FINAL
SUBSEQUENT
ENVIRONMENTAL IMPACT REPORT
EIR 97-02
(THIRD TIER EIR)

SAN MIGUEL RANCH SECTIONAL PLANNING AREA PLAN AND TENTATIVE MAPS

CITY OF CHULA VISTA, CALIFORNIA

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INTRODUCTION

This document is a Final Subsequent Environmental Impact Report (SEIR) which provides a review and analysis of the potential environmental impacts that could result from implementation of the proposed San Miguel Ranch Specific Plan Amendment in the City of Chula Vista. In accordance with CEQA Guidelines Section 15002, an EIR is the public document used by a governmental agency to analyze the significant environmental effects of a proposed project, to identify the alternatives, and to disclose possible ways to reduce or avoid the possible environmental damage. The EIR itself does not control the way in which a project can be developed or constructed, rather, the governmental agency must respond to the information contained in the EIR by one or more of the seven methods outlined in Section 15002 (h) which include:

1. Changing a proposed project;

2. Imposing conditions on the approval of the project;

3. Adopting plans or ordinances to control a broader class of project to avoid the adverse changes;

4. Choosing an alternative way to meeting the same need;

5. Disapproving the project;

6. Finding that changing or altering the project is not feasible;

7. Finding that the unavoidable significant environmental damage is acceptable as provided in Section 15093.

Under CEQA, an agency must solicit and respond to comments from the public and from other agencies concerned with the project. The Draft SEIR was submitted by the City of Chula Vista for public review on May 28, 1999. The public review period closed with the City of Chula Vista Planning Commission public hearing on the Draft SEIR on July 14, 1998. During the public review period, comments from regulatory agencies and the public responding to the Draft SEIR were received by the City of Chula Vista. A reproduction of the letters, minutes, and notes of the July 14, 1998 Planning Commission meeting, and response to issues raised are included following the Introduction. Two transmittal letters from the Office and Planning and Research are included with the letters of comment which are presented in the following order:

Federal and State Agencies

1. Office of Planning and Research (July 13, 1999)

2. U.S. Fish and Wildlife Service/California Department of Fish and Game

3. State of California Department of Transportation (Caltrans)

4. Office of Planning and Research (July 19, 1999)

5. California Highway Patrol

Local Government, Agencies, and Individuals

6. County of San Diego
7. San Diego Local Agency Formation Commission
8. City of San Diego
9. Sweetwater Authority
10. Sempra Energy
11. Chula Vista Elementary School District
12. Sweetwater Union High School District, Planning and Facilities
13. Barbara Reid, City of Chula Vista Department of Planning and Building
14. Sweetwater Valley Civic Association
15. California Native Plant Society (two)
16. Preserve South Bay
17. Philip Gaughan
18. Trimark Pacific Homes, L.P.

The text additions are underlined (<u>underlined</u>) to distinguish those from the original test. Text to be deleted has been denoted with strikeover (~~strikeover~~). The following is a list of pages requiring text changes in response to various comments. The page numbers referenced below and in the responses refer to the Final SEIR.

Final SEIR Section	Page Numbers
Introduction and Summary	1-5
Project Description	2-1
Transportation	3.4-54
Public Services and Utilities	3.6-9, 3.6-12 through 3.6-15
Parks, Recreation, and Open Space	3.8-5
Mitigation Monitoring and Reporting Program	6-7 through 6-13

1.0 INTRODUCTION AND SUMMARY

1.1 PURPOSE OF THE SUBSEQUENT EIR

This document is a Subsequent Environmental Impact Report (EIR) for the proposed San Miguel Ranch Sectional Planning Area (SPA) Plan and Tentative Maps, which intend to refine and implement the land use plan, goals, and objectives of the amended San Miguel Ranch General Development Plan (GDP) adopted by the City of Chula Vista City Council on December 17, 1996. The proposed San Miguel Ranch Project consists of one parcel (referred to as the South Parcel), which would provide a master planned community, predominantly with varying residential densities including low, low-medium, medium, and high. In addition, the proposed project would develop community facilities, including an elementary school, a community service facility, community and neighborhood parks, and a retail commercial center.

Previously, San Miguel Ranch as a planning area consisted of two separate parcels: the 738-acre "South Parcel," which is the subject of the proposed SPA Plan analyzed herein, and an 1852-acre "North Parcel." However, in 1996, during the course of processing a General Development Plan (GDP) and General Plan Amendment (GPA) for San Miguel Ranch, it became apparent that preservation of all of the North Parcel was important to regional conservation to obtain authorization to "take" of species protected by the California and/or federal Endangered Species Act. In 1998, Emerald Properties sold the South Parcel and 166 acres of the North Parcel to Trimark Pacific San Miguel, LLC (Trimark). Trimark is the applicant for the proposed SPA Plan.

The GPA/Amended GDP EIR was prepared as a "Program" EIR, and expressly recognized that additional "project" level environmental analysis would be required prior to SPA Plan approval. This EIR is intended to provide the additional project level analysis necessary for the City Council to make an informed decision on the applicant's proposed SPA Plan and tentative maps.

Discretionary actions required for the San Miguel Ranch include annexation of the South Parcel to the City of Chula Vista (City) and the approval of the SPA Plan and future tentative maps. All discretionary actions defined as a project by the California Environmental Quality Act (CEQA) (Public Resources Code Section 21000 et seq.) require environmental assessment, and those actions which could result in potentially significant impacts to the environment require the preparation of an EIR.

San Miguel Ranch has been subject to numerous development proposals and environmental assessments. A Final EIR for the Rancho San Miguel GDP and a Subsequent EIR for the San Miguel Ranch General Plan Amendment and GDP Amendment were prepared by the City in accordance with CEQA and the State CEQA Guidelines (California Code of Regulations Section 15000 et seq.). The Final EIR, which was also supplemental to the General Plan EIR (certified in 1989), was certified in March 1993, and the Subsequent EIR in December 1996. These environmental documents are incorporated by reference; consistent with CEQA and previous environmental documents, this document represents a tiered analysis of project specific impacts.

1.2 SCOPE OF THE SUBSEQUENT EIR

The environmental review process has been established to enable public agencies to evaluate a project in terms of its environmental consequences, to examine and implement methods of eliminating or reducing any potentially adverse impacts, and to consider alternatives to the proposed project. While CEQA requires that major consideration be given to avoiding

environmental damage, the lead agency and other responsible agencies must balance adverse environmental effects against other public objectives, including economic and social goals, in determining whether, and in what manner, a project would be approved.

The lead agency for this project is the City of Chula Vista. Section 21067 of CEQA defines the lead agency as "the public agency which has the principal responsibility for carrying out or approving a project which may have a significant effect upon the environment." LAFCO will serve as responsible agency on the Supplemental EIR as part of the annexation approval process. The approval process first involves the preparation of the Draft EIR. Comments on the environmental analysis found in this Draft EIR are invited and may be submitted to the City of Chula Vista, Planning Division, Department of Planning and Building, 276 Fourth Avenue, Chula Vista, California 91910. The Draft EIR and Appendices and prior EIRs (Draft, Final, and Supplement EIR, 90-02, Volumes 1, 2, 3, and Addenda, Draft and Final Subsequent EIR, 95-04) will be available at the Planning Division, and at the Chula Vista Public Library located at 365 F Street, Chula Vista, California. Upon completion of the public review period and the receipt of public comments, the Chula Vista City Planning Commission will conduct a public hearing on the Draft EIR.

The Final EIR will then be prepared, and will include the letters of comment on the Draft EIR, responses to those comments, and the Draft EIR text with revisions, as appropriate. The Planning Commission may then recommend that the Final EIR has been prepared in accordance with CEQA, and send the Final EIR to the decision-making body for final certification. If the Final EIR identifies significant impacts, then Findings and a Statement of Overriding Considerations are prepared in accordance with CEQA and the State CEQA Guidelines. Project approval is a separate action from certification of the adequacy of the EIR under CEQA, and is also taken by the City.

CEQA also requires the adoption of a mitigation monitoring and reporting program in conjunction with approval of Mitigated Negative Declarations or certification of Final EIRs. A monitoring and reporting program is prepared to assure implementation of required mitigation measures. Mitigation monitoring requirements are included in the mitigation/ monitoring subheading for the environmental analysis of each potential impact. The final Mitigation/Monitoring and Reporting Program will be adopted by the City in conjunction with a decision on the project. A Mitigation Monitor will be responsible for implementing the program.

Organization of the Subsequent EIR

This Subsequent EIR contains sections required by CEQA, including an Introduction (Section 1.0), Project Description (Section 2.0), and Environmental Analysis of potential impacts (Section 3.0). Alternatives to the proposed project are presented in Section 4.0. Other CEQA Mandated Sections (Section 5.0) includes an analysis of the unavoidable significant environmental impacts, irreversible/irretrievable impacts which would result from the proposed project, growth inducing impacts, and cumulative impacts. A Mitigation Monitoring Program is described in Section 6.0. Organizations and Persons Consulted, References, and List of Preparers are included in Section 7.0, 8.0, and 9.0, respectively, followed by the technical appendices (under separate cover). During the preparation of the Supplemental EIR, certain modifications occurred. The Supplemental EIR analysis incorporates the latest project description and impact analyses. Information in the technical appendices may therefore be slightly different than the information found in the Supplemental EIR; however, they do not change the conclusions of this document.

Environmental Issues of the Proposed Project

The scope of this Subsequent EIR was determined to include those issues, which in accordance with Public Resources Code Section 21083.3(a) are:

> "Peculiar to the parcel or the project and were not addressed as significant effects in the prior environmental impact report, or which substantial new information shows will be more significant than described in the prior environmental impact report."

This EIR was also prepared in accordance with Public Resources Code Section 21094 which addresses parameters for using tiered environmental impact reports. Accordingly, where appropriate, this document refers back to the prior environmental documents (which are on file at the City of Chula Vista).

These issues include: land use, landform/visual quality, biological resources, transportation, air quality, noise, public services and utilities, parks, recreation, open space, cultural resources, and paleontology. A Notice of Preparation (NOP) was distributed to agencies and interested parties regarding this Subsequent EIR. The NOP and comments received in response to the NOP are included in Appendix A.

1.3 SUMMARY COMPARISON OF PROPOSED PROJECT AND ALTERNATIVES

Table 1.3-1 provides a comparative summary of the impacts of the proposed project and the project alternatives.

Table 1.3-1
Comparison of Proposed Project and Alternatives

Impacts	Proposed Project	County Land Use*	Reduced Grading Alternative	North Parcel Annexation	No Project
LAND USE Potential Significant Impacts?	No	No	No	No	No
Mitigation Required?	No	No	No	No	No
Impacts After Mitigation	Less than significant.	N/A	N/A	N/A	N/A
Cumulative	None	None	None	None	None
LANDFORM/ VISUAL QUALITY Potential Significant Impacts?	Yes	Yes	No	No	No
Mitigation Required?	Yes	Yes	No	No	No
Impacts After Mitigation	Significant. Not mitigable.	Significant. Not mitigable.	Less than significant.	N/A	N/A
Cumulative	None	None	None	None	None
BIOLOGICAL RESOURCES Potential Significant Impacts?	Yes	Yes	Yes	No	No
Mitigation Required?	Yes	Yes	Yes	No	No
Impacts After Mitigation	Significant. Not mitigated.	Significant. Not mitigated.	Significant. Not mitigated.	N/A	N/A
Cumulative	Yes	Yes	Yes	No	No
TRANSPORTATION Potential Significant Impacts?	Yes	Yes	Yes	No	No
Mitigation Required?	Yes	Yes	Yes	No	No
Impacts After Mitigation	Significant. Not fully mitigable.	Significant. Not fully mitigable.	Potentially significant.	N/A	N/A
Cumulative	Yes	Yes	Yes	No	No
AIR QUALITY Potential Significant Impacts?	Yes	Yes	Yes	No	No
Mitigation Required?	Yes	Yes	Yes	No	No
Impacts After Mitigation	Significant. Not fully mitigable.	Significant. Not fully mitigable.	Significant. Not fully mitigable.	N/A	N/A
Cumulative	Yes	Yes	Yes	None	None

Table 1.3-1
Comparison of Proposed Project and Alternatives (continued)

Impacts	Proposed Project	County Land Use*	Reduced Grading Alternative	North Parcel Annexation	No Project
NOISE					
Potential Significant Impacts?	Yes	Yes	Yes	No	No
Mitigation Required?	Yes	Yes	Yes	No	No
Impacts After Mitigation	Less than significant.	Less than significant.	Less than significant.	N/A	N/A
Cumulative	Yes	Yes	Yes	None	None
PUBLIC SERVICES AND UTILITIES **/***					
Potential Significant Impacts?	Yes	Yes	Yes	Yes	No
Mitigation Required?	Yes	Yes	Yes	Yes	No
Impacts After Mitigation	Significant, unmitigated.	Significant, unmitigated.	Significant, unmitigated.	Unknown.	N/A
Cumulative	Yes	Yes	Yes	None	None
PARKS, RECREATION, AND OPEN SPACE					
Potential Significant Impacts?	~~Yes~~No	~~Yes~~No	~~Yes~~No	No	No
Mitigation Required?	~~Yes~~No	~~Yes~~No	~~Yes~~No	No	No
Impacts After Mitigation	Less than significant.	Less than significant.	Less than significant.	N/A	N/A
Cumulative	None	None	None	None	None
CULTURAL RESOURCES					
Potential Significant Impacts?	Yes	Yes	Yes	No	No
Mitigation Required?	Yes	Yes	Yes	No	No
Impacts After Mitigation?	Less than significant.	Less than significant.	Less than significant.	N/A	N/A
Cumulative	None	None	None	None	None

Table 1.3-1
Comparison of Proposed Project and Alternatives (continued)

Impacts	Proposed Project	County Land Use*	Reduced Grading Alternative	North Parcel Annexation	No Project
PALEONTOLOGICAL RESOURCES Potential Significant Impacts?	Yes	Yes	Yes	No	No
Mitigation Required?	Yes	Yes	Yes	No	No
Impacts After Mitigation?	Less than significant	Less than significant	Less than significant	N/A	N/A
Cumulative	None	None	None	None	None

Notes: N/A = No mitigation required.

* = Although many of the impacts under the County Land Use alternatives are similar to those described for the Proposed Project, it should be noted that the land use intensity of the County Land Use Alternatives is substantially less than the Proposed Project.

** = Water, sewage, police, fire, emergency, medical service, schools, gas and electric, solid waste, storm drains and water quality.

*** = Schools are significant, other services/utilities are mitigable.

1.4 OTHER CEQA ISSUES

Unavoidable Significant Environmental Impacts

Unavoidable impacts resulting from the project include significant biological resources, landform alterations and air quality emissions. Development of the project cannot proceed without these impacts.

Relationship Between Short-Term Use and Long-Term Productivity

The conversion of this site from open space to developed land will result in long-term loss of biological productivity.

Significant Irreversible or Irretrievable Environmental Impacts

The irreversible and irretrievable impacts include the loss of biological resources, increased air quality emissions, traffic generation, noise impacts, and landform alteration.

Growth Inducing Impacts

The project is consistent with the General Plan and would not create growth because of a change in General Plan designation.

Cumulative Impacts

Cumulatively, significant impacts are associated with biological resources, transportation, air quality, noise, and public services and utilities (schools). Urban development and

implementation of the General Plan results in impacts, which are based upon regional development and cannot be mitigated by this project. Because there were significant, unmitigated impacts identified in the General Plan EIR, Findings, and a Statement of Overriding Considerations were adopted.

1.5 AREAS OF PUBLIC CONCERN/ISSUES TO BE RESOLVED

Areas of potential concern include resolution by the City as to whether the City intends to annex the North Parcel. In the event that the North Parcel is selected for annexation, the scope and responsibility of public services required in the North Parcel would require resolution. Should the City select either the County Land Use or Reduced Grading Alternatives, supplemental design and environmental review would be necessary for either alternative. If the City does not complete the preparation and approval of the MSCP Subarea Plan, then the San Miguel Ranch must obtain "take" approval for endangered or threatened species from the County of San Diego or directly from the USFWS and CDFG prior to the commencement of any grubbing, grading, or other earth-moving activities.

2.0 PROJECT DESCRIPTION

2.1 LOCATION AND SETTING

The proposed project is located adjacent to the northeastern border of the City of Chula Vista (Figure 2.1-1). Regionally, the site is situated between the Sweetwater Reservoir and Jamul Mountains, north of the eastern Chula Vista planned communities of Eastlake and Rolling Hills Ranch. The San Miguel Ranch property is currently in the unincorporated area of San Diego County, but within the adopted Sphere of Influence for the City of Chula Vista. The San Miguel Ranch project site is comprised of the 738-acre South Parcel (Figure 2.1-2). The 1,852-acre North Parcel was previously a part of the San Miguel Ranch project; however, due to the environmental sensitivity of the North Parcel, this parcel has been established as an ecological reserve through a conservation bank process. Part of the biological mitigation for the South Parcel will include preservation of 166 acres of the North Parcel. The North and the South parcels are separated from one another by land owned by San Diego Gas & Electric (SDG&E), which operates a substation and transformer yard on the intervening land and which contains associated transmission lines. Existing access to the South Parcel can be accomplished from Proctor Valley Road to the south of the site.

The project site and its vicinity consist of undeveloped land composed of steeply sloping hillsides and valleys, including the regionally important landform Mother Miguel Mountain and Horseshoe Bend (Figure 2.1-3). Much of the property has been disturbed by historic grazing activity, which has occurred intermittently for 80 to 100 years. The south parcel contains moderately steep topography featuring slopes between 15 and 25 percent grade or less. Isolated pockets of steeper terrain are located throughout the southern property. Much of the surrounding area is developed with single-family and multi-family residences, commercial uses, and parkland. The general character of the area to the south and southwest of the project site is proposed to be low, low-medium, and medium density according to the City of Chula Vista's General Plan. Mother Miguel Mountain, on the North Parcel, is designated in the General Plan as Open Space. This area connects to the City's Greenbelt system along Salt Creek, Otay Lakes, and Otay River to the south, and Sweetwater Reservoir and Sweetwater River to the west.

SR-125 is proposed to run generally northwest/southeast through the immediate project area; the final preferred alignment through the project area is the modified Horseshoe Bend alignment, which would be approximately 2.8 miles in length. The final project report for this alignment was completed by Caltrans in ~~July 1998~~ May 1999. The modified Horseshoe Bend alignment would bisect the project site in a north-south direction. This alignment would curve west and then north, with an ~~over~~under crossing provided at Proctor Valley Road and San Miguel Road and an undercrossing at the relocated Summit Meadow Road. Interchanges are proposed at Mt. Miguel Road and East H Street. The southern half of this alignment would pass between the eastern and western developments of the proposed project. The northern half would pass through the western edge of the SDG&E property, the southern edge of Sweetwater Regional Park Parcel 19, and the northeastern corner of the Sweetwater Valley Little League fields.

Figure 2.1-1
Regional Map

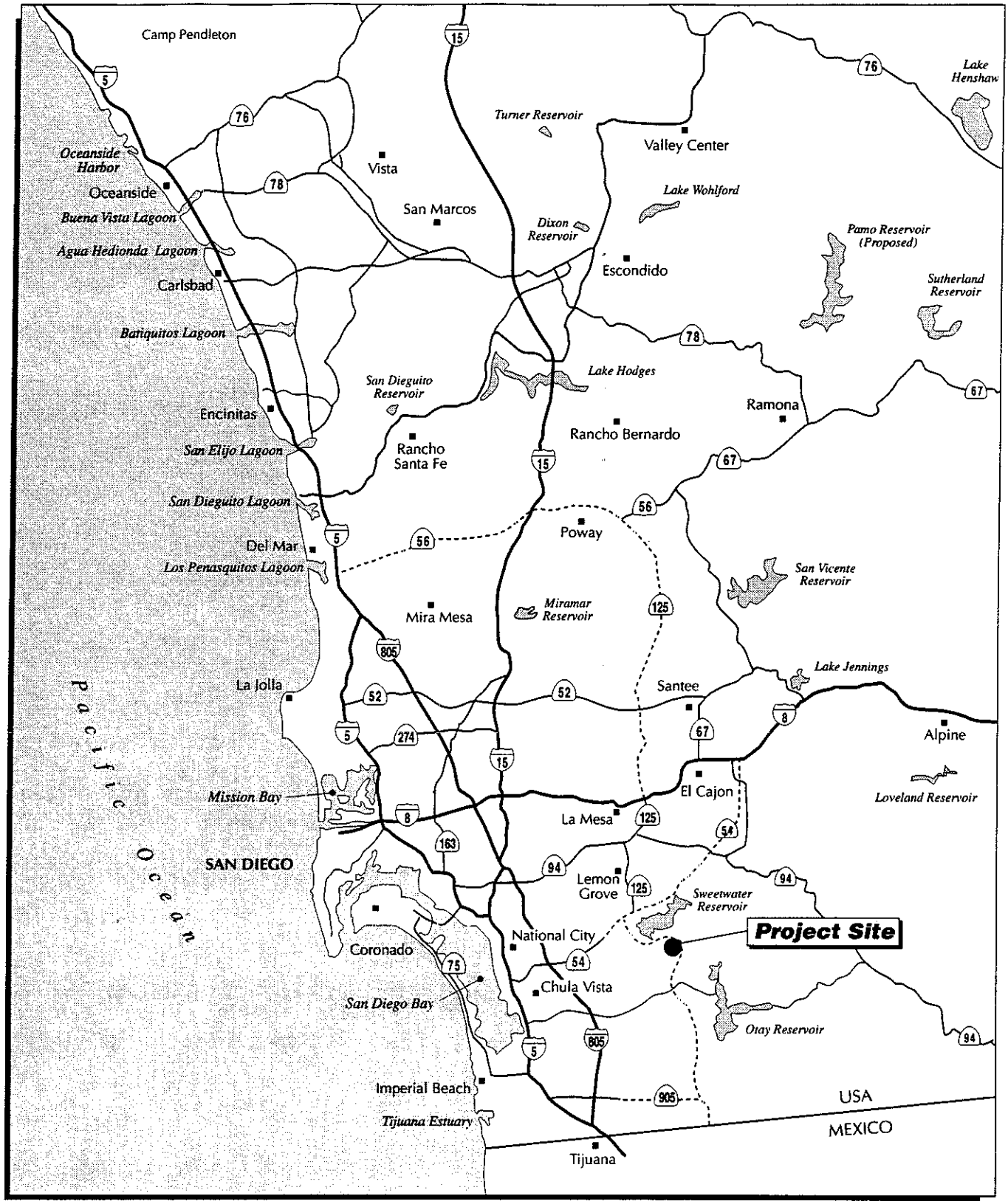
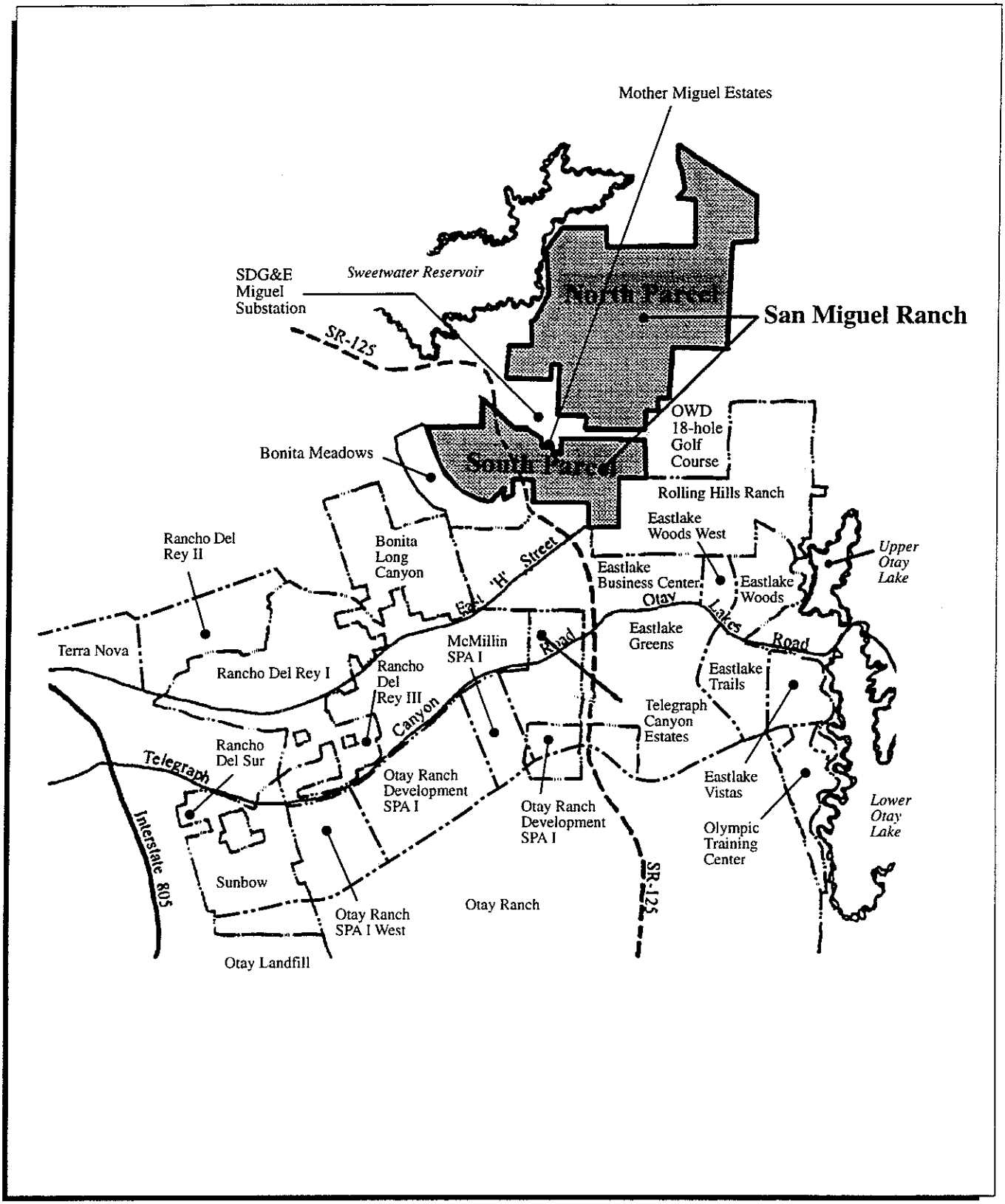


Figure 2.1-1

No Scale

Regional Map

P&D Environmental Services
San Miguel Ranch



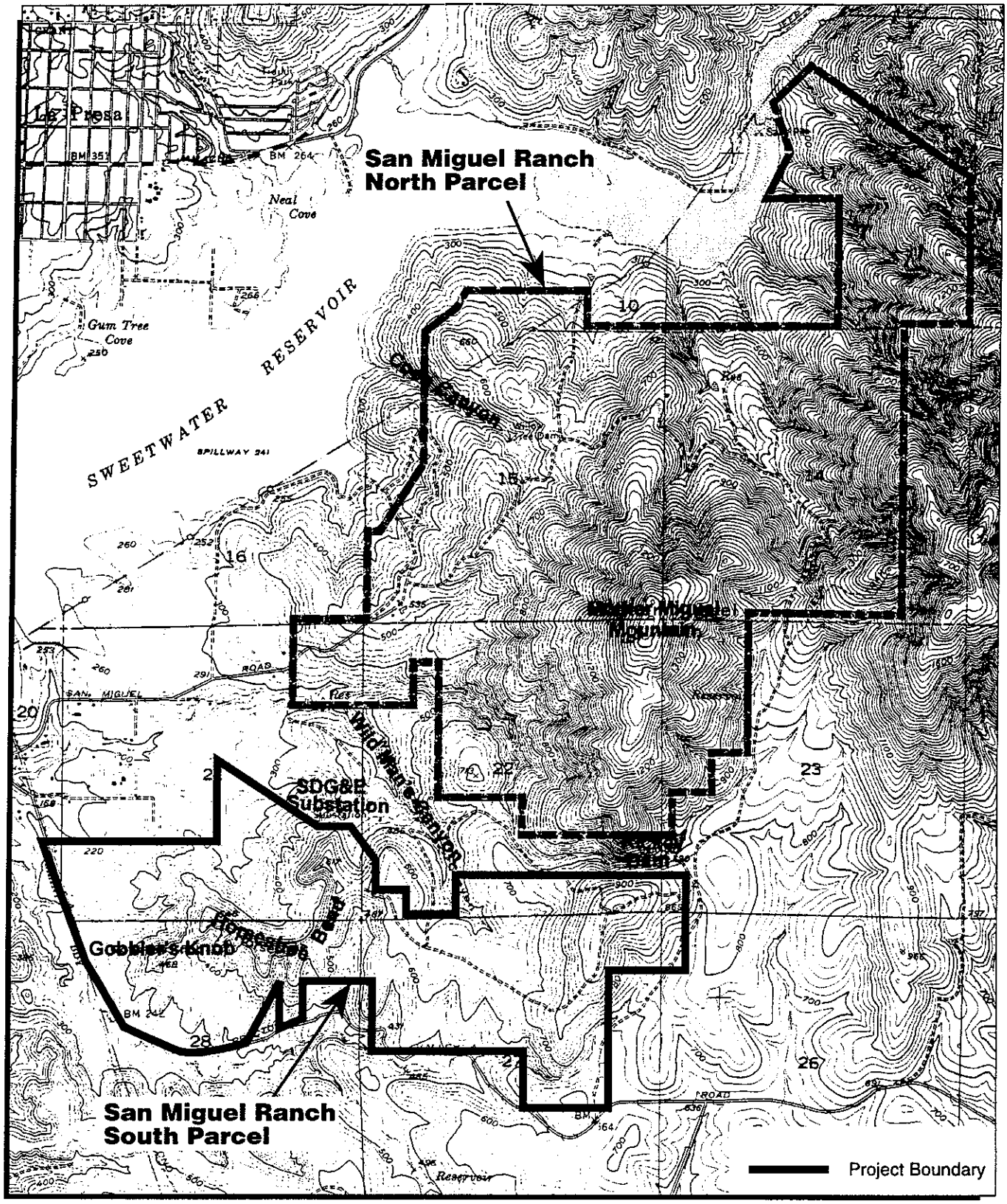
Source: City of Chula Vista Planning Dept. July 28, 1998

Figure 2.1-2

No Scale

Vicinity Map

P&D Environmental Services
San Miguel Ranch



Source: U.S.G.S. Jamul Mountain Quadrangle, 1975

Figure 2.1-3

0' 2000'

Project Setting

2.2 BACKGROUND

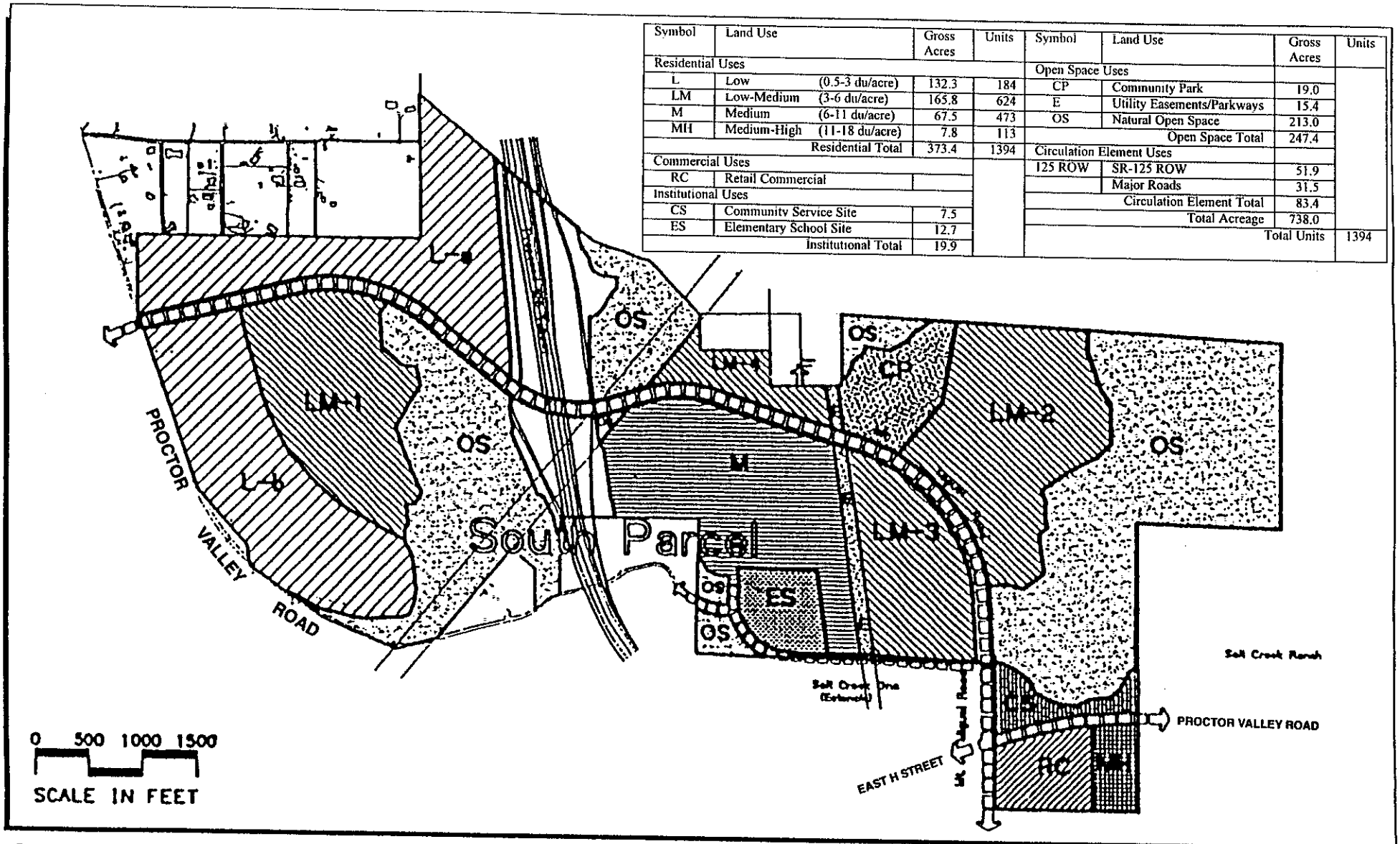
San Miguel Ranch has been subject to numerous development plans and applicable environmental review over several years. On March 23, 1993, the Chula Vista City Council approved the original San Miguel Ranch GDP and certified the Final EIR 90-02. An Addendum to the Final EIR was prepared evaluating the environmental effects or refinements to the proposed land use concept. A second Addendum to the Final EIR was prepared incorporating additional changes to the Plan and mitigation measures for impacts to biological resources.

In 1996, Emerald Properties, the former project applicant, redesigned the project and obtained approval of an Amendment to the GDP and General Plan, and the EIR addressed annexation to the City. Several route alignments for SR-125 were also considered. The Final Subsequent EIR for this GDP and General Plan amendments was certified in December 1996, concurrent with the adoption of the project. The previous EIR incorporated the environmental documents prepared for the original San Miguel Ranch GDP by reference. Figure 2.2-1 depicts the current approved GDP for San Miguel Ranch.

"San Miguel Ranch" is comprised of two parcels: the 738-acre South Parcel and the 1,852-acre North Parcel. Due to the environmental sensitivity of the North Parcel, the resource agencies (U.S. Fish and Wildlife Service [USFWS] and the California Department of Fish and Game [CDFG]) had opposed development on this parcel. In 1997, the resource agencies and Emerald Properties entered into a conservation bank agreement, which, in effect, preserved the North Parcel as a mitigation bank. As part of the agreement regarding preservation of the North Parcel, the development potential for the South Parcel was modified to allow increased density. This is reflected in the adopted GDP development footprint as previously approved by the City. The USFWS purchased a 500-acre portion of the North Parcel and established an ecological reserve. Mitigation credits may be purchased by other developers from the established "San Miguel Conservation Bank" to comply with their mitigation mandated by enforcement of the Endangered Species Act. The North Parcel is not being proposed for annexation as part of the proposed action; however, an alternative is included which would annex the North Parcel into the City of Chula Vista, while maintaining its ecological reserve status.

In September 1997, Trimark Pacific San Miguel took ownership of the project site and is now the project applicant. This EIR will address the SPA level analysis for the project and subsequent tentative map(s). As previously described, the Lead Agency specifically invokes Public Resources Code Section 21083.3(b), which states:

> "If a development project is consistent with the general plan of a local agency and an environmental impact report was certified with respect to that general plan, the application of this division to the approval of that development project shall be limited to effects on the environment which are peculiar to the parcel or to the project and, which were not addressed as significant effects in the prior environmental impact report, or which substantial new information shows will be more significant than described in the prior environmental impact report."



Symbol	Land Use		Gross Acres	Units
Residential Uses				
L	Low	(0.5-3 du/acre)	132.3	184
LM	Low-Medium	(3-6 du/acre)	165.8	624
M	Medium	(6-11 du/acre)	67.5	473
MH	Medium-High	(11-18 du/acre)	7.8	113
		Residential Total	373.4	1394
Commercial Uses				
RC	Retail Commercial			
Institutional Uses				
CS	Community Service Site		7.5	
ES	Elementary School Site		12.7	
		Institutional Total	19.9	

Symbol	Land Use	Gross Acres	Units
Open Space Uses			
CP	Community Park	19.0	
E	Utility Easements/Parkways	15.4	
OS	Natural Open Space	213.0	
	Open Space Total	247.4	
Circulation Element Uses			
125 ROW	SR-125 ROW	51.9	
	Major Roads	31.5	
	Circulation Element Total	83.4	
	Total Acreage	738.0	
		Total Units	1394

Source: Hunsaker & Associates

Figure 2.2-1

Existing Approved General Development Plan

P&D Environmental Services
San Miguel Ranch

2.3 PROJECT OBJECTIVES

The San Miguel Ranch SPA Plan represents the second stage in the City's development entitlement process. The approval of the SPA Plan constitutes a refinement of both the adopted GDP and the amended General Plan. The purpose of the SPA Plan is to:

- Prepare a land use and facilities plan consistent with the approved amended GDP for San Miguel Ranch.

- Provide a plan that is feasible and flexible to the changing housing "market" within the South Bay region.

- Provide for the orderly development of the project to assure compatible development in the surrounding community.

- Ensure efficient and timely provision for the phasing and financing of community facilities, including roads, parks, schools, water/sewer facilities, and urban runoff/ flood control.

- Provide a plan that contributes significantly to the local, state, and federal conservation efforts by conserving large areas of important biological habitat.

- Propose mitigation measures that: (1) reflect the more refined nature of a SPA plan (as opposed to a GDP); and (2) address impacts that were previously not considered significant or which substantial new information reflects will be more significant than described in the prior environmental impact report.

Consequently, the SPA Plan is based upon a statement of goals and objectives prepared by both the project applicant and City staff during the preparation of the amendment to the GDP. These goals and objectives were approved by the Chula Vista City Council upon adoption of the amended GDP for San Miguel Ranch in December 1996. The SPA plan, tentative maps, and proposed mitigation measures continue to achieve these goals and objectives by proposing additional mitigation measures focused primarily on more defined project plans, or in some cases, additional information.

The approved goals and objectives address four broad areas:

- Housing/Community Character/Land Use - The goals and objectives relating to housing, community character, and land use address the character of the proposed development, including housing types, community design, preservation of natural features, and compatibility with adjoining land uses.

- Resource Conservation - The goals and objectives relating to resource conservation establish a development plan that preserves or otherwise conserves sensitive habitat and other natural resources and minimizes impacts to adjoining watersheds.
- Community/Public Facilities - The goals and objectives relating to community and public facilities address the creation of schools, parks, and other important public facilities and services in a timely, efficient and cost-effective manner.

- Circulation, Public Safety and Welfare - The goals and objectives relating to circulation, public safety, and welfare respond to various regional and local traffic circulation needs, including the proposed alignment of SR-125, as well as police and fire protection.

2.4 PROJECT CHARACTERISTICS

2.4.1 PROPOSED LAND USE CATEGORIES

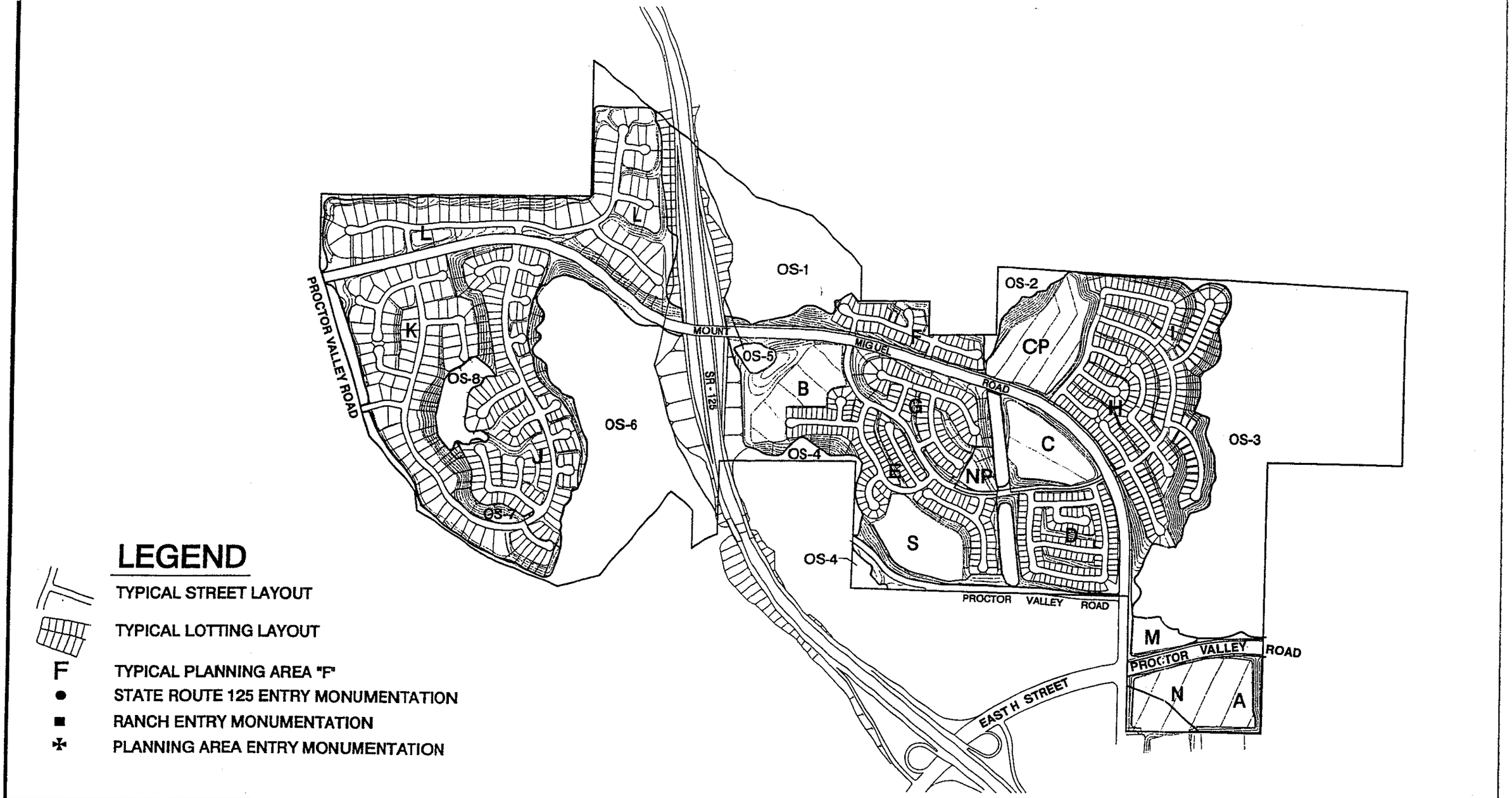
Figure 2.4-1 illustrates the general land use pattern for San Miguel Ranch. The proposed project would provide a master planned residential community with varying residential densities including low, low-medium, medium, and medium-high, and develop community facilities, including an elementary school, a community service facility, community and neighborhood parks, and a retail commercial center. Tables 2.4-1 and 2.4-2 provide a summary of the SPA Plan land use categories and a comparison between the amended GPA and the SPA Plan (the SPA is available at the City of Chula Vista Planning and Building Department for review).

2.4.2 PROPOSED CIRCULATION NETWORK

The amended GDP for San Miguel Ranch provides the major circulation system and access points for the project site, but not the internal circulation system that serves the residential neighborhood. The SPA Plan includes the entire circulation network, as depicted in Figure 2.4-2.

Mt. Miguel Road is proposed as a four-lane Class 1 collector road that would provide an important link to help implement the City's Circulation Element by connecting East H Street to Bonita Road. This roadway would carry traffic to local collectors within the development area of the project. It would also provide access to the proposed SR-125, connect to Proctor Valley Road on the west side of the project, and improve circulation for safety and emergency services.

East H Street (west of Mt. Miguel Road) and Proctor Valley Road (east of Mt. Miguel Road), which is designated as a scenic highway, is proposed as a six-lane prime arterial



Source: Hunsaker & Associates

Figure 2.4-1

No Scale

Sectional Planning Area Site Plan

P&D Environmental Services
San Miguel Ranch

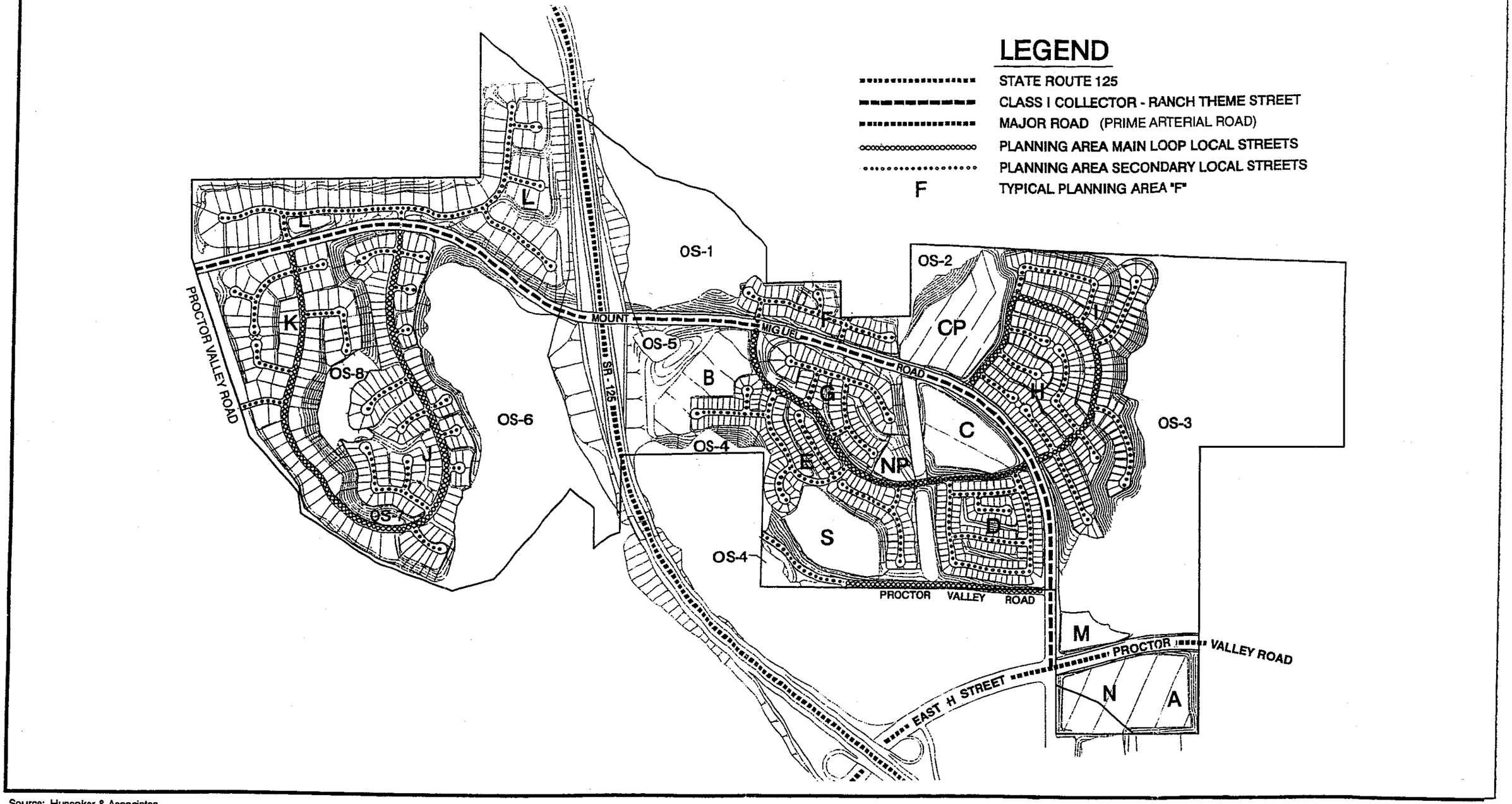
Table 2.4-1
Land Use Summary Table for
San Miguel Ranch SPA Plan

Proposed Use	Designation	Districts	No. of DUs	Gross Acreage	DUs/ Gross Acre
Residential Land Uses	GDP	SPA			
Low (0-3)	L	K	86	60.5	1.4
	L	L	71	62.2	1.1
Low-Medium (3-6)	LM	J	162	50.5	3.2
	LM	F	47	12.7	3.7
	M	G	68	21.8	3.1
	LM	H	137	33.2	4.1
	LM	I	118	31.7	3.7
	M	E	141	29.7	4.7
Medium (6-11)	M	B	219	11.4	19.2
	LM	C	100	13.1	7.6
	LM	D	116	22.9	5.1
Medium High (12-17)	MH	A	129	7.2	17.9
Residential Total			**1,394**	**356.9**	**3.9**
Non-Residential Land Uses					
Commercial Uses	RC	N	--	14.3	--
Institutional Uses	ES	S	--	13.7	--
	CS	M	--	4.6	--
	OS (So. Parcel)	OS1	--	244.3	--
Easements	E	OS1	--	6.3	--
Community Park	CP	OS2	--	21.6	--
Neighborhood Park	NP	OS1	--	3.5	--
Circulation Uses	SR-125		--	49.6	--
	Major Streets		--	28.3	--
PROJECT TOTAL			**1,394**	**743.1**	**--**

Table 2.4-2
Land Use Comparison Table for San Miguel Ranch GDP vs. SPA

	Gross Acres GDP vs. SPA		Total DUs		DUs/Gross Acre	
Land Use Designation GDP and SPA	**GDP**	**SPA**	**GDP**	**SPA**	**GDP**	**SPA**
Residential Uses						
R-L - Low	132.3	122.7	184	157	1.4	1.3
R-LM - Low Medium	165.8	164.1	624	680	3.8	4.1
R-M - Medium	67.5	62.9	473	428	7.0	6.8
R-MH - Medium High	7.8	7.2	113	129	14.5	17.9
Subtotal	373.4	356.9	1,394	1,394	3.7	3.9
Commercial Uses						
RC - Retail Commercial	13.9	14.3**	--	--	--	--
Institutional Uses						
CS - Community Service	7.5	4.6	--	--	--	--
ES - Elementary School	12.4	13.7				
Subtotal	19.9	18.3	--	--	--	--
Open Space Uses						
CP - Community Park	19.0	21.6	--	--	--	--
NP - Neighborhood Park	3.0*	3.5				
OS - South Parcel / Natural	213.2	244.3	--	--	--	--
E - Utility Easements/Parkways Parkways	15.4	6.3	--	--	--	--
Subtotal	***247.6***	***275.7***	**--**	**--**	**--**	**--**
Circulation Element Uses						
SR 125 Right-of-way	51.9	49.6	--	--	--	--
Major Roads	31.5	28.3	--	--	--	--
Subtotal	83.4	77.9				
PROJECT TOTAL	***738.2***	***743.1****	***1394***	***1394***	***1.9***	***1.9***

Note: The 3.0-acre Neighborhood Park was included in Medium Residential land use acreage of 67.5 acres.



Source: Hunsaker & Associates

Figure 2.4-2

No Scale

Circulation Plan

P&D Environmental Services
San Miguel Ranch

Secondary roads, primarily residential collectors, would serve the rest of the community and take access from Mt. Miguel Road.

2.5 DISCRETIONARY ACTIONS/APPROVALS

Project approval would require the following discretionary actions:

- Annexation to the City of Chula Vista;
- Approval of the SPA Plan;
- Approval of Tentative Map(s); and
- Approval of Streambed Alteration Agreement by CDFG.

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3.0 ENVIRONMENTAL ANALYSIS

The following sections include an analysis, by issue area, of the proposed project on the environment in compliance with Section 15126 of the CEQA Guidelines. The following subjects are discussed for each section:

- Existing Conditions;
- Impacts;
- Mitigation Measures; and
- Analysis of Significance.

Pursuant to Section 21083.3(b) of the Public Resources Code, the following issue areas are examined to: (1) address impacts and mitigation measures more clearly identifiable as a result of the more refined nature of the SPA Plan; or, (2) reanalyze impacts and mitigation measures as a result of changed circumstances and/or additional information:

- Land Use (more refined plan);
- Landform/Visual Quality (more refined plan);
- Biological Resources (new information and more refined plan);
- Transportation (new information);
- Air Quality (new information);
- Noise (new information);
- Public Services and Utilities (new information and more refined plan);
- Parks, Recreation, and Open Space (more refined plan);
- Cultural Resources (more refined plan); and
- Paleontology (more refined plan).

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3.1 LAND USE

The land use policies and regulations which guide development of the San Miguel Ranch GPA and GDP Amendment are the City of Chula Vista General Plan and the City of Chula Vista Municipal Code, Title 19, Zoning. The approved GDP's configuration of development areas and open space on the South Parcel was included within the Draft Chula Vista Subarea Plan of the MSCP analyzed in the MSCP EIR/EIS circulated in 1997. The City is currently processing its Subarea Plan and the development and open space configuration for San Miguel Ranch is not expected to change. In accordance with the 1996 FEIR for the San Miguel Ranch GDP/GPA, the City must have an approved Subarea Plan or the applicant may be subject to subsequent environmental review or obtain endangered/threatened species "take" authorization in another manner.

The previous EIR addressed the impacts of the GDP (including an alternative GDP). Impacts associated with the adoption of the GDP included the location of SR-125 and proposed residential land uses in proximity to the SDG&E Miguel Substation. The mitigation measures that were required upon approval of the GDP are presented in Table 3.1-1 in this section, which analyzes the conformity of the SPA Plan with previously required mitigation measures.

Existing Conditions

Chula Vista General Plan

The project site is located within the City of Chula Vista's Sphere of Influence but is presently in an unincorporated area in the County of San Diego. The project area is proposed to be annexed into the City of Chula Vista. Therefore, the land use analysis examines the project's conformance with the Chula Vista General Plan. The goals and objectives of San Miguel Ranch for land use plans and policies were approved by the City of Chula Vista in February 1996. The proposed Specific Plan is substantially consistent with the adopted GDP (Figures 2.2-1 and 2.4-1 and Table 2.4-2).

MSCP

The Multiple Species Conservation Program (MSCP) is a comprehensive, long-term habitat conservation plan, which addresses the needs of multiple species and the preservation of natural vegetation communities in San Diego County. The MSCP addresses the potential impacts of urban growth, natural habitat loss and species endangerment and creates a plan to mitigate for the potential loss of Covered Species and their habitat due to the direct impacts of future development of both public and private lands within the MSCP City of Chula Vista Subarea.

The City of Chula Vista's Subarea Plan, when finalized through the authorization of its Implementing Agreement, will establish the conditions under which the City of Chula Vista will receive certain long-term Take Authorizations from the U.S. Fish and Wildlife Service (USFWS) and the California Department of Fish and Game (CDFG). With these Take Authorizations, public and private landowners as well as other land development project proponents within the subarea would receive Take Authorizations as a Third-Party Beneficiary from the City of Chula Vista, provided the conditions established under the Implementing Agreement are satisfied by the project proponent. The San Miguel Ranch Properties are currently under the jurisdiction of the County of San Diego, but lie within the Zone of Influence of the City of Chula Vista.

The San Miguel Ranch Properties consist of approximately 2,590 acres of land in the northern portion of the South County Segment. The property consists of two separate parcels both of which are included within the context of an agreement between the owner, the California Department of Fish and Game and the USFWS. This agreement generally provides for 145 acres of open space and habitat preserve on the Southern Parcel. In addition, 166 acres of the Northern Parcel would be preserved and the remainder of the Northern Parcel (approximately 1,686 acres) would be acquired or otherwise preserved. Management of the preserved lands and retention of approved land use designations for those lands which are not successfully acquired would be preserved. The proposed project currently includes approximately 231.0 acres of open space on the South Parcel.

Zoning

The project site is currently covered by the County of San Diego General Plan Designation No. 21-Specific Plan Area (SPA 0.28 DU/Ac). The purpose of the SPA is to ensure comprehensive planning and development to preserve and enhance the significant topographic features and resource areas found in this large, undeveloped tract of land (Sweetwater Community Plan 1988). Permitted uses within the SPA include Family Residential, Essential Services (fire protection), and limited agricultural uses (horticulture, tree crops). County zoning for the site is currently S-88 (0.22 DU/Ac.) If the project was implemented in the County a maximum of 725 DUs on the property would be permitted (on both the North and South parcels). Because the North Parcel has been established as an ecological reserve, as previously discussed, the County of San Diego has allowed a density transfer from the North Parcel, which can no longer be developed, to the South Parcel, resulting in a maximum of 725 DUs permitted on the South Parcel.

The project site lies outside the city's jurisdictional boundaries; however, with the approval of the first GDP in 1993, the site was prezoned Planned Community (PC). The PC zone and adopted Amended Horseshoe Bend GDP (December 1996) will govern future development in the area, if annexation is approved by LAFCO and City of Chula Vista.

Existing Land Uses

The San Miguel Ranch project site is predominantly composed of steeply sloping hillsides, valleys, and mesas, with Mother Miguel Mountain located in the North Parcel. The existing land uses are primarily undeveloped land dominated by coastal sage scrub, mixed chaparral, and non-native grasses. There are limited existing developed land uses including overhead power lines within two SDG&E transmission utility easements. The property is in an unincorporated County area within the Sweetwater Community Planning Area. The site is located within the City of Chula Vista's adopted Sphere of Influence and within the Eastern Territories area. Annexation of the South Parcel to the City of Chula Vista will be required.

Surrounding land uses are predominantly undeveloped open space to suburban residential development. The 300-acre SDG&E Miguel Substation property separates the north and south parcels of the project area. Existing SDG&E facilities include the Miguel substation, associated transmission lines on steel lattice towers (500-kilovolt (kV), 230-kV, and 138-kV), and 69-kV transmission lines on wood poles. A utility power line corridor runs between the north and south parcels and is developed with a 500-kV transmission line and runs from the substation east to Arizona. Two SDG&E utility easements cross the project site. A 250-foot wide easement runs northeast-southwest and is developed with 69-, 138-, and 230-kV transmission lines. A second easement (120 feet wide) runs south through the southern portion of the site and is developed with 69 and 230-kV transmission lines. Existing earth mounds were located at key

locations that reduce the substation's visibility from the existing residential development to the west and northwest. Future development plans for the SDG&E property include expansion of the substation and transmission line facilities to accommodate service area growth and system-wide operational needs, as required, and the installation of a lineman training facility.

The land immediately north of the North Parcel is open space located in an unincorporated portion of the County, and includes the Sweetwater River and the Sweetwater Reservoir. Several developments are located north of the Sweetwater River section that is adjacent to the north parcel. These include the La Presa area of Spring Valley and the Pointe development which are under the jurisdiction of the County. The area north of Sweetwater Reservoir (northwest of the project site) is under the jurisdiction of the County of San Diego and is developed with residential and commercial land uses along the Jamacha Boulevard corridor. The area to the northeast along the Sweetwater River is designated as a National Wildlife Refuge by the USFWS.

Land to the south of the project area is within the City of Chula Vista. Several residential development projects are approved and proposed for this area. Salt Creek I is a residential development with a total of 550 detached and attached residential units. Southeast of the project area is Rolling Hills Ranch, a planned residential community, which has received General Development Plan, Sectional Planning Area, and Tentative Map approvals and is currently under construction. The approved Tentative Map for Rolling Hills Ranch includes 2,616 residential DUs, a 25-acre community park, a neighborhood park, a fire station site, and two elementary school sites.

Land uses east of the project area are within the County of San Diego. Land use west of the site consists of the Bonita community. All land east of the project area between the Sweetwater River and Proctor Valley Road is open space, with the exception of two parcels of land owned by the Otay Water District which contain water treatment ponds. Otay Water District is currently proposing annexation of these parcels to the City of Chula Vista with subsequent development of a golf course.

Land to the west of the project site lies within the County of San Diego. Land uses along San Miguel Road include residential including the proposed Bonita Meadows community. Further to the northwest are areas of open space surrounding the Sweetwater Reservoir, and a County regional park (Summit Park) which contain passive uses including camping facilities.

Impacts

Significance Criteria

When evaluating impacts of a proposed project, CEQA Guidelines indicate that a project may have a significant effect on land use resources if it would:

- Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project adopted for the purpose of avoiding or mitigating an environmental effect;

- Physically divide an established community; or,

- Conflict with any applicable habitat conservation plan or natural communities conservation plan.

Impact Analysis

Land Use Compatibility

The SPA Plan proposes to develop the South Parcel with similar land uses as the Amended GDP with a slight residential density redistribution. The SPA Plan provides a density transfer program, which permits the transfer of residential units from one residential area category to another. However, all density transfers are permitted only up to the total of 10 percent or the aggregate number of units permitted by the SPA Plan, and the total number of units cannot exceed the maximum density for the land use category. In addition to these restrictions, increases in the number of dwelling units in one area must be accompanied by corresponding decreases in another area. As a result, the SPA Plan would result in a reduction of 27 low-density and 13 medium-density DUs, and an increase of 40 low-medium density DUs from those proposed under the GDP.

The SPA Plan proposes to develop a variety of housing types consistent with existing communities and development projects surrounding San Miguel Ranch, which would allow the continued provision of balanced and diverse housing in the City of Chula Vista's Eastern Territories.

Future expansion of the SDG&E Miguel Substation would occur in response to service territory growth or in response to system-wide operational requirements. There is no estimated timeframe for the expansion, and the SDG&E energy resource plan does not anticipate expansion activity within the next 5 years. Facilities that will eventually be installed as part of the planned expansion include a 500-kV switchyard that will cover 9 acres, a 7-acre construction yard, and additional transmission lines (SDG&E 1981). The number of transmission lines could potentially double in each utility power line corridor. Future transmission line development could occur independent or in conjunction with expansion of the substation (Final EIR 90-02).

Although the proximity of housing to an electric substation does not create the most desirable neighborhood setting, measures may be taken to improve compatibility such as site design, grading techniques, and landscape buffering. The industrial appearance of the substation with its exposed network of towers, poles, wires, and metal latticework does not evoke a rural residential ambiance, although the SDG&E properties are shown as open space in the Chula Vista General Plan. The proximity of this major substation and a Low/Low-Medium residential development represents a potentially significant impact for residential parcels located along the north border of the south parcel adjacent to the existing substation and the area planned for expansion (Final EIR 90-02). An analysis of the effectiveness of the mitigation measures proposed in the GDP is presented in Table 3.1-1. Based upon the analysis, the impacts are reduced to below a level of significance.

The proposed SPA Plan would not be in conflict with any goals and policies included in the Amended GDP. The SPA Plan was developed to provide additional information concerning development boundaries, which are established through more detailed grading plans than those available for the amended GDP, infrastructure improvements, land use relationships, design direction, and construction regulations for the proposed development. The SPA Plan would not create any conflicts with the General Plan and would serve to implement the goals and policies of the General Plan and the amended GDP.

Because the project does not conflict with any adopted plans or goals of the community; disrupt an established community; or conflict with established recreational, education, religious, or scientific uses in the area, there are no significant impacts.

Affordable Housing

Section 3.3 of the General Plan Housing Element requires developers of projects with more than 50 DUs to explore methods to devote a minimum of 10 percent of the units as low- and moderate-income housing. The SPA Plan designates a portion of the project (planning areas A and B) for the provision of low- and moderate-income affordable housing. Approximately 70 of the 113 multi-family DUs would be designated as low and low-moderate income housing units, and another 70 single-family DUs are proposed to be designated as low-moderate income housing units; this would meet the City's requirement for providing low and low-moderate income housing units.

Mitigation Measures

No additional mitigation measures are required beyond those identified above. These measures will be incorporated into the Mitigation Monitoring and Reporting Plan.

Analysis of Significance

No significant unmitigable impacts would occur.

Table 3.1-1
GDP Mitigation Measures - Conformity Analysis

GDP Mitigation Measures	Analysis
Provide potential buyers considering lots north of the proposed alignment of San Miguel Road with a white paper and exhibits describing future SDG&E expansion plans, to the extent feasible. Provide buyers of these lots with a Grant Deed containing a provision describing and exhibiting future SDG&E expansion plans, to the extent feasible. This requirement will ensure that information regarding SDG&E's future expansion plans are disclosed to all subsequent home buyers. The San Miguel Ranch Covenants, Conditions, and Restrictions (CC&R) shall also contain information regarding the expansion plans for the SDG&E substation to provide disclosure to subsequent home buyers.	This will be part of the conditions of approval of the tentative map. The project applicant will be required to provide information regarding SDG&E's future expansion plans to all potential home buyers.
Achieve general visual separation through a comprehensive buffer plan at the SPA program level of analysis which includes measures such as landscaping, significant topography variation (including use of natural topography as well as berming), and homesite orientation for houses near the SDG&E property. Specific measures proposed by SDG&E are as follows: a. Establishment of separation of development setback incorporating landscaped greenbelt or	The landscaping plan proposes to provide landscaping buffers between land uses (e.g., between open space and residences, between roadways and residences, etc.).

residential collector street; b. Achievement of visual separation through landscaping, topographic variation, homesite orientation, and height and lot setback restrictions for houses near the substation property; c. Utilization of graded materials to construct view screening landscaped mounds; d. Provision for SDG&E to view the final plans so that visual impacts can be better determined and, at that time, additional landscaping and screening may be necessary to mitigate visual impacts.	

Table 3.1-1
GDP Mitigation Measures - Conformity Analysis (Continued)

GDP Mitigation Measures	Analysis
Provide grading site plans and other information to SDG&E to assist them in their efforts to develop future improvements on their site and corresponding landscape or other screening programs that will minimize visual impacts to adjacent residential development to below a level of significance.	This will be part of the conditions of approval of the tentative map. The project applicant will be required to provide SDG&E grading plans and other information that may assist them in implementing future improvements within their easement.
Continue to coordinate with SDG&E throughout the processing of the SPA Plan for this project.	The EIR will be distributed to SDG&E for review and comment.
Obtain the applicant's commitment to not oppose SDG&E's decision to process its expansion plans through the City provided that: (1) this project's processing time is not delayed as a result of SDG&E's processing; (2) the City treats the two projects as separate processes, with separate hearing schedules; and (3) SDG&E's processing is not conducted at the applicant's expense.	This will be part of the conditions of approval of the tentative map. The project applicant will be required to sign a written agreement to not oppose any expansion plans that SDG&E may propose within their easement.

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3.2 LANDFORM/VISUAL QUALITY

The previous EIR for the GDP/GPA concluded that the GDP would result in extensive grading and reconfiguration of landforms on the project site which were considered significant and unmitigable. Landform impacts associated with the elimination of Horseshoe Bend associated with the placement of SR-125 through the project site were also identified in the previous EIR as a significant, unmitigated impact. One consequence of transferring increased density to the South Parcel and preservation of the North Parcel was the increased intensity of use on the South Parcel, with significant landform alteration associated with implementation of the project. The GDP EIR recognized that development of the project would result in significant landform alteration and visual quality impacts and that only a major redesign of the project could avoid the impacts; therefore, no feasible mitigation measures for landform alteration were identified in the GDP EIR. However, a reduced grading alternative is included. Specific project-related impacts to landform/visual quality were to be addressed at the SPA level based upon supplemental conceptual grading plans.

This section presents more detailed information about grading and views of the project site from adjacent land uses based on the SPA grading plan. To reduce general grading impacts, the SPA Plan was to comply with the hillside development guidelines and City landform grading policies, and this analysis addresses these issues. This section also addresses the landscaping plan of the SPA Plan which includes a discussion of the landscape screening requirements at specific locations within the project site boundaries.

Existing Conditions

Landform

The landform of Chula Vista is comprised of three general types: the coastal plain, which extends from San Diego Bay to I-805; low rolling hills and mesas cut by drainages between I-805 and Otay Lakes; and the mountain foothills. Mother Miguel Mountain is in the northeast portion of Chula Vista's sphere of influence. The Sweetwater River forms the northern boundary of the City's Sphere of Influence.

Major landforms in the south parcel include Gobbler's Knob at 468 feet above Mean Sea Level (MSL) and Horseshoe Bend, a curved ridge at approximately 550 to 620 feet above MSL; the City of Chula Vista does not consider these two landforms to represent significant features in the area. Wild Man's Canyon originates in the South Parcel, and extends north through the SDG&E property. A large northern tributary of Wild Man's Canyon originates east of Mother Miguel Mountain and separates the north and south parcels.

Visual Quality

The project site is virtually undeveloped with the exception of several roads and trails. The SDG&E Miguel Substation complex is located to the north of the south parcel, and is screened from several directions offsite by intervening topography. Residents located directly west and southwest have unimpeded views of the site that include Gobbler's Knob, Mother Miguel Mountain, and the western and southern slopes of Horseshoe Bend. The site is also highly visible from the north side of Bonita Valley and Highway 54 at Sweetwater Road. Several residential development projects have been approved to the south and southeast of the project site, including Rolling Hills Ranch, Eastlake, and Bonita Meadows. Future residents will have views of the site that include Mother Miguel Mountain.

The Chula Vista General Plan has designated the East H Street corridor from I-805 to Hunte Parkway as a scenic road. East H Street changes names to "Proctor Valley Road" at the intersection with Mount Miguel Road and continues to Hunte Parkway and beyond. Some of the best views of Mother Miguel and San Miguel Mountains can be seen from East H Street, according to the City's General Plan. The road extends eastward through Rancho Del Rey, EastLake, and Rolling Hills Ranch, passing through the southernmost tip of San Miguel Ranch and continuing through a portion of Rolling Hills Ranch to Hunte Parkway.

Hillside Development Policy

Because the project is a Planned Community (PC), it is not required to adhere to the Hillside Development Policy; however, the previous GDP EIR indicated that the SPA level analysis should be reviewed as to the conformances with the Hillside development guidelines and City landform grading policies. Therefore, the following analysis is presented using these policies as significance criteria.

The City of Chula Vista has adopted a hillside development policy to the meet the following objectives:

1. To preserve and enhance the beauty of the City's landscape.

2. To insure that the hillside areas will continue to be an integral part of the total City environment.

3. To encourage the maximum retention of vistas, natural plant formations, and natural topographic features, such as canyons, ridgelines, and slopes.

4. To encourage variety in site design and the arrangement of development areas in the hillsides.

5. To provide density, grading and land use criteria that will insure the best possible treatment of the hillsides' natural features and open space.

6. To encourage the retention of major canyons and topographic features in order to create physical form and interconnecting open space buffers between and within developed areas.

7. To provide safe and functional ingress and egress of vehicular, pedestrian, bicycle and equestrian traffic to and within the hillside areas, and to provide for access by emergency vehicles necessary to serve the hillside areas.
8. To reduce the scarring effects of hillside street construction while maintaining an acceptable level of safety for traffic and to prevent construction of slopes subject to erosion, deterioration or slippage.

9. To prohibit, insofar as is feasible and reasonable, excessive padding or terracing of building sites in the hills.

10. To encourage the use of the major open space areas for recreation.

The hillside development policy includes a set of design criteria for hillside development projects. These design criteria address site preparation and grading, site and lot design (e.g.,

driveways, lot orientation, mixed lot sizes, etc.), pad and structure design, public facilities and utilities (e.g., street lighting, street furniture, public facility substation), and commercial and industrial development.

Impacts

Significance Criteria

According to the CEQA Guidelines, a project would normally have a significant effect on the environment if it would have a substantial, demonstrable negative aesthetic effect.

Impact Analysis

Landform

The SPA Plan and Tentative Map include additional details regarding the proposed project grading design, based on the land uses designated by the approved GDP. The GDP established guidelines for grading to be sensitively conducted in order to protect natural features and to minimize the amount of landform alteration within San Miguel Ranch. The general limits of grading were defined on the Conceptual Grading Plan in the GDP. The SPA Grading Plan has been designed for consistency with these guidelines, resulting in a refined grading concept. In addition, the SPA Plan represents a reduction in the quantity of grading from the GDP grading scheme.

Some of the features of the SPA Grading Plan are as follows:

- In developing the SPA Grading Plan, the development design was modified to minimize slopes up against open space and reduce the overall earthwork by over 20 percent from the GDP grading design. Detailed earthwork calculations indicate that the GDP Grading Plan would have required 9,783,000 cubic yards, and the earthwork based on the SPA Grading Plan is 7,699,000 cubic yards.

- The SPA Grading Plan makes extensive use of curvilinear streets to help development conform to the current landforms and minimize grading. The design also uses cul-de-sacs to allow street and lot grades to work with the topography, rather than requiring more extensive cut and fill grading, while utilizing the resulting slope and open space areas to retain pedestrian connections and trails within and between neighborhoods. Single-loaded streets are also used where needed to preserve open space and minimize slopes.

The grading limits shown on the SPA Grading Plan (Figure 3.2-1) generally conform to the Conceptual Grading Plan approved in the GDP, although the proposed plan would grade fewer total acres. A comparison between the GDP and SPA Grading Plans shows that the SPA design reduces the limits of grading by approximately 32 acres, a 7 percent reduction from the GDP. The total quantity of grading is also reduced by approximately 2 million cubic yards, a 21 percent decrease from the GDP Grading Plan. The majority of this reduction occurs on the west side of SR-125 in order to be more sensitive to the general configuration of the landforms in this area. The total quantity of grading has been reduced from an average of 20,000 cubic yards per graded acre as shown on the GDP, to 17,000 cubic yards per graded acre, a reduction of 15 percent. Notwithstanding these substantial reductions in grading, the development of the San Miguel Ranch will still require an extensive quantity of grading with alteration of topography into padded and terraced building sites, and the landform impacts are considered significant.

Landform alteration in the South Parcel would eliminate Gobbler's Knob and Horseshoe Bend, which can presently be viewed from Proctor Valley Road. However, this impact is not associated with the proposed project; elimination of these two landforms is directly related to the construction of SR-125 through the project site, which is independent of the proposed project. Additionally, the City of Chula Vista does not consider these two landforms to represent significant features in the area; as a result, removal of these two landforms would not be considered significant.

Because the project is in the PC zone, these policies are used as guidelines to evaluate development proposals.

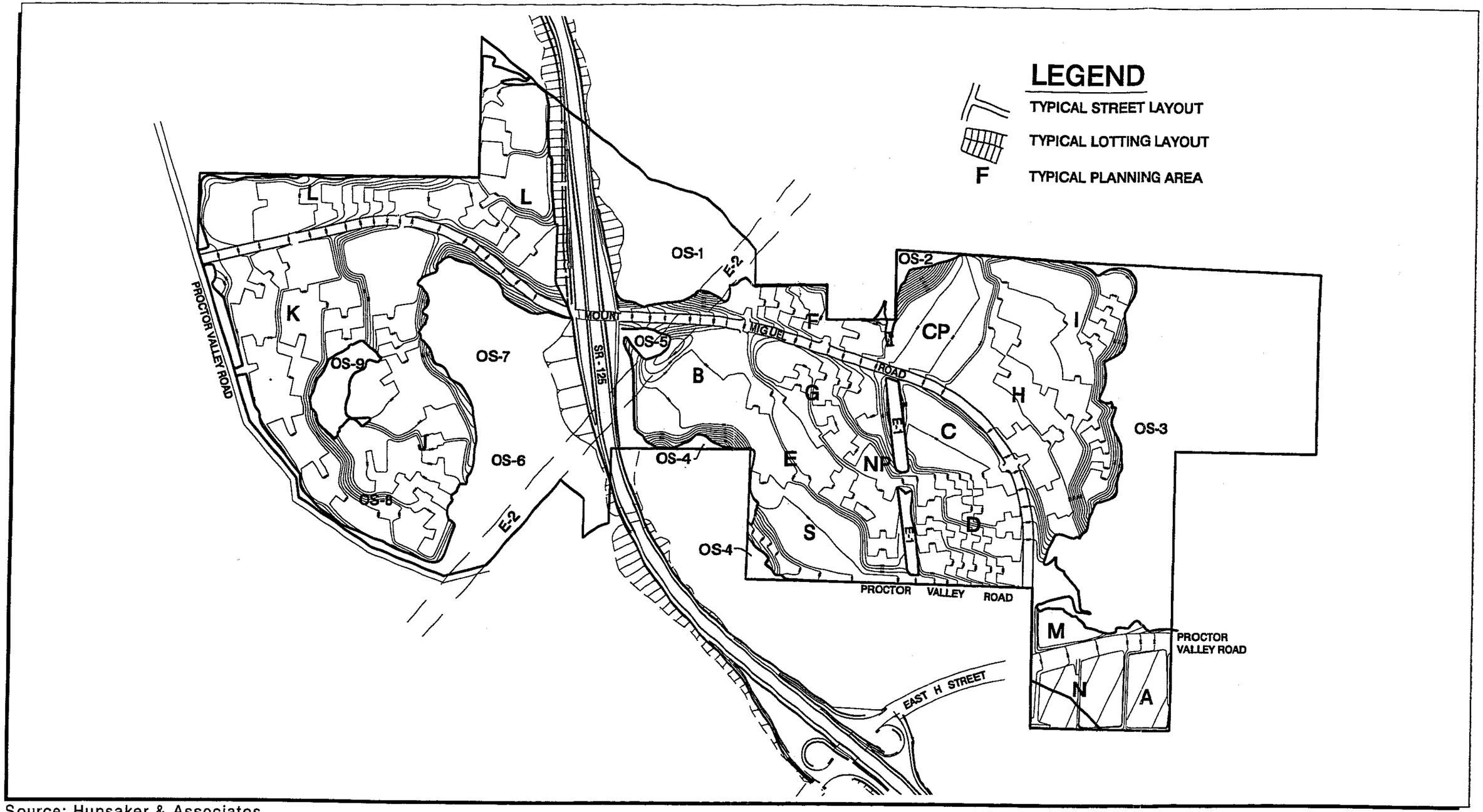
- To encourage the maximum retention of vistas, natural plant formations, and natural topographic features such as canyons, ridgelines, and slopes.

- To encourage the retention of major canyons and topographic features in order to create physical form and interconnecting open space buffers between and within developed areas.

- To reduce the scarring effects of hillside street construction while maintaining an acceptable level of safety for traffic and to prevent construction of slopes subject to erosion, deterioration, or slippage.

- To prohibit, insofar as is feasible and reasonable, excessive padding or terracing of building sites in the hills.

Because of the extensive quantity of grading (average of over 17,000 cubic yards per acre) resulting in the substantial alteration of the topography into padded and terraced building sites, the landform alteration impacts are considered significant.



Source: Hunsaker & Associates

Figure 3.2-1

Visual Quality

Visual simulations of the existing and proposed conditions have been prepared. The simulations are located at the end of Section 3.2 (Figures 3.2-2a through h). Full-scale visual simulations are on file at the City of Chula Vista Planning and Building Department.

The development of natural open space with residential development on the South Parcel would alter views to the site from the south, west, east, and northwest of the proposed project. The overall visual impact of introducing homes is not considered to be significant, as this area has been designated for some form of residential development by the City of Chula Vista General Plan.

The GDP identified two key visual quality impacts associated with development of San Miguel Ranch: impacts to scenic roadway views along a portion of East H Street; and impacts on project development associated with the proximity of the SDG&E Miguel Substation.

Views to Mother Miguel and San Miguel Mountains from a short portion of East H Street that extends through the southernmost tip of the San Miguel Ranch project would be modified by grading and development associated with the proposed project. The mountains would continue to be in the background view; however, the foreground view would change from hillsides and landforms dominated by natural vegetation to residential development characterized by landscaped manufactured slopes, ranging in height from 50 feet to about 100 feet, and single family residences. The impacts to scenic roadway views from this portion of the proposed project are considered to be significant.

The GDP EIR noted that visual impacts to the portion of East H Street that passes through the proposed site would be reduced to below a level of significance by the implementation of landscaping and development planning consistent with General Plan guidelines for scenic roadways. The proposed SPA landscape design has incorporated these criteria, and mitigated this impact to the extent possible, although the visual impacts to scenic roadway views are still considered to be significant.

All manufactured slopes are proposed to be landscaped with plant species that would be compatible with adjacent undisturbed open space vegetation and to be consistent with brush management and fuel modification requirements established by the County of San Diego. Because of the magnitude of the manufactured slopes (three of which exceed 100 feet), and the fact that these slopes are visible from public viewpoints, the visual impacts are considered significant.

The proposed SPA Plan includes a landscaping plan which addresses landscape screening to be applied to several areas on the project site. The first area is in the northeast corner of the project site between the proposed community park (CP) and the open space area (OS-2). The purpose to the screening is to minimize the visual impact of the SDG&E Miguel Substation and any future expansion for those facilities to the park users or residents of neighborhoods H and I. The second area of screening is in the northwest portion of the project site between the estate lots and the residential community of Bonita. In the same area, landscape screening will also be used along the western edge of the SR-125 right-of-way. Although SR-125 is below the residential area, the screening will be used to minimize the presence of the toll road. The third area of screening is in the southeast area of the project site along Proctor Valley Road. Additional screening is necessary between the existing residents and the future residents and the proposed school site. These proposed screenings would reduce the visual impacts to project residents and patrons of other proposed uses to below a level of significance.

The SPA Plan includes measures to reduce the visual impact of slope areas associated with development of the project. Incorporating these techniques into the project design will limit the visual impacts from development, although the change in character from the undeveloped land to an urbanized site cannot be eliminated, and visual impacts will remain significant.

- The landform is to be rounded as much as possible to blend into the natural grade. When slopes cannot be rounded, vegetation is to be used to simulate a contoured landform through the use of landscaping techniques to create the effect of a horizontally and vertically undulating slope terrain.

- Transitional slopes and graded areas adjacent to natural, ungraded terrain are to be planted with native and naturalized plant species to provide a subtle blending between manufactured and natural slopes, and to meet fuel modification requirements.

- Contour grading is used in some of the setback areas outside of the right-of-way along Mount Miguel Road to reinforce the parkway character of the roadway. The landscape setbacks exceed the minimum City requirements along Mount Miguel Road, and will be graded with slopes varying from 5:1 to 2:1. The minimum 2:1 slopes along these roadways is used in locations where necessary to preserve Otay tarplant areas, where needed to minimize encroachment into the open space, or in 2:1 downslope conditions where the slopes are not visible from the roadway.

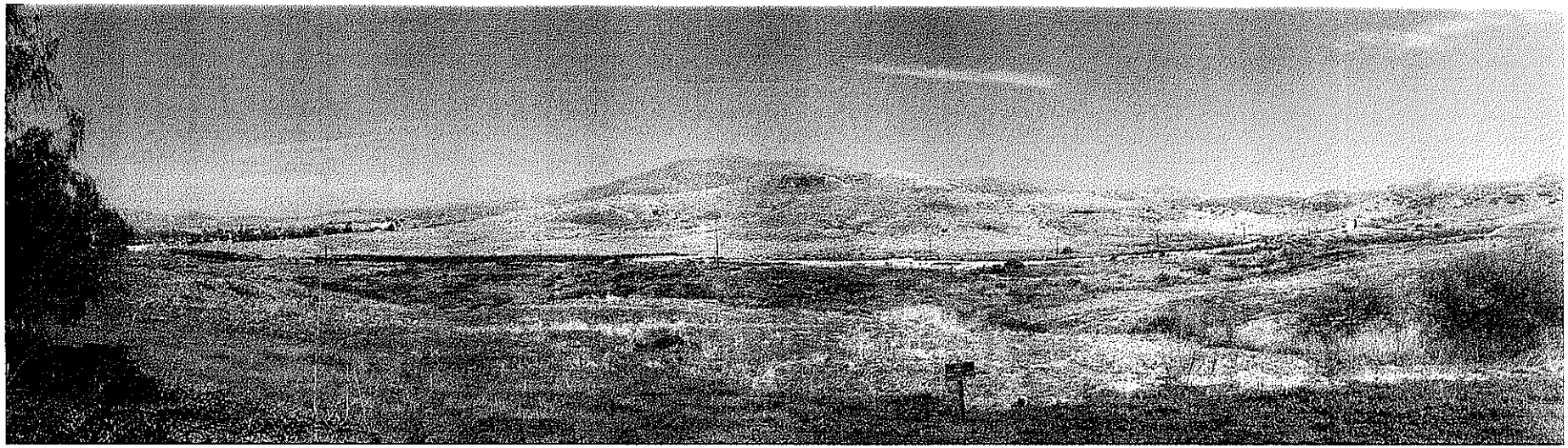
- Curvilinear streets and slopes are used to conform with the existing topography, to provide visual interest and to minimize straight, hard-edged slopes.

Mitigation Measures

No further mitigation measures are available or feasible, beyond those incorporated into the project design, which could avoid the impacts to landform alteration and visual quality.

Analysis of Significance

The proposed SPA Plan would result in a significant unavoidable impact on landform alterations and visual quality.



Existing Condition

Figure 3.2-2a

Approved General Development Plan - Grading Only

Figure 3.2-2b

⬅ N

Project Site Viewed from Blacksmith Road (looking east)

Source: Digital Design Simulations

Proposed SPA Plan - Grading Only

Figure 3.2-2c

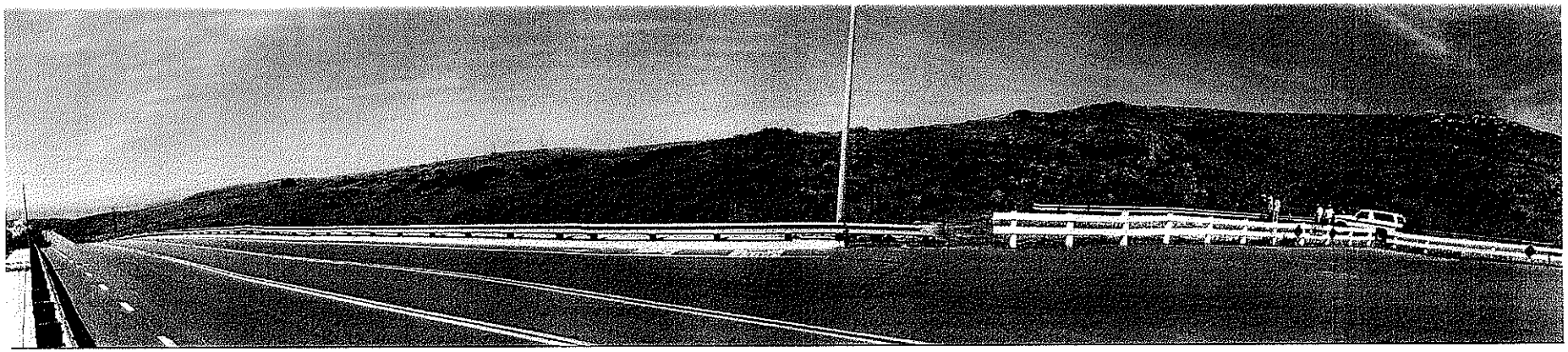
Proposed SPA Plan - Build-out Condition

Figure 3.2-2d

⬅ N

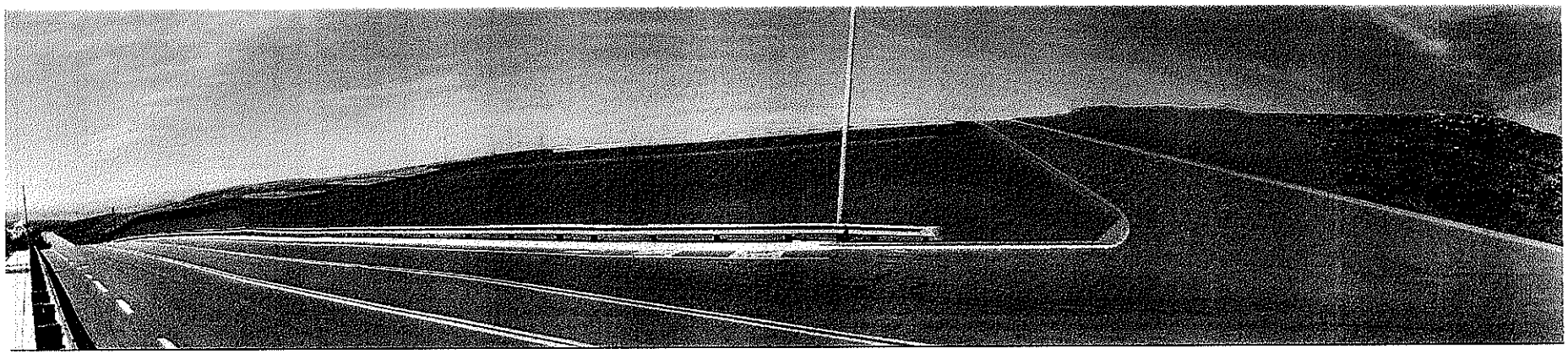
Project Site Viewed from Blacksmith Road (looking east)

Source: Digital Design Simulations



Existing Condition

Figure 3.2-2e



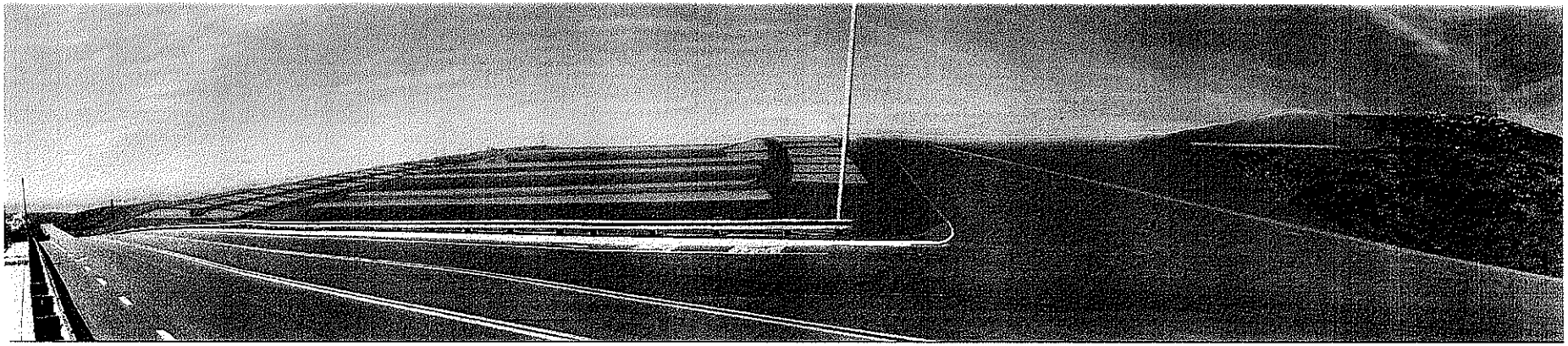
Approved General Development Plan - Grading Only

Figure 3.2-2f

N

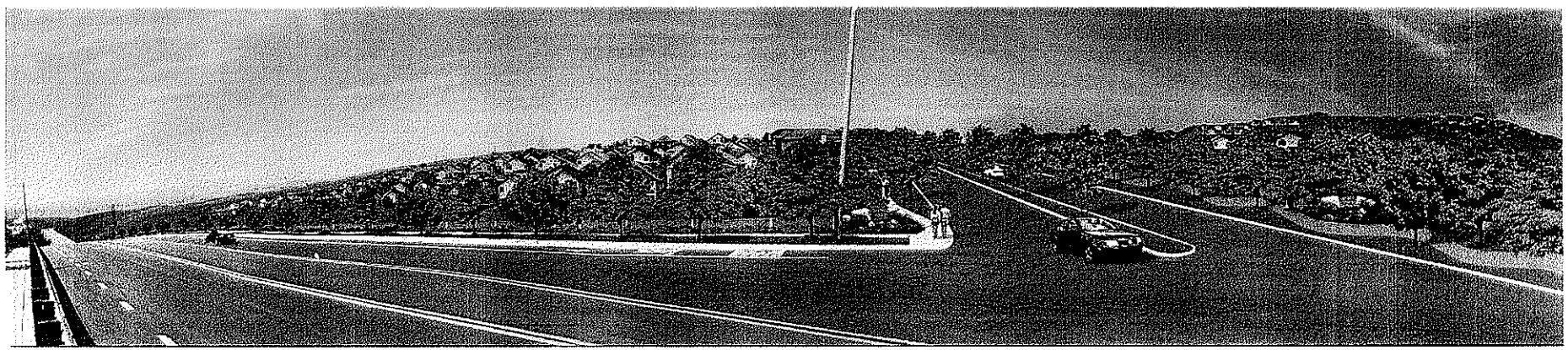
Project Site Viewed from Intersection of Proctor Valley Road and Mt. Miguel Road (looking northerly)

Source: Digital Design Simulations



Proposed SPA Plan - Grading Only

Figure 3.2-2g



Proposed SPA Plan - Build-out Condition

Figure 3.2-2h

N

Project Site Viewed from Intersection of Proctor Valley Road and Mt. Miguel Road (looking northerly)

Source: Digital Design Simulations

3.3 BIOLOGICAL RESOURCES

The previous EIR for the GDP/GPA identified impacts to sensitive plant communities, including six acres of dry marsh/wetland, 154 acres of Diegan coastal sage scrub, and 330 acres of annual grassland. Based upon an updated survey, marsh/wetland impacts are reduced over those previously reported. Additionally, the previous EIR also identified approximately 11 to 12 pairs of California gnatcatchers that would be affected by the development on the South Parcel. The following mitigation measures were identified to reduce impacts to the above sensitive plant and animal species:

- Dedication of approximately 231 acres of open space and the establishment of a 21-acre Otay tarplant preserve within the South Parcel;
- Dedication of the North Parcel as a permanent ecological preserve;
- Obtain a 1603 Agreement between the applicant and CDFG and Section 404 from USACOE prior to any filling of wetlands;
- No net loss of wetland habitat as required by CDFG and ACOE;
- Incorporation of the following measures at the SPA Plan level, which are included in this section:
    - Hydroseeding of graded areas and development of a revegetation plan;
    - Use of non-invasive plants in landscaping areas;
    - No grading activities within 200 feet on areas of identified California gnatcatchers during breeding or nesting season; and
    - Restriction of site preparation activities to areas not being placed in open space.

This section of the EIR evaluates the potential impacts of the proposed SPA Plan on biological resources in the South Parcel. This discussion includes a summary of previous biological studies conducted in the project area; in particular, existing conditions were described using previous biological studies conducted for the project site. A recent survey (1998) for the federally-listed Quino checkerspot butterfly (Appendix B), updated wetland delineation (1998) and federally-threatened Otay tarplant survey (1998) have been included in this section. The Conservation Bank Agreement (Appendix B) involving the North Parcel is also discussed in this section.

Existing Conditions

Previous biological surveys were conducted over several years. One of the first surveys was conducted by Pacific Southwest Biological Services, Inc. (PSBS) in 1989. The zoological portion of the survey was conducted in 1989, while the botanical portion was conducted on various occasions between 1974 and 1989. A coastal California gnatcatcher study was also conducted in 1989 (PSBS 1989b). Ogden, formerly Environmental Services and Energy Co. (ERCE) subsequently conducted surveys in 1990, focusing on sensitive biological resources, especially the coastal California gnatcatcher and sensitive plant species. Sweetwater Environmental Biologists (SEB) and PSBS conducted additional focused surveys in 1991. A limited field reconnaissance was conducted by Tetra Tech in 1995 to verify that site conditions were generally

the same as those previously documented. Merkel and Associates conducted surveys for the Quino checkerspot butterfly in 1998. This section is a synopsis of these reports. The prior reports are incorporated by reference. All of the above referenced reports including the Draft SEIR and prior EIRs (Draft, Final, and Supplement EIR) are available at the Department of Planning and Community Development Department of the City of Chula Vista for public review.

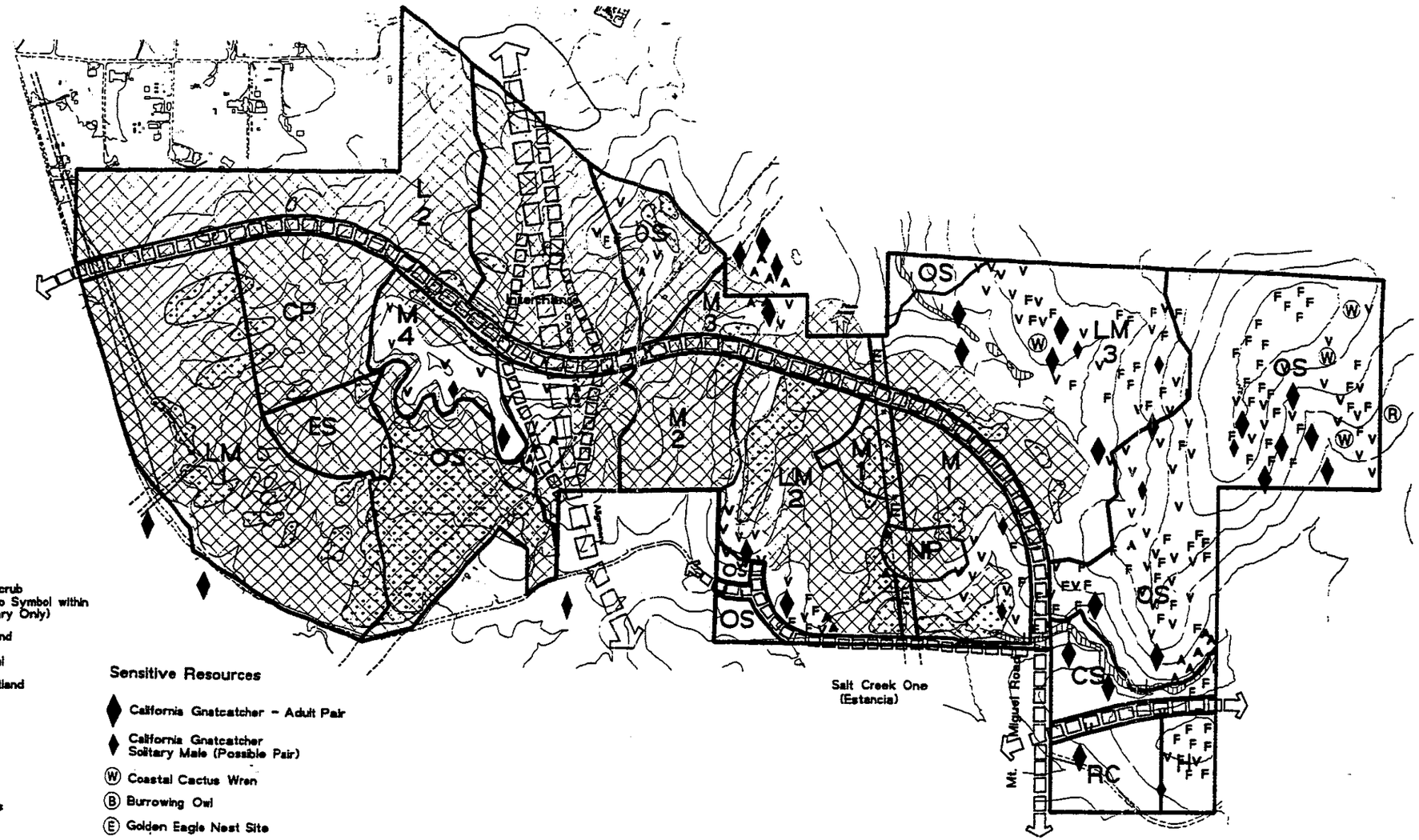
The North Parcel is not part of the proposed annexation or subsequent development proposal. On August 27, 1997, Emerald Properties Corporation signed a Conservation Bank Agreement with the USFWS and CDFG to devote the North Parcel as part of an ecological reserve as well as to provide open space and Otay tarplant preserve areas within the South Parcel. The North Parcel is however, a cornerstone to the mitigation for this project. There will be no impact to the resources on the North Parcel as part of this project. Therefore, the North Parcel is not included in the subsequent discussion of existing conditions or impacts.

The MSCP is a program to provide protection for listed threatened and endangered species and species likely to become endangered if action is not taken to provide habitat preservation. The MSCP process identified a list of species which was targeted for protection. The USFWS and CDFG then went through an intensive evaluation process to determine the distribution of these species. This was followed by a planning process in which the USFWS and CDFG, in concert with local jurisdictions, identified a program which provided a mechanism for habitat protection in areas important for the long-term viability of the multiple species targeted for protection under the MSCP. Whereas, early environmental assessments focused on site-specific impacts, the MSCP provided a more regionwide assessment/mitigation. Therefore, although early EIRs for this site identified species-specific mitigation programs (e.g., vegetation and transplantation of targeted species), the EIR has adopted the MSCP approach to impacts and mitigation: taking a more holistic approach.

Vegetation

As shown in Figure 3.3-1, there are four habitat types present on the South Parcel: Diegan coastal sage scrub, wetlands, and annual (non-native) and disturbed native grassland. Inclusions of perennial (native) grassland also occur on the South Parcel; however, they do not appear on Figure 3.3-1 due to its scale.

Diegan coastal sage scrub on-site is dominated by shrub species including the following: California sage, flat-top buckwheat, laurel sumac, and white sage. South facing slopes had significant stands of San Diego County viguiera. Portions of the steeper north-facing slopes



Legend:

Vegetation

- Diegan Sage Scrub (Denoted by No Symbol within Project Boundary Only)
- Annual Grassland
- Mixed Chaparral
- Dry Marsh/Wetland

Sensitive Resources

- A Adolphia Californica
- P Artemisia Palmeri
- D Dudleya Variegata
- I Iva Hayesiana
- M Mullia Clevelandii
- F Ferocactus Viridescens
- U Salvia Munzii
- V Viguiera laciniata

Selaginella Cinerascens (Throughout Sage Scrub Habitat

Sensitive Resources

- California Gnatcatcher - Adult Pair
- California Gnatcatcher Solitary Male (Possible Pair)
- (W) Coastal Cactus Wren
- (B) Burrowing Owl
- (E) Golden Eagle Nest Site
- (R) Raptor Nest Site
- ▲ Grasshopper Sparrow
- Otay Tarweed (Tarplant)

Source: Estrada Land Planning, 1996

Figure 3.3-1

0' 600'

Biological Resources - South Parcel

P&D Environmental Services
San Miguel Ranch

supported sage scrub dominated by lemonade berry and buckthorn. For mapping purposes; however, these areas are mapped as Diegan coastal sage scrub due to the dominance of plants associated with that plant community. Several areas of sage scrub have been heavily grazed and previously burned but are in the process of natural successional recovery. The eastern portion of the South Parcel is covered by Diegan coastal sage scrub.

Wetlands on-site support riparian scrub, which varies from a community dominated by willow species, including arroyo willow, to a sparse herbaceous scrub dominated by mulefat. A subsequent survey to identify the USACOE and CDFG jurisdictional extent of "waters of the U.S." and wetlands was conducted in 1998 (Glen Lukos & Associates). According to the findings of that survey, the project supports 1.16 acres of jurisdictional waters and wetlands under the USACOE and 1.94 acres of CDFG jurisdiction.

The non-native grassland is composed of species originating from the Mediterranean region, including wild oat, foxtail, ripgut brome, field mustard, and vinegar weed. Several native elements also occur, e.g., tarplant and telegraph weed. The original composition of native grassland, including purple needlegrass, on the project site is unknown, but the increased number of non-natives reduces the quality of the native grassland to a disturbed condition. If disturbances increase or the types of disturbances change, the habitat could be converted to non-native grassland. There are substantial bulbous plant populations, including wild hyacinth, wild onion, golden stars, the rare Cleveland's golden star, and variegated dudleya.

Wildlife

The value of a site to wildlife is dependant on physical and biological factors. Other important factors include location relative to other land uses, the quality of habitat on and adjacent to the site, and the uniqueness of the habitat in relation to the project vicinity. The project site has high wildlife value because it meets all these criteria. The unique soils (e.g., clay lens soil) and varying topography help create a diversity of habitats on-site that are contiguous with open space areas outside of the property boundaries. Mother Miguel Mountain remains relatively undisturbed to the east.

Current scientific literature describes areas of open space and their connections as an integral part of the maintenance of biological diversity and population viability. The project site is part of a larger natural open space system that runs from Sweetwater Reservoir to the Jamul Mountains to the east and south to the international border. As a part of this natural, interconnected system, the site acts as an important link in the maintenance of biodiversity and long-term survival of species in the area south of Sweetwater River and north of Otay Ranch. Habitat adjacent to San Miguel Ranch in the Sweetwater Reservoir is considered very important for wildlife. The Sweetwater Reservoir and its adjacent mudflats and upland areas are among the most attractive areas for birds and other forms of wildlife remaining in coastal San Diego County. Everett (1979) recorded 174 species of birds in the area. Some of these are rare or of very local distribution in Southern California. Sweetwater Reservoir is the only known breeding location of the western and Clark's grebes in San Diego County and contains the largest breeding populations in Southern California. The reservoir represents an important waterfowl wintering area and the surrounding mudflats offer excellent habitat for shore birds and wading birds.

Portions of the project site have been disturbed by past agricultural practices, thereby reducing their value for wildlife by reducing diversity of vegetation types, microtopography, and plant species. Additionally, portions of the Diegan coastal sage scrub have not recovered from the fire

in 1985. A total of 131 vertebrae species were observed during the studies conducted by PSBS and ERCE.

Amphibians

Four amphibian species were detected during the project surveys, including garden slender salamander, western spadefoot, California toad, and Pacific tree frog. Amphibian use of the project site would focus on water sources and drainages.

Reptiles

Twelve species of reptiles were detected during previous surveys (PSBS 1989a). The western whiptail and side-blotched lizards were the most frequently observed. Six fairly common snake species were also observed and include California coachwhip, California striped racer, common kingsnake, gopher snake, two-striped garter snake, and southern Pacific rattlesnake.

Birds

A total of 102 species of birds were detected by PSBS and ERCE biologists. Some common resident species of the Diegan coastal sage scrub on-site include Anna's hummingbird, California quail, wrentit, California thrasher, California towhee, coastal California gnatcatcher, and lesser goldfinch.

Thirteen species of raptors were detected flying over the site or foraging on-site. Common raptor species detected include red-tailed hawk, red-shouldered hawk, and American kestrel. Golden eagle was regularly detected by PSBS and ERCE biologists; PSBS (1989a) noted two historical nest sites near the site's eastern boundary, one of which is just inside the boundary of this project area, and the other is on the property owned by the Otay Water District several feet away. Both of these sites have been confirmed as historic eagle nest locations (Scott 1991).

Mammals

Fifteen species of mammals were detected on the project site by PSBS biologists during previous surveys (PSBS 1989a). Some commonly observed mammals include desert cottontail, California ground squirrel, Botta's pocket gopher, coyote, and mule deer.

Eight large mammalian predators occur, or could occur, in the vicinity. The study site is part of a large expanse of natural area, which allows species such as mountain lion, bobcat, and gray fox to persist in the project area. Bobcat appears relatively common in brush land habitat in San Diego County (Lembeck 1978) and is an inhabitant of the study area. Mountain lions are known to occur regularly in the San Ysidro Mountains and tracks were previously observed on the site; therefore, the study site is expected to be part of a mountain lion home range. Potential mountain lion prey items also exist on the site in the form of the population of mule deer that inhabit the site. Impacts to mammals would be considered significant due to the loss of habitat, habitat fragmentation, and human disturbance.

Most Recent Survey

The most recent survey of the project site was conducted by Merkel and Associates, Inc. in the spring of 1998 (Merkel & Associates, Inc. 1998). This survey focused on the federal-listed endangered Quino Checkerspot butterfly, which was not observed on the project site. Twenty-

eight species of butterflies, including echo blue, west coast lady, painted lady, San Diego County viguiera, anise swallowstail, red admiral, common white, cabbage white, Behr's metalmark, Sara orangetip, and gray hairstreak, were documented during the survey; however, none are considered sensitive by state or federal resource agencies.

The following sensitive plant and animal species were also observed during the survey: variegated dudleya (California Native Plant Society [CNPS] List), San Diego barrel cactus (CNPS List), California adolphia (CNPS List), San Diego County viguiera (CNPS List), Palmer's grapplinghook (CNPS List, Federal Species of Concern), the Otay tarplant (state-listed endangered and federally-listed threatened in October 1998), Coulter's golfields (CNPS List, Federal Species of Concern), coastal California gnatcatcher (Federally Threatened), and golden eagle (State Species of Concern). More common MSCP target species observed to be present on-site include the Southern California rufous-crowned sparrow (State Species of Concern) and mule deer (MSCP). Additionally, a least Bell's vireo (federally and state listed endangered) was heard calling from just south of the South Parcel, across Proctor Valley Road, in a poorly developed drainage; however, suitable riparian habitat for least Bell's vireo (federally and state listed endangered) was not observed on-site. Bell's sage sparrow (Audubon Blue List) was heard on Horseshoe Bend and another location slightly further to the east. A pair of loggerhead shrikes (Audubon Blue List) was nesting on Horseshoe Bend; the male shrike was observed transporting fecal sac material from a nest in a jojoba located on a northwest facing slope of Horseshoe Bend. Cactus wren (State Species of Concern) built a nest in the cholla on one of the far fringes of Horseshoe Bend and were observed at the nest on several occasions. Other lower sensitivity birds include the California horned lark and grasshopper sparrow (Audubon Blue List). Sensitive raptors observed include the Northern harrier and white-tailed kite.

Sensitive Resources

Sensitive habitats are vegetation communities which support sensitive plants or animals and are considered rare within the region, as listed by the Conservation Element of the General Plan for the County of San Diego (County of San Diego 1980). The sensitive habitats on-site are wetlands (riparian scrub/mulefat scrub association and dry marsh/riparian scrub), Diegan coastal sage scrub, and disturbed coastal prairie. Riparian habitat is considered a sensitive resource by the USFWS. Riparian habitat is specifically addressed by the CDFG Code Sections 1600-1606 (Streambed Alteration Agreement), and wetlands are also under the jurisdiction of the U.S. Army Corps of Engineers (USACOE) permit process. (Reinen 1978). Riparian habitat type covers less than 0.2 percent of San Diego County (Oberbauer 1990).

Wetlands

The wetland habitats (0.13 acres) at San Miguel Ranch (South Parcel) and nearby offsite areas are of low to medium quality. Several of the wetland areas were created by past farming activity. Their generally low diversity is due to the lack of long-term water sources and grazing damage to the vegetation and streambeds. However, the ponds and associated channels are important water sources for wildlife due to their placement on otherwise dry property.

Diegan Coastal Sage Scrub

Diegan coastal sage scrub (154 acres on the South Parcel) is considered a sensitive habitat by the County of San Diego, CDFG, and USFWS. Oberbauer (1990) estimated that approximately 70 percent of the original acreage of this habitat in the county have been lost, primarily because of urban expansion along the coast. Additional evidence of the decline of this once common

habitat is the decreasing number of plant and animal species associated with it. Very little coastal sage scrub is found in areas designated as permanent natural open space (e.g., Bureau of Land Management, U.S. Forest Service, county parks, and easements) in the county.

Disturbed Native Grassland

Disturbed native grassland that is located in the eastern non-native grassland area contains several sensitive plants, and supports native perennial grass species. Native grassland habitats are considered sensitive by the County of San Diego and CDFG. Native grassland on the project site has been affected by the invasion of non-native annual grass species and disturbed by the Otay Water District reclaimed waterline and patrol road.

Sensitive Plants

High-interest plants include those listed by the USFWS (1989), CDFG (1990a), and CNPS (Smith and Berg 1988). The CNPS Listing is sanctioned by the CDFG and essentially serves as its list of "candidate" species for threatened or endangered status. The Otay tarplant located on-site is listed as State Endangered and Federally Threatened (October 1998). The sensitive plant species on site include California adolphia (CNPS, Federal Species of Concern), San Diego sagewort (CNPS, Federal Species of Concern), western dichondra (CNPS), variegated dudleya (CNPS, Federal Species of Concern), San Diego barrel cactus, Palmer's grapplinghook (CNPS), Otay tarplant (Federally threatened), San Diego marsh elder (CNPS), San Diego goldenstar (CNPS), Munz's sage (CNPS), ashy spike-moss (CNPS), San Diego County needle grass (CNPS), and San Diego County viguiera (CNPS).

The following information is from the Final Rule published in the *Federal Register* on October 13, 1998. Twelve of the 22 extant populations of Otay tarplant in California are considered major populations (i.e., populations of greater than 1,000 individuals). The largest identified population complex, which represents an estimated 65 percent of the known plants of the species, occurs within the Horseshoe Bend-Gobblers Knob portion of the proposed project site. All the individual tarplant within this population have been identified as the Otay tarplant; however, variations in soil substrates suggest that approximately 10 percent of this population may be San Diego tarplant.

The USFWS acknowledges that the Horseshoe Bend population of the Otay tarplant "...will be impacted by a residential-commercial development project (Rancho San Miguel), utilities, and SR 125...[t]hese impacts will result in the loss of about 60 percent of the individuals and most of the occupied habitat in the Rancho San Miguel complex. The remaining portion of the Horseshoe Bend population, which constitutes about 35 percent of the known individuals of the species, will be covered as part of the MSCP." This acknowledges that, under the terms of the Conservation Bank Agreement that include the City of Chula Vista finalizing an Implementing Agreement with the resource agencies for their MSCP Subarea Plan, the proposed development would not result in a "jeopardy opinion" under Section 7 or 10(a) of the federal Endangered Species Act. The City of Chula Vista Subarea Plan has not yet negotiated an Implementing Agreement with the USFWS and CDFG.

A recent survey conducted by Merkel and Association, Inc. in 1998 (Merkel 1999), identified a significant increase in the population of Otay tarplant on the site. Based upon the field reconnaissance, nearly 2 million plants were identified. The significant increase in population was generally attributed to the above average rainfall.

Sensitive Wildlife Species

Sensitive wildlife species are those listed by the USFWS (1989), CDFG (1990b), Remsen (1978), Williams (1986), Tate (1986), and Everett (1979). One federal and state listed endangered species, the peregrine falcon, was observed on-site during previous surveys. In addition, there were 3 sensitive reptiles and 16 bird species detected on the project site. These include orange-throated whiptail lizard (State Species of Concern), San Diego horned lizard (State Species of Concern), two-striped garter snake (considered threatened by San Diego Herpetological Society), black-shouldered kite (California Fully Protected), Cooper's hawk (State Species of Concern), sharp-shinned hawk (State Species of Concern), golden eagle (State Species of Concern), northern harrier (State Species of Concern), turkey vulture (Everett), burrowing owl (State Species of Concern), Bewick's wren (Audubon Blue List), cactus wren (Everett), loggerhead shrike (Audubon Blue List), blue-gray gnatcatcher (Everett), coastal California gnatcatcher (Federally Listed Threatened), grasshopper sparrow (Everett), Southern California rufous-crowned sparrow (State Species of Concern), Bell's sage sparrow (Audubon Blue List), and greater roadrunner (Audubon Blue List).

Impacts

Significance Criteria

The proposed project would have a significant impact to on-site biological resources if it would:

- Have an adverse or substantially adverse impact, either directly or indirectly through habitat modifications on any state or federal listed endangered, rare, or threatened species;

- Have a substantial adverse impact to any wetland or riparian resource protected under California Fish and Game Code Section 1600 or the Clean Water Act Section 404, not addressed as a significant impact in the previous EIR, or now thought to be more significant than previously described;

- Have a substantial adverse impact to any locally designated sensitive habitat resource such as coastal sage scrub or oak woodlands, not addressed as a significant impact in the previous EIR, or now thought to be more significant than previously described;

- Have a substantial adverse impact on the movement of any resident or migratory fish or wildlife species or with established resident or migratory wildlife corridors, or impede the use of wildlife nursery sites not addressed as a significant impact in the previous EIR, or now thought to be more significant than previously described; or,

- Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Conservation Community Plan, or other approved local, regional, or state habitat conservation plan or any other approved state, regional, or local conservation plan as well as policies and ordinances protecting biological resources.

Impact Analysis

The proposed project is a variation on the SR 125/Horshoe Bend Alignment alternative analyzed in the previous Subsequent EIR by Tetra Tech (1996).

Plant Communities

The proposed project is very similar to the SR 125/Horseshoe Bend Alignment alternative analyzed within the previous Subsequent EIR. The direct vegetation impacts anticipated from the proposed project are, unless noted, essentially the same as those anticipated in the previous EIR under the Horseshoe Bend Alternative.

Wetlands. Wetlands include dry marsh/riparian scrub dominated by mulefat. Direct elimination by filling of wetlands and potential degradation or elimination by placement of wetlands within residential lot boundaries could result in impacts to less than 1.5 acres of USACOE and CDFG jurisdictional resources (Glen Lukos & Associates). Although these habitats are not of high quality, the degradation or filling of wetland habitat on-site is considered a significant effect given the rarity of the resource, its value to wildlife, its recognition by the county and resource agencies as a sensitive habitat, and the fact that portions of the washes on-site support two sensitive species of plants, San Diego marsh elder and spiny rush. Both of these species are concentrated along intermittent drainages and are associated with wetland vegetation associations. Because of their location within a wetland and the reduction of a great number of the on-site population, the project impact is considered significant. In addition, filling of wetlands would require a CDFG 1603 Agreement and a USACOE Section 404 permit.

Diegan Coastal Sage Scrub. The SPA Plan would result in the elimination of a total of 154 acres of coastal sage scrub. This loss is significant because of the sensitive species located in these areas.

Several thousand coast barrel cactus individuals on-site would be impacted. California adolphia is also abundant on the project site, with the two largest populations occurring in the eastern portion of the South Parcel. Both of these populations would be impacted. In addition, small populations of Munz's sage would be impacted in the southern portions near the property boundary. All of these impacts are considered significant.

Annual Grassland. The extensive loss of non-native grassland habitat is considered cumulatively adverse but not significant, except where it contains large populations of rare native plants such as Palmer's grapplinghook and Otay tarplant. A large portion of Otay tarplant (about 200,000 individuals) detected during 1991 surveys would be impacted by the development of the SPA Plan. Most of the impacts would occur in the western and central portions of the South Parcel. Impacts to these species are considered significant. In addition, a large population (about 11,000 individuals) of Palmer's grapplinghook exist in the south-central portion of the site and would be impacted. A total of 330 acres of annual grassland would be impacted by the proposed SPA Plan. Surrounding grasslands are rapidly being developed or are proposed for development which leaves remaining foraging habitat an important cumulative loss.

Wildlife

Significant impacts would occur due to the direct impacts to the habitat of various wildlife species.

Other significant impacts to wildlife may also result from the project. Fragmentation of wildlife habitat and increased impacts from pets, lighting, noise, and wild fires would reduce the quality of the existing habitat for many large mammalian predators, birds of prey, and their prey species. Movement corridors for wildlife identified in the northern sections of the project site

would be impacted by the placement of roads or by the removal of vegetation that may affect wildlife movement. Once the predator-prey interactions are disrupted, the resulting quality of wildlife habitat and existence is reduced.

Reptiles. Sensitive reptiles, including the San Diego horned lizard and orange-throated whiptail, would be incrementally affected by the implementation of the proposed development on the project site. The San Diego horned lizard and orange-throated whiptail are expected throughout coastal sage scrub on-site. The retention of the large majority of Diegan coastal sage scrub should enable these species to continue to exist in the area. The impacts to these species are considered significant.

Birds. The wildlife species of highest sensitivity in the upland habitat is the coastal California gnatcatcher. The proposed project would significantly impact this species (Figure 3.3-1). Approximately 11 to 12 pairs of gnatcatchers and 5 single males would be affected by the development of the SPA Plan.

The California gnatcatcher population on San Miguel Ranch is part of a larger core population for the entire species. Census data accumulated from previous off-site surveys and the San Miguel Ranch survey indicate well over 100 pairs of gnatcatchers in the sage scrub habitat along the Sweetwater River (SEB 1984, WESTEC 1988, MBA 1989, ERCE 1991).

Only 200 pairs of coast cactus wren are known to remain in San Diego County (Rea and Weaver 1991). Of the 11 pairs on and near the project site, 3 pairs would be eliminated as a result of the proposed development.

Five other sensitive upland bird species were detected on-site: loggerhead shrike, sage sparrow, blue-gray gnatcatcher, rufous-crowned sparrow, and grasshopper sparrow. PSBS reported 13 grasshopper sparrows on-site and ERCE located 6 birds. Several dozen pairs of rufous-crowned sparrows were reported by ERCE. The sage sparrow was reported as uncommon on-site by both ERCE and PSBS. The migratory blue-gray gnatcatcher was detected by ERCE biologists in March 1990, and the loggerhead shrike was noted by ERCE and PSBS regularly in small numbers. The displacement of these species by development is considered significant.

The project site, as reported from 1991 survey information, supports great horned owl, golden eagle, red-tailed hawk, red-shouldered hawk, American kestrel, and black-shouldered kites. Cooper's hawks are common in the vicinity, but apparently did not nest on the project site. Northern harriers were also observed on-site. The habitat is attractive to a wide variety of raptors which indicates its high quality for these birds. Although the openness of the adjacent land is also a factor in the number of nests, and the nesting success of raptors on-site would decrease, due to a reduction of foraging area, combined with an increase in human activity, species such as the red-tailed hawk, red-shouldered hawk, American kestrel, and barn owl are known to adapt more readily to urban environments.

Foraging habitat would be reduced for a number of raptor species occurring on the site or having the potential to occur in the project area. These impacts are considered significant. Birds-of-prey are protected under Policies adopted by the CDFG Commission as "raptors." The section on raptors states that it is the intent of the CDFG Commission to "insure that raptor populations and their habitat shall be... maintained, restored and enhanced..." and that "indiscriminate take of raptors shall not be permitted (p.598, CDFG Code 1994)." In addition, birds-of-prey and their eggs are protected under CDFG Code 3503.5. Many bird species are also protected under the federal Migratory Bird Treaty Act (MBTA; 16 U.S.C. 703 et seq., 50 CFR 10-

26). The MBTA prohibits the incidental "take" of a migratory bird without a Special Purpose Permit which is subject to the discretion of the Department of Agriculture and the USFWS. For the MBTA, the definition of "take" includes killing, capturing, or possessing any migratory bird, including nests and eggs.

Mammals. Large carnivorous mammals, such as mountain lion, bobcat, and fox could be reduced due to increases in human activity and loss of habitat. The bobcat would probably be most affected because this species currently uses the property.

Reductions of habitat for this species are considered significant. The ringtail, if resident, would be affected mostly by an increase in human activity as sufficient habitat would continue to exist on-site to support ringtails.

Deer corridors in the northern portion of the site would be significantly impacted by the proposed development. Unless the off-site northern areas become developed, movement can occur around the northern portion of the site and through the San Diego Gas and Electric easement after implementation of the project.

Mitigation Measures

The SPA Plan proposes, as partial mitigation for the impacts, to preserve portions of the South Parcel for biological habitat purposes. The mitigation measures for this project will include implementation of the previously agreed upon requirements established within a Conservation Bank Agreement, as well as site specific mitigation measures that are proposed as a result of analyzing the more refined SPA Plan. As mentioned previously, Emerald Properties Corporation, the former project applicant and former owner of the project site, signed a Conservation Bank Agreement with the USFWS and the CDFG in August 1997 to devote the North Parcel as part of an ecological reserve for the preservation and protection of sensitive species and habitat.

According to this agreement, the 1,852-acre North Parcel has been established as a conservation bank; 500 acres of this area has been acquired by the USFWS. In exchange for the permanent conservation and management of this area, the project applicant is entitled to receive conservation credits that would be applied to offset and reduce biological impacts on the South Parcel to below a level of significance. The North Parcel, which is recognized by the MSCP as consisting of "Very High Quality Multi-Species Habitat Values," including coastal sage scrub that is predominantly of "Very High Quality Habitat" and as providing core gnatcatcher populations at a high density, would also be used to sell conservation bank credits to third party purchasers in need of mitigation of biological impacts off-site. Establishment of this conservation bank provides an excellent opportunity to implement the on-going regional biological planning efforts in Southwest San Diego County by conserving highly valuable resources within an area which is recognized as an essential part of a regional biological preserve system. Additionally, the North Parcel serves as an integral linkage parcel to the Sweetwater River Corridor, South County Segment of the County of San Diego's Subarea Plan, and The City of Chula Vista's Subarea Plan.

The Conservation Bank Agreement requires that 146 acres of open space, containing significant populations of Otay tarplant, be maintained on the South Parcel and 166 mitigation credits be obtained from the San Miguel Mitigation Bank (North Parcel). As mentioned previously, this agreement was acknowledged within the final rule published in the *Federal Register* that granted threatened status to the Otay tarplant. Therefore, providing all the conditions of the Conservation Bank Agreement are satisfied, a jeopardy opinion under the federal Endangered

Species Act would not occur and the "take" of the Otay tarplant, that would result from the proposed project, would be authorized.

The following mitigation measures for SPA Plan-related impacts would partially reduce impacts to the identified biological resources:

- Before any impacts occur to threatened or endangered species. The applicant must receive "take" authorization. This may occur by the City adopting (and having approval by USFWS and CDFG) a Sub Area Plan of the Multiple Species Comprehensive Plan (MSCP). If the City has not adopted their Sub Area Plan, the applicant may be able to obtain authorization ("take") from the County of San Diego under their "take" authorization, if concurrence is reached between the City of Chula Vista and County of San Diego, (coordination with USFWS, and CDFG) will also be required. If take authorization is not obtained from the City or County, project specific take authorization would be required from the USFWS and CDFG to impact threatened or endangered species listed by the federal and state governments. The applicant will also be required to prepare a Management Plan for the Otay Tarplant preserves prior to approval of any grading permit adjacent to the 0S-1, 0S-3, 0S-6 and 0S-7 planning areas (these conditions incorporated into the Tentative Map).

- Graded areas along roadways shall be hydroseeded with native plant species consistent with surrounding natural vegetation. This would help to minimize erosion and runoff, as well as improve the area aesthetically by making it visually compatible with adjacent natural areas. As part of this effort, a revegetation plan (including the coast barrel cactus transplantation) shall be developed with the help of a revegetation specialist with experience in coastal sage scrub and similar habitats. The revegetation plan shall be prepared by the applicant and a qualified biologist.

- The use of non-invasive plants in landscaping areas adjacent to open space will be required for all areas outside of actual lot boundaries. The final species list will be reviewed by a biologist to verify that invasive species are not incorporated. Additionally, homeowners will be encouraged to use non-invasive species in their landscaping adjacent to open space. Iceplant shall not be used in lieu of fire-resistant native revegetation due to associated slope failures and the invasive nature of the species.

- Grading activities within 200 feet of areas of identified coastal California gnatcatcher pairs, or their associated coastal sage scrub habitat, shall not be conducted during the breeding or nesting season (March 1 through August 15). This will also help in avoiding the breeding season of many other species of birds. The applicant will adhere to all applicable requirements of federal and state codes (e.g., Migratory Bird Treaty Act and CDFG Code 3503.5). Grading activities shall be supervised by a qualified biologist.

- Site preparation activities, especially staging area operations and maintenance rows for heavy machinery, shall be restricted to areas not being placed in open space. Carelessness on the part of equipment operators can result in the destruction of areas that have been designated for preservation. Areas adjacent to open space shall be fenced prior to initiation of construction activities. A debris fence shall be installed prior to excavation in areas where grading is up-slope of sensitive biological habitats. These recommendations should be incorporated into a construction monitoring plan approved by the City of Chula Vista.

- All new and proposed parking lots and developed areas in and adjacent to the natural open space must not drain directly into the open space. All developed and paved areas must

prevent the release of toxins, chemicals, petroleum products, exotic plant materials, and other elements that might degrade or harm the natural environment or ecosystem processes within the open space. This can be accomplished using a variety of methods including natural detention basins, grass swales or mechanical trapping devices. These systems should be maintained approximately once a year, or as often as needed, to ensure proper functioning. Maintenance should include dredging out sediments if needed, removing exotic plant materials, and adding chemical-neutralizing compounds (e.g., clay compounds) when necessary and appropriate.

- Recreational uses that use chemicals, potentially toxic or impactive to wildlife, sensitive species, habitat, or water quality will incorporate methods on their site to reduce impacts caused by the application and/or drainage of such materials into the open space. Such methods should include drainage/detention basins, swales, or holding areas with non-invasive grasses or wetland-type native vegetation to filter out the toxic materials, and should be maintained on a regular basis. Where applicable, this requirement should be incorporated into leases on publicly-owned property.

- Lighting of all developed areas adjacent to the open space should be directed away from the open space. Where necessary, development should provide adequate shielding with non-invasive plant materials (preferably native), berming, and/or other methods to protect the open space and sensitive species from night lighting.

- A mitigation plan for impacts to onsite drainages will be prepared to the satisfaction of the Environmental Review Coordinator to mitigate up to 1.5 acres of jurisdictional drainages. The mitigation plan will be implemented prior to or concurrent with impacts to USACOE and CDFG jurisdictional resources.

- The applicant will also be required to prepare a Management Plan for the Otay tarplant preserves prior to approval of any map adjacent to the OS-1, OS-3, OS-6, and OS-7 planning areas.

These measures will be placed as conditions on the Tentative Map(s). The City of Chula Vista Environmental Review Coordinator (or Designee) will review and approve all Tentative Maps for concurrence with these conditions.

Analysis of Significance

As described above, the impacts associated with the SPA plan include direct and indirect impacts to species listed under the state and federal Endangered Species Acts, and their habitat. Analysis of such impacts under CEQA, and the effectiveness and feasibility of habitat-oriented planning under the state and federal Endangered Species Act to fully mitigate impacts on listed species, has been the subject of recent litigation. The analysis of significance and the proposed determinations set forth in this EIR reflect recent case law.

The discussion and analysis in this EIR is based, in part, on a recent decision by the San Diego County Superior Court. Specifically, the San Diego County Superior Court recently concluded that a lead agency abused its discretion under CEQA by failing to treat as significant the loss of habitat for certain species protected by the state and federal Endangered Species Acts. The Superior Court's decision can be construed to require a mandatory finding of significance under CEQA whenever project-related impacts result in any loss of habitat to any protected species. Based on the definition of "endangered, rare or threatened species" set forth in section 15380 of the "CEQA Guidelines" (Cal. Code of Regs., Title 14, §15000 et seq.), the Superior Court decision

can also be construed to require a mandatory finding of significance for impacts on listed species, except where a lead agency finds "no net loss" of the species or its habitat would result. While the Superior Court decision is currently on appeal in Division One of the Fourth Appellate District. *(El Toro Reuse Planning Authority et al. v. Board of Supervisors of Orange County et al.*, 4th Dist. Court of Appeal No. D030810), the trial court ruling could be affirmed or reversed. Should the Court of Appeal affirm the Superior Court decision, however, that decision would be binding authority in the Fourth Appellate District, a district that includes Chula Vista.

A recent decision by Division Two of the Fourth Appellate District also addresses the significance threshold under CEQA for impacts on species listed under the state and federal Endangered Species Acts. (*San Bernardino Valley Audubon Society v. Metropolitan Water District et al.* (1999 Daily Journal D.A.R. 3545 (April 15, 1999).) The case involved judicial review of a mitigated negative declaration adopted for a 5,000-acre Multiple Species Habitat Conservation Plan and Natural Community Conservation Plan (MSHCP/NCCP) in Riverside County. Reversing the trial court, the Court of Appeal rejected the lead agency's finding that impacts on listed species could be mitigated to below a level of significance through the adoption of and participation in the mitigation bank contemplated by the MSHCP/NCCP, plans the lead agency had prepared to obtain "take" authorization under the state and federal Endangered Species Acts. In so doing, the Court of Appeal's decision rests on the concept that the significance threshold for impacts on listed species under CEQA is lower than the threshold governing "take" authorization under the state and federal Endangered Species Act.

In light of the recent court decisions, the mandatory finding of significance for listed species in the CEQA Guidelines can be construed to require lead agencies to find that the *net loss* of species listed under the state and federal Endangered Species Acts, or its habitat, is a significant, unmitigable impact under CEQA. Such an approach is a conservative interpretation of recent case law. Such an approach may also be appropriate absent further clarification regarding the issue from the Legislature or the courts.

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3.4 TRANSPORTATION

BRW, Inc. prepared an updated transportation study for the San Miguel Ranch SPA in March 1999 (Appendix C). Prior to this study, a previous transportation study was prepared for the San Miguel Ranch GDP/GPA**.** This previous general-plan level analysis of long-range impacts under Southbay buildout conditions forecasted that nine roadway segments would operate at an unacceptable LOS of D or below. However, it was determined that the project-related traffic volume contribution on each of these roadway segments would constitute less than two percent of the total traffic volume on each of the subject arterial facilities, and, therefore, no significant project-related impacts would be associated with the proposed project. This previous transportation study and related EIR also determined that no mitigation measures were required as long as sufficient capacity remained on SR-125. However, if SR-125 had not been constructed at the time of the SPA and Tentative Map, then a traffic analysis for any subsequent EIRs was required to identify what phases of the project could move forward without SR-125 or some other interim facility. Thus, the March 1999 transportation study, which is the subject of this current Subsequent EIR, was prepared to address interim transportation-phasing-related issues for this project. An updated analysis of Project Buildout and Southbay-Buildout conditions was also conducted. This section of the Subsequent EIR summarizes key findings of this analysis.

3.4.1 Existing Conditions

Regulatory Requirements

City of Chula Vista

The City of Chula Vista has Growth Management Threshold Standards that include traffic standards to ensure that a safe and efficient street system is maintained within the City of Chula Vista. The City's Threshold Standard is to maintain LOS C or better on all signalized arterial segments with the exception that LOS D may occur, if it does not exceed a total of two hours per day. These standards were used in the traffic analysis.

County of San Diego

For those segments located in the County of San Diego and that will remain in the County after project annexation, the County's thresholds were used. Impacts are considered significant if the level falls from acceptable (LOS A through D) to unacceptable (LOS E or F).

State of California

The State of California has a Congestion Management Program (CMP) that is intended to directly link land use, transportation, and air quality through level of service performance. Local agencies are required by statute to conform to the CMP.

The CMP requires an Enhanced CEQA Review for all large projects that are expected to generate more than 2,400 ADT or more than 200 peak hour trips. Since the project is calculated to generate over 200 peak hour trips, this level of review is required of the proposed project.

The Institute of Transportation Engineers California Border Section and the San Diego Region Traffic Engineer's Council established a set of guidelines, in 1993, to be used in the preparation

of traffic impact studies that are subject to the Enhanced CEQA review process. These guidelines require that a project study are to be established as follows:

- All streets and intersections on CMP roadways or on "regionally significant arterials" where the project will add 50 or more peak hour trips in either direction.

- Mainline freeway locations where the project will add 150 or more peak hour trips in either direction.

Area Circulation System

The performance of the existing transportation network in the San Miguel Ranch Project Study Area is presented in the following analysis. Major east-west and north-south roads are briefly described in terms of their general location, function and status. Figure 3.4-1 presents the existing average daily traffic (ADT) volumes on Study Area roadway segments, while Figure 3.4-2 illustrates the existing functional classification of roadways.

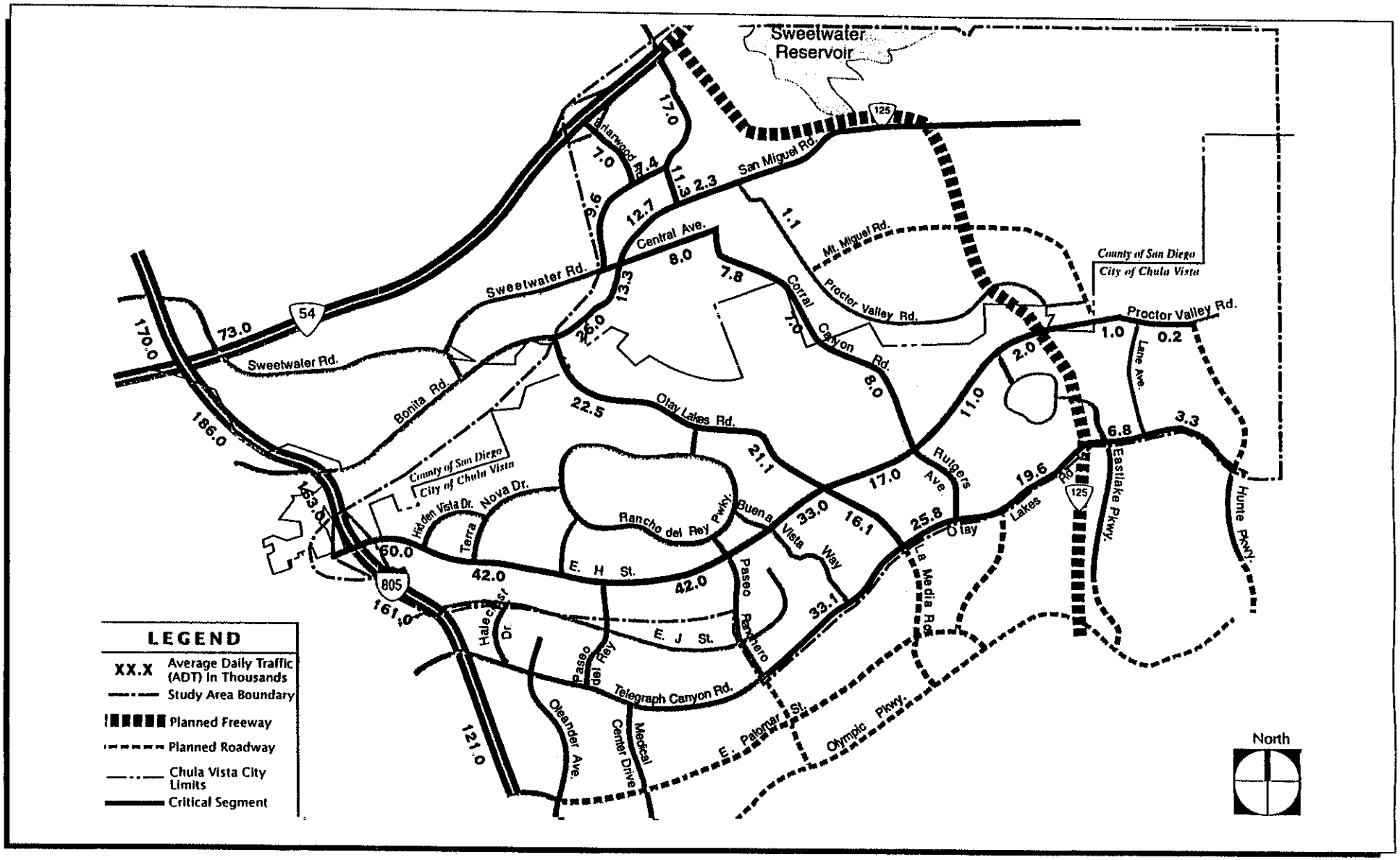
East-West Roadways

Bonita Road varies from a four-lane Major to a two-lane Collector Road which provides access through primarily County land from I-805 to Central Bonita. The roadway becomes San Miguel Road just west of the San Miguel Ranch project site.

San Miguel Road is a two-lane Rural Collector, which connects Bonita Road to Proctor Valley Road. The facility also continues east of Proctor Valley Road and provides access to a small residential neighborhood, as well as an SDG&E substation.

Central Avenue is a three-lane (Class II) Collector (two travel lanes an a center turn lane) which traverses through the northern portion of the study area in the County of San Diego. The roadway begins with an intersection with Sweetwater Road, and continues east to its termination at an “L” intersection with Corral Canyon Road.

East H Street/Proctor Valley Road traverse through the southern half of the Study Area. East H Street is a six-lane Prime Arterial from I-805 to Otay Lakes Road, where it becomes a four-lane Major facility to the east of Eastlake Drive. From west of SR125 to Mt. Miguel Road, East H Street is a six-lane prime arterial, Proctor Valley Road from Mt. Miguel Road to Hunte Parkway is a six-lane prime arterial. The eastern extension of Proctor Valley Road is not yet completed. This facility would provide primary arterial access to Chula Vista from the San Miguel Project.



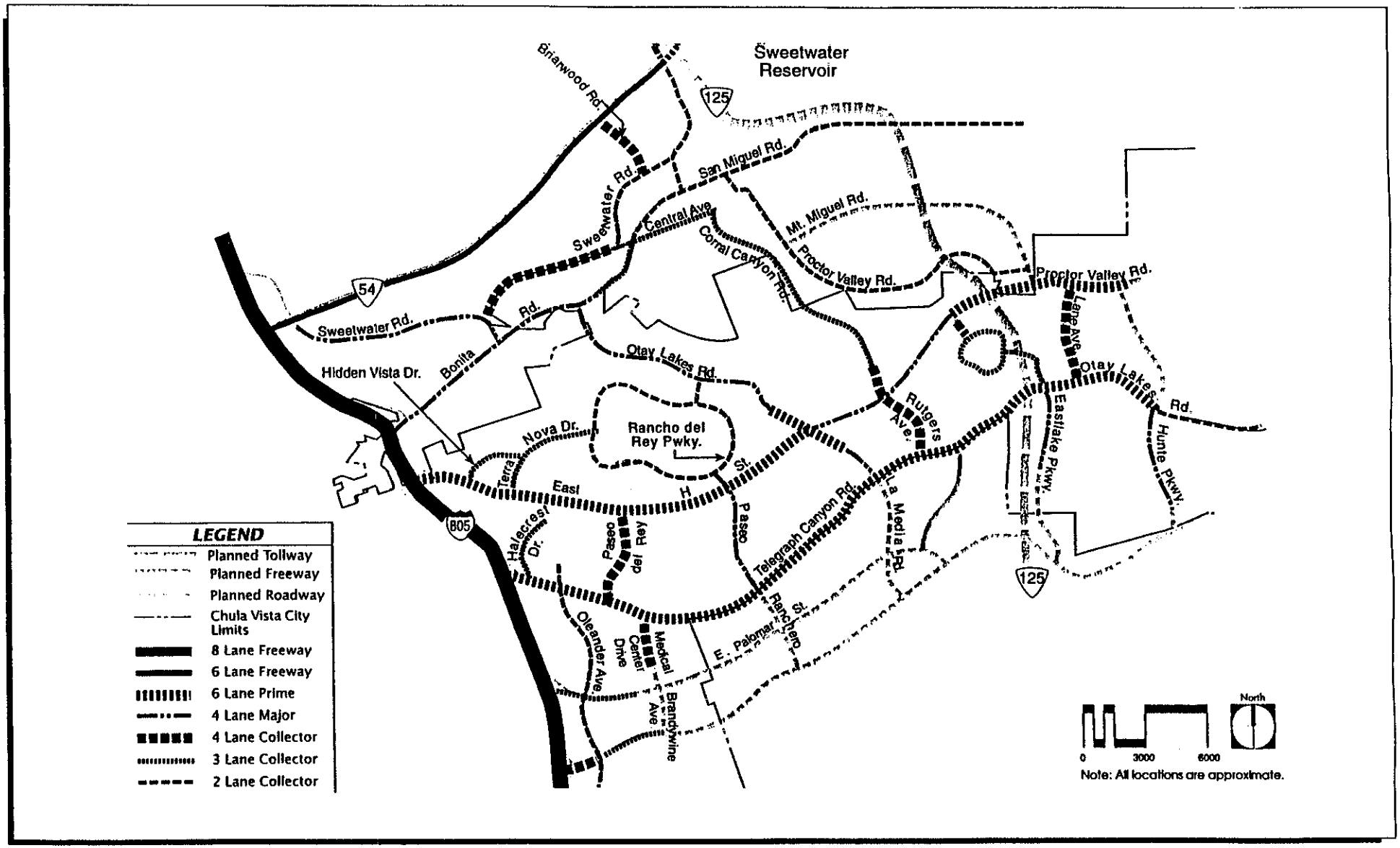
Source: BRW, Inc., July 1998

Figure 3.4-1

Existing Average Daily Traffic Volumes (1997 Volumes)

No Scale

P&D Environmental Services
San Miguel Ranch



Source: BRW, Inc., July 1998

Figure 3.4-2

No Scale

Existing Functional Classifications

D Environmental Services
San Miguel Ranch

Sweetwater Road is a two-lane Collector Road providing east-west access along the northern portion of the study area through the County of San Diego. The study section begins at Central Avenue and continues northeast to a signalized intersection with SR-54.

Telegraph Canyon Road/Otay Lakes Road provides east-west access along the southern border of the Study Area. Telegraph Canyon Road/Otay Lakes Road is six-lane Prime Arterial which transitions into a two-lane Collector Street to the east of Hunte Parkway.

North-South Roadways

Corral Canyon Road/Rutgers Avenue provide access between Central Avenue and Telegraph Canyon Road. Corral Canyon Road is a two-lane Collector within County of San Diego jurisdiction and becomes a three-lane Collector within City of Chula Vista limits. Corral Canyon Road becomes Rutgers Avenue, also a three-lane Collector, south of East H Street.

Otay Lakes Road is a four-lane Major Arterial traversing through the center of the Study Area and providing north-south access between Bonita Road and Telegraph Canyon Road, at which point it turns to the east and becomes a six-lane Prime Arterial. La Media Road is planned to extend to the south from Otay Lakes Road under future conditions.

Proctor Valley Road is a two-lane Rural Collector north-south between the City of Chula Vista off of East H Street and County of San Diego off San Miguel Road. The central section of the roadway is unpaved.

Freeway Segment Performance

Study Area freeway segment performance is presented in this section. Per the SANDAG Congestion Management Program, acceptable Level of Service (LOS) for freeway segments ranges from LOS A to E. LOS is defined in Table 3.4-1. Level of Service F, which equates to a volume to capacity ratio greater than 1.0, is considered unacceptable. Table 3.4-2 provides an analysis of freeway segment operations based on an operational level of analysis. As indicated in Table 3.4-2, no portions of I-805 or SR-54 operate at unacceptable level of service F under existing conditions within the San Miguel Ranch Study Area.

CMP Arterial Segment Performance

SANDAG's 1996-2020 Regional Transportation Plan (January 1997) indicates that there are no CMP arterial routes in the San Miguel Ranch Study Area. Thus, no specific assessment of arterial network performance under CMP guidelines is required.

Daily Arterial Roadway Segment Performance

Table 3.4-3 presents a summary of Study Area roadway segment performance based on the applicable jurisdictional standards and functional classification of the roadway. In general, the City of Chula Vista and County of San Diego consider LOS C or better to be an

Table 3.4-1
Caltrans District 11
Freeway Segment Level of Service Definitions

LOS	Congestion/Delay	Traffic Description
"A"	None	Free flow.
"B"	None	Free to stable flow, light to moderate volumes.
"C"	None to minimal	Stable flow, moderate volumes, freedom to maneuver noticeably restricted.
"D"	Minimal to substantial	Approaches unstable flow, heavy volumes, very limited freedom to maneuver.
"E"	Significant	Extremely unstable flow, maneuverability and psychological comfort extremely poor.
"F"	Considerable	Forced or breakdown flow. Delay measured in average travel speed (MPH). Signalized segments experience delays >60.0 seconds/vehicle.
"F(0)"	Considerable 0-1 hour delay	Forced flow, heavy congestion, long queues form behind breakdown points, stop and go.
"F(1)"	Severe 1-2 hour delay	Very heavy congestion, very long queues.
"F(2)"	Very Severe 2-3 hour delay	Extremely heavy congestion, longer queues, more numerous breakdown points, longer stop periods.
"F(3)"	Extremely Severe 3+ hours of delay	Gridlock

Note: Level of Service (LOS) Definitions: The concept of LOS is defined as a qualitative measure describing operational conditions within a traffic stream, and the motorist's and/or passengers' perception of operations. A LOS definition generally describes these conditions in terms of such factors as speed, travel time, freedom to maneuver, comfort, convenience, and safety.

Source: Caltrans, 1992.

Table 3.4-2
Summary of Freeway Segment Performance Existing Conditions

Route	Limits	No. Lanes	LOS
SR-54	Interstate 805 to Reo Drive	4 (w/HOV)	E
	Reo Drive to Woodman Street	4 (w/HOV)	C
	Woodman Street to Briarwood Road	4 (w/HOV)	B
Interstate 805	SR-54 to Bonita Road	8	E
	Bonita Road to H Street	8	D
	H Street to Telegraph Canyon Road	8	C
	Telegraph Canyon Road to Orange Avenue	8	C

Notes: No. Lanes = Number of lanes in one direction.
LOS - Caltrans District 11 procedure was used to estimate the freeway LOS. See text for more discussion.

Table 3.4-3
Summary of Roadway Segment Performance Existing Conditions

Roadway	From - To	Jurisdiction	Classification	LOS
North-South Streets				
Briarwood Road	SR-54 to Sweetwater Rd.	County of SD	4LN Collector	A
Corral Canyon Road	Central Ave. to Country Vista Lane	County of SD	2LN Collector	D
	Country Vistas Ln. to Port Renwick	City of CV	3LN Collector	A
	Port Renwick to East H St.	City of CV	3LN Collector	A
Otay Lakes Road	Bonita Rd. to Avenida del Rey	City of CV	4LN Major	C
	Avenida del Rey to East H St.	City of CV	4LN Major	B
	East H St. to Telegraph Canyon Rd.	City of CV	4LN Major	A
Proctor Valley Rd	San Miguel Rd. to Mt. Miguel Rd.	County of SD	2LN Collector	A
East – West Streets				
Bonita Road	Otay Lakes Rd. to Palm Dr.	City of CV	4LN Major	B
	Palm Dr. to Central Ave.	County of SD	2LN Collector	***F***
	Central Ave. to San Miguel Rd.	County of SD	2LN Collector	***F***
	San Miguel Rd. to Sweetwater Rd.	County of SD	2LN Collector	***F***
Sweetwater Road	Central Ave. to Briarwood Rd.	County of SD	2LN Collector	***E***
	Briarwood Rd. to Bonita Rd.	County of SD	2LN Collector	D
	Bonita Rd. to SR-54	County of SD	2LN Collector	***E***
San Miguel Road	Bonita Rd. to Proctor Valley Rd.	County of SD	2LN Collector	C
Central Avenue	Bonita Rd. to Corral Canyon Rd.	County of SD	2LN Collector	D
East H Street	I-805 to Hidden Vista Dr.	City of CV	6LN Prime	***E***
	Hidden Vista Dr. to Paseo del Rey	City of CV	6LN Prime	A
	Paseo del Rey to Paseo Ranchero	City of CV	6LN Prime	A
	Paseo Ranchero to Otay Lakes Rd.	City of CV	6LN Prime	A
	Otay Lakes Rd. to Corral Canyon Rd./Rutgers Ave.	City of CV	4LN Major	A
	Corral Canyon Rd./Rutgers Ave to Eastlake Drive.	City of CV	4LN Major	A
	Eastlake Dr. to Mt. Miguel Rd.	City of CV	6LN Prime	A
	Mt. Miguel Rd. to Lane Ave. (east of Hunte Pkwy)	City of CV	6LN Major	A
	Lane Ave. to Hunte Pkwy.	City of CV	6LN Major	A
Telegraph Canyon Rd.	Paseo Ranchero to Otay Lakes Rd.	City of CV	6LN Prime	A
Otay Lakes Road	Telegraph Canyon Rd. to Rutgers Ave.	City of CV	6LN Prime	A
	Rutgers Ave. to Eastlake Pkwy.	City of CV	6LN Prime	A
	Eastlake Pkwy. to Lane Ave.	City of CV	6LN Prime	A
	Lane Ave. to Hunte Pkwy.	City of CV	6LN Prime	A

Note: Bold and italic type indicates roadway segment operates at unacceptable LOS E or F for City and County Circulation Element Facilities.

Source: Counts provided by City of Chula Vista, County of San Diego, 1997-1998; BRW, Inc., June 1998.

acceptable LOS for long-range planning purposes. However, it is recognized that as the buildout circulation system in the Southbay is evolving, periods of LOS D will exist. Thus, for the purposes of the review of network performance under existing and interim conditions (Years 2000, 2005 and 2010), LOS A through D will be viewed as acceptable on both County of San Diego and City of Chula Vista facilities.

The majority of the newer roadways within the immediate vicinity of San Miguel Ranch currently operate at acceptable LOS as they have been constructed to accommodate anticipated Buildout traffic volumes. Older facilities in the Bonita area, however, currently experience congestion in several areas. As indicated in Table 3.4-3, the following roadway segments currently operate at an unacceptable LOS E or F:

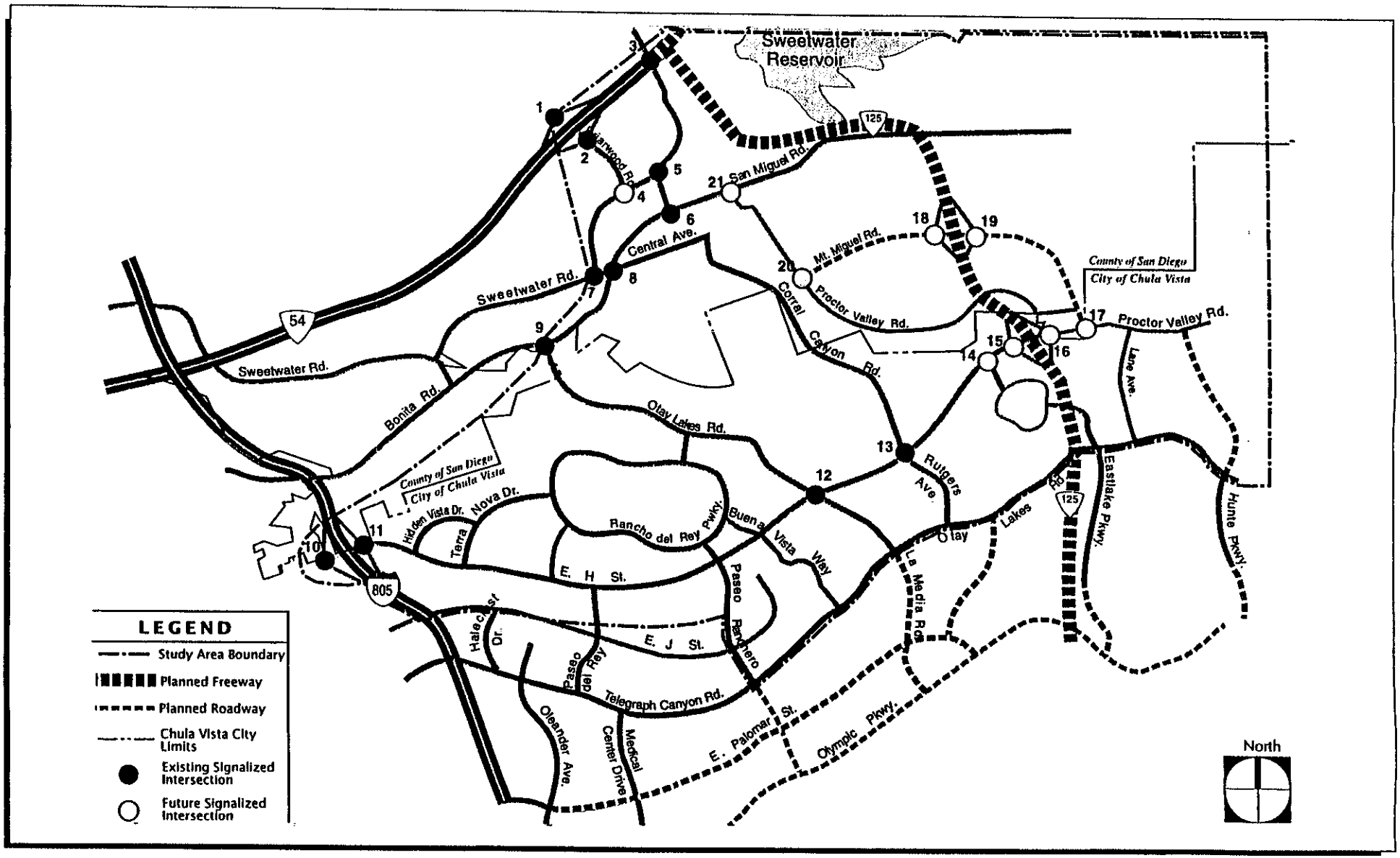
- East H Street, I-805 to Hidden Vista Drive (LOS E);
- Bonita Road, Palm Drive to Sweetwater Road (LOS F);
- Sweetwater Road, Central Avenue to Briarwood Road (LOS E); and
- Sweetwater Road, Bonita Road to SR-54 (LOS E).

Several solutions to relieve these deficiencies are currently underway or planned, and are anticipated to be implemented in the near future. The construction of SR-54 from I-805 to SR-125 as an east-west six-lane freeway with two HOV lanes is planned for Year 2000-2005 as contained in the SANDAG *1997 Regional Transportation Plan* (RTP). In addition, SR-125 from the international border to SR-54 is currently in the final stages of environmental review, is planned to be opened as a four-lane tollway by 2002. The ultimate width as determined by the functional classifications of numerous east-west roadways, including Bonita Road, Sweetwater Road, Central Avenue, East H Street, Telegraph Canyon Road and Olympic Parkway, will be upgraded according the City of Chula Vista Circulation Element (revised September, 1995) and the County of San Diego *Sweetwater Valley Community Plan* (adopted 1991, amended 1993). These roadway widening projects will increase capacity and improve traffic operations in the Study Area established for this project.

Peak Hour Intersection Performance

Peak hour intersection performance is analyzed at 21 Study Area intersection locations (Figure 3.4-3). Of these 21 intersections, 9 are either not yet constructed or are currently unsignalized and are analyzed in subsequent sections under the impact analysis (Year 2010) or interim year phasing analysis. Level of Service D or better is considered an acceptable LOS by both the City of Chula Vista and the County of San Diego for peak hour intersection performance. Table 3.4-4 presents existing peak hour signalized intersection levels of service in the Study Area.

All Study Area intersections operate at an acceptable LOS under peak hour conditions. While all intersections operate at LOS C or better during the AM peak hour, two of these intersections are observed to operate at LOS D during the PM peak hours: Bonita Road/Central Avenue and East H Street/I-805 Southbound Ramps. As stated previously, proposed network improvements and upgrades could relieve congestion in these particular areas. Figure 3.4-4 summarizes overall network performance under existing conditions.



Source: BRW, Inc., April 1998

Figure 3.4-3

No Scale

Study Area Critical Intersections

P&D Environmental Services
San Miguel Ranch

Table 3.4-4
Peak Hour Signalized Intersection Levels of Service
Existing Conditions

Intersection	AM Peak Hour LOS	PM Peak Hour LOS
Briarwood Road/SR-54 WB Ramps	B	A
Briarwood Road/SR-54 EB Ramps	B	B
Sweetwater Road/South Bay Parkway	B	B
Bonita Road/Sweetwater Road	B	C
Bonita Road/San Miguel Road	C	B
Sweetwater Road/Central Avenue	B	C
Bonita Road/Central Avenue	C	D
Otay Lakes Road/Bonita Road	B	B
East H Street/I-805 SB Ramps	B	D
East H Street/I-805 NB Ramps	B	B
East H Street/Otay Lakes Road	C	C
East H Street/Corral Canyon Road	C	B
Proctor Valley Road/San Miguel Road	A	A

Source: BRW, Inc.; June 1998.

3.4.2 Impacts

Significance Criteria

Because one of the discretionary actions is the annexation of the project site into the City's jurisdiction, it is appropriate that for those circulated elements which will ultimately be in the City that the City's significance criteria be used.

The following criteria were utilized to determine if an impact to an intersection, street segment or freeway would be considered significant, and are based on City of Chula Vista Growth Management Standards. These standards state that LOS C or better should be maintained at all intersections with the exception that LOS D may occur at signalized intersections for a period not to exceed a total of two hours per day.

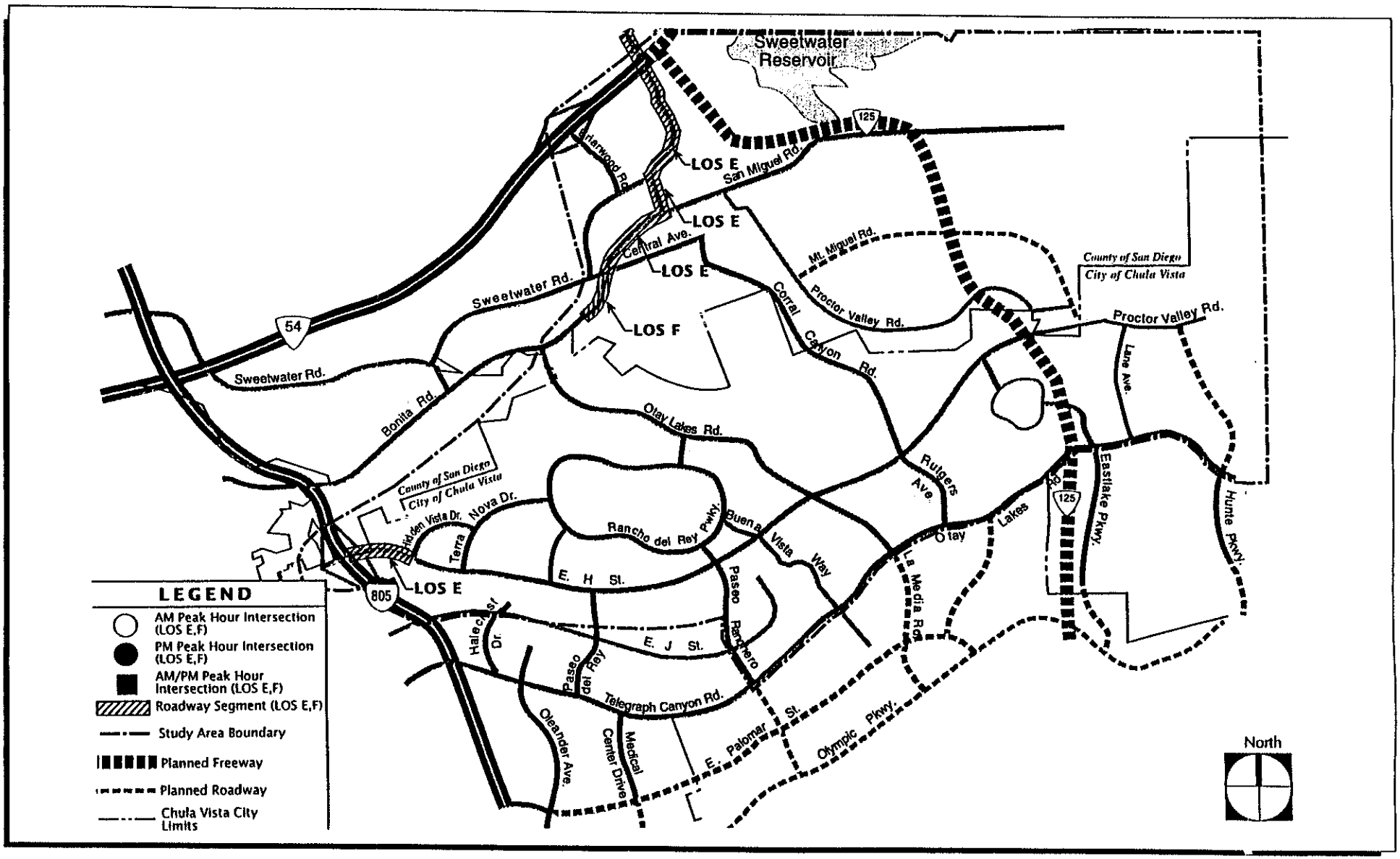
Significant impacts can be characterized as either direct project significant impacts or cumulative significant impacts.

Freeways

A freeway impact would be considered a significant direct project impact only if all of the following criteria are concurrently met:

1. Freeway segment LOS is F;

2. The project contributes 2,400 ADT or more on that freeway segment for that given study year; and



Source: BRW, Inc., July 1998

Figure 3.4-4

No Scale

Existing Network Performance

P&D Environmental Services
San Miguel Ranch

3. The project constitutes 5 percent or more of the total forecasted ADT on that freeway segment for that given study year.

If only the first of the three criteria is met, then the impact would be considered a significant cumulative impact.

Street Segments – Non-Southbay Buildout Analysis Scenarios

A street segment impact would be considered a significant direct project impact only if all three of the following criteria are concurrently met:

1. The Project contributes 800 or more ADT to the segment;

2. The Project traffic constitutes 5 percent or more of the total forecasted ADT on that segment for the given study year; and

3. Segment LOS E or F with project traffic.

If all three criteria are met, however, the segment impact would not be considered significant if all of the intersections along the segment were calculated at LOS D or better during both the AM and PM peak hour. This would be the case because the intersection analysis results are more indicative of future roadway operations than the results of the street segment analysis.

If the street segment is LOS E or F with project traffic, and criterion 1 and 2 above are not met, then a significant cumulative impact would be identified.

Street Segments –Southbay Buildout Analysis Scenario

A street segment impact would be considered a significant direct project impact only if all three of the following criteria are concurrently met:

1. The Project contributes 800 or more ADT to the segment;

2. The Project traffic constitutes 5 percent or more of the total forecasted ADT on that segment for the given study year; and

3. Segment LOS D, E or F with project traffic.

If the street segment is LOS D, E or F with project traffic, and criterion 1 and 2 above are not met, then a significant cumulative impact would be identified.

Intersections

An intersection impact would be considered a significant direct project impact only if both of the following criteria are concurrently met. If only the first criterion is met, then the impact would not be considered a significant direct project impact; however, it would be considered a significant cumulative impact.

1. Intersections with LOS E or F in the future (Non-Southbay Buildout Analysis Scenarios); and

2. The project traffic constitutes 5 percent or more of the total daily volume entering the intersection for the given study year.

County of San Diego Significance Criteria

The project, if annexed and developed in accordance with the proposed plan, will generate traffic to roadways retained within the County's jurisdiction. Therefore, for those segments located in the County of San Diego and which will remain in the County after the project annexation, the County's thresholds were used. With the addition of the proposed project traffic, impacts will be considered significant if the level falls from acceptable (LOS A through D) to LOS E or LOS F.

Project Scenarios

The following five (5) analysis scenarios, with circulation network assumptions described in the following section, were input into the SANDAG Series 8 Traffic Model.

- Year 2000, Without SR-125
- Year 2005, Without SR-125
- Year 2005, With SR-125 Toll Road
- Year 2010 (Project Buildout), With SR-125 Toll Road
- Full Southbay Buildout, With SR-125 Freeway

Future Circulation Network Assumptions

This section describes the regional network configuration for the future circulation network in the vicinity of the San Miguel Ranch Project Study Area. If the roadway network assumed in these scenarios is not in place during the timeframes anticipated within the traffic models, then reevaluation of the regional roadway infrastructure would have the possibility of being required in the future.

Freeways

The *1997 Regional Transportation Plan* indicates the improvement of existing facilities and construction of new roadways in the Southbay Region, particularly SR-54, SR-125 and SR-905. The following discussion describes the improvements expected to be completed for each of these facilities by Year 2015.

State Route 54. Phase I of the SR-54/125 "South Inner Loop" Project was recently completed, connecting SR-54 from I-805 to the future alignment of SR-125. The project will ultimately complete the connection of SR-94 in Lemon Grove with I-805 in the National City/Chula Vista area. The staged construction of this facility assumes the upgrade of portions from four lanes to a six-lane freeway with additional interchanges. Ultimately, by Year 2010, SR-54 will be constructed as a six-lane freeway with two HOV lanes.

State Route 125. The RTP identifies SR-125 South to be initially constructed as a 4-lane freeway/toll road with six interchanges. California Transportation Ventures (CTV) is in the process of developing future SR-125 South between SR-905 on Otay Mesa and SR-54 (South Bay Parkway). The 9.5 mile segment between SR-905 and San Miguel Road will be financed privately and operated as a toll facility, while the 1.9 mile segment from San Miguel Road to SR-54 will be funded by SANDAG and operated as a freeway. SR-125 was one of four statewide

demonstration projects authorized under California Assembly Bill 680 (July 1989) to be privately financed and constructed, leased and operated for up to 35 years as a toll facility. Future upgrading of SR-125 South to up to eight lanes is planned by 2015, and two HOV lanes could also be added by Caltrans after the end of the Franchise Agreement. When the Agreement expires, the SR-125 facility will become a "free" facility with no toll charges.

The draft route location/environmental document for the toll road portion of this facility was circulated during the summer of 1996. Delays in approval of the SR-125 EIR/EIS have forced the proposed opening date of construction from FY 1996-1997 back an indefinite number of years. The SR-125 South Final EIR/EIS is planned to be completed in 1999 and construction to begin in late 1999, although previous delays have led to uncertainty regarding the construction schedule. It is assumed that the entire section of SR-125 South Tollway will be completed by the Project Buildout Timeframe (2010); however, due to the uncertainty of the facility's opening date, this report analyzes scenarios both with and without SR-125 during the 2005 interim time frame.

State Route 905. A staged construction plan for this facility is planned which would provide a four-lane expressway, with future upgrade to a six-lane freeway with two HOV lanes by Year 2020. SR-905 will provide high-level regional travel service to the international border crossing which is intended to be the major truck crossing between Tijuana, Mexico and the San Diego region.

Local Network

Table 3.4-5 presents a summary of key local network assumptions for the four analysis timeframes.

Trip Generation

Table 3.4-6 summarizes the land use characteristics for full-buildout of the project. Table 3.4-7 summarizes the trip generation for each project phase. The land uses in Table 3-4.6 served as inputs to the SANDAG regional transportation model and were used in determining the trip generation potential for the San Miguel Ranch project. Interim land use estimates were developed for each phase of the project to provide SANDAG model inputs to calculate trip generation estimates for the transportation phasing analysis.

Table 3.4-5
On- and Off-Site Network Assumptions
San Miguel Ranch Analysis Time Frames

Network Connection	Timeframe			
	Year 2000	**Year 2005**	**Project Buildout (Year 2010)**	**Full Southbay Buildout**
Proctor Valley Road (Crossing of SR125 Right of Way)	Roadway connection retained and available for local traffic.	Closed south of Mt. Miguel Road and the intersection into Neighborhood "K" (open for emergency access only). May be retained and available for local traffic.	Same as 2005.	Same as 2005.
Mt. Miguel Road	Constructed north of East H Street to serve Phase I development.	Constructed up to the Caltrans right-of-way, without construction of SR-125 toll road. Constructed after the completion of SR-125 as a four-lane Collector, providing access between City of Chula Vista and County of San Diego roadway networks. This roadway will also have a diamond interchange with SR-125.	Constructed after the completion of SR-125 as a four-lane Collector, providing access between City of Chula Vista and County of San Diego roadway networks. This roadway will also have a diamond interchange with SR-125.	Same as 2010
Blacksmith Road	No access between Corral Canyon Road and Proctor Valley Road. The roadway will instead stub out east of Corral Canyon into the adjacent development, Bonita Meadows.	Same as 2000.	Same as 2000.	Connection between Corral Canyon Road and Proctor Valley Road through the Bonita Meadows project.
Sweetwater Road (crossing of SR-54 right-of-way)	Same as existing.	With the construction of the toll road, the intersection of Sweetwater Road /SR-54 is modified to be grade separated. No access ramps assumed between Sweetwater Road and SR-54/SR-125.	Same as 2005 with toll road construction.	Same as 2005 with toll road construction.

Source: City of Chula Vista Engineering and Planning Departments; June 1998.

Table 3.4-6
Land Use Characteristics
San Miguel Ranch Proposed Project Land Uses

Land Use Type	San Miguel Ranch
Single Family Residential	1,281 du
Multi-Family Residential	113 du
Neighborhood Commercial	13.9 acres
Public Service	7.5 acres
Elementary School*	10.0 acres
Active Park	19.0 acres

Note: *Preliminary review by the CVESD shows that this elementary school site might be surplus and never utilized. The site might then be used for further residential development not to exceed the total trip generation specified for the Proposed Project in this report.

Source: Trimark Pacific Homes LP; February 1998.

Table 3.4-7
On-Site Trip Generation Estimates by Phase Year

	Residential (ADT)	Non-Residential (ADT)	Total
Phase I - Year 2000	1,968	0	1,968
Phase II - Year 2005	4,506	11,014	15,555
Phase III - Year 2010 (project buildout)	4,541	7,264	11,760
Total	**11,005**	**18,278**	**29,283**

Future Circulation System Operations

This section documents future network performance for the San Miguel Ranch Proposed Project for each of the five analysis scenarios. Peak hour freeway segment performance, daily arterial roadway segment performance and peak hour intersection operations are documented to provide identification of potential network impacts under buildout of the Proposed Project for each analysis scenario. Furthermore, this documentation will facilitate the identification of appropriate mitigation measures that can be implemented by governing jurisdictions in order to maintain acceptable levels of service on the Southbay regional and local circulation network.

Year 2000 Impacts (Without SR-125)

Traffic conditions for freeway segments, roadway segments, and intersections in 2000 were analyzed without SR-125. Figure 3.4-5 illustrates the Year 2000 (Phase I) roadway classifications and average daily traffic volumes on the study area network with the project.
Figure 3.4-5
Year 2000 (Phase I) Roadway Classification and Average Daily Traffic Volume
(color)

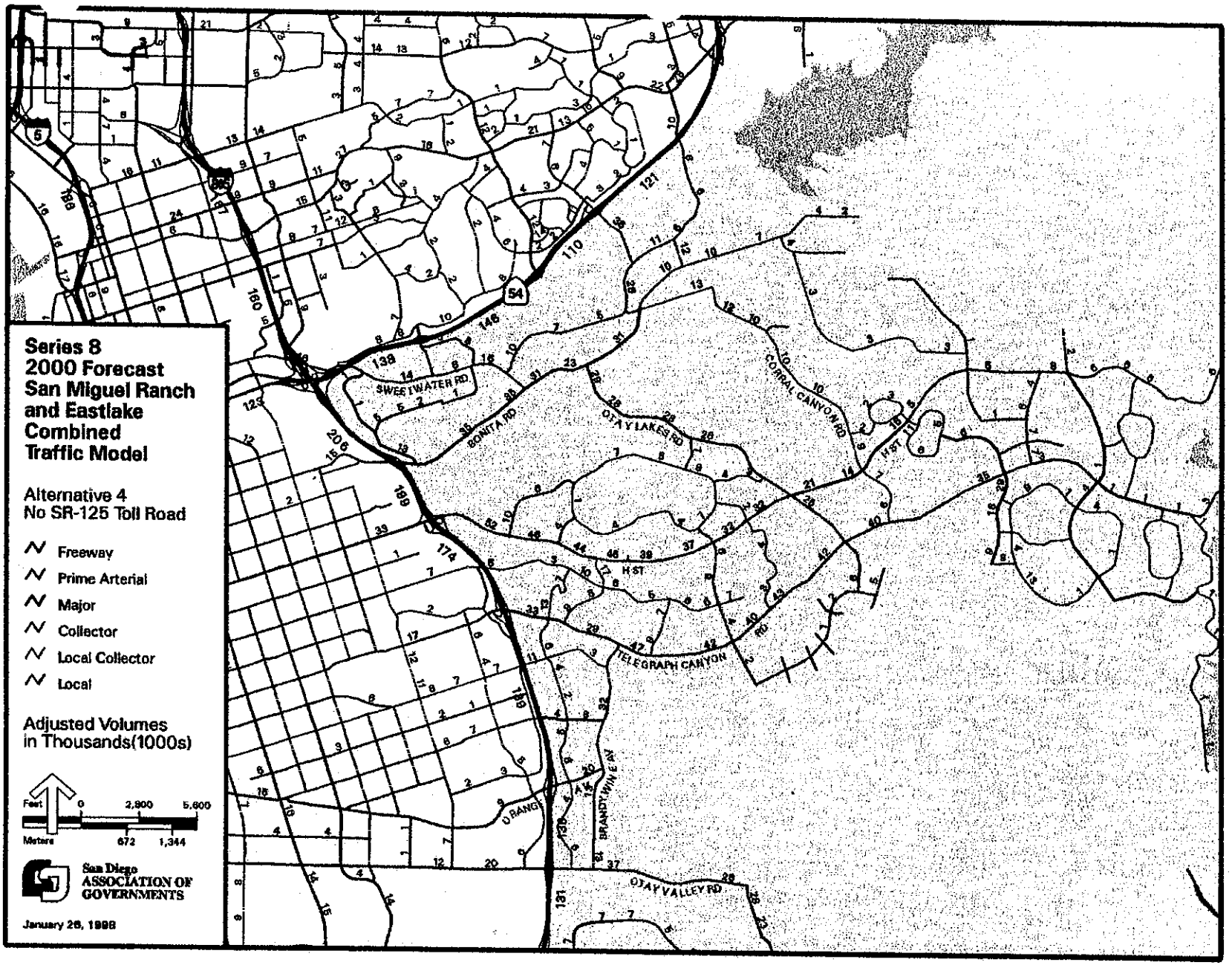


Figure 3.4-5

Year 2000 (Phase I) Roadway
Classifications and Average Daily Traffic Volume

Freeway Segment Performance

Table 3.4-8 summarizes the results of the analysis of freeway segment operations in 2000. The following segments would operate at unacceptable level of service F with the project:

- SR-54, Reo Drive to Woodman Street; and
- I-805, SR-54 to East H Street.

Daily Arterial Roadway Performance

Table 3.4-9 summarizes the results of the analysis of daily roadway segment operations in 2000. The following segments would operate at unacceptable level of service E or F with the project:

- Briarwood Road, SR-54 to Sweetwater Road;
- Corral Canyon Road, Central Avenue to Country Vistas Lane;
- Central Avenue, Bonita Road to Corral Canyon Road; and
- East H Street, I-805 to Hidden Vista Drive.

Peak Hour Intersection Performance

Table 3.4-10 summarizes the results of the analysis of peak hour intersection performance in 2000. The following intersection would operate at unacceptable level of service E or F with the project:

- Briarwood Road and SR-54 Westbound Ramps.

The year 2000 impacts listed above for freeway segments, roadway segments, and intersections are not considered direct project impacts, but rather are cumulative impacts based on the significance thresholds defined in Section 3.4.2.

Year 2005 Impacts (Without SR-125)

Traffic conditions for freeway segments, roadway segments, and intersections in 2005 were analyzed without SR-125. Figure 3.4-6 illustrates the Year 2005 (Phase II) roadway classifications and average daily traffic volumes on the study area network with the project.

Table 3.4-8
Summary of Freeway Segment Performance
Year 2000 - San Miguel Ranch Phase I

Route	Limits	# Lanes	Capacity	Forecast 2010 ADT	Peak Hour %	Direction Split	Truck Factor	Peak Hour Volume***	V/C	Level of Service
State Route 54*/**	I-805 to Reo Dr.	6 w/HOV	6,900	138,200	0.098	0.60	0.980	6,717	0.97	E
	Reo Dr. to Woodman Street	6 w/HOV	6,900	145,200	0.099	0.60	0.980	7,129	1.03	F(0)
	Woodman Street to Briarwood Road	6 w/HOV	6,900	110,300	0.100	0.60	0.980	5,470	0.79	C
	Briarwood Road to Paradise Valley Road	6 w/HOV	6,900	120,400	0.100	0.60	0.980	5,971	0.87	D
	Paradise Valley Road to Jamacha Blvd.	6 w/HOV	6,900	116,700	0.100	0.60	0.980	5,787	0.84	D
	Jamacha Blvd. to Ildica St.	6 w/HOV	6,900	129,800	0.100	0.60	0.980	6,437	0.93	E
Interstate 805	SR-54 to Bonita Rd.	8	9,200	206,300	0.091	0.58	0.980	11,111	1.21	F(0)
	Bonita Rd. to East H St.	8	9,200	206,300	0.091	0.58	0.980	11,111	1.21	F(0)
	East H St. to Telegraph Canyon Rd.	8	9,200	174,900	0.091	0.55	0.980	8,932	0.97	E
	Telegraph Canyon Rd. to Olympic Pkwy.	8	9,200	90,200	0.096	0.55	0.975	4,885	0.53	B

Source: Caltrans; SANDAG Model Run (1/13/98); BRW, Inc.; July 1998.

Notes: # Lanes - Number of lanes in both directions
Capacity - Hourly capacity in one direction.
Peak Hour % - Percentage of average daily traffic occurring during the peak hour.
Direction Split - Percentage of peak hour traffic traveling in peak direction.
Peak Hour Volume - Peak Hour traffic in peak direction of travel.
V/C - Volume to Capacity Ratio
LOS - Caltrans District 11 procedure was used to estimate the freeway level of service. See text for more discussion.
Bold type indicates freeway segment forecast to operate at unacceptable LOS F.
* SR-54 was modeled as a six-lane freeway but is indicated in the RTP as being a six-lane plus two HOV lanes by Year 2010.
**SR-54 and SR-125 were not completed at the initiation of this study. Therefore, conservative factors were estimated based on characteristics of other freeways in the vicinity.
***Peak hour volumes on SR-54 were reduced by ten percent to account for usage of the High-Occupancy Vehicle (HOV) lane.

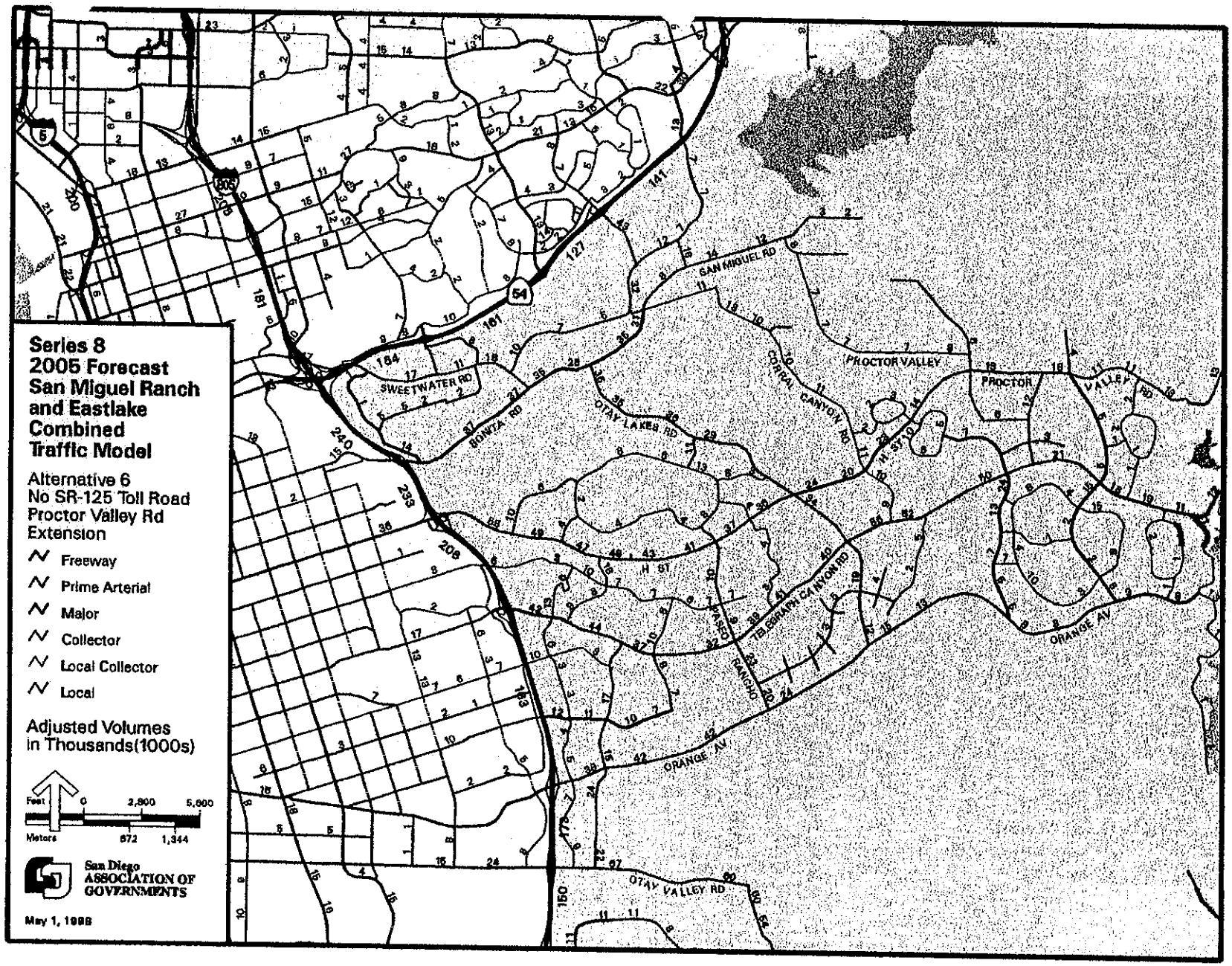


Figure 3.4-6

2005 without SR-125 (Phase II) Roadway
Classifications and Average Daily Traffic Volume

Table 3.4-9
Summary of Roadway Segment Performance
Year 2000 - San Miguel Ranch Phase I

Roadway	From - To	Jurisdiction	Classification	LOS D Capacity	Year 2000 ADT	LOS	Project ADT	% ADT
North - South Streets								
Briarwood Road	SR-54 to Sweetwater Rd.	County of SD	4LN Collector	30,800	35,700	E	368	1.0%
Corral Canyon Road	Central Ave to Country Vistas Ln.	County of SD	2LN Collector	10,900	12,200	E	106	0.9%
	Country Vistas Ln. to Port Renwick	City of CV	3LN Collector	13,500	9,600	B	110	1.1%
	Port Renwick to East H St.	City of CV	3LN Collector	13,500	9,200	B	110	1.2%
Otay Lakes Road	Bonita Rd. to Avenida del Rey	City of CV	4LN Major	33,800	29,100	C	47	0.2%
	Avenida del Rey to East H Street	City of CV	4LN Major	33,800	27,500	C	49	0.2%
	East H St. to Telegraph Canyon Rd.	City of CV	4LN Major	33,800	25,200	B	22	0.1%
Proctor Valley Road	San Miguel Rd. to Mt. Miguel Rd.	County of SD	2LN Collector	10,900	3,200	B	600	18.8%
Mt. Miguel Road	East H St. to Proctor Valley Rd.	City of CV	4LN Major	33,800	4,200	A	1,800	42.9%
East - West Streets								
Bonita Road	Otay Lakes Rd. to Palm Dr.	City of CV	4LN Major	33,800	31,200	D	0	0.0%
	Palm Dr. to Central Ave.	County of SD	4LN Major	33,400	27,300	C	0	0.0%
	Central Ave. to San Miguel Rd.	County of SD	4LN Collector	30,800	9,900	A	258	2.6%
	San Miguel Rd. to Sweetwater Rd.	County of SD	4LN Collector	30,800	12,400	A	316	2.5%
Sweetwater Road	Central Ave. to Briarwood Rd.	County of SD	4LN Collector	30,800	28,100	D	255	0.9%
	Briarwood Rd. to Bonita Rd.	County of SD	4LN Collector	30,800	11,300	A	247	2.2%
	Bonita Rd. to SR-54	County of SD	4LN Collector	30,800	6,000	A	80	1.3%
San Miguel Road	Bonita Rd. to Proctor Valley Rd.	County of SD	2LN Collector	10,900	9,900	D	182	1.8%
Central Avenue	Bonita Rd. to Corral Canyon Rd.	County of SD	2LN Collector	10,900	13,300	E	106	0.8%

Table 3.4-9, Summary of Roadway Segment Performance Year 2000 - San Miguel Ranch Phase I (continued)

Roadway	From - To	Jurisdiction	Classification	LOS D Capacity	Year 2000 ADT	LOS	Project ADT	% ADT
East H Street	I-805 to Hidden Vista Dr.	City of CV	6LN Prime	56,300	60,000	E	369	0.6%
	Hidden Vista Dr. to Paseo del Rey	City of CV	6LN Prime	56,300	46,200	D	389	0.8%
	Paseo del Rey to Paseo Ranchero	City of CV	6LN Prime	56,300	37,100	B	434	1.2%
	Paseo Ranchero to Otay Lakes Rd.	City of CV	6LN Prime	56,300	31,700	A	486	1.5%
	Otay Lakes Rd. to Corral Canyon Rd./Rutgers Ave.	City of CV	4LN Major	33,800	20,800	A	572	2.8%
	Corral Canyon Rd./Rutgers Ave to Eastlake Pkwy.	City of CV	4LN Major	33,800	16,000	A	847	5.3%
	Eastlake Dr.. to Mt. Miguel Rd.	City of CV	6LN Prime	56,300	4,900	A	943	19.2%
	Mt. Miguel Rd. To Lane Ave. (east of Hunte Pkwy)	City of CV	6LN Major	45,000	4,700	A	188	4.0%
	Lane Ave. to Hunte Pkwy.	City of CV	6LN Major	45,000	7,800	A	71	0.9%
Telegraph Canyon Road	Paseo Ranchero to Otay Lakes Rd.	City of CV	6LN Prime	56,300	42,700	B	295	0.7%
Otay Lakes Road	Telegraph Canyon Rd. to Rutgers Ave.	City of CV	6LN Prime	56,300	41,000	B	302	0.7%
	Rutgers Ave. to Eastlake Pkwy.	City of CV	6LN Prime	56,300	37,100	A	5	0.0%
	Eastlake Pkwy. to Lane Ave.	City of CV	6LN Prime	56,300	8,000	A	94	1.2%
	Lane Ave. to Hunte Pkwy.	City of CV	6LN Prime	56,300	2,700	A	0	0.0%

Source: SANDAG, BRW, Inc.; February 1998

Note: Shading indicates roadway segment performing at LOS E or F.

Table 3.4-10
Peak Hour Intersection Levels of Service
Year 2000 – San Miguel Ranch Phase I

Intersection	AM Peak Hour		PM Peak Hour	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
1. Briarwood Road/SR-54 WB Ramps	61.1	F	14.3	B
2. Briarwood Road/SR-54 EB Ramps	9.1	B	14.7	B
3. Sweetwater Road/Southbay Parkway*	---	---	---	---
4. Briarwood Road/Sweetwater Road	9.2	B	8.9	B
5. Bonita Road/Sweetwater Road	11.2	B	9.4	B
6. Bonita Road/San Miguel Road	10.8	B	10.7	B
7. Sweetwater Road/Central Avenue	32.9	D	34.5	D
8. Bonita Road/Central Avenue	29.8	D	39.4	D
9. Otay Lakes Road/Bonita Road	17.7	C	16.7	C
10. East H Street/I-805 SB Ramps	10.0	B	35.6	D
11. East H Street/I-805 NB Ramps	6.6	B	13.2	B
12. East H Street/Otay Lakes Road	24.3	C	21.9	C
13. East H Street/Corral Canyon Road	18.1	C	19.0	C
14. East H Street/Eastlake Parkway	24.6	C	16.7	C
17. East H Street/Proctor Valley Road	19.9	C	21.6	C
21. Proctor Valley Road/San Miguel Road	8.7	B	7.0	B

Source: BRW, Inc.; July 1998

Notes: Shading indicates peak hour signalized intersection forecast to operate at unacceptable LOS E or F.
*Intersection 3 no longer exists under this scenario

Freeway Segment Performance

Table 3.4-11 summarizes the results of the analysis of freeway segment operations in 2005, without SR-125. The following segments would operate at unacceptable level of service F with the project:

- SR-54, I-805 to Woodman Street;
- SR-54, Briarwood Road to Paradise Valley Road;
- SR-54, Jamacha Boulevard to Ildica Street; and
- I-805, SR-54 to Telegraph Canyon Road.

Daily Arterial Roadway Performance

Table 3.4-12 summarizes the results of the analysis of daily roadway segment operations in 2005 without SR-125. The following segments would operate at unacceptable level of service E or F with the project:

- Briarwood Road, SR-54 to Sweetwater Road;
- Corral Canyon Road, Central Avenue to Country Vistas Lane;
- Otay Lakes Road, Bonita Road to Avenida del Rey;
- Otay Lakes Road, East H Street to Telegraph Canyon Road;
- Bonita Road, Palm Drive to Central Avenue;
- San Miguel Road, Bonita Road to Proctor Valley Road;
- Central Avenue, Bonita Road to Corral Canyon Road;
- East H Street, I-805 to Hidden Vista Drive; and
- Otay Lakes Road, Telegraph Canyon Road to Rutgers Avenue.

Peak Hour Intersection Performance

Table 3.4-13 summarizes the results of the analysis of peak hour intersection performance in 2005 without SR-125. The following intersections would operate at unacceptable level of service E or F with the project:

- Sweetwater Road and Central Avenue;
- Bonita Road and Central Avenue; and
- East H Street and I-805 Southbound Ramps.

Table 3.4-11
Summary of Freeway Segment Performance
San Miguel Ranch Phase II – Without SR-125

Route	Limits	# Lanes	Capacity	Forecast 2010 ADT	Peak Hour %	Direction Split	Truck Factor	Peak Hour Volume***	V/C	Level of Service
State Route 54*/**	**I-805 to Reo Dr.**	**6 w/HOV**	**6,900**	**154,200**	**0.098**	**0.60**	**0.980**	**7,494**	**1.09**	**F(0)**
	Reo Dr. to Woodman Street	**6 w/HOV**	**6,900**	**164,100**	**0.099**	**0.60**	**0.980**	**8,057**	**1.17**	**F(0)**
	Woodman Street. to Briarwood Road	6 w/HOV	6,900	126,700	0.100	0.60	0.980	6,283	0.91	D
	Briarwood Road to Paradise Valley Road	6 w/HOV	6,900	140,600	0.100	0.60	0.980	6,973	1.01	F(0)
	Paradise Valley Road to Jamacha Blvd.	6 w/HOV	6,900	132,800	0.100	0.60	0.980	6,586	0.95	E
	Jamacha Blvd. to Ildica St.	**6 w/HOV**	**6,900**	**141,700**	**0.100**	**0.60**	**0.980**	**7,027**	**1.02**	**F(0)**
Interstate 805	**SR-54 to Bonita Rd.**	**8**	**9,200**	**240,600**	**0.091**	**0.58**	**0.980**	**12,958**	**1.41**	**F(2)**
	Bonita Rd. to East H St.	**8**	**9,200**	**240,600**	**0.091**	**0.58**	**0.980**	**12,958**	**1.41**	**F(2)**
	East H St. to Telegraph Canyon Rd.	**8**	**9,200**	**207,300**	**0.091**	**0.55**	**0.980**	**10,587**	**1.15**	**F(0)**
	Telegraph Canyon Rd. to Olympic Pkwy	8	9,200	162,400	0.096	0.55	0.975	8,795	0.96	E

Source: Caltrans; SANDAG; BRW, Inc.; July 1998.

Notes: # Lanes - Number of lanes in one direction
Capacity - Hourly capacity in one direction.
Peak Hour % - Percentage of average daily traffic occurring during the peak hour.
Direction Split - Percentage of peak hour traffic traveling in peak direction.
Peak Hour Volume - Peak Hour traffic in peak direction of travel.
V/C - Volume to Capacity Ratio
LOS - Caltrans District 11 procedure was used to estimate the freeway level of service. See text for more discussion.
Bold type indicates freeway segment forecast to operate at unacceptable LOS F.
* SR-54 was modeled as a six-lane freeway but is indicated in the RTP as being a six-lane plus two HOV lanes by Year 2010
**SR-54 was not completed at the initiation of this study. Therefore, conservative factors were estimated based on characteristics of other freeways in the vicinity.
***Peak hour volumes on SR-54 were reduced by ten percent to account for usage of the High-Occupancy Vehicle (HOV) lane.

Table 3.4-12
Summary of Roadway Segment Performance
San Miguel Ranch Phase II – Without SR-125

Roadway	From - To	Jurisdiction	Classification	LOS D Capacity	Year 2005 (Alt. 6) ADT	LOS	Project ADT	% ADT
North - South Streets								
Briarwood Road	SR-54 to Sweetwater Rd.	County of SD	4LN Collector	30,800	43,400	F	618	1.4%
Corral Canyon Road	Central Ave to Country Vistas Ln.	County of SD	2LN Collector	10,900	12,700	E	183	1.4%
	Country Vistas Ln. to Port Renwick	City of CV	3LN Collector	13,500	10,200	B	223	2.2%
	Port Renwick to East H St.	City of CV	3LN Collector	13,500	11,500	C	272	2.4%
Otay Lakes Road	Bonita Rd. to Avenida del Rey	City of CV	4LN Major	33,800	35,500	**E**	178	0.5%
	Avenida del Rey to East H Street	City of CV	4LN Major	33,800	31,200	D	435	1.4%
	East H St. to Telegraph Canyon Rd.	City of CV	4LN Major	33,800	35,500	**E**	88	0.2%
Proctor Valley Road	San Miguel Rd. to Mt. Miguel Rd.	County of SD	2LN Collector	10,900	7,900	D	1,263	16.0%
Mt. Miguel Road	East H St. to SR 125	City of CV	4LN Major	33,800	12,400	A	6,657	53.7%
East - West Streets								
Bonita Road	Otay Lakes Rd. to Palm Dr.	City of CV	4LN Major	33,800	32,700	D	0	0.0%
	Palm Dr. to Central Ave.	County of SD	4LN Major	33,400	35,000	**E**	0	0.0%
	Central Ave. to San Miguel Rd.	County of SD	4LN Collector	30,800	8,200	A	8	0.1%
	San Miguel Rd. to Sweetwater Rd.	County of SD	4LN Collector	30,800	17,600	B	1,159	6.6%
Sweetwater Road	Central Ave. to Briarwood Rd.	County of SD	4LN Collector	30,800	31,900	E	131	0.4%
	Briarwood Rd. to Bonita Rd.	County of SD	4LN Collector	30,800	14,300	B	489	3.4%
	Bonita Rd. to SR-54	County of SD	4LN Collector	30,800	7,100	A	670	9.4%
San Miguel Road	Bonita Rd. to Proctor Valley Rd.	County of SD	2LN Collector	10,900	13,800	**E**	1,203	8.7%
Central Avenue	Bonita Rd. to Corral Canyon Rd.	County of SD	2LN Collector	10,900	13,300	**E**	183	1.4%
East H Street	I-805 to Hidden Vista Dr.	City of CV	6LN Prime	56,300	62,700	**F**	1,782	2.8%

Table 3.4-12, Summary of Roadway Segment Performance San Miguel Ranch Phase II - Without SR-125 (Continued)

				LOS D	Year 2005		Project	%

Roadway	From - To	Jurisdiction	Classification	Capacity	(Alt. 6) ADT	LOS	ADT	ADT
East H Street	Hidden Vista Dr. to Paseo del Rey	City of CV	6LN Prime	56,300	48,900	C	1,850	3.8%
	Paseo del Rey to Paseo Ranchero	City of CV	6LN Prime	56,300	48,600	B	2,229	4.6%
	Paseo Ranchero to Otay Lakes Rd.	City of CV	6LN Prime	56,300	37,000	A	2,387	6.5%
	Otay Lakes Rd. to Corral Canyon Rd./Rutgers Ave.	City of CV	4LN Major	33,800	24,500	B	3,781	15.4%
	Corral Canyon Rd./Rutgers Ave to Eastlake Drive.	City of CV	4LN Major	33,800	23,000	B	5,606	24.4%
	Eastlake Dr. to Mt. Miguel Rd.	City of CV	6LN Prime	56,300	14,600	A	6,573	45.0%
	Mt. Miguel Rd. to Lane Ave. (east of Hunte Pkwy)	City of CV	6LN Prime	56,300	12,700	A	1,980	15.6%
	Lane Ave. to Hunte Pkwy.	City of CV	6LN Prime	56,300	18,100	A	1,393	7.7%
Telegraph Canyon Rd.	Paseo Ranchero to Otay Lakes Rd.	City of CV	6LN Prime	56,300	41,100	B	1,293	3.1%
Otay Lakes Road	Telegraph Canyon Rd. to Rutgers Ave.	City of CV	6LN Prime	56,300	56,600	**E**	1,439	2.5%
	Rutgers Ave. to SR 125	City of CV	6LN Prime	56,300	51,500	D	98	0.2%
	Eastlake Pkwy. to Lane Ave.	City of CV	6LN Prime	56,300	29,300	A	931	3.2%
	Lane Ave. to Hunte Pkwy.	City of CV	6LN Prime	56,300	21,400	A	105	0.5%

Source: SANDAG; BRW, Inc.; June 1998.

Note: Shading indicates roadway segments operating at LOS E or F.

Table 3.4-13
Peak Hour Intersection Levels of Service
San Miguel Ranch Phase II - Without SR-125

Intersection		AM Peak Hour		PM Peak Hour	
		Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
1.	Briarwood Road/SR-54 WB Ramps	14.5	B	16.0	C
2.	Briarwood Road/SR-54 EB Ramps	10.1	B	16.1	C
3.	Sweetwater Road/Southbay Parkway*	----	----	----	----
4.	Briarwood Road/Sweetwater Road	8.4	B	10.9	B
5.	Bonita Road/Sweetwater Road	11.1	B	18.3	C
6.	Bonita Road/San Miguel Road	11.7	B	13.4	B
7.	Sweetwater Road/Central Avenue	75.9	F	105.0	F
8.	Bonita Road/Central Avenue	69.0	F	109.1	F
9.	Otay Lakes Road/Bonita Road	20.2	C	22.1	C
10.	East H Street/I-805 SB Ramps	10.0	B	40.2	E
11.	East H Street/I-805 NB Ramps	6.6	B	12.9	B
12.	East H Street/Otay Lakes Road	22.5	C	25.6	D
13.	East H Street/Corral Canyon Road	20.1	C	20.1	C
14.	East H Street/Eastlake Parkway	19.4	C	17.6	C
17.	East H Street/Proctor Valley Road	22.3	C	24.4	C
21.	Proctor Valley Road/San Miguel Road	11.0	B	11.7	B

Source: BRW, Inc.; July 1998

Notes: Shading indicates peak hour signalized intersection forecast to operate at unacceptable LOS E or F.
*Intersection 3 no longer exists under this scenario

This conclusion assumes that the recommended year 2000 (Phase I) mitigation improvements for the intersection of Briarwood Road and SR-54 Westbound Ramps are in place prior to the construction of Phase II of the development.

The year 2005 impacts without SR-125 listed above for freeway segments, roadway segments, and intersections are not considered direct project impacts, but rather are cumulative impacts based on the significance thresholds defined in Section 3.4.2.

Year 2005 Impacts (With SR-125)

Traffic conditions for freeway segments, roadway segments, and intersections in 2005 were analyzed with SR-125. Figure 3.4-7 illustrates the Year 2005 (Phase II) roadway classifications and average daily traffic volumes on the study area network with the project and SR-125.

Freeway Segment Performance

Table 3.4-14 summarizes the results of the analysis of freeway segment operations in 2005, with SR-125. The following segments would operate at unacceptable level of service F with the project:

- SR-54, I-805 to Woodman Street;
- SR-54, SR-125 to Ildica Street; and
- I-805, SR-54 to Telegraph Canyon Road.

Daily Arterial Roadway Performance

Table 3.4-15 summarizes the results of the analysis of daily roadway segment operations in 2005 with SR-125. None of the analyzed segments would operate at unacceptable level of service E or F with the project.

Peak Hour Intersection Performance

Table 3.4-16 summarizes the results of the analysis of peak hour intersection performance in 2005 without SR-125. None of the analyzed intersections would operate at unacceptable level of service E or F with the project. This conclusion assumes that the recommended year 2000 (Phase I) mitigation improvements for the intersection of Briarwood Road and SR-54 Westbound Ramps are in place prior to the construction of Phase II of the development.

The year 2005 impacts with SR-125 listed above for freeway segments, roadway segments, and intersections are not considered direct project impacts, but rather are cumulative impacts based on the significance thresholds defined in Section 3.4.2.

Table 3.4-14
Summary of Freeway Segment Performance
San Miguel Ranch Phase II – With SR-125

Route	Limits	# Lanes	Capacity	Forecast 2010 ADT	Peak Hour %	Direction Split	Truck Factor	Peak Hour Volume***	V/C	Level of Service
State Route 54*/**	**I-805 to Reo Dr.**	**6 w/HOV**	**6,900**	**150,800**	**0.098**	**0.60**	**0.980**	**7,329**	**1.06**	**F(0)**
	Reo Dr. to Woodman Street	**6 w/HOV**	**6,900**	**161,000**	**0.099**	**0.60**	**0.980**	**7,904**	**1.15**	**F(0)**
	Woodman Street to Briarwood Road	6 w/HOV	6,900	127,800	0.100	0.60	0.980	6,338	0.92	E
	Briarwood Road to SR-125	6 w/HOV	6,900	131,900	0.100	0.60	0.980	6,541	0.95	E
	SR-125 to Paradise Valley Road	**6 w/HOV**	**6,900**	**169,600**	**0.100**	**0.60**	**0.980**	**8,411**	**1.22**	**F(0)**
	Paradise Valley Road to Jamacha Blvd.	**6 w/HOV**	**6,900**	**152,500**	**0.100**	**0.60**	**0.980**	**7,563**	**1.10**	**F(0)**
	Jamacha Blvd. to Ildica St.	**6 w/HOV**	**6,900**	**156,600**	**0.100**	**0.60**	**0.980**	**7,766**	**1.13**	**F(0)**
State Route 125**	SR-54 to Mt. Miguel Road	6	6,900	83,400	0.100	0.60	0.980	5,106	0.74	C
	Mt. Miguel Road to East H Street	4	4,600	69,700	0.100	0.60	0.980	4,267	0.93	E
	East H Street to Otay Lakes Road	4	4,600	48,900	0.100	0.60	0.980	2,994	0.65	C
	Otay Lakes Road to Olympic Pkwy	4	4,600	44,100	0.100	0.60	0.980	2,700	0.59	B
	Olympic Pkwy to Lonestar Road	4	4,600	50,500	0.100	0.60	0.980	3,092	0.67	C
Interstate 805	**SR-54 to Bonita Rd.**	**8**	**9,200**	**212,400**	**0.091**	**0.58**	**0.980**	**11,439**	**1.24**	**F(0)**
	Bonita Rd. to East H St.	**8**	**9,200**	**212,400**	**0.091**	**0.58**	**0.980**	**11,439**	**1.24**	**F(0)**
	East H St. to Telegraph Canyon Rd.	**8**	**9,200**	**184,900**	**0.091**	**0.55**	**0.980**	**9,443**	**1.03**	**F(0)**
	Telegraph Canyon Rd. to Olympic Pkwy	8	9,200	147,000	0.096	0.55	0.975	7,961	0.87	E

Source: Caltrans; SANDAG; BRW, Inc.; July 1998.

Notes: # Lanes - Number of lanes in one direction
Capacity - Capacity in one direction.
Peak Hour % - Percentage of average daily traffic occurring during the peak hour.
Direction Split - Percentage of peak hour traffic traveling in peak direction.
Peak Hour Volume - Peak Hour traffic in peak direction of travel.
V/C - Volume to Capacity Ratio
LOS - Caltrans District 11 procedure was used to estimate the freeway level of service. See text for more discussion.
Bold type indicates freeway segment forecast to operate at unacceptable LOS F.
* SR-54 was modeled as a six-lane freeway but is indicated in the RTP as being a six-lane plus two HOV lanes by Year 2010
**SR-54 and SR-125 were not completed at the initiation of this study. Therefore, conservative factors were estimated based on characteristics of other freeways in the vicinity.
***Peak hour volumes on SR-54 were reduced by ten percent to account for usage of the High-Occupancy Vehicle (HOV) lane.

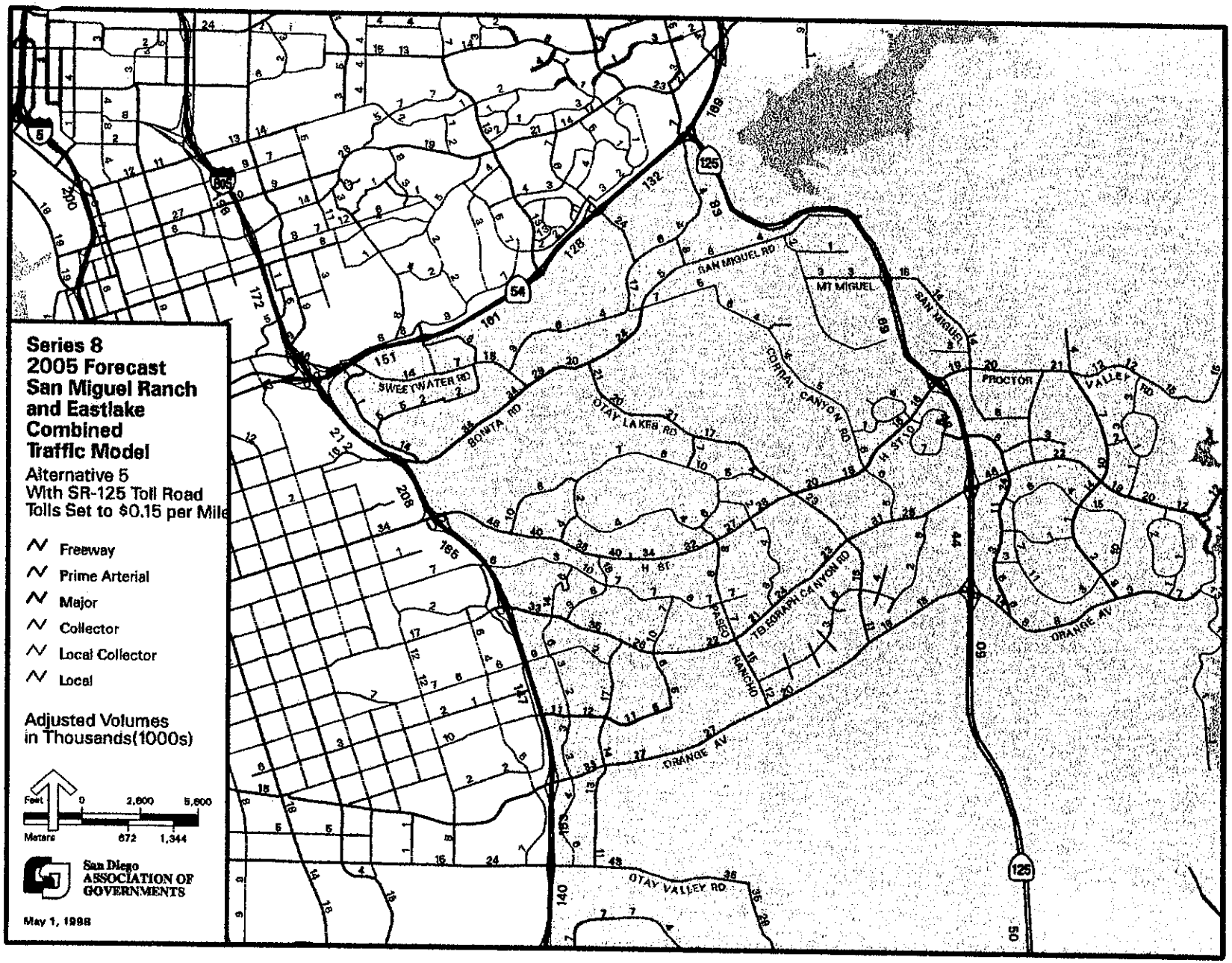


Figure 3.4-7

2005 with SR-125 (Phase II) Roadway
Classifications and Average Daily Traffic Volume

Table 3.4-15
Summary of Roadway Segment Performance, Year 2005
San Miguel Ranch Phase II – With SR-125

Roadway	From - To	Jurisdiction	Classification	LOS D Capacity	Year 2005 (alt. 5) ADT	LOS	Project ADT	% ADT
North - South Streets								
Briarwood Road	**SR-54 to Sweetwater Rd.**	**County of SD**	**4LN Collector**	**30,800**	**24,500**	**C**	**13**	**0.1%**
Corral Canyon Road	**Central Ave to Country Vistas Ln.**	**County of SD**	**2LN Collector**	**10,900**	**6,000**	**C**	**55**	**0.9%**
	Country Vistas Ln. to Port Renwick	**City of CV**	**3LN Collector**	**13,500**	**5,000**	**A**	**103**	**2.1%**
	Port Renwick to East H St.	**City of CV**	**3LN Collector**	**13,500**	**6,500**	**A**	**103**	**1.6%**
Otay Lakes Road	**Bonita Rd. to Avenida del Rey**	**City of CV**	**4LN Major**	**33,800**	**20,600**	**A**	**124**	**0.6%**
	Avenida del Rey to East H Street	**City of CV**	**4LN Major**	**33,800**	21,100	A	227	1.1%
	East H St. to Telegraph Canyon Rd.	City of CV	4LN Major	33,800	24,300	B	69	0.3%
Proctor Valley Road	San Miguel Rd. to Mt. Miguel Rd.	County of SD	2LN Collector	10,900	3,000	B	168	5.6%
Mt. Miguel Road	East H St. to SR 125	City of CV	4LN Major	33,800	15,600	A	3,568	22.9%
	SR 125 to Proctor Valley Road	City of CV	4LN Major	33,800	3,200	A	178	5.6%
East - West Streets								
Bonita Road	Otay Lakes Rd. to Palm Dr.	City of CV	4LN Major	33,800	24,400	B	0	0.0%
	Palm Dr. to Central Ave.	County of SD	4LN Major	33,400	20,400	B	0	0.0%
	Central Ave. to San Miguel Rd.	County of SD	4LN Collector	30,800	5,200	A	23	0.4%
	San Miguel Rd. to Sweetwater Rd.	County of SD	4LN Collector	30,800	8,500	A	25	0.3%
Sweetwater Road	Central Ave. to Briarwood Rd.	County of SD	4LN Collector	30,800	17,100	B	0	0.0%
	Briarwood Rd. to Bonita Rd.	County of SD	4LN Collector	30,800	9,300	A	14	0.2%
	Bonita Rd. to SR-54	County of SD	4LN Collector	30,800	4,200	A	25	0.6%
San Miguel Road	Bonita Rd. to Proctor Valley Rd.	County of SD	2LN Collector	10,900	6,100	C	95	1.6%
Central Avenue	Bonita Rd. to Corral Canyon Rd.	County of SD	2LN Collector	10,900	6,600	C	23	0.3%
East H Street	I-805 to Hidden Vista Dr.	City of CV	6LN Prime	56,300	53,900	D	147	0.3%
	Hidden Vista Dr. to Paseo del Rey	City of CV	6LN Prime	56,300	39,900	B	160	0.4%
	Paseo del Rey to Paseo Ranchero	City of CV	6LN Prime	56,300	39,900	B	391	1.0%
	Paseo Ranchero to Otay Lakes Rd.	City of CV	6LN Prime	56,300	27,500	A	648	2.4%
	Otay Lakes Rd. to Corral Canyon Rd./Rutgers Ave.	City of CV	4LN Major	33,800	19,600	A	1,446	7.4%
	Corral Canyon Rd./Rutgers Ave to Eastlake Pkwy.	City of CV	4LN Major	33,800	16,000	A	1,713	10.7%

Table 3.4-15, Summary of Roadway Segment Performance, Year 2005 San Miguel Ranch Phase II – With SR-125 (cont.)

Roadway	From - To	Jurisdiction	Classification	LOS D Capacity	Year 2005 (alt. 5) ADT	LOS	Project ADT	% ADT
	Eastlake Dr. to SR 125	City of CV	6LN Prime	56,300	16,100	A	2,537	15.8%
	SR 125 to Mt. Miguel Rd.	City of CV	6LN Prime	56,300	18,900	A	5,411	28.6%
	Mt. Miguel Rd. To Lane Ave. (east of Hunte Pkwy)	City of CV	6LN Prime	56,300	20,500	A	1,701	8.3%
	Lane Ave. to Hunte Pkwy.	City of CV	6LN Prime	56,300	21,100	A	1,122	5.3%
Telegraph Canyon Road	Paseo Ranchero to Otay Lakes Rd.	City of CV	6LN Prime	56,300	24,100	A	162	0.7%
Otay Lakes Road	Telegraph Canyon Rd. to Rutgers Ave.	City of CV	6LN Prime	56,300	30,700	A	286	0.9%
	Rutgers Ave. to SR 125	City of CV	6LN Prime	56,300	31,100	A	300	1.0%
	SR 125 to Eastlake Pkwy.	City of CV	6LN Prime	56,300	46,000	C	500	1.1%
	Eastlake Pkwy. to Lane Ave.	City of CV	6LN Prime	56,300	28,100	A	802	2.9%
	Lane Ave. to Hunte Pkwy.	City of CV	6LN Prime	56,300	22,300	A	145	0.7%

Source: SANDAG, BRW, Inc.; April 1998

Table 3.4-16
Peak Hour Intersection Levels of Service
San Miguel Ranch Phase II - With SR-125

Intersection	AM Peak Hour		PM Peak Hour	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
1. Briarwood Road/SR-54 WB Ramps	13.4	B	10.9	B
2. Briarwood Road/SR-54 EB Ramps	8.3	B	13.9	B
3. Sweetwater Road/Southbay Parkway*	----	----	----	----
4. Briarwood Road/Sweetwater Road	7.3	B	8.1	B
5. Bonita Road/Sweetwater Road	8.2	B	7.2	B
6. Bonita Road/San Miguel Road	11.4	B	10.5	B
7. Sweetwater Road/Central Avenue	13.8	B	15.1	C
8. Bonita Road/Central Avenue	20.7	C	24.9	C
9. Otay Lakes Road/Bonita Road	15.1	C	13.7	B
10. East H Street/I-805 SB Ramps	9.7	B	16.3	C
11. East H Street/I-805 NB Ramps	5.2	B	6.4	B
12. East H Street/Otay Lakes Road	20.8	C	22.2	C
13. East H Street/Corral Canyon Road	17.7	C	17.6	C
14. East H Street/Eastlake Parkway	20.2	C	19.9	C
15. East H Street/SR-125 SB Ramps	8.8	B	13.0	B
16. East H Street/SR-125 NB Ramps	2.5	A	3.5	A
17. East H Street/Proctor Valley Road	23.5	C	20.7	C
18. Mt. Miguel Road/SR-125 SB Ramps	13.1	B	12.0	B
19. Mt. Miguel Road/SR-125 NB Ramps	9.0	B	8.7	B
20. Mt. Miguel Road/Proctor Valley Road**	1.6	B	2.3	B
21. Proctor Valley Road/San Miguel Road	9.8	B	8.1	B

Source: BRW, Inc.; July 1998

Notes: Bold type indicates peak hour signalized intersection forecast to operate at unacceptable LOS E or F.
*Intersection 3 no longer exists under this scenario
**Intersection 20, under the proposed design, would not warrant signalization and was analyzed with four-way stop control.

Year 2010 (Project Buildout) Impacts (With SR-125)

Traffic conditions for freeway segments, roadway segments, and intersections in 2010 were analyzed with SR-125. Figure 3.4-8 illustrates the Year 2010 (Project Buildout) roadway classifications and average daily traffic volumes on the study area network with the project and SR-125.

Freeway Segment Performance

Table 3.4-17 presents a summary of Study Area freeway segment performance under Year 2010 conditions. As indicated in Table 3.4-17, all Study Area freeway segments along I-805 and SR-54 are forecast to experience decreases in existing levels of service under Year 2010 conditions with the Proposed Project. Because SR-125 will still operate as a tollway in 2010, volumes on this facility are forecast to be within limits to achieve acceptable Levels of Service (LOS E or better). The tollway would be widened to 6 or 8 lanes to accommodate traffic projections, as required by the Franchise Agreement.

As indicated in Table 3.4-17, the following freeway segments would operate at unacceptable LOS F in 2010 with the project:

- SR-54, I-805 to Woodman Street;
- SR-54, SR-125 to Ildica Street; and
- I-805, SR-54 to Telegraph Canyon Road.

The impacts documented for freeway facilities are intended to assist in the development of a Deficiency Plan under CMP guidelines. While Caltrans and SANDAG take the lead in addressing future freeway deficiencies, the San Miguel Ranch Project and the City of Chula Vista remain committed to work with a multi-agency study team including all Southbay jurisdictions to participate in deficiency planning as a means to improve the regional transportation network. As the Southbay region develops, additional strategies such as Transportation Demand Management (TDM), Transportation Systems Management (TSM), Intelligent Transportation Systems (ITS) and additional transit improvements beyond those already planned for the area may have to implemented to improve freeway performance. These strategies incorporate alternative measures such as ramp metering, changeable message signs and vehicle detection instruments to improve traffic flow and achieve increased capacity within the same number of lanes.

Daily Arterial Roadway Segment Performance

The results of the analysis of Study Area roadway segment performance at Project Buildout in 2010 is summarized in Table 3.4-18. The majority of Study Area roadway segments are expected to continue to operate at acceptable Levels of Service in the Year 2010. Only one

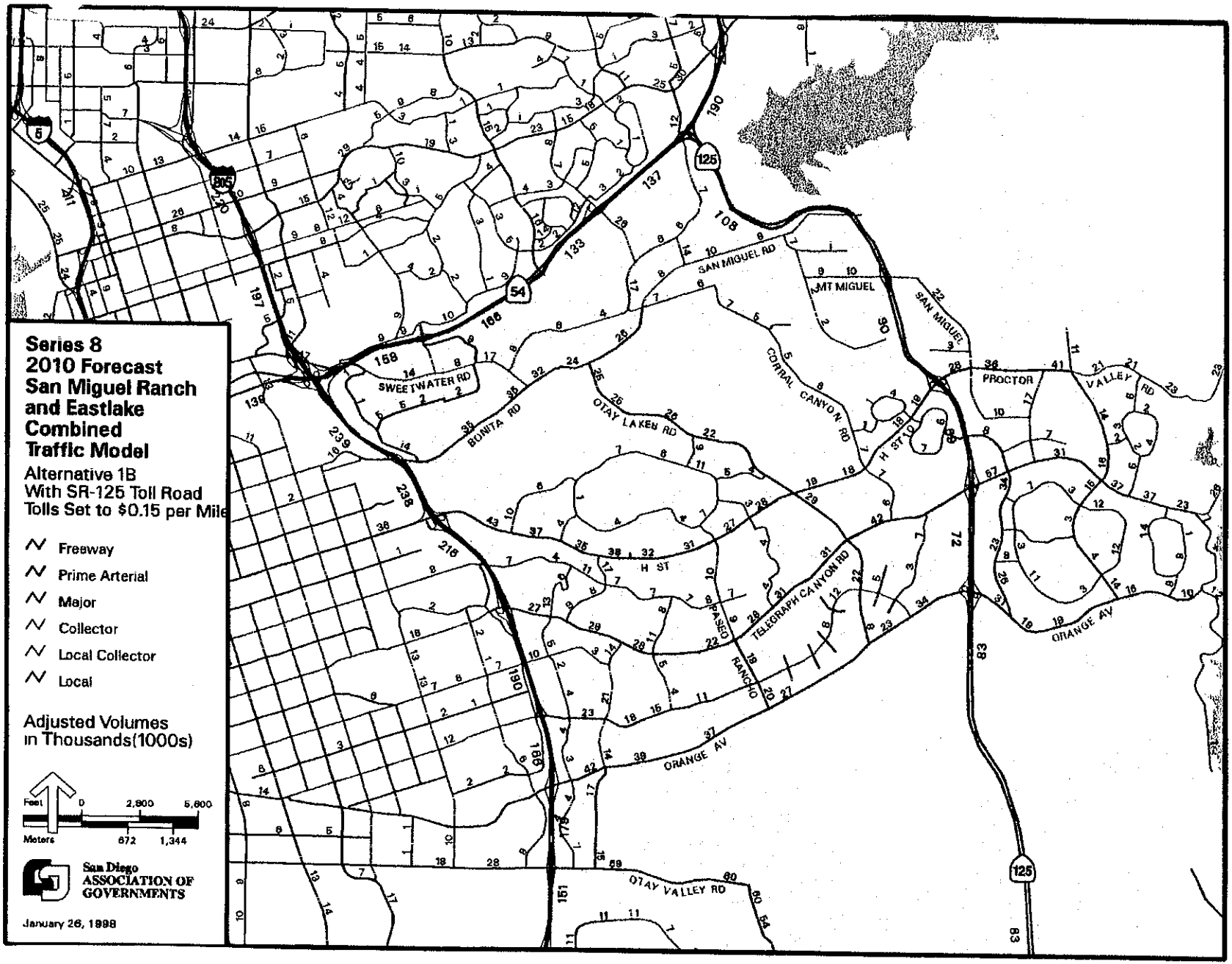


Figure 3.4-8

Proposed Project Year 2010 Roadway
Classifications and Average Daily Traffic Volume

Table 3.4-17
Summary of Freeway Segment Performance
Year 2010 - San Miguel Ranch Proposed Project

Route	Limits	# Lanes	Capacity	Forecast 2010 ADT	Peak Hour %	Direction Split	Truck Factor	Peak Hour Volume***	V/C	Level of Service
State Route 54*/**	**I-805 to Reo Dr.**	**6 w/HOV**	**6,900**	**157,200**	**0.098**	**0.60**	**0.980**	**7,640**	**1.11**	**F(0)**
	Reo Dr. to Woodman Street	**6 w/HOV**	**6,900**	**166,600**	**0.099**	**0.60**	**0.980**	**8,179**	**1.19**	**F(0)**
	Woodman Street to Briarwood Dr.	6 w/HOV	6,900	133,100	0.100	0.60	0.980	6,601	0.96	E
	Briarwood Dr. to SR-125	6 w/HOV	6,900	136,600	0.100	0.60	0.980	6,774	0.98	E
	SR-125 to Paradise Valley Road	**6 w/HOV**	**6,900**	**190,500**	**0.100**	**0.60**	**0.980**	**9,447**	**1.37**	**F(2)**
	Paradise Valley Road to Jamacha Blvd	**6 w/HOV**	**6,900**	**170,300**	**0.100**	**0.60**	**0.980**	**8,445**	**1.22**	**F(0)**
	Jamacha Blvd. to Ildica St.	**6 w/HOV**	**6,900**	**172,000**	**0.100**	**0.60**	**0.980**	**8,530**	**1.24**	**F(0)**
State Route 125**	SR-54 to Mt. Miguel Road	6	6,900	107,900	0.100	0.60	0.980	6,606	0.96	E
	Mt. Miguel Road to East H Street	6	6,900	90,200	0.100	0.60	0.980	5,522	0.80	C
	East H Street to Otay Lakes Road	6	6,900	68,500	0.100	0.60	0.980	4,194	0.61	B
	Otay Lakes Road to Olympic Parkway	6	6,900	71,500	0.100	0.60	0.980	4,378	0.63	C
	Olympic Parkway to Lonestar Road	6	6,900	82,400	0.100	0.60	0.980	5,045	0.73	C
Interstate 805	**SR-54 to Bonita Rd.**	**8**	**9,200**	**238,900**	**0.091**	**0.58**	**0.980**	**12,866**	**1.40**	**F(2)**
	Bonita Rd. to East H St.	**8**	**9,200**	**238,900**	**0.091**	**0.58**	**0.980**	**12,866**	**1.40**	**F(2)**
	East H St. to Telegraph Canyon Rd.	**8**	**9,200**	**215,300**	**0.091**	**0.55**	**0.980**	**10,996**	**1.20**	**F(0)**
	Telegraph Canyon Rd. to Olympic Pkwy	8	9,200	141,200	0.096	0.55	0.975	7,647	0.83	D

Source: Caltrans; SANDAG Model Run (1/21/98); BRW, Inc.; June 1998.

Notes: # Lanes - Number of lanes in both directions
Capacity - Hourly capacity in one direction.
Peak Hour % - Percentage of average daily traffic occurring during the peak hour.
Direction Split - Percentage of peak hour traffic traveling in peak direction.
Peak Hour Volume - Peak Hour traffic in peak direction of travel.
V/C - Volume to Capacity Ratio
LOS - Caltrans District 11 procedure was used to estimate the freeway level of service. See text for more discussion.
Bold type indicates freeway segment forecast to operate at unacceptable LOS F.
* SR-54 was modeled as a six-lane freeway but is indicated in the RTP as being a six-lane plus two HOV lanes by Year 2010
**SR-54 and SR-125 were not completed at the initiation of this study. Therefore, conservative factors were estimated based on characteristics of other freeways in the vicinity.
***Peak hour volumes on SR-54 were reduced by ten percent to account for usage of the High-Occupancy Vehicle (HOV) lane.

Table 3.4-18
Summary of Roadway Segment Performance
Year 2010 - San Miguel Ranch Proposed Project

Roadway	From - To	Jurisdiction	Classification	LOS D Capacity	2010 (alt. 1b) ADT	LOS	Project ADT	% ADT
North - South Streets								
Briarwood Road	SR-54 to Sweetwater Rd.	County of SD	4LN Collector	30,800	26,000		19	0.1%
Corral Canyon Road	Central Ave to Country Vistas Ln.	County of SD	2LN Collector	10,900	6,600	C	96	1.5%
	Country Vistas Ln. to Port Renwick	City of CV	3LN Collector	13,500	5,700	A	160	2.8%
	Port Renwick to East H St.	City of CV	3LN Collector	13,500	7,000	A	160	2.3%
Otay Lakes Road	Bonita Rd. to Avenida del Rey	City of CV	6LN Prime	56,300	25,900	A	171	0.7%
	Avenida del Rey to East H Street	City of CV	6LN Prime	56,300	25,800	A	367	1.4%
	East H St. to Telegraph Canyon Rd.	City of CV	6LN Prime	56,300	31,800	A	113	0.4%
Proctor Valley Road	San Miguel Rd. to Mt. Miguel Rd.	County of SD	2LN Collector	10,900	7,600	C	386	5.1%
Mt. Miguel Road	East H St. to SR 125	City of CV	4LN Major	33,800	24,400	B	4,086	16.7%
	SR 125 to Proctor Valley Road	City of CV	4LN Major	33,800	10,600	A	2,127	20.1%
East - West Streets								
Bonita Road	Otay Lakes Rd. to Palm Dr.	City of CV	4LN Major	33,800	26,200	B	64	0.2%
	Palm Dr. to Central Ave.	County of SD	4LN Major	33,400	22,500	B	79	0.4%
	Central Ave. to San Miguel Rd.	County of SD	4LNCollector	30,800	8,400	A	102	1.2%
	San Miguel Rd. to Sweetwater Rd.	County of SD	4LN Collector	30,800	14,200	A	42	0.3%
Sweetwater Road	Central Ave. to Briarwood Rd.	County of SD	4LN Collector	30,800	17,200	B	0	0.0%
	Briarwood Rd. to Bonita Rd.	County of SD	4LN Collector	30,800	11,100	A	2	0.0%
	Bonita Rd. to SR-54	County of SD	4LN Collector	30,800	6,500	A	46	0.7%
San Miguel Road	Bonita Rd. to Proctor Valley Rd.	County of SD	2LN Collector	10,900	10,300	D	238	2.3%
Central Avenue	Bonita Rd. to Corral Canyon Rd.	County of SD	2LN Collector	10,900	6,800	C	44	0.6%
East H Street	I-805 to Hidden Vista Dr.	City of CV	6LN Prime	56,300	51,400	D	197	0.4%
	Hidden Vista Dr. to Paseo del Rey	City of CV	6LN Prime	56,300	36,600	A	216	0.6%

Table 3.4-18, Summary of Roadway Segment Performance, Year 2010 - San Miguel Ranch Proposed Project (continued)

Roadway	From - To	Jurisdiction	Classification	LOS D Capacity	2010 (alt. 1b) ADT	LOS	Project ADT	% ADT
	Paseo del Rey to Paseo Ranchero	City of CV	6LN Prime	56,300	38,400	B	595	1.5%
	Paseo Ranchero to Otay Lakes Rd.	City of CV	6LN Prime	56,300	27,900	A	797	2.9%
	Otay Lakes Rd. to Corral Canyon Rd./Rutgers Ave.	City of CV	4LN Major	33,800	19,300	A	2,426	12.6%
	Corral Canyon Rd./Rutgers Ave to Eastlake Drive	City of CV	4LN Major	33,800	17,700	A	2,825	16.0%
	Eastlake Dr. to SR 125	City of CV	6LN Prime	56,300	19,200	A	4,018	20.9%
	SR 125 to Mt. Miguel Rd.	City of CV	6LN Prime	56,300	27,700	A	8,785	31.7%
Proctor Valley Road	Mt. Miguel Rd. To Lane Ave. (east of Hunte Pkwy)	City of CV	6LN Prime	45,000	35,500	C	3,675	10.4%
	Lane Ave. to Hunte Pkwy.	City of CV	6LN Prime	45,000	41,200	D	3,070	7.5%
Telegraph Canyon Road	Paseo Ranchero to Otay Lakes Rd.	City of CV	6LN Prime	56,300	31,400	A	188	0.6%
Otay Lakes Road	Telegraph Canyon Rd. to Rutgers Ave.	City of CV	6LN Prime	56,300	42,300	B	343	0.8%
	Rutgers Ave. to SR 125	City of CV	6LN Prime	56,300	45,600	C	584	1.3%
	SR 125 to Eastlake Pkwy.	City of CV	6LN Prime	56,300	56,700	**E**	151	0.3%
	Eastlake Pkwy. to Lane Ave.	City of CV	6LN Prime	56,300	41,500	B	0	0.0%
	Lane Ave. to Hunte Pkwy.	City of CV	6LN Prime	56,300	30,700	A	363	1.2%

Source: SANDAG Model Run (1/21/98); BRW, Inc.; June 1998

Notes: Shading indicates roadway segment forecast to operate at and unacceptable LOS E or F for City and County Circulation Element Facilities.

Study Area roadway segment is forecast to perform at an unacceptable Level of Service (LOS E or worse):

- Otay Lakes Road, SR-125 to Eastlake Parkway.

Peak Hour Intersection Performance

Table 3.4-19 presents the results of the detailed analysis of peak hour intersection performance for critical Study Area intersections under Year 2010 Proposed Project conditions. Those intersections forecasted to operate at an unacceptable level of service are highlighted in bold. It should be recognized that the majority of Study Area intersections are signalized in Year 2010.

As shown in Table 3.4-19, one intersection is forecast to perform at unacceptable level of service E or F:

- Briarwood Road and SR-54 westbound Ramps

However, if the recommended year 2000 (Phase I) mitigation improvements for the intersection of Briarwood Road and SR-54 Westbound Ramps are in place prior to the construction of Project Buildout, this intersection will no longer be impacted.

The year 2010 impacts with SR-125 listed above for freeway segments, roadway segments, and intersections are not considered direct project impacts, but rather are cumulative impacts based on the significance thresholds defined in Section 3.4.2.

Full Southbay Buildout Conditions

Traffic conditions for freeway segments, roadway segments, and intersections in with Full Southbay Buildout were analyzed with SR-125. Figure 3.4-9 illustrates the Full Southbay Buildout roadway classifications and average daily traffic volumes on the study area network.

Freeway Segment Performance

Freeway segment performances at Southbay Buildout were forecasted with the Proposed Project. As stated previously, this timeframe assumes the ultimate buildout of planned freeway facilities are contained in the 1997 RTP. This includes the completion of SR-54 as a six-lane freeway with two HOV lanes from I-805 to SR-125/54, SR-125 as an eight-lane freeway with two HOV lanes from SR-905 to the SR-125/54 junction, and SR-905 as a six-lane freeway with two HOV lanes from I-805 to the Otay Mesa border crossing.

At Southbay Buildout, as indicated in Table 3.4-20, the majority of Study Area freeway segments are expected to operate at unacceptable LOS F during peak hour operation. Only two Study Area segments are forecast to perform at LOS E or better during the peak hours: SR-125 from Olympic Parkway to Lonestar Road and I-805 from East H Street to Telegraph Canyon Road.

Table 3.4-19
Peak Hour Intersection Levels of Service
Year 2010 - San Miguel Ranch Proposed Project

Intersection	AM Peak Hour		PM Peak Hour	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
1. Briarwood Road/SR-54 WB Ramps	**83.3**	**F**	18.4	C
2. Briarwood Road/SR-54 EB Ramps	7.8	B	13.1	B
3. Sweetwater Road/Southbay Parkway*	----	----	----	----
4. Briarwood Road/Sweetwater Road	7.4	B	9.0	B
5. Bonita Road/Sweetwater Road	10.6	B	8.9	B
6. Bonita Road/San Miguel Road	11.6	B	11.0	B
7. Sweetwater Road/Central Avenue	8.7	B	16.3	C
8. Bonita Road/Central Avenue	22.4	C	22.4	C
9. Otay Lakes Road/Bonita Road	16.9	C	16.8	C
10. East H Street/I-805 SB Ramps	11.1	B	20.9	C
11. East H Street/I-805 NB Ramps	6.8	B	8.2	B
12. East H Street/Otay Lakes Road	23.0	C	24.7	C
13. East H Street/Corral Canyon Rd/Rutgers Ave.	18.0	C	18.3	C
14. East H Street/Eastlake Drive	16.7	C	16.7	C
15. East H Street/SR-125 SB Ramps	9.8	B	14.6	B
16. East H Street/SR-125 NB Ramps	3.1	A	4.1	A
17. East H Street/Proctor Valley Rd/Mt. Miguel Rd	23.5	C	21.2	C
18. Mt. Miguel Road/SR-125 SB Ramps	12.1	B	12.0	B
19. Mt. Miguel Road/SR-125 NB Ramps	12.5	B	10.8	B
20. Mt. Miguel Road/Proctor Valley Road**	2.9	B	4.6	C
21. Proctor Valley Road/San Miguel Road	10.9	B	10.9	B

Source: BRW, Inc.; July 1998

Notes: Bold type indicates peak hour signalized intersection forecast to operate at unacceptable LOS E or F.
*Intersection 3 no longer exists under this scenario.
**Intersection 20, under the proposed design, would not warrant signalization and was analyzed with four-way stop control.

Table 3.4-20
Summary of Freeway Segment Performance
Southbay Buildout With Proposed Project

Route	Limits	# Lanes	Capacity	Forecast 2010 ADT	Peak Hour %	Direction Split	Truck Factor	Peak Hour Volume***	V/C	Level of Service
State Route 54*/**	**I-805 to Reo Dr.**	**6 w/HOV**	**6,900**	**161,600**	**0.098**	**0.60**	**0.980**	**7,854**	**1.14**	**F(0)**
	Reo Dr. to Woodman Street	**6 w/HOV**	**6,900**	**171,300**	**0.099**	**0.60**	**0.980**	**8,410**	**1.22**	**F(0)**
	Woodman Street to Briarwood Road	**6 w/HOV**	**6,900**	**143,300**	**0.100**	**0.60**	**0.980**	**7,107**	**1.03**	**F(0)**
	Briarwood Road to SR-125	**6 w/HOV**	**6,900**	**148,600**	**0.100**	**0.60**	**0.980**	**7,369**	**1.07**	**F(0)**
	SR-125 to Paradise Valley Road	**6 w/HOV**	**6,900**	**214,700**	**0.100**	**0.60**	**0.980**	**10,647**	**1.54**	**F(3)**
	Paradise Valley Road to Jamacha Blvd.	**6 w/HOV**	**6,900**	**199,800**	**0.100**	**0.60**	**0.980**	**9,908**	**1.44**	**F(2)**
	Jamacha Blvd. to Ildica St.	**6 w/HOV**	**6,900**	**198,500**	**0.100**	**0.60**	**0.980**	**9,844**	**1.43**	**F(2)**
State Route 125**	**SR-54 to Mt. Miguel Road**	**8**	**9,200**	**211,700**	**0.100**	**0.60**	**0.980**	**12,961**	**1.41**	**F(2)**
	Mt. Miguel Road to East H Street	**8**	**9,200**	**207,900**	**0.100**	**0.60**	**0.980**	**12,729**	**1.38**	**F(2)**
	East H Street to Otay Lakes Road	**8**	**9,200**	**196,400**	**0.100**	**0.60**	**0.980**	**12,024**	**1.31**	**F(1)**
	Otay Lakes Road to Olympic Parkway	**8**	**9,200**	**167,100**	**0.100**	**0.60**	**0.980**	**10,231**	**1.11**	**F(0)**
	Olympic Parkway to Lonestar Road	8	9,200	146,700	0.100	0.60	0.980	8,982	0.98	E
Interstate 805	**SR-54 to Bonita Rd.**	**8**	**9,200**	**259,800**	**0.091**	**0.58**	**0.980**	**13,992**	**1.52**	**F(3)**
	Bonita Rd. to East H St.	**8**	**9,200**	**236,000**	**0.091**	**0.58**	**0.980**	**12,710**	**1.38**	**F(2)**
	East H St. to Telegraph Canyon Rd.	8	9,200	155,200	0.091	0.55	0.980	7,926	0.86	D
	Telegraph Canyon Rd. to Olympic Pkwy	**8**	**9,200**	**182,300**	**0.096**	**0.55**	**0.975**	**9,872**	**1.07**	**F(0)**

Source: Caltrans; SANDAG; BRW, Inc.; June 1998.

Notes: # Lanes - Number of lanes in one direction
Capacity - Hourly capacity in one direction.
Peak Hour % - Percentage of average daily traffic occurring during the peak hour.
Direction Split - Percentage of peak hour traffic traveling in peak direction.
Peak Hour Volume - Peak Hour traffic in peak direction of travel.
V/C - Volume to Capacity Ratio
LOS - Caltrans District 11 procedure was used to estimate the freeway level of service. See text for more discussion.
Bold type indicates freeway segment forecast to operate at unacceptable LOS F.
* SR-54 was modeled as a six-lane freeway but is indicated in the RTP as being a six-lane plus two HOV lanes by Year 2010
**SR-54 and SR-125 were not completed at the initiation of this study. Therefore, conservative factors were estimated based on characteristics of other freeways in the vicinity.
***Peak hour volumes on SR-54 were reduced by ten percent to account for usage of the High-Occupancy Vehicle (HOV) lane.

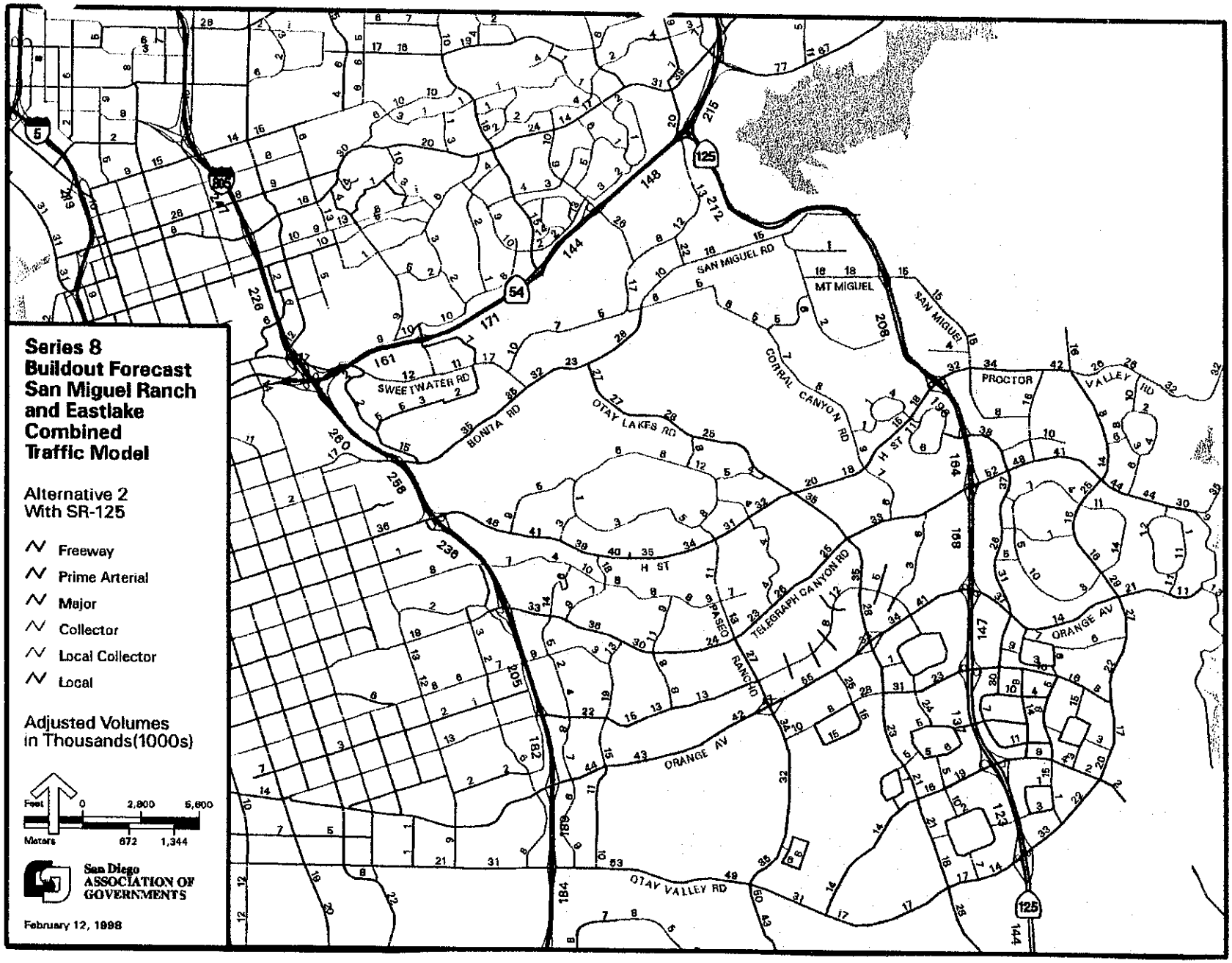


Figure 3.4-9

Proposed Project Southbay Buildout Roadway
Classifications and Average Daily Traffic Volume

P& D Environmental Services
San Miguel Ranch

Daily Roadway Segment Performance

As indicated in Table 3.4-21, the majority of roadway segments within the Study Area are expected to perform at LOS C or better under Southbay Buildout conditions with the Proposed Project. Two segments are forecast to perform at LOS D under these conditions: East H Street from I-805 to Hidden Vista Drive and Otay Lakes Road from SR-125 to Eastlake Pkwy. While LOS D is generally considered acceptable Level of Service in near-term timeframes of analysis, a goal of LOS C is desired to be maintained by the City of Chula Vista and County of San Diego under full Buildout conditions. In addition to these segments, two others are anticipated to perform at LOS E:

- San Miguel Road, Bonita Road to Proctor Valley Road; and
- Proctor Valley Road, San Miguel Road to Mt. Miguel Road.

While these two segments are in proximity to the Proposed Project, less than 2 percent of traffic on these segments can be attributed to San Miguel Ranch under Full Southbay Buildout conditions.

Intersection Performance

Under full Southbay Buildout conditions intersection locations with daily entering volumes greater than 65,000 vehicles per day (vpd) are considered to be significantly impacted and would require mitigation in the form of increased capacity or special at-grade or grade separated designs to improve traffic flow. Table 3.4-22 documents the forecasted daily entering volumes at 20 Study Area intersection locations identified under Full Southbay Buildout Conditions. Those intersections forecasted to have daily entering volumes greater than 65,000 vpd are highlighted in bold type.

As indicated in Table 3.4-22, none of the critical intersection locations are forecasted to have entering volumes greater than 65,000 vpd. With the exception of six locations, all intersections were found to have entering volumes of less than 30,000 ADT. The most heavily traveled Study Area Arterial-Arterial intersection is East H Street/Otay Lakes Road with 54,500 entering vehicles per day.

Table 3.4-21
Summary of Roadway Segment Performance
Southbay Buildout With Proposed Project

Roadway	From - To	Jurisdiction	Classification	LOS C Capacity	Buildout (Alt. 2) ADT	LOS	Project ADT	% ADT
North - South Streets								
Briarwood Road	SR-54 to Sweetwater Rd.	County of SD	4LN Collector	27,400	25,500	C	19	0.1%
Corral Canyon Road	Central Ave to Country Vistas Ln.	County of SD	2LN Collector	7,100	7,100	C	194	2.7%
	Country Vistas Ln. to Port Renwick	City of CV	3LN Collector	12,000	7,900	A	74	0.9%
	Port Renwick to East H St.	City of CV	4LN Collector	22,000	8,700	A	108	1.2%
Otay Lakes Road	Bonita Rd. to Avenida del Rey	City of CV	6LN Prime	50,000	28,500	A	151	0.5%
	Avenida del Rey to East H Street	City of CV	6LN Prime	50,000	29,500	A	277	0.9%
	East H St. to Telegraph Canyon Rd.	City of CV	6LN Prime	50,000	35,300	A	63	0.2%
Proctor Valley Road	San Miguel Rd. to Mt. Miguel Rd.	County of SD	2LN Collector	7,100	14,600	**E**	218	1.5%
Mt. Miguel Road	East H St. to SR 125	City of CV	4LN Collector	22,000	17,800	B	4,010	22.5%
	SR 125 to Proctor Valley Road	City of CV	4LN Collector	22,000	18,200	B	2,058	11.3%
East - West Streets								
Bonita Road	Otay Lakes Rd. to Palm Dr.	City of CV	4LN Major	30,000	27,800	C	78	0.3%
	Palm Dr. to Central Ave.	County of SD	4LN Major	29,600	24,700	B	78	0.3%
	Central Ave. to San Miguel Rd.	County of SD	4LN Collector	27,400	10,100	A	9	0.1%
	San Miguel Rd. to Sweetwater Rd.	County of SD	4LN Collector	27,400	22,400	B	40	0.2%
Sweetwater Road	Central Ave. to Briarwood Rd.	County of SD	4LN Major	29,600	16,500	B	0	0.0%
	Briarwood Rd. to Bonita Rd.	County of SD	4LN Major	29,600	11,500	A	0	0.0%
	Bonita Rd. to SR-54	County of SD	4LN Major	29,600	12,500	A	40	0.3%
San Miguel Road	Bonita Rd. to Proctor Valley Rd.	County of SD	2LN Collector	7,100	15,800	**E**	106	0.7%
Central Avenue	Bonita Rd. to Corral Canyon Rd.	County of SD	4LN Collector	27,400	6,400	A	194	3.0%
East H Street	I-805 to Hidden Vista Dr.	City of CV	6LN Prime	50,000	54,000	**D**	175	0.3%

Table 3.4-21, Summary of Roadway Segment Performance Southbay Buildout With Proposed Project (Continued)

Roadway	From - To	Jurisdiction	Classification	LOS C Capacity	Buildout (Alt. 2) ADT	LOS	Project ADT	% ADT
	Hidden Vista Dr. to Paseo del Rey	City of CV	6LN Prime	50,000	40,600	C	190	0.5%
	Paseo del Rey to Paseo Ranchero	City of CV	6LN Prime	50,000	40,300	B	464	1.2%
	Paseo Ranchero to Otay Lakes Rd.	City of CV	6LN Prime	50,000	32,100	A	743	2.3%
	Otay Lakes Rd. to Corral Canyon Rd./Rutgers Ave.	City of CV	4LN Major	30,000	20,000	A	1,780	8.9%
	Corral Canyon Rd./Rutgers Ave to Eastlake Drive.	City of CV	4LN Major	30,000	14,800	A	1,875	12.7%
	Eastlake Dr. to SR 125	City of CV	6LN Prime	50,000	18,100	A	2,917	16.1%
	SR 125 to Mt. Miguel Rd.	City of CV	6LN Prime	50,000	32,300	A	9,835	30.4%
	Mt. Miguel Rd. To Lane Ave. (east of Hunte Pkwy)	City of CV	6LN Prime	50,000	34,400	A	3,635	10.6%
	Lane Ave. to Hunte Pkwy.	City of CV	6LN Prime	50,000	41,700	B	3,015	7.2%
Telegraph Canyon Road	Paseo Ranchero to Otay Lakes Rd.	City of CV	6LN Prime	50,000	25,500	A	175	0.7%
Otay Lakes Road	Telegraph Canyon Rd. to Rutgers Ave.	City of CV	6LN Prime	50,000	33,700	A	241	0.7%
	Rutgers Ave. to SR 125	City of CV	6LN Prime	50,000	36,000	A	645	1.8%
	SR 125 to Eastlake Pkwy.	City of CV	6LN Prime	50,000	51,700	**D**	0	0.0%
	Eastlake Pkwy. to Lane Ave.	City of CV	6LN Prime	50,000	48,300	C	1,204	2.5%
	Lane Ave. to Hunte Pkwy.	City of CV	6LN Prime	50,000	41,300	B	416	1.0%

Source: SANDAG; BRW, Inc.; June 1998.

Notes: Shading indicates roadway segment forecast to operate at unacceptable LOS E or F for City and County Circulation Element facilities.

Table 3.4-22
Intersection Daily Entering Volumes
Southbay Buildout With Proposed Project

Intersection	Daily Entering Volume (vpd)
1. Briarwood Road/SR-54 WB Ramps	29,000
2. Briarwood Road/SR-54 EB Ramps	26,500
3. Sweetwater Road/Southbay Parkway*	-------
4. Briarwood Road/Sweetwater Road	22,700
5. Bonita Road/Sweetwater Road	21,400
6. Bonita Road/San Miguel Road	24,150
7. Sweetwater Road/Central Avenue	23,100
8. Bonita Road/Central Avenue	13,100
9. Otay Lakes Road/Bonita Road	37,700
10. East H Street/I-805 SB Ramps	47,500
11. East H Street/I-805 NB Ramps	43,000
12. East H Street/Otay Lakes Road	54,800
13. East H Street/Corral Canyon Rd/Rutgers Ave.	24,250
14. East H Street/Eastlake Drive	23,850
15. East H Street/SR-125 SB Ramps	28,000
16. East H Street/SR-125 NB Ramps	32,000
17. East H Street/Proctor Valley Rd/Mt. Miguel Rd.	47,150
18. Mt. Miguel Road/SR-125 SB Ramps	27,000
19. Mt. Miguel Road/SR-125 NB Ramps	19,500
20. Mt. Miguel Road/Proctor Valley Road	19,000
21. Proctor Valley Road/San Miguel Road	16,000

Source: BRW, Inc.; June 1998

Notes: No intersections require improvements at Buildout Conditions beyond standard at-grade improvements.

3.4.3 Mitigation Measures

The following measures will be placed as conditions of approval on all Tentative Maps. It should be recognized that although some impacts are not significant as long as improvements to the

circulation network are completed, significant interim impacts could still result if those improvements are not constructed as demand is created. Therefore, prior to the approval of any subsequent Tentative Map, a traffic analysis will be conducted to verify that the City's threshold standards are met. This analysis will be approved by the City Engineer (or designee). If the project can adhere to the City's threshold standards, the project can proceed. If the project does not adhere to the City's threshold standards, the project cannot proceed until circulation improvements are implemented, which would allow the project to meet threshold standards.

Freeways

Year 2010 Conditions

Significant impacts to freeways cannot be mitigated with project-related mitigation measures. Rather, mitigation to address deficiencies in future freeway segment performance will generally be developed by Caltrans in the form of additional carrying capacity on critical segments and ramp metering at all freeway on-ramps. In accordance with congestion management objectives, these measures are aimed at ensuring a steady mainline traffic flow on the freeway network. Although ramp metering may result in traffic queues at Study Area on-ramps and on arterial approaches, the rationale for this technique is that the automobile driver will experience an improved level of service by waiting for freeway access and being assured of a steady commute on the freeway, than he/she would by immediately accessing the freeway and experiencing heavy traffic congestion and a longer commute.

Below is a summary of freeway conditions and mitigation strategies under Year 2010 conditions:

- **SR-54.** This facility is built to its ultimate eight-lane cross-section (six lanes + 2 HOV lanes) by this timeframe. Future Year 2010 levels of service on SR-54 from I-805 to Ildica Street are projected to range from LOS E to F(2). Possible mitigations, however, include TSM or TDM improvements that would maximize flow on this eight-lane facility. These improvements include the implementation of ramp metering.

- **SR-125.** Under tollway operation, this 6-lane facility is expected to operate at acceptable levels of service (LOS C or better) under Year 2010 conditions.

- **I-805.** Mitigation strategies for this facility include developing a deficiency plan which evaluates the concept of widening this freeway from its current 8-lane cross section to ten lanes.

Southbay Buildout

For the Southbay buildout scenario, improvements to the freeways will be necessary. SR-125 and I-805 may be required to be expanded to 10 lanes. These facilities are the responsibility of Caltrans.

Arterial Roadway Segments

Year 2010 Conditions

As indicated in Table 3.4-23, all project-related impacts to roadway segments are considered to be less than significant. Because there are no significant project-related impacts to County or City facilities, if the circulation network is constructed as demand is generated, no project specific mitigation is recommended. As previously indicated, if the circulation network is not

constructed as demand is generated, then significant traffic congestion would occur. Therefore, prior to each tentative map approval, a traffic analysis will be conducted to verify that the City's thresholds policies are met. If the City's thresholds are not met, the project cannot proceed until the deficiencies are rectified.

Southbay Buildout

Mitigation for arterial roadways which are forecasted to experience unacceptable levels of service under full Southbay Buildout conditions generally corresponds to additional carrying capacity. The planning level analysis for Full Southbay Buildout conditions is intended to assist local jurisdictions with the planning of potential improvements and allow sufficient time to gather funds.

The following critical roadway segments should be examined for the possibility of upgrading classifications or providing other improvements based on forecasted average daily traffic volumes in order to maintain an acceptable level of service (LOS C or better). This evaluation should include a detailed analysis to ensure that sensitive community issues are taken into consideration.

San Miguel Road - San Miguel Road is recommended for upgrade to a three-lane collector with enhanced intersection geometry under Full Southbay Buildout conditions. While a four-lane collector classification would be appropriate based on forecasted volumes on this segment, a three-lane geometry with enhanced intersection treatments would provide adequate traffic flow while reducing right-of-way requirements. This classification is based on the volume of 15,800 ADT forecasted for San Miguel Road under Full Southbay Buildout conditions. This upgrade may ultimately require a GPA to the Sweetwater Community Plan (requiring traffic analyses and environmental review). Since the Proposed Project is forecast to contribute only 0.7 percent of daily traffic to this roadway segment, this segment is considered to have a cumulative impact under this timeframe.

Table 3.4-23
Summary of Significance and Mitigation Requirements
San Miguel Ranch Proposed Project

Analysis Year/Scenario	Facility Type	Impacted Facilities	Significant Cumulative Impacts	Significant Project-Related Impacts	Mitigation Requirements
Project Buildout Timeframes					
Year 2010 (Project Buildout)	Freeways	• SR-54: I-805 to Woodman Street • SR-54: SR-125 to Ildica Street • I-805: SR-54 to Telegraph Canyon Road	Yes	Certain freeway segments are impacted under CMP guidelines, although they carry a low percentage of project traffic.	Develop deficiency plan for SR-54 and I-805. Evaluate widening I-805 to ten lanes.
	Arterial Roadways	• Otay Lakes Rd.: SR-125 to Eastlake Pkwy.	Yes	None	Possible widening of Otay Lakes Road between SR-125 and Eastlake Pkwy to eight lanes.
	Intersections	None**	None**	None	None
Full Southbay Buildout	Freeways	• SR-54: I-805 to Ildica Street • SR-125: SR-54 to Olympic Pkwy. • I-805: SR-54 to East H Street	Yes	Certain freeway segments are impacted under CMP guidelines, although they carry a low percentage of project traffic.	Implement TSM and TDM improvements along all Southbay freeways. Widen SR-125 and I-805 to ten lanes.
	Arterial Roadways	• Proctor Valley Rd: San Miguel Rd to Mt. Miguel Rd. • San Miguel Rd: Bonita Rd to Proctor Valley Rd. • East H St.: I-805 to Hidden Vista Drive • Otay Lakes Rd.: SR-125 to Eastlake Pkwy.	Yes	None	Certain roadway segments are forecasted to require improvements due to cumulative traffic impacts. Recommendations made in this chapter could fully mitigate these impacts and return these facilities to acceptable levels of service.
	Intersections	None	None	None	None

Table 3.4-23, Summary of Significance and Mitigation Requirements (Continued)

Analysis Year/Scenario	Facility Type	Impacted Facilities	Significant Cumulative Impacts	Significant Project-Related Impacts	Mitigation Requirements
Project Phasing Timeframes					
Year 2000	Freeways	• SR-54: Reo Drive to Woodman Street • I-805: SR-54 to East H Street	Yes	None	Develop deficiency plan for SR-54 and I-805.
	Arterial Roadways	• Briarwood Rd.: SR-54 to Sweetwater Road • Corral Cyn Rd.: Central Ave to Country Vistas Lane • Central Ave: Bonita Rd to Corral Cyn Rd • East H St: I-805 to Hidden Vista Drive	Yes	None	None
	Intersections	• Briarwood Road/SR-54 Westbound Ramps	Yes	None	Proposed improvements to Intersection 1 would fully mitigate performance.
Year 2005 Without SR-125	Freeways	• SR-54: I-805 to Woodman Street • SR-54: Briarwood Road to Paradise Valley Road • SR-54: Jamacha Road to Ildica Street • I-805: SR-54 to Telegraph Canyon Road	Yes	None	Develop deficiency plan for SR-54 and I-805.
	Arterial Roadways	• Briarwood Road: SR-54 to Sweetwater Road • Corral Cyn Rd: Central Ave to County Vistas Lane • Otay Lakes Rd: Bonita Road to Avenida del Rey • Otay Lakes Rd: East H St to Telegraph Canyon Rd • Bonita Road: Palm Drive to Central Avenue • San Miguel Rd: Bonita Road to Proctor Valley Road • Central Ave: Bonita Rd to Corral Canyon Road • East H Street: I-805 to Hidden Vista Drive • Otay Lakes Rd: Telegraph Cyn Rd to Rutgers Ave	Yes	None	None*
	Intersections	• Sweetwater Road/Central Avenue • Bonita Road/Central Avenue • East H Street/-805 Southbound Ramps	Yes	None	None*

Table 3.4-23, Summary of Significance and Mitigation Requirements (Continued)

Analysis Year/Scenario	Facility Type	Impacted Facilities	Significant Cumulative Impacts	Significant Project-Related Impacts	Mitigation Requirements
Year 2005 with SR-125	Freeways	• SR-54: I-805 to Woodman Street • SR-54: SR-125 to Ildica Street • SR-54: SR-54 to Telegraph Canyon Road	Yes	None	Develop deficiency plan for SR-54 and I-805
	Arterial Roadways	None	None	None	None
	Intersections	None	None	None	None

Source: BRW, Inc., July 1998

Notes: *Several roadway segments and intersections are forecast to be impacted under this scenario. However, mitigation is deemed unnecessary because all roadways and intersections resume acceptable levels of service after opening of the SR-125 tollway. Therefore, in the event that the SR-125 tollway is not constructed prior to Year 2005, a contingency plan must be developed to address the need for an interim north-south facility in eastern Chula Vista or possible development restraints.
**While the analysis shows that the intersection of Briarwood Road/SR-54 WB Ramps will require mitigation, the Phasing Analysis Technical Report shows this improvement is needed under the Year 2000 conditions. Therefore, the improvement of this intersection is shown as a Year 2005 improvement
"Yes" in the Cumulative Significant Impact column indicates that all of the listed facilities for that scenario are cumulatively impacted.

Proctor Valley Road - Proctor Valley Road between San Miguel Road and Mt. Miguel Road is recommended for upgrade to a three-lane collector with enhanced intersection geometrics, including signalization of Mt. Miguel Road/Proctor Valley Road (Intersection 21) under Full Southbay Buildout Conditions. Similar to San Miguel Road, this segment is forecast to carry enough traffic (14,600 ADT) to warrant a four-lane classification. However, a three-lane geometry with enhanced intersection treatments would likely provide adequate flow while reducing right-of-way requirements. Since the Proposed Project is forecast to contribute only 1.5 percent of daily traffic to this roadway segment, this segment is considered to have a cumulative impact under this timeframe.

East H Street between Hidden Vista Drive and I-805 will remain a six-lane prime arterial under Full Southbay Buildout conditions. Forecasted ADT volumes indicate the need for an eight-lane facility. Geometric improvements to the interchange at I-805 could improve levels of service also and maintain acceptable operations without widening the segment. The right-of-way for an eight-lane cross-section should be secured, however, to assure ability to maintain acceptable levels of service.

Otay Lakes Road between Eastlake Pkwy and SR-125 Southbound Ramps will remain a six-lane prime arterial under Full Southbay Buildout conditions. Forecasted ADT volumes indicate the need for an eight-lane facility. Geometric improvements to the interchange at SR-125 could improve levels of service also and maintain acceptable operations without widening the segment. The right-of-way for an eight-lane cross-section should be secured, however, to assure ability to maintain acceptable levels of service.

Due to cumulative and interim impacts to the County circulation network (i.e., circulation network that may not be constructed concurrent with demand), the applicant will be required to implement the following mitigation measure at building permit stage:

- If a funding mechanism is established between the City and County for cumulative traffic impacts, the San Miguel Ranch project will be conditioned to pay their proportionate share contribution.

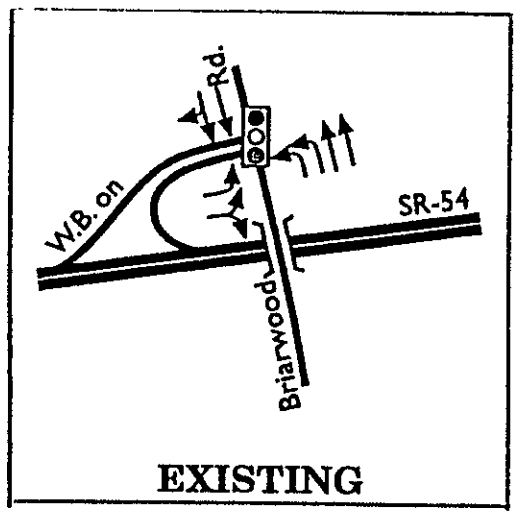
It is recognized that this measure does not fully mitigate the impacts; therefore, the impacts are still considered significant and unmitigated.

Peak Hour Intersections

Year 2010 Conditions

Intersection 1 (Briarwood Road/SR-54 WB Ramps) is forecast to operate at unacceptable LOS F during the AM peak hour under this scenario which is not required to be mitigated by this project. Figure 3.4-10 presents a conceptual geometric design recommended to mitigate this impact.

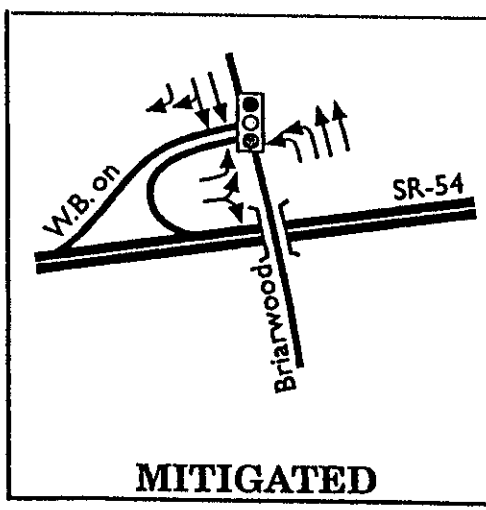
INTERSECTION 1
Briarwood Road/ SR-54 WB Ramps



EXISTING

NO PLANNED IMPROVEMENTS

PLANNED



MITIGATED

Figure 3.4-10

No Scale

P& D Environmental Services
San Miguel Ranch

Existing /Planned and Mitigated
Intersection Geometrics

Southbay Buildout

As illustrated, all Study Area critical intersections are forecast to have entering volumes of less than 65,000 vehicles per day. Therefore, there are no additional significant impacts and no mitigation required.

Analysis of Significance

This section summarizes the analysis of impact significance and identification of mitigation for the *San Miguel Ranch SPA*. Table 3.4-12 presents a summary of impacted facilities and the results of the assessment of cumulative and project-related impacts.

Freeway Segments

As with interim Year 2010 conditions, almost all freeway segment impacts are found to be significant and unmitigable as project-related mitigation measures cannot provide adequate mitigation to return traffic operations to acceptable levels of service. These impacts are identified in this analysis in order to facilitate the transportation planning efforts of Caltrans and SANDAG and to indicate that the San Miguel Ranch Project Team remains committed to participating in freeway deficiency planning under CMP guidelines. This long-range impact identification process is a critical factor in developing strategies to improve the performance of the regional transportation network as it relates to Southbay freeway operations. As stated previously, upgrading I-805 to a ten-lane facility is a long-range mitigation need. The City of Chula Vista and the project applicant, along with all other Southbay jurisdictions and land developers should participate in the multi-agency study team approach to developing freeway deficiency plans.

In addition, although certain CMP-defined impacts exist to freeway segments, the reduction in project traffic would not affect freeway level of service, and therefore does not differ in performance from the No Project scenario.

Arterial Roadway Segments

The majority of Study Area arterial segments are forecast to be able to facilitate the anticipated Buildout traffic volumes. The previous section, however, outlined cumulative mitigation measures for certain Study Area segments which are forecast to perform at LOS C or worse at the Buildout timeframe. The proposed mitigation would successfully improve levels of service to within acceptable levels, thereby leaving no significant and unmitigable impacts identified for roadway segments under Full Southbay Buildout Conditions.

Under Year 2010 conditions, minor impacts to the Study Area transportation network are expected, and proposed mitigation measures are expected to achieve acceptable levels of service on all facilities. Under Full Southbay Buildout Conditions several roadways operate at LOS E or F indicating the need to upgrade classifications beyond current recommendations in the City and County Circulation Elements in order to maintain the long-range planning standard of LOS C. It is anticipated however, that adequate segment operations which can maintain the quality of life in the Southbay communities will be present with the introduction of proposed improvements and the maintenance of acceptable intersection operations.

Critical Intersections

No significant and unmitigable impacts were identified for daily intersection operations under Full Southbay Buildout Conditions. Based on the screening analysis of high volume intersections, no mitigation measures were necessary to accommodate the entering volumes forecasted under Full Southbay Buildout conditions beyond those implemented under interim conditions.

Based on the impacts identified and the associated mitigation measures and recommended improvements presented, project-related and non-project related significant and unmitigable impacts under Year 2010 with Proposed Project conditions can be identified. Significant and unmitigable impacts under Southbay Buildout Conditions can also be identified. The analysis of the mitigation of significant impacts contained in this chapter was based on two levels of significance:

- Significant and Mitigable; and
- Significant and Unmitigable.

Other impacts documented as being significant were found to be adequately mitigated by measures and improvement strategies recommended. While significant and unmitigable impacts exist for several freeway segments, acceptable intersection and roadway segment operations were achieved under Year 2010 with Proposed Project conditions with the investment in an improved intersection capacity through the construction of enhanced geometry.

The following presents the significant and unmitigable impacts found under Year 2010 Buildout Conditions and those expected for Full Southbay Buildout Conditions. It should be recognized that some of the interim Year 2010 impacts are ultimately alleviated as a result of improvements to the circulation network under Southbay Buildout Conditions based on recommendations at the General Plan level.

Year 2010 with SR-125

The following discussion summarizes the significant and unmitigable residual impacts under year 2010 Conditions for each network component.

Freeway Segments

The San Miguel Ranch project exceeds the CMP threshold of contributing more than 2,400 daily trips to a freeway segment, which is considered a significant impact. All freeway impacts are considered to be significant and unmitigable as project-related mitigation measures cannot alleviate impacts. The San Miguel Ranch Project Applicant should participate in the multi-agency study team approach to freeway deficiency planning and contribute a "fair share" contribution to mitigate impacts. Project-related traffic was found to range from 1.5 to 2.3 percent on SR-54 from I-805 to Ildica Street and from 1.7 to 6.7 percent on SR-125 from SR-54 to Lonestar Road as a percentage of total freeway ADT. Because there is currently no mechanism for the implementation of this program, the impacts are considered unmitigable at the project level.

Arterial Roadway Segments

No significant project-related impacts to roadways were found based on the level of significance criteria. In addition, no Study Area segments have been identified as having impacts unrelated

to the project and being unmitigated under Year 2010 with Proposed Project conditions. This assumes that all arterials are improved in accordance with their General Plan designation; however, because the County of San Diego does not have a financing and phasing plan for their circulation improvements, these impacts may be significant and unmitigable during interim conditions. Due to the uncertainty of the timing of these improvements, the impacts are considered significant in the cumulative condition.

Critical Intersections

No significant and unmitigable impacts were identified for peak hour critical intersection operations under Year 2010 with Proposed Project conditions. As was indicated in Table 8.6, recommended intersection geometrics were found to return the impacted peak hour intersection operations to an acceptable LOS D or better.

Buildout with SR-125

The following discussion summarizes residual impacts found under Full Southbay Buildout Conditions for each network component.

Freeway Segments

As with Interim Year 2010 conditions, almost all freeway segments impacts are found to be significant and unmitigable as project-related mitigation measures cannot provide adequate mitigation to return traffic operations to acceptable levels of service. These impacts are identified in this analysis to facilitate the transportation planning efforts of Caltrans and SANDAG and to indicate that the San Miguel Ranch Project Team remains committed to participating in freeway deficiency planning under CMP guidelines. This long-range impact identification process is a critical factor in developing strategies to improve the performance of the regional transportation network as it relates to Southbay freeway operations. As previously stated, upgrading I-805 to a ten-lane facility is a long-range mitigation need. The City of Chula Vista and the project applicant, along with all other Southbay jurisdictions and land developers should participate in the multi-agency study team approach to developing freeway deficiency plans. As previously indicated, because there is no mechanism in place to implement this program, the impacts are identified as unmitigable.

Arterial Roadway Segments

The majority of Study Area arterial segments are forecast to be able to facilitate the anticipated Buildout traffic volumes. The previous section, however, outlined cumulative mitigation measures for certain Study Area segments which are forecast to perform at LOS C or worse at the Buildout timeframe. The proposed mitigation would successfully improve levels of service to within acceptable levels, thereby leaving no significant and unmitigable impacts identified for roadway segments under Full Southbay Buildout Conditions. As previously stated, the County of San Diego does not have a phasing or financing program for their circulation network. Due to the uncertainty of the timing of the improvements, interim conditions may be significant. Therefore, impacts are considered significant in the cumulative condition.

Critical Intersections

No significant and unmitigable impacts were identified for daily intersection operations under Full Southbay Buildout Conditions. Based on the screening analysis of high volume intersections, no mitigation measures were necessary to accommodate the entering volumes forecasted under Full Southbay Buildout conditions beyond those implemented under interim conditions.

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3.5 AIR QUALITY

The previous EIR for the GDP/GPA identified significant impacts during construction activities that would be mitigated to less than significant levels by implementation of the following mitigation measures:

- Use of heavy-duty construction equipment with modified combustion/fuel injection systems during grading and construction;
- Hydroseeding and landscaping of disturbed areas to reduce dust generation;
- Covering trucks hauling fill materials;
- Enforcement of a 20 mph speed limit on unpaved surfaces; and
- Daily watering (a minimum of twice per day).

The previous EIR for the GDP/GPA also identified significant stationary operations impacts to be mitigated through incorporation of measures in the project's Air Quality improvement Plan (AQIP) required at the SPA level of planning. The AQIP has been prepared and incorporates the applicable GDP EIR measures.

This section addresses the impacts of the proposed project on ambient air quality and the exposure of people, especially sensitive individuals, to unhealthful pollutant concentrations. Air pollutants of concern include ozone, carbon monoxide, particulate matter and oxides of nitrogen. This section analyzes the type and quantity of emissions that would be generated by the construction and operation of the proposed project.

Existing Conditions

Regional Climate

Air quality is affected by both the rate and location of pollutant emissions and by meteorological conditions which influence movement and dispersal of pollutants. Atmospheric conditions such as wind speed, wind direction, and air temperature gradients, along with local topography, provide the link between air pollutant emissions and air quality.

The project site is within the San Diego Air Basin, which includes the entire County of San Diego. The distinctive climate of the air basin is determined by its terrain and geographic location. San Diego County experiences a Mediterranean-type climate. During the summer, a marine layer provides cooling effects to the western portion of the County. Physically, the county gradually rises from west to east with mountain ranges in the eastern portion marking the eastern boundary of the air basin. A thermal inversion layer, extending from the coast to the mountains at a typical elevation of 2,000 feet, is a prevalent feature in the summer months, usually May through October, when elevated concentrations of ozone, generally known as smog, are most common. When a temperature inversion layer occurs, it traps air pollutants against the slopes and prevents them from rising. An inversion is formed when warm, dry air overlies the cool, moist marine air.

In San Diego County, smog standards are exceeded most frequently in the foothills east of the metropolitan area. The polluted air rises to the base of the inversion layer, where it is blown eastward by the sea breeze and trapped against the foothills.

However, unhealthful smog concentrations in the County are not caused solely by pollution sources in the region. Smog is transported into the San Diego area from the South Coast Air Basin (the metropolitan areas of Los Angeles, Orange, San Bernardino, and Riverside counties) during "Santa Ana" wind conditions. Winds blowing toward the southwest transport the South Coast smog out over the ocean, and the sea breeze brings it onshore into San Diego County. When the transported smog cloud is at ground level, the highest smog concentrations are measured at coastal and near-coastal monitoring sites. When the smog cloud is elevated, coastal sites may be passed over, and the transported smog is measured further inland.

No significant smog transport from Tijuana, Mexico has been detected in San Diego. When the wind blows out of the south, weather conditions include a higher inversion level, resulting in lower ground level concentrations.

Air Quality Regulations, Plans and Policies

State and federal agencies have set ambient air quality standards for certain air pollutants. National Ambient Air Quality Standards (NAAQS) have been established for the following criteria pollutants: carbon monoxide (CO), ozone (O_3), sulfur dioxide (SO_2), nitrogen dioxide (NO_2), inhalable particulate matter (PM_{10}), and lead (Pb). The state standards for these criteria pollutants are more stringent than the corresponding federal standards.

Areas are classified under the Federal Clean Air Act as either "attainment" or "non-attainment" areas for each criteria pollutant based on whether the NAAQS have been achieved or not. The San Diego Air Basin is designated as a non-attainment area for O_3 and PM_{10}; the County is classified as an attainment area for CO, NO_2, SO_2, and Pb.

The State Implementation Plan (SIP) for San Diego was first adopted in the early 1970s and revised in 1979, 1982, 1992, 1993, and 1994. Each of these revisions addressed emission control requirements and measures to reduce ozone precursor emissions to demonstrate federal ozone standard attainment by 1999.

San Diego County's first Regional Air Quality Strategy (RAQS) was developed in the early to mid 1970s to comply with the federal Clean Air Act of 1970. The RAQS was substantially revised in 1979 in response to the 1977 federal Act. The 1979 RAQS reflected a comprehensive air resources management program and included most of the currently adopted smog control measures at the time. As required by the 1977 federal Act, the 1979 RAQS was updated in 1982. This revision was primarily a "fine tuning" of the 1979 RAQS. Additional reasonably available control measures were added and the stringency of control measures already in the RAQS increased. The emphasis was on controlling photochemical smog. In 1991, the San Diego Air Pollution Control District (APCD), the regional agency responsible for protecting public health from air pollution in San Diego County, prepared a revision to the RAQS to comply with the California Clean Air Act of 1988, and to include Transportation Control Measures and regional process to implement an indirect source review program (SDAPCD 1992). The APCD updated the 1991 RAQS. The 1997 RAQS update was adopted in June 1998.

Locally, there is no air quality plan for the City of Chula Vista. However, the City has included a Growth Management Element (GME) in its General Plan. One of the stated objectives of the

GME is to have active planning to meet federal and state air quality standards. This objective is incorporated into the GME's action program.

Existing Air Quality

The APCD maintains an air quality monitoring station in downtown Chula Vista at 80 East J Street, which is less than 5 miles southwest of the project site. A five-year summary (1992-1996) of data collected at this station is shown in Table 3.5-1 and compared with the corresponding state ambient air quality standards. As previously noted, O_3 and PM_{10} are the pollutants of concern in San Diego County as the standards for these two pollutants are currently exceeded, designating the County as non-attainment for these pollutants; CO and NO_2 are presently in attainment.

The most pervasive air quality problem in the San Diego Air Basin is high ozone (O_3) concentrations. Ozone is not emitted directly, but is a secondary pollutant produced in the atmosphere through a complex series of photochemical reactions involving reactive organic gases (ROG) and nitrogen oxides (NO_x). Significant O_3 production generally requires about three hours in a stable atmosphere with strong sunlight. Ozone is a regional air pollutant because it is transported and diffused by wind concurrent with the photochemical reaction process. Motor vehicles are the major source of ozone precursors in the basin. During late spring, summer, and early fall, light winds, low mixing heights, and abundant sunshine combine to produce conditions favorable for maximum production of O_3. Ozone causes eye and respiratory irritation, reduces resistance to lung infection, and may aggravate pulmonary conditions in persons with lung disease. Ozone is also damaging to vegetation and untreated rubber. The state one-hour ozone standard was exceeded an annual average of 8 times between 1992 and 1996 in Chula Vista (Table 3.5-1).

Inhalable particulate matter (PM_{10}) refers to particulates less than 10 microns in diameter–those which can be inhaled and cause health effects. Particulates in the atmosphere result from many kinds of dust- and fume-producing industrial and agricultural operations, combustion, and atmospheric photochemical reactions. Demolition, construction, and vehicular traffic are major sources of particulates in urban areas. Natural sources of particulates include wind-blown dust, and ocean spray. Very small particulates of certain substances can cause direct lung damage, or can contain absorbed gasses that may be injurious. Particulates can also damage materials and reduce visibility. PM_{10} standards have been exceeded 13 times in Chula Vista between 1992 and 1996 (Table 3.5-1).

Air quality in the vicinity of the project site is affected by emissions from a variety of sources. However, the primary source of emissions in the project area is regional motor vehicle and local motor vehicle traffic on nearby freeways, including I-805, and SR 54, and major arterial streets, such as East H Street, Otay Lakes Road, and Bonita Road.

Table 3.5-1
Chula Vista Area Air Quality Monitoring Summary
(Days Standards Were Exceeded and Maxima For Periods Indicated)

Pollutant/Standard	1992	1993	1994	1995	1996
Ozone:					
1-Hour >0.09 ppm	14	12	4	7	1
1-Hour >0.12 ppm	4	1	0	1	0
1-Hour > 0.20 ppm	0	0	0	0	0

Max. 1-Hour Conc. (ppm)	0.15	0.13	0.10	0.14	0.10
Carbon Monoxide:					
1-Hour >20.0 ppm	0	0	0	0	0
8-Hour > 9.1 ppm	0	0	0	0	0
Max. 1-Hour Conc. (ppm)	7	5	7	5	6
Max. 8-Hour Conc. (ppm)	3.8	3.5	3.8	4.0	4.0
Nitrogen Dioxide:					
1-Hour >0.25 ppm	0	0	0	0	0
Max. 1-Hour Conc. (ppm)	0.15	0.09	0.10	0.10	0.08
Inhalable Particulates (PM-10):					
24-Hour > 50 µg/m^3	2	2	2	5	2
24-Hour > 150 µg/m^3	0	0	0	0	0
Max. 24-Hour Conc. (µg/m^3)	54	56	61	103	62

Note: Standards for sulfur dioxide and particulate lead have been met with a wide margin of safety in 1992-1996, and are, therefore, not shown.

Source: California Air Resources Board, Summary of Air Quality Data, 1992-1996. Chula Vista APCD Monitoring Station.

Sensitive Receptors

Different land uses have different sensitivities to air pollution; some uses, such as those that accommodate children, the elderly, the acutely and chronically ill, especially those with cardio-respiratory diseases, are considered more sensitive to air pollution than others, such as industrial and commercial areas.

Residential areas are also considered to be sensitive to air pollution because residents (including children and the elderly) tend to be at home for extended periods of time, resulting in sustained exposure to any pollutants present. Recreational land uses are considered moderately sensitive to air pollution. Although exposure periods are generally short, exercise places a high demand on respiratory functions, which can be impaired by air pollution. In addition, noticeable air pollution can detract from the enjoyment of recreation. Industrial and commercial uses are considered the least sensitive to air pollution.

There are numerous sensitive receptors in the project vicinity, including the existing residential areas west and south of the project site. Additionally, future residents of adjacent developments, including Rolling Hills Ranch to the southeast, and Bonita Meadows to the southwest, and Eastlake to the south, would eventually be considered sensitive receptors in the project vicinity.

Impacts

Significance Criteria

When evaluating the air quality-related issues of a proposed project, CEQA Guidelines indicate that a project would normally have a significant effect on the environment if it would violate any ambient air quality standard, contribute substantially to an existing or projected air quality violation, or expose sensitive receptors to substantial pollutant concentrations.

The San Diego Air Pollution Control District has recommended using the following thresholds, adopted from those established by the South Coast Air Quality Management District (SCAQMD):

	Project Construction	Project Operation
Carbon Monoxide	550 lbs. per day	550 lbs. per day
Reactive Organic Compounds	75 lbs. per day	55 lbs. per day
Nitrogen Oxides	100 lbs. per day	55 lbs. per day
Sulfur Dioxide	150 lbs. per day	150 lbs. per day
Particulates	150 lbs. per day	150 lbs. per day

Impact Analysis

Project Construction

Construction activities would result in the generation of air pollutants. Construction-related emissions would primarily be 1) dust generated from demolition, earthmoving, excavation, and other construction activities, 2) hydrocarbon emissions from paints and asphalt, 3) exhaust emissions from powered construction equipment, and 4) motor vehicle emissions associated with construction activities.

The SCAQMD's *CEQA Air Quality Handbook* presents a methodology for estimating construction exhaust emissions based upon the total square footage to be developed, the type of land use being developed, and the duration of the construction period. This methodology was used to estimate construction exhaust emissions for the project.

Total exhaust emission levels, which include construction equipment emissions, construction workers' travel, and construction material hauling, were estimated for the entire construction period using emission factors for the construction of single-family housing, school, and commercial retail uses (Table 3.5-2). Because the construction schedule for the proposed project has not been determined at this time, an assumption was made that the construction period would be approximately 8 years or 2,080 construction days. As presented in Table 3.5-2, the average daily emissions are estimated to remain below the thresholds of significance after the first year of construction activities with the exception of the NO_x emission, which would exceed the threshold of 100 pounds per day. During site preparation, PM_{10} emissions would exceed the threshold of significance of 150 pounds per day as massive grading would occur, as discussed below.

Table 3.5-2
Average Daily and Quarterly Construction Emissions

	Estimated Emissions			
	CO	ROC	NO_x	PM_{10}
Total Emissions (lbs./construction period)[a]	221,380	69,280	1,018,010	72,280
Total Emissions in tons	110.69	34.64	509.01	36.14
Average Daily Emissions (lbs/day)[b]	106	33	489	35
Daily Thresholds for Construction Emissions (lbs./day)	550	75	100	150
Exceedance of Daily Thresholds (lbs/day)	0	0	389	0
Average Quarterly Emissions (tons/quarter)	0.98	0.31	4.49	0.32

Quarterly Thresholds for Construction Emissions (tons/quarter)	24.75	2.50	2.50	6.75
Exceedance of Quarterly Thresholds (tons/quarter)	0	0	1.99	0

Notes:

a. Construction Emissions Factors (in lbs./construction period/1,000 sq. ft. of development) used to estimate emissions are as follows: Single-Family Housing: CO - 75.62, ROC - 23.66, NO_x - 347.74, PM_{10} - 24.69; Multi-Family Housing: CO - 68.06, ROC – 21.30, NO_x - 312.97, PM_{10} - 22.22; School: CO - 150.16, ROC - 46.99, NO_x - 690.52, PM_{10} - 49.03; and Commercial: CO - 101.55, ROC - 31.87, NO_x - 466.97, PM_{10} - 33.16. Additionally, an assumption was made that the $\pm$10-acre school site would support approximately 43,000 square feet of school facilities and the $\pm$10-acre commercial site would support approximately 95,000 square feet of commercial uses.

b. An assumption was made that the construction period would be approximately 8 years or 2,080 construction days.

Source: South Coast Air Quality Management District, *CEQA Air Quality Handbook*, April 1993.

Dust emissions would vary according to the level and type of activity being conducted, silt content of the soil, and prevailing weather. PM_{10} emissions (i.e., dust) would result from excavation and grading of the site, which are anticipated to emit approximately 63.7 tons of PM_{10} during the entire site preparation period, which is assumed to occur for 12 months, or 260 construction days; excavation activities would involve disturbing filling throughout the South Parcel. This would result in the average daily PM_{10} emission of 490 pounds for the first year of construction. PM_{10} emission would also result from on-site equipment use and workers' travel, as shown in Table 3.5-2. Relatively large-sized particulates raised by construction would settle out of the atmosphere rapidly with increasing distance from the site. As a result, dustfall can be expected to occur on cars, streets, sidewalks, and other outside surfaces within a 200- to 800-foot radius of individual construction sites. Construction particulates are a nuisance and may be hazardous to persons with respiratory problems. PM_{10} emissions would exceed the threshold of significance for the first year of construction activities and would be considered significant.

Sensitive receptors in the project vicinity could be affected by the increase in local pollutant levels due to construction-related activities; this would be considered a short-term significant impact, which would cease at the completion of construction activities.

Project Operation

Motor vehicle emissions would be the primary source of pollutants resulting from implementation of the proposed project. The proposed project is estimated to generate 29,284 daily trips, which are equivalent to approximately 201,633 vehicle miles per day (VMD). Estimated daily emissions associated with project-generated VMDs, as shown in Table 3.5-3, would exceed the thresholds of significance for all criteria pollutants with the exception of PM_{10}. As a result, the proposed project would create a significant impact on air quality.

Stationary-source emissions, which occur both on- and off-site, would also be generated as a result of the combustion of natural gas and the use of electricity to meet the energy demands generated by the project. Natural gas consumption results in the emission of air pollutants generated immediately from the source and occurs on-site; electrical consumption results in the emissions of air pollutants generated off-site at electrical power generating plants located throughout the utility's generating network. Power plant emission factors assume continued availability and use of natural gas in power plants, and an average amount of hydroelectricity per year. Emissions due to the natural gas combustion and the use of electricity associated with the proposed project are very minimal, as shown in Table 3.5-3.

As shown in Table 3.5-3, total operational emissions, resulting from mobile and stationary sources would exceed the thresholds of significance for all criteria pollutants with the exception of PM_{10}. Therefore, development of the proposed project would result in a significant long-term impact on air quality.

Table 3.5-3
Estimated Project Emissions

	Mobile[a]	Natural Gas[b]		Electricity[c]			Thresholds
Pollutant	Estimated Emissions (lbs/day)	Emission Factor (lbs/10^6 cf)	Estimated Emissions (lbs/day)	Emission Factor (lbs/10^3 kWh)	Estimated Emissions (lbs/day)	Total Emissions (lbs/day)	of Significance (lbs/day)
CO	1,245.5	20.0	6.2	0.20	5.1	1,256.8	550
ROC	114.4	5.3	1.6	0.01	0.3	116.3	55
NO_X	241.4	120.0	36.9	1.15	29.6	307.9	55
PM_{10}	4.4	0.2	0.1	0.04	1.0	5.5	150

Notes:

a. Emission factors used to estimate these emissions are as follows: CO: Running Exhaust Emission Factor (REEF) = 2.29 g/mile (based on an average speed of 45 mph); Hot Start Emission Factor (HSEF) = 1.92 g/trip; Cold Start Emission Factor (CSEF) = 5.19 g/trip. ROC: REEF = 0.14 g/mile; HSEF = 0.10 g/trip; CSEF = 0.36 g/trip; Hot Soak Emission Factor (HSKEF) = 0.41 g/trip; Diurnal Emission Factor (DEF) = 0.34 g/vehicle. NO_x: REEF = 0.46 g/mile; HSEF = 0.52 g/trip; CSEF = 0.63 g/trip. PM_{10}: REEF = 0.01 g/mile. The percentages of hot start (HS) and cold start (CS) trips by land use are as follows: Single Family/Multi-Family Residential: HS = 0%, CS = 100%; School: HS = 90%, CS = 10%; Commercial: HS = 80%, CS = 20%. Emissions are based on 29,284 daily trips, which are equivalent to approximately 201,633 vehicle miles per day (15 miles per trip).
b. Based on an estimated natural gas consumption of 112,231,970 cubic feet per year.
c. Based on an estimated electric consumption of 9,384,290 kWh per year.

Source: SCAQMD, *CEQA Air Quality Handbook*, April 1993.

Air Quality Implementation Plan (AQIP)

An Air Quality Implementation Plan (AQIP) for the San Miguel Ranch SPA Plan is currently being reviewed by the City of Chula Vista. The City has developed guidelines for the development of an AQIP that incorporates site design features that best optimize the potential to achieve reductions in air emissions.

Mitigation Measures

Project Construction

To reduce short-term pollutant emissions during the construction phase, the following mitigation measures shall be incorporated into the SPA Plan:

- Heavy-duty construction equipment with modified combustion/fuel injection systems for emissions control shall be utilized during grading and construction.

- Disturbed areas shall be hydroseeded, landscaped, or developed as soon as possible and as directed by the City to reduce dust generation.

- Trucks hauling fill material shall be covered.
- A 20 mile-per-hour speed limit shall be enforced on unpaved surfaces.

- To control dust raised by grading activities, the graded area shall be watered twice a day. Other mitigation measures shall be considered and implemented upon City approval. Such measures may include, but are not limited to, phasing grading so relatively smaller areas are exposed and revegetating graded areas as rapidly as possible.

Project Operation

Mitigation from the GDP/GPA have been incorporated into the project's Air Quality Improvement Plan; however, there are no feasible mitigation measures are available at this time to reduce project operation-related emissions.

Analysis of Significance

Project-related air pollutant emissions from both mobile and stationary sources during construction and operation would exceed significance thresholds. Implementation of the mitigation measures identified above would reduce construction-related emissions but not to below a level of significance. Additionally, there are no feasible mitigation measures available at this time to reduce operation-related emissions. Therefore, implementation of the SPA Plan would result in air quality impacts that would be considered significant and unavoidable.

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3.6 NOISE

The previous EIR for the GDP/GPA identified significant noise impacts in many areas in the southern portion of the project site as noise levels would exceed the 65 dBA L_{dn} standard as a result of traffic noise along SR-125, as well as several major roads proposed within the development. According to this previous EIR, the precise location and geometry of any noise barriers would be contingent upon final selection of the alignment for SR-125 and upon final grading plans for individual developments. The following mitigation measures were recommended as conditions of approval of the GDP:

- Construction of noise walls or wall/berm combinations on the top slopes adjacent to East H Street, San Miguel Road and SR-125;

- Composition of noise walls of solid masonry, which prohibits air space along their entire length; and

- Specifications of each noise wall and/or barrier on the building pads.

This section analyzes short-term noise impacts during project construction and reevaluates the noise impacts generated by project traffic on major roads within and adjacent to the project site. This section also identifies the specific locations where noise walls would need to be constructed to reduce traffic noise levels at sensitive receptor locations to acceptable levels.

The noise section identifies, describes, and evaluates noise sources and potential noise conflicts associated with the proposed project. This section analyzes the noise impacts generated by the proposed project, including both the short-term construction impacts and long-term operational impacts, and determine whether the proposed project would result in perceptible or significant increases in noise levels.

Existing Conditions

Terminology and Methodology

Noise is often defined as unwanted sound because it can cause hearing losses, interfere with speech communication, disturb sleep, and interfere with the performance of complex tasks. Environmental noise is usually measured in A-weighted decibels (dBA). A decibel (dB) is a logarithmic unit of sound energy intensity. Sound waves, traveling outward from a source, exert a sound pressure level (commonly called "sound level"), measured in dBs. A dBA is a dB corrected for the variation in frequency response of the typical human ear at commonly encountered noise levels. In general, people can perceive a 3-dBA difference in noise levels; a difference of 10 dBA is perceived as a doubling of loudness.

Community noise is generally not steady state and varies with time. Under these conditions of non-steady state noise, some type of statistical system of measurement is necessary in order to quantify human response to noise. Several rating scales have been developed for the analysis of adverse effects of community noise on people. These scales include the Equivalent Noise Level (L_{eq}), the Day-Night Average Level (L_{dn}), and the Community Noise Equivalent Level (CNEL).

L_{eq} is the sound level corresponding to a steady-state sound level containing the same total energy as a time-varying signal over a given sample period. L_{eq} is the "energy" average noise level. L_{dn} and CNEL are similar to L_{eq}, but it is for 24 hours, and applies a weighting factor

which places greater significance on noise events occurring during the evening and night hours (when sleep disturbance is a concern). L_{dn} is a 24-hour, time weighted average, obtained after the addition of 10 dB to sound levels between the hours of 10:00 p.m. and 7:00 a.m. CNEL is a 24-hour, time-weighted average, obtained after the addition of 5 dB to sound levels between the hours of 7:00 p.m. and 10:00 p.m. and 10 dB to sound levels between 10:00 p.m. and 7:00 a.m. For example, if the daytime maximum L_{dn} or CNEL allowable by code is 65 dBA, then the actual maximum allowable L_{dn} or CNEL by code between the hours of 10:00 p.m. and 7:00 a.m. would be 55 dBA due to the time-weighting factor. In practice, L_{dn} and CNEL are almost identical and can usually be used interchangeably.

Noise Standards, Plans, Policies, and Guidelines

The project site would be annexed into the City of Chula Vista and would, therefore, be subject to regulations in accordance with the Noise Element of the City of Chula Vista General Plan and the City's Noise Control Ordinance.

The Noise Element of the City of Chula Vista General Plan establishes general noise exposure standards for determining land use/noise compatibility in terms of CNEL. It also establishes comprehensive goals, policies, and actions to address noise problems in the City, particularly noise in residential areas.

The City's Noise Control Ordinance regulates and controls disturbing, excessive and offensive noise sources according to certain standards. This ordinance describes the exterior and interior noise limits, noise prohibitions, and enforcement procedures; however, the Noise Control Ordinance exempts certain acts, such as construction and demolition.

In addition, the Chula Vista Planning Department has adopted criteria for schools, parks, and residential land uses that establish a maximum noise exposure level of 65 dBA L_{dn} at exterior usable space (yards, patios, porches, etc.) at any residential property. The State of California has set the normally acceptable maximum noise exposure levels for commercial land uses at 70 dBA L_{dn} (Table 3.6-1). These standards are considered acceptable and are applied in the City of Chula Vista.

Table 3.6-1
Land Use - Noise Level Compatibility Standards

Land Use	Annual Community Noise Equivalent Level in Decibels 50	55	60	65	70	75	
Outdoor Amphitheaters (may not be suitable for certain types of music							
Schools, Libraries							
Nature Preserves, Wildlife Preserves							
Residential-Single Family, Multiple Family, Mobile Homes, Transient Housing							
Retirement Home, Intermediate Care Facilities, Convalescent Homes							
Hospitals							
Parks, Playgrounds							
Office Buildings, Business and Professional							
Auditorium, Concert Halls, Indoor Arenas, Churches							
Riding Stables, Water Recreation Facilities							
Outdoor Spectator Sports, Golf Courses							
Livestock Farming, Animal Breeding							
Commercial-Retail, Shopping Center, Restaurants, Movie Theaters							
Commercial-Wholesale, Industrial Manufacturing, Utilities							
Agriculture (except Livestock), Extractive Industry, Farming							
Cemeteries							

COMPATIBLE - The average noise level is such that indoor and outdoor activities associated with the land use may be carried out with essentially no interference from noise.

INCOMPATIBLE - The average noise level is so severe that construction costs to make the indoor environment acceptable for performance of activities would probably be prohibitive. The outdoor environment would be intolerable for outdoor activities associated with the land use.

Source: City of San Diego, *Progress Guide and General Plan*, updated and reprinted June 1989.

Impacts

Significance Criteria

Noise impacts would be considered significant if they cause the following:

- Noise/land use compatibility standards to be exceeded where they are currently met; these standards are defined as 65 dBA L_{dn} at exterior usable space (yards, patios, porches, etc.) at any school, park, or residential property and 70 dBA L_{dn} at any commercial land uses.

- A measurable worsening of already degraded noise levels; this is defined as an increase in noise levels of 3 dBA or greater.

Impact Analysis

Project Construction

Development of the SPA Plan would generate high noise levels intermittently during construction in and adjacent to the development areas. Noise levels would fluctuate depending on the construction phase, equipment type and duration of use, distance between noise source and receptor, and presence or absence of barriers between noise source and receptor.

Typical exterior noise levels with various phases of commercial construction are shown in Table 3.6-2. Noise levels associated with various types of construction related machinery are shown in Table 3.6-3. Noise levels would decrease by approximately 6 dBA with each doubling of distance from the construction site (e.g., noise levels from excavation would be approximately 83 dBA at 100 feet from the site, and about 77 dBA at 200 feet from the site). Interior noise levels would be approximately 10 dBA (open windows) to 20 dBA (closed windows) less than exterior noise levels (Cornett et al. 1979).

Noise from construction activities assuming the loudest activity and the loudest equipment, presented in Tables 3.6-2 and 3.6-3, respectively, would affect sensitive receptors in the project vicinity, specifically the residences adjacent to the project site to the southeast (Rolling Hills Ranch) and southwest/west (Bonita Meadows). However, because construction activities are generally temporary in nature, noise impacts from project construction would be a short-term adverse, but not significant impact, which would cease upon completion of construction activities.

Table 3.6-2
Typical Commercial Construction Noise Levels

Construction Phase	Noise Level (dBA), L_{eq}[a]
Ground Clearing	84
Excavation	89
Foundations	78
Erection	85
Finishing	85

Note:

a. Average noise levels at 50 feet from the noisiest piece of equipment and 200 feet from the other equipment associated with the given construction phase.

Source: Bolt, Beranek, and Newman, 1971.

Table 3.6-3
Demolition and Construction Equipment Source Noise Levels

Equipment Type[a]	Typical Equipment at 50 ft. (in dBA)	Muffled Equipment at 50 ft. (in dBA)[b]
Air Compressor	81	71
Backhoe	85	80
Concrete Pump	82	80
Concrete Vibrator	76	70
Concrete Breaker	82	75
Truck Crane	88	80
Dozer	87	83
Generator	78	71
Loader	84	80
Paver	88	80
Pneumatic Tools	85	75
Water Pump	76	71
Power Hand Saw	78	70
Shovel	82	80
Trucks	88	83

Notes:

a. If pile drivers are used, the noise levels at 50 feet for typical equipment and quieted equipment would be 90 dBA and 80 dBA, respectively.

b. Muffled equipment can be designed with enclosures, mufflers, or other noise-reducing features.

Source: Bolt, Beranek, and Newman, 1971.

Project Operation

Noise generated by the implementation of the SPA Plan would primarily be traffic-generated noise (the project would contribute to an increase in local traffic volumes, resulting in higher noise levels along local roadways). Traffic noise levels were analyzed at roadway segments in

the project vicinity that would be affected by project-generated motor vehicle trips, as listed in Table 3.6-4. This table also shows the CNEL at 100 feet from the roadway centerline.

As presented in the table, the proposed project would result in both increases and decreases in noise levels along roadway segments in the project vicinity due to the corresponding increases and decreases in average daily traffic (ADT) along these segments. Noise levels would increase by a maximum of 19.0 dBA CNEL as a result of the addition of project traffic to local roadways; a maximum increase of 41,000 average daily trips would result from the proposed project (see Section 3.4, Transportation). Traffic reduction along several roadway segments results from the development of SR-125 through the project site and the widening of Otay Lakes Road (parallel to SR-125), redistributing traffic from these roadway segments onto SR-125 and Otay Lakes Road.

Twelve of the roadway segments listed in Table 3.6-4 would experience a noise increase of 3.0 dBA or greater. Ten of these 12 roadway segments would experience significant noise impacts as noise levels would exceed the acceptable threshold of 65 dBA for residential uses; the remaining two roadway segments would experience measurable noise increases, but the noise levels would remain below the acceptable threshold.

The construction of SR-125 through the proposed project would have the potential to contribute to significant noise increases in the project vicinity, which may result in significant impacts to sensitive receptors, particularly future residents of San Miguel Ranch, located along this freeway alignment. Noise impacts associated with SR-125 are addressed in a separate document prepared by Caltrans for the freeway alignment.

Significant cumulative impacts (exceeding 65 dB or if over 65 dB, increase must be 3 dB or greater) were identified at the following locations:

- Briarwood Road
- Otay Lakes Road (East H Street)
- Sweetwater Road (Central Avenue to Briarwood)
- East H Street (Corral Canyon Road)
- East H Street (Eastlake Drive)
- East H Street (SR-125)
- Proctor Valley Road (Mt. Miguel Road and Lane Avenue)
- Otay Lakes Road (Eastlake Parkway)
- Otay Lakes Road (Lane Avenue)

Table 3.6-4
Estimated Noise Levels in the Project Vicinity
With and Without the Proposed Project

Road Segment	From:	To:	Estimated Noise Levels (CNEL@100ft. from Centerline)		Cumulative Project Impact
			Existing Conditions	Future Conditions	
Briarwood Road	SR-54	Sweetwater Road	61.3	67.0	5.7
Corral Canyon Road	Central Avenue	Country Vistas Lane	61.5	60.9	-0.6
Corral Canyon Road	Country Vistas Lane	Port Renwick	61.3	60.4	-0.9
Corral Canyon Road	Port Renwick	East H Street	61.8	61.3	-0.5
Otay Lakes Road	Bonita Road	Avenida del Rey	66.4	66.8	0.4
Otay Lakes Road	Avenida del Rey	East H Street	66.0	66.8	0.8
Otay Lakes Road	East H Street	Telegraph Canyon Road	64.8	67.8	3.0
Proctor Valley Road	San Miguel Road	Mt. Miguel Road	53.5	61.4	7.9
Mt. Miguel Road	East H Street	SR-125	--[a]	66.7	--
Mt. Miguel Road	SR-125	Proctor Valley Road	--[a]	63.0	--
Bonita Road	Otay Lakes Road	Palm Drive	67.0	67.0	0.0
Bonita Road	Palm Drive	Central Avenue	65.5	66.4	0.9
Bonita Road	Central Avenue	San Miguel Road	63.8	62.0	-1.8
Bonita Road	San Miguel Road	Sweetwater Road	63.3	64.3	1.0
Sweetwater Road	Central Avenue	Briarwood Road	62.5	65.1	2.6
Sweetwater Road	Briarwood Road	Bonita Road	61.4	63.2	1.8
Sweetwater Road	Bonita Road	SR-54	65.0	60.9	-4.1
San Miguel Road	Bonita Road	Proctor Valley Road	56.0	62.8	6.8
Central Avenue	Bonita Road	Corral Canyon Road	61.8	61.0	-0.8
East H Street	Paseo Ranchero	Otay Lakes Road	68.0	67.1	-0.9
East H Street	Otay Lakes Road	Corral Canyon Road	65.0	65.6	0.6
East H Street	Corral Canyon Road	Eastlake Dr.	63.2	65.2	2.0
East H Street	Eastlake Drive	Mt. Miguel Road	55.5	--[b]	--
East H Street	Eastlake Drive	SR-125	55.5	65.5	10.0
East H Street	SR-125	Mt. Miguel Road	55.5	67.0	11.5
Proctor Valley Road	Mt. Miguel Road	Lane Avenue	53.5	68.3	14.8
Proctor Valley Road	Lane Avenue	Hunte Parkway	50.0	69.0	19.0
Telegraph Canyon Road	Paseo Ranchero	Otay Lakes Road	68.0	67.8	-0.2
Otay Lakes Road	Telegraph Canyon Road	Rutgers Avenue	66.8	69.3	2.5
Otay Lakes Road	Rutgers Avenue	Eastlake Dr.	65.7	--[b]	--
Otay Lakes Road	Eastlake Parkway	SR-125	65.7	69.8	4.1
Otay Lakes Road	SR-125	Eastlake Dr.	65.7	71.2	5.5
Otay Lakes Road	Eastlake Parkway	Lane Avenue	61.0	69.1	8.1
Otay Lakes Road	Lane Avenue	Hunte Parkway	57.9	67.5	9.6

Notes: Noise level estimates are based on the average daily traffic (ADTs) along the roadway segments listed above, as analyzed in the SPA Transportation Study prepared by BRW, Inc.

a. Proposed roadway within the project site.
b. Existing Plus Project scenario splits this roadway segment into two segments.

The project would not result in significant project level traffic impacts (see Section 3.4 Transportation); however, the cumulative increase in the traffic levels results in significant cumulative impacts to noise.

Mitigation Measures

- To minimize short-term adverse impacts on adjacent residences, the following mitigation measures shall be implemented:

  - Construction shall be limited to the hours of 7:00 a.m. to 6:00 p.m., Monday through Friday and between 8:00 a.m. and 6:00 p.m. on Saturday.

  - The project contractor shall use power construction equipment with state-of-the-art noise shielding and muffling devices.

  - Temporary noise barriers, such as wooden barrier walls, mufflers, and noise attenuating devices shall be employed to reduce noise generated during construction.

- To reduce noise levels at sensitive receptor locations, particularly residences within the project site, to acceptable levels, a noise wall along the following locations (Figure 3.6-1) shall be installed:

  - Eastern boundary of Neighborhood D along Mt. Miguel Road;

  - Northern boundary of Neighborhood G along Mt. Miguel Road;

  - Southwestern/southern boundary of Neighborhood H along Mt. Miguel Road;

  - Southern boundary of Neighborhood F along Mt. Miguel Road;

  - Northern boundary of Neighborhood A along East H Street.

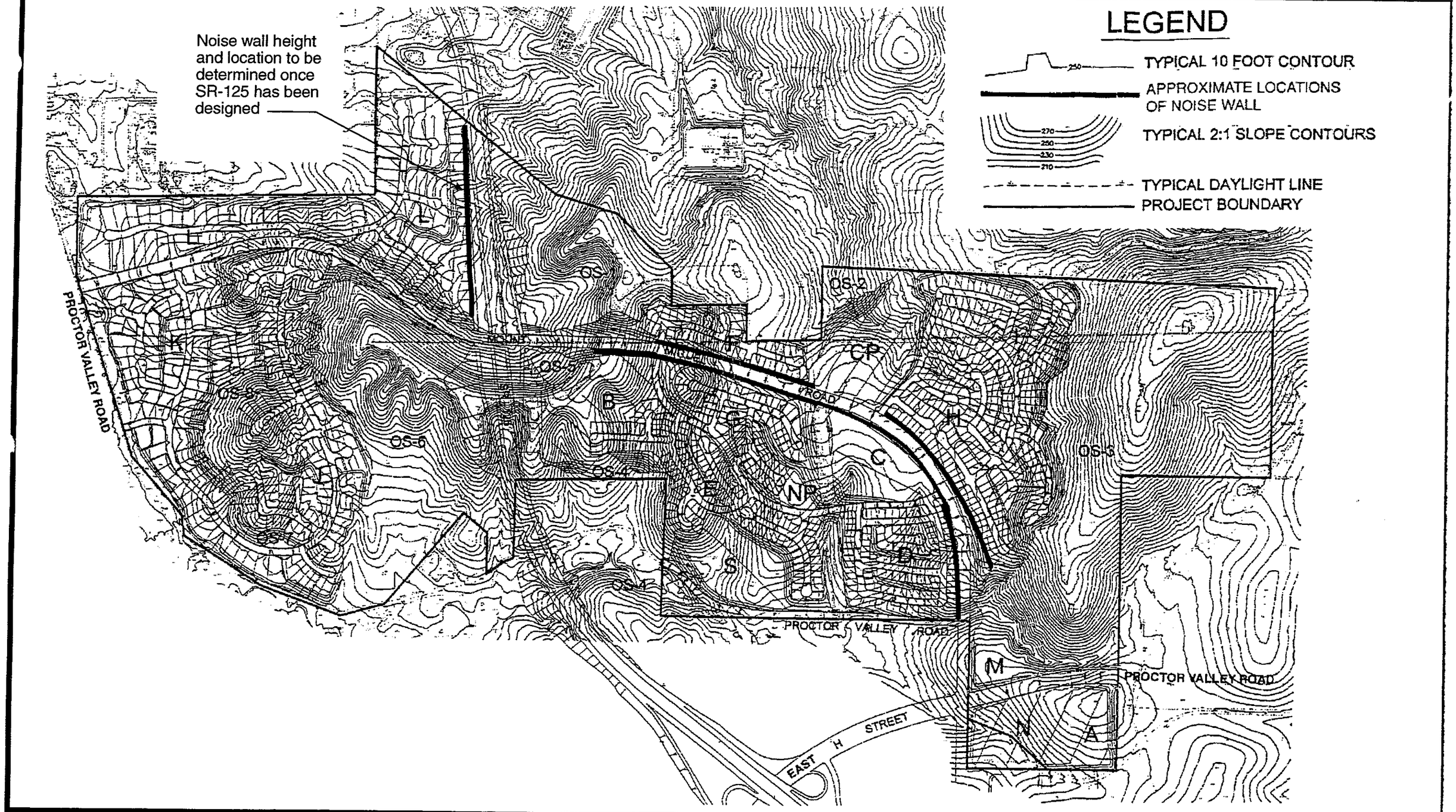
  - Noise wall also needed adjacent to Neighborhoods B and C along Mt. Miguel Road.

  The noise wall shall be erected along the rear property lines of the locations identified above, shall have a maximum height of six feet, and shall be of solid masonry construction with a material weight of at least 3.5 pounds per square foot and which would not allow any air space along their entire length. This noise wall would serve as a sound attenuation barrier to reduce exterior noise along Mt. Miguel Road and East H Street by 15 dBA.

Analysis of Significance

Implementation of the mitigation measures recommended above would reduce project-level noise impacts to sensitive receptors to below a level of significance.

Cumulative noise impacts to the regional circulation network are considered unmitigable.



Source: Hunsaker & Associates

No Scale

P&D Environmental Services
San Miguel Ranch

Figure 3.6-1

Noise Wall Locations

3.7 PUBLIC SERVICES AND UTILITIES

The previous EIR for the GDP/GPA concluded that no significant impacts on gas and electric services and solid waste disposal service would result from the implementation of the GDP. Significant, mitigable impacts were identified on water, sewer, fire protection, police protection, schools, and emergency medical services. The following mitigation measures were recommended to mitigate significant impacts to the services mentioned above:

Water

- Submittal and approval of a Water Master Plan, which requires identification of the location and sizing of specific facilities; and,

- Preparation of a Water Conservation Plan to be submitted with the SPA Plan. The Water Conservation Plan shall include the following:

  - Use of reclaimed water;
  - Application of water conservation measures;
  - Installation of low flush toilets;
  - Installation of low flow showers and faucets; and,
  - Insulation of hot water lines in water circulating systems.

Sewage

- Submittal and approval of a Wastewater Master Plan, which requires identification of the location and sizing of sewage facilities; and,

- Payment of wastewater development fees.

Police Protection

- Payment of a proportionate share of the funding for police protection facilities.

Fire Protection

- Payment of a proportionate share of the funding for fire protection facilities; and,

- Implementation of an acceptable brush management plan, which will be submitted with the SPA Plan.

Emergency Medical Services

- Designation of the North Parcel as open space; or,
- Provision of a second access road to the North Parcel to meet response time.

Schools

- Payment of school fees of $1.84 per square foot of habitable space for residential development and $0.30 per square foot of commercial development;

- Compliance of funding with the Chula Vista Elementary School District procedures and Mello-Roos Community Facilities District financing method;

- Provision of documentation to the City regarding satisfaction of funding requirements of Sweetwater Union High School District; and,

- Written verification from the Elementary School and High School districts that adequate school facilities will be provided for students generated by the project.

This section assesses the impacts of the proposed project on public services and utilities, including water, sewer, police and fire protection, emergency medical services, schools, gas and electric, solid waste services, storm drain system and water quality.

3.7.1 WATER SUPPLY

Existing Conditions

Regional Water Supply

The County of San Diego obtains potable water from two sources; San Diego County Water Authority (CWA) and local supplies. On average, 85 percent of the County's water requirements are provided from water imported by the San Diego County Water Authority. The remaining 15 percent of the water is produced locally through its own system of reservoirs. The County's dependence on imported water has steadily increased due to growing population and shortage of local water supplies.

The CWA currently receives its imported water supplies exclusively from the Metropolitan Water District of Southern California (MWD), of which it is a member agency. The MWD's two primary water sources are the Colorado River and the California State Water Project (SWP). From these sources it supplies its 27 member agencies in Ventura, Los Angeles, Orange, Riverside, San Bernardino, and San Diego counties. Historically, the CWA has used an average of 25 percent of MWD's total water supply, and in dry years may use as much as 30 percent (OWD 1998).

Over the past 44 years, the CWA has constructed five pipelines to serve the water needs of the area. These pipelines convey water purchased by the CWA from the MWD. The pipelines are located in two aqueduct corridors running parallel to one another from the Colorado River Aqueduct in Riverside County to Lake Murray Reservoir and El Capitan Reservoir in the southern portions of San Diego County. The first two pipelines, completed in 1947 and 1954, are in the first aqueduct and terminate at San Vicente Reservoir. An extension of this aqueduct completed in 1948 extends south to Sweetwater Reservoir. This aqueduct supplies Colorado River water that is used for domestic and agricultural purposes north of the City of Escondido, and untreated blend of Colorado River and SWP water south of Escondido.

The second aqueduct contains pipelines 3, 4, and 5, which were completed in 1960, 1978, and 1982, respectively. North of San Marcos, pipelines 3 and 5 carry untreated water and Pipeline 4

carries water that has been treated by MWD at the Skinner Water treatment plant in Riverside County. Pipeline 5 carries raw water through the Crossover Aqueduct to replenish supplies in the first San Diego aqueduct. South of San Marcos, carries treated water to its terminus at Lower Otay Reservoir. Pipeline 4 was extended to the Lower Otay Reservoir in 1996 and Pipeline 3 now transports raw water. Extensions of the treated water pipeline system deliver water to the Fallbrook, Oceanside, Vista, and Carlsbad areas. A total of 11 water treatment plants and 20 storage reservoirs are distributed throughout San Diego County.

Local Water Supply

The San Miguel Ranch site is currently within the "Central Area System" serviced by the Otay Water District (OWD) which is a member agency of the CWA. The OWD will provide local domestic service for the proposed project and will be served by the 980-711 pressure zones. There is currently one pump station in the 711 Zone, which is located south of Otay Lakes Road; this pump station currently has four pumps (one standby), each rated for 4,000 gallons per minute (gpm), which results in a firm capacity of 12,000 gpm. There is one spare can at this station that allows for the addition of a fifth pump station in the future. There is presently one pump station in the 980 Zone, which is located on the south side of Otay Lakes Road at Lane Avenue. This pump station is equipped with three 4,000 gpm pumps (one standby) for a firm capacity of 8,000 gpm.

There are currently two reservoirs in the 711 Zone. These reservoirs are located within the Eastlake Greens development and have capacities of 2.8 and 2.2 million gallons for a total of 5.0 million gallons. Another 711 Zone Reservoir is in the pre-design stage and is to be located in the OWD Use Area Property. This reservoir will have a capacity of 8.0 million gallons and is expected to be completed in the next two to three years. There are two existing reservoirs in the 980 Zone system, both of which are located in the OWD Use Area Property as well. These reservoirs have a capacity of five million gallons each for a total of 10 million gallons.

Impacts

Significance Criteria

Impacts to water service are considered significant if they cause any of the following:

- Encourage activities which result in the use of large amounts of fuel, water, or energy;
- Use fuel, water, or energy in a wasteful manner; or
- Have a significant effect on, or result in a substantial need for new, altered, or expanded services.

Impact Analysis

The impact analysis involves several issues: project demand versus water availability, proposed water supply facilities, and fire flow requirements.

Project Demand Versus Water Availability

Table 3.7-1 represents the average daily water demand associated with the proposed SPA plan for San Miguel Ranch.

Table 3.7-1
Estimated Water Demand for San Miguel Ranch

Land Use	Water Consumption
Residential	644,981 gpd
School	52,500 gpd
Commercial	91,875 gpd
Community Service	1,000 gpd
Community/Neighborhood Park	131,144 gpd
Total	**921,500 gpd or 0.92 mgd**

Note: These estimates were taken from the Subsequent EIR for San Ranch General Plan Amendment and General Development Plan Amendment, certified by the City of Chula Vista in December 1996.

According to the OWD, it will be able to handle this increase in water supply by purchasing the needed water from the CWA. In Fiscal Year 95, OWD purchased 20,000 acre feet from CWA; OWD has not been given a limit on the amount of water that is available from CWA (Peasley 1998).

Proposed Water Supply Facilities

Because of the range of elevations throughout the project site, San Miguel Ranch will be served by expanding the 980 Zone and 711 Zone water systems. The eastern portion of the project site will be served by the expansion of the 980 Zone, and the western portion of the project site will be served by the expansion of the 711 Zone.

The potential use areas for recycled water on the project site include open space, parks, parkway landscaping, and the common areas of the school and commercial sites. Service to irrigated areas above 500 feet of elevation would be served by extending the existing 950 Zone recycled water system located at the southeast corner of the project site in Proctor Valley Road and Mt. Miguel Road.

The OWD's CIP allows capacity fees collected on the sale of water meters to be used for financing project mandated capital improvements. The project site is currently within the boundaries of Improvement District No. 27 and will be required to annex into Improvement District No. 22. Through exaction, the project proponent will design and construct the extension of potable and recycled water service facilities that will serve the development. These facilities will be dedicated to the OWD when completed.

Fire Flow Requirements

The City of Chula Vista's required minimum fire flows are 1,000 gpm for 2 hours for single-family residential areas. The flow requirements for other types of development, including commercial centers and schools, is based upon square footage and type of construction. OWD reservoirs are designed to hold the maximum daily flow plus fire flow storage. For purposes of

sizing of required storage, the project proposes 1,500 gpm for 2 hours for the residential areas, and 3,500 gpm for 4 hours for the elementary school, retail commercial center, and residences near the latter. The project applicant will present final building sizes and construction types for the retail commercial center, and elementary school to the City of Chula Vista for review by the Fire Department. The project applicant has committed to complying with City of Chula Vista fire flow requirements. Compliance would satisfy the City's requirements; therefore, the impacts are not significant.

Mitigation Measures

No additional mitigation measures are required beyond those required for project development. These mitigation measures include adherence to the threshold compliance and recommendations identified in the PFFP for the San Miguel Ranch SPA. The OWD Water Resource Master Plan and the Overview of Water Service identify the water facilities to be constructed that will provide the level of water service necessary to meet the criteria established within these plans; therefore, the facilities identified within the plans will be included within the construction requirements of the proposed project. The project proponent will provide potable and recycled water improvements solely at the applicant's cost for the project as recommended by Wilson Engineering (1998).

Analysis of Significance

No significant impacts would occur.

3.7.2 SEWAGE

Existing Conditions

The City of Chula Vista contracts with the City of San Diego's Metropolitan Sewer Authority (METRO) for sewage disposal. Chula Vista's system consists of approximately 270 miles of sewers (ranging in size from 6 to 36 inches), 10 pump stations, and 4 independent metered connections to METRO.

The project site is located within the Proctor Valley Drainage Basin, which has sewer facilities available to service the proposed development. Existing development in the vicinity of the project site is currently served by a gravity sewer line in Proctor Valley Road. This sewer line was constructed during development of the Rolling Hills Ranch Project. This line generally follows Proctor Valley Road from Rolling Hills Ranch to Bonita Meadows Lane where it connects to a County of San Diego 15-inch line, referred to as the Frisbee Trunk Sewer, which conveys sewage westerly to the Spring Valley Outfall. This project will connect with a City of Chula Vista sewer line, which ultimately flows through the County lines.

Impacts

Significance Criteria

- Impacts to sewer service are considered significant if they require extension of a sewer trunk line with capacity to serve new development.

Impact Analysis

The City's ability to serve the project is governed by two factors: available sewage capacity and adequate infrastructure. Table 3.7-2 shows the amount of sewage that would be generated by the SPA Plan.

Table 3.7-2
Sewage Generation From San Miguel Ranch

Land Use	Estimated Sewage Generation
Residential[(1)]	436,240 gpd
Commercial[(2)]	39,200 gpd
School[(3)]	22,400 gpd
Parks[(5)]	2,907 gpd
Total	**500,747 gpd or 0.50 mgd**

Notes: [(1)]280 gpd/DU single family, 210 gpd/DU multi-family
[(2)]2,500 gpd/ac
[(3)]1,000 gpd/gross ac
[(4)]500 gpd/ac (Rick Engineering Company, 1996 and City of Chula Vista, 1992)
[(5)]Peak Flows = 2 x total

Sewage flow generated by San Miguel Ranch will feed into the gravity sewer line in Proctor Valley Road at various locations. The sewer line consists of approximately 4,000 feet of 10-inch pipe, 1,500 feet of 12-inch pipe, and 3,900 feet of 15-inch pipe. The Proctor Valley Sewer Trunk line was constructed during development of the Rolling Hills Ranch Project and was oversized to serve future developments, including San Miguel Ranch, in the basin. The City of Chula Vista will ultimately collect monies from future developments that utilize the Proctor Valley Trunk Sewer line, based upon the number of DUs. Additionally, the Frisbee Truck Sewer has available capacity to serve the proposed project. A capacity agreement between the City of Chula Vista and the County of San Diego will be required. The proposed project is not anticipated to result in a significant impact to sewer services.

A sewer pump station will be required to convey sewage offsite from Planning Area L and, therefore, will be required to be operational prior to occupancy of this area. The project proponent will underwrite the cost of all studies and reports required to design the infrastructure, as well as bear the cost of all sewer lines, pump stations, and connections required for the development. The approval of any pump station will be required to adhere to the City's Council Policy for Sewage Pump Station Financing Policy (570-03, effective date 5-17-94). This policy dictates requirements for the maintenance and operation costs of any sewage pump station. The City will require adherence to this policy. There are no anticipated significant impacts associated with the sewage pump station.

Mitigation Measures

No additional mitigation measures are required beyond those required for project development. Measures required for project development include adherence to the threshold standards, service analysis, and project processing requirements identified in the PFFP for the San Miguel Ranch SPA. Individual projects are required to provide necessary improvements to maintain consistency with the City of Chula Vista Wastewater Master Plan (1989) and to comply with all city engineering standards. The project proponent will implement, solely at the applicant's cost, all of the recommended sewer facilities identified in the *Overview of Sewer Service for San Miguel Ranch* (Wilson Engineering 1998).

Analysis of Significance

No significant impacts would occur.

3.7.3 POLICE PROTECTION

Existing Conditions

Police protection is currently provided to the project site by the County of San Diego Sheriff's Department. The sheriff's precinct responsible for responding to calls in the project area is located at 3240 Main Street, Lemon Grove.

Subsequent to annexation of the project site to the City of Chula Vista, the Chula Vista Police Department will provide service for the project area. The City of Chula Vista's threshold/standards policy objective for police protection is to "ensure that police staff, equipment, and training levels are adequate to provide police service at the desired level throughout the city." The standard is to respond to 84 percent of Priority I (life-threatening) calls within 7.0 minutes, and to maintain an average response time of 4.5 minutes or less to all Priority I (emergency calls). Priority II (serious, non-routine with a probability of injury) calls

will be responded to in 7.0 minutes or less. The Growth Management Oversight Commission 1997 Report published in April 1998 reports that city-wide measures for Priority II Calls for Service (CFS) were met; however, the response to Priority I CFS fell just below that standard with a response average of 83.8 percent of calls in 4.5 minutes or less. The City of Chula Vista Police Department has indicated that, based upon the proposed development phasing schedule in the City, they would not have adequate facilities, equipment and staff to accommodate forecasted growth during the next 5 to 7 years. The City Manager and Police Department are developing a program to meet the forecasted needs of the City. Additionally, the Police Department, through use of city and federal funding sources, will hire 15 new officers (Richard Preuss, pers. comm. 1999)

Impacts

Significance Criteria

Impacts to public services are considered significant if they cause any of the following:

- Require additional staff and equipment to maintain acceptable levels of service as defined by the City of Chula Vista; and

- Have a significant effect on, or result in a substantial need for, new, altered, or expanded services.

Impact Analysis

Development of the SPA Plan is anticipated to increase demand for police services in the project area. The expected population increase generated by the proposed project will require two officers to maintain current levels of service. The City's General Plan requires the increase of police services for the Eastern Territories with funds being provided through increases and project fair-share contributions to the City's General Fund. The project applicant will be required to pay their proportionate share of the funding requirements.

Mitigation Measures

No additional mitigation measures are required beyond those required for project development. The proposed project will be conditioned to pay Public Facilities Fees at the rate in effect at the time building permits are issued. The City has the responsibility to apply these fair-share funds in order to provide adequate police service within the project area; however, due to the potential shortfall in the forecasted facilities, staff, and equipment, the impacts are considered cumulatively significant and unmitigable.

Analysis of Significance

No significant project impacts would occur; however, cumulative impacts are significant.

3.7.4 FIRE PROTECTION

Existing Conditions

Fire protection for the project site is presently provided by the California Department. of Forestry (CDF). If annexed to the City of Chula Vista, structural fire protection responsibilities

will be assumed by the City of Chula Vista. Service will be provided by Chula Vista Fire Department Station 6 located on Mount Miguel Road south of East H Street, with others in National City and San Diego.

Subsequent to annexation of the project site to the City of Chula Vista, protection services will be provided by the Chula Vista Fire Department. The project site would be serviced by Station 6 located on Mount Miguel Road south of East H Street. Station 6 has a triple combination pumper and the station has three personnel on duty at all times (Rice 1998).

Impacts

Significance Criteria

Impacts to public services are considered significant if they cause any of the following:

- Require additional staff and equipment in order to maintain acceptable levels of service; and
- Have a significant effect on, or result in a substantial need for new, altered, or expanded services.

Additionally, the City's Threshold Standard states that fire protection meet the following requirements:

- Properly equipped and staffed fire and medical units shall respond to calls throughout the City within seven (7) minutes in 85 percent of the cases.

Impact Analysis

The coverage analysis indicates that approximately 85 percent of the proposed residential units on the project site would be within a 7 minute response time, and 100 percent of the proposed units would be within a 10 minute response time (Rice 1998). The response times are in conformance with project guidelines established by the *Fire Station Master Plan*, and the assumption is that this will remain accurate in the *Fire Station Master Plan Update*.

The danger of brush fires represents potentially significant fire hazard impacts to dwellings that are located near hillsides and open spaces in the proposed development area. Impacts to the site during construction have the potential to be significant, as the area is open space and a spark could potentially ignite the entire site. However, the SPA Plan includes a Brush Management and Fuel Modification component to reduce the potential for fire hazards and maximize the preservation of natural open space values in accordance with the County of San Diego's Brush Management criteria. Therefore, the proposed project is not anticipated to result in a significant impact to fire protection services.

Mitigation Measures

No additional mitigation measures are required beyond those proposed for project development. The proposed project will be developed in accordance with the Fire Station Master Plan, as amended. The City, based upon the Fire Station Master Plan, will determine when a new fire station is required. The San Miguel Ranch project will be subject to the payment of a Development Impact Fee; the City has the responsibility to apply these fair-share funds to provide adequate fire protection service within the project area.

Analysis of Significance

No significant impacts would occur.

3.7.5 EMERGENCY MEDICAL SERVICE (EMS) PROTECTION

Existing Conditions

The project site is not currently served by an agency that provides emergency medical services. If the property is annexed to the City of Chula Vista, the City would provide fire protection and emergency medical services. When the site is annexed, the area will be serviced by the Chula Vista Fire Department Station 6 located in the western section of Rolling Hills Ranch near the eastern edge of the project site. All firefighting personnel are trained emergency medical technicians, capable of handling a variety of emergency medical situations. American Medical Response units are routinely dispatched on all calls, providing ambulance services and additional paramedic personnel. The closest station to the project site is located at Interstate 805 (I-805) and Telegraph Canyon Road. The next closest station is located in the 200 block of H Street in Chula Vista. The first response for emergencies would be the station located at I-805, followed by the station in the 200 block of H Street. Hartson's response time is usually within 10 to12 minutes.

Emergency medical facilities in the area are Chula Vista Community Hospital at 751 Medical Center Court, Paradise Valley Hospital, 2400 E. 4th in National City; and Scripps Memorial Hospital, 435 H Street, Chula Vista.

Impacts

Significance Criteria

Impacts to public services are considered significant if they cause any of the following:

- Require additional staff and equipment in order to maintain acceptable levels of service; and
- Have a significant effect on, or result in a substantial need for new, altered, or expanded services.

Additionally, the City's Threshold Standard states that fire protection meet the following requirements:

- Properly equipped and staffed fire and medical units shall respond to calls throughout the City within seven (7) minutes in 85 percent of the cases.

Impact Analysis

The established goal in the South Bay area is to respond to 90 percent of all emergency medical calls within 10 minutes. The Bonita/Sunnyside Fire Protection District and the Chula Vista Fire Department estimate that they would be able to respond to the majority of the units on the site within 10 minutes. The Hartson's unit would typically arrive at the scene within 4 to 5 minutes after the Fire Department. The impacts to EMS protection are not anticipated to be significant. The proposed project will be developed in accordance with the Fire Station Master Plan, as amended. The City, based upon Fire Station Master Plan, will determine when a new fire station with emergency medical services is required. The San Miguel Ranch project will be subject to the payment of a Development Impact Fee; the City has the responsibility to apply these fair-share funds in order to provide adequate fire protection service within the project area.

Mitigation Measures

The developer will pay all applicable Development Impact Fees. No additional mitigation measures are required beyond those proposed for project development.

Analysis of Significance

No significant impacts would occur.

3.7.6 SCHOOLS

Existing Setting

The project site is located within the Chula Vista Elementary School District, which serves grades K-6, and the Sweetwater Union High School District, which serves 7-12. The Chula Vista Elementary School District is currently comprised of 35 elementary schools. Enrollment in the district reached a high of 17,000 students in 1971 and declined from 1975 to 1985 (Helvie 1996). Enrollment increased almost 25 percent over a 6 year period, from 14,000 during the 1984-1985 school year to 18,235 in 1990-91, and is still increasing. Current enrollment for the district is 21,409 as of October 16, 1998 (Peralta 1998). This is approximately 1,880 students more than the enrollment for 1996.

Sweetwater Union High School District is currently comprised of ~~10~~ 9 high schools (10-12), 3 junior high schools (7-9), ~~6~~ 7 middle schools (7 and 8), and ~~4~~ 5 adult schools. Current enrollment for the district is ~~29,596~~ 33,060 which is about ~~200~~ 3,063 over the maximum number of spaces available for students (~~Silva, 1996~~Wright, 1999). The school that is located closest to the project site is Bonita Vista High School~~., which is currently over capacity.~~ Eastlake High School was completed 4 years ago to help ease enrollment at Bonita Vista High School. ~~Eastlake High School is currently operating at 80 percent capacity.~~

There is an elementary school planned within the proposed development that will be located adjacent to Neighborhood E along Proctor Valley Road.

Impacts

Significance Criteria

- Impacts to schools are considered significant if they have an adverse effect on, or result in a substantial need for new, altered, or expanded school services.

Impact Analysis

Implementation of the San Miguel Ranch Development Plan would result in an increase in population and would therefore generate an increase in school aged children. Given the generation rate of 0.30 students per dwelling unit assumed by the Chula Vista Elementary School District and 0.29 (0.10 for Jr. High and 0.19 for Sr. High) students per dwelling unit for Sweetwater Union High School District, Table 3.7-3 presents the number of elementary school students and junior/high school students that would be generated by the proposed project.

Table 3.7-3
Number of Students Generated at San Miguel Ranch

School District	Number of Students[1]
Chula Vista Elementary School District[a]	418 students
Sweetwater Union High School District[b]	~~404~~457 students (~~139~~161 Jr.+ ~~265~~296 Sr. High)

Notes: Approximate Student Generation by development phase is as follows:
1 = 35 percent
2 = 34 percent
3 = 23 percent
4 = 8 percent
a 0.30 students per DU for Elementary School
b 0.~~10~~12 students per DU for Jr. and 0.~~19~~22 students per DU for Sr. High

At the time of completion of San Miguel Ranch, the two closest schools to the project within Sweetwater Union High School District will be impacted. It is estimated that Eastlake High School will have exceeded its capacity and will no longer be accepting students. ~~Bonita Vista Middle School is currently 110 students over capacity and this number is expected to increase (Silva 1996).~~ This is considered a significant impact.

However, as required by law, the project applicant must pay school fees of $1.93 per square-foot of habitable space for residential development and $0.31 per square-foot of commercial development for the construction of new school facilities to accommodate increasing enrollment in the districts. This would partially mitigate impacts to school services because the maximum amount collectable, by law, from project proponents covers less that 25 percent of the cost to construct new schools.

Mitigation Measures

Implementation of the following mitigation measures will partially reduce project related impacts, but not to below a level of significance:

- Funding for the school shall be in compliance with state law in effect at the time of building permits.

Analysis of Significance

According to State law, the fees collectable from the project proponent would not be adequate to fund the necessary improvements to the school system. Construction of the new elementary

school, followed by its dedication to the local school district by the project proponent, would minimize this impact. Other potential measures could include Mello-Roos or other special funding; however, at this time no measures have been identified which would reduce the impacts to below a level of significance. Cumulative impacts to schools are considered significant and unmitigable.

3.7.7 GAS AND ELECTRIC

Existing Conditions

San Diego Gas and Electric (SDG&E) provides gas and electric service to the San Diego region. The project site is bisected by two SDG&E easements, which contain major transmission lines (138 and 230 kV). One of the easements runs southwest to northeast, and the other easement runs south through the southern portion of the property. SDG&E owns a parcel of land between the North and the South parcels of San Miguel Ranch and operates a substation and transformer yard on this land. A 500 kV transmission line, which brings power from Arizona, runs east/west through the SDG&E property, adjacent to the northern edge of the southern portion of the proposed project. The SDG&E Proctor Valley Substation is located southeast of the San Miguel Ranch project.

Impacts

Significance Criteria

The significance of project impacts to energy is determined based on the available supply of electricity, natural gas, gasoline and diesel fuels, which are non-renewable energy resources. A substantial increase in demand, which would result in the need for new power plants and energy-distributing facilities and infrastructures, would be considered a significant impact.

Impact Analysis

All of the uses would result in an increased demand for energy, and extension lines into the project site would be required. The number of lines and their locations are unknown at this time; it is, however, anticipated that extension would come from existing facilities in the Bonita Community or Chula Vista near Proctor Valley Road. The proposed project is not anticipated to create a significant impact on SDG&E services.

Mitigation Measures

No mitigation measures are required because no significant impacts were identified.

Analysis of Significance

No significant impacts would occur.

3.7.8 SOLID WASTE DISPOSAL

Existing Conditions

Because the project site is undeveloped, solid waste is not presently generated on-site. Solid waste disposal services for the City and the adjacent unincorporated areas are provided by

private solid waste haulers operating under franchises with the City and San Diego Landfill Systems. The landfill that accepts solid waste from the project area is the Otay Sanitary Landfill, which is located north of Otay Valley Road and one-half mile east of I-805. The landfill currently handles approximately 1,000 tons of solid waste each day and can handle up to 1,500 tons per day. The landfill has recently been lined and future plans call for the lining of a larger area of the facility, increasing the lifespan of the facility. The new area that is currently being upgraded is called Otay Landfill Annex, and will continue to handle all solid waste from the South Bay area for at least another 20 years (Kaiser 1998).

Impacts

Significance Criteria

The significance of project impacts to solid waste services is determined based on the available landfill space. A substantial increase in solid waste generation, which would result in the need for new landfills or landfill expansion, would be considered a significant impact.

Impact Analysis

Based on an average generation rate of 7.5 pounds per day per capita, the proposed project would generate substantial amounts of residential solid waste per day, as calculated in Table 3.7-4.

Table 3.7-4
Solid Waste Generation For San Miguel Ranch

Average Generation Rate	Dwelling Units (DU)	Persons/DU	Total
7.5 lbs./day	1,394 du	2.97 persons	31,051 lbs./day = **15.5 tons/day**

Total solid waste generation will constitute a small percentage (less than 1%) of the daily waste generation and disposal (3,000 tons/day) at the Otay Landfill and the Otay Landfill Annex and will not be considered significant.

Countywide recycling measures have been implemented in efforts to reduce the cumulative flow of solid waste, thereby extending the lifetime of the landfills. The Integrated Waste Management Act of 1989 enacted by Assembly Bill 939 (AB939) requires that 50 percent of the waste stream be diverted from landfills by 2000. To comply with this law, the County Board of Supervisors has passed a mandatory recycling ordinance, which the City of Chula Vista has adopted (Chapter 8.25 C.V. Municipal Code). The City of Chula Vista also hired a conservation coordinator in 1991 to assist the city in implementing AB939. Since that time, many changes have been made:

- Yard waste recycling began in 1993;
- Industrial recycling consisting of recycling materials generated from demolition construction debris; and

- Commercial recycling began in 1993 including all offices 20,000 square feet or larger.

Because the landfill can accommodate 1,500 tons per day and it currently is handling 1,000 tons per day, there are no significant impacts to solid waste disposal.

Mitigation Measures

No mitigation measures are required because no significant impacts were identified.

Analysis of Significance

No significant impacts would occur.

3.7.9 STORM DRAINS AND WATER QUALITY

Existing Conditions

The project site is located in the lower Sweetwater subunit of the Sweetwater Hydrologic Unit. This is one of 11 major drainage basins within the San Diego Basin. Approximately 11 to 14 inches of annual precipitation occurs in the Lower Sweetwater subunit. The project site is within the watershed of the Proctor Valley tributary of the Sweetwater River. The generally diverse and rugged topography of the site causes runoff direction and volumes to vary.

The project site is predominately rugged terrain and dominated by native grasslands. A large portion of the site is south of a ridgeline running in an east-west direction. This portion of the site includes Gobblers Knob and Horseshoe Bend. The drainage basin consists of small tributary canyons that flow in a southerly direction to Proctor Valley.

The area located north of the ridgeline drains northwesterly through Wild Mans Canyon and associated small tributary canyons flow to Sweetwater River. Northwest of the site the Sweetwater River flows westerly to its confluence with Proctor Valley. Some existing downstream facilities are not adequate to accommodate existing flows.

Impacts

Significance Criteria

When evaluating the water quality and drainage-related issues of a proposed project the CEQA Guidelines indicate that a project will normally have a significant effect on the environment if it would:

- Violate Regional Water Quality Control Board water quality standards or waste discharge requirements;

- Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level.;

- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial

erosion or siltation on- or off-site or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;

- Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems to control; or,

- Place housing within a 100-year floodplain, as mapped on federal Flood Hazard Boundary and Flood Insurance Rate Maps or other flood hazard delineation map or place other structures within a 100-year floodplain which would impede or redirect flood flows.

Impact Analysis

Storm Drain

The project proposes grading, infilling of drainages, and construction of impervious surfaces to accommodate the planned residential community. This would directly alter the nature and quantity of runoff within the project site. The change in the direction and velocity of runoff would be affected due to grading and drainage alteration. Hence, the potential for erosion would increase due to vegetation removal and creating artificial slopes. The overall quantity of runoff would increase due to the construction of impervious surfaces. This would also decrease the infiltration of precipitation and runoff on-site.

To control increased runoff and erosion on-site, the proposed project would include an on-site drainage system, which would prevent the degradation of downstream facilities. To regulate surface water within the site, the system would incorporate natural and improved channels, closed conduits, pipelines and erosion facilities into the project design.

Large single family lots, a community park, and open space would be in the northern most portion of the project site. The proposed drainage facilities would include drainage inlets connected by underground conduits. On the south side of the proposed development area the conduit system would outlet into the existing canyon. These outlets would be lined with rip rap to dissipate the energy flows. Two outlets are proposed for the northern portion of the development. These outlets would have small detention basins which would accommodate storm water runoff.

Residential lots, an elementary school site, a multi-family site, a commercial site, and open space would be in the southern most portion of the proposed project. Drainage facilities for these sites would include drainage inlets connected by underground conduit. The conduit system would outlet into existing canyons or existing drainage facilities. An existing underground system within the Proctor Valley Road located southeast of San Miguel Ranch and in the Rolling Hills Ranch residential development would be used to drain part of the proposed project. The remainder of the conduit system would outlet into existing canyons and rip-rap pads would be used to dissipate the energy flows at the outlets. Two locations within the southern portion of the project site and one location in the northern portion of the project site would have detention and desilting basins.

Development of the proposed project would be expected to produce post-development design flows 10 to 20 percent above predevelopment flows. The developer would be required to provide onsite storm detention facilities such that the post-development flow rate for a given design storm would not exceed the predevelopment flow rate at the outlet of the subdivision as stated in the City of Chula Vista Subdivision Manual. The detention basins would also be

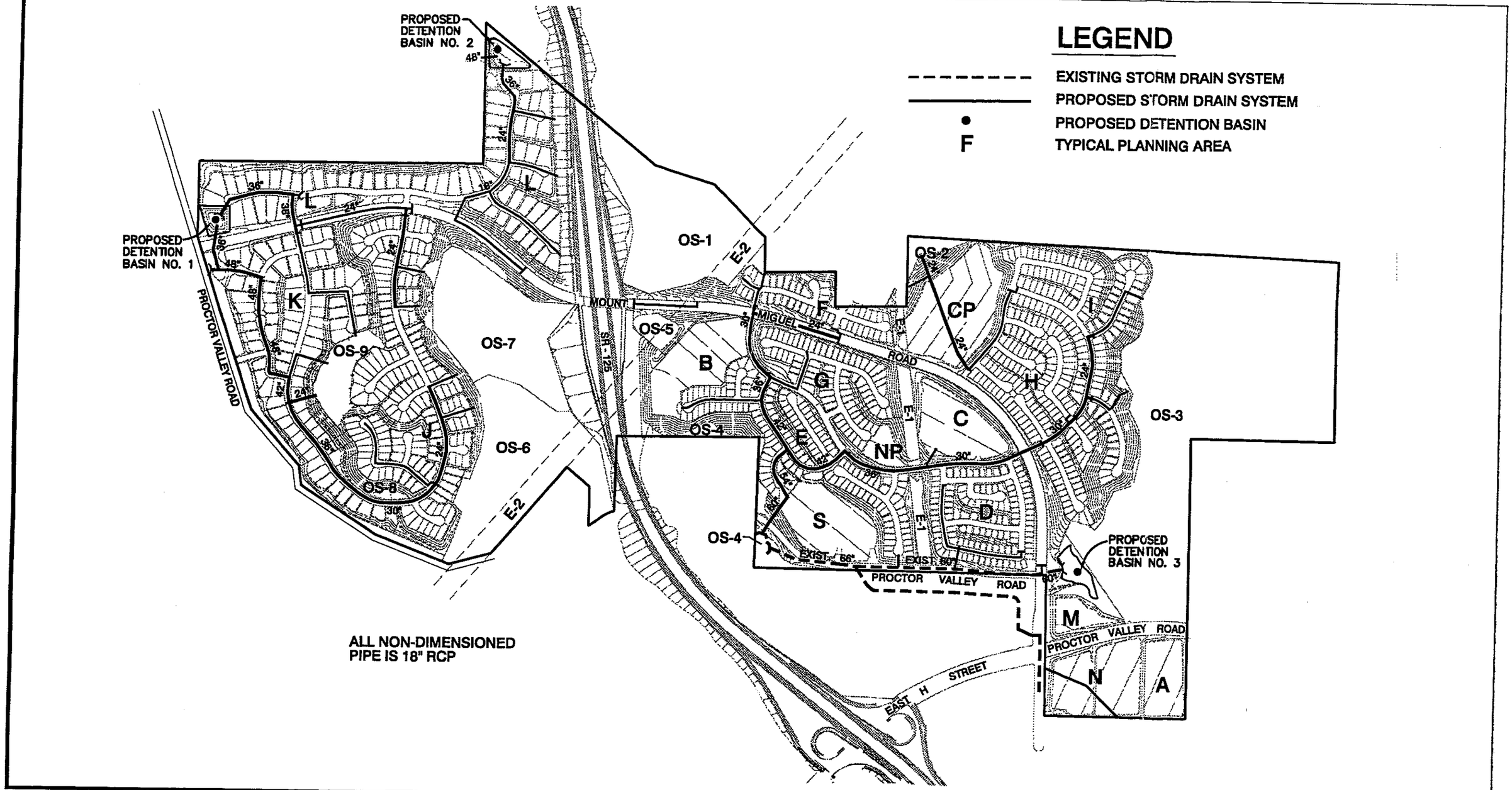
designed for a minimum of 100-year frequency storm. Throughout the project, storm drains would range from 18 to 60 inches to accommodate storm water runoff into the various basins.

Three detention basins, as shown in Figure 3.7-1, are proposed as part of the projects design to accommodate the expected increases in post-development runoff. The detention basins would be sized and located in the SPA to reduce runoff in each drainage subbasin to predevelopment flows for the 100-year frequency storm. They would also serve as desilting basins and would be sized to convey a minimum 100-year frequency storm. These project-related improvements will reduce the peak flows by detaining the stormwater. Therefore, there are no impacts to downstream areas.

Water Quality

The proposed project would conform to the National Pollution Discharge Elimination System (NPDES) General Permit No. CAS000002 and as a condition of the California State Water Resources Control Board (SWRCB) Order No. 92-08-DWQ.

Storm water quality for the proposed project would be considered in two phases. The first would be storm water quality control during construction and the second, after project build-out.



Source: Hunsaker & Associates

Figure 3.7-1

The first phase would require a Storm Water Pollution Prevention Plan (SWPPP) prepared prior to construction. The plan would identify pollutant sources associated with construction activity that may affect the quality of storm water runoff. It would also identify construction and implementation of storm water management practices used to decrease pollutants in storm water discharges from the construction site. The second phase would maintain water quality by providing rock rip-rap pads at all canyon outlets to diffuse the energy of the outlet flows to minimize erosion. The latest water quality policies of the RWQCB place an emphasis on having water runoff flow through natural bottom channels. Where feasible, the project has provided areas for storm runoff to travel through natural bottom channels. Water quality would also be maintained by utilizing the project detention basins as desiltation basins where silt can accumulate and be removed. The detention basins are designed to hold water for one hour or less. These basins will allow the heavier sediments to settle; however, there will be negligible impacts to subsurface water (quantity or quality) as a result of the detention basins.

Mitigation Measures

No additional mitigation measures are required beyond those proposed for project development. The project proponent will incorporate urban runoff planning into the Tentative Tract Map and will provide for the conveyance of stormwater and urban runoff throughout the proposed development in accordance with City of Chula Vista engineering standards and in compliance with all codes, regulations, and permits. The project proponent will be required to construct those facilities on-site identified through the subdivision exaction process.

Analysis of Significance

No significant impacts would occur after mitigation because the impact of water quality and quantity, on-site and off-site resulting from the project, would be less than significant.

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3.8 PARKS, TRAILS, AND OPEN SPACE

The previous EIR for the GDP/GPA concluded that the project would provide adequate parkland and open space on-site; however, development of the community park would require substantial alteration of the existing landform on the South Parcel. Implementation of the adopted GDP would significantly impact the trail system because SR-125 would bisect numerous routes of the trail system. This impact was proposed to be mitigated by the following measures:

- Creation of trails that intersect with the greenbelt in other areas; or,

- Creation or utilization of planned structures (e.g., Mount Miguel Road) that would allow trail users to cross over SR-125, which will need to be analyzed at the SPA level.

This section identifies, describes, and evaluates the impacts of the proposed project on parks, recreation, and open space. This section analyzes the demand the proposed project would have for additional parks, recreational facilities, and open space, and identifies the exact alignment of the routes of the trail system within the project site boundaries.

Existing Conditions

The project site consists almost entirely of undeveloped land. The property is predominately composed of sloping hillsides, valleys, and vistas. In the South Parcel, the open space designation is applied to areas in the east. Existing parks in the surrounding area include the Sweetwater Country Park and Sweetwater/Rohr City Park to the southwest, the Spring Valley County Park to the northwest, and the Eastlake Park to the south. In addition, proposed and recently approved developments in the surrounding area, such as Rolling Hills Ranch and others, are required by the General Plan to provide park acreage.

The City of Chula Vista General Plan contains goals and policies for parks and open space throughout the City and its Sphere of Influence. According to the Parks and Recreation Element of the General Plan, community parks are generally a minimum of 15 acres in size, excluding greenbelts, trails, and adjoining school lands. Community park facilities generally include a wide variety of land uses, including swimming pools, playing field for team sports, recreation centers, cultural centers, picnic areas, gardens, and similar uses.

The City-wide park system envisioned in the Parks and Recreation Element is a hierarchy of public park features, including the Chula Vista greenbelt, regional parks, community parks and neighborhood parks. The Parks and Recreation Element establishes a range of 5 to 15 acres of developed neighborhood parks per 1,000 residents. The City's General Plan states that a community park will be provided within the vicinity of San Miguel Ranch.

The Chula Vista General Plan also includes a greenbelt system consisting of a connected series of active and passive parks, undeveloped open space, stream valleys and flood plains, wetlands, bodies of water, and agricultural areas. The greenbelt system will also contain a trail network intended to connect to active park facilities within and near the greenbelt. Each of these features will combine to form a continuous 28-mile system around the city. The greenbelt incorporates a large area within the North Parcel and includes Mother Miguel Mountain. Master planning for the greenbelt is ongoing, and it is expected that trails will traverse the project area providing spectacular views.

The City's goals and objectives regarding parks and recreational areas are as follows:

1. To provide a diverse and flexible park system which meets both the active and passive recreational needs of the citizens of Chula Vista.

2. Ensure new park lands are easily developed for park purposes and are not substantially encumbered by constraints such as utility easements, steep slopes, or other restrictions on park facility development.

3. Provide public park and recreational opportunities in a timely manner. Strategies for this include implementation of 5-year master plans which describe the location, facility improvements, and funding program for proposed neighborhood and community parks on an ongoing basis.

The Conservation and Open Space Element of the General Plan (1995) states that "the majority of the designated open space areas of the general plan are intended to remain in their natural state with selected areas developed for park and active recreation facilities and other areas actively managed for enhancement of wildlife and plant habitat and development of a trail system." The plan further states that "there is only one significant mountain in the Chula Vista General Plan area. This is Mother Miguel Mountain, which rises 1,200 feet above the Sweetwater Reservoir and Proctor Valley. It is the intent of the City to preserve this dominant landform in its natural state and direct urban development to areas away from the landform defining the mass of the mountain." The proposed project implements this objective of the City's Conservation and Open Space Element of the General Plan.

Impacts

Significance Criteria

The City standard for the provision of neighborhood and community parks is a total of 3.0 acres of developed neighborhood and community park for each 1,000 residents east of Interstate 805. If the project does not provide sufficient park facilities, the impacts would be considered significant. The project would also have significant impacts it if precludes the establishment of regional trails or does not provide adequate open space.

Impact Analysis

Parks

The City of Chula Vista threshold standard for park dedication is 3.0 acres per 1,000 residents. The City uses a factor of 3.22 residents per dwelling unit for single family homes. Based on these factors (assuming 1,394 dwelling units associated with the development of the SPA Plan), a total of 13.4 acres should be dedicated as parkland. The project proposes a community park, which is approximately 21.6 gross acres with a 15.7-acre net pad, and a private neighborhood park, which is approximately 3.2 acres for a total of 24.8 gross acres parkland on the project site.

The proposed project would provide public recreation facilities in the Community Park to serve the needs of local and nearby residents. This Community Park would be connected to the natural open space area that borders the northern boundary of the park, linking to the City's greenbelt system. However, specific park design has not been determined at this time as it is dependent on the approval of the City's Parks Department Master Plan.

The private neighborhood park would be provided in the central portion of the project site. This park would provide a mixture of recreational uses, such as a recreation center housing a weight room, lockers, a meeting room, a swimming pool, and outdoor basketball courts, for nearby residents and would be owned and maintained by the appropriate homeowners association within San Miguel Ranch. On the western portion, there is one private pocket park site.

Additionally, privately maintained pocket parks are planned for several areas on the east and west sides of the project site, as shown in Figure 3.8-1. Development of the community park and the neighborhood park as proposed would require substantial alteration of the existing landform in the South Parcel.

With the provision of 21.6 gross acres of parkland on the project site (and additional pocket and neighborhood parks), the impact of the proposed project on parks would not be significant.

Trails

San Miguel Ranch would be served by four types of trails, including multi-purpose/equestrian trails, greenbelt trails, regional trails, and community trails, as shown in Figure 3.8-1. These trails would provide non-vehicular circulation throughout the community, linking the project site with the adjacent regional trail system within the City's greenbelt. The trails would also provide limited and controlled access into the open space areas and provide access to the proposed parks and community facilities on the project site.

Proposed trails would follow the major roads within the project site boundaries, particularly Mount Miguel Road, Proctor Valley Road, and East H Street, as shown in Figure 3.8-1. These trails would cross SR-125 at two locations -- at an overpass at Mount Miguel Road and at an underpass at Proctor Valley Road; because the trails would utilize planned bridge structures (i.e., Mount Miguel Road and Proctor Valley Road), which would also serve as trail crossings, no significant impacts to proposed trails and trail users are anticipated.

Open Space

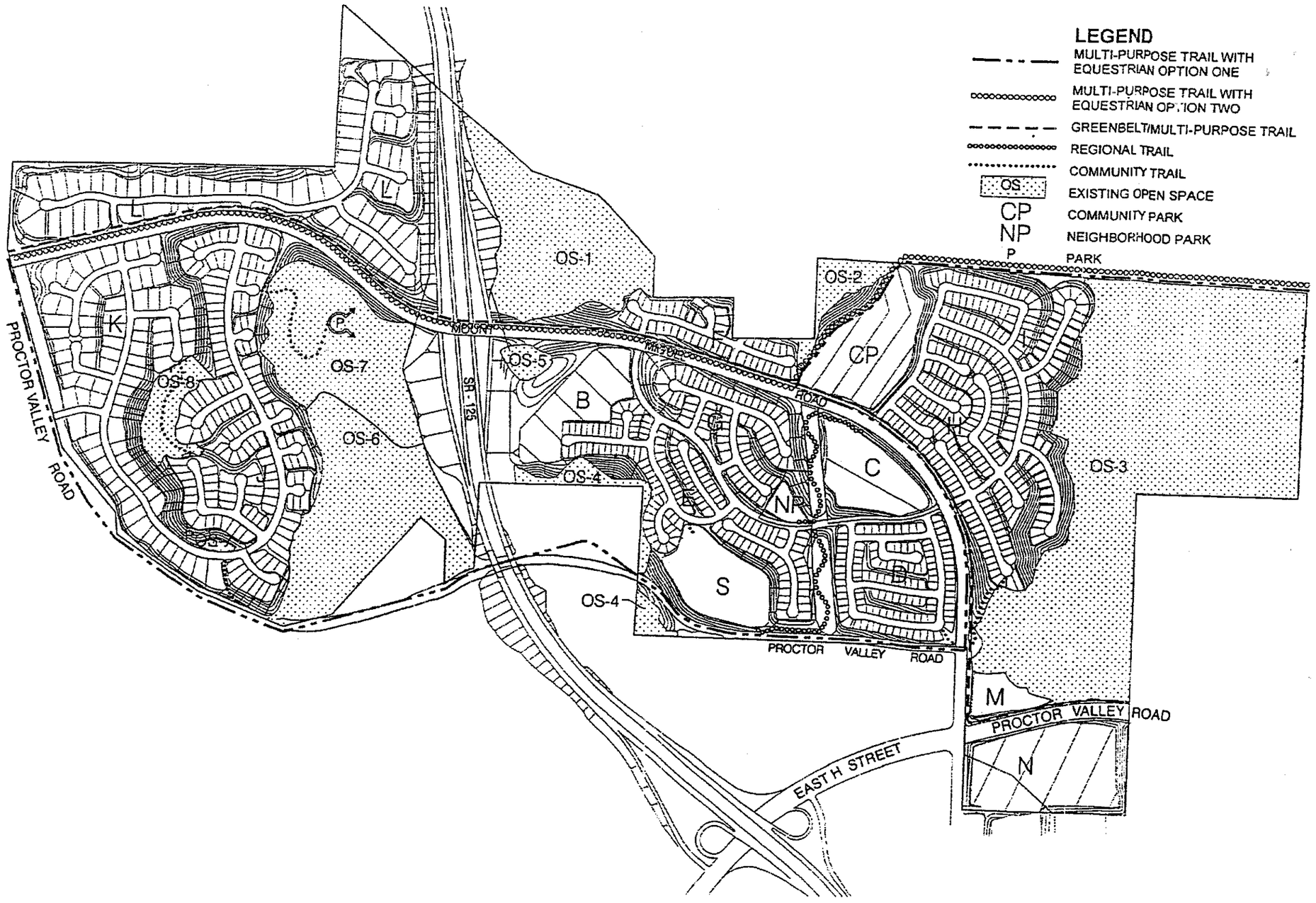
Approximately 2,065 acres, or 80 percent, of the entire San Miguel Ranch (North and South parcels) have been established as an "ecological reserve" for the preservation and protection of sensitive lands and natural resources in accordance with the City's draft Sub Area Plan under the Multiple Species Conservation Plan and the California State Natural Communities Conservation Planning Act (MSCP/NCCP Program). Established as part of the National Wildlife Refuge in August 1997, this reserve encompasses the entire 1,852-acre North Parcel. This ecological reserve would provide biological habitat (including the Otay Tarplant preserves) consistent with the ongoing efforts of the proposed MSCP. In addition, approximately 213 acres in the South Parcel would be designated as open space, including a total of 37 acres allocated for Otay Tarplant preserve. The eastern portion of the South Parcel would remain as open space to preserve the ridgeline and prominent rock outcroppings as well as the sensitive habitat located in that area, as shown in Figure 3.8-1. The proposed project would also provide additional natural open space in the western portion of the South Parcel adjacent to the Low and Low-Medium development areas of the project site. The open space designations are generally consistent with the greenbelt system of the General Plan. The proposed SPA plan would not disturb or bisect any of the open space areas. Therefore, development of the proposed project would not constitute a significant impact on open space.

Mitigation Measures

The proposed project includes the provision of a 21.6 gross acre community park that will be connected to the natural open space area and will link to the City's greenbelt system. The Conservation Bank Agreement resulted in the inclusion of the entire North Parcel within the Otay-Sweetwater Unit of the San Diego National Wildlife Refuge. An additional 213 acres in the South Parcel have been designated for preservation within open space areas to further mitigate for impacts to habitat within the area, including the federally threatened Otay tarplant. The proposed project is also served by multi-purpose/equestrian trails, greenbelt trails, regional trails, and community trails. Because substantial components of the proposed project are dedicated to preserving and creating parks or open space, no significant impacts to parks, trails, and open space were identified and no mitigation measures are required.

Analysis of Significance

No significant impacts would occur.



Source: Gillespie Design Group, Inc.

No Scale

P&D Environmental Services
San Miguel Ranch

Figure 3.8-1

Trails, Parks and Open Space Plan

3.9 CULTURAL RESOURCES

Several cultural resources and archaeological surveys have been previously conducted for the subject property by Brian F. Smith and Associates, RECON, Cultural Systems Research, Inc., and Wirth Environmental Services since July 1975.

Existing Conditions

Archaeological Site Record Search

As part of the evaluation of the resources present within the project site boundaries, archaeological site files record searches were conducted at the San Diego Museum of Man and San Diego State University. The searches indicated that several cultural resources are present in the vicinity of the project site. Seventy-four sites were recorded within a one-mile radius of the project site. However, a cultural affiliation for most of these sites has not or could not be assigned to establish a pattern of cultural diversification for the area. Six of the sites were listed as Late Prehistoric/Kumeyaay Indian sites; seven sites were described as La Jolla Complex sites; and one site was proposed to be a San Dieguito site.

The sites in the vicinity of the project site are unusually similar in characteristics. Nearly all of the sites are widely dispersed scatters of well-made scrapers, choppers, cores, utilized/retouched flakes, and associated flakes. Very few projectile points or laceolate blades (bifaces) have been reported. Occasionally, the scatters were more dense and associated with midden deposits, reflecting locations of aggregation. The continuity of the settlement/ subsistence pattern represented by the sites suggests that this area, and perhaps a much larger one throughout Otay Mesa, was a particularly rich food resource area for the La Jolla Complex. The scarcity of shell and bone further suggests that the area was a focus of vegetative food collecting probably associated with seasonal shifts in the La Jolla subsistence pattern. The characteristics of large scatters of lithic flakes and debitage around exposures of metavolcanic material (felsite and basalt usually) noted in several site forms, suggest that lithic quarrying and artifact manufacture was a dominant prehistoric activity in the area.

Archaeological Sites Within the Project Site Boundaries

The resurvey of the project site, which was performed in August 1991, resulted in the relocation of 12 previously recorded sites and the discovery of 22 new sites for a total of 34 archaeological sites within the 738-acre South Parcel. Site evaluations for significance were performed in 1991 and 1997 (Appendix D).

Impacts

Significance Criteria

The importance of the individual resources must be addressed to evaluate the significance of potentially adverse impact. The evaluation of the status of the archaeological sites is necessary to establish a hierarchy of resources, permitting the projections of those resources which are locally and regionally important and the determination of which of these resources would be impacted by the proposed development.

According to CEQA (§21083.2[g]), a "unique archaeological resource means an archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets the following criteria:

A. Is associated with an event or person of:

   1. Recognized significance in California or American history, or
   2. Recognized scientific importance in prehistory;

B. Can provide information which is both of demonstrable public interest and useful in addressing scientifically consequential and reasonable archaeological research questions;

C. Has a special or particular quality, such as oldest, best example, largest, or last surviving example of its kind;

D. Is at least 100 years old and possesses substantial stratigraphic integrity; or

E. Involved important research questions that historical research has shown can be answered only with archaeological methods.

Impact Analysis

Based on the criteria presented above, 10 of the 34 archaeological sites have been evaluated as unique. The assessment of uniqueness is based upon the research potential and integrity of the resources. The majority of the unique sites are located in the southeastern area. Three of these ten sites are regionally important, representing both occupation and quarry sites that are unique in the San Diego County area. The seven remaining sites are important on a local basis, generally due to the potential of these sites to provide information, which is of public interest and of scientific importance.

The other 24 archaeological sites within the project site boundaries were evaluated as not important because they either duplicate the pattern recorded at other sites in the general vicinity, do not retain any research potential, or have been impacted so severely that their integrity has been greatly diminished.

The archaeological sites that have been evaluated as unique are generally found within four areas of the project. These areas are as follows:

- The ridges in the southern portion of the project site, generally south of Rickey Dam and north of Proctor Valley Road, where extensive exposures of metavolcanic rock are present and would have supplied lithic quarry material for artifact manufacture;

- The broad terraces of Wild Man's Canyon and north of Proctor Valley Road;

- The terraces on the north side of Wild Man's Canyon; and

- The slopes overlooking the Sweetwater River Channel (Sweetwater Reservoir).

The proposed project would involve development of the South Parcel, since the North Parcel has been set aside as per the Conservation Bank Agreement with the USFWS. The proposed alignment for SR-125 would pass through the project site. The potential impacts to cultural

resources associated with this highway project are not addressed in this EIR; all issues related to the construction of SR-125 have been addressed in a separate document prepared by Caltrans. Any applicable mitigation measures for significant resources identified with the SR-125 alignment would be the responsibility of Caltrans.

Development of the proposed project would result in a significant impact to cultural resources from direct and indirect impacts. Based on the proposed project, five of the ten archaeological sites in the proposed project site that have been identified as unique would be directly impacted by development activities, including excavation, grading and construction. The remaining five unique sites, and a portion of a sixth site, would be preserved within open space areas. Additionally, indirect impacts to cultural resources would have the potential to occur at all of the sites as a result of the increase in population associated with occupation of the residential development. These new residents would use the open space areas. One of the proposed elements of the project would be the construction of trails (see Section 3.8 Parks, Recreation and Open Space). These trails may pass over or near several archaeological sites that may be considered unique, thus creating a situation in which the site may be subjected to disturbance from pedestrian or equestrian traffic and relic hunting. This would also be considered a significant impact to cultural resources.

Mitigation Measures

- A data recovery program shall be established for the four archaeological sites, which would be directly impacted by excavation and grading activities. These sites include 501-4529, 501-4580, 501-12066, and 05112084N. The data recovery program shall include a detailed procedure for collection of information from the surface and subsurface artifact deposits within the framework of an approved research design. The data recovery program shall also establish procedures to be followed should a previously undiscovered site be located during project development. The research design must be submitted to the City of Chula Vista for approval prior to the initiation of any mitigation programs.

- The six unique sites that will not be directly impacted but may be indirectly impacted shall be protected within easements to mitigate potential indirect impacts. Sites requiring preservation include: SDI-4529, SDI-4525, SDI-8657(part), SDI-8658, SDI-12,063, and SDI-12,064. Any trails that may be planned to pass through the archaeology site will be reviewed by an archaeologist to determine potential impacts and mitigations.
- A qualified archaeologist shall monitor the site during excavation and grading of the project as well as during any project-related off-site utility improvements to ensure that any significant deposits, artifacts, or human remains not identified during the evaluation phase may be analyzed prior to the destruction of the archaeological sites. Any previously undiscovered sites will require evaluation in accordance with the approved data recovery program.

- In the event that any new or previously undetected portions of an archaeological site are encountered during the grading of the project or related improvements, the grading shall be diverted by the monitoring archaeologist to allow the site to be evaluated for uniqueness. If the site is found to be unique, grading impacts would be considered significant and must be mitigated to below a level of significance through either a data recovery program, as described above, or preservation.

- Wherever feasible parks, green space, or other open space will be planned to provide protection for unique archaeological sites. Unique sites within these open space areas that

are located proximal to a pedestrian and/or equestrian trail will be preserved through capping or covering with a layer of soil. Any capping or landscaping within the archaeological preserve must be reviewed by the Project Archaeologist and the City will ensure that sites will not be impacted by these actions.

Analysis of Significance

Impacts to unique resources on the proposed project site have been minimized by the location of all or portions of 6 of the 10 unique sites within open space easements. The remainder of the impacts would be reduced through the implementation of the mitigation measures recommended above. Adherence to existing regulations that pertain to archaeological and cultural resources would reduce project impacts to below a level of significance.

3.10 PALEONTOLOGY

Existing Conditions

Paleontology resources (i.e., fossils) are the remains and/or traces of prehistoric plant and animal life, exclusive of humans. Fossil remains such as animal bones and teeth, shells and leaves are found in the geologic deposits within which they were originally buried. Fossils are considered a valuable and non-renewable resource. Paleontological resources include the fossil remains themselves and the geologic formations containing the fossils. There is a direct relationship between fossils and geologic formations. A professional can predict (with reasonable accuracy) where fossils will be found by examining the geology of a particular area and the historical, fossil-productivity of a particular formation. The determination of the paleontological resource potential of the Rancho San Miguel property was based on a review of geologic and paleontological reports and records from the San Diego Natural History Museum Department of Paleontology. No field survey was conducted as a part of this work effort. The complete Paleontological Resources Report is contained in Appendix E of this Draft EIR and summarized below.

Many fossil sites currently on record in San Diego County have been discovered during construction activity. Surface weathering quickly destroys most fossil materials. When fresh, unweathered exposures are created by grading, well preserved fossils can often be recovered.

The geologic formations onsite include Santiago Peak Volcanics, the Sweetwater formation, the Otay formation, stream terrace deposits (quaternary alluvium), and debris flow deposits (Rancho San Miguel General Development Plan FEIR 1992). The resource sensitivity of each of these formations is described in the following discussion and summarized in Table 3.10-1.

Table 3.10-1
Paleontological Resource Sensitivity
Rancho San Miguel

Geologic Formation	Resource Classification
Santiago Peak meta-sedimentary portion	Low
Santiago-Peak meta-volcanic portion	None
Sweetwater Formation gritstone portion	Moderate
Sweetwater Formation mudstone portion	High
Otay Formation	High
Stream/Quaternary Deposits	Unknown
Debris Flow Deposits	Moderate

Source: Paleo Services, 1990.

Santiago Peak Volcanics

This formation contains a complex sequence of slightly metamorphosed volcanic rocks and marine sedimentary rocks and comprises the bulk of Mother Miguel Mountain. Because of the volcanic origin of the meta-volcanic portion of this formation, no fossils are expected to be found in these areas. There have been rare fossil remains of several types of marine invertebrates located in exposures of the meta-sedimentary portions of the Santiago Peak formation; a single specimen has been reported from this sediment in Proctor Valley. The meta-volcanic portions of the Santiago Peak Volcanics is not considered to have paleontological resource sensitivity. The meta-sedimentary portion of the formation has a low resource sensitivity.

Sweetwater Formation

The Sweetwater formation is exposed in the Gobblers Knob area in the extreme southwest corner of the project area. The formation includes a basal, red mudstone unit overlain by gritstone and fanglomerates. The locations of these two units within the formation have not yet been identified. Recent recovery work in the Chula Vista area has located vertebrate fossils in the gritstone. During grading and excavation for the Bonita Long Canyon and EastLake projects, fossils from terrestrial mammals were located in the red mudstone. While there are currently no known fossils from the Sweetwater formation onsite, the mudstone portion is considered to have a high paleontological resource sensitivity and the gritstone portion is considered to have a moderate paleontological resource sensitivity.

Otay Formation

The Otay formation consists of white, tuffaceous sandstone with claystone and bentonite units. It is exposed onsite in the area southwest of Mother Miguel Mountain, adjacent to Proctor Valley Road. No fossil localities are known in the project area. During grading and construction for the nearby EastLake community, however, well-preserved remains of a variety of terrestrial vertebrates were found in the Otay formation, including lizards, snakes, tortoises, birds, rodents, rabbits, dogs, foxes, rhinos, and camels. Because the sandstone portion of the Otay formation has produced extremely important vertebrate fossil remains, it is considered to have a high paleontological resource sensitivity.

Stream Terrace Deposits (Quaternary Alluvium)

Relatively recent stream sediments are located along the floor of Proctor Valley and in the low lying areas north of Horseshoe Bend. Typically, these stream deposits were laid down by the streams, which presently occupy these drainages. No fossils are known from the quaternary alluvial deposits. These deposits are classified as having an unknown paleontological resource sensitivity.

Debris Flow Deposits

Deposits of coarse-grained, gravelly sandstones, pebble and cobble conglomerates and claystones have been mapped on the small ridge on the south side of Coon Canyon. No fossil localities are recorded from these deposits in the project area. However, fossils have been collected from similar deposits near Bonita. The Bonita site, considered the richest known locality in coastal San Diego County for "Ice Age" mammals, has produced well-preserved remains of pond turtle, passenger pigeon, hawk, mole, gopher, squirrel, rabbit, and horse. These fossils were recovered from fine-grained sandstones and gravelly claystones. While the deposits onsite are course-grained, and the known fossil occurrences in such deposits are scarce, the fact that important vertebrate remains have been collected from at least one site indicates that potentially significant sites may be encountered elsewhere. A moderate paleontological resource sensitivity is assigned to these deposits onsite.

Impacts

Significance Criteria

According to CEQA Guidelines, a project would normally be considered to have a significant impact if it would impact a unique paleontological resources or site or unique geologic features. Impacts to paleontological resources occur when earthwork activities cut into geological formations and destroy the buried fossil remains. The project area is underlain by a variety of formations, some which are known to contain fossils in the surrounding area (Proctor Valley/Eastlake/Bonita). Based on a review of the concept plan, it appears that extensive development would occur in those areas underlain by formations which have a moderate to high potential to contain paleontological resources, including the Otay and Sweetwater formations. These formations occur in the Horseshoe Bend and Gobblers Knob area. Mass excavation in these formations would result in significant impacts to paleontological resources.

Mitigation Measures

To mitigate or minimize potential impacts to paleontological resources to below a level of significance, the following measures shall be implemented during project grading.

1. Prior to issuance of development permits, the project applicant shall present a letter to the City of Chula Vista indicating that a qualified paleontologist has been retained to carry out an appropriate mitigation program. (A qualified paleontologist is defined as an individual with an M.S. or Ph.D. in paleontology or geology who is familiar with paleontological procedures and techniques.)

2. A qualified paleontologist shall be at any pre-grade meetings to consult with grading and excavation contractors. At this time the units (mudstone and gritstone) of the Sweetwater formation should be located for use by the paleontologist.

3. A paleontologist monitor shall be onsite at all times during the original cutting of previously undisturbed sediments of highly sensitive formations (i.e., Otay and Sweetwater-mudstone portion only) to inspect cuts for contained fossils.

4. A paleontological monitor shall be onsite on at least a half-time basis during the original cutting of previously undisturbed sediments of moderately sensitive formations (i.e.,

debris flow deposits and Sweetwater-gritstone portion only) to inspect cuts for contained fossils.

5. A paleontological monitor shall periodically inspect original cuts in deposits with an unknown resource sensitivity (i.e., stream/quaternary deposits).

6. In the event that fossils are discovered in unknown, low or moderately sensitive formations it may be necessary to increase the per day field monitoring time. Conversely, if fossils are not being found then the monitoring should be reduced.

7. A paleontological monitor is not needed during grading of rocks with no resource sensitivity (i.e., Santiago Peak Volcanics-meta-volcanic portion.)

8. A paleontological monitor is defined as an individual who has experience in the collection and salvage of fossil material. The paleontological monitor shall work under the direction of a qualified paleontologist.

9. When fossils are discovered, the paleontologist (or paleontological monitor) shall recover them. In most cases this fossil salvage can be completed in a short period of time. However, some fossil specimens (such as a complete large mammal skeleton) may require an extended salvage time. In these instances the paleontologist (or monitor) shall be allowed to temporarily direct, divert, or halt grading to allow recovery of fossil remains in a timely manner. Because of the potential for the recovery of small fossil remains such as isolated mammal teeth, it may be necessary, in certain instances, to set up a screen-washing operation at the site.

10. Fossil remains collected during the monitoring and salvage portion of the mitigation program shall be cleaned, repaired, sorted and cataloged.

11. Prepared fossils along with copies of all pertinent field notes, photos, and maps shall then be deposited (with the owners permission) in a scientific institution with paleontological collections such as the San Diego Natural History Museum.

12. A final summary report shall be completed which outlines the results of the mitigation program. This report should include discussion of the methods used, stratigraphic section exposed, fossils collected, and significance of recovered fossils.

Analysis of Significance

Significant impacts to paleontological resources would occur as a result of the proposed project. These impacts can be reduced to below a level of significance by the proposed mitigation measures.

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4.0 ALTERNATIVES

The California Environmental Quality Act (CEQA) requires that an EIR contain discussion of a reasonable range of project alternatives, including a "no project" alternative. Pursuant to §15126(d)(3) of CEQA Guidelines, this discussion will focus on alternatives to the proposed project that could feasibly attain most of the basic objectives and would be "capable of avoiding or substantially lessening any of the significant adverse environmental effects."

The CEQA Guidelines also clarify that there is no ironclad rule governing the nature or scope of the alternatives to be discussed in an EIR other than the rule of reason. Under CEQA, the lead agency, such as the City of Chula Vista in the present case, is responsible for selecting the range of alternatives considered in an EIR. The CEQA Guidelines provide that the lead agency should explain the basis for the range of alternatives selected for consideration. To assist in that decision, the CEQA Guidelines describe two ends of a spectrum for lead agencies to consider. On one hand, as noted above, EIRs must describe a reasonable range of alternatives that would attain most of the basic project objectives and substantially reduce or avoid significant environmental impacts. On the other hand, lead agencies may reject infeasible alternatives in the scoping process where that decision is explained in the EIR. According to the CEQA Guidelines, among factors that may be used to eliminate alternatives from detailed consideration in an EIR are: (1) failure to meet most of the basic project objectives, (2) unfeasibility, or (3) inability to avoid significant environmental impacts.

In addition to the three factor enumerated above, the CEQA Guidelines provide for a more limited alternatives analysis where the project at issue is consistent with a previous project for which an EIR was certified. According to the Guidelines, where a previous document has sufficiently analyzed a range of reasonable alternative locations and environmental impacts for a project with the same basic purpose, the lead agency may rely on the previous document to assess the feasibility of potential project alternatives for the proposed project. As acknowledged in the Guidelines, this approach is consistent with the California Supreme Court's conclusion that project-specific alternatives analyses need not revisit program-level, land use planning decisions (see *Citizens of Goleta Valley v. Board of Supervisors* (1990) 52 Cal.3d 553, 573).

The alternatives selected for this project will include the following:

- No Project/No Development Alternative;
- Existing County Land Use Alternative;
- Reduced Grading Alternative; and
- North Parcel/Otay Water District (OWD) Parcel Annexation Alternative.

Selection of Alternatives Considered

As noted above, Section 15126.6 of the CEQA Guidelines states that an EIR should briefly describe the rationale for selecting the alternatives to be discussed. In the present case, the range of alternatives discussed below reflects the fact that the proposed project is a third-tier environmental analysis for planned development of San Miguel Ranch. As explained in Section 1.0, Introduction and Summary, the project considered in this subsequent EIR consists of the proposed San Miguel Ranch SPA Plan and associated tentative maps. The proposed tentative maps and SPA Plan refine and implement the land use plan, goals, and objectives of the amended San Miguel Ranch GDP, a plan the City of Chula Vista adopted in December 1996. The amended GDP further refined the Rancho San Miguel GDP, a program-level document for

planned development of the project site that the City adopted in March 1993. Finally, the 1993 GDP supplements, in turn, the General Plan the City adopted in 1989.

Since the preparation of the GDP, the applicant has worked with the City to reduce the significance of the impacts. This has included an increase in the Otay tarplant preserve as well as a substantial decrease in the landform alteration. It should also be recognized that the project has been subject to numerous environmental reviews. In each environmental process, the alternatives have been evaluated. Therefore, when considered with the prior EIRs, a full range of alternatives have been presented.

It should be recognized that the City of Chula Vista prepared and certified an EIR for each of the previous tier approvals. Each previous EIR for planned development of San Miguel Ranch includes a discussion of a reasonable range of alternatives that would feasibly attain most of the project objectives and would avoid or substantially lessen the project-related significant environmental impacts. The City concluded in the 1989 General Plan EIR, for example, that development of San Miguel Ranch would result in significant and unavoidable impacts associated with the cumulative loss of several sensitive species and habitat types. Accordingly, the 1989 General Plan analyzed five project alternatives, none of which the City concluded would feasibly attain project objectives and substantially reduce or avoid the significant impacts that would result from the future development of San Miguel Ranch.

Similarly, the EIR for the 1993 Rancho San Miguel GDP identified a number of significant and unmitigable environmental impacts, including impacts on biological resources . Because of those impacts, the 1993 EIR examined a total of seven onsite alternatives, including a no project alternative, a biologically sensitive alternative, and an alternative that contemplated development only on the south parcel of San Miguel Ranch. Characterizing the no project as the environmentally superior alternative and the biologically sensitive alternative as the next best, the EIR concluded that even the latter alternative would only reduce one impact (water quality) to below a level of significance. In light of that analysis, the City concluded, once again, that there were no feasible alternatives to the project that would attain project objectives and substantially reduce or avoid the significant impacts associated with buildout of the San Miguel Ranch GDP.

The 1996 Subsequent EIR for the amended San Miguel Ranch GDP reached a similar conclusion with respect to impacts associated with the amended GDP. As analyzed in the EIR, and as adopted by the City, the project evaluated in the 1996 EIR generally reduced the number of units and overall area to be developed, and increased the number of acres to left as natural open space on San Miguel Ranch. Even so, the City concluded the proposed project would result in significant and unavoidable impacts to biological resources, among other unmitigable impacts. In light of those impacts, the 1996 EIR identified and analyzed three alternatives that contemplated development on both the North and South parcels, and two alternatives that contemplated no development on the North Parcel. The City concluded, however, that none of the alternatives would feasibly attain the objectives of the proposed project and substantially reduce or avoid the associated significant and unmitigable impacts.

Despite the City's conclusion with respect to alternatives considered in the 1996 EIR for the Amended GDP, the 1996 EIR indicates that impacts on biological resources on the South Parcel could be fully mitigated through the creation of Otay tarplant preserves and the preservation of the entire North Parcel. Indeed, the CDFG and the USFWS reached that same conclusion in a Memorandum of Understanding (MOU) executed with the applicant on August 22, 1997.

As noted earlier, the proposed project analyzed in the present EIR is substantially similar to the project configuration identified in the 1996 EIR that the City concluded would result in less than significant impacts on biological resources. In fact, as explained in Section 3.3, Environmental Impacts for Biological Resources, the actual impacts of the proposed project, which set aside larger areas of Otay tarplant preserves than contemplated in the 1996 EIR, will result in less impacts overall than identified in the previous document. Even with the MOU and refinements to the proposed project, however, recent developments in CEQA case law explained in Section 3.3, Environmental Analysis for Biological Resources, arguably compel lead agencies to conclude under CEQA that, absent a finding of no net loss, any project-related impacts on "endangered, rare or threatened species" are significant and unavoidable. Thus, even though the present EIR indicates that certain impacts on biological resources remain significant and unmitigable, the nature and extent of the actual impacts to such resources on the South parcel are substantially similar to, but less than, the impacts previously identified in the prior EIRs for San Miguel Ranch. As explained above, the characterization of impacts on biological resources as significant and unavoidable in the present case reflects the City's conservative application of recent case law as opposed to significant new factual information regarding the nature and extent of previously identified impacts associated with planned development of the South Parcel on San Miguel Ranch.

Because the City of Chula Vista has concluded in three previous EIRs that no feasible alternative would eliminate all impacts to endangered, rare, or threatened species, and because the three previous EIRs sufficiently analyzed a reasonable range of project alternatives, there are no potentially feasible project alternatives that would entirely avoid project-related impacts on species listed under the state and federal Endangered Species Acts. This conclusion is all the more clear when one considers the on-site distribution of Otay tarplant and California gnatcatchers, as set forth in the baseline habitat map (Figure 3.3-1). Because of the extensive distribution of sensitive biological resources, particularly Otay tarplant and California gnatcatchers, preservation or avoidance of such resources would eliminate the potential to achieve project objectives as set forth in Section 2.3 of the EIR. An alternative that avoids any impacts to endangered, rare, or threatened species, for example, would preclude design of a regional circulation network (Mount Miguel Road), provision of housing opportunities (other than minimal low density estate housing), and school or park facilities. Such an alternative would be substantially similar to the No Project/No Development Alternative, an alternative analyzed in the EIR. Accordingly, and based on the discussion above, including the alternatives analysis in the previous EIRs for planned development of San Miguel Ranch, the EIR does not include analysis of a Biological Avoidance Alternative because it could not meet project objectives and would be tantamount to the No Development Alternative.

The alternatives analysis includes a brief assessment for each of the issues addressed in the body of the EIR. This analysis is limited in scope and is intended to provide a brief comparison of impacts associated with the project. For a detailed description of impacts and mitigation under the proposed project, refer to Section 3.0, Environmental Analysis.

4.1 NO PROJECT/NO DEVELOPMENT ALTERNATIVE

According to CEQA Section 15126(d)(2), the No Project/No Development Alternative shall be evaluated along with the proposed project. The No Project/No Development Alternative assumes that no development would occur on the project site, and the site would remain in its undeveloped natural state. Therefore, none of the project specific environmental effects identified in this EIR and in previous EIR analyses (biological, transportation, air quality, noise, public services and utilities, solid waste, parks, etc.) would occur. However, none of the

commitments to permanent preservation of significant natural open space within the South Parcel and 166 acres of the North Parcel would be required to be implemented. The project would remain undeveloped at this time.

The No Project Alternative would not be consistent with the City's General Plan which designates the project area for future urban development nor with the adopted Amended GDP. The beneficial effects of providing public facilities which would also serve offsite properties, such as the circulation element, elementary school and community park, would not be realized under this alternative. The No Project/No Development Alternative would also not achieve most of the basic objectives of the project, such as the provision of residential opportunities and additional community facilities to the citizens of Chula Vista.

4.2 EXISTING COUNTY LAND USE ALTERNATIVE

The Existing County Land Use Alternative was selected to address issues in the event the project site was developed in accordance with existing requirements under the County of San Diego. Because the project site is currently within the unincorporated County's jurisdiction, it is deemed feasible for the project to develop the site under the County of San Diego's land use designations. This alternative can be considered a modified No Project - Existing Entitlement Alternative. Because the project has been tiered, previous environmental documents have addressed such issues as alternative uses and off-site analyses. These alternatives analyses are incorporated by reference.

Under the Existing County Land Use Alternative, the project site would be developed according to the Specific Planning Area classification, which allows development of 0.28 dwelling units per gross acre. This alternative would ensure comprehensive planning and development for the preservation and enhancement of significant topographic features and resource areas found on the project site. Permitted uses under the Specific Planning Area include Family Residential, Essential Services (fire protection), and limited agricultural uses (horticulture, tree crops).

Based on the residential density allowed on the project site, which occupies approximately 738 gross acres (South Parcel), a maximum of 206 dwelling units could be developed on the South Parcel. However, since the North Parcel has been established as an ecological reserve/conservation bank, the County of San Diego procedures allow for a residential density transfer from the North Parcel (1,852 acres) to the South Parcel. This would allow for an additional 519 dwelling units on the South Parcel, resulting in a maximum total of 725 dwelling units that could be developed on the South Parcel. This is substantially less (669 units) than the maximum number of units proposed under the SPA Plan. Consequently, the substantial reduction in residential density on the project site would result in the corresponding reduction in land use impacts, traffic generation of approximately 7,824 daily trips, air emissions, noise, and demand for public services and utilities; the traffic analysis for this alternative is presented below. This alternative would have similar impacts to landform/visual quality, biological resources, and cultural resources as those identified for the proposed SPA Plan as it would impact the same area. As with the proposed action, this project would also have project-specific impacts to schools because of insufficient funding.

The following discussion presents the conclusions of the network performance analysis conducted for this alternative. Table 4.2-1 presents a summary of freeway segment performance under Year 2010 conditions and Southbay buildout conditions. As indicated in the table, all freeway segments within the study area are forecast to experience decreases in existing levels of service (LOS) under Year 2010 conditions and Southbay buildout conditions. In the Year 2010,

all study area segments of I-805 north of Telegraph Canyon Road and most segments of SR-54 are expected to operate at an unacceptable LOS F. Because SR-125 will still operate as a tollway in 2010, volumes on this facility are forecast to be within limits to achieve acceptable LOS (LOS E or better). At Southbay buildout, the majority of study area freeway segments are expected to operate at unacceptable LOS F during peak hour operation. Only two segments are forecast to perform at LOS E or better during the peak hours: SR-125 from Olympic Parkway to Lonestar Road and I-805 from East H Street to Telegraph Canyon Road. These freeway impacts under this alternative are similar to those identified for the proposed SPA Plan.

Table 4.2-1
Summary of Freeway Segment Performance
Year 2010 and Southbay Buildout
(Existing County Land Use Alternative)

Route	Limits	Forecast ADT		Peak Hour Volume		V/C		Level of Service	
		Year 2010	Southbay Buildout	Year 2010	Southbay Buildout	Year 2010	Southbay Buildout	Year 2010	Southbay Buildout
State Route 54	**I-805 to Reo Dr.**	**156,500**	**160,300**	**7,606**	**7,791**	**1.10**	**1.13**	**F(0)**	**F(0)**
	Reo Dr. to Woodman Street	**165,300**	**170,400**	**8,116**	**8,366**	**1.18**	**1.21**	**F(0)**	**F(0)**
	Woodman Street to Briarwood Road	132,300	**142,000**	6,561	**7,042**	0.95	**1.02**	E	**F(0)**
	Briarwood Road to SR-125	135,700	**147,500**	6,730	**7,315**	0.98	**1.06**	E	**F(0)**
	SR-125 to Paradise Valley Road	**189,300**	**214,800**	**9,388**	**10,652**	**1.36**	**1.54**	**F(2)**	**F(3)**
	Paradise Valley Road to Jamacha Blvd.	**169,600**	**199,700**	**8,411**	**9,903**	**1.22**	**1.44**	**F(0)**	**F(2)**
	Jamacha Blvd. to Ildica St.	**171,500**	**198,700**	**8,505**	**9,854**	**1.23**	**1.43**	**F(0)**	**F(2)**
State Route 125	SR-54 to Mt. Miguel Road	105,100	**209,300**	6,435	**12,814**	0.93	**1.39**	E	**F(2)**
	Mt. Miguel Road to East H Street	91,100	**207,400**	5,578	**12,698**	0.81	**1.38**	C	**F(2)**
	East H Street to Otay Lakes Road	68,000	**194,600**	4,163	**11,914**	0.60	**1.30**	B	**F(1)**
	Otay Lakes Road to Olympic Parkway	71,000	**166,500**	4,347	**10,194**	0.63	**1.11**	C	**F(0)**
	Olympic Parkway to Lonestar Road	82,700	146,500	5,063	8,969	0.73	0.97	C	E
Interstate 805	**SR-54 to Bonita Rd.**	**238,700**	**260,400**	**12,856**	**14,024**	**1.40**	**1.52**	**F(2)**	**F(3)**
	Bonita Rd. to East H St.	**238,700**	**236,300**	**12,856**	**12,726**	**1.40**	**1.38**	**F(2)**	**F(2)**
	East H St. to Telegraph Canyon Rd.	**215,000**	155,600	**10,980**	7,947	**1.19**	0.86	**F(0)**	D
	Telegraph Canyon Rd. to Olympic Pkwy	141,000	**182,600**	7,636	**9,888**	0.83	**1.07**	D	**F(0)**

Source: Caltrans; SANDAG Model Run (1/21/98); BRW, Inc.; July 1998.

Notes: Peak Hour Volume - Peak Hour traffic in peak direction of travel.
V/C - Volume to Capacity Ratio
LOS - Caltrans District 11 procedure was used to estimate the freeway level of service. See text for more discussion.
Bold type indicates freeway segment forecast to operate at unacceptable LOS F.

Table 4.2-2 summarizes the results of the analysis of roadway segment performance within the study area under Year 2010 conditions and Southbay buildout conditions. As indicated in the table, the only study area roadway segment forecast to perform at an unacceptable LOS (LOS E or worse) is Otay Lakes Road between SR-125 and Eastlake Parkway, which is estimated to perform at LOS E. However, this planning level of analysis is not intended to serve as an exact description of the actual LOS on a particular roadway segment. The actual functional capacity of roadway facilities is based on the ability of arterial intersections to accommodate peak hour volumes. At Southbay buildout, the majority of roadway segments within the study area are expected to perform at LOS C or better under this alternative. Two segments are forecast to perform at LOS D under these conditions: East H Street from I-805 to Hidden Vista Drive and Otay Lakes Road from SR-125 to Eastlake Pkwy. While LOS D is generally considered acceptable LOS in near-term timeframes of analysis, a goal of LOS C is desired to be maintained by the City of Chula Vista and County of San Diego under full buildout conditions. In addition to these segments, two others are anticipated to perform at LOS E: San Miguel Road from Bonita Road to Proctor Valley Road and Proctor Valley Road from San Miguel Road to Mt. Miguel Road. These roadway impacts under this alternative are similar to those identified for the proposed SPA Plan.

Table 4.2-3 summarizes the results of the analysis of peak hour intersection performance within the study area under Year 2010 condition. As indicated in the table, one critical intersection was found to operate at unacceptable LOS during the AM peak hour in Year 2010; Intersection 1 (Briarwood Road/SR-54 WB Ramps) is forecasted to operate at LOS E. At Southbay buildout, future intersection locations with daily entering volumes greater than 65,000 vehicles per day (vpd) are considered to be significantly impacted and would require mitigation in the form of increased capacity or special at-grade or grade separated designs to improve traffic flow. Table 4.2-4 summarizes the daily entering volumes at each study area intersection. As indicated in the table, none of the 21 critical intersection locations are forecasted to have entering volumes greater than 65,000 vpd. With the exception of six locations, all intersections were found to have entering volumes of less than 30,000 ADT. The most heavily traveled Arterial-Arterial intersection is East H Street/Otay Lakes Road with 54,500 entering vehicles per day. These intersection impacts under this alternative are similar to those identified for the proposed SPA Plan. The applicant has indicated that this alternative is not feasible due to the costs of the infrastructure improvements and off-site mitigation.

4.3 REDUCED GRADING ALTERNATIVE

It has been determined that the implementation of the proposed project would result in significant impacts to landform alteration and visual resources. These impacts are a result of significant amount of grading to accommodate flat padded areas. The result has been extensive manufactured slopes of approximately 100 feet in elevation. Substantial landforms are graded and/or filled to support the density of the project.

The City has established a Hillside Development Policy (Resolution 7088, dated November 20, 1973). Pursuant to the 1993 and 1996 findings of fact and conditions of approval for the San Miguel Ranch GDP as amended, objectives set forth in the City's

Table 4.2-2
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Table 4.2-2
Summary of Roadway Segment Performance
Year 2010 and Southbay Buildout (Existing County Land Use Alternative)

Roadway	From - To			LOS		Project ADT		% ADT	
		Year 2010	Southbay Buildout	Year 2010	Southbay Buildout	Year 2010	Southbay Buildout	Year 2010	Southbay Buildout
North – South Streets									
Briarwood Road	SR-54 to Sweetwater Rd.	25,800	25,600	C	C	4	4	0.0%	0.0%
Corral Canyon Road	Central Ave to Country Vistas Ln.	6,600	6,600	C	C	22	71	0.3%	1.1%
	Country Vistas Ln. to Port Renwick	5,600	7,500	A	A	41	19	0.7%	0.3%
	Port Renwick to East H St.	6,900	8,200	A	A	41	26	0.6%	0.3%
Otay Lakes Road	Bonita Rd. to Avenida del Rey	25,900	28,300	A	A	55	55	0.2%	0.2%
	Avenida del Rey to East H Street	25,800	29,300	A	A	117	90	0.5%	0.3%
	East H St. to Telegraph Canyon Rd.	31,900	35,200	A	A	51	25	0.2%	0.1%
Proctor Valley Road	San Miguel Rd. to Mt. Miguel Rd.	6,900	14,600	C	**E**	115	87	1.7%	0.6%
Mt. Miguel Road	East H St. to SR 125	19,200	14,000	B	B	2,369	2,210	12.3%	15.8%
	SR 125 to Proctor Valley Road	8,000	16,000	A	B	880	862	11.0%	5.4%
East – West Streets									
Bonita Road	Otay Lakes Rd. to Palm Dr.	25,900	27,600	B	C	21	25	0.1%	0.1%
	Palm Dr. to Central Ave.	22,200	24,400	B	B	29	25	0.1%	0.1%
	Central Ave. to San Miguel Rd.	7,900	10,000	A	A	41	4	0.5%	0.0%
	San Miguel Rd. to Sweetwater Rd.	14,000	22,300	A	B	21	17	0.2%	0.1%
Sweetwater Road	Central Ave. to Briarwood Rd.	17,100	16,400	B	B	0	0	0.0%	0.0%
	Briarwood Rd. to Bonita Rd.	10,900	11,500	A	A	1	0	0.0%	0.0%
	Bonita Rd. to SR-54	6,300	12,100	A	A	21	17	0.3%	0.1%
San Miguel Road	Bonita Rd. to Proctor Valley Rd.	9,800	15,900	D	**E**	102	44	1.0%	0.3%
Central Avenue	Bonita Rd. to Corral Canyon Rd.	6,900	6,100	C	A	8	71	0.1%	1.2%
East H Street	I-805 to Hidden Vista Dr.	51,300	54,000	D	**D**	52	66	0.1%	0.1%
	Hidden Vista Dr. to Paseo del Rey	36,500	40,600	A	C	83	73	0.2%	0.2%
	Paseo del Rey to Paseo Ranchero	38,300	40,300	B	B	233	181	0.6%	0.4%

Table 4.2-2, Summary of Roadway Segment Performance Year 2010 and Southbay Buildout (continued)

Roadway	From - To			LOS		Project ADT		% ADT	
		Year 2010	Southbay Buildout	Year 2010	Southbay Buildout	Year 2010	Southbay Buildout	Year 2010	Southbay Buildout
	Paseo Ranchero to Otay Lakes Rd.	27,900	32,000	A	A	387	285	1.4%	0.9%
	Otay Lakes Rd. to Corral Canyon Rd./Rutgers Ave.	18,800	19,800	A	A	660	484	3.5%	2.4%
	Corral Canyon Rd./Rutgers Ave. to Eastlake Dr.	15,800	14,000	A	A	765	494	4.8%	3.5%
	Eastlake Dr. to SR 125	16,300	16,800	A	A	1,053	696	6.5%	4.1%
	SR 125 to Mt. Miguel Rd.	25,000	27,400	A	A	2,263	2,720	9.1%	9.9%
Proctor Valley Road	Mt. Miguel Rd. To Lane Ave. (east of Hunte Pkwy)	34,200	32,700	C	A	1,090	1,079	3.2%	3.3%
	Lane Ave. to Hunte Pkwy.	40,400	40,500	D	B	762	718	1.9%	1.8%
Telegraph Canyon Rd.	Paseo Ranchero to Otay Lakes Rd.	30,800	25,700	A	A	71	64	0.2%	0.2%
Otay Lakes Road	Telegraph Canyon Rd. to Rutgers Ave.	42,500	33,800	B	A	119	84	0.3%	0.2%
	Rutgers Ave. to SR 125	46,100	36,300	C	A	137	156	0.3%	0.4%
	SR 125 to Eastlake Pkwy.	57,200	52,800	**E**	**D**	50	0	0.1%	0.0%
	Eastlake Pkwy. to Lane Ave.	41,200	48,800	B	C	218	176	0.5%	0.4%
	Lane Ave. to Hunte Pkwy.	30,300	41,500	A	B	42	37	0.1%	0.1%

Source: SANDAG Model Run (5/15/98); BRW, Inc.; July 1998

Notes: Bold type indicates roadway segment forecast to operate at and unacceptable LOS E or F for City and County Circulation Element Facilities.

Table 4.2-3
Peak Hour Intersection Levels of Service
Year 2010 – Existing County Land Use Alternative

Intersection	AM Peak Hour		PM Peak Hour	
	Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
1. Briarwood Road/SR-54 WB Ramps	**47.0**	**E**	12.4	B
2. Briarwood Road/SR-54 EB Ramps	7.9	B	13.7	B
3. Sweetwater Road/Southbay Parkway*	----	----	----	----
4. Briarwood Road/Sweetwater Road	7.4	B	8.7	B
5. Bonita Road/Sweetwater Road	10.0	B	8.0	B
6. Bonita Road/San Miguel Road	12.0	B	11.1	B
7. Sweetwater Road/Central Avenue	13.9	B	15.2	C
8. Bonita Road/Central Avenue	24.3	C	28.8	D
9. Otay Lakes Road/Bonita Road	16.1	C	15.6	C
10. East H Street/I-805 SB Ramps	8.6	B	17.4	C
11. East H Street/I-805 NB Ramps	6.1	B	8.4	B
12. East H Street/Otay Lakes Road	20.0	C	23.3	C
13. East H Street/Corral Canyon Rd/Rutgers Ave.	19.2	C	17.3	C
14. East H Street/Eastlake Drive	20.1	C	19.1	C
15. East H Street/SR-125 SB Ramps	9.7	B	14.2	B
16. East H Street/SR-125 NB Ramps	2.5	A	3.3	A
17. East H Street/Proctor Valley Rd/Mt. Miguel Rd.	23.1	C	20.4	C
18. Mt. Miguel Road/SR-125 SB Ramps	12.2	B	11.4	B
19. Mt. Miguel Road/SR-125 NB Ramps	7.7	B	2.7	A
20. Mt. Miguel Road/Proctor Valley Road**	2.8	A	3.5	A
21. Proctor Valley Road/San Miguel Road	10.9	B	11.0	B

Notes: Bold type indicates peak hour signalized intersection forecast to operate at unacceptable LOS E or F.
*Intersection 3 no longer exists under this scenario.
**Intersection 20, under the proposed design, would not warrant signalization and was analyzed with four-way stop control.

Source: BRW, Inc.; July 1998

Table 4.2-4
Intersection Daily Entering Volumes
Southbay Buildout With Existing County Land Use Alternative

Intersection	Daily Entering Volume (vpd)
1. Briarwood Road/SR-54 WB Ramps	29,000
2. Briarwood Road/SR-54 EB Ramps	26,500
3. Sweetwater Road/Southbay Parkway*	-------
4. Briarwood Road/Sweetwater Road	22,600
5. Bonita Road/Sweetwater Road	21,300
6. Bonita Road/San Miguel Road	24,100
7. Sweetwater Road/Central Avenue	23,100
8. Bonita Road/Central Avenue	13,100
9. Otay Lakes Road/Bonita Road	37,400
10. East H Street/I-805 SB Ramps	47,500
11. East H Street/I-805 NB Ramps	43,000
12. East H Street/Otay Lakes Road	54,500
13. East H Street/Corral Canyon Rd/Rutgers Ave.	23,050
14. East H Street/Eastlake Drive	22,350
15. East H Street/SR-125 SB Ramps	24,400
16. East H Street/SR-125 NB Ramps	26,500
17. East H Street/Proctor Valley Rd/Mt. Miguel Rd	40,450
18. Mt. Miguel Road/SR-125 SB Ramps	22,500
19. Mt. Miguel Road/SR-125 NB Ramps	15,500
20. Mt. Miguel Road/Proctor Valley Road	18,000
21. Proctor Valley Road/San Miguel Road	16,100

Source: BRW, Inc.; July 1998

Notes: No intersections require improvements at Buildout Conditions beyond standard at-grade improvements.
* Intersection 3 no longer exists under this scenario.

Hillside Development Policy serve as significance thresholds for landform/visual quality impacts associated with the proposed project. As set forth in the analysis of landform/visual quality impacts (Section 3.2), the proposed project will result in significant impacts because of the amount of earthwork involved and the alteration of on-site topography when considered in light of the Hillside Development Policy objectives, including:

- To encourage the maximum retention of vistas, natural plant formations, and natural topographic features, such as canyons, ridgelines, and slopes.

- To encourage the retention of major canyons and topographic features in order to create physical form and interconnecting open space buffers between and within developed areas.

- To reduce the scarring effects of hillside street construction while maintaining an acceptable level of safety for traffic and to prevent construction of slopes subject to erosions, deterioration, or slippage.

- To prohibit, insofar as is feasible and reasonable, excessive padding or terracing of building sites in the hills.

To accommodate the Hillside Development Policy objectives, a substantial redesign would be required. Elements of the Community Park, Mount Miguel Road, Elementary School Site, and communities K, J E, H, and I would need to be redesigned to reduce the grading. This would require an amendment to the General Development Plan and General Plan Amendment. It is likely that a substantial reduction in density would be required to accommodate the design criteria to result in the project adherence to the Hillside Development policy. This would entail a combination of the following site preparation techniques: slit-lots, rolled or sloping pads, fan shaped multi-unit pad, bermed pad, garden pad, custom foundations and stair step padding.

Consequently, the substantial reduction in residential density on the project site would result in the corresponding reduction in landform alteration/visual, land use impacts, traffic generation would be reduced accordingly, air emissions, noise, and demand for public services. This alternative could have similar impacts to biological resources, and cultural resources as those identified for the proposed SPA Plan as it could impact the same area. Impacts to schools would likely be considered significant and unmitigated.

This project would require a General Plan and GDP amendments. It should also be recognized that the City's decision makers were informed of the significant landform alteration/visual impacts in the previous GDP EIR and adopted findings and a statement of overriding consideration for these impacts. The applicant has not selected this alternative due to the anticipated significant reduction in the number of dwelling units. The costs associated with the construction of the infrastructure and off-site mitigation requirements make this alternative infeasible.

4.4 NORTH PARCEL/OTAY WATER DISTRICT (OWD) PARCEL ANNEXATION ALTERNATIVE

The City is evaluating the potential of annexing the North Parcel into the City of Chula Vista. If the North Parcel is annexed, the City would attain conservation credits for their use. If the parcel is retained in the County, these credits would likely be retained by the County and conservation percentages would not be attained by the City. This alternative was included to evaluate what the potential impacts would be if annexation of the North Parcel did occur. No development would be proposed, and the North Parcel would retain its current designation as an ecological reserve included within the Otay-Sweetwater Unit of the San Diego National Wildlife Refuge.

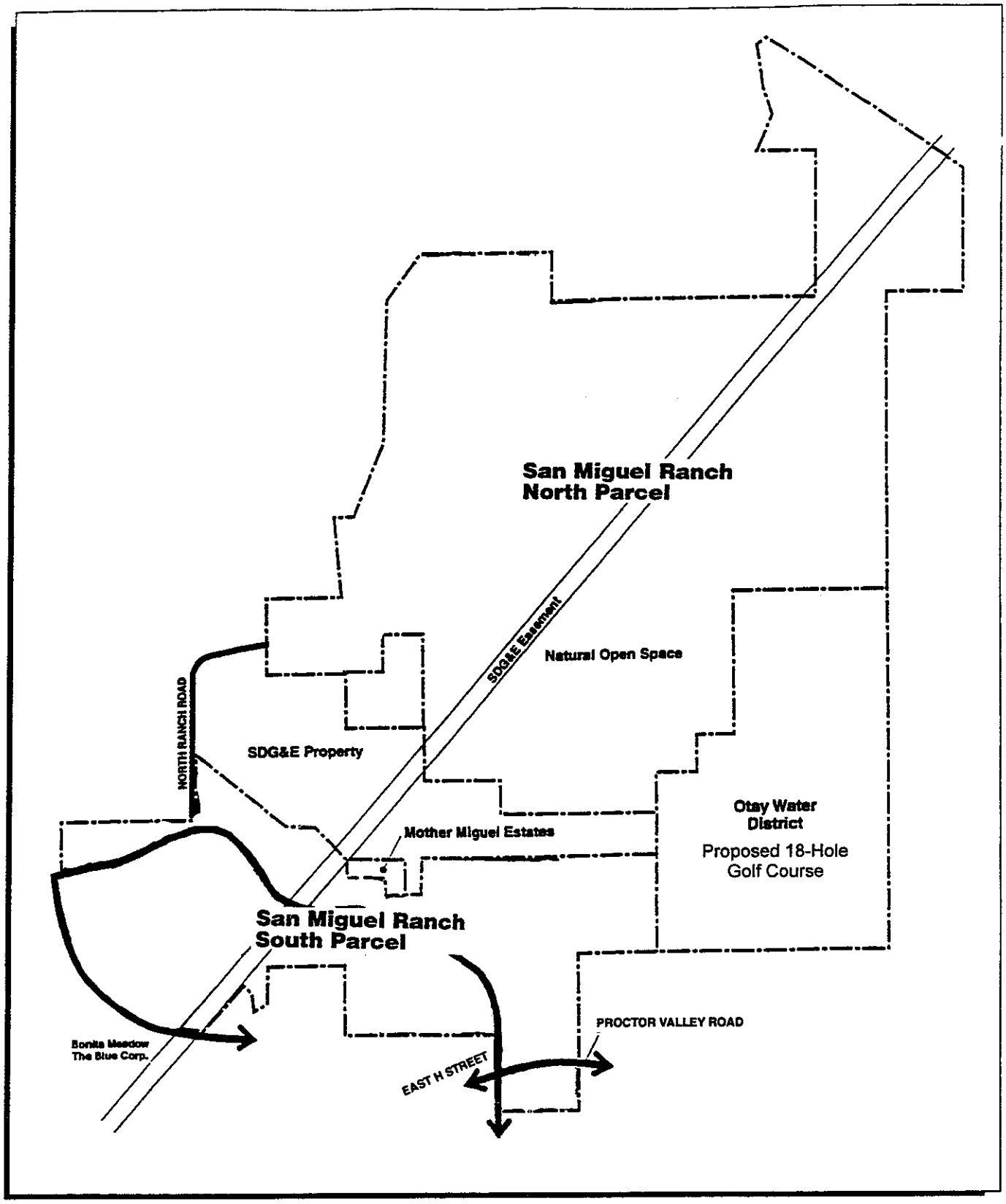
The Local Agency Formation Commission (LAFCO) requires that annexation proceed in an orderly fashion. Leapfrog and/or annexation of islands or pockets are not allowed. At this time, the North Parcel is an island, which would need to be physically connected with the City boundary. A physical link can be obtained via an unrelated project -- Otay Water District (OWD) Golf Course (Figure 4.4-1) or incorporation of the SDG&E parcel. OWD is currently processing annexation and Conditional Use Permits for a 509-acre parcel, which is proposed to be developed with an 18-hole golf course and driving range. This OWD parcel consists of a 254-acre proposed golf course site (including the 5.1-acre 711-3 and -4 Reservoirs Project) and a 230-acre habitat management area. The remaining acreage is an ancillary operations area used by the OWD. If the annexation of this parcel is ultimately
approved, the physical link between the South Parcel and the North Parcel (i.e., providing City boundary connection) would be provided.

The North Parcel would continue to be designated as open space/ecological reserve in accordance with the MSCP and the City's Subarea Plan and is presently within the Otay-Sweetwater Unit of the San Diego National Wildlife Refuge under the jurisdiction of the USFWS. As a result, there would be no impacts associated with the annexation related to landform/visual quality, biology, traffic, air quality, noise, public utilities, parks and trails, and cultural resources. Potential impacts related to public services and land use could result. Subsequent to the annexation of the North Parcel, this area would become the responsibility of the City of Chula Vista. As a result, the demand for fire and police protection provided by the City of Chula Vista Fire Department and Police Department, respectively, would increase, as this open space area would be incorporated within City limits.

The USFWS currently maintains one engine and a few firefighters as well as a few fire prevention patrols that are dispatched by the California Department of Forestry (CDF). Interagency and mutual aid fire fighting agreements, which include an incident command system, determine who will be first to the scene of a particular fire event. Other federal agencies, such as the Bureau of Land Management and the US Forest Service, are involved during these events. An MOU exists between 16 to 20 agencies for Natural Resources Fires is implemented by the Border Agency Fire Council as well. The method of putting out fires varies from that typically used by CDF because sensitive habitats and special status species are involved. In these cases, suppression tactics may vary; for example, bulldozers or aircraft may be used in some cases and not in others. The USFWS provides funding to the County of San Diego for dispersal to local agencies and entities to defray the cost of fire fighting within their jurisdiction. If the City of Chula Vista were to annex the North Parcel, then the City would have the primary responsibility for fire suppression; however, due to the fact that this area is currently covered by the CDF, the California Mutual Aid Agreement would apply. The costs of

fire suppression within the National Wildlife Refuge boundaries would, however, be absorbed by the USFWS.

The USFWS has one full-time and one collateral officer. The USFWS would expect assistance from the City in cases involving trespassing, poaching, drugs, illegal aliens, and transients; however, the USFWS officers would have first contact as well as the responsibility of protecting the scene of the crime. A determination would be made by the USFWS as to who would investigate; who would prosecute; and, who would follow up (i.e., drugs=DEA, illegal aliens=INS, assault=the City, etc.). The decision of whether to annex the North Parcel had not been made at the time that this Draft EIR was written.



Source: Estrada Land Planning 1996

Figure 4.4-1

No Scale

North Parcel / OWD Parcel Location Map

P&D Environmental Services
San Miguel Ranch

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5.0 OTHER CEQA MANDATED SECTIONS

CEQA requires the discussion of unavoidable significant environmental impacts, significant irreversible or irretrievable impacts, growth inducing impacts, and cumulative impacts related to the development of the proposed project and other projects.

5.1 UNAVOIDABLE SIGNIFICANT ENVIRONMENTAL IMPACTS

An analysis of environmental impacts caused by the proposed project has been conducted and is contained in Section 3.0. There are several impacts which cannot be avoided if the San Miguel Ranch project is developed as proposed. These impacts are briefly listed as follows:

- Impacts to state and federally listed endangered, threatened or rare species.
- Alteration of landforms due to proposed grading activities, which would require disturbance of over 7 million cubic yards of earth during cut and filling;
- Construction emissions during development of the proposed project would exceed the thresholds of significance and would contribute to the County-wide violation of state and federal air quality standards; and
- Project operation emissions, which would result from mobile sources, would exceed the threshold of significance for NO_x and would contribute to the County-wide violation of the state air quality standard;

5.2 RELATIONSHIP BETWEEN LOCAL SHORT-TERM USE OF THE ENVIRONMENT AND THE MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY

Section 15126(e) of the CEQA Guidelines requires an assessment of how the proposed project would affect short-term use of the environment at the expense of maintenance of long-term productivity.

The San Miguel Ranch project would result in several cumulative impacts on the environment which include the conversion of the area from open space to urban land uses; a substantial reconfiguration of the area's landform on the South Parcel; and the removal of hundreds of acres of sensitive biological habitat and many sensitive plants on the South Parcel; and the encroachment onto regionally significant wildlife corridors resulting in significant incremental cumulative loss of quality biological habitat in the region.

The development of the San Miguel Ranch site would severely limit its function as a prime biological resource. Several regionally significant biological habitats exist on the project site that support sensitive plant and animal species and serve as a wildlife movement corridor. The project site forms a critical link of a contiguous open space corridor between the Sweetwater Reservoir and Otay Mesa. In addition, a portion of the project site represents core habitat for the California gnatcatcher. The project's impacts on the area's biological resources were discussed in Section 3.3 of this document.

Although the proposed project would convert large portions of the South Parcel to urban uses, which would narrow the range beneficial uses of the site as a wildlife movement corridor and quality habitat for maintaining the region's biodiversity, this impact has been mitigated by the

establishment of the North Parcel as an ecological reserve and as a conservation bank for mitigation of other off-site impacts to biological resources.

5.3 IRREVERSIBLE OR IRRETRIEVABLE IMPACTS

Sections 15126 (f) and 15127 of the CEQA Guidelines require that significant irreversible or irretrievable environmental changes, which would result if a project is implemented must be addressed for projects which involve the following:

1) The adoption, amendment, or enactment of a plan, policy, or ordinance of the public agency;

2) The adoption by a LAFCO of a resolution making determinations; or

3) Preparation of an Environmental Impact Statement pursuant to the National Environmental Policy Act of 1969.

This section is required for the San Miguel Ranch SPA Plan EIR because of the site's annexation to the City of Chula Vista, which must be approved by LAFCO.

As currently proposed, the San Miguel Ranch development project would cause several irreversible environmental changes. Of greatest consequence is the conversion of a regionally significant area for biological resources into an urban development, which would be unable to support the diverse vegetation and wildlife species on-site. The San Miguel Ranch property encompasses habitats supporting sensitive plant and animal species, and perhaps the largest known population of Otay tarplant in San Diego County, in addition to regionally significant populations of coast barrel cactus and San Diego cactus wren. Additionally, the proposed grading in the South Parcel would permanently alter landforms during cut and filling of over 7 million cubic yards of earth materials. The environmental changes caused by the development of the SPA Plan would be irreversible and the loss of these biological resources and landforms would be irretrievable.

Other irreversible changes caused by the project include an incremental degradation of air quality due to grading and other construction activities, which would require direct consumption of fossil fuels (diesel fuel, gasoline, oils) for construction equipment and automobiles traveling to and from the residential development. The proposed project would also cause indirect consumption of fossil fuels for generation of electricity to operate development infrastructure, and support the residential and commercial development.

5.4 GROWTH INDUCING IMPACTS

Section 15126(g) of the State CEQA Guidelines requires that an EIR evaluate the growth-inducing impacts of a proposed project. A growth-inducing impact is defined by the CEQA Guidelines as "the ways in which the proposed project could foster economic or population growth, ..., either directly or indirectly, in the surrounding environment." The CEQA Guidelines also require the analysis of those project characteristics that may encourage or facilitate activities that, either individually or cumulatively, will affect the environment.

Induced growth is any growth, which exceeds planned growth and results from new development, which would not have taken place without the implementation of the proposed project. Typically, the growth-inducing potential of a project would be considered significant if it results in growth or population concentration that exceeds those assumptions included in

pertinent general plans, land use plans, or projections made by regional planning authorities. However, the creation of growth-inducing potential does not automatically lead to growth. Additionally, the CEQA Guidelines also state that the lead agency must never assume that growth in an area is necessarily beneficial, detrimental, or of little significance to the environment.

The environmental effects of induced growth are secondary or indirect impacts of the proposed project. Secondary effects of growth could result in significant, adverse environmental impacts, which could include increased demand on community or public services, increased traffic and noise, degradation of air and water quality, and conversion of agricultural land and open space to developed uses.

The City of Chula Vista has an adopted Growth Management Program and created a comprehensive system to manage future growth. The program implements the Growth Management Element of the City's General Plan and establishes a foundation for carrying out the development policies of the City by coordinating future growth in order to guarantee the timely provision of public facilities and services. The City's Growth Management Program is incorporated by this reference.

The proposed San Miguel Ranch project would contribute directly to growth in the City of Chula Vista through the annexation of 738 acres of land to the city and the subsequent construction of new residential, commercial, and recreational facilities. The SPA Plan proposes to construct a maximum of 1,394 DUs, a retail center, an elementary school, and a community service facility, as well as a community park and a neighborhood park. Using an average of 3.22 persons per du, the residential development could generate an additional 4,500 persons in the City of Chula Vista. An unquantified number of jobs would be created by the retail center, elementary school, community service facility, and community/ neighborhood parks.

In addition to the direct generation of new persons and jobs, the project would indirectly stimulate the City of Chula Vista and the County of San Diego economies, as income earned from the jobs generated by the project are spent and re-spent in other sectors of the economy. Successive rounds of investment and expenditures in a local economy continue to reap economic benefits in terms of economic growth to the region. Economic growth may also result from the project in terms of local government.

The San Miguel Ranch project would contribute cumulatively to the encroachment of urban areas from the City of Chula Vista into open spaces east of the city in conjunction with other projects in eastern Chula Vista, including Rolling Hills Ranch and EastLake. The project area is bounded by urban development to the west, Proctor Valley Road to the south, San Miguel Mountain to the east, and the Sweetwater Reservoir to the north. The Sweetwater Reservoir, San Miguel Mountain, and other steep topography restrict the amount of additional development that occur to the north, east, and northeast. Development is in progress immediately north of the Sweetwater River. Development is underway or planned on adjacent land to the south or southeast. Land to the southeast of the project site, within Otay Ranch, is presently used primarily for agriculture; development planning for this large development project is presently underway. The cumulative effect of these projects is likely to increase development east of the city in undeveloped areas of open space designated for future development.

San Miguel Ranch would induce growth, particularly economic and population growth in the City of Chula Vista, and could indirectly, in conjunction with projects such as Rolling Hills

Ranch and EastLake, encourage the development of other lands east of the City of Chula Vista. As defined by the CEQA Guidelines, San Miguel Ranch would result in additional growth, which has been planned for by the City of Chula Vista in the amended General Plan.

5.5 CUMULATIVE IMPACTS

Section 15130(a) of the CEQA Guidelines requires that "cumulative impacts shall be discussed when they are significant". Cumulative impacts involve individual effects which may increase in scope or intensity when considered together. Such impacts typically involve a number of local projects, and can result from individually incremental effects when these collectively increase in magnitude over time. The evaluation of cumulative effects can be based on a list of past, present, and reasonably anticipated future projects producing related or cumulative impacts. Section 15130 (B)(3) and Section 15183 of the CEQA Guidelines states that no further cumulative impacts analysis is required when: a project is consistent with a general plan; a pertinent discussion of cumulative impacts is contained in one or more previously certified EIRs; and, the lead agency has determined that the regional or area wide cumulative impacts of that project have already been adequately addressed. The Subsequent EIR and findings were prepared for the San Miguel Ranch General Plan and General Development Plan Amendment (1996). The proposed project is consistent with the GPA and GDPA analyzed within that document; however, due to changes in state law regarding school funding, this project will have a significant, cumulative impact to school facilities.

Projects planned or proposed within a two-mile radius of the project site are listed in Table 5.5-1 and presented in Figure 2.1-2.

Table 5.5-1
List of Cumulative Projects

Project Name	Description of Proposed Uses	Approx. Acreage	Jurisdiction
Rolling Hills Ranch	2,107 single-family units 509 multi-family units 13.9 acres of commercial	1,206 acres	City of Chula Vista
Bonita Meadows	300 single-family units	264 acres	City of Chula Vista
Eastlake Business Center II	Business Park Expansion	108 acres	City of Chula Vista
Eastlake Woods West	255 single-family detached units	56.4 acres	City of Chula Vista
Eastlake Woods	Four residential communities consisting of 420 single-family units, 21 net acres of junior high school, 10 net acres of elementary school, and 5 net acres of neighborhood park	395.3 acres	City of Chula Vista
Eastlake Trails	957 single-family units, 186 multi-family units, and 13.2 acres of elementary school	237.6 acres	City of Chula Vista
Eastlake Vistas	1,092 single-family units	397.6 acres	City of Chula Vista

Eastlake Landswap	750 residential units per development agreement	57.9 acres	City of Chula Vista
Otay Ranch SPA I	3,020 single-family units, 3,171 multi-family units, 17.4 acres of commercial	1,397 acres	City of Chula Vista
OWD Golf Course	254-acre proposed golf course site (including the 5.1-acre 711-3 and -4 Reservoirs Project), 230-acre habitat management area	509 acres	Otay Water District
SR-125 Extension	Freeway Extension from SR-54 to SR-905 (Otay Mesa Road)	11.2 miles	Caltrans

All of these projects are located in the Eastern Territories within a two-mile radius of the San Miguel Ranch site and will together determine the future character of the Eastern Territories from a whole range of environmental perspectives: air quality, traffic, water, visual quality, biology, etc.

Land Use

The project will contribute to an incremental increase in the area's conversion of undeveloped and rural land to urban land uses. The City of Chula Vista General Plan designates all of the areas where the above-mentioned developments are to be built. The Valle de Oro Community Plan designates all of the above-mentioned developments within county jurisdiction as developable. The rural estate context of Bonita would be cumulatively impacted at a significant level by more intense urban land uses planned in the surrounding area by both the City of Chula Vista and the County.

Incorporation of natural open space into the project design can offset some of the impacts related to the conversion of open space to urban uses. However, the projects would still contribute to a significant cumulative land use impact.

Landform/Visual Quality

Grading and development of projects in the area will contribute to an unavoidable, unmitigable adverse cumulative impact on the area's visual quality. Grading will be substantial at all the project sites, and landforms will be considerably altered.

Biological Resources

Despite mitigation measures taken to preserve biological resources in each of the project areas, the cumulative impact of these developments on sensitive species and habitats is adverse and significant. The projects will significantly reduce the amount of certain sensitive habitats such as wetlands, Diegan coastal sage scrub, and non-native grasslands; lead to significant impacts to numerous state and federally listed sensitive plants, impinge upon regionally significant wildlife corridors, and eliminate identified high quality California gnatcatcher habitat.

Revegetation efforts, on-site and off-site habitat re-creation, on-site mitigation plans, and off-site habitat preservation programs can offset some of these impacts. The Habitat Conservation Plan for the Sweetwater River will serve to guide and direct conservation efforts in that area. Additionally, the North Parcel, the area immediately north of the project site, has been established as an ecological reserve and a conservation bank to mitigate off-site biological impacts. These projects would, nevertheless, contribute to a significant incremental cumulative loss of quality biological habitats in the region as a whole.

Transportation

These projects will contribute to the overall increase in traffic volumes in the City of Chula Vista and the entire San Diego area. Certain elements of the circulation system are projected to operate below acceptable levels in the future due to cumulative traffic generated by development throughout the city and in nearby areas. While the project will be required to contribute to the Eastern Chula Vista Transportation Phasing Plan, which will implement transportation improvements in the general vicinity of the projects, significant short- and long-term impacts to traffic loads and levels of service are expected.

Despite numerous projected road improvements to mitigate cumulative impacts and maintain compliance with the City of Chula Vista's thresholds, levels of service will inevitably drop at certain intersections, congestion will increase, and vehicle-related noise, emissions, and accidents will increase. The traffic impacts are considered significant.

Air Quality

Significant cumulative impacts would result from construction of the San Miguel Ranch development in conjunction with the other projects mentioned above, as all of these project will generate domestic and vehicle emissions that will contribute to the exceedance of air quality standards and the degradation of air quality in the San Diego Air Basin.

Noise

Noise levels would incrementally increase throughout the above-mentioned project areas as each development is completed. On the basis of predicted future traffic volumes, noise levels at certain parts of the San Miguel Ranch site would exceed the 65 dBA standard for residential areas, and would thus require mitigation measures in the form of noise walls or wall/berm combinations. After completion of these projects, noise levels in the majority of the project areas would likely correspond to average levels acceptable for residential uses, higher levels being found only near busy roads where noise walls and/or setbacks could effectively mitigate noise impacts. Predicted future traffic related to further growth in the Eastern Territories could eventually increase noise levels in excess of the city's standards at numerous locations.

At project build out, for example, traffic volumes on SR-125 would generate noise levels in several residential areas (e.g., San Miguel Ranch, Bonita Meadows, Rolling Hills Ranch) which would be mitigable only by the construction of noise walls.

Public Services and Utilities

San Miguel Ranch along with other planned development projects would increase the demand for police and fire protection and emergency medical services in the area. The level of increased demand may result in the need for additional police and fire personnel and other public facilities. The cumulative impacts to the school system as a result of increased residential development would be a significant impact.
The cumulative projects would result in an increased demand for water and increased generation of wastewater and solid waste. These increases would have significant long-term cumulative impacts on available water supply, and sewage treatment and landfill capacity.

Parks, Trails, and Open Space

Each of the above-mentioned developments within Chula Vista's sphere of influence meets or exceeds the parks and recreation requirements of the City of Chula Vista, and no cumulative impacts would result to park or recreational demand thresholds established by the City of Chula Vista. However, all of the projects would contribute to an incremental increase in the area's conversion of undeveloped to urban land uses, constituting an unmitigable, cumulative impact. Mitigation measures that would lessen the severity of this impact include the incorporation of natural open space into project design and the dedication of open space easements to the city or county.

Cultural Resources

Grading and development of projects in the area may permanently cover or potentially disturb cultural resources that may exist in the area; precluding further research or investigation. However, if appropriate mitigation measures are employed on a project-by-project basis, no significant impacts to cultural resources are anticipated.

6.0 MITIGATION MONITORING AND REPORTING PROGRAM

Description and Purpose

The California Environmental Quality Act (CEQA) requires a lead or responsible agency that approves a project where an EIR has identified significant environmental effects, to adopt a "reporting or monitoring program for adopted or required changes to mitigate or avoid significant environmental effects."

The City of Chula Vista is the lead agency for the San Miguel Ranch Project. The environmental analysis prepared for this project addressed potential environmental impacts and, where appropriate, either recommended mitigation measures to reduce identified significant impacts below a level of significance or a recommended alternative to avoid the impact. A Mitigation Monitoring and Reporting Program, which is presented in Table 6-1, is required to ensure that the adopted mitigation measures are implemented. The City of Chula Vista will adopt this Mitigation Monitoring and Reporting Program (MMRP) after considering the Final Supplemental EIR and if approval of the project occurs.

The proposed San Miguel Ranch Project may result in adverse impacts in the event of substantial alterations to the proposed project description. A monitoring and reporting program would prevent adverse impacts by insuring that the proposed project is developed in substantial conformance with the project description and design features used to conduct the analysis for this EIR.

Roles and Responsibilities

The MMRP for the proposed project will be in place through all phases of the project, including final design, grading, construction, and operations. The City of Chula Vista has the primary enforcement role for implementation of mitigation measures. The City's Environmental Review Coordinator (ERC) will provide final approval for the completion of the implementation of mitigation measures. The ERC will appoint a Mitigation Compliance Coordinator (MCC) who will be responsible for the actual monitoring of the implementation of the mitigation measures. The MCC will interface with the ERC, the City Engineer, the City Landscape Architect, the Construction Supervisor, and the Construction Inspector(s), all who have some responsibility for implementation of the mitigation measures.

Table 6-1
Mitigation Monitoring and Reporting Program

Mitigation Measure Number	EIR Reference Section	Mitigation Measure/Condition of Approval	Monitoring and Reporting Process	Monitoring Milestone	Party Responsible for Monitoring	Verification of Compliance		
						Initials	Date	Remarks
3.1-1	3.1	1. Provide potential buyers considering lots north of the proposed alignment of San Miguel Road with a white paper and exhibits describing future SDG&E expansion plans to the extent feasible. Provide buyers of these lots with a Grant Deed containing a provision describing and exhibiting future SDG&E expansion plans to the extent feasible.	Submit program for potential buyers to City of Chula Vista.	Prior to issuance of occupancy permits.	City of Chula Vista Planning and Building.			
3.1-2	3.1	2. Provide grading site plans and other information to SDG&E to assist them in their efforts to develop future improvements on their site and corresponding landscape or other screening programs that will minimize visual impacts to adjacent residential development.	Applicant responsible for submitting grading site plans.	Prior to issuance of grading permits.	City of Chula Vista Engineering Department			
3.1-3	3.1	3. Continue to coordinate with SDG&E throughout the processing of SPA Plans.	Applicant to provide letter of commitment.	Prior to issuance of grading permit.	City of Chula Vista Engineering Department			
3.1-4	3.1	4. Obtain the applicant's commitment to not oppose SDG&E's decision to process its expansion plans through the City.	Applicant to provide letter of commitment.	Prior to approval of the SPA.	City of Chula Vista Planning and Building.			

Table 6-1, Mitigation Monitoring and Reporting Program (continued)

Mitigation Measure Number	EIR Reference Section	Mitigation Measure/Condition of Approval	Monitoring and Reporting Process	Monitoring Milestone	Party Responsible for Monitoring	Verification of Compliance		
						Initials	Date	Remarks
3.3-1	3.3	5. Grading areas along roadways shall be hydroseeded with native plant species consistent with surrounding natural vegetation. A revegetation plan (including the coast barrel cactus transplantation) shall be developed with the help of a revegetation specialist with experience in coastal sage scrub and similar habitats. The revegetation plan shall be prepared by the applicant and a qualified biologist.	Applicant responsible for submitting revegetation plan.	Specifications incorporated into a construction monitoring plan approved by the City of Chula Vista Landscape Plan Approval prior to approval of grading plans.	City of Chula Vista Planning and Building.			
3.3-2	3.3	6. The use of non-invasive plants in landscaping areas adjacent to open space will be required for all areas outside of actual lot boundaries. Additionally, homeowners will be encouraged to uses non-invasive species in their landscaping adjacent to open space. Iceplant shall not be used in lieu of fire-resistant native revegetation due to slope failures associated with it and the invasive nature of the species.	Revegetation plan prepared by the applicant and a registered landscape architect in cooperation with a qualified biologist.	Specifications incorporated into a Landscape Plan approved by the City of Chula Vista prior to approval of grading plans.	City of Chula Vista Planning and Building.			

Table 6-1, Mitigation Monitoring and Reporting Program (continued)

Mitigation Measure Number	EIR Reference Section	Mitigation Measure/Condition of Approval	Monitoring and Reporting Process	Monitoring Milestone	Party Responsible for Monitoring	Verification of Compliance		
						Initials	Date	Remarks
3.3-3	3.3	7. Grading activities within 200 feet of areas of identified coastal California gnatcatcher pairs, or their associated coastal sage scrub habitat, shall not be conducted during the breeding or nesting season (March 1 through August 15). The applicant will adhere to all applicable requirements of federal and state codes (e.g., Migratory Bird Treaty Act and CDFG Code 3503.5). Grading activities shall be supervised by a qualified biologist.	Applicant will hire a qualified biologist who shall supervise grading activities.	Specifications incorporated into a construction monitoring plan approved by the City of Chula Vista as part of the grading permit.	City of Chula Vista Planning and Building.			
3.3-4	3.3	8. Site preparation activities, especially staging area operations and mainten-ance rows for heavy machinery, shall be restricted to areas not being placed in open space. Areas adjacent to open space shall be fenced. A debris fence shall be installed prior to excavation in areas where grading is up-slope of sensitive biological habitats.	Applicant will hire a qualified biologist.	Specifications incorporated into a construction monitoring plan approved by the City of Chula Vista as part of the grading permit.	City of Chula Vista Planning and Building.			
3.3-5	3.3	9. All new and proposed parking lots and developed areas in and adjacent to the natural open space must not drain directly into the open space. All developed and paved areas must prevent the release of toxins, chemicals, petroleum products, exotic plant materials, and other elements that might degrade or harm the natural environment or ecosystem processes within the open space. This can be accomplished using a variety of methods including natural detention basins, grass swales or mechanical	City of Chula Vista Planning will review plans.	Specifications incorporated into Tentative Map conditions prior to grading permit.	City of Chula Vista Planning and Building.			

Table 6-1, Mitigation Monitoring and Reporting Program (continued)

Mitigation Measure Number	EIR Reference Section	Mitigation Measure/Condition of Approval	Monitoring and Reporting Process	Monitoring Milestone	Party Responsible for Monitoring	Verification of Compliance		
						Initials	Date	Remarks
		trapping devices. These systems should be maintained approximately once a year, or as often as needed, to ensure proper functioning. Maintenance should include dredging out sediments if needed, removing exotic plant materials, and adding chemical-neutralizing compounds (e.g. clay compounds) when necessary and appropriate.						
3.3-6	3.3	10. Recreational uses that use chemicals, potentially toxic or impactive to wildlife, sensitive species, habitat, or water quality will incorporate methods on their site to reduce impacts caused by the application and/or drainage of such materials into the open space. Such methods should include drainage/detention basins, swales, or holding areas with non-invasive grasses or wetland-type native vegetation to filter out the toxic materials, and should be maintained on a regular basis. Where applicable, this requirement should be incorporated into leases on publicly-owned property.	City of Chula Vista Planning will review plans.	Specifications incorporated into Tentative Map conditions prior to grading permit and Conditions on Drainage Plans.	City of Chula Vista Planning and Building.			
3.3-7	3.3	11. Lighting of all developed areas adjacent to the open space should be directed away from the open space. Where necessary, development should provide adequate shielding with non-invasive plant materials (preferably native), berming, and/or other methods to protect the open space and sensitive species from night lighting.	City of Chula Vista Planning will review plans.	Specifications incorporated into Tentative Map conditions prior to approval of Improvement Plans.	City of Chula Vista Planning and Building.			

Table 6-1, Mitigation Monitoring and Reporting Program (continued)

Mitigation Measure Number	EIR Reference Section	Mitigation Measure/Condition of Approval	Monitoring and Reporting Process	Monitoring Milestone	Party Responsible for Monitoring	Verification of Compliance		
						Initials	Date	Remarks
3.3-8	3.3	12. Before any impacts occur to the Endangered species, the City must adopt (and have approved by USFWS and CDFG) a Sub Area Plan of the Multiple Species Comprehensive Plan (MSCP). If the City does not adopt their Sub Area Plan, the applicant may be able to obtain authorization ("take") from the County of San Diego under their "take" authorization. If take authorization is not obtained from the City or County, a separate Section 7 consultation will be required by the USFWS and permit obtained by CDFG to impact threatened or endangered species listed by the federal and state government.	City of Chula Vista Planning will review plans.	Specifications incorporated into Tentative Map conditions prior to grading permit.	City of Chula Vista Engineering Building.			

Table 6-1, Mitigation Monitoring and Reporting Program (continued)

Mitigation Measure Number	EIR Reference Section	Mitigation Measure/Condition of Approval	Monitoring and Reporting Process	Monitoring Milestone	Party Responsible for Monitoring	Verification of Compliance		
						Initials	Date	Remarks
3.3	3.3	13. A mitigation plan for impacts to onsite drainages will be prepared to the satisfaction of the Environmental Review Coordinator to mitigate up to 1.5 acres of jurisdictional drainages. The mitigation plan will be implemented prior to or concurrent with impacts to USACOE and CDFG jurisdictional resources.	Applicant will provide plan.	Specifications incorporated into Tentative Map conditions prior to grading permit.	City of Chula Vista Planning and Building.			
3.3-9	3.3	~~13~~14. The applicant will also be required to prepare a Management Plan for the Otay tarplant preserves prior to approval of any map adjacent to the OS-1, OS-3, OS-6, and OS-7 planning areas.	Applicant will provide plan.	Specifications incorporated into Tentative Map conditions prior to grading permit.	City of Chula Vista Planning and Building.			
3.4-1	3.4	~~14~~15.A traffic analysis will be conducted at the submittal of each Tentative Map. The City Engineer (or designee) will confirm that the City's thresholds standards for traffic can be met. If thresholds are not met, project cannot proceed.	Applicant and/or City will verify thresholds standards adherence.	Prior to approval of Improvement Plan.	City of Chula Vista Engineering Department.			
3.5-1	3.5	~~15~~16. Heavy-duty construction equipment with modified combustion/fuel injection systems for emissions control shall be utilized during grading and construction.	City Engineer will review grading plans.	Condition of Grading Permit	City of Chula Vista Planning and Building.			

Table 6-1, Mitigation Monitoring and Reporting Program (continued)

Mitigation Measure Number	EIR Reference Section	Mitigation Measure/Condition of Approval	Monitoring and Reporting Process	Monitoring Milestone	Party Responsible for Monitoring	Verification of Compliance		
						Initials	Date	Remarks
3.5-2	3.5	~~16~~17.Disturbed areas shall be hydroseeded, landscaped, or developed as directed by the City to reduce dust generation.	City Engineer will review grading plans.	Condition of Grading Permit	City of Chula Vista Planning and Building.			
3.5-3	3.5	~~17~~18. Trucks hauling fill material shall be covered.	City Engineer will review grading plans.	Condition of Grading Permit	City of Chula Vista Planning and Building.			
3.5-4	3.5	~~18~~19. A 20 mile-per-hour speed limit shall be enforced on unpaved surfaces.	City Engineer will review grading plans.	Condition of Grading Permit	City of Chula Vista Planning and Building.			
3.5-5	3.5	~~19~~20. To control dust raised by grading activities, the graded area shall be watered twice a day. Other mitigation measures shall be considered and implemented upon City approval. Such measures may include, but are not limited to, phasing grading so relatively smaller areas are exposed and revegetating graded areas as rapidly as possible.		Condition of Grading Permit	City of Chula Vista Planning and Building.			
3.6-1	3.6	~~20~~21. To minimize short-term adverse impacts on adjacent residences, the following mitigation measures shall be implemented: • Construction shall be limited to the hours of 7:00 a.m. to 6:00 p.m., Monday through Friday and between 8:00 a.m. and 6:00 p.m. on Saturday. • The project contractor shall use power construction equipment with state-of-the-art noise shielding and muffling devices.	City Engineer will review the tentative map.	Condition of Grading Permit	City of Chula Vista Planning and Building.			

Table 6-1, Mitigation Monitoring and Reporting Program (continued)

Mitigation Measure Number	EIR Reference Section	Mitigation Measure/Condition of Approval	Monitoring and Reporting Process	Monitoring Milestone	Party Responsible for Monitoring	Verification of Compliance		
						Initials	Date	Remarks
		• Temporary noise barriers, such as wooden barrier walls, mufflers, and noise attenuating devices shall be employed to reduce noise generated during construction.						
3.6-2	3.6	~~21~~22. To reduce noise levels at sensitive receptor locations, particularly residences within the project site to acceptable levels, a noise wall along the following locations (Figure 3.6-1) shall be installed: ∃ Eastern boundary of Neighborhood D along Mt. Miguel Road; ∃ Northern boundary of Neighborhood G along Mt. Miguel Road; ∃ Southwestern/southern boundary of Neighborhood H along Mt. Miguel Road; ∃ Southwestern boundary of Neighborhood F along Mt. Miguel Road; ∃ Adjacent to Neighborhoods B and C along Mt. Miguel Road; and ∃ Northern boundary of Neighborhood A along East H Street. The noise wall shall be erected along the rear property lines of the locations identified above, shall have	City Engineer will review the tentative map.	Condition of Grading Permit.	City of Chula Vista Planning and Building.			

Table 6-1, Mitigation Monitoring and Reporting Program (continued)

Mitigation Measure Number	EIR Reference Section	Mitigation Measure/Condition of Approval	Monitoring and Reporting Process	Monitoring Milestone	Party Responsible for Monitoring	Verification of Compliance		
						Initials	Date	Remarks
		a maximum height of 6 feet, and shall be solid masonry construction with a material weight of at least 3.5 pounds per square feet and which would not allow any air space along their entire length. This noise wall would serve as a sound attenuation barrier to reduce exterior noise along Mt. Miguel Road and East H Street by 15 dBA.						
3.7-1	3.7	Water ~~22~~23. Reclaimed water shall be used wherever possible, as planned. The project applicant shall begin negotiations with the OWD to ensure distribution of reclaimed water to the site.	City will verify reclaimed water plans.	Prior to approval of the Improvement Plans.	City of Chula Vista Planning and Building. and Engineering Department.			
3.7-2	3.7	~~23~~24. The OWD Water Resource Master Plan and the Overview of Water Service identify the water facilities to be constructed that will provide the level of water service necessary to meet the criteria established within these plans; therefore, the facilities identified within the plans will be included within the construction requirements of the proposed project. The project proponent will provide potable and recycled water improvements for the project as recommended by Wilson Engineering (1998).	City will verify reclaimed water plans.	Prior to approval of the Improvement Plans.	City of Chula Vista Planning and Building. and Engineering Department.			

Table 6-1, Mitigation Monitoring and Reporting Program (continued)

Mitigation Measure Number	EIR Reference Section	Mitigation Measure/Condition of Approval	Monitoring and Reporting Process	Monitoring Milestone	Party Responsible for Monitoring	Verification of Compliance		
						Initials	Date	Remarks
3.7-3	3.7	~~24~~25. Water conservation measures for onsite landscaping and roadside maintenance shall include, but not be limited to planting of drought tolerant vegetation and the use of irrigation systems which minimize runoff and evaporation loss.	City Engineering	Prior to approval of a Landscape Plans.	City of Chula Vista Planning and Building. and Engineering Department.			
3.7-4 3.7-5 3.7-6	3.7	~~25~~26. Installation of low flush toilets. ~~26~~27. Installation of low flow showers and faucets. ~~27~~28. Insulation of hot water lines in water recirculating systems.	City Engineering	Prior to approval of a building permit.	City of Chula Vista Planning and Building. Planning and Building and Building Official.			
3.7-7	3.7	Sewer ~~28~~29. Payment of wastewater development fees or equivalent proportionate facility financing mechanism necessary to provide service to this project as identified by the City, when adopted.	City will verify payment	Payment shall occur prior to issuance of building permits or earlier.	City of Chula Vista Planning and Building. Engineering Department.			

Table 6-1, Mitigation Monitoring and Reporting Program (continued)

Mitigation Measure Number	EIR Reference Section	Mitigation Measure/Condition of Approval	Monitoring and Reporting Process	Monitoring Milestone	Party Responsible for Monitoring	Verification of Compliance		
						Initials	Date	Remarks
3.7-8	3.7	~~29~~30. The applicant will be required to adhere to all conditions in City Council Policy 570-03 pertaining to maintenance and operation of sewer pump station.	City Engineering will verify compliance.	Prior to approval of Grading and Improvement Plans for Neighborhood "L"	City of Chula Vista Planning and Building. Engineering Department.			
3.7-9	3.7	~~30~~31. The City will enter into a capacity agreement with the County of San Diego.	City Engineering will verify compliance.	Condition of Tentative Map.	City of Chula Vista Planning and Building. and Engineering Department.			
3.7-10	3.7	~~31~~32. The project proponent will implement all of the recommended sewer facilities identified in the Overview of Sewer Service for San Miguel Ranch (Wilson Engineering 1998).	City Engineering will verify compliance.	Condition Grading and Improvement Plan.	City of Chula Vista Planning and Building. and Engineering Department.			
3.7-11	3.7	Police Protection ~~32~~33. Payment of development impact fees to ensure funding for police protection facilities.	City of Chula Vista will provide verification of fees.	Prior to approval of the building permit.	City of Chula Vista Planning and Building.			
3.7-12	3.7	Fire Protection ~~33~~34. The proposed project will be developed in accordance with the First Station Master Plan, as amended. The City, based upon Fire Station Master Plan, will determine when a new fire station is required. The San Miguel Ranch project will be subject to payment of a Development Impact Fee; however, the City has the respon-sibility to apply these fair-share funds to provide adequate fire protection service within the project	Applicant to provide improvements and funding; Fire Department to provide verification of completion.	Prior to approval of the building permit.	City of Chula Vista Planning and Building.; Environmental Monitor to review final landscape plan.			

Table 6-1, Mitigation Monitoring and Reporting Program (continued)

Mitigation Measure Number	EIR Reference Section	Mitigation Measure/Condition of Approval	Monitoring and Reporting Process	Monitoring Milestone	Party Responsible for Monitoring	Verification of Compliance		
						Initials	Date	Remarks
		area.						
3.7-13	3.7	~~34~~35. Implement an acceptable brush management plan, as proposed by the applicant prior to approval of landscape plan.	Applicant to provide to City.	Prior to approval of Landscape Plan.	City of Chula Vista Planning and Building.			
3.7-14	3.7	~~35~~36. Funding for the school shall be in compliance with state law in effect at the time of building permits.	Applicant to provide improvements and funding; Fire Department to provide verification of completion.	Prior to approval of the building permit.	City of Chula Vista Planning and Building.			
~~3.7-15~~	~~3.7~~	~~36. Prior to Tentative Map approval, the project proponent shall provide documentation to the City confirming satisfaction of Sweetwater Union High School District facility funding requirements to offset student generation impacts.~~	~~Applicant to provide verification from school districts.~~	~~Prior to approval of building permit.~~	~~City of Chula Vista Planning and Building.~~			
3.9-1	3.9	37. A data recovery program shall be established for the four archaeological sites, which would be directly impacted by excavation and grading activities, in the South Parcel. The data recovery program shall include a detailed collection of information from the surface and subsurface artifact deposits within the framework of an approved research design. The research design must be submitted to the City of Chula Vista for approval prior to the initiation of any mitigation	Applicant to provide design of program.	Prior to initiation of any mitigation program grading.	City of Chula Vista Planning and Building.			

Table 6-1, Mitigation Monitoring and Reporting Program (continued)

Mitigation Measure Number	EIR Reference Section	Mitigation Measure/Condition of Approval	Monitoring and Reporting Process	Monitoring Milestone	Party Responsible for Monitoring	Verification of Compliance		
						Initials	Date	Remarks
		programs.						
3.9-2	3.9	38. The data recovery program shall also establish procedures to be followed should a previously undiscovered site be located during project development. The research design must be submitted to the City of Chula Vista for approval prior to the initiation of any mitigation programs.	Applicant to provide design of program.	Prior to grading.	City of Chula Vista Planning and Building.			
3.9-3	3.9	39. A qualified archaeologist shall monitor the grading of the project and any related off-site utility improvements to ensure that any significant deposits or artifacts not identified during the evaluation phase may be analyzed prior to the destruction of the archaeological sites. Any sites that were masked or buried and were not previously discovered will require evaluation.	Placed as conditions on tentative maps. Applicant to provide monitor	During grading activities.	City of Chula Vista Planning and Building.			
3.9-4	3.9	40. The six unique sites that will not be directly impacted but may be indirectly impacted shall be protected within easements to mitigate potential indirect impacts. Sites requiring preservation include: SDI-4529, SDI-4525, SDI-8657(part), SDI-8658, SDI-12,063, and SDI-12,064. Any trails that may be planned to pass through the archaeology site will be reviewed by an archaeologist to determine potential impacts and mitigations.						
3.9-5	3.9	41. In the event that any new or	Applicant to	During grading	City of Chula			

Table 6-1, Mitigation Monitoring and Reporting Program (continued)

Mitigation Measure Number	EIR Reference Section	Mitigation Measure/Condition of Approval	Monitoring and Reporting Process	Monitoring Milestone	Party Responsible for Monitoring	Verification of Compliance		
						Initials	Date	Remarks
		previously undetected portions of an archaeological site are encountered during the grading of the project or related improvements, the grading shall be diverted by the monitoring archaeologist to allow the site to be evaluated for importance. If the site is found to be unique, grading impacts would be considered significant and must be mitigated to below a level of significance through either a data recovery program, as described above, or preservation.	provide monitor.	activities.	Vista Planning and Building.			
3.9-6	3.9	42. Wherever feasible, parks, greenspace, or other open space will be planned to provide protection for unique archaeological sites. Unique sites within these open space areas that are located proximal to a pedestrian and/or equestrian trail will be preserved through capping or covering with a layer of soil. Any capping or landscaping within the archaeological preserve must be reviewed by the Project Archaeologist and the City will ensure that sites will not be impacted by these actions.	Applicant to provide monitor.	Prior to approval of Tentative Map. Condition of Tentative Map prior to grading permit	City of Chula Vista Planning and Building.			
3.10-1	3.10	43. A qualified paleontologist will monitor all initial cuts in area identified as potentially containing fossilliferous forming strata. The paleontologist shall be authorized to divert grading to allow for the collection of appropriate materials.	These are placed as conditions on the grading permit and will be monitored. Applicant to provide monitor.	During grading operations.	City of Chula Vista Planning and Building.			

Table 6-1, Mitigation Monitoring and Reporting Program (continued)

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