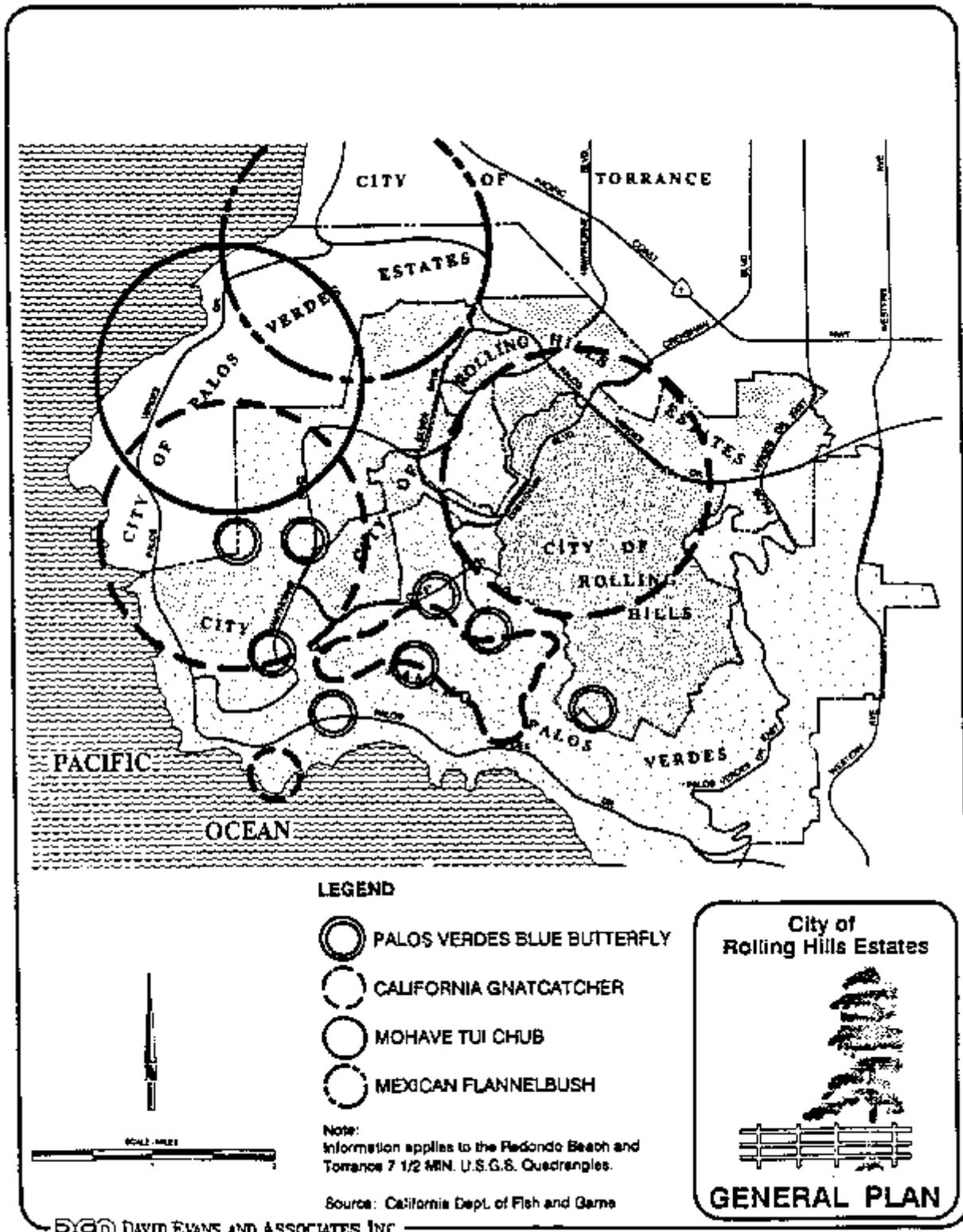
The areas where mining has historically taken place (Chandler quarry and some areas north of the City) are designated Significant Mineral Aggregate Resource Areas (SMARA) by the State of California Division of Mines and Geology. The remaining areas around the quarry site and to the east and north of the city have been classified as potentially significant areas. They are underlain by San Pedro sandstone but the lack of adequate data on the quality of resources precludes their classification as significant resource areas. Exhibit 5-4 shows the mineral land classification of the area

The Chandler quarry is a 127-acre site which was used for the mining of sand and gravel between the years of 1936 and 1988. Intermittent mining activities also occurred on-site from 1921 to 1936. Later, sand and coarse aggregate was imported from the San Gabriel Valley for the manufacture of Portland cement on-site. The quarry was a local source of Portland Cement concrete sand, plaster sand, masonry sand and gunite sand. The operators of the quarry ceased mining operations in 1988, except on a small section of the site where the manufacture of concrete continues. Today, approximately 60+ acres of quarry pits are used for a compacted landfill operation which is expected to take approximately 10 years to fill. Fill is presently accepted on-site as part of the land reclamation program.

NATIVE VEGETATION AND ANIMAL LIFE

Common birds that inhabit the planning area include the mourning dove, spotted dove, house finch or linnet, hummingbirds, scrub jay, mockingbird, sparrows, and brown towhee. Less common birds are the Brewer's blackbird, bush tit, crow, red-shafted flicker, killdeer, western meadowlark, orioles, peafowl, California quail, raven, robin, starling, cliff swallow and rufous-sided towhee. Shorebirds, such as seagulls, California gull, ring bill gull, Bonaparte's gull, western gull, Heermann's gull, terns, brown pelican, common loon, American coot, are also found in the area. Occasional winter bird visitors may also be spotted. A list of birds found in the area is included in the Master Environmental Assessment.

Other wildlife in the area includes the striped skunk, cottontail rabbit, jack rabbit, opossum, pocket gopher, grey fox, red fox, coyote, field mouse, domestic cats, western toads, frogs, and tree toads. A number of reptiles, such as the Pacific rattlesnake, Pacific gopher snake,



SENSITIVE HABITATS

California king snake, foothill alligator lizard, California slender salamander, and western fence lizard are also found in the area.

The oak trees, eucalyptus trees, junipers and evergreens that line the City's streets and parks are introduced species. The occurrence of local development has left only limited areas with native vegetation. The remaining areas include the canyons, parks and open spaces, and the open areas on individual lots which have steep slopes. Native vegetation and other plant species which survive in the wild include some species of cacti, trees, grasses, wildflowers, and shrubs. Plant species found in the Peninsula are listed in Appendix A.

A record search was conducted, using the Natural Diversity Database of the California Department of Fish and Game, to document the known occurrences of endangered species in the Peninsula. The database, consisting of information obtained from Federal and State agencies, identified plants and animals found in the Peninsula which have been listed as endangered, rare or threatened, as well as those considered by the scientific community to be endangered. A summary of the record search is discussed below. Large circles in Exhibit 5-5 represent non-specific localities where a species may be found or where suitable habitat exists

Palos Verdes Blue Butterfly

Glaucopsyche lygdamus palosverdesensis

The Palos Verdes Blue Butterfly is a small blue butterfly which may have evolved during the Pleistocene period, when the Peninsula was an island. In 1977, the butterfly was found in only eight colonies on the Palos Verdes Peninsula, where the caterpillars fed on a wild species of locoweed (*Astragalus*).

The Butterfly was first discovered in 1976 in a large coastal scrub terrace near Alta Vista Way within the City of Rancho Palos Verdes. In 1978, road and housing construction destroyed this habitat. The Butterfly was spotted again, in 1981, near the intersection of Seacrest Road and Crenshaw Boulevard and along Crenshaw Boulevard between Altamira and Portuguese canyons. Grading activities in 1982 and 1983 destroyed the habitat near Seacrest and Crenshaw. The *Astragalus* habitat along Crenshaw Boulevard has been reduced and no more Butterfly sightings have been made in this area. The site is presently developed as a park.

The Agua Amarga Canyon area was once a habitat for the Palos Verdes Blue Butterfly and *Astragalus*. While gophers and weeds have destroyed the *Astragalus*, the area remains open space with no development. Weed management may allow the reintroduction of the *Astragalus* and Palos Verdes Blue Butterfly.

Astragalus was last seen in Altamira Canyon in 1982. The site remains undeveloped with coastal sage scrub habitat. The plant also grows along the trails of Portuguese Bend, but the Palos Verdes Blue Butterfly has not been observed in these areas. The trails are not heavily impacted and could be utilized in reintroduction efforts.

The Palos Verdes Blue Butterfly was also found at the top of San Pedro Hill in 1981. Grading activities have since destroyed the native habitat at this site. Annual grasses and ornamental plants have taken the place of the Astragalus and only three colonies were found here in 1986.

The Fred Hesse Park, just west of the City of Rolling Hills Estates, originally had undeveloped areas designated as native plant and nature study areas. Park development in 1982, however, destroyed the Butterfly habitat and its larval foodplant, the Astragalus. Restoration of the Astragalus habitat in this area is believed to be possible.

Five of the original eight Palos Verdes Blue Butterfly colonies have been destroyed by private development. Off-road vehicle use, weed abatement and construction have uprooted most of the Astragalus in the Peninsula. The Palos Verdes Blue Butterfly was classified as "Endangered" in the Federal listing in 1980; however, no efforts were made to preserve the remaining three colonies of the Palos Verdes Blue Butterfly. In 1983, a baseball field was built on the site of the last remaining colony. No butterflies have been seen since then. The species is presumed to be extinct but the Fish and Wildlife Service has not removed it from its list in the hope that the Palos Verdes Blue Butterfly will come alive after lying dormant for years, as some species of moths are known to do.

California Gnatcatcher

Pilioptila californica

The California Gnatcatcher is a tiny, very active, gray or olive bird with an eye ring or line over the eye and body. The California Gnatcatcher is a Category 2 candidate species in the Federal listing. Category 2 candidate species are threatened and/or distribution data are insufficient to support placing them on the Federal listing. The species is presumed to still be in existence, in the planning area.

In 1989, several pairs of the gnatcatcher were observed in the Marineland area, around Sunnyridge Road in the City of Rolling Hills, along Forrestral Road in Rancho Palos Verdes, and in the Agua Amarga Canyon in Rolling Hills Estates. These areas are sage scrub and coastal sage scrub habitats where California sagebrush, wild buckwheat and black sage are

abundant. The habitat areas are all owned by private entities and threatened by urban development.

Mohave Tui Chub

Gila bicolor mohavensis

The Mohave Tui Chub is a chunky fish with an olive-brown back and a white to silver belly. The fish may be found in weedy shallows of lakes or the quiet waters of sluggish rivers. It feeds on aquatic plants, insects, snails, small clams, crayfish and plankton. The Mohave Tui Chub once inhabited the deep pools and slough-like areas of the Mohave river. Today, this river and its lakes are desert playas (dry lakes). The construction of reservoirs on the Mohave have altered flow directions and the chubs have interbred with several introduced species.

Very few genetically pure Mohave Tui Chubs could be found in 1967. The Mohave Tui Chub is listed as an Endangered species in both Federal and State listings. Attempts to transplant the Mohave Tui Chub have generally failed. Transplants at the South Coast Botanic Garden Refugium were temporarily successful but the species has become extinct since 1976.

Mexican Flannelbush

Fremontodendron mexicanum

The Mexican Flannelbush plant is a Category 2 candidate species in the Federal listing and Rare in the California listing. Rare species are species whose occurrences are threatened and/or will soon be threatened. The Mexican Flannelbush is found in chaparral habitat, most of which has been destroyed in the area.

Solitary flannelbush may be found on the hillsides, oak woodland and chaparral areas, approximately 1 mile from the ocean on Via Del Monte.

AIR QUALITY

Meteorology and Climate

The climate of the Palos Verdes Peninsula is mild and pleasant year-round with maximum temperatures ranging between 44 and 63 degrees Fahrenheit in winter and between 60 to 85 degrees Fahrenheit in summer. From one-half to one-third of all days in a year are clear. Sea breezes are from the west and have an average speed of 6.5 miles per hour.

Seacoast fog and warm marine air from the open sea keep the climate comfortable through summer days when temperatures are high.

Smog is rare and generally associated with lower elevations. When there is smog, sea breezes from the Pacific Ocean generally blow the smog inland by mid-morning each day. Intermittent fog may occur from June through September. The higher areas are often cooler than the flatlands because the hills are enveloped by marine air. The lower slopes of the city are slightly warmer. The canyon areas also have cooler temperatures due to air drainage, which results from cold air seeking the lowest elevations in canyons and valleys.

The Santa Ana winds, which blow from the northeast between the months of October through March, do not generally reach the Peninsula. When the Santa Ana's are strong enough to reach the area, they affect only the northern and eastern slopes of the Palos Verdes Hills. When the Santa Ana winds are blowing, the air is dry with 10 percent or less humidity.

Annual rainfall in the peninsula is 11.72 inches with about 15 inches of rainfall in the upper elevations and 11 inches on the lower areas.

Characteristics of Air Pollution

The importance of clean air is validated by the effect of air pollutants on the environment. Air pollution is known to cause physiological damage to both man and his environment. Ozone (O₃) is a colorless toxic gas which irritates the lungs and damages materials and vegetation. Carbon monoxide (CO) is a colorless gas which interferes with the transfer of oxygen to the brain. Nitrogen dioxide (NO₂) is a reddish-brown gas, which at high levels, can cause breathing difficulties. PM₁₀ causes a greater health risk than larger sized particles, since these fine particles can more easily penetrate the defenses of the human respiratory system and cause irritation by themselves or in combination with other gases and pollutants. Awareness of the numerous health impacts of air pollution has led to national and state regulation of air emissions from both stationary and mobile sources.

The City of Rolling Hills Estates is in the South Coast Air Basin of California (SCAQMD). The Basin is a 6,600 square mile area encompassing Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino counties. The Basin is bounded by the Pacific Ocean on the south and west and by the San Gabriel, San Bernardino, and San Jacinto mountains on the north and east.

Meteorological conditions (such as light winds and shallow vertical mixing) and topographical features (such as the surrounding mountain ranges) hinder the dispersion of airborne pollutants in the region. The South Coast Air Basin has air pollution problems because of extensive urbanization, large volumes of traffic, and the presence of frequent temperature inversions which tend to trap air pollutants close to the ground and hamper dispersion. In January 1990, surface inversions occurred in the morning, 70 percent of the time. Average wind speed in the Basin is less than 5 mph on 80 percent of the days during the summer smog season, resulting in increased concentrations of emissions.

To determine air quality, contaminant levels in air samples are compared to national and state standards for six contaminants and to state standards for two others. Standards are set by the U.S. Environmental Protection Agency (EPA) and the California Air Resources Board (CARB) at levels which are determined to preserve public health and welfare with an adequate margin of safety. There are national and state air quality standards for ozone, carbon monoxide, nitrogen dioxide, PM₁₀ (suspended particulate matter, 10 microns or less in diameter), sulfur dioxide, and lead. In addition, the SCAQMD monitors compliance with state standards for sulfate and visibility. These standards are outlined in Table 5-1.

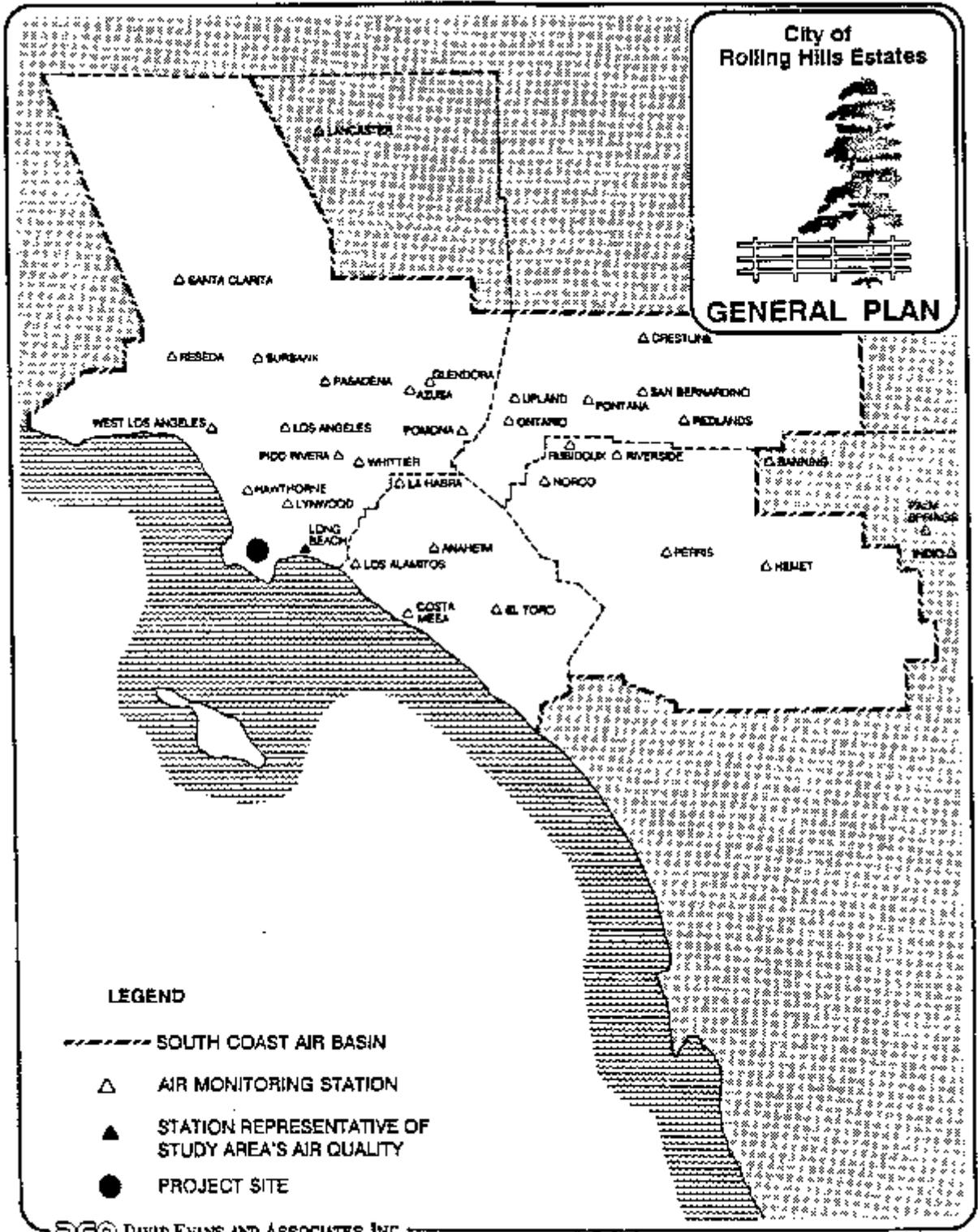
The South Coast Air Basin experiences the worst air quality in the nation, with peak air pollution readings as much as three times the standard for ozone and twice the standard for carbon monoxide. The Basin has not been able to attain national and state standards for ozone, carbon monoxide, nitrogen dioxide, and PM to The Federal standard for nitrogen dioxide levels were exceeded during the past five years only in Los Angeles County and nowhere else in the nation.

TABLE 5-1 AMBIENT AIR QUALITY STANDARDS (AAQS)			
Air Pollutant	State Maximum Concentration	National* Primary Standards	National* Secondary Standards
Ozone	0.09 ppm, 1-hr avg. > ^a	0.12 ppm, 1-hr avg.	0.12 ppm, 1-hr. avg.
Carbon Monoxide	9.0 ppm, 8-hr avg. > ^b 20 ppm, 1-hr avg. >	9 ppm, 8-hr. avg. 35 ppm, 1-hr. avg.	9 ppm, 8-hr. avg. 35 ppm, 1-hr. avg.
Nitrogen Dioxide	0.25 ppm, 1-hr avg. > ^c	0.53 ppm, annual avg.	0.53 ppm, annual avg.
Sulfur Dioxide	0.05 ppm, 24-hr avg. with ozone > = 0.10 ppm, 1-hr. avg. or TSP >= 100 ug/m ³ , 24-hr. avg. 0.25 ppm, 1-hr avg. > ^d	0.03 ppm, annual avg. 0.14 ppm, 24-hr. avg.	0.50 ppm, 3-hr. avg.
Suspended Particle Matter (PM ₁₀)	30 ug/m ³ annual geometric mean > 50 ug/m ³ , 24-hr. avg. > ^e	50 ug/m ³ annual arithmetic mean; 150 ug/m ³ , 24-hr. avg.	50 ug/m ³ annual arithmetic mean; 150 ug/m ³ , 24-hr. avg.

TABLE 5-1 AMBIENT AIR QUALITY STANDARDS (AAQS)			
Air Pollutant	State Maximum Concentration	National* Primary Standards	National* Secondary Standards
sulfates	24 ug/m ³ 24-hr. avg. >=	1.5 mg/m ³ , calendar quarter	1.5 ug/m ³ calendar quarter
Lead	1.5 ug/m ³ 30-hr. avg. >=		
Hydrogen Sulfide	0.03 ppm, 1-hr, avg. >=		
Vinyl Chloride	0.010 ppm, 24-hr. avg. >=		
Visibility-Reducing Particles	In sufficient amount to reduce prevailing visibility to less than 10 miles at reactive humidity less than 70%, 1 observation.		
<p>Legend</p> <p>ppm parts per million by volume. ug/m³ micrograms per cubic meter. avg. average. > greater than. >= greater than or equal to.</p> <p>a Effective March 9, 1967. The standard was previously 0.10 ppm, 1-hr avg. >=</p> <p>b Effective December 15, 1982. The standards were previously 10 ppm, 12-hour average and 40 ppm, 1-hour average.</p> <p>c Effective March 9, 1987, standard changed from >= 0.25 ppm to > 0.25 ppm.</p> <p>d Effective October 5, 1984. The standard was previously 0.5 ppm, 1 hour average.</p> <p>e Effective August 19, 1993. The standards was previously 60 ug/m³ Total suspended Particulate (TSP), annual geometric mean, and 100 ug/m³ TSP 24-hour average.</p> <p>f Effective July 1, 1987. The standards were previously: Primary Annual geometric mean TSP > ug/m³ and 24-hour average TSP > 260 ug/m³. Secondary Annual geometric mean TSP > 60 ug/m³ and 24-hour average TSP > 150 ug/m³.</p> <p>* National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health. Each state must attain the primary standards no later than 3 years after that state's implementation plan is approved by the Environmental Protection Agency. National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant. Each state must attain the secondary standards within a "reasonable time" after the implementation plan is approved by the EPA Source: California Air Resources Board (CARB) 1988.</p>			

The SCAQMD monitoring station in Long Beach is the station closest to the City and has been used to characterize air quality conditions in the area (Exhibit 5-6). Air quality readings at the Long Beach Station over the past five years, are summarized in Table 5-2.

The maximum ozone concentrations for the five-year period ranged between two to three times the State ambient air quality standard. This standard was exceeded 10 to 29 days per year between 1985-1989. The ozone concentration readings for the area do show a trend toward decreasing State and Federal air quality standards.



SCAQMD AIR MONITORING NETWORK

Carbon monoxide concentrations have not exceeded either the National or State standards in the past five years. The nitrogen dioxide standard was exceeded one to four days each year with decreasing incidence in recent years. Sulfur dioxide and lead readings did not exceed either State or Federal standards during the five-year period. For ambient levels of suspended particulates (PM₁₀), 32.7 percent to 44.1 percent of the samples in each year exceeded the State standard.

TABLE 5-2 SUMMARY OF ANNUAL AIR QUALITY DATA^A LONG BEACH AIR QUALITY MONITORING STATION					
	1985	1986	1987	1988	1989
Ozone (O ₃) State standard (1-hr. avg.>0.09 ppm) National standard (1-hr. avg.>0.12 ppm) Maximum 1-hr ambient concentration (ppm) # of days state standard exceeded # of days federal standard exceeded	0.23 29 11	0.18 29 10	0.17 11 4	0.16 18 7	0.16 10 3
Carbon Monoxide (CO) State standard (1-hr. avg.>20 ppm) National standard (1-hr. avg.>35 ppm) Maximum 1-hr ambient concentration (ppm) # of days state standard exceeded # of days federal standard	19 0 0	13 0 0	13 0 0	13 0 0	13 0 0
Nitrogen Dioxide (NO ₂) State standard (1-hr. avg.>.25 ppm) National standard (>.0534 AAM in ppm) Maximum 1-hr ambient concentration (ppm) # of days state standard exceeded Percent AAM above federal standard	0.35 4 3%	0.26 3 0%	0.28 1 0%	0.28 1 0%	0.27 1 0%
Suspended Particulates (PM ₁₀) State standard (24-hr. avg.>50 ug/m ³) National standard (24-hr. avg>150 ug/m ³) Max. 24-hr ambient concentration (ug/m ³)	106	136	113	149	119
AAM = annual arithmetic mean ppm = parts per million ug/m ³ = micrograms per cubic meter ^a The South Coast Air Basin is a non-attainment area for these pollutants.					
Source: California Air Resources Board, California Air Quality Data. 1985 through 1988. SCAQMD, Air Quality Data. 1989.					

CULTURAL RESOURCES

Cultural resources in the Palos Verdes Peninsula are rooted in a rich and colorful history that dates back over 100 million years. The historical record of the Peninsula includes the formation of the region's unique physiography, the settlement of Gabrielino Indian villages, explorations by the Spanish, early ranching exploits, the American conquest, the establishment of the Port of San Pedro and the development of housing tracts. Paleontological, archaeological and historical resources in the area are discussed below.

Paleontological Resources

The oldest rocks found in the Peninsula date back 150 million years to the Jurassic period when reptiles were the most advanced form of life. Evidence of this period is found in the greenish or blue grey Catalina schist (Franciscan schist) rock exposed in George F. Canyon in the southeastern section of the City. This is the basement rock layer on which sedimentary rocks lie. The Franciscan schist is also found in the bottom of wells drilled on the flatlands north and northeast of the Palos Verdes Hills. Most of the hills in the area are believed to have formed in the last 20 million years.

Sediments from the erosion of the San Gabriel mountains, north of the peninsula, have accumulated in the area as seen in road cuts through the Palos Verdes Hills. Sea shell fossils are found at higher elevations and fish and sea mammal fossils at lower elevations. Fossils of a complete whale, a skull of an elephant-like mammoth, a mastodon tusk and other fossils have been uncovered and preserved in local museums.

Evidence shows that 15 million years ago, the Peninsula was submerged beneath the Pacific Ocean. A rim of mountains progressively uplifted and through the years of geological uplift, erosion and deposition, the Palos Verdes Hills emerged. Then, the peninsula was submerged slowly and emerged a second and a third time. During the process of repeated submersion and uplift, ocean waves cut through the hills to form terraces in the rocks. Incremental uplift of the land and continuous erosion by ocean waves brought about the present physiography of the Peninsula. There are terraced surfaces on all sides of the peninsula but they are most evident on the seaward side of the hill. Thirty-eight cut terraces have been observed and more than a hundred are suspected to exist.

Sediments in the area are mostly Monterey shale (a crumbling brown rock also known as Altamira shale), Valmonte diatomite and Malaga mudstone. The irregular shoreline near Portuguese Bend is believed to have been created from tectonic activity which sends lava to the surface. Tub volcanic ash turned to rock, is also found in inland areas.

Sand quarried on the northern slopes of the Palos Verdes Hills, from 1921 to 1988, is similar to that found on the surface of the San Gabriel Mountains. Sand in some areas in the region are designated as wind-blown dune sand. Open pit mining was once extensive and

involved the mining of diatomite on the northern slopes of the Hills. Diatoms are microscopic one-celled plants that were deposited in the sea more than 15 million years ago when the Peninsula was submerged. These organisms accumulated in a bedrock interlayered with shale and mudstone, forming a material known as diatomite. Diatomite is used as a lightweight industrial filter agent. It is also used in insulation and paint filler. Other ground materials found in the area include sandstone shale layered with limestone and black adobe clay. Once the quarries were abandoned, they were used for landfills and some were later developed into parks.

Archaeological Resources

Intensive archaeological investigations have been made to trace the evolution of man in California. Recent emigrants from the Great Basin were of the Shoshonean family, relatives of the Hopi Indians. The Shoshonean people began migrating to California about 500 B.C.. Gradually over a thousand years, these people began to form different tribes with unique political, social and religious practices.

The Palos Verdes Peninsula is known to have been inhabited by the tribes of the Gabrielino or Canalino Indians, the last of the three separate Indian groups. The Gabrielinos were peaceful Indians who lived as seafarers, fishermen and traders. They lived in circular huts constructed of tule or grass. Their political structure may be described as a limited monarchy. Families or clans lived together in a village and the village chief was the leader of the dominant clan. Religious and social practices were strictly observed.

Ten villages are believed to have occupied the Peninsula. Most village sites were near to a supply of water and safe from winter floods. Malaga Cove is the best known site of early habitation. Other villages in the Peninsula include the Suangna, Masaungna, Xuxungna, Kingkingna, Tsauvingna, Harasngna, Ataviangna, and Munikangna.

Records from UCLA's Archaeological Information Center show that eleven prehistoric sites have been identified within the City. Three of the sites are in the southwestern section of the city, in the Rolling Hills Estates Park area. The sites may be described as shell midden (refuse heap) with numerous stone artifacts at a depth of 18 to 36 inches. Artifacts found on these sites include leaf-shaped point, crude leaf-shaped biface, flaked artifacts, mortar fragment, pestle fragment with pitted grooves and asphaltum, biface fragments, metate fragments, chert cores, hammerstones, abalone shell with ground respiratory holes, and broken base of lanceolate shaped point.

Seven sites are located in the northeastern section of the City at the quarry site, Montecillo area, Palos Verdes Reservoir, and the Rolling Hills Country Club. The quarry site is believed to have once been the site of an Indian village and burial ground covering several acres. A large number of mortars, pestles, points, metates, mano stones, chipping waste, fragments of human bones, olivella beads, sandstone bowls, and cog stones were unearthed during

excavation and mining activities. Some of these artifacts were given to the Smithsonian Institution but many may have been lost during sand washing operations. Montecillo and the Country Club area were also part of the village. Construction over these areas may have disturbed the burial grounds and artifacts on site.

An archaeological sensitivity map was prepared as Exhibit 5-7, using the above information. Hatched areas are archaeologically sensitive areas and unhatched areas are areas of unknown sensitivity. Consultation with the UCLA Archaeological Information Center is recommended before any future development takes place.

Historical Resources

During the 16th century, sailing expeditions became common. Spanish explorer Juan Rodriguez Cabrillo traveled northward from Navidad, Mexico to find the northwest passage between the Pacific and Atlantic Oceans. He stopped at various ports along the California shores and sailed into San Pedro Bay. He died while his ship was sailing along the coast of northern California in January 1543.

Trading expeditions between Manila and Acapulco began in 1559. Knowing that the Spanish galleons were full of Asian treasures, English pirates like Sir John Hawkins and Sir Francis Drake hijacked the galleons on their way to Mexico. Sir Francis Drake also explored the California coasts for a short-cut passage to the Orient. He later took possession of California for England. Spain's interest in California was renewed and its captains were asked to search the coast more closely for the northwest passage and for good harbors. Sebastian Viscaïno was appointed to head the primary expedition. Viscaïno stopped at San Diego, San Pedro, Avalon Bay and Monterey during his trip. He visited the Palos Verdes Peninsula shortly in 1602 and named the area Canada de los Palos Verdes (Canyon of the Green Trees).

During the 17th century, Russian and English explorers settled along the coast of California. In 1768, a Spanish expedition landed in San Diego and founded a mission. In a continued colonization effort, the Spanish explored the land northward and another mission was founded in Monterey. Other inland missions were subsequently established. Father Junipero Serra established the San Gabriel Mission in 1771. Ten years later, a pueblo was established for the families of soldiers guarding the mission. The pueblo was named the Village of Our Lady the Queen of the Angels of Porcuincola (later Los Angeles). The Spanish control of California was expanded through the influence of the missions.

In 1874, Juan Jose Dominguez decided to retire from military service and petitioned for a grant of the Rancho San Pedro area. For army services rendered to Mexico, Governor Fages of Alta California saw fit to grant Corporal Juan Jose Dominguez, 75,000 acres of range land on which to graze his herd of cattle. Dominguez' land, covering the present day cities of Redondo, Torrance, Compton, Gardena, Lomita, Harbor City, San Pedro, Wilmington

City of
Rolling Hills Estates



GENERAL PLAN



LEGEND
UNKNOWN SENSITIVITY
HIGH SENSITIVITY
CITY BOUNDARY

EG&A Earth Systems and Associates, Inc.

ARCHAEOLOGICAL SENSITIVITY

Exhibit 5-7

the western portion of Long Beach and the Palos Verdes Peninsula, was called Rancho San Pedro. Dominguez managed his ranch poorly until he died in 1809. Manuel Gutierrez, the executor of his will, assumed the management of the ranch. Gutierrez allowed Juan Dolores Sepulveda to graze livestock on the hilly portion of the ranch. Cristobal Dominguez, nephew of Juan Jose Dominguez, laid claim to the property in 1817. Sepulveda fought the claim and litigation continued for several decades.

In 1822, Mexico declared its independence from Spain. Cristobal Dominguez filed another petition for Rancho San Pedro. Juan Dolores Sepulveda and Cristobal Dominguez died and their sons continued to petition for claims over the land. Manuel Dominguez and Jose and Juan Sepulveda finally agreed to have the claim settled by the Mexican Governor Jose Figueroa. Figueroa awarded the Palos Verdes area to the Sepulvedas and the rest of Rancho San Pedro to Manuel Dominguez with Manuel Gutierrez having only rights to pasture his cattle. This started the prosperous years for the Sepulvedas.

Manuel Dominguez never gave up, and in 1839, he filed another petition. Governor Alvarado upheld the previous decision of Jose Figueroa and this time Manuel Dominguez and the Sepulvedas signed an agreement establishing the boundaries of the Rancho San Pedro and Rancho Palos Verdes.

During the American conquest, the old Sepulveda House on the eastern slope of the Palos Verdes Hills, was used as a garrison by the Sepulveda brothers under General Flores. After short victories, the Mexican army surrendered to the Americans under General Kearny in Cahuenga Pass in 1847.

For the most part, the American administration permitted existing civil offices and their officers to continue to function as they had before the conquest. Governor Pio Pico allowed the Sepulveda family to keep their land in 1846. But the years of prosperity were followed by years of turmoil caused by drought, family squabbles, emigration of gold seekers, and declines in cattle prices. In the early 1860's, a severe drought placed the Sepulveda family in debt. They sold their cattle and lost the ranch to creditors. Over 100 lawsuits for the Rancho Palos Verdes area were filed amidst mortgages, partition suits, squatter evictions, foreclosures, condemnation proceedings and divorces. A permanent title to the Rancho Palos Verdes was finally granted in June 22, 1880. By then, The Farmers and Merchants Bank owned the land and Jose Sepulveda died a broken man.

In 1882, a portion of the Rancho, listed in records books as Lot H, was sold to Jotham Bixby who was leasing the land as a cattle range. After Jotham Bixby's death, his son, George, inherited the land. George Bixby hired Harry Phillips, Sr. to manage the land. Thousands of gum trees were planted and cattle breeding was improved under Phillips. Around the turn of the century, Japanese farmers were allowed to lease the coastal terraces of the Peninsula to plant vegetables.

In 1913, Bixby sold 16,000 acres of the Peninsula to New York investors led by Frank Vanderlip, Sr. With E.G. Lewis, Vanderlip founded the Palos Verdes Estates in 1921. In 1923, lots were put up for public sale. Construction in the area was slow, and several campaigns were made to attract buyers and residents into the area. Large residences were being built in the area which is now the City of Rolling Hills. In 1955, Frank Vanderlip, Jr. sold 7,000 acres of the remaining undeveloped areas of the Peninsula to the Great Carbon Lakes Corporation. While the Great Carbon Lakes originally wanted to mine diatomite in the Palos Verdes Hills, after the sale they designed a planned community for the area. The City of Rolling Hills Estates incorporated soon after the residential areas developed. Growth was modest in the 1950's but exploded in the 1960's through development by large corporations.

Today, residential developments in the City, typified by large houses enclosed within white rail fences, have filled the hillsides. The rural atmosphere of the Peninsula has remained with large lot residential developments and a generally low intensity of development. No structures are recorded on the UCLA Archaeological Information Center's 1896 historic map of the area. The 1944 historic map shows some roads and structures within city limits. Structures in excess of forty-five years of age are recommended for evaluation for inclusion in the National Register of Historic Places.

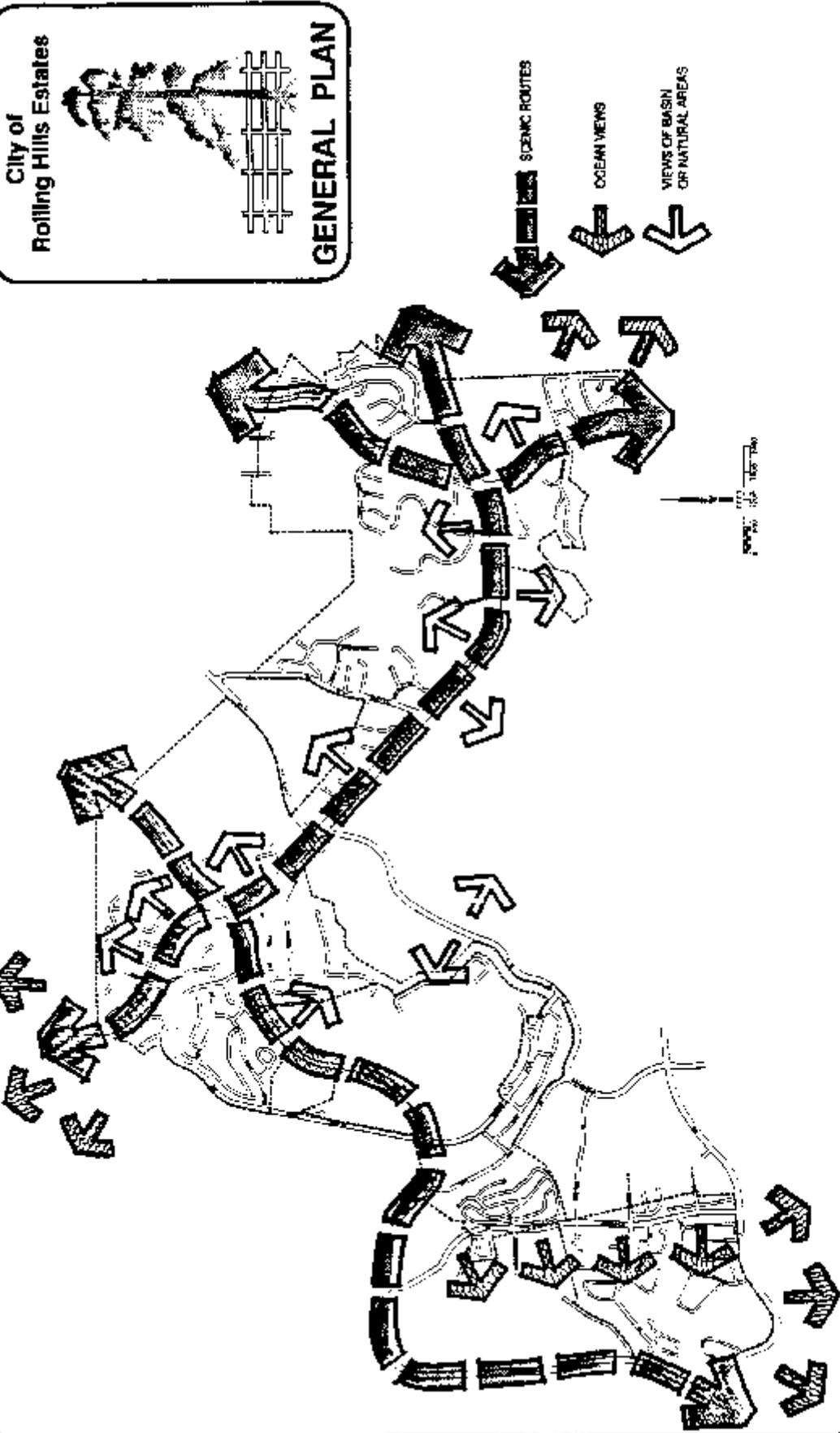
Aesthetic and Viewshed Resources

The location and topography of the City provides views of the ocean from the southern portion of the City and the Los Angeles Basin from the northern portion of the City. In addition, the extensive trail network provides an interconnected series of greenbelts giving residents additional views of the natural landscape.

North-facing views from the City are dominated by the varying Los Angeles basin townscape, while to the south is the California coastline and the ocean. These views can be seen from many vantage points throughout the City. Many wooded hills and canyons which cause views to vary from point to point are themselves beautiful, adding to the panorama (refer to Exhibit 5-8).

The community has long recognized the need to preserve these views and has enacted legislation in the past which regulates land uses, structures, and signing, to prevent the marring of this valuable resource.

Ongoing programs for City beautification have been in force for many years. These programs involve such projects as street and median landscaping, park site acquisition and development, bicycle routes, and horse trail improvements. Exhibit 5-8 indicates the major scenic corridors through the City. Viewshed areas are also conceptually shown.



City of
Rolling Hills Estates

GENERAL PLAN

SCENIC CORRIDORS

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Within the City of Rolling Hills Estates, proposals for new residential construction and modifications to existing structures are required to undergo review for neighborhood compatibility.

WASTE MANAGEMENT

Solid Waste Management

The City of Rolling Hills Estates' (City's) Source Reduction and Recycling Element (SRRE) has been developed in response to Assembly Bill (AB) 939, the California Integrated Waste Management Act of 1989, and subsequent legislation. AB 939 requires each jurisdiction and county within the State of California to prepare an SRRE that identifies existing solid waste management conditions, and describes how the jurisdiction will meet the target waste diversion goals set forth in the law of 25 percent (%) by the year 1995 and 50% by the year 2000. Each SRRE must contain goals and objectives statements that apply to the entire plan.

The goals and objectives of the City are important because they provide direction and purpose within the planning process. The City's goals are consistent with the direction and intent of AB 939 as summarized below:

- # Promote the integrated waste management hierarchy within the City beginning with source reduction, recycling and composting, and then environmentally safe solid waste disposal.
- # Maximize the use of all feasible source reduction, recycling, and composting alternatives in order to reduce the amount of waste being disposed through transformation or land disposal.
- # Focus on managing special wastes by reducing the quantities generated at their source, by recycling or composting, or by other environmentally safe methods of disposal if these wastes cannot be reduced, recycled, or composted.
- # Attain broad public awareness of programs.
- # Expand all diversion programs and encourage broader public participation in the medium term
- # Consider multi-jurisdictional approaches to solid waste management and SRRE implementation including, as a minimum, public information, cooperative marketing, and subregional and regional collection and processing.

A solid waste generation study (SWGS) was conducted to quantify and characterize the solid waste disposed and diverted, hence, generated, by the City.

During 1990, haulers reported that 14,581 tons of solid wastes were collected for disposal in the City. Residents generate about 55% of this tonnage. Commercial and industrial sources contribute 45%.

Private and public sector recovery programs reported that about 6,044 tons of solid waste are diverted annually from disposal. About 54% of this diversion occurs from residential sources.

By adding diversion and disposal quantities, it is calculated that about 20,625 tons of solid waste are generated in the City annually. Residential waste accounts for 55% of this total, while commercial represents 35% of the remaining 45%. The balance is generated by industrial sources (basically construction and debris). When existing diversion is divided by existing generation, then the existing rate of solid waste diversion equals about 29%. This percentage of diversion exceeds the short term goal of 25% diversion by 1995 as mandated by AB 939, but falls short of the medium-term goal.

When examining the wastes that are available for diversion in the future, the SWGS identifies: wastepaper (36%) including newspaper, corrugated containers, high grade ledger, and brown paper bags; yard waste (16%) representing prunings and leaves and grass; and other organic wastes (27%), including food wastes, wood wastes, tires, manure, textiles, and disposable diapers.

Another key aspect of the SWGS is that the City is the most intensively commercialized of all the Peninsula Cities, having 162 retailers within its border. The retailers generate a large share of the wastes disposed, which is somewhat different from adjoining cities of the Peninsula area which are more residential in character.

Source reduction simply means to avoid generating waste. Source reduction represents the highest level of the waste management hierarchy and consists of a variety of activities including, but not limited to, at-source composting, the use of cloth diapers, repair of appliances, two-sided copying, and use of ceramic mugs over disposable cups. Some of these activities are now being used in the private sector and by residents. The SWGS identified the reduction of 230 tons of solid waste per year in the City, or about 1.1% of the waste generated annually.

Since the City fully supports the concept of source reduction, it will encourage the continuance and expansion of such source reduction activities in both the short and medium term planning periods.

A curbside collection program for recyclables is operated in the City, so the City is reasonably familiar with the issues, costs, and opportunities presented by diversion activities. The City does not actually undertake the collection but, rather, contracts out services to the franchise refuse hauler. The City currently conducts limited office paper recovery, collection of bulky items and repairables, and wood chipping for trail maintenance. In addition, there are several in place private sector diversion efforts involving wood-green waste recycling. All told, the existing level of diversion amounts to 3029 tons of waste per year, or 14.7% of the solid waste generated annually.

Composting has played a key role in the management of wastes in the City, and it is projected to continue to play a key role for the target green wastes such as yard wastes and other readily decomposable materials. The existing amount of diverted wastes to composting equaled 849 tons per year, or approximately 4% of the total wastestream.

The City does not plan to site immediately any facilities for composting within the City limits. It does intend to provide for the efficient collection of compostable wastes, and to direct its attention and energies on helping to develop the markets for composting products through such activities as proactive procurement of composted products.

It is estimated that composting programs will divert about 590 additional tons of waste per year in the medium term, increasing the contribution of composting in the overall diversion effort to approximately 1440 tons per year.

Hazardous Waste Management

Hazardous chemicals are prevalent in modern society, not only in commercial and industrial operations, but also in houses and apartments. Household hazardous substances are typically small quantities of a wide variety of household products. These small quantities vary from a small container of chemical drain opener to five-gallon containers of paint. Included are the containers that hazardous chemicals were in when purchased and those that stored the wastes at one time or another. Hazardous substances can be found throughout the home, garage, garden, and hobby shop as constituents in products such as cleaners, paints, pesticides, and glue. Once these hazardous products and their containers are no longer needed by the consumer, they become Household Hazardous Waste (HHW). Improper disposal of HHW can pose a risk to human health and the environment.

Until recently, programs to properly manage HHW were virtually non-existent, resulting in wastes being disposed in the garbage, down the sewer, into storm drains, or directly onto the ground. The improper disposal of hazardous substances can result in refuse workers being exposed to hazardous chemicals, equipment damage, contamination of groundwater and surface water, and potential hazardous waste leachate generation from municipal solid waste landfills. Ultimately, improper disposal of HHW can lead to costly environmental and economic consequences.

Rolling Hills Estates Disposal Characterization Study indicated that in 1990, less than 150 tons of HHW were generated by City residents and disposed in all area landfills. This represents nearly one percent of the annual municipal solid waste stream.

To develop the HHWE, the City undertook a series of planning steps that identified potential and actual alternatives to ensure reduction, recycling, composting, and safe disposal of HHW. The seven steps consisted of:

- # Establish goals and objectives of the City.
- # Review existing conditions.
- # Describe alternatives for a potential program.
- # Evaluate alternatives.
- # Configure alternatives into diversion systems and make recommendations.
- # Portray implementation timeline, task requirements, and costs.
- # Develop a monitoring and evaluation strategy.

To establish the goals and objectives of the City, meetings were held with key City decisionmakers to solicit input on public awareness and concerns.

The City also assembled key documents and information about private and public sector characteristics and activities concerning MM. This information was relied upon to identify local conditions that were instrumental in actual evaluation.

Based on local conditions, the City was included in a set of all four Peninsula Cities. This set represented a rational grouping based on common sets of characteristics. This grouping was used only as the initial design basis for program development, but as the costs of HHW are high for the volume of material, this grouping may prove invaluable later when the City and adjoining Peninsula Cities strive to implement their programs.

Using local conditions and the goals and objectives, the City evaluated several potential alternatives that could be configured to form a program. Initially, all alternatives were screened in a preliminary manner to eliminate those alternatives that would prove untenable for the City and Peninsula area for economic, environmental, institutional, technical, or marketing reasons.

Following, remaining alternatives were fully evaluated against 10 basic criteria required by the California Integrated Waste Management Board (CIWMB). Several additional criteria

used in the development of the companion Source Reduction and Recycling Element (SRRE) were not used since they were not relevant to HHW.

These criteria are grouped into cost, technical and institutional areas. Each was applied to the remaining alternatives, yielding a high (H), medium (M), or low (L) result. High ratings were positive for alternatives and inferred greater success in implementation, while low ratings were negative and implied greater difficulty in implementation. Based upon this analysis, alternatives were selected and configured into a system for HHW management.

The results of the evaluation indicated that the County program, periodic collection, recycling, public education, and monitoring (at collection of municipal trash) are the most appropriate alternatives for the City.

The selected HHW alternatives for the City are as follows:

- # County program (existing but expanded).
- # Periodic collection on a quarterly basis (includes Unical's program and abovementioned County effort).
- # Public education.
- # Monitoring (hauler conducted activity as waste collected).
- # Recycling programs.

The eventual overall HHW management system for the City will be a combination of existing and new efforts. The overall program provides for HHW reduction, collection, and recycling supported by an extensive public information and education effort.

The effectiveness of any HHW program is dependent upon the success of the public education program. The education program should be designed to create widespread public awareness of diversion activities taking place in the community and to motivate residents and non-residents to participate in the HM programs.

The City plans to coordinate with the other cities located on the Palos Verdes Peninsula in developing its educational and public information program. Together, the cities in the Palos Verdes area can design an extremely effective educational and public information program, while at the same time avoiding a duplication of efforts.