Salt Creek Ranch

Annexation/General Development Plan/ Pre-Zone Final Environmental Impact Report (ECI/EIR 89-3)

SCH# 89092721

Prepared for:
City of Chula Vista
Environmental Review Coordinator
276 Fourth Ave.
Chula Vista, CA 92010

Prepared by:
ERC Environmental and Energy Services Co.
5510 Morehouse Dr.
San Diego, CA 92121

August 1990

CITY OF
CHULA VISTA

Salt Creek Ranch

Annexation/General Development Plan/ Pre-Zone Final Enviromental Impact Report (ECI/EIR 89-3)

SCH# 89092721

Prepared for:

City of Chula Vista

August 1990

SALT CREEK RANCH
ANNEXATION/GENERAL DEVELOPMENT PLAN/PRE-ZONE
DRAFT EIR 89-3
RESPONSE TO COMMENTS

INTRODUCTION

The Salt Creek Ranch Draft Environmental Impact Report (EIR) was circulated for public review from April 3, 1990 to May 18, 1990. Final public review ended on June 27, 1990 after the City of Chula Vista Planning Commission public hearing on the proposed project.

A total of 18 comment letters were received during the review period. Those comments are responded to on the following pages. Comment letters are in the following order:

- United States Department of the Interior Fish and Wildlife Service
- State of California Department of Fish and Game
- State of California Department of Food and Agriculture
- State of California Department of Transportation
- State of California Department of Water Resources
- San Diego Association of Governments
- San Diego Local Agency Formation Commission
- City of San Diego Engineering Division/Water Utilities Department
- Chula Vista City School District
- City of Chula Vista Fire Department
- City of Chula Vista Parks and Recreation Department
- City of Chula Vista Planning Department
- City of Chula Vista Police Department
- City of Chula Vista Public Works Department
- Sweetwater Union High School District (letters of May 22, 1990; April 25, 1990; and September 15, 1989)
- The Baldwin Company

The City of Chula Vista also received comment letters on the project's Notice of Preparation (NOP) of the Draft EIR. As these letters were received after the NOP review period and after printing and circulation of the Draft EIR, they were not incorporated into

the Draft EIR document. The NOP comment letters are included in the Final EIR as Appendix A.

Comments on the Draft EIR, responses thereto and the Draft EIR text comprise the Final EIR for the Salt Creek Ranch Annexation/General Development Plan/Pre-zone application. Notes in the margins of the EIR text direct the reader to related comments in this Response to Comments section.

MITIGATING DESIGN FEATURES

The Alternative A General Development Plan (Section 5.4 of the EIR) was modified in response to comments from the U.S. Fish and Wildlife Service and the City of Chula Vista Parks Department, and to partially mitigate several impacts identified in the EIR. Figure R-1 depicts the improved General Development Plan (GDP). Figure R-2 depicts the proposed opens space and trail system, Figure R-3 depicts the relationship with the surrounding areas and Figure R-4 depicts the conceptual grading plan. This revised GDP modifies facility (park, school, and church) and open space locations and reduces the residential density. The modifications serve as mitigations; they do not create new issues or impacts over those issues analyzed in the EIR text. The revised GDP is described below.

The proposed community park is relocated; the earlier versions of the GDP show the park site in the southeast corner of the site near the Upper Otay Reservoir. The mitigating location, created in response to comments from the City Parks Department and USFWS, shifts the proposed park site to the corner of East H Street and Hunte Parkway. This modification maintains a natural open space link from the site to the Upper Otay Reservoir by retaining the southeast corner in open space (Figure R-3). The natural open space designation allows the preservation of sensitive coastal sage scrub and wetland habitats. This sage scrub is habitat for sensitive species onsite including the grasshopper sparrow and the California gnatcatcher. Additional biological mitigation measures are proposed in response to the letter from the U.S. Fish and Wildlife Service; these measures are found in the text of the responses to this letter.

The new park site is preferred by the City Parks Department as it is more centrally located to serve Salt Creek Ranch and Salt Creek I residents, and because its topography is superior for use as an active park. The former community park site was not located within

LAND USE TABLE	
USE	
RESIDENTIAL USE	
L	434.6
LM	273.7
LM*	35.2
M	47.6
RESIDENTIAL TOTAL	791.1
OPEN SPACE	
NEIGHBORHOOD PARK	27.0
OPEN SPACE	351.1
OPEN SPACE TOTAL	378.1
INSTITUTIONAL USE	
ELEMENTARY SCHOOL	20.0
RELIGIOUS SITE	7.0
FIRE STATION	1.0
INSTITUTIONAL TOTAL	28.0
TOTAL SITE AC	1197.2

N

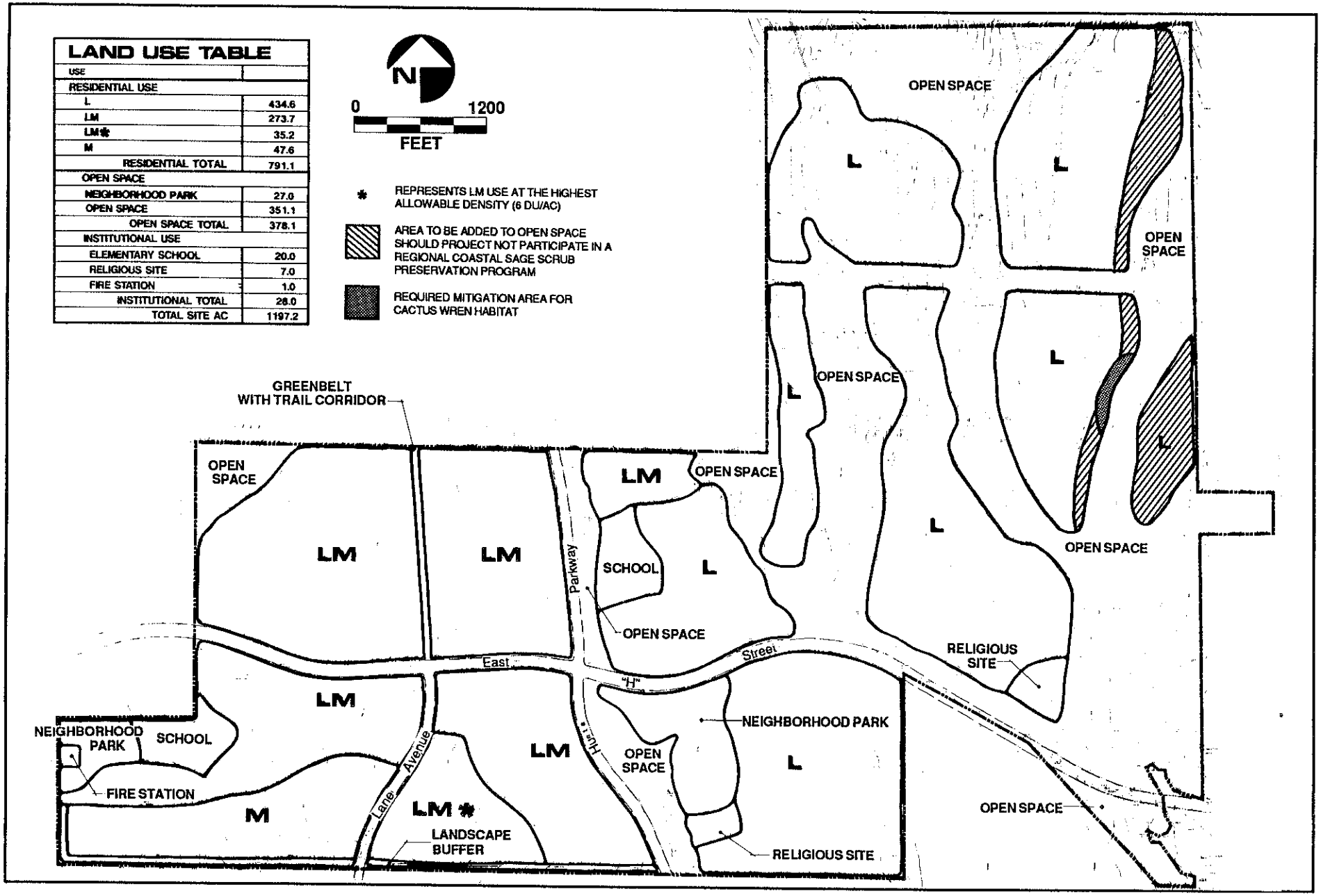
0 1200

FEET

* REPRESENTS LM USE AT THE HIGHEST ALLOWABLE DENSITY (6 DU/AC)

AREA TO BE ADDED TO OPEN SPACE SHOULD PROJECT NOT PARTICIPATE IN A REGIONAL COASTAL SAGE SCRUB PRESERVATION PROGRAM

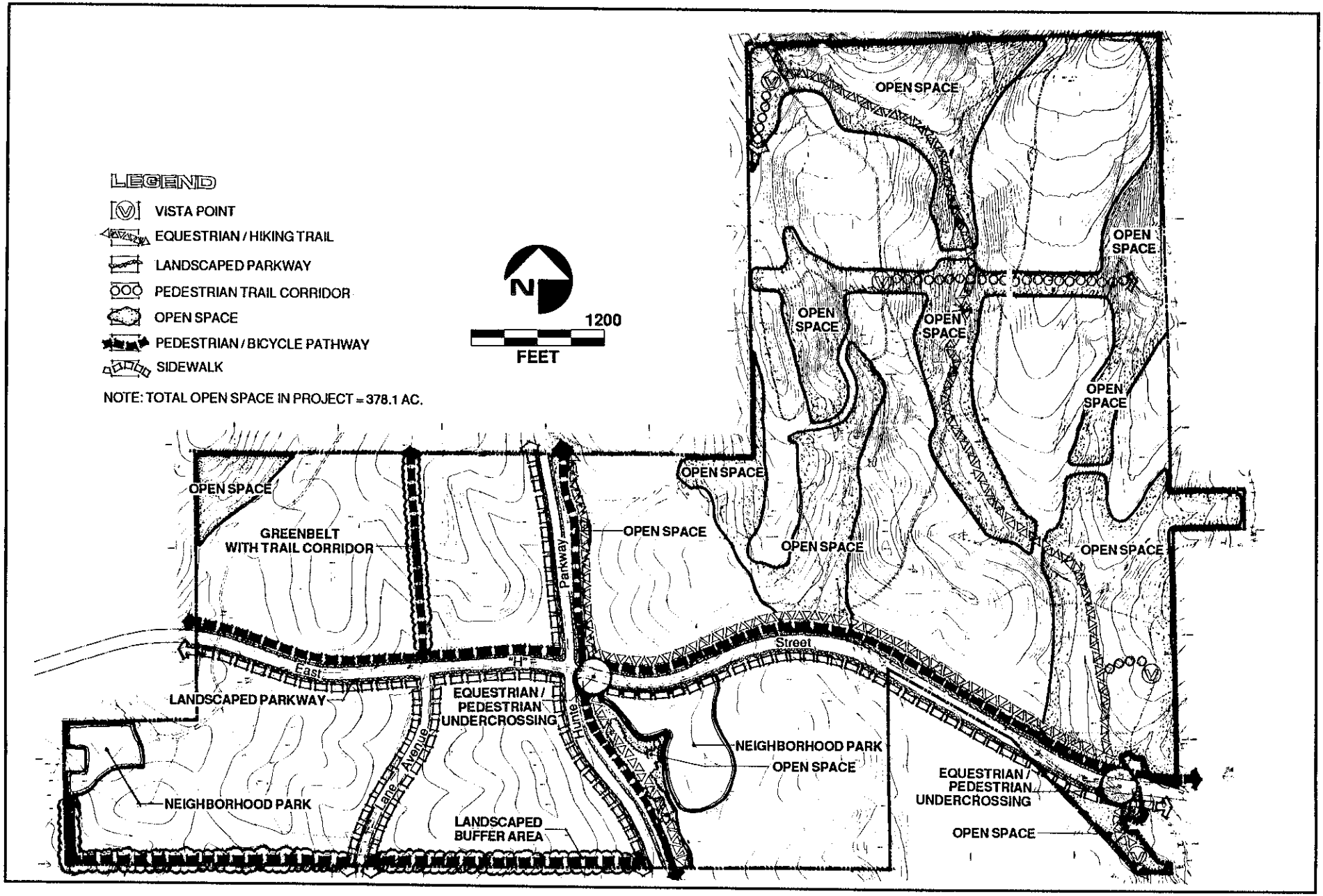
REQUIRED MITIGATION AREA FOR CACTUS WREN HABITAT



ERC Environmental and Energy Services Co.

Modified Alternative A
General Development Plan

FIGURE
R-1

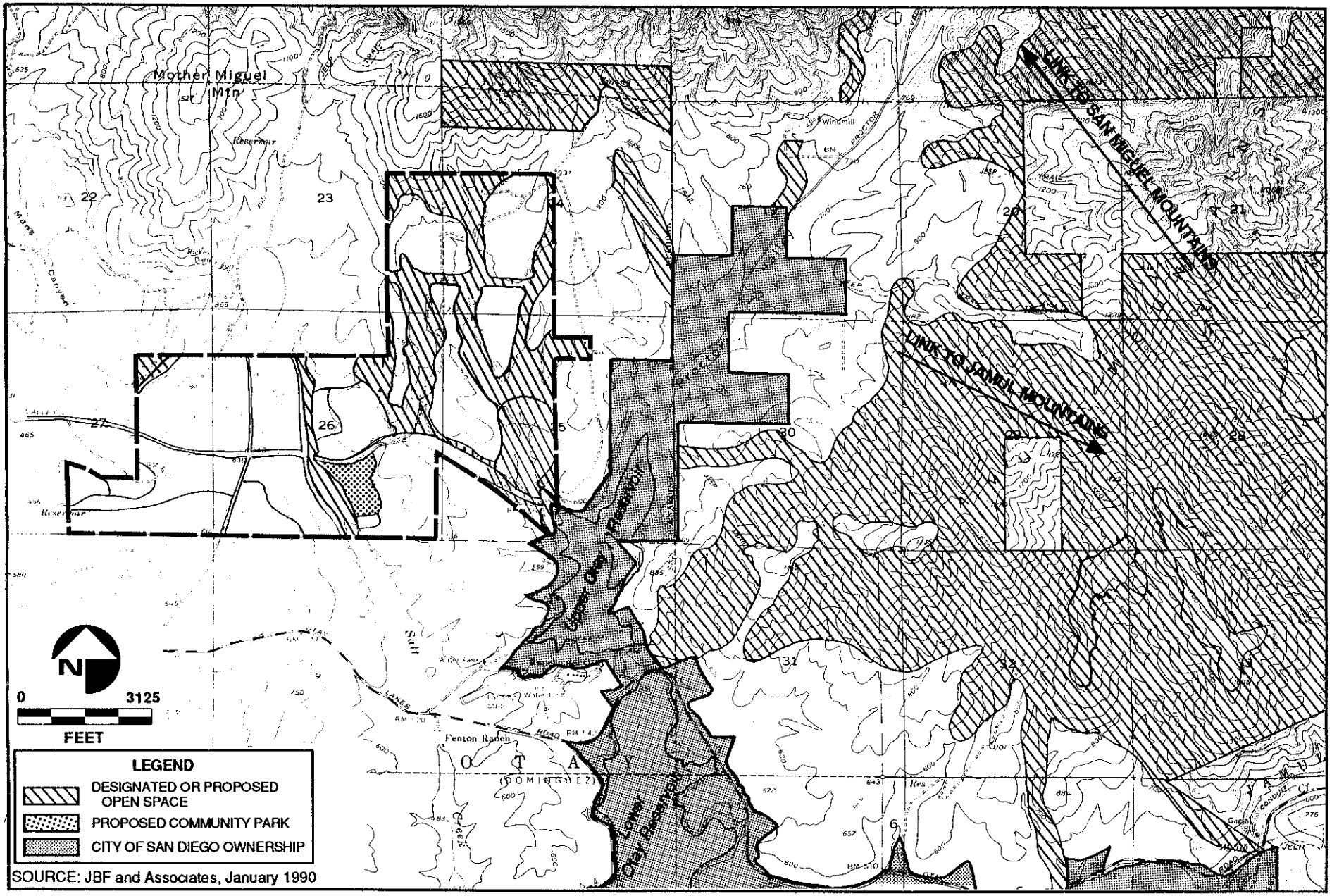


R-4

ERC Environmental and Energy Services Co.

Open Space and Trail Concepts Plan

FIGURE R-2

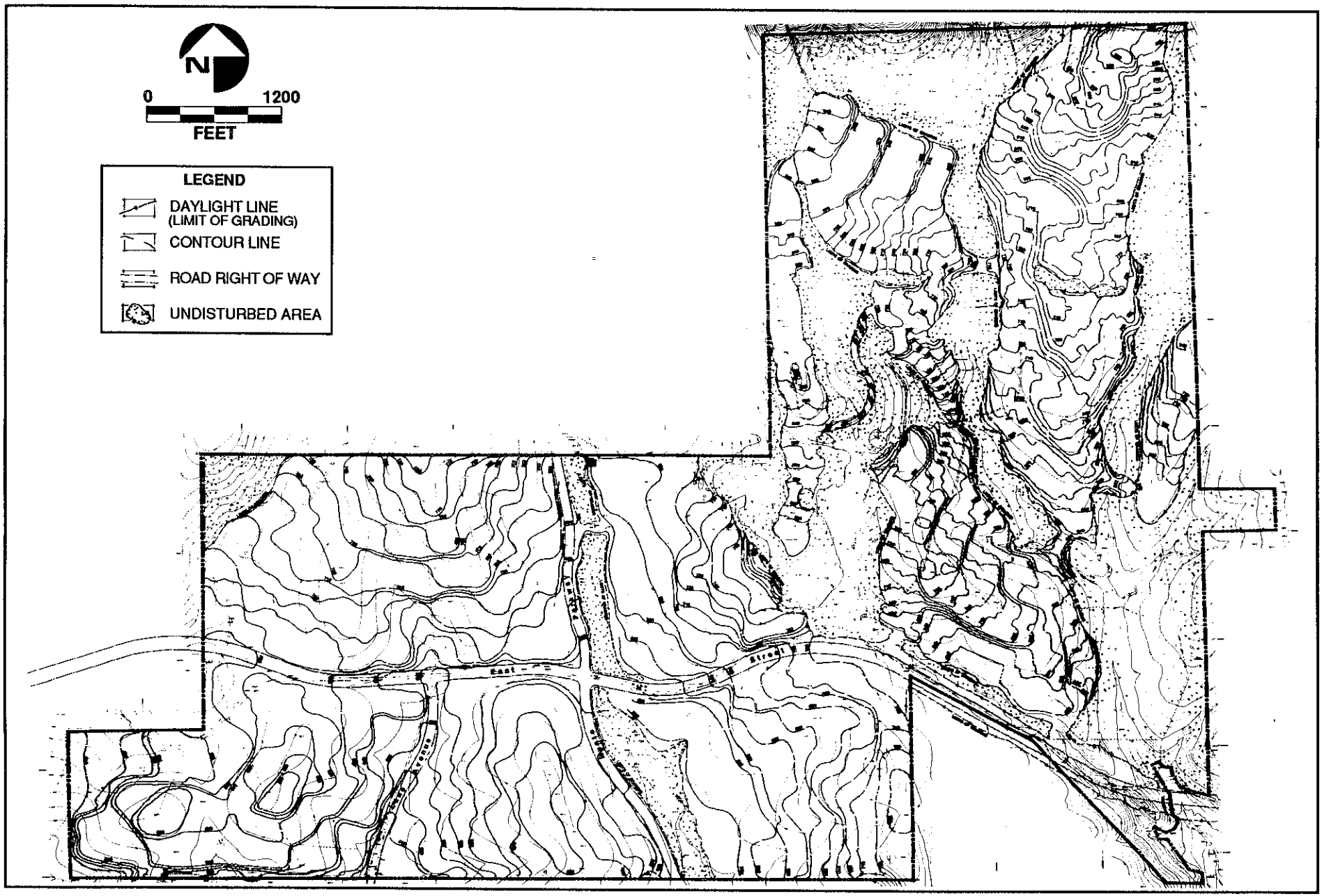


SOURCE: JBF and Associates, January 1990

ERC Environmental and Energy Services Co.

Surrounding Open Space Relationships
Alternative A General Development Plan

FIGURE
R-3



ERC Environmental and Energy Services Co.

Modified Alternative A Conceptual Grading Plan

FIGURE R-4

a 1 mile service radius of most Salt Creek residents and has limited development potential because it has steep slopes and is bisected by a stream.

The neighborhood park site located in the southwest corner in the earlier plans is shifted north. Other minor refinements include shifts in the location of the school and church sites, and elimination of both the proposed equestrian staging area and nature center. The school district has approved the new school locations. Elimination of the equestrian staging area will reduce the potential for water quality impacts. Elimination of the nature center was requested by the Parks and Recreation Department. These modifications can be seen by comparing the following Figure R-1 to Figure 5-1 in Section V, Alternatives.

The new design proposes a total of 2,824 dwelling units (Table R-1). Unlike both the original proposed project and the unmodified Alternative A, this design proposes residential development at the midpoint of the density range and therefore is consistent with Section 6.2 of the General Plan.

Table R-1

LAND USE ACREAGE ANALYSIS FOR MODIFIED ALTERNATIVE A

Proposed Use	Designation	Density Range (Du's/Acre)	Area (Acres)	Units
Residential	R-L	0.5-3	434.6	869.2
Residential	R-LM	3 - 6	273.7	1231.8
Residential	R-LM*	6	35.2	211.2
Residential	R-M	6 - 11	47.6	405.0
Residential Total			~~79.1~~ 791.1	
Open Space				
Neighborhood Parks (2)		--	27.0	72.0
Open Space		--	351.1	35.0
Open Space Total			378.1	
Institutional				
Elementary Schools (2)		--	20.0	--
Churches (2)		--	7.0	--
Fire Station (1)		--	1.0	--
Instituational Total			28.0	
TOTALS			1,197.2	2,824.2
Average Gross Density Over 1,197 Acres				2.35 Du/Acre

* Represents LM use at the highest allowable density (6 Du/Acre).

United States Department of the Interior

FISH AND WILDLIFE SERVICE

FISH AND WILDLIFE ENHANCEMENT
SOUTHERN CALIFORNIA FIELD STATION
Laguna Niguel Office
Federal Building, 24000 Avila Road
Laguna Niguel, California 92656

May 1, 1990

MAY 7 1990

Douglas D. Reid
Environmental Review Coordinator
City of Chula Vista
276 Fourth Ave
Chula Vista, California 92010

Re: Draft Environmental Impact Report Annexation/General Development Plan/Pre-zone for the Salt Creek Ranch, California

Dear Mr. Reid:

The Fish and Wildlife Service (Service) has reviewed the Draft Environmental Impact Report (Report) for the Salt Creek Ranch, City of Chula Vista, San Diego County, California. As requested, the Service is providing the City of Chula Vista with technical assistance. The following comments and recommendation on the biological impacts of the project are based on our knowledge of sensitive and declining habitat types and species in San Diego County. The Service would like to emphasize our increasing concern with the cumulative impacts of projects like Salt Creek Ranch on biological resources in San Diego County.

The proposed project consists of the development of a 3,644 dwelling units and associated facilities on 1,200 acres of land. The project as designed will result in the loss or degradation of existing wildlife habitat including 179 acres of Diegan coastal sage scrub, 14.6 acres of southern California grassland, 2.1 acres of wetlands and 684 acres of non-native grassland. Adverse project induced impacts will occur to wildlife of concern to the Service, including the California gnatcatcher (Polioptila californica) and the coastal cactus wren (Camplorhynchus brunneicapillum sandiegense).

GENERAL COMMENTS

The Service has the legal responsibility for the welfare of all migratory birds, anadromous fish and endangered animals and plants occurring in the United States. Our mandates require that we provide comments on any public notice issued for a Federal permit or license affecting the nation's waters, in particular, Army Corps of Engineers (Corps) permits pursuant to Section 404

of the Clean Water Act and Section 10 of the River and Harbor Act of 1899. The goal of the Clean Water Act is to maintain and restore the chemical, physical and biological integrity of the nation's waters by establishing strong protection against discharges into special aquatic sites, which include wetlands.

The discharge of fill material into 2.1 acres of wetland, as proposed in the subject project, will require a Corps permit under Section 404 of the Clean Water Act. The following comments will form the basis of our response to any public notice for application of a 404 permit for the project.

In general, the Service recommends that project-induced impacts be avoided or minimized whenever possible through project design. It is the Service's regional policy to view any wetland degradation or losses as unacceptable changes to an important national resource. Unavoidable project impacts to high value biological resources such as wetlands should be mitigated so that no net loss (acreage or value) of wetlands habitat occurs. Proposals for non-water dependent structures, facilities or activities are generally viewed as an unacceptable use of public waters. Acceptability of each proposal will depend upon selection of the least damaging alternative or construction method, and incorporation of appropriate mitigation measures for unavoidable impacts.

Based upon present project design, the Service believes that impacts to wetlands can be avoided and therefore, would recommend
1. that the Corps not issue a permit for the project as now proposed. The Service feels that the project should be redesigned to not only avoid impacts to wetland resources but also to provide viable corridors between wetland areas and upland open space.

According to the Report, wildlife habitat on-site supports a variety of sensitive species of concern to the Service. Although the project includes 318 acres of natural open space, it is poorly configured, fragmented and lacks long term protection from
2. adjacent disturbances. The open space is proposed to occur in four strips of variable widths separated by areas of development. These narrow wildlife areas will be further degraded by fire protection buffers and adjacent human activities. Moreover, it is unlikely that these areas will retain their wildlife resource values over time. The Service recommends that the subject project be downscaled and redesigned to ensure long-term preservation of important wildlife habitat.

The Salt Creek Ranch should include an adequate plan for wildlife resource protection that incorporates a resource preserve design into their project. Such a plan should be based on the following: 1) an evaluation of existing sensitive resource areas and restorable habitat areas; 2) an evaluation of ecologically

RESPONSE TO COMMENTS FROM THE UNITED STATES FISH AND WILDLIFE SERVICE

1. The project has been redesigned. A comparison of the original plan, Alternative A plan , and the modified Alternative A plan is presented in Table R-2. The modified Alternative A plan would impact about 0.7 acre of wetland habitat. This impact would be mitigated at a 2:1 ratio through creation/enhancement of a portion of the Salt Creek drainage.

2. The open space design of the modified Alternative A plan has wildlife corridors that are, on average, about 600 feet wide; the narrowest sections are greater than 200 feet wide, except where planning area 10b exists. Planning area 10b significantly reduces the viability of the wildlife corridor between the Upper Otay reservoir and the large open space area north of the project site. The project proponent has agreed to the following additional mitigation measure:

   - The developer shall agree to participate in a regional multi-species coastal sage scrub conservation plan. If, prior to approval of the grading plan for Sub-area 3, an acceptable off-site regional wildlife corridor linking San Miguel Mountain with the Upper Otay Reservoir has not been adopted as part of the conservation plan, then development of the 17 acre R-L development area in the eastern portion of the propety shall not occur and a reconfiguration of the northeastern R-L area to provide a wilder open space area for a regional wildlife corridor shall be implemented. The width of the open space area shall be sufficient to ensure long-term viability of the wildlife corridor, per Figure R-1.

   Coastal sage scrub habitat is left intact in sufficiently large blocks to accommodate most of the California gnatcatchers known to be onsite. Additionally, about 30 acres of disturbed habitat within the proposed open space shall be revegetated with sage scrub resulting in a permanent reduction 17.3% (63.4 acres) of potential gnatcatcher habitat onsite. A large reservoir of potential immigrant gnatcatchers are found north of the project site. This large offsite gnatcatcher population is connected to the open space and will ensure long-term occupation of the natural open space onsite.

Table R-2

SALT CREEK RANCH BIOLOGICAL RESOURCES AND PROJECT IMPACTS

Resource	Existing	Original Design		Alternative A Design		Modified Alternative A Design		With Onsite [5] Mitigation	
		Affected	Unaffected	Affected	Unaffected	Affected	Unaffected	Affected	Unaffected
Coastal Sage Scrub[1]	365.7	178.9	186.8	158.1	207.6	119.6	246.1	93.2	272.5
Native Grassland[1]	43.5	14.6	28.9	24.2	19.9	19.9	23.6	10.7	32.8
Riparian Wetlands[1]	6.9	2.1	4.8	0.7	6.2	0.7	6.2	0.7	6.2
Eucalyptus[1]	8.0	2.0	6.0	1.1	6.9	1.1	6.9	1.1	6.9
Disturbed Grassland[1]	776.0	683.8		717.7	58.3	746.4	29.6[4]	746.4	29.6[4]
California Gnatcatcher[2]	5	2	3	1	4	1	4	1	4
Cactus Wren Habitat[3]	3	3	0	1	2	1	2	0	3
Total	1200.1	881.4	318.7	901.8	298.3	887.4	312.4	852.1	348.0

[1] In acres
[2] Numbers of pairs
[3] Numbers of patches
[4] To be revegetated to sage scrub
[5] Additional onsite mitigation should project not participate in regional offsite preservation program

defendable preserve configuration including adequate buffer; 3) the occurrence of endangered, rare or sensitive plant and animal species; 4) continuation or connection of existing large open space areas; 5) perpetuation of existing wildlife corridors; 6) mechanisms for preservation, such as assessment districts and development transfer credits; 7) provisions for long term funding for habitat management of the preserve; 8) an evaluation of land use conflicts and compatible activities, and 9) impact assessment including off-road vehicles, road-way construction, agriculture grazing, dumping, water quality and increased or decreased runoff; and 10) regulatory measures that can be used to reduce or eliminate conflicts.

We recommend that the project be redesigned in the following way.

3. Housing units should be reconfigured to allow a substantial portion of the natural open space to remain in a large contiguous block of habitat. As presently proposed, natural open space and housing are intermixed. Project open space should anticipate and allow for potential wildlife corridor linkage with both the City owned land of Otay Lakes to the south and east and proposed open space to the north. Natural open space should be concentrated in the area north of Otay Valley Road and east of Salt Creek. The open space should connect at the southeast point of the property head due northwesterly encompassing the existing coastal sage scrub vegetation and including the known gnatcatcher locations. Housing and roads should be excluded from this area. The northern most non-native grassland area should be included as natural open space to provide raptor foraging area, to protect grasshopper sparrow habitat and to provide for a viable preserve design.

SPECIFIC COMMENTS

3.8 Biological Resources: Page 3-51.

4. The project as proposed will result in the direct loss of 179 acres of Diegan coastal sage scrub and the degradation of the remaining habitat due to indirect impacts resulting from adjacent disturbances. Coastal sage scrub is a declining habitat type in San Diego County. It is estimated that over 70% of the original acreage of this habitat in the County has been destroyed. Several candidate species for listing as endangered are dependent upon coastal sage scrub habitat. The California gnatcatcher is restricted to coastal sage scrub habitat; eight individual and up to ten pairs of this sensitive bird were detected on-site. Based on the acreage of suitable habitat, the Service believes the project site provides habitat for additional pairs of this species.

The Service is concerned with not only the subject project, but also with other developments that have adverse affects range wide on coastal sage scrub habitat and the California gnatcatcher.

3. The mitigation measure discussed in the response to comment 2 incorporates a wildlife corridor between Otay Lakes and open space areas north of the project site.

4. Modified Alternative Plan A allows for at least 4 of the 5 gnatcatcher sightin. localities to be preserved within biological open space. This level of conservation of known gnatcatchers use areas will reduce the impact to California gnatcatcher to below a level of significance.

The large scale destruction of coastal sage scrub in southern California has had a corresponding impact on the California gnatcatcher. In 1980, only 1,000 to 1,500 pairs of this species were estimated to occur in southern California, with less than 400 occurring in San Diego County. Given the rate of development that has occurred in the coastal areas, a greatly reduced number of California gnatcatchers can be expected. The California gnatcatcher has been extirpated from Ventura and San Bernardino counties. Orange, Riverside and San Diego Counties contain the remaining concentrations of this species in the United States.

5. A second species of concern to the Service is the coastal cactus wren. The Report documents that only 230 pairs of this rare bird remain in San Diego County. Cactus wren nests were located on-site within cactus thickets. Up to four pairs of cactus wrens were estimated to occur on-site. Two of the three nest locations will be lost due to the proposed development. It is unlikely that the cactus wren would persist on the site due to the poor configuration of the wildlife open space areas.

The Service strongly urges the City of Chula Vista and other local jurisdictional agencies to plan for the preservation of natural resources. Allowing the gnatcatcher or any other species to decline to levels that warrant Federal listing as endangered will complicate planning for future projects. Protection of remaining habitat areas of sufficient size and quality can help preserve existing populations. The Service recommends that the subject project be redesigned to protect coastal sage scrub in a configuration that is conducive to long-term habitat preservation and will allow linkage to adjacent off-site open space areas.

6. The Service believes that project-induced loss of coastal sage scrub will significantly impact wildlife movement on a regional level. Moreover, given the level of coastal sage scrub loss that is presently occurring in San Diego County, the Service believes that mitigation is warranted to partially offset the project-induced loss. In general, the biological mitigation that has occurred has resulted in "fragments" of coastal sage scrub habitat that are isolated from adjacent wildlife areas by development. Habitat fragmentation and isolation often negates many of the biological values that were being attempted to be preserved through open space designation. Fragmentation of wildlife populations is believed to be the most serious threat to the survival of sensitive and endangered species.

7. <u>Mitigation Measures: Page 3-53.</u>

The Service believes that the mitigation as presently proposed is inadequate to reduce impacts to below a level of significance. We base this assessment on the following: 1) the natural open space is not expected to maintain wildlife values and diversity

5. The modified Alternative A plan as depicted in Figure R-1 preserves 2 of the 3 cactus wren habitat patches in biological open space. The following additional mitigation measure would be required to reduce the impact to cactus wren to below the level of significance.

   - The GDP map shall be revised to delete development within a buffer area around the identified cactus wren nest site. An equal amount of native grassland acreage located in the northern part of Sub-area 3 may be included within the northeasternmost development area in exchange for the cactus wren preservation area.

6. All of the open space areas in the modified Alternative A plan are connected sufficiently to allow for wildlife dispersal between these areas and the large open space areas offsite.

7. The modified Alternative A plan reduces impacts to coastal sage scrub to 119.6 acres and to native grassland to 19.9 acres. The impact would be 93.2 acres of coastal sage scrub and 10.7 acres of native grassland if the additional onsite mitigation is in place (see response to comment 2). These impacts are considered to be significant and only partially mitigated. A spring survey of the native grassland habitat shall be conducted to further evaluate the sensitivity of this habitat onsite.

over time due to poor natural open space configuration and lack of long term protection thus, the mitigation benefits of protection of 187 acres of the coastal sage scrub is partially negated; 2) impacts to wetland habitat and the wetland mitigation site is not adequately described; 3) mitigation measures for southern California grassland are vague and won't be determined until a spring survey, additionally no mitigation is offered for the loss of 14.6 acres of native grassland; and 4) the loss of the gnatcatcher and cactus wren population is not mitigated.

The project site is strategically located between City of San Diego owned land at Otay Lakes and proposed open space in the San Miguel Mountains. Based on its location, habitat values and presence of highly sensitive species such as the California gnatcatcher, the coastal cactus wren and the grasshopper sparrow (Ammodramus savannarum), on-site preservation of sufficient coastal sage scrub and native grassland should be accomplished in a configuration which will retain habitat values over time.

Mitigation measures for the subject project include the incorporation of open space into the project design. As mentioned previously, natural open space design should include contiguous blocks of habitat that are adjacent to off-site open space areas, areas of high wildlife value or important wildlife corridors. The natural open space, as presently proposed, results in isolated narrow patches of habitat that, over time will be degraded by adjacent suburban uses.

8. Information regarding the details of the wetland mitigation plan such as location, feasibility, and existing habitat values of the mitigation site are not included in the Report. Moreover, adequate mitigation should be provided for Diegan sage scrub. Use of open space easements which are narrow in width and intermixed with residential development is ineffective and impractical. The open space should be reconfigured to provide viable mitigation.

Analysis of Significance; Page 3-59.

9. The Service concurs with the conclusion that the loss of 179 acres of coastal sage scrub and native grassland and the loss of up to 10 pairs of gnatcatchers and four pairs of cactus wrens occurring on-site has not been reduced, even with mitigation, to below significance. This impact could be mitigated on-site with sufficient natural open space design. Off-site mitigation is not discussed.

Fire Protection; Page; 3-58.

10. The impact of a fire or fuel break should be quantified and qualified in the Report to determine the level of impacts to adjacent natural open space resulting from the development. The

8. The conceptual basis for the wetlands mitigation plan is provided on pages 3-53 and 3-54. A detailed mitigation program shall be provided prior to issuance of a grading permit.

9. Impacts to riparian wetlands, gnatcatchers, and cactus wrens would be mitigated have been mitigated by the modified Alternative A plan and the recommended mitigation measures. The project proponent has agreed to revegetate about 30 acres of disturbed habitat within the proposed biological open space to partially mitigate the cumulative loss of sage scrub habitat. The participation in a regional wildlife corridor plan (or else preservation of a regional corridor onsite) as delineated in the response to comment 2 would provide additional mitigation. (See response to comment 7). The permanent loss of 89.6 acres of sage scrub (119.6 acres impacted less 30.0 acres revegetated) and 19.9 acres of native grassland remain as significant impacts as defined by the Chula Vista General Plan.

10. The City of Chula Vista has recently adopted the fuel management policy currently used by the City of San Diego which involves a 100 foot zone with three subzones of varying intensities of fuel management.

present fire protection programs that the Service is aware of generally require the selective clearing of 100 foot fuel breaks and adversely impact wildlife habitat. The Report should quantify the acreage of habitat which will be adversely affected by any fuel modification plan. The Service recommends that masonry block walls between natural open space and residential back yards be required. Additionally, the use of non-flammable roofing material, low flammable landscaping material and restrictions on distances of flammable trees to houses should be required as a condition of the project, as opposed to the clearing of habitat.

Alternatives: Page 5-1.

11. The section on Alternatives is cursory and incomplete and does not allow for an adequate comparison of benefits and impacts of each project alternative.

Cumulative Impacts: Page 9-1.

The Service believes that cumulative impacts resulting from the proposed project will result in a significant impact to biological resources. Cumulative impacts to biological resources occur with literally every development. No ongoing effort to plan for biological resource preservation in a comprehensive manner is occurring in San Diego County, thus intensifying the effect of cumulative impacts. Without such a preservation effort, it is anticipated that the remaining habitat in coastal San Diego County will become isolated and fragmented, and ultimately become degraded as wildlife habitat.

In summary, the proposed project will have significant unmitigated adverse impacts to biological resources. Moreover, we believe it is premature of the City of Chula Vista to be permitting projects of this magnitude, given the expected cumulative impacts of proposed development on sensitive resources in this area, until such time as a comprehensive biological resource plan is developed. Therefore, the Service recommends that the No Project Alternative be selected or require that the subject project be redesigned and downscaled. The redesigned project should incorporate a natural open space configuration which allows for a wide diversity of wildlife use for the life of the project. The Service is willing to work with the City of Chula Vista and other local jurisdictional agencies to develop a plan to preserve wildlife habitat on a region-wide basis, as opposed to the present piecemeal project-by-project approach.

The Service recommends that a meeting be arranged between the City of Chula Vista, the project applicant, the California Department of Fish and Game and the Service to discuss the project and the concept of a comprehensive biological resource

11. Table 5-2 on page 5-12 provides a complete comparison of the proposed project and the Alternative Plan A. Comparison of all alternatives is presented above in response to comment 1.

plan. If you have any questions regarding these comments, please contact Nancy Gilbert of this office at (714) 643-4270.

Sincerely,

Brooks Harper

Brooks Harper
Office Supervisor

cc: CDFG, Long Beach, CA
CDFG, San Diego, CA (Attn: T. Stewart)

1-6-90-TA-508

STATE OF CALIFORNIA—THE RESOURCES AGENCY

GEORGE DEUKMEJIAN, *Governor*

DEPARTMENT OF FISH AND GAME

330 Golden Shore, Suite 50
Long Beach, CA 90802
(213) 590-5113

December 20, 1989

Mr. Douglas D.Reid
City of Chula Vista
276 Fourth Avenue
Chula Vista, CA 92010

Dear Mr. Reid:

1. This is in response to your October 3, 1989 Notice of Preparation of an Environmental Impact Report for the Salt Creek Ranch Project (SCH 89092721). Department comments on this project were provided within the 30 day period in our Department letter of October 16, 1989 to Mr. Steve Griffin of the City's Planning Department. A copy of the that letter is attached for your information to complete your files.

Thank you for the opportunity to review and comment on this project. If you have any questions, please contact Kris Lal of our Environmental Services staff at (213) 590-5137.

Sincerely,

Fred Worthley
Regional Manager
Region 5

cc:State Clearinghouse
ESD

RESPONSE TO COMMENTS FROM THE STATE OF CALIFORNIA DEPARTMENT OF FISH AND GAME

1. This letter is in comment to the Notice of Preparation and General Development Plan rather than the Draft EIR. No response is necessary because the information was utilized in preparation of the EIR text and is incorporated into the Final EIR.

STATE OF CALIFORNIA—THE RESOURCES AGENCY

DEPARTMENT OF FISH AND GAME
1416 NINTH STREET
P.O. BOX 944209
SACRAMENTO, CALIFORNIA 95814-2090
(916) 445-3531

To: DOUG
From: DUANE

GEORGE DEUKMEJIAN, Governor

October 16, 1989

Mr. Steve Griffin
City of Chula Vista
Planning Department
276 Fourth Avenue
Chula Vista, CA 92010

OCT 30 1989

Dear Mr. Griffin:

The Department of Fish and Game biologists familiar with the project area have reviewed the Draft General Development Plan for Salt Creek Ranch. This planned residential community on 1,205 acres is located within the County of San Diego. The majority of the site is within the City of Chula Vista's sphere of influence near the southern foothills of San Miguel Mountain, north of Eastlake Business Center, and northwest of Upper Otay Lake. The project envisions development of 3,644 dwelling units for an estimated 12,600 persons and proposes 57 recreational acres and 269 acres of natural open space. Our preliminary comments on this project are the following:

1. The plan appears to be in advance of the preparation of an Environmental Impact Report (EIR) for this project. We are, however, concerned that lots for the dwelling units were already mapped out before evaluation of the biological resources. This advance preparation for the project does not seem to be in conformance with the California Environmental Quality Act (CEQA) requirements. The project area contains abundant habitat (Diegan coastal sage scrub) for threatened reptilian species. This habitat needs to be surveyed so that the better parcels can be preserved, especially if the coast horned lizard and the orange-throated whiptail lizard are present.

2. The entire 1,205-acre area should be surveyed, during the proper season, in order to determine the presence of sensitive plant species. All State- and/or Federally-listed rare, threatened, or endangered plant species, together with all plant species referenced by the California Native Plant Society in "Inventory of Rare and Endangered Vascular Plants of California", which occur within the 1,205-acre area should be disclosed in appropriate environmental documentation. Further, all occurrences of these plants should be delineated on detailed maps, and development should be sited and designed to minimize impacts to these plant species. Lastly, any unavoidable impacts to sensitive plants should be mitigated so as to reduce adverse impacts to levels of insignificance.

3. The area will have high density, 12,600 people, utilizing the proposed recreational and natural open space areas. While interpretive, hiking, and equestrian uses are warranted, sensitive habitat and sensitive wildlife areas should have limited use, with permanent fencing or suitable buffers to prevent excessive deterioration of those habitat areas.

4. The Upper Otay Reservoir is a source of domestic water and also constitutes a Department warmwater Florida largemouth bass hatchery. No contaminated run-off from the housing development should be permitted to enter this reservoir through any route. We recommend that detention basins or bypass systems be provided so as to not adversely impact the reservoir water quality.

5. The major watershed of Salt Creek flows through this development. We recommend revegetation of the Salt Creek area with native plants and provision of a buffer area to protect the natural open space area from degradation. Adverse impacts to wetlands should be avoided. Unavoidable adverse impacts should be compensated such that no net loss of either wetland acreage or wetland habitat values would result from project implementation.

Diversion, obstruction of the natural flow or changes in the bed, channel, or bank of any river, stream, or lake will require notification to the Department as called for in the Fish and Game Code. This notification (with fee) and the subsequent agreement must be completed prior to initiating any such changes. Notification should be made after the project is approved by the lead agency.

Thank you for the opportunity to review and comment on this project at the early planning stage. We look forward to the opportunity to provide comments on the Notice of Preparation and the Draft EIR for this project. If you have any questions, please contact Mr. Fred Worthley, Regional Manager of Region 5, at 330 Golden Shore, Suite 50, Long Beach, CA 90802 or by telephone at (213) 590-5113.

Sincerely,

for Pete Bontadelli
Director

State of California

Memorandum

To : Lynne Coughlin
State Clearinghouse
Office of Planning and Research
1400 Tenth Street, Room 121
Sacramento, California 95814

Date : May 3, 1990

Place : Sacramento

From : Department of Food and Agriculture --1220 N Street, P.O. Box 942871
Sacramento, CA 95814-0001

Subject : SCH No. 89092721 -- City of Chula Vista Salt Creek Ranch

The California Department of Food and Agriculture (CDFA) has reviewed the Draft Environmental Impact Report (DEIR) concerning the above referenced project which would involve the development of a residential community on a 1200 acre site. The CDFA recommends approval of the DEIR and has the following comment.

1. Will any residential development interface directly with active agricultural operations? If so, the DEIR should discuss land use conflicts and mitigation measures that can reduce these potential impacts.

2. The CDFA supports the right of local agencies to develop and implement land-use policy in its area of influence, but also wants to assure that agricultural land is not prematurely and irreversibly lost due to development which is not accurately assessed for environmental impact.

Sincerely,

Donna McIntosh

Donna McIntosh
Graduate Student Assistant
Agricultural Resources Branch
(916) 322-5227

cc: San Diego County Agricultural Commissioner
California Association of Resource Conservation District

RESPONSE TO COMMENTS FROM THE STATE OF CALIFORNIA DEPARTMENT OF FOOD AND AGRICULTURE

1. Land to the south of the project site is currently dry farmed. Development is planned for this area; no conflict is anticipated.

2. The EIR (Section 3.2, Conversion of Agricultural Lands) notes that although the project-specific impact to agricultural land use is not significant, the project will contribute to a cumulative, unavoidable adverse impact on agricultural land use in the region.

State of California

Business, Transportation and Housing Agency

Memorandum

To : State Clearinghouse

Attention Garrett Ashley

Date : May 9, 1990

File No.: 11-SD-054
125,805
(Var)

District 11

From : DEPARTMENT OF TRANSPORTATION

Subject: DEIR for Salt Creek Ranch, SCH 89092721

1. Section 3.9, Traffic and Circulation: Project-specific and cumulative traffic impact analyses that also focus on Interstate
2. Route 805, and State Routes 54 and 125 should be provided. In addition, trip rates for planned school and park developments need to be included in the Traffic Generator analysis. Our contact person for project coordination with future State 125 is Gary Klein, Project Manager, Project Studies Branch "A", (619) 237-6134.

JAMES T. CHESHIRE, Chief
Environmental Planning Branch

MO:ec

RESPONSE TO COMMENTS FROM THE STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION

1. The traffic analysis for the Salt Creek Ranch EIR utilized the City's cumulative data base from the General Plan update EIR, which addressed local circulation and regional (I-805, SR-54, SR-125) systems. The EIR traffic analysis is based on the city's cumulative data base. Further, the Eastern Chula Vista Transportation Phasing Program (ECVTPP), a dynamic city document (updated annually) addressing projected city and nearby regional system needs, was utilized in formulating the recommended mitigation herein. Thus, the requested incorporation of I-805, SR-54 and SR-125 was contained in the EIR traffic analysis. The project must also comply with future requirements/improvements identified in the ECVTPP updates.

2. The traffic analysis utilized vehicular trip generation rates for the maximum number of residential units proposed (3,644 units). Inherent in these trip rates are those trips to/from schools, and recreational oriented trips. It is the professional opinion of the traffic consultant (Bascmacian Darnell) that most of the trips to the project's schools and the majority of trips to the parks, would be "internal" trips (i.e., onsite facilities would be used by project residents) and would result in few trips arriving from origins "external" to the site. Those few external trips would be calculated from and accounted for by trip rates utilized for appropriate projects, thus eliminating the double-counting effect.

State of California

The Resources Agency

Memorandum

Date : APR 18 1990

To : 1. Gordon Snow, Ph.D.
Assista Secretary for Resources
2. City of ula Vista
276 Fourth Avenue
Chula Vista, CA 92010
Attentic Douglas Reid

From : Department of Water Resources
Los Angeles, CA 90055

Subject : DEIR for Salt Creek Ranch for 3,644 Units, SCH 89092721

1. Your subject document has been reviewed by our Department of Water Resources staff. Recommendations, as they relate to water conservation and flood damage prevention, are attached.

2. After reviewing your report, we also would like to recommend that you further consider implementing a comprehensive program to use reclaimed water for irrigation purposes in order to free fresh water supplies for beneficial uses requiring high quality water supplies.

For further information, you may wish to contact John Pariewski at (213) 620-3951. Thank you for the opportunity to review and comment on this report.

Sincerely,

Jay Fassman
for Charles White

Charles R. White, Chief
Planning Branch
Southern District

Attachments

RESPONSE TO COMMENTS FROM THE STATE OF CALIFORNIA DEPARTMENT OF WATER RESOURCES

1. The recommendations, incorporated into the discussion of mitigation measures for water supply, are contained in Appendix A of the EIR.

2. The use of reclaimed water is encouraged in the EIR Section 3.13 discussion of mitigation measures for water supply. The project proponent shall, if feasible, negotiate an agreement with OWD to commit to use of reclaimed water.

DEPARTMENT OF WATER RESOURCES RECOMMENDATIONS FOR WATER CONSERVATION AND WATER RECLAMATION

To reduce water demand, implement the water conservation measures described here.

Required

The following State laws require water-efficient plumbing fixtures in structures:

- Health and Safety Code Section 17921.3 requires low-flush toilets and urinals in virtually all buildings as follows:

  "After January 1, 1983, all new buildings constructed in this state shall use water closets and associated flushometer valves, if any, which are water-conservation water closets as defined by American National Standards Institute Standard A112.19.2, and urinals and associated flushometer valves, if any, that use less than an average of 1-1/2 gallons per flush. Blowout water closets and associated flushometer valves are exempt from the requirements of this section."

- Title 20, California Administrative Code Section 1604(f) (Appliance Efficiency Standards) establishes efficiency standards that give the maximum flow rate of all new showerheads, lavatory faucets, and sink faucets, as specified in the standard approved by the American National Standards Institute on November 16, 1979, and known as ANSI A112.18.1M-1979.

- Title 20, California Administrative Code Section 1606(b) (Appliance Efficiency Standards) prohibits the sale of fixtures that do not comply with regulations. No new appliance may be sold or offered for sale in California that is not certified by its manufacturer to be in compliance with the provisions of the regulations establishing applicable efficiency standards.

- Title 24 of the California Administrative Code Section 2-5307(b) (California Energy Conservation Standards for New Buildings) prohibits the installation of fixtures unless the manufacturer has certified to the CEC compliance with the flow rate standards.

- Title 24, California Administrative Code Sections 2-5352(i) and (j) address pipe insulation requirements, which can reduce water used before hot water reaches equipment or fixtures. These requirements apply to steam and steam-condensate return piping and recirculating hot water piping in attics, garages, crawl spaces, or unheated spaces other than between floors or in interior walls. Insulation of water-heating systems is also required.

- Health and Safety Code Section 4047 prohibits installation of residential water softening or conditioning appliances unless certain conditions are satisfied. Included is the requirement that, in most instances, the installation of the appliance must be accompanied by water conservation devices on fixtures using softened or conditioned water.

- Government Code Section 7800 specifies that lavatories in all public facilities constructed after January 1, 1985, be equipped with self-closing faucets that limit flow of hot water.

To be implemented where applicable

Interior:

1. Supply line pressure: Water pressure greater than 50 pounds per square inch (psi) be reduced to 50 psi or less by means of a pressure-reducing valve.

2. Drinking fountains: Drinking fountains be equipped with self-closing valves.

3. Hotel rooms: Conservation reminders be posted in rooms and restrooms.* Thermostatically controlled mixing valve be installed for bath/shower.

4. Laundry facilities: Water-conserving models of washers be used.

5. Restaurants: Water-conserving models of dishwashers be used or spray emitters that have been retrofitted for reduced flow. Drinking water be served upon request only.*

6. Ultra-low-flush toilets: 1-1/2-gallon per flush toilets be installed in all new construction.

Exterior:*

1. Landscape with low water-using plants wherever feasible.

2. Minimize use of lawn by limiting it to lawn-dependent uses, such as playing fields. When lawn is used, require warm season grasses.

3. Group plants of similar water use to reduce overirrigation of low-water-using plants.
4. Provide information to occupants regarding benefits of low-water-using landscaping and sources of additional assistance.

*The Department of Water Resources or local water district may aid in developing these materials or providing other information.

FLOOD DAMAGE PREVENTION

In flood-prone areas, flood damage prevention measures required to protect a proposed development should be based on the following guidelines:

1. It is the State's policy to conserve water; any potential loss to ground water should be mitigated.

2. All building structures should be protected against a 100-year flood.

3. In those areas not covered by a Flood Insurance Rate Map or Flood Boundary and Floodway Map, issued by the Federal Emergency Management Agency, the 100-year flood elevation and boundary should be shown in the Environmental Impact Report.

4. At least one route of ingress and egress to the development should be available during a 100-year flood.

5. The slope and foundation designs for all structures should be based on detailed soils and engineering studies, especially for hillside developments.

6. Revegetation of disturbed or newly constructed slopes should be done as soon as possible (utilizing native or low-water-using plant material).

7. The potential damage to the proposed development by mudflow should be assessed and mitigated as required.

8. Grading should be limited to dry months to minimize problems associated with sediment transport during construction.

5. Use mulch extensively in all landscaped areas. Mulch applied on top of soil will improve the water-holding capacity of the soil by reducing evaporation and soil compaction.

6. Preserve and protect existing trees and shrubs. Established plants are often adapted to low-water-using conditions and their use saves water needed to establish replacement vegetation.

7. Install efficient irrigation systems that minimize runoff and evaporation and maximize the water that will reach the plant roots. Drip irrigation, soil moisture sensors, and automatic irrigation systems are a few methods of increasing irrigation efficiency.

8. Use pervious paving material whenever feasible to reduce surface water runoff and to aid in ground water recharge.

9. Grade slopes so that runoff of surface water is minimized.

10. Investigate the feasibility of using reclaimed waste water, stored rainwater, or grey water for irrigation.

11. Encourage cluster development, which can reduce the amount of land being converted to urban use. This will reduce the amount of impervious paving created and thereby aid in ground water recharge.

12. Preserve existing natural drainage areas and encourage the incorporation of natural drainage systems in new developments. This aids ground water recharge.

13. To aid in ground water recharge, preserve flood plains and aquifer recharge areas as open space.

San Diego
ASSOCIATION OF
GOVERNMENTS

Suite 800, First Interstate Plaza
401 B Street
San Diego, California 92101
619/238-5300 Fax 619/236-7222

April 23, 1990

Doug D. Reid
Environmental Review Coordinator
City of Chula Vista
P.O. Box 1087
Chula Vista, CA 92012

APR 30 1990

Dear Mr. Reid:

SANDAG staff members have reviewed the Draft EIR (89-3) for Salt Creek Ranch. We have a number of comments which have not been reviewed by the SANDAG Board.

Traffic Impacts and Air Quality.

1. We are concerned that the traffic impacts are stated to be mitigated to below a level of significance, but traffic flow improvements, bus and bicycle routes will serve only to slightly reduce air quality impacts. Staff members suggest that
2. additional effort could be made by constructing bus stops, building and striping bicycle lanes, expanding and enhancing pedestrian access areas with landscaping (especially trees), and by distributing car pooling information to new residents.

3. The DEIR notes that the entire San Diego Air Basin has not attained state and federal standards for ozone. The same is true of carbon monoxide.

Open Space and Biological Resources.

The Regional Open Space Technical Advisory Committee (TAC), appointed by the SANDAG Board, has prepared a Sensitive Lands Recommendations report which is now under review. The TAC recommends the preservation of steep slopes, floodplains, and wetlands, and it sets forth appropriate elements to include in local ordinances to carry out these recommendations.

One important element in the wetlands recommendations is the need for a signi-
4. ficant buffer around any wetlands, usually at least 100 feet. Previous SANDAG studies related to the endangered least Bell's vireo advocate the location of horse stables and other large animal activity areas away from wetlands and riparian areas, because the brown-headed cowbird is attracted to such areas and it is destructive to the survival of riparian-dependent bird species.

Additionally, it would be difficult to ensure that the equestrian center would cause
5. no water quality damage to the nearby Upper Otay Reservoir. It appears to be most inappropriate to locate the equestrian facility far from the development itself but immediately adjacent to the water storage reservoir of another agency.

RESPONSE TO COMMENTS FROM THE SAN DIEGO ASSOCIATION OF GOVERNMENTS

1. The EIR (Section 3.11, Air Quality) notes that the project will contribute to an unmitigable cumulative air quality impact. This impact can be mitigated only by implementation of the no-project or agricultural land use alternative.

2. The mitigation recommended in Section 3.11 for air quality impacts includes several of these items. The additional suggestions pertaining to the enhancement of pedestrian access areas with landscaping, and distributing carpooling information to new residents, are hereby incorporated into the Final EIR and could be included in the SPA Plan design.

3. Thank you for providing this information; it is hereby incorporated into the FEIR.

4. A wetland buffer is recommended in Section 3.7 (Biological Resources) of the EIR and will be included in the riparian/wetland mitigation plan, SPA Plan design and subsequent implementation plans.

5. The modified Alternative A design plan (provided on page R-2) deleted the equestrian center and staging area in response to concerns such as this one.

6. The biology report recommends (Figure 3-17 and p. 3-57) that the project be redesigned to provide biological open space ...s that are of significant size and are contiguous with each other and with oper space offsite to preserve sensitive species. We believe that the linkage of the r ...ject open space to the significant open space owned by the City of San Diego and the Otay Water District should be emphasized.

The mitigation measures for biological resources (pp. 6-5 through 6-7) appear to cover our other concerns.

Thank you for the opportunity to respond to this DEIR.

Sincerely,

RICK ALEXANDER
Director of Land Use
and Public Facilities Planning

RA/RP/dab

C90-23

6. The modified Alternative A plan addresses this concern by shifting the active park uses to the west, thus linking the natural open space areas to the Upper Otay Reservoir. This design effort partially mitigates the significant biological impacts.

LAFCO

1600 Pacific Highway · Room 452
San Diego, CA 92101 · (619) 531-5400

San Diego Local Agency Formation Commission

May 25, 1990

Douglas Reid
Environmental Review Coordinator
City of Chula Vista
P. O. Box 1087
Chula Vista, CA 92010

MAY 31 1990

SUBJECT: Salt Creek Draft EIR

Dear Doug:

1. Thank you for the opportunity to comment on the above mentioned project. LAFCO has reviewed the draft EIR and has found it adequate for our purposes.

Sincerely,

JANE P. Merrill
Executive Officer

JPM:DMS:csg

RESPONSE TO COMMENTS FROM THE CITY OF SAN DIEGO LOCAL AGENCY FORMATION COMMISSION

1. Thank you for reviewing the document; no response is necessary.

THE CITY OF
SAN DIEGO
FIRST INTERSTATE PLAZA • 401 B STREET, SUITE 600
SAN DIEGO, CALIFORNIA 92101 - 4229 • Mail Station 960

ENGINEERING DIVISION
WATER UTILITIES DEPARTMENT
533-5200

May 23, 1990

MAY 25 1990

Environmental Review Coordinator
City of Chula Vista
P.O. Box 1087
Chula Vista, CA 92012

Subject: Salt Creek Ranch Draft Environmental Impact Report

The City of San Diego Water Utilities Department has reviewed the Draft Environmental Impact Report (EIR) for the Salt Creek Ranch Project prepared for the City of Chula Vista and offers the following comments.

Drainage from the Salt Creek project constitutes a portion of runoff that normally reaches the Upper and Lower Otay Lakes. The EIR notes the potential water quality impacts of urbanization and recommends a diversion ditch, or other plan, acceptable to the City of Chula Vista and Department
1. of Health Services, to mitigate these impacts. The EIR should also state that this plan must be acceptable to the City of San Diego.

These reservoirs are an important potable water supply for the City of San
2. Diego, and runoff must be controlled to reduce any threat to public health. The EIR recommendations should fully mitigate adverse impacts. These impacts include water quality degradation due to urban pollutants, irrigation runoff and percolation, and increased public access. The EIR
3. should state that any plan developed to mitigate these impacts must address the possibility of failures in the adjacent sewage collection system, increased levels of nutrients, salts, and pesticides from landscape irrigation, and petroleum products from surface street runoff.

The City of San Diego will also require developments in the watershed to
4. bear both the initial capital costs and reoccurring operation and maintenance costs of the mitigation facilities, including the cost of lost water yield, if any.

We appreciate the opportunity to comment at this time and wish to work with you on this issue. If you need additional information, please contact me at 533-5149.

Sincerely,

TIBOR G. VARGA
Senior Civil Engineer
Engineering Division

TV:bj

cc: F. Maitski
E. Chen

RESPONSE TO COMMENTS FROM THE CITY OF SAN DIEGO ENGINEERING DIVISION/WATER UTILITIES DEPARTMENT

1. The referenced mitigation measure in Section 3 of the EIR now also requires acceptance of the water quality plan by the City of San Diego.

2. Potential water quality impacts evaluated in the EIR (Section 3, Water Quality) incorporate those potential impacts associated with typical urban development, including urban pollutants, irrigation runoff/percolation and public access related pollutants. The diversion/water quality control plan will address the full range of water quality effects.

3. The required diversion/water quality control plan would include the analysis of a full range of potential impacts. To guarantee these specific items are addressed, the mitigation measure in Section 3 of the EIR is refined to require that the following be addressed specifically: the possibility of sewage system failures; effects of increased levels of nutrients, salts and pesticides from landscaping/irrigation; and effects of petroleum products from surface street runoff.

4. Mitigation funding would be addressed in project facility financing plans and subsequent implementation. This comment is noted and incorporated into the Final EIR for future reference to the City and landowner.

ROUTE FORM

DATE: April 3, 1990

TO:
Ken Larson, Building & Housing
John Lippitt, Engineering (EIR only)
Cliff Swanson, Engineering (EIR only)
Hal Rosenberg, Engineering (EIR only)
Roger Daoust, Engineering (IS/3, EIR/2)
Ruth Fritsch, Deputy City Attorney (EIR only)
Carol Gove, Fire Department
Shauna Stokes, Parks & Recreation
Keith Hawkins, Police Department
Current Planning
Advance Planning
Bob Leiter, Planning Director
Chula Vista City School Dist., Kate Shurson
Other

FROM: Douglas D. Reid, Environmental Section

SUBJECT:
- ☐ Application for Initial Study (IS-_____/FA-_____/DP_____)
- ☐ Checkprint Draft EIR (20 days)(EIR-_____/FB-_____/DP_____)
- ☒ Review of a Draft EIR (EIR-89-3/FB-039/DP 569)
- ☐ Review of Environmental Review Record FC-_____/ERR-____)

The project consists of:

approximately 3,644 dwelling units, and 370 acres of other uses including 265 acres natural open space. Included in the DEIR is a "Design Alternative A" on Page 5-2 which is an alternative intended to reduce the significant environmental impacts associated with the project as proposed.

Location:

Along the extension of East 'H' Street, easterly of Salt Creek I and to the north of EastLake

Please review the document and forward to me any comments you have by 5-1-90

Please submit all time incurred for this docuemnt below:

Date	Person	Time
4/10/90	Dave	2 hrs.

To: Douglas re Planning

Draft EIR

CHULA VISTA FIRE DEPARTMENT
BUREAU OF FIRE PREVENTION

PLAN CORRECTION SHEET

Address Salt Creek Ranch Plan File No. _____ Checker Lowe Date 4/10/90

Type Constr. _____ Occupancy _____ No. Stories ____ Bldg. Area _____

The following list does not necessarily include all errors and omissions.

PROVIDE AND SHOW ON PLAN:

1- Water mains, fire hydrants and approved roadways shall be operational prior to any combustible materials placed on site.

2- Maximum hydrant pressure shall be 150 psi.

FPB-29

RESPONSE TO COMMENT FROM CITY OF CHULA VISTA FIRE DEPARTMENT

1. Thank you for reviewing the EIR. These requirements are recommended to be conditions of project approval and shall be written into the supplemental SPA Plan planning document.

ROUTING FORM

DATE: April 3, 1990

TO:
Ken Larson, Building & Housing
John Lippitt, Engineering (EIR only)
Cliff Swanson, Engineering (EIR only)
Hal Rosenberg, Engineering (EIR only)
Roger Daoust, Engineering (IS/3, EIR/2)
Ruth Fritsch, Deputy City Attorney (EIR only)
Carol Gove, Fire Department
Shauna Stokes, Parks & Recreation
Keith Hawkins, Police Department
Current Planning
Advance Planning
Bob Leiter, Planning Director
Chula Vista City School Dist., Kate Shurson
Other

FROM: Douglas D. Reid, Environmental Section

SUBJECT:
- ☐ Application for Initial Study (IS-_____/FA-_____/DP_____)
- ☐ Checkprint Draft EIR (20 days)(EIR-_____/FB-_____/DP_____)
- ☒ Review of a Draft EIR (EIR-89-3 /FB-039 /DP 569)
- ☐ Review of Environmental Review Record FC-_____/ERR-_____)

The project consists of:

approximately 3,644 dwelling units, and 370 acres of other uses including 265 acres natural open space. Included in the DEIR is a "Design Alternative A" on Page 5-2 which is an alternative intended to reduce the significant environmental impacts associated with the project as proposed.

Location:

Along the extension of East 'H' Street, easterly of Salt Creek I and to the north of EastLake

Please review the document and forward to me any comments you have by 5-1-90

Please submit all time incurred for this docuemnt below:

Date	Person	Time
042090	HAWKINS	15

1. Reviewed "Police Protection" Section, NO ADDITIONAL COMMENTS

RESPONSE TO COMMENT FROM CITY OF CHULA VISTA POLIC DEPARTMENT

1. Thank you for reviewing the EIR.

May 4, 1990
File # YE-037

TO: Doug Reid, Environmental Review Coordinator

FROM: Cliff Swanson, Deputy Director of Public Works/City Engineer

SUBJECT: Review of Salt Creek Ranch Annexation/General Development Plan/ Pre-Zone Draft Environmental Impact Report (ECI/EIR 89-3)

The Engineering Division has reviewed the subject document and submits the following comments:

1. 1. A large portion of the project (approximately 40%) lies east of the Salt Creek Basin Boundary and outside the limits of the "Fogg" study. Therefore, a detailed hydrologic analysis will be required to determine the impacts downstream that could result from project development.

2. 2. The developer shall provide drainage calculations to ensure that the volume and rate of runoff does not exceed existing predevelopment levels. This should be done prior to approval of any development agreements.

3. 3. A study of the potential for creating an increase in sediment discharge downstream of the project is required. Said study should also examine the impact of short term erosion caused by construction.

4. 4. Appendices "A", "B", "C", "E" and "F" should be submitted for "Engineering" comments.

5. 5. The ADT's shown on Figure 3-13 need updating. The 51.8 shown for East "H" Street corresponds with the section west of Hidden Vista Drive and not east of it as shown on said figure.

6. 6. Rancho del Rey Parkway is mislabeled as Ranchero del Rey Parkway on all figures.

7. East "H" Street should be designated as a six-lane prime arterial west of Hunte Parkway and not as a four-lane major as indicated in many sections of the EIR.

SMN:jg

(RJ\MEMOS\DEIR89-3.DOC2)

R 5-7

RESPONSE TO COMMENTS FROM CITY DEPUTY DIRECTOR OF PUBLIC WORKS/CITY ENGINEER

1. Figure 3-9 of the EIR illustrates the four drainage basins encompassing the project site. The eastern portion of the site is within the Otay Lake Drainage Basin; the southeast corner of the site is within the Otay Lake Tributary Basin. A detailed hydrologic analysis is required in the EIR Section 3.5 (Hydrology) mitigation sub-section.

2. The detailed hydrologic analysis required in the EIR (Section 3.5) would be prepared prior to SPA Plan approval or Tentative Map submittal. This timing would guarantee that design plans incorporate adequate drainage provisions.

3. The requested study for short- and long-term sediment/erosion water quality impacts has been included in the EIR recommended mitigation in Sections 3.5 and 3.6. Adequate mitigation of these impacts would be ensured by implementation of these measures.

4. This comment is not applicable; the EIR Appendices are included in the EIR and are also on file with the City.

5. Thank you for the corrections.

6. East H Street is designated as a six-lane prime arterial west of Hunte Parkway and a four-lane major street east of Hunte Parkway. This correction is hereby incorporated with the FEIR. Two of the mitigation measures are revised as follows:

   - East H Street through the project shall be designed to provide for the ultimate cross-section of 6 lanes west of Hunte Parkway and 4 lanes east of Hunte Parkway consistent with City of Chula Vista design criteria. Construction phasing of East H Street shall be determined by the City in coordination with the ECVTPP. Future additional right-of-way along this roadway may be required, at the discretion of the City Traffic Engineer, due to future traffic volumes generated by the Otay Ranch project to the south and east. Unsignalized project access points shall be spaced no closer than 0.25 mile apart.

   - The Circulation Element roadways of Hunte Parkway and Lane Avenue require intersection lane configurations designed in accordance with the City's street design standards and/or as required by the City Traffic Engineer. Implementation/phasing shall occur (as directed by ity) to omm recas out da fic vo

To: Douglas D. Reid, Environmental Review Coordinator
From: Duane G. Bazzel, Senior Planner
Subject: Comments on Draft EIR for Salt Creek Ranch (EIR-89-3)

1 Page 1-2 (4th para.) This Draft EIR will also be utilized for an amendment to the City's Sphere-of-Influence

2. Page 1-3 (2.) Misspelling of "CONVERSION"

3. Page 1-8 (12.) The project will only have a positive fiscal impact to the City through the first 10 years then will become a fiscal drain.

4. Page 2-1 (2.1, last sentence) To my knowledge the annexation process has not begun.

Page 3-1 (3.1, Existing Conditions, last sentence) Same as previous comment.

5. Page 3-3 (Fig. 3-16) Map does not show proposed project onsite open space, but rather shows Alt. A open space.

6. Page 3-7 (Fig. 3-2) Map incorrectly shows a small low density segment adjacent to OWD property where C.V. Gen. Plan shows Low-Medium density. Should be revised.

7. Page 3-55 (Fig. 3-12) Why does map show north/south canyons as recommended open space (consistent w/ C.V. GP) but not canyon where Community Park is proposed? This area is designated on C.V. GP as open space.

8. Page 3-10 (Para. 2, line 6) Date should be 1990.

RESPONSE TO COMMENTS FROM DUANE BAZZEL, CITY OF CHULA VISTA PLANNING DEPARTMENT

1 This information is hereby incorporated into the FEIR.

2. Thank you for the correction.

3. The fiscal analysis examined only the fiscal impact of the project over a 10-year period. In the year 2001, it is estimated that the project would still have a net cumulative positive fiscal impact of $1,186,462 despite a negative-year net impact of $12,838. It is possible that the project could have a negative cumulative impact in the future, should the costs continue to outweigh the revenues; this is a speculative matter. Furthermore, a negative fiscal impact is not considered an adverse environmental impact, requiring neither mitigation nor funding pursuant to CEQA.

4. This is true; a formal annexation application cannot be filed until the Final EIR is certified and the pre-zone process completed. This information is hereby incorporated into the FEIR.

5. Thank you for the correction; the map (Figure 3-16) has been revised. Two maps have been created in response to this comment; the first map shows the open space proposed for the project and the second map (Figure R-_ in the Response to Comments Section) shows the open space proposed for the modified Alternative A.

6. Thank you for the correction, the map has been revised.

7. The referenced Figure 3-12 consists of recommended open space pertaining uniquely to biological resources, not necessarily to city planning documents. The areas recommended for open space are those portions of the site which contain important biological resources (refer to Figure 3-11). The referenced narrow strip of recommended open space in the southeast riparian corridor, as shown on Figure 3-12, is conceptual and could be wider to provide a buffer to the wetland corridor as reflected in the General Plan. The modified Alternative A design provides a wider corridor of open space in this area.

8. Thank you for the correction.

May 1, 1990

TO: Douglas Reid - Environmental Review Coordinator, Planning Department

FROM: Jerry Foncerrada, Acting Director - Parks and Recreation Department

SUBJECT: Salt Creek Ranch DEIR Review Comments

As per your request, department staff has reviewed the Salt Creek Ranch DEIR and has generated the following comments. Our comments are based on the General
1. Development Plan, which indicates revised land use areas from what is written and graphically indicated in the DEIR. The DEIR is outdated in quantities of park acreage and the distribution of the park acreage. The General Development Plan submittal indicated the following acreage quantities compared to the DEIR:

	Community Park	Neighborhood Parks (2)	Mini Parks	Nature Center	Equestrian Center	Totals
GDP:	49	14	0	0	0	63
DEIR:	28.4	11	2	1	8.3	50.7

It is our departments position that both the community park and neighborhood parks be relocated to better serve Salt Creek Ranch, Salt Creek I and the surrounding areas. The primary desire of our department is that the twenty three (23) acres for the community park be combined with the seven (7) acres of one neighborhood park to
2. create a 30 acre community park which would then be sited at the preferred location adjacent to Salt Creek at the intersection of Hunte Parkway and East 'H' Street. To address this project as well as all of the projects currently being reviewed by the city in the Eastern Territory our department has begun analyzing the service radius of existing and proposed parks and the facilities that are existing and what needs to be provided to support and compliment them. In analyzing the service radius of the community park at its proposed location, a one mile service radius encompasses only 1/2 of the Salt Creek Ranch project and none of the Salt Creek I project area. The proposed park site provides as much service area to the Upper Otay Lake and the County of San Diego as it does to the project site. At our departments recommended location in the center of the project site the service radius would emcompass the entire Salt Creek Ranch project and the eastern edge of the Salt Creek I project.
Also of concern is the types of facilities to be provided at the park sites. The DEIR
3. identifies specific quantities of certain park features that would be required based on the Parkland Dedication Ordinance and the proposed project population. As previously indicated, our department is currently working on a regional analysis of park locations, sizes and recreational facilities that will best serve the community. Based on this analysis we will be able to provide direction as to the exact types and quantities of facilities that are to be provided at each park site. So what is indicated in

RESPONSE TO COMMENTS FROM THE CITY OF CHULA VISTA PARKS AND RECREATION DEPARTMENT

1. The General Development Plan cited in your letter is evaluated in the EIR as Alternative A in Section 5. The most recent GDP is discussed on page R-2.

2. The park locations were relocated in response to these concerns. See page the modified Alternative A design for details regarding the new park sites (page R-2).

3. The types and quantities of facilities and other improvements for the park sites would be determined in conjunction with the Parks and Recreation Department at the SPA Plan level.

the DEIR is not necessarily indicative of what our department will be looking for the developer to provide at the park sites.

Other issues of concern:

- The equestrian center has been deleted from the project, being downgraded to a equestrian staging area.

4. - The overnight tent camping has been deleted from the project.

- The mini-parks have been deleted from the project, with the acreage being redistributed into the other parks.

- The DEIR makes no mention of the potential impacts that the proposed community park would make at its current location in the watershed / drainage
5. course. Is there no concern regarding the potential grading impacts as well as the fact that it is indicated as open space on the City General Plan? The grading necessary to make the site useable for a community park will be very extensive and will result in a much smaller park with limited potential for development as a active park.

6. - The proposed community park site would make an excellent open space area for establishment of a riparian zone with Oak trees, Sycamores and other wetland plant types and for a recreational trail system.

The following issues address our concerns regarding the proposed community park site:

COMMUNITY PARK ISSUES:

- The City of Chula Vista General Plan has indicated that the proposed
7. community park site be retained as natural open space.

- The proposed community park site landform in its existing state is unuseable/ undesireable for several reasons:

  The existing slope gradient is very steep: This would necessitate an extreme amount of grading to develop any flat, (2% gradient across the site), useable areas.

  The existing stream running through the middle of the proposed park site is a limiting factor. It is our understanding that the stream must remain intact. Based upon the grading study done by staff this would segment the park site into two halves with graded slopes of varying heights, (depending on weather the slopes were only at the perimeter or if they were at both the perimeter and at the stream bed).

  All dedicated park land is to be net 2% slope for the entire park site. Slopes are not considered in the calculations towards fulfilling the park

4. These issues were resolved in the design of modified Alternative A.

5. Grading was discussed on a general level in the Landform and Geology sections. The EIR recommends, as mitigation, the diversion of runoff in the Otay Basin to protect water quality. The community park site was relocated in response to comments such as this one.

6. Please see the biology section of the EIR for discussion of riparian areas. The modified Alternative A design has moved the community park site to allow this area to remain in open space.

7. Please see the new park locations found on the modified Alternative A. The new community park location was selected in response to these comments.

land dedication requirements. So depending upon the extent of these slopes the actual park land may not be as generous as the 49 acre total that has been indicated as the size of the proposed community park.

- Having the proposed community park separated from the equestrian staging area by East "H" Street is not desirable. This would result in a segmented condition requiring a grade separated crossing to access the equestrian staging area and vice-versa. The equestrian staging area is not to be considered as part of the proposed community park as far as fulfilling park land dedication.

8.

- The proposed community park site is as far from the Salt Creek I project site as possible. This site would actually service the Eastlake community better than the Salt Creek community.

It is our departments understanding that no parks were required in Salt Creek I with the agreement that the requirement for Salt Creek I would be made up in the Salt Creek Ranch Project. Because of this fact our department wants to see the community park centrally located to facilitate both phases of the Salt Creek Ranch.

- Our department realizes that the proposed community park site initially indicates a greater amount of acerage, but by the time a design and grading study are done to provide the park facilities, how much of the park site would actually be useable and how much of it would be designated as open space slopes? (We do not believe that the schematic plan for the proposed community park indicated in the General Plan is an accurate depiction of what would realisitically happen by the time a grading concept is worked out, given the constraints of the topography and the existing stream course running through the site). Our department would perfer to have the community park site in an area where the land would be the required park size but with net useable acerage.

9.

- Locating the community park adjacent to Salt Creek / "Greenbelt" is as per the City of Chula Vista General Plan, page 7 - 12. (See attachment).

- Locating the community park adjacent to Salt Creek would tie the park into the "Greenbelt" with the perceived additional acerage, (borrowed landscape) that the "Greenbelt" would provide.

- The existing stand of Eucalyptus trees could then be utilized to provide an immediate "Grove" effect for the community park, providing a mature apperance to the park and creating a theme for the park to be designed towards.

- The park at this location would function in a number of ways for the residents of Salt Creek Ranch as well as the citizens of Chula Vista and the region:

8. The equestrian staging area has been eliminated from the plan. The remaining park acreage satisfies City park requirements.

9. Please see the response to comment 7.

As a beginning point for a journey on the "Greenbelt" in addition to the facilities being provided on site.

As a destination for people who are traveling along the "Greenbelt".

As a rest area for the people who are intending on traveling the entire "Greenbelt" with this being a halfway point around the 28 miles of the journey.

- Parks and Recreation would only require the mandatory amount of net useable acerage to be provided at this preferred location.

10. - The types and quantities of facilities to be provided at the community park will be determined based on a regional analysis of the existing recreation facilities and what the projected needs and the future demands are.

11. - The equestrian staging area will still be required. The preferred location can be discussed. Ideally it would be located adjacent to the community park site and the "Greenbelt".

12. - The Nature Center should be deleted from the General Plan with the proposed funding being channeled back into the park facilities.

13. - A grade separated crossing will still be required at East "H" Street and Hunte Parkway for pedestrians, bicyclists and equestrian user groups.

NEIGHBORHOOD PARK ISSUES:

- The proposed neighborhood park at the southwest corner adjacent to the
14. proposed school site should be relocated with the school if the school site is shifted away from the UPS warehouse.

- The neighborhood park is to have street frontage along at least two streets.

15. - The types and quantities of facilities to be provided at the neighborhood parks will be determined based on a regional analysis of the existing recreation facilities and what the projected needs and demands are.

10. Please see the response to comment 3.

11. The City is no longer requesting an equestrian staging area.

12. The nature center was removed from the GDP partially in response to the Park and Recreation Department's comments.

13. Please see the response to comment 3.

14. Please see the response to comment 7.

15. Please see the response to comment 3.

CHULA VISTA CITY SCHOOL DISTRICT

84 EAST "J" STREET • CHULA VISTA, CALIFORNIA 92010 • 619 425-9600

EACH CHILD IS AN INDIVIDUAL OF GREAT WORTH

BOARD OF EDUCATION

JOSEPH D. CUMMINGS, Ph.D.
SHARON GILES
PATRICK A. JUDD
JUDY SCHILLENBERG
FRANK MANTINO

SUPERINTENDENT

JOHN F. VUGRIN, Ph.D.

April 10, 1990

APR 13 1990

Mr. Doug Reid
Environmental Review Coordinator
City of Chula Vista
276 Fourth Avenue
Chula Vista, CA 92010

RE: Case No. EIR-89-3
Salt Creek Ranch - Annexation/General Development Plan
Pre-Zone Draft EIR (ECI/CIR 89-3)

Dear Mr. Reid:

Thank you for the opportunity to review and comment on the Draft General Development Plan (GDP) and Draft EIR for Salt Creek Ranch.

In reviewing the document relative to elementary schools, I note that the data presented regarding elementary facilities is quite out of date and/or incorrect. My comments follow.

Page 3-110 - Chula Vista City School District is comprised of 32 elementary schools, not 29, with current enrollment at 17,287.

Parkview, Rogers and Kellogg, schools cited as being near the project, are nowhere near the site. All three are located south of Telegraph Canyon, and Kellogg is west of the 805. The closest existing schools are EastLake Elementary, Tiffany and Sunnyside, all of which are at capacity or projected to be prior to any construction on Salt Creek Ranch.

1. The new facility described as planned on Hillside Drive is nearly complete (EastLake Elementary) and scheduled to open in 1990. The District's next school is in the Terra Nova neighborhood, not in Rancho Del Rey. Its opening is anticipated in September, 1991.

The school located on Buena Vista Way is named Chula Vista Hills, and has a current enrollment of 506.

The District has added 25, not 19, new relocatable classrooms and several trailers over the past few years to accommodate growth.

The discussion on funding elementary facilities incorrectly references Sweetwater Union High School District instead of Chula Vista City School District. In addition, developer fees allowed by State law were established at $1.50 per square foot in 1987. They have been increased three times since then and are currently at $1.58. Chula Vista City School District's share is $ .70. This section is much too weak on how elementary facilities are to be financed. In numerous

RESPONSE TO COMMENTS FROM THE CHULA VISTA CITY SCHOOL DISTRICT

1. Thank you for the updated information; this information is hereby incorporated into the FEIR.

correspondences, the District has stated that fees are inadequate and there are no existing facilities to serve the project. Alternative financing mechanisms, such as formation of a Mello-Roos Community Facilities District, are required in order to provide elementary facilities.

The impacts section utilizes an incorrect student generation factor. The District utilizes a .3 student/dwelling unit rate. Using this figure yields a total of 1093 elementary students at buildout, 20 percent short of two full schools. In addition, no facilities were provided for Salt Creek I, and it has been understood by the District and the developer that children from these 550 units will be accommodated at schools within Salt Creek Ranch.

The General Development Plan shows the wrong location for one of the elementary sites (Table 2-5, not 2-4 as cited). The location shown was initially proposed and rejected. Discussions with the developer are ongoing, with one school proposed to be located in the southwest area of the project, south of East H and West of Lane Avenue. The second school is proposed to be north of East H, in the residential area east of Hunte Parkway. This map appears to be very outdated. The Baldwin Company should be contacted for current information.

2.

This document needs revision to provide correct data. It's inadequate in terms of elementary schools in its present form.

If you have any questions, please contact me.

Sincerely,

Kate Shurson

Kate Shurson
Director of Planning

KS:dp

cc: Tom Silva
Jim Harter

2. The Alternative A General Development Plan in Section 5.4 of the EIR included the two recommended elementary school sites. These sites have been shifted on the modified Alternative A design (page R-2); the school district has approved these locations.

Sweetwater Union High School District

ADMINISTRATION CENTER
1130 FIFTH AVENUE
CHULA VISTA, CALIFORNIA 92011
(619) 691-5553

PLANNING DEPARTMENT

May 22, 1990

MAY 24 1990

Mr. Robert Leitter
Planning Director
City of Chula Vista
276 Fourth Avenue
Chula Vista, CA 92010

RE: Salt Creek Ranch General Development Plan
Rancho San Miguel Draft Development Plan

Dear Mr. Leitter:

This letter is sent in regard to my April 25, 1990 and March 30, 1990 letters to you regarding the need for a high school site in or near the above subject planned communities. As a result of those letters, Mr. Andrew Campbell and I have met
1. with representatives from the Baldwin Company, San Miguel Partners and the City of Chula Vista Planning Department. After much consideration, an alternative solution acceptable to the District has been reached.

As you can see on the attached letter to this office, the Baldwin Company has agreed to incorporate the unhoused students resulting from development in the northeastern Chula Vista territories within the Otay Ranch Planned Community. The Otay Ranch Project will only provide the siting needs of the northeastern territories: Rancho San Miguel and Salt Creek Ranch will be required to provide the financing mechanisms required to service the school needs caused by their projects.

This mutual understanding by all affected parties will lead to the mitigation of the concerns raised in my letters to you. Please inform the Planning Commission of this recent development, as it will affect their review of the Salt Creek Ranch Draft Environmental Impact Report scheduled for the Wednesday, May 23, 1990 meeting.

RESPONSE TO COMMENTS FROM SWEETWATER UNION HIGH SCHOOL DISTRICT (LETTER OF MAY 22, 1990)

1. Thank you for the updated information.

If you have any questions or comments regarding this important issue, please feel free to contact me at 691-5553.

Cordially,

Thomas Silva
Director of Planning

TS:ml

cc: Jim Harter, Salt Creek Ranch
Wayne Loftus, San Miguel Partners
Bud Grey, City of Chula Vista
Doug Reid, City of Chula Vista

Sweetwater Union High School District

ADMINISTRATION CENTER
1130 FIFTH AVENUE
CHULA VISTA, CALIFORNIA 92011
(619) 691-5553

PLANNING DEPARTMENT

April 25, 1990

MAY 3 1990

Mr. Robert Leitter
Planning Director
City of Chula Vista
276 Fourth Avenue
Chula Vista, CA 92010

Dear Mr. Leitter:

RE: Salt Creek Ranch General Development Plan

I appreciate the opportunity to respond to the proposed General Development Plan Draft and Environmental Impact Report prepared for the Salt Creek Ranch Planned Community. Our letter of January 29, 1990 requesting that this proposed development participate in the Mello-Roos District to mitigate is still applicable. However, with the introduction of the San Miguel Project Partnership proposal, it has been necessary to locate a school site in this north east territory of the City.

1. As you are aware, I have requested that the San Miguel General Development Plan provide a 50 acre site for a 2400 student high school. However, the development pattern may be such that a site in San Miguel Project is unrealistic. If that is the case, a site located within the Salt Creek Ranch Community may be necessary.

On April 20, I met with Mr. Bud Grey, City Consultant for San Miguel Partnership to discuss population distribution in this area, and he concurred with the District's assessment that a high school will be needed in this section of town. The District's criteria for sighting schools is as follows:

1) School site shall be located on a 4 lane arterial road rather than a 6 lane through-fare i.e. "H" street.

2) The placement of the school should not be too close to existing facilities. For example, I do not wish to have Bonita Vista High, EastLake High and this new future school in such a close proximity that establishing boundary lines becomes impractical.

3) The potential community benefits of the site i.e. adjacency to park uses and/or buffers for residential development are desirable.

RESPONSE TO COMMENTS FROM SWEETWATER UNION HIGH SCHOOL DISTRICT (LETTER APRIL 25, 1990)

1. These comments refer to the General Development Plan. Please see the letter of May 22, 1990 from the Sweetwater Union High School District.

Based on these parameters, a logical placement of a high school site would be near the "H" street/Hunter Parkway Intersection located in the Salt Creek Ranch Development Plan. Please incorporate the District's concern regarding this issue into the General Plan.

2. With reference to the E.I.R. prepared for this project, it should be noted that the 1989/1990 CBEDS show an enrollment of 27,266 students in the District. All the school sites indicated on page 3-110 are either at or above capacity. This should be noted in the E.I.R.

Again, thank you for the opportunity to respond to these planning developments prepared for this project. If you have any questions, please feel free to contact me.

Cordially,

Thomas Silva
Director of Planning

TS:ml

cc: Douglas C. Reid, City of Chula Vista
Kate Shurson, Chula Vista City Schools
Andrew B. Campbell, Sweetwater School District

2. Thank you for providing the updated information regarding District enrollment; it is hereby incorporated into the FEIR. Page 3-110 of the Draft EIR noted that all of the schools are operating near, at, or over capacity and that the high schools are operating over capacity.

Sweetwater Union High School District

ADMINISTRATION CENTER
1130 FIFTH AVENUE
CHULA VISTA, CALIFORNIA 92011
(619) 691-5553

PLANNING DEPARTMENT

September 15, 1989

Mr. Steve Griffin, Senior planner
City of Chula Vista Planning Department
276 Fourth Avenue
Chula Vista, CA 92010

Re Draft Salt Creek Ranch General Development Plan

Dear Mr. Griffin:

I wish to thank you for the opportunity to review the draft Salt Creek Ranch General Development Plan and provide input relative to the project's potential impact to the Sweetwater Union High School District. As you are aware, the District has experienced severe overcrowding in recent years. Currently, the day school facilities are at approximately 118 percent permanent capacity.

The proposed development of 5,644 dwelling units will yield approximately 1,057 students. As presented, the scope of the project will require the need for one-third of a new junior high/middle school and approximately one-sixth of a high school.

Although there are no provisions for secondary school facilities in Salt Creek Ranch, there are other means available to address the school needs caused by this project. Staff has previously expressed the desire to establish a Mello-Roos Community Facilities District for this development. That position has not changed.

Other district plans for new secondary schools in the eastern territories include the development of the new Eastlake High School. In fact, staff is anticipating construction to commence in the Spring of 1990. However, the full development of the Eastlake Planned Community will meet the school's permanent capacity.

The District's Master Plan requires the construction of two additional junior high/middle school in the eastern territories. One site is located within the Rancho del Rey SPA III boundaries, and the other site is identified in the northeastern portion of the Eastlake development. The Rancho del Rey school should commence construction in the 1994/95 school year.

The Eastlake site is dependent upon Eastlake's ability to secure development rights for the remaining sectional planning areas.

1. The construction of these facilities may meet the interim needs caused by Salt Creek Ranch; however, it is obvious that a long term solution is required. Any approval of the Salt Creek development plan should require the applicant to reach an acceptable agreement with the school district to house the students generated from this project.

If you have any questions or comments, please do not hesitate to call me or Mr. Andrew B. Campbell, Administrator of Planning, at 691-8883.

Respectfully,

Thomas Silva
Director of Planning

RESPONSE TO COMMENT FROM SWEETWATER UNION HIGH SCHOOL DISTRICT (LETTER OF SEPTEMBER 15, 1989)

1. No response is necessary as this letter addresses the original General Development Plan. Please see the letter of May 22, 1990 from the Sweetwater Union High School District.

The Baldwin Company
Craftsmanship in building since 1956

May 16, 1990

Douglas R. Reid
Environmental Review Coordinator
City of Chula Vista
276 Fourth Avenue
Chula Vista, California 92010

Re: Draft Environmental Impact Report for Salt Creek Ranch (EIR 89-3)

Dear Mr. Reid:

The Baldwin Company appreciates this opportunity to comment on the Draft Environmental Impact Report ("Draft EIR") for the Salt Creek Ranch development project. Although the Draft EIR thoroughly analyzes the potential significant environmental effects associated with this project, we have prepared the following comments for review and consideration.

GENERAL COMMENTS

During preparation of the Draft EIR, certain potentially significant effects were identified with respect to the originally proposed project. By working with City staff and its EIR consultant, The Baldwin Company refined the project and created a design alternative (Design Alternative A) to reduce or eliminate the identified impacts of the original project. The Baldwin Company then resubmitted to the City a revised General Development Plan to incorporate Design Alternative A, and to evaluate the potential environmental effects of that design alternative as compared to the original proposed project. The Draft EIR contains a thorough analysis of Design Alternative A at pages 5-2 through 5-14. The Baldwin Company is therefore proposing that the City consider approval of Design Alternative A as the proposed project. By considering approval of Design Alternative A, the City will promote the requirements in CEQA to consider alternatives which minimize potentially significant environmental effects associated with a proposed project.

11975 El Camino Real • Suite 200 • San Diego, CA 92130 • (619) 259-2900

SPECIFIC COMMENTS

SECTION/PAGE: INTRODUCTION AND SUMMARY/1-1 - 1-10

1. 1. At page 1-1, the second paragraph under "Environmental Procedures" incorrectly cites the state CEQA Guidelines as: "Administrative Code 1500 *et seq.*" The correct citation is: California Code of Regulations §§15000 *et seq.*

2. 2. At page 1-2, the Draft EIR incorporates by reference EIR 88-2, which was prepared and certified for the City of Chula Vista's General Plan Update. CEQA Guidelines permit an EIR to incorporate other relevant documents as long as the other documents are a matter of public record and generally available to the public. *See,* Guidelines §15150. All documents whose contents are incorporated by reference, however, must be made available for public inspection at a public place or public building and the incorporating EIR must state where such inspection can be undertaken. Guidelines §15150(b). In light of these legal requirements, the reference to EIR 88-2 should be expanded to include information relating to where the public can find and examine a copy of this document.

3. 3. At page 1-2, the Draft EIR makes reference to the "tiered" approach as provided for under CEQA. Although CEQA Guidelines, at Section 15152, allows a lead agency to employ tiering in order to avoid repetitiveness, wasted time and premature speculation, the preparation of tiered EIRs will not necessarily be required for all subsequent activities or approvals for this project. Before deciding whether tiering may be used for later projects, the lead agency must conduct an initial study to determine whether the project may cause any potentially significant environmental effects not analyzed in a prior EIR. Guidelines §15152(d). After the initial study, if the public agency should find that further environmental documentation is required, then it can request preparation of either an EIR (possibly a tiered EIR), a supplemental EIR, an addendum to an existing EIR, or a Negative Declaration. In light of these comments, this Section should be revised to clarify that subsequent discretionary activities relating to this project will not necessarily require a tiered EIR.

4. 4. At page 1-3, the Draft EIR provides a summary of impacts. Under the land use impacts, the Draft EIR states that the project's proposed density is "inconsistent" with the City's General Plan. This statement should be deleted from the Draft EIR for the reasons we have identified in our comments on the Land Use Impact Analysis. (*See* pages 4, 5, comment 2, of this letter.)

5. 5. At page 1-3, the Draft EIR provides as a mitigation measure reducing the density of the project to levels "acceptable to the City." This proposed mitigation should

RESPONSES TO COMMENTS FROM JAMES HARTER OF THE BALDWIN COMPANY

1. Thank you for the correction; this information is incorporated into the FEIR.

2. The public can find a copy of the General Plan EIR 88-2 at the City of Chula Vista Planning Department. This information is hereby incorporated into the FEIR.

3. This clarification is hereby incorporated into the FEIR.

4. The preparers of this EIR and City Planning staff believe that the project examined in the EIR is inconsistent with the General Plan. Please see the response to comments 9 and 11. The modified Alternative A plan proposes a residential density at the midpoint of the density range and therefore is consistent with Section 6.2 of the General Plan.

5. Please see the response to comment 10.

be deleted from the Draft EIR for the reasons we have identified in our comments on the Land Use Impact Analysis. (*See* pages 5, 6, comment 3, of this letter.)

6. 6. At page 1-3, the Draft EIR states that the impact relating to the "inconsistency" of the proposed project with the General Plan has not been mitigated. This statement should be deleted from the Draft EIR for the reasons we have identified in our comments on the Land Use Impact Analysis. (*See* pages 4-6, comments 2, 3, of this letter.)

6. Please see the response to comment 4.

SECTION/PAGE: LAND USE IMPACT ANALYSIS/3-1 - 3-12

7. 1. At page 3-6, the Draft EIR discusses the Chula Vista General Plan Land Use Designations. Because the City Council has recently amended the language in the Land Use Element of the Chula Vista General Plan Update, the text in this Section of the Draft EIR should be deleted and the following text should be included for clarification purposes:

7. This information is hereby incorporated into the FEIR.

> The City of Chula Vista General Plan Update designates Salt Creek Ranch for three residential categories: Residential Low, Residential Low-Medium and Residential Medium. These areas are shown on Figure 3-2.
>
> The Residential Low category includes single-family detached dwellings on large rural and estate-type lots with densities ranging from zero to three dwelling units per gross acre. This is also the appropriate residential land use for areas with variable terrain of relatively steep slopes and the areas adjacent to the proposed Greenbelt. In addition, under the concept of cluster development, single family detached dwellings on minimum 7,000 square foot lots may be permitted.
>
> The Residential Low-Medium category includes single-family detached dwellings on medium size lots with densities ranging from three to six dwelling units per gross acre. Although not a minimum or a standard, these areas are typically 7,000 square foot lots. In addition, under the concept of cluster development, single-family dwellings on smaller lots, zero lot line houses, and some single-family attached units (townhouses and patio homes) could also be consistent with this designation.
>
> The Residential Medium category includes small single-family, detached units on smaller lots, zero lot line homes, patio homes and attached units, such as duplexes and townhouses with densities ranging from six to

eleven dwelling units per gross acre. This category also includes mobile home parks.

With the exception of an approximately ten acre Residential Low-Medium area in the northern portion of the site, all of the Salt Creek Ranch property east of Salt Creek is designated for Residential Low uses. The on-site area west of Salt Creek is designated primarily for Residential Low-Medium uses with the exception of the most southwesterly corner of the property which is a designated Residential Medium on the General Plan.

8. The lower end of the range in each residential land use category is referred to as "baseline," and the upper end is referred to as "maximum." The point between the lower and upper end is the "midpoint." The appropriate gross density for project implementation within any given range is determined based on the objective criteria provided in Section 6.2 of the General Plan Land Use Element. There is no density within the range which is assumed to be more desirable than any other. The City Council, after review by the Planning Commission, may determine that the appropriate density for a project should be above the midpoint if the project contains features which provide exceptional and extraordinary benefits to the residents of the City of Chula Vista, as interpreted by the City Council.

Transfer of density is permitted from an open space area designated on the General Plan, within the boundaries of a project. This density may be transferred to a residential development area at the rate of one dwelling unit per ten acres. The transfer shall not result in a gross density which exceeds the "maximum density" for the range.

9. 2. At page 3-10, the Draft EIR discusses the consistency of the proposed project with the General Plan and zoning. Specifically, the third paragraph makes reference to Section 6.2 of the General Plan Land Use Element and the Planning Department's determination that the project's density is "inconsistent" with the General Plan. The City has recently amended the language in the Land Use Element of the Chula Vista General Plan Update. The revised Element now gives the City Council the discretionary authority to determine that the appropriate density for a project should be above the midpoint if the project contains features which provide exceptional and extraordinary benefits to the residents of the City of Chula Vista. Thus, although the Planning Department makes the initial determination relating to the appropriate density for this project, and the Planning Commission reviews the Planning Department's recommendation, the Council has the discretion to determine whether the appropriate density for this project should be above the midpoint. Until the City Council determines the appropriate density for this project, the Draft EIR should only reference the Planning

8. Please see the response to comment 9.

9. The City Council has the discretionary authority to determine that the appropriate density should be above the midpoint if the project contains features which would provide exceptional and extraordinary benefits to the residents of Chula Vista. City staff and the preparers of this EIR have analyzed the project and determined that the project does not contain features which would provide exceptional and extraordinary benefits to City residents. The City Council has the authority to vote against staff recommendations; that authority does not preclude the staff function to make recommendations pertaining to General Plan policy consistency.

One of the modifications of the Alternative A design (see page R-2) is the reduction in residential density. Unlike the project examined in the draft EIR, this design proposes residential development at the midpoint and therefore is consistent with Section 6.2 of the General Plan.

Department's initial determination regarding the project's consistency with the General Plan. At this point, then, the statement in the Draft EIR relating to the project's "inconsistency" with the General Plan should be deleted, and the following text should be included:

> A maximum of 3,644 units are proposed within the Salt Creek Ranch. The proposed number of units is in the high density range permitted on the property. Section 6.2 of the General Plan Land Use Element specifically provides that the City Council, after review by the Planning Commission, may determine that the appropriate density for a project should be above the midpoint if the project contains features which provide exceptional and extraordinary benefits to the residents of the City of Chula Vista. Thus, although the Planning Department has made an initial determination, the City Council has the discretion to determine the appropriate density for this project.

10. 3. Beginning at page 3-11, the Draft EIR discusses mitigation measures relating to the project's land use compatibility. At page 3-12, Paragraph No. 5 discusses implementation of measures to "mitigate" the project's density. The proposed mitigation measure is: "The project shall reduce the proposed number of units to density levels acceptable to the City."

Both CEQA and the Guidelines specifically address the issue of whether a lead agency can reduce the number of housing units as a mitigation measure in a housing development project. Guidelines Section 15092(c) provides in part: "[w]ith respect to a project which includes a housing development, the public agency shall not reduce the proposed number of housing units as a mitigation measure if it determines that there is another feasible specific mitigation measure available that will provide a comparable level of mitigation." As provided in Guidelines Section 15021(d) " . . . a public agency has an obligation to balance a variety of public objectives, including economic, environmental and social factors and in particular the goal of providing a decent home and satisfying living environment for every Californian." *See also* Pub.Res. Code §§21000(g), 21001(d). Based on CEQA and the Guidelines, when a proposed project includes the development of new housing, the lead agency must *not* reduce the number of housing units as a mitigation measure when comparable mitigation could be achieved through other feasible specific mitigation measures.

The Draft EIR has identified potentially significant environmental effects which may result from this project. Some of these effects may be directly or indirectly affected by the proposed density of the project. These effects include: land use, project-specific traffic, noise, short-term air quality, and project-specific public services and utilities. The Draft EIR concludes, however, that these potentially significant effects will be mitigated to

10. The only measures available to mitigate the land use inconsistency associated with the original GDP are to reduce the number of units or provide exceptional benefits to the residents of the City (as determined by the City). This issue is not relevant to the modified Alternative A design, which proposes a residential density at the midpoint of the density range and therefore is consistent with Section 6.2 of the General Plan.

an insignificant level by implementation of the recommended mitigation measures already identified in the Draft EIR. The Draft EIR also identifies potentially significant effects which cannot be mitigated to below a level of significance through the specific mitigation measures identified (*e.g.,* biological impacts to coastal sage/grasslands, cumulative long-term air quality impacts, and cumulative impacts on aesthetics and agricultural land conversion). However, the City's General Plan anticipated these effects from a regional standpoint. When the EIR for the General Plan was certified, the City also adopted mitigation measures and made a Statement of Overriding Considerations, which addressed these environmental effects. The currently proposed project is consistent with the effects identified in the General Plan EIR. For these reasons, the City should *not* consider reducing the number of housing units in the Salt Creek Ranch project as a further mitigation measure because mitigation has been achieved through specific mitigation measures already identified in the Draft EIR and the General Plan EIR. The proposed mitigation measure in the Draft EIR relating to reduction in the proposed number of housing units should be deleted.

11. 4. At page 3-12, the Draft EIR provides an "analysis of significance" discussion. This Section provides in part: "[t]he project is not in conformance with Section 6.2 of the Land Use Element because it proposes a residential density in the high density range without providing exceptional and extraordinary benefits for the residents of the City." As previously stated, the revised Land Use Element gives the City Council the discretionary authority to determine that the appropriate density for a project should be above the midpoint if the project contains features which provide exceptional and extraordinary benefits to the residents of the City of Chula Vista, as interpreted by the City Council after review by the Planning Commission. This Section should therefore be deleted and replaced with the following language which is consistent with the revised Land Use Element:

> Section 6.2 of the Land Use Element provides that the City Council may determine that the appropriate density for a project should be above the midpoint of the range if the project contains features which provide exceptional and extraordinary benefits for the residents of the City of Chula Vista as interpreted by the City Council. This project proposes a residential density in the high density range. Therefore, the City Council must make a determination as to whether the density for this project should be above the midpoint.

---

11. The City Council's authority to determine whether a project's density may be above the midpoint is acknowledged and incorporated into the Final EIR. (Please see response to comment 9.)

SECTION/PAGE: ENVIRONMENTAL SETTING AND IMPACT ANALYSIS/3-1 - 3-117

12. Effective January 1, 1989, a new requirement was imposed on public agencies, and by implication private project applicants, which provides that every project approved that includes mitigation measures must be covered by a reporting or monitoring program. The reporting or monitoring program is not required to be included in the EIR; rather, it must be adopted by the lead and responsible agencies when they make their required findings pursuant to Public Resources Code Section 21081(a). However, preparers of the EIR should develop the monitoring program in conjunction with the EIR in order to help ensure that mitigation measures can be monitored.

12. Comment acknowledged. A mitigation monitoring program is prepared in conjunction with the project's Final EIR, CEQA Findings and final action on the project.

SECTION/PAGE: CONVERSION OF AGRICULTURAL LANDS ANALYSIS/3-13 - 3-15

13. 1. Beginning at page 3-13, the Draft EIR discusses the conversion of agricultural lands. San Diego LAFCO has developed an Agricultural and Open Space Lands Preservation Policy for the disposition of annexation proposals involving the conversion of agricultural or open space lands to urban uses. Because this Draft EIR assesses potential significant environmental effects of the proposed annexation to the City of Chula Vista, this Section of the Draft EIR should be revised to include a discussion of this Policy and its relationship to the proposed project. Text similar to the following should be included:

> California law requires that LAFCOs consider the effect of maintaining the physical and economic integrity of agricultural land when determining an annexation proposal. In reviewing, approving or disapproving annexation proposals, LAFCOs must use the following policies: (1) development must be guided away from existing prime agricultural lands toward areas containing non-prime agricultural lands, unless such an action would not promote the planned, orderly, efficient development of an area; and (2) development within an agency's existing jurisdiction or sphere of influence should be encouraged before approval of any annexation to that agency which would lead to conversion of existing open space lands to other than open space uses.
>
> When reviewing an annexation proposal which will lead to the conversion of agricultural or open space land to urban uses, LAFCOs must determine whether the annexation would: (a) adversely affect the agricultural resources of the community; or (b) not promote the

13. This information regarding the agricultural lands conversion process is hereby incorporated into the FEIR; it does not change any conclusions of the EIR.

planned, orderly, efficient development of an area by considering the following criteria: (1) the a, ...ural significance of the proposal area relative to other agricul... lands in the region; (2) the use value of the proposal area and surrounding parcels; (3) whether any of the proposal area is designated for agricultural preservation by adopted local plans, including Local Coastal Plans and the County Agricultural Element; and whether: (i) public facilities would be extended through or adjacent to any other agricultural lands to provide services to the development anticipated on the proposal property; (ii) the proposal area is adjacent to or surrounded by existing urban or residential development; (iii) the surrounding parcels may be expected to develop to urban uses within the next five years; and (iv) the natural or man-made barriers would serve to buffer the proposal area from existing urban uses.

2. At page 3-13, the Draft EIR states that the project site "is not a significant contributor to the agricultural production or economy of San Diego County," and that none of the land on the project site is considered "prime" agricultural land. This Section of the Draft EIR should be expanded to include the following additional information:

14. The property is located in an area planned for urbanization and is not designated for agricultural preservation by any local plans or policies. Conversion of the property to urban uses would therefore not adversely affect the agricultural resources of the community and would be consistent with LAFCO policy regarding agricultural preservation.

15. With respect to conversion of open space lands, the project site is designated for urban levels of development by the Chula Vista General Plan and is consistent with land use designations included in the General Plan. Over 30% of the proposed project is designated for open space uses. With the exception of 240-acres in the northeastern portion of the project site, the entire property is within the City of Chula Vista's sphere of influence. The portion of the project site located outside the City's sphere of influence is designated by the Salt Creek Ranch GDP for undeveloped open space and estate development with lots ranging from ¼ - ½ acre in size. The proposed project represents orderly, planned development within the City of Chula Vista's sphere of influence and would be consistent with LAFCO policy regarding open space lands preservation.

16. 3. At page 3-13, the third parag aph under "Soil Suitability for Agriculture" incorrectly cites to Government Code Section 512.01. The correct citation is Government Code Section 51201(c).

14. This information is hereby incorporated into the FEIR. The project would nevertheless contribute to the cumulative loss of agricultural lands in the region, thus the conclusion of the EIR (Section 3.2) remains unchanged. Please also see response to Comment 13.

15. This comment is acknowledged; the paragraph, however, does not apply to the topic of agricultural land conversion. Consequently, no changes to the EIR text have been made pursuant to this comment.

16. Thank you for the correction.

SECTION/PAGE: BIOLOGICAL RESOURCES ANALYSIS/3-35 - 3-59

17. At page 3-54, the Draft EIR provides in part: "[g]rading shall be prohibited during the rainy season (November through March)." This proposed mitigation measure has not been implemented previously within Chula Vista and its implementation would severely and unnecessarily impact development of the proposed project. At page 3-35, the Draft EIR proposes a more reasonable mitigation measure to protect water quality. This mitigation measure is as follows: "If any portion of the project is proposed to be graded during the rainy season, the project proponent shall submit a (sic) erosion control plan prepared by a registered civil engineer in accordance with City of Chula Vista design standards. The plan shall be approved prior to issuance of grading permits and shall include placement of sandbags, temporary sediment basins, and an erosion control maintenance plan." This mitigation measure will also protect biological resources and is a sound alternative to the originally proposed measure. The proposed mitigation on page 3-54 should therefore be deleted and replaced by this mitigation.

SECTION/PAGE: PUBLIC SERVICES AND UTILITIES/3-92 - 3-117

18. At page 3-95, the Draft EIR states in part: "The current maximum day demand (exerted by EastLake development) is 2,000 gpd in the 980 zone." This sentence incorrectly cites to "gpd." The correct citation is gpm.

SECTION/PAGE: ALTERNATIVES TO THE PROJECT/5-1 - 5-16

1. At page 5-1, the Draft EIR refers to CEQA §15126(d)(3). This cite is incorrect. This cite should be revised as follows: Guidelines §15126(d)(3).

2. At page 5-1, the first paragraph refers to Section 1.3 of the Draft EIR. This reference is incorrect. The proper reference is Section 1.2.

19. 3. At page 5-10, the Draft EIR states in part: "The Alternative A GDP is inconsistent (in density) with the recently adopted (July 1989) City General Plan (Figure 3-2), as is the original GDP. . . . If developed above the midpoint density, the project would not be in compliance with the General Plan, as the Planning Department has determined that the alternative would not provide exceptional and extraordinary benefits to the

17. The mitigation measure cited from page 3-54 is hereby replaced with the measure from 3-35.

18. Thank you for the corrections.

19. The text is correct; please see responses to comments 9 and 11 above.

residents of Chula Vista. . . . The proposed densities are inconsistent with the General Plan, as with the original GDP." These statements should be deleted from the Draft EIR for the reasons we have identified in our comments on the Land Use Impact Analysis. (*See,* pages 4 5, comment 2, of this letter.)

20. 4. At page 5-12, the Draft EIR states the recommended mitigation measures provided on pages 3-57 to 3-59 also apply to "the alternative design." These recommended mitigation measures are as follows: "Fencing shall be installed as feasible and acceptable to the City around natural open space area to prevent adverse impacts to biological resources from domestic pets and human activity. An alternative would be the planting of barrier plant species that would discourage pedestrian activity into open space areas. . . . No active uses shall be planned in the open space easements. . . . Additional trails or recreational facilities which would promote pedestrian activity in open space areas at the expense of wildlife shall not be constructed." Implementation of these mitigation measures would preclude human use of the open space and the proposed trail system. They would therefore prevent the City from achieving its General Plan objectives relating to open space/greenbelt/trails and limit human use of the community's open space resources. A workable compromise between biological resource protection and human use has been achieved in Design Alternative A. *See* pages 5-8 - 5-10. Therefore, this Section should be revised to include a statement that these mitigation measures are inapplicable to Design Alternative A.

21. 5. At page 5-11, the last paragraph provides an analysis of mitigation to reduce the impact Design Alternative A will have on the coastal sage scrub. This Section provides in part: "Over 56 percent (207.6 acres) of the existing coastal sage scrub habitat onsite is being preserved in natural open space; approximately 158 acres of sage scrub, however, will be affected." The EIR for the City of Chula Vista General Plan Update (EIR 88-2) notes, at page 3-23, that about 60 percent of the present sage scrub within the General Plan area would be affected with build-out of the General Plan including that associated with development of the Salt Creek Ranch property. Thus, the amount of coastal sage scrub affected under Design Alternative A is consistent with the impact identified in the General Plan EIR. This Section of the Draft EIR should therefore be revised to include the following statement: "The amount of coastal sage scrub habitat onsite that will be affected is consistent with that anticipated in the Chula Vista General Plan Update EIR."

22. 6. At page 5-11, the last paragraph states in part: "This amount of open space to be preserved is in conformance with the Chula Vista General Plan." The Draft EIR should be revised to emphasize that the open space design under Design Alternative A has been improved over that anticipated in the General Plan as a result of investigation of coastal sage scrub habitat on-site. In particular, the eastern panhandle area, designated for development on the Chula Vista General Plan, is designated for open space on Design Alternative A in order to preserve on-site gnatcatcher and cactus wren populations and to

20. These referenced mitigation measures apply regardless of the project design. In any alternative design, natural open space must be protected to preserve biological resources. Recreational open space in development areas and trail systems are provided for human use. Natural open space and recreational parks/open space serve two separate functions and must be recognized as such.

21. This statement is hereby incorporated into the FEIR. The loss of over 5 acres of sage scrub is still considered a significant impact in the City of Chula Vista and, based on CEQA criteria, this loss of habitat is identified as a significant impact.

22. This comment is acknowledged and incorporated into the Final EIR for informational purposes; the reconfigured open space in the alternative was created in part to preserve biological habitat and to provide wildlife corridor links. This information is not critical in the EIR conclusion. Impacts to riparian habitat, gnatcatcher and cactus wren species would be reduced to below a level of significance; impacts to coastal sage scrub and native grassland habitats would remain significant. Please see the discussion of biological impacts from the modified Alternative A plan found in the response to comments from the U.S. Fish and Wildlife Service. Impacts to coastal sage scrub and native grassland habitats are also significant under the modified plan.

provide links to potential future open space areas to the east. As shown by a comparison of EIR Figures 3-2 (pg. 3-7) and 5-1 (pg. 5-3), the north/south open space areas in the eastern portion of the property have also been widened from that anticipated in the General Plan Update to provide better links through the Salt Creek Ranch property from the San Miguel Mountains to the north to the Otay Lakes to the south.

SECTION/PAGE: INVENTORY OF MITIGATION MEASURES/6-1 - 6-13

23. At page 6-2, the Draft EIR again discusses implementation of mitigation measures relating to the project's density. This Section states in part: "The project shall reduce the proposed number of units to density levels acceptable to the City." This proposed mitigation should be deleted from the Draft EIR for the reasons we have identified in our comments on the Land Use Impact Analysis. (*See,* pages 4, 5, comment 3, of this letter.)

Thank you for the opportunity to present our comments on the Draft EIR for the Salt Creek Ranch project. Please let us know if there are any questions regarding our comments.

Sincerely,

THE BALDWIN COMPANY

James M. Harter

James M. Harter
Vice President and Project Manager

cc: Dr. Jeanne Muñoz
Ms. Karli Neville

23. Please see the response to Comment 10.

DRAFT EIR TEXT

TABLE OF CONTENTS

TABLE OF CONTENTS (Continued)

LIST OF FIGURES

TABLE OF CONTENTS (Continued)

LIST OF FIGURES (Continued)

LIST OF TABLES

TABLE OF CONTENTS (Continued)

LIST OF TABLES (Continued)

LIST OF APPENDICES

SECTION 1
INTRODUCTION AND SUMMARY

1.1 INTRODUCTION

Salt Creek Ranch is a 1,200 acre property located in east Chula Vista (Figures 2-1 and 2-2). A General Development Plan (GDP), annexation to the City of Chula Vista and pre-zone for development of the property are currently under consideration by the City of Chula Vista, (see Project Description, Section 2). This Environmental Impact Report (EIR) assesses potential environmental impacts of the proposed GDP.

Environmental Procedures

The City of Chula Vista has determined that the environmental review for the Salt Creek Ranch project will consist of a combination of an Environmental Constraints Inventory (ECI) and Environmental Impacts Report (EIR). These documents are intended for use in informing public decision makers, other responsible or interested agencies and the general public of the environmental effects of the project. The documents evaluate potential environmental impacts, methods to reduce or eliminate adverse impacts and alternatives to the project.

The ECI and EIR are prepared pursuant to the California Environmental Quality Act (CEQA) (Public Resources Code Section 21000 et seq.), the State CEQA Guidelines (Administrative Code 1500 et seq.) and the City of Chula Vista Environmental Review Procedures. The ECI/EIR Lead Agency is the City of Chula Vista (contact: Mr. Douglas Reid, 619-691-5104). Responsible Agencies include the San Diego Local Agency Formation Commission (annexation); the Otay Water District; the U.S. Fish and Wildlife Service; and the California Department of Fish and Game.

Please see the response to comment 1 of the letter from the Baldwin Company.

Scope of Environmental Analysis

Environmental Constraints Inventory (ECI). The City has determined that a constraints level of analysis (ECI) is appropriate for the following environmental categories:

- Traffic/Circulation
- Public Services and Utilities
  - Water
  - Wastewater
  - Fire protection and emergency medical
  - Police protection
  - Schools
  - Parks
  - Public Transit
  - Library
  - Solid Waste
- Hydrology/Drainage/Water Quality

The ECI essentially describes existing conditions regarding the above topics, evaluates potential impacts from project development and recommends solutions/mitigation, where necessary. The City General Plan threshold criteria and standards are utilized as a basis in the ECI to examine project deviations from City standards.

Environmental Impact Report (EIR). A Notice of Preparation of an EIR (NOP) was circulated for public review in September 1989. The NOP and comments received on the

NOP are included in this EIR as Appendix A, and were utilized in the project's environmental evaluation. The EIR for the project evaluates impacts and mitigation at a more detailed level of analysis than the ECI and satisfies requirements of CEQA. The project EIR includes the following environmental categories:

- Land Use
- Agricultural Land Use Conversion
- Landform Alteration/Aesthetics/Visual Impacts
- Geology/Soils/Mineral Resources
- Hydrology/Water Quality
- Biological Resources
- Cultural and Paleontological Resources
- Traffic and Circulation
- Noise
- Air Quality
- Fiscal/Social Issues
- Public Services and Utilities

The EIR incorporates the ECI discussions on Traffic, Hydrology and Public Services and Utilities. In addition, the EIR includes an Alternatives section summary (in this Introduction, Section 1) and other topical CEQA Sections pursuant to CEQA Guidelines.

Incorporation by Reference and Intended Use of EIR 89-3

The City of Chula Vista adopted a General Plan (GP) Update on July 11, 1989. An EIR (EIR 88-2) was prepared and certified for the GP Update. The GP and EIR 88-2 include the Salt Creek Ranch project site at a General Plan level of detail. The proposed Salt Creek Ranch project was created in coordination with the GP Update (refer to Section 3.1, Land Use for consistency analysis), utilizing the GP Update Scenario 4 as a framework from which to design the proposed project land uses. This EIR incorporates by reference the GP Update and associated Final EIR 88-2.

ase see the response comment 2 of the er from the Baldwin mpany.

This Draft EIR will be utilized as CEQA documentation in the decision-making process of the proposed GDP, pre-zone and annexation. The environmental documentation, on a long-term basis (through construction), will utilize the tiered approach as provided for under CEQA (Section 15152), incorporating the GP EIR 88-2, this EIR 89-3 and any other subsequent CEQA documentation deemed necessary by the City for future SPA Plan, tentative map and other future applications.

ase see the response comment 3 of the er from the Baldwin mpany.

ease see the response comment 1 of the ter from the City of ula Vista Planning partment.

1.2 SUMMARY OF IMPACTS

The Summary of Impacts matrix on the following pages provides a brief synopsis of impacts under each environmental topic, measures/actions to mitigate or reduce the impact, and whether the impact can be mitigated to a level below significance. This summary is intended for the reader to understand at a general level the environmental consequences of the project and the underlying conclusion reached in the EIR text. Section 3 presents each topic's analysis in detail.

SUMMARY OF IMPACTS

IMPACT	MITIGATION SUMMARY	IMPACT SIGNIFICANCE AFTER MITIGATION
1. LAND USE:		
Potential compatibility impacts would exist with adjacent properties and developments.	The GDP proposes guidelines to ensure compatibility with adjacent land uses, specific techniques to be developed at the SPA Plan level. This EIR identifies sensitive surrounding areas and specifies mitigation to provide adequate buffer and design at those boundaries/areas to ensure compatibility.	GDP guidelines and EIR recommendations will mitigate potential impacts to below a level of significance.
Inconsistancies with the General Plan involve the residential densities and the provision of affordable housing.	Recommended measures include reducing densities to levels acceptable to the City and addressing methods to provide affordable housing.	As proposed, these impacts are not mitigated. Implementation of the recommended measures would eliminate the inconsistencies.
2. CONVERSATION OF AGRICULTURAL LANDS:		
Project urbanization will preclude the site's use in agriculture and result in agricultural soil loss, contributing to a cumulative impact on the area's agricultural resources.	No mitigation proposed (Only the No Project or Agricultural Land Use Alternatives would mitigate this impact.)	Impact represents a contribution to the cumulative unavoidable impact on agricultural land use in the region.

IMPACT	MITIGATION SUMMARY	IMPACT SIGNIFICANCE AFTER MITIGATION
3. AESTHETICS:		
Urbanization will permanently alter existing topography, views to the site and will change the aesthetic character of the area.	Measures require detailed Open Space and Landscape Plans; sensitive grading; design standards; natural open space preservation; greenbelt and scenic highway view treatments; and extensive buffer treatments to be created at the SPA Plan and subsequent stages.	Measures will partially mitigate impacts. Project-specific impacts will be mitigated to an acceptable level; the project will unavoidably contribute to the cumulative adverse impact on the existing natural and rural character of the area.
4. GEOLOGY AND SOILS:		
Geotechnical constraints to development onsite include difficulty in rock excavation; soil and topsoil removal; and slope instability. Seismic ground acceleration potential exists, typical of the area.	Recommendations for site grading and other engineering techniques from the geotechnical report adequately address and mitigate potential impacts (refer to Appendix B).	Potential impacts can be mitigated to a level below significance by geotechnical engineering practices and implementation of recommended mitigation.
5. HYDROLOGY:		
The project's resulting increase in impervious surfaces will change drainage courses and increase flow rates downstream.	Additional hydrologic analysis is required to specify facilities (size, dimension, etc.) necessary to handle onsite and downstream flows after development.	Potential flooding and hydrologic impacts can be mitigated to below a level of significance by implementation of recommended mitigation.

IMPACT	MITIGATION SUMMARY	IMPACT SIGNIFICANCE AFTER MITIGATION
6. WATER QUALITY:		
Project development would create potential water quality impacts to downstream areas and the nearby/ adjacent Otay Reservoir.	Project runoff/drainage may require a diversion ditch to protect the Otay Reservoir from water quality impacts due to development. The State DHS and other involved agencies shall determine precise mitigation requirements to protect the Reservoir and associated drainages. Further mitigation includes erosion control in accordance with City standards.	Water quality impacts can be mitigated to below a level of significance by implementation of recommended measures (Sections 3.5 and 3.6).
7. BIOLOGICAL RESOURCES		
Project development will significantly and directly impact riparian wetlands and coastal sage scrub and native grassland habitats, and the California gnatcatcher and cactus wren, both sensitive species.	Mitigation recommended herein generally includes wetland habitat creation/enhancement (defined in a mitigation plan); wetland protection from grading, sedimentation and erosion; retention of coastal sage scrub in open space (proposed in GDP); native scrub revegetation of manufactured slopes; and project redesign to create additional contiguous open space (See Section 3.7 Mitigation and Alternatives Section 5).	Direct impacts will be reduced to a degree by mitigation measures recommended herein. Only the No Project Alternative or Agricultural Use Alternative presented in Section 5 would fully mitigate impacts to the coastal sage scrub and native grassland habitats, gnatcatcher and cactus wren to below a level of significance. Design Alternative A would result in less significant impacts, but would not reduce impacts to a level below significance.

IMPACT	MITIGATION SUMMARY	IMPACT SIGNIFICANCE AFTER MITIGATION
Construction practices and long-term urban activities present secondary threats to adjacent and/or sensitive non-development areas.	Secondary impact mitigation includes construction activity limitations to protect resource preservation areas; revegetation with native species in fire break and cut slope areas; clearing and trimming restrictions; fencing and landscape buffering around natural open space areas; and long-term protection of natural open space areas by dedication of a natural open space easement.	Secondary biological impacts can be mitigated to below a level of significance by implementation of the measures proposed herein.
8. CULTURAL RESOURCES:		
Seventeen prehistoric and historic resource sites would be impacted by development. Also, the site possesses a high potential for existence of paleontological resources.	Recommended mitigation includes avoidance and/or data recovery of important cultural resources. This involves a complete data recovery program for cultural resource sites, and paleontological monitoring during grading and, if necessary, a salvage program for resources discovered.	Implementation of the measures herein will mitigate potential paleontological and cultural resource impacts to below a level of significance.

IMPACT	MITIGATION SUMMARY	IMPACT SIGNIFICANCE AFTER MIGRATION
9. TRAFFIC:		
Project vehicles will generate 36,440 ADT onto local roads. Cumulative traffic levels at buildout will result in levels of service (LOS D) or worse along four roadway segments; the project's contribution to these four cumulatively impacted segments ranges from less than 1% to 3% of the total traffic.	The project is required to construct onsite and adjacent roads, contribute to various roadway improvements, and install two traffic signals. The project shall also participate in cumulatively warranted improvements identified in the ECVTPP, on a phased improvement/ development basis determined by the City, identified in this EIR.	Project-specific traffic impacts can be mitigated to below a level of significance. The project's contribution to significant cumulative traffic impacts can be mitigated to a level below significance by implementation of measures recommended herein.
10. NOISE:		
Traffic-generated and urban noise will result from project implementation. Onsite future noise levels due to cumulative traffic will require onsite noise attenuation along various roadways.	Exterior and interior noise attenuation is required as mitigation to reduce future onsite noise. Future specific analyses and monitoring are required at the SPA Plan and subsequent stages.	Implementation of mitigation proposed can adequately reduce noise impacts to a level below significance.

IMPACT	MITIGATION SUMMARY	IMPACT SIGNIFICANCE AFTER MITIGATION
11. AIR QUALITY:		
Project traffic will contribute to cumulatively significant regional air quality impacts. Because the project was not incorporated into regional growth forecasts and air quality attainment plans, project emissions will constitute a cumulative impact contribution.	Traffic flow improvements, bicycle and bus routes are incorporated into project plans, serving to reduce impacts slightly. No mitigation other than the No Project or Agricultural Use Alternatives would significantly reduce impacts.	The project, as with any development, will contribute to the unavoidable cumulative impact on regional air quality.
Project traffic will contribute to cumulatively significant local air quality impacts on four street segments, projected to operate at an unacceptable level (LOS D or worse) under future cumulative traffic conditions.	Traffic flow improvements, bus and bicycle routes are incorporated into project plans, serving to slightly reduce impacts. Only traffic mitigation to create future LOS C or better on all roadway segments would fully reduce impacts.	The project and cumulative traffic will create unmitigated cumulative local air quality impacts.
Local short-term air quality impacts will result from grading activities and construction equipment.	Short-term air pollution impacts can be reduced by watering/dust control, immediate landscaping and other measures described in Section 3.11.	Short-term air quality impacts can be reduced to below a level of significance by implementation of measures herein.
12. FISCAL ANALYSIS:		
The project will have an overall positive fiscal impact on the City.	No mitigation is necessary.	No significant adverse fiscal impacts per CEQA are identified.

IMPACT	MITIGATION SUMMARY	IMPACT SIGNIFICANCE AFTER MITIGATION
13. PUBLIC SERVICES AND UTILITIES:		
The project will create an increase in demand for public services including police, fire protection, schools, parks/recreation, public transit, library and solid waste services.	Increased demands for services can be offset by provision of the project's school site(s), parks and recreation facilities, potential fire station site; school facility financing; and adherence to City threshold standards, codes, and funding programs.	Public service impacts can be mitigated to below a level of significance by implementation of measures in Section 3.13.
The project will create an increase in demand and impact on utilities and non-renewable energy resources, including water, sewer, gas and electric services.	Impacts related to water distribution and storage, and sewer distribution and treatment can be adequately offset by requirements cited in Section 3.13 (water and sewer sub-sections). Regional cumulative water supply impacts can be slightly reduced by water conservation mitigation herein. Energy impacts can be slightly reduced by energy conservation and other mitigation measures herein.	Project-specific and cumulative water distribution/storage impacts and sewer impacts can be mitigated; project-specific energy impacts can be mitigated. The project's contribution (as with any development) to regional cumulative water supply and non-renewable energy source impacts are unmitigable and significant.

This page intentionally left blank.

SECTION 2
PROJECT DESCRIPTION

2.1 LOCATION

The Salt Creek Ranch project includes approximately 1200 acres of land in the southern foothills of San Miguel Mountain, north of EastLake Technology Park and northwest of Upper Otay Lake (Figures 2-1, 2-2, and 2-3). The project site is located in the northern portion of the 37 square mile Eastern Territories as defined by the City of Chula Vista. Salt Creek Ranch is situated on land currently under the jurisdiction of the County of San Diego, however all but 240 acres in the extreme northeastern corner of the project site are located within the City of Chula Vista's adopted Sphere of Influence (see Figure 2-4). Annexation of the project site to the City of Chula Vista is presently in process.

Please see the response to comment 4 of the letter from the City of Chula Vista Planning Department.

2.2 DISCRETIONARY ACTIONS

The discretionary actions currently under consideration relative to the Salt Creek Ranch project include the following:

- Sphere of Influence Boundary Change (see Figure 2-4) and Annexation to the City of Chula Vista (LAFCO);
- General Development Plan (GDP) approval (City of Chula Vista);
- P-C (planned community) zoning approval (City of Chula Vista);

Note that annexation to the City of Chula Vista would involve detachment of the site from most county services (i.e., detachment from the county's Rural Fire Protection District), requiring services from the City (as discussed under Section 3.13). This transfer of services typically occurs with annexation approval by LAFCO.

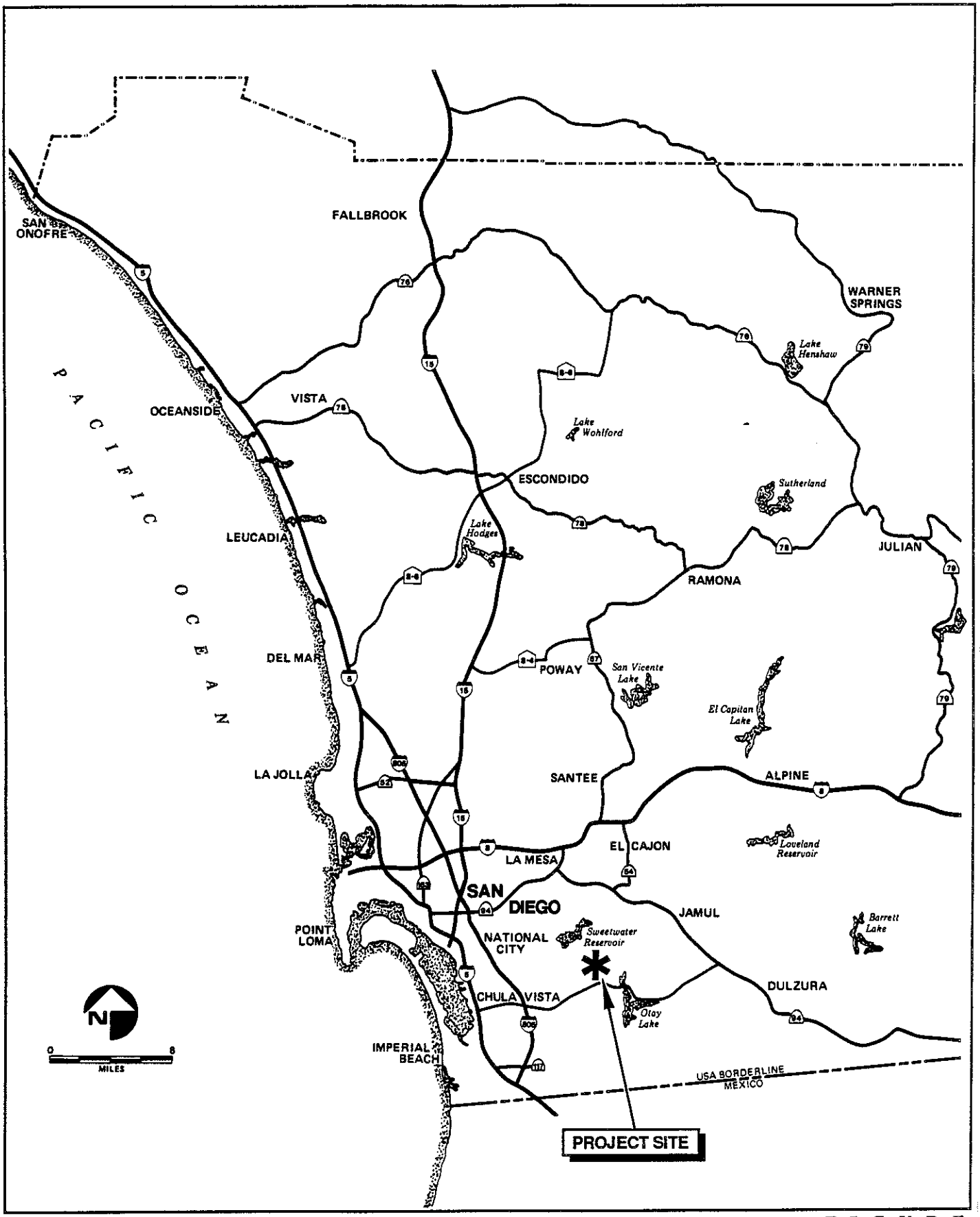
The Salt Creek Ranch GDP and subsequent plans will be prepared and processed in accordance with Sections 65450-65553 of the State of California Government Code and Sections 19.08.010-19.08.-30 of the City of Chula Vista Municipal Code. Subsequent approvals include SPA Plans, precise plans (including grading and drainage plans), tentative and final subdivision maps, and the resource permit process required by the U.S. Army Corps of Engineers (Section 404 process) and California Department of Fish and Game (Section 1601/1603 process).

2.3 PLANNING AND DEVELOPMENT OBJECTIVES

The General Development Plan (GDP) for the Salt Creek Ranch project has been prepared by the applicant in coordination with the City of Chula Vista 1989 General Plan Update and Eastern Territories Area Plan. A thorough consistency analysis is included as part of the Land Use Section contained in this EIR.

Distinct villages are envisioned within Salt Creek Ranch to provide individual identity and character to the project. Village identity and character will be defined by architectural style, site design elements, unique fences and signage, and landscape theme.

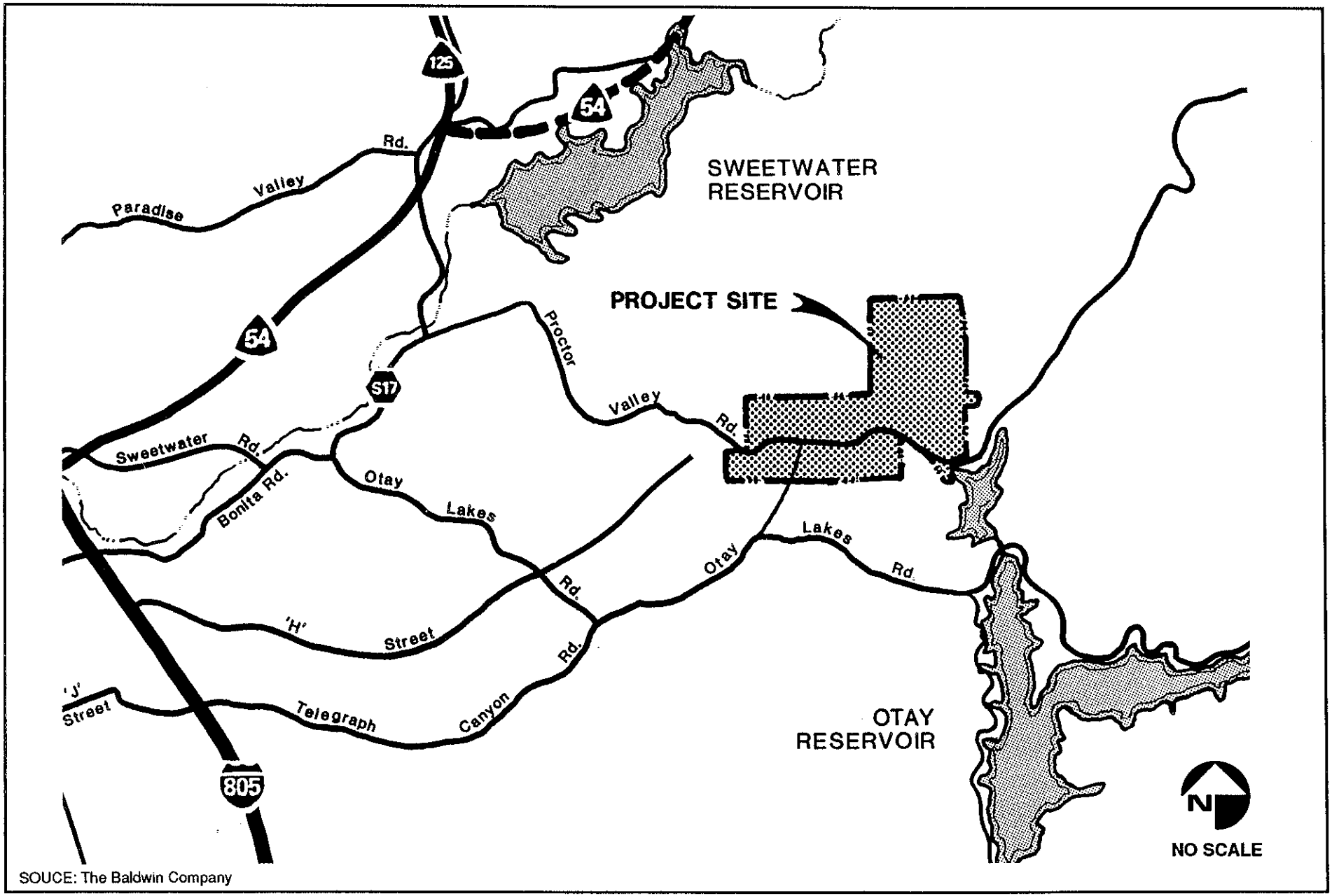
Salt Creek Ranch will provide a variety of housing opportunities for a wide range of lifestyles and family units. The community design objective is to enable families to move up to more expensive housing or move laterally to similar housing and still remain within the same City and community environment.



ERC Environmental and Energy Services Co.

Regional Location of Project Site

FIGURE 2-1

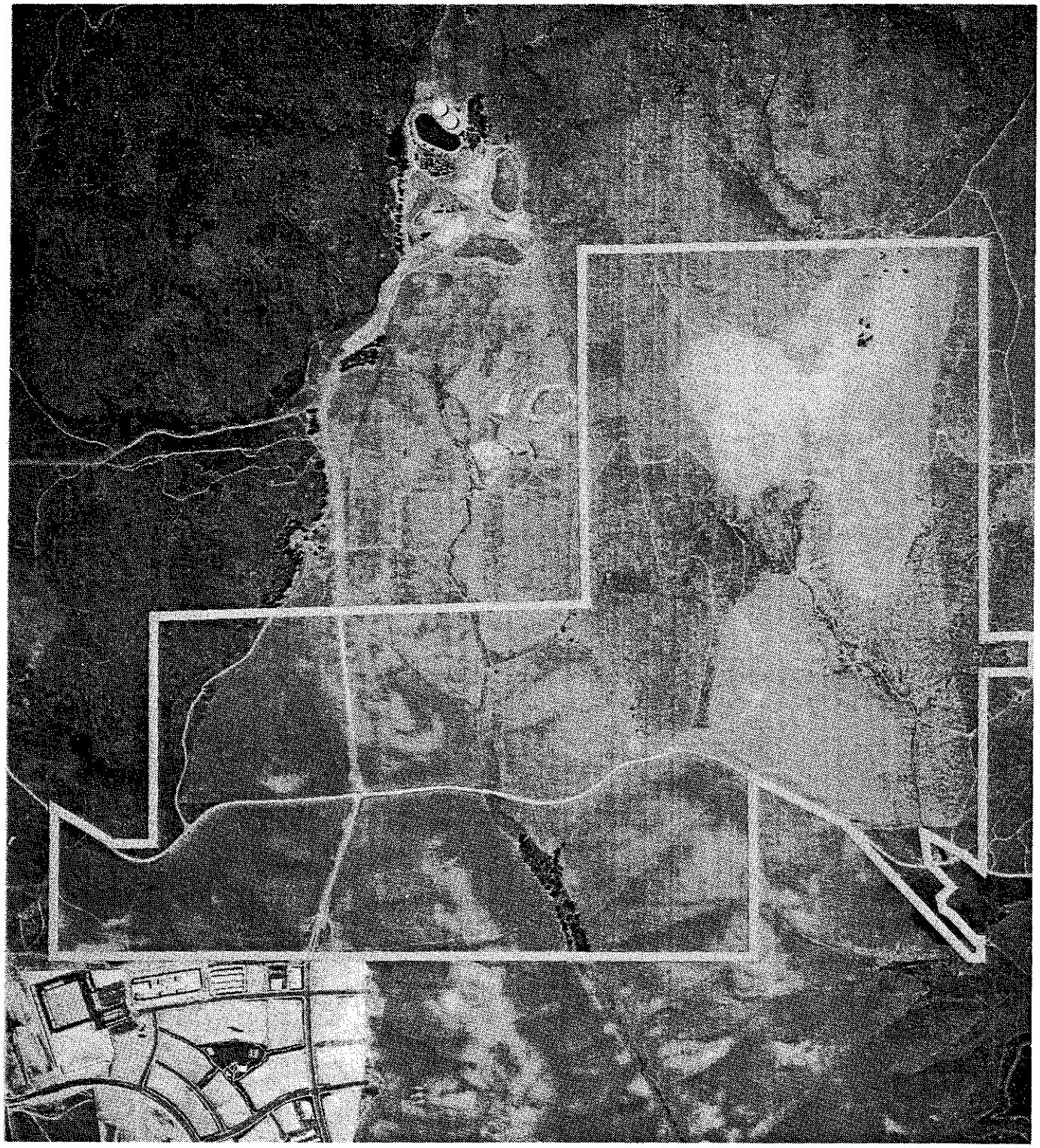


SOUCE: The Baldwin Company

ERC Environmental and Energy Services Co.

Vicinity Map

FIGURE 2-2

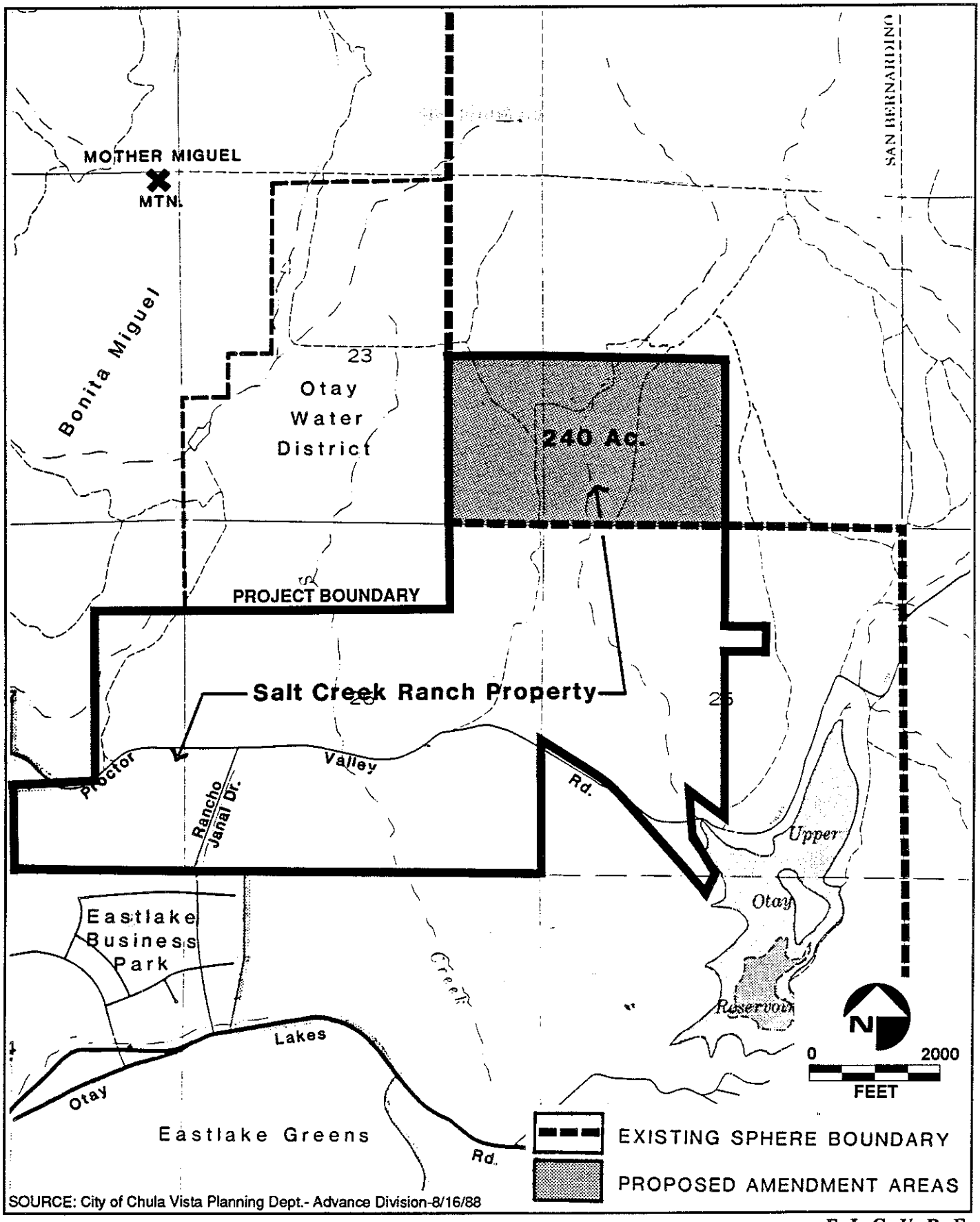


SOURCE: Robert Bein, William Frost, and Associates, 1989

ERC Environmental and Energy Services Co.

Aerial Photo of Salt Creek Ranch Site

FIGURE 2-3



SOURCE: City of Chula Vista Planning Dept.- Advance Division-8/16/88

ERC Environmental and Energy Services Co.

Chula Vista Sphere of Influence

FIGURE 2-4

A variety of amenities are to be provided within the Salt Creek Ranch development; the focus will be on open space and outdoor recreation to reinforce the semi-rural/ranch character of the development. The project will include neighborhood and community parks which meet or exceed City standards, preserved natural open space, a nature center, an equestrian center and trail system, and private recreational facilities for separate villages.

Additionally, it is a stated project objective to satisfy certain development issues as discussed in the City's General Plan and other planning documents. These objectives include development of a circulation system which is consistent with the City General Plan Update Circulation Element and street design standards; and development of specific master plans for provision of necessary public utilities and services, including water, sewer, drainage, fire, police, and parks.

2.4 PROJECT CHARACTERISTICS

General Overview of the Project

The Salt Creek Ranch project encompasses approximately 1200 acres and is proposed to be developed entirely as a residential community. The proposed development will provide important transition between the higher density developments within EastLake west of SR-125 to lower density uses east of SR-125. Development within the Ranch will transition from the R-M and R-LM general plan categories (3-11 dwelling units per acre du/ac) in the western portion of the property, to the low density R-L category (0-3 du/ac) in the eastern and northern portion of the property. These lower densities distinguish Salt Creek Ranch from the higher residential densities (5-15 du/ac) in the EastLake and EastLake Greens developments to the south and west, and establish semi-rural theme for the project.

The principal components of the Salt Creek Ranch plan include a maximum of 3,644 residential units (834.5 acres), a nature center, community park, and neighborhood parks (total 60.8 acres of developed parks), natural open space (265.4 acres), an elementary school site (10 acres), and major roads (34.3 acres). These project components are discussed in further detail on the following pages.

The General Development Plan

PROPOSED LAND USES

The proposed GDP for the Salt Creek Ranch Project is shown on Figure 2-5. The GDP map illustrates the relationship on the site between the various development and open space components of the project. A total of 3,644 units are proposed, which is between the target and high range permitted on the property under the City's General Plan. A statistical summary of proposed land uses including acreages is also provided on Figure 2-5.

The Salt Creek Ranch project has been divided into three planning sub-areas. Each sub-area will contain one or more individual development areas or villages, each with its own character and identity. Figure 2-6 illustrates the sub-area boundaries. The sub-areas are described below.

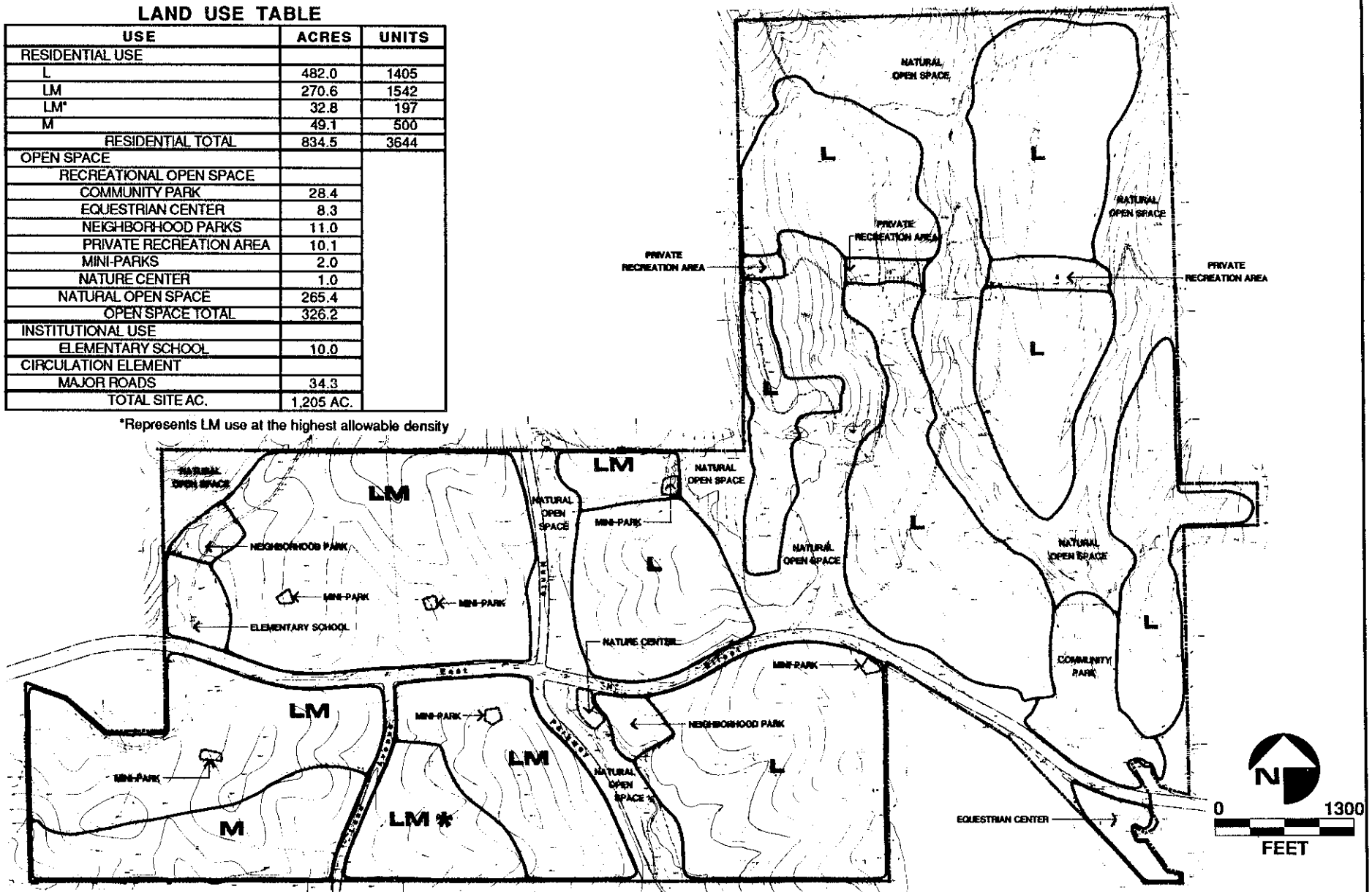
Sub-area 1

This area consists of the 380-acre area west of Salt Creek, north and south of East "H" Street. East "H" Street and Lane Avenue provide the primary access to the R-LM and R-M areas within Sub-area 1. Clustered residential projects will be developed with both attached

LAND USE TABLE

USE	ACRES	UNITS
RESIDENTIAL USE		
L	482.0	1405
LM	270.6	1542
LM*	32.8	197
M	49.1	500
RESIDENTIAL TOTAL	834.5	3644
OPEN SPACE		
RECREATIONAL OPEN SPACE		
COMMUNITY PARK	28.4	
EQUESTRIAN CENTER	8.3	
NEIGHBORHOOD PARKS	11.0	
PRIVATE RECREATION AREA	10.1	
MINI-PARKS	2.0	
NATURE CENTER	1.0	
NATURAL OPEN SPACE	265.4	
OPEN SPACE TOTAL	326.2	
INSTITUTIONAL USE		
ELEMENTARY SCHOOL	10.0	
CIRCULATION ELEMENT		
MAJOR ROADS	34.3	
TOTAL SITE AC.	1,205 AC.	

*Represents LM use at the highest allowable density

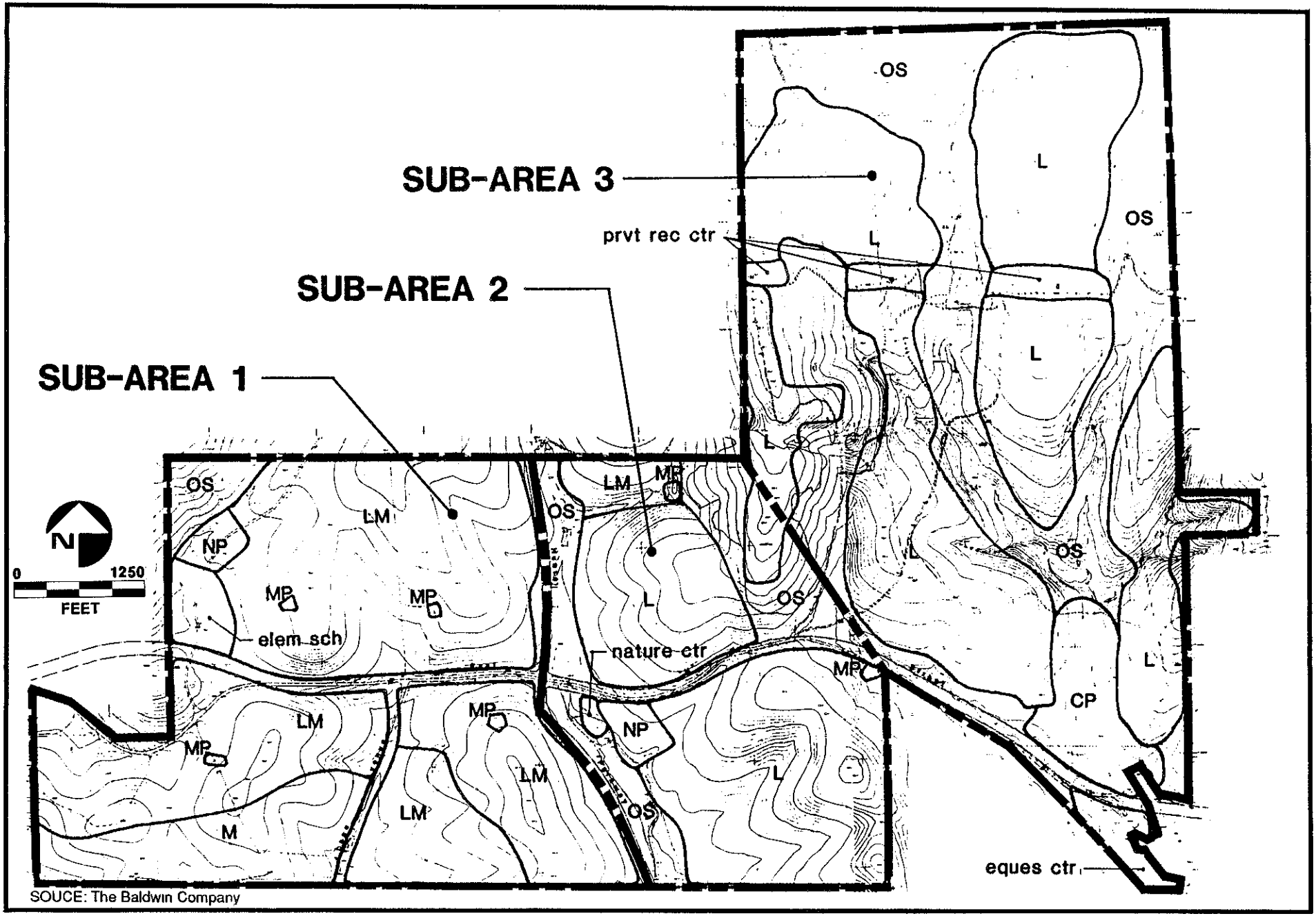


SOUCE: Estrada Land Planning

ERC Environmental and Energy Services Co.

Proposed General Development Plan

FIGURE 2-5



SOUCE: The Baldwin Company

ERC Environmental and Energy Services Co.

FIGURE 2-6

Sub-Area Boundaries

and detached type housing. Transitional buffers will be provided between residential housing units within Sub-area 1 and the EastLake Technology Park to the south. A school/park site will be located north of East H Street in the western portion of Sub-area 1. Residents of Sub-area 1 will have recreational access to the open space greenbelt proposed along Salt Creek.

Sub-area 2

This area consists of the 241-acre area east of the Salt Creek and west of the Otay Lakes drainage basin (Figure 2-6). East H Street and Hunte Parkway provide primary access to the R-L and R-LM areas located within Sub-area 2. Sub-area 2 is planned as a transitional area between higher density uses west of Salt Creek and larger lot areas in the eastern portion of the Ranch. Primarily single family detached units on medium sized lots are proposed for this area, however the R-LM designated area may be developed with attached housing. The Salt Creek greenbelt is an important open space feature within Sub-area 2.

Sub-area 3

Sub-area 3 consists of the 584-acre area in the eastern portion of Salt Creek Ranch and contains much of the hillside and valley terrain on the property. Primary access to the R-L areas is to be provided by East H Street. Proposed product type for sub-area 3 includes single-family detached units on larger lots. This sub-area includes varied topography and a community park available to residents of the City.

SITE ACCESS AND CIRCULATION

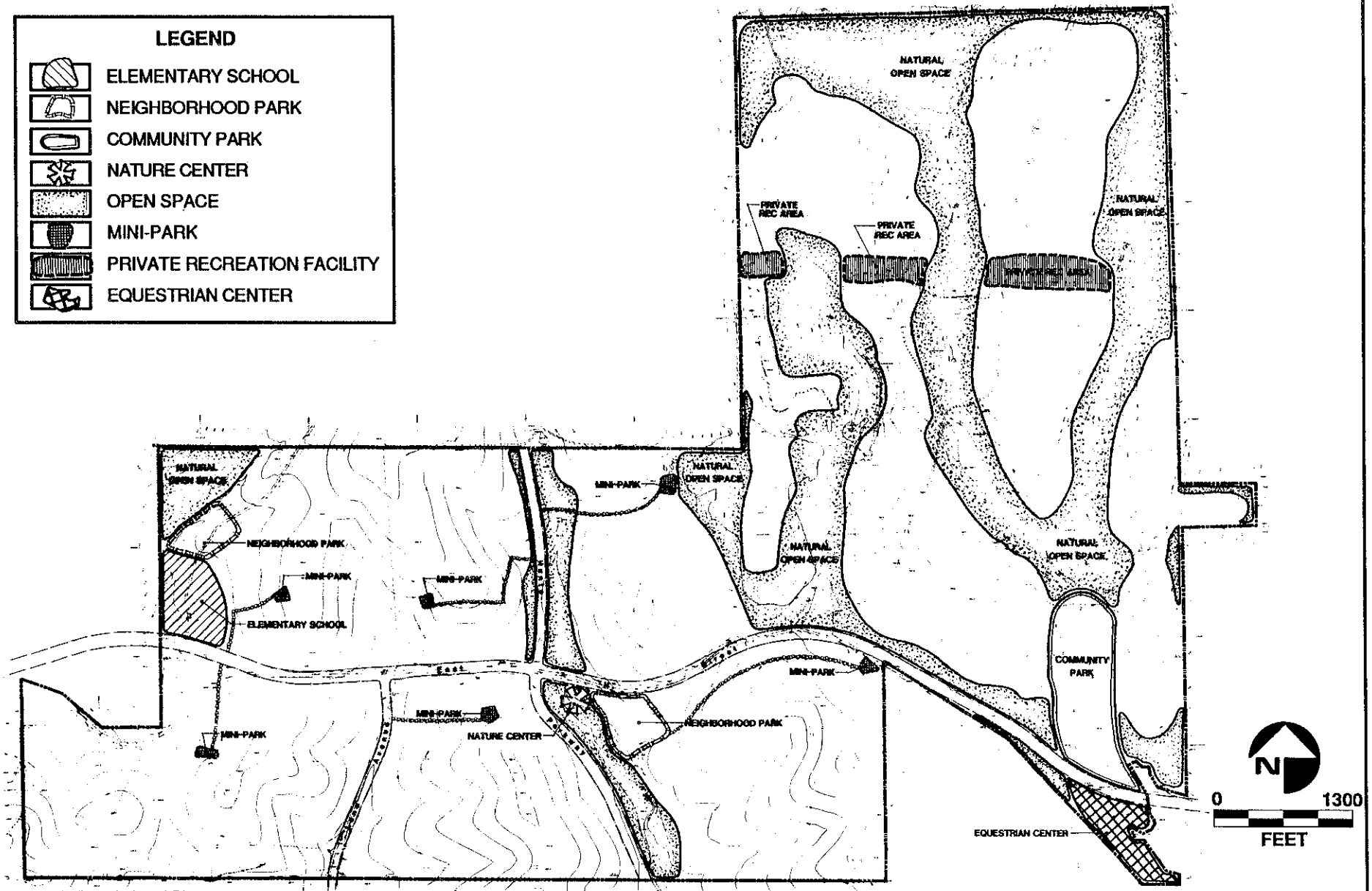
Primary access to the Salt Creek Ranch will be provided by the extension of Hunte Parkway and East H Street. Secondary north-south access will be provided by Lane Avenue, San Miguel Road and Proctor Valley Road (Figure 2-5). Telegraph Canyon Road will provide access to the project from the south. Access from each of these major roadways will be provided to internal project streets to be defined at the SPA Plan level of approval. All streets within the project will be constructed to meet City standards. The Salt Creek Ranch GDP also incorporates pedestrian and bicycle pathways and equestrian paths or trails within transportation corridors as recommended by the City's General Plan Circulation Element.

PROPOSED COMMUNITY FACILITIES

Community facilities incorporated into the Salt Creek Ranch include an elementary school site, neighborhood and community parks, nature center, and developed open space consisting of pathways, greenbelts, trails, and pedestrian/bicycle pathways. These features are illustrated on Figure 2-7. The Open Space Concept Plan is shown on Figure 2-8.

Specific plans for provision of Community Facilities will be prepared in conjunction with subsequent SPA Plan(s). Such plans may include, but are not limited to:

- A water master plan addressing the location, sizing, phasing and financing of water supply facilities
- A sewer master plan addressing the location, sizing, phasing and financing of wastewater collection facilities
- A flood control plan which conforms to the Telegraph Canyon Master Drainage Plan and preserves water quality in Otay Lakes Reservoir

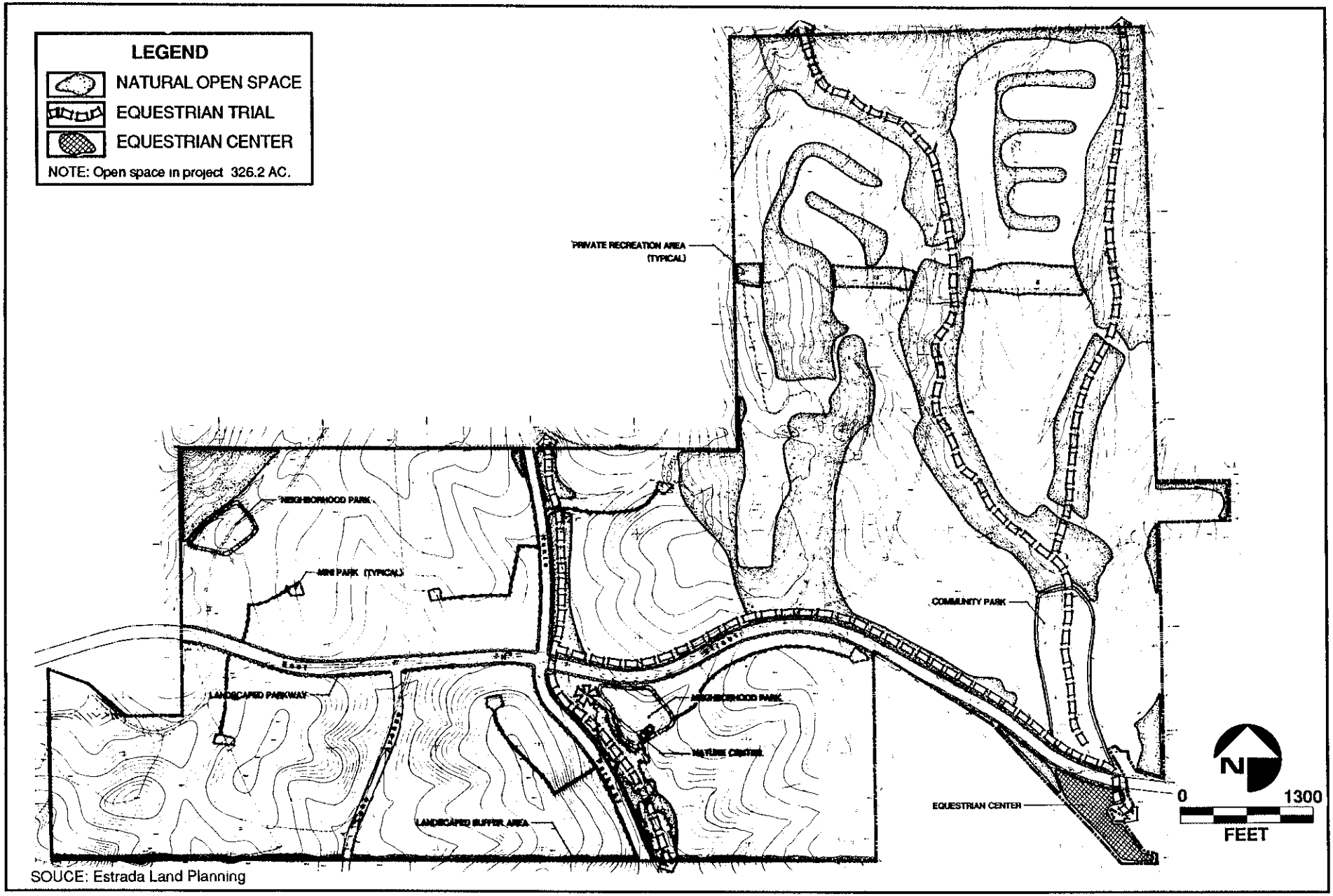


SOUCE: Estrada Land Planning

ERC Environmental and Energy Services Co.

Community Facilities Plan

FIGURE 2-7



SOUCE: Estrada Land Planning

ERC Environmental and Energy Services Co.

Open Space Concept Plan

FIGURE 2-8

Community facilities such as schools, parks, library, and police and fire facilities will be provided to levels required by the various applicable City General Plan threshold standards and other requirements.

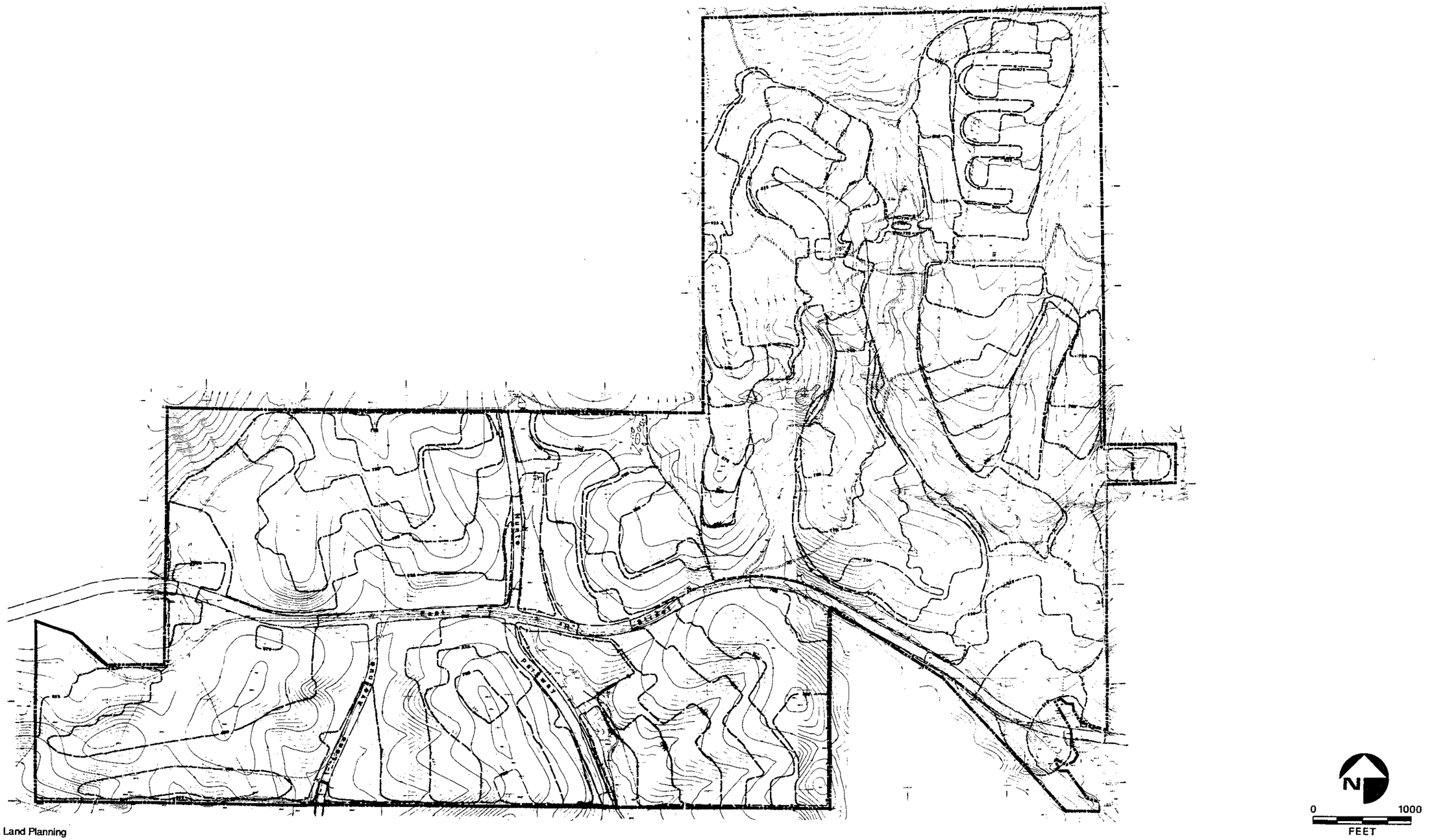
LANDFORM ALTERATION (GRADING PLAN)

Approximately 80 percent of the project site will be graded. The approximate limits of grading are illustrated on Figure 2-9. Site grading will be contoured to blend with natural landforms where possible and visually prominent slopes and vista points will be preserved. Slopes of 25 percent or greater will generally be preserved. Landform alteration is discussed in detail in Section 4. The proposed Open Space Concept Plan is illustrated in Figure 2-8.

2.5 GROWTH MANAGEMENT/PROJECT PHASING

The conceptual phasing information presented in this section has been developed primarily for the purpose of determining preliminary circulation and public facility requirements. Development will be refined and may vary slightly from the sequence described below. Regardless of the actual phasing, public facilities will be provided concurrent with need in accordance with the threshold standards established by the City of Chula Vista.

The conceptual phasing assumes that development within Salt Creek Ranch will occur in 4 phases extending over a period of approximately 11 years. Phase 1 will consist of 750-850 units and will occur during 1991-1992. Phase 2 will consist of 1,300-1,400 units and is expected to be completed in 1995. Phase 3 is expected to be completed in 1997 and will consist of 850-950 units. Phase 4 will consist of 850-950 units and is expected to be completed by 2001. It is anticipated that development in Salt Creek Ranch will begin adjacent to the Salt Creek open space corridor and will incorporate portions of Sub-areas 2 and 3. Later stages of development will extend to the west and east simultaneously. Individual phases established in the SPA Plan process and further implemented during subdivision will provide for internal infrastructure and public facilities, as well as off-site infrastructure required by the project in conjunction with other cumulative development.



SOURCE: Estrada Land Planning

ERC Environmental and Energy Services Co.

Conceptual Grading Plan

FIGURE 2-9

SECTION 3
ENVIRONMENTAL SETTING AND IMPACT ANALYSIS

3.1 LAND USE

Existing Conditions

Salt Creek Ranch is situated on land currently under the jurisdiction of the County of San Diego. All but 240 of the 1200 acres of the project site are located within the City of Chula Vista's adopted Sphere of Influence. The site is located in the northern portion of the 37 square mile Eastern Territories as defined by the City of Chula Vista. Annexation of the project site to the City of Chula Vista is presently in process.

Please see the response to comment 4 of the letter from the City of Chula Vista Planning Department.

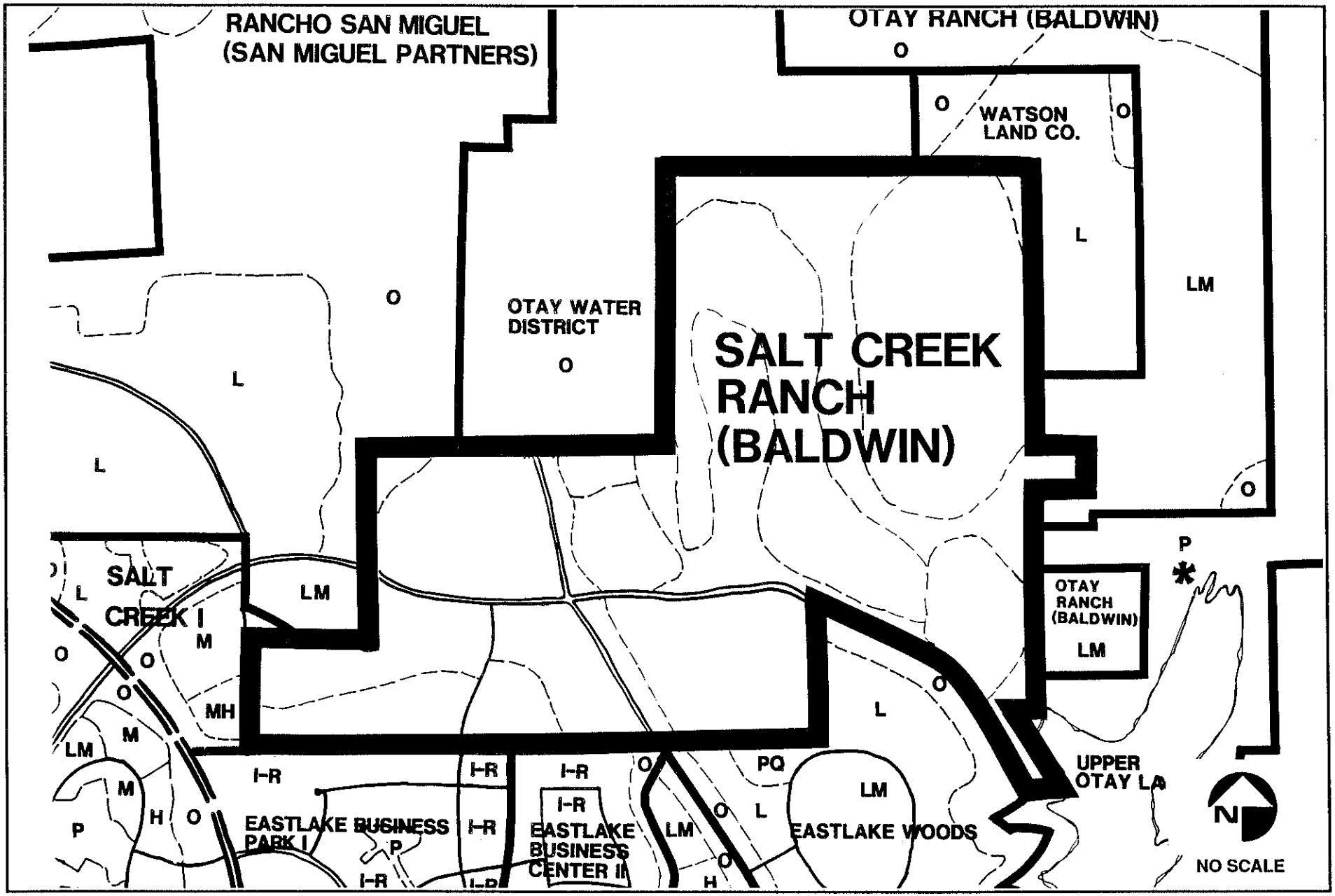
Onsite and Surrounding Land Uses

The project site is currently undeveloped, except for a substantial acreage devoted to agricultural grazing and cultivation. Pertinent features on the site include Proctor Valley Road, an improved unpaved road, which traverses the southern portion of the site in an east-west direction. Salt Creek, the primary drainage onsite, traverses the central portion of the site in an north-south direction. Any unnamed drainage traverses the eastern portion of the site and is tributary to Upper Otay Lake. The northern portion of the site (outside of the City's present Sphere of Influence boundary) is bisected east-west by a San Diego Gas and Electric (SDG&E) transmission line easement. Groves of eucalyptus and pepper trees grow along Salt Creek near the southern property boundary and approximately one-third of the site is vegetated with coastal sage scrub.

Lands to the west, north and east of the project site are essentially undeveloped. Agriculture and open space are the predominant uses. The Otay MWD operates a reclaimed water storage area adjacent to the northern site boundary. The facility consists of a water reclamation pond and two 5-million gallon water storage tanks (refer to Section 3.13, Water for further detail). On the south side of the property, the EastLake Technology park is currently under construction. To the southeast are the Upper and Lower Otay Lakes which are domestic water storage reservoirs owned by the City of San Diego.

Planned land uses on surrounding projects (Figure 3-1a) include low to medium high density residential uses (0.5-15 du/acre) on the western boundary of Salt Creek Ranch within the EastLake planning area (Salt Creek I project). Properties to the south within EastLake I and III are planned for business park, research and manufacturing, and low to low-medium density residential development, respectively. EastLake Greens and Trails, farther to the south, include proposed residential uses ranging from low to high density and a limited amount of retail commercial uses. The Olympic Training Center site is located southeast along the western boundary of Lower Otay Lake.

Plans for properties north and east of Salt Creek Ranch have not been formulated, nor are these lands included in the City's Sphere of Influence. Existing undeveloped uses will remain for the foreseeable future. If these lands are developed, it is anticipated that very low density, semi-rural or estate type residential development would occur. The proposed Otay Ranch Ranch project properties are located to the east; plans have not yet been formalized for inclusion in this document. Figure 3-1b provides a conceptual plan of foreseen open space connections in the project area.

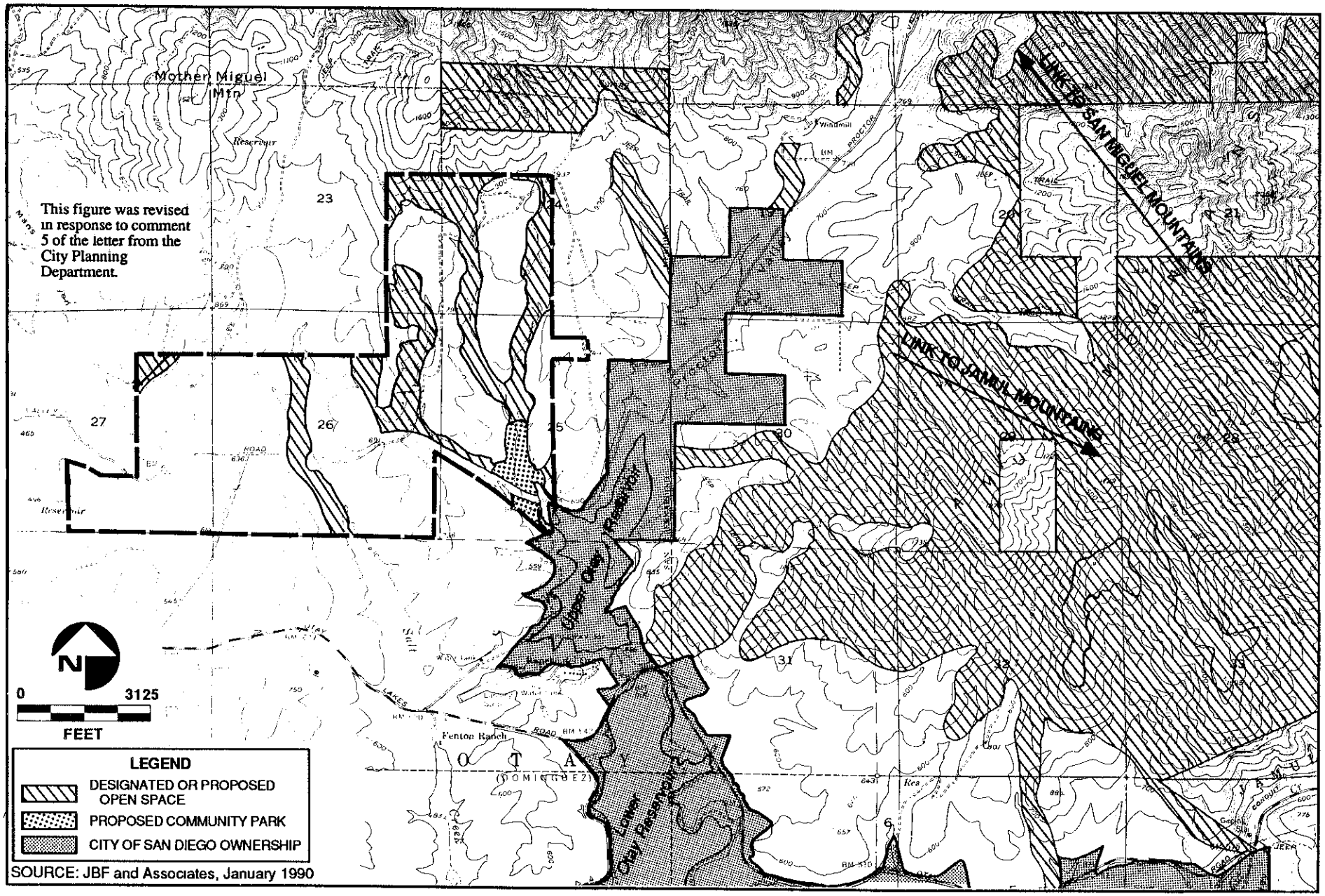


3-2

ERC
Environmental
and Energy
Services Co.

Surrounding Land Use Designations and Ownership

FIGURE
3-1a



ERC Environmental and Energy Services Co.

Surrounding Open Space Relationships
Proposed General Development Plan

FIGURE
3-1b

Land Use Plans and Policies

Policies of the County of San Diego and the City of Chula Vista are discussed in the following sections.

County of San Diego: The County of San Diego Regional Land Use Element and Map (August 1984) contains several goals to manage urban growth so that balanced communities are planned appropriately with facilities and urban levels of services. The Land Use Element also states that future urban growth should be located contiguous to existing urban areas while the rural character of non-urban lands should be retained (County of San Diego 1984:II-2).

Policies more specific to the location of the project are found in the Otay Subregional Plan (County of San Diego 1984). Of these policies, the ones most applicable to the project are Policies A-7 and A-8, listed below:

- The County will cooperate in planning and regulating growth of unincorporated territory within each City's sphere of influence. Future County decisions on proposed projects in the sphere areas will take each City's planning objectives into consideration (Policy A-7).

- The County will support well coordinated development in accordance with an adopted facilities financing plan (Policy A-8).

Other policies, including the appropriate management of Resource Conservation Areas, the use of agriculture and public recreation as interim land uses (Policies A-5 and A-6), the equitable financing of public services and facility planning and programming (Policy B-1), and the designing of local roads to protect their natural scenic beauty (Policy C-3), are also contained in the Otay Subregional Plan.

City of Chula Vista General Plan Update: The City of Chula Vista has created a land use plan for all property within its eastern sphere of influence (the Eastern Territories) and has incorporated it into the current comprehensive General Plan Update program. Policies within the General Plan Update that apply to the Salt Creek Ranch projects include the following:

- Provide for community and neighborhood commercial centers in developing areas convenient to new neighborhoods and maintain, renovate and redevelop existing centers.

- Encourage the development of a diversity of housing types and prices.

- Assure that new development meets or exceeds a standard of high quality planning and design.

- Provide for the development of multi-family housing in appropriate areas convenient to public services, facilities and circulation.

- Encourage planned developments, with a coordinated mix of urban uses, open spaces, and amenities.

- For new developments in Eastern Territories, the predominant character should be low medium density, single-family housing. Where appropriate in terms of physical setting encourage development of quality, large-lot housing.

- Plan and implement a continuous greenbelt, open space and trail system around the City. The system should begin at the Chula Vista Bayfront, extend along Otay Valley to the Lower Otay Reservoir, extend north in two corridors - the Salt Creek Canyon and the Lower and Upper Otay Reservoirs, connect to the Sweetwater Valley to the Chula Vista Bayfront. Additional open space within the general plan area should provide connections to community and neighborhood parks and schools.

- Preserve to the extent feasible natural open space areas and corridors, particularly the major canyons and valleys, as integral and functional parts of the urban pattern. Particular emphasis is placed on the canyons, stream valleys and other corridors that connect to the greenbelt system and can help to extend the greenbelt and trail system into the community.

- Refrain from development or landform alteration of the major natural features of the Otay Valley, Upper and Lower Otay Reservoirs, Mother Miguel Mountain, Sweetwater Reservoir and immediately adjacent areas.

- Provide water conservation through increased efficiency in essential uses and use of low water demand landscaping.

- Encourage, where safe and feasible, wastewater reclamation and use of reclaimed water for irrigation and other uses.

The following objectives are stated in the Eastern Territories Area Plan, which is the community plan component of the General Plan that focuses on the project site and vicinity:

- Direct new urban development in Eastern Territories to broad mesa tops which are generally located away from environmentally sensitive areas such as flood plains, canyons and steeply sloped areas.

- Require thorough environmental reviews of all proposed conversions of vacant or agricultural land to urban areas.

- Among the areas designated in Eastern Territories for open space preservation, place the highest priority on preservation and improvement of those sections of the proposed Chula Vista Greenbelt which are located in the planning area. These are the Otay Valley, Salt Creek and associated canyons, Upper and Lower Otay Reservoirs and the adjacent drainage areas, Mother Miguel Mountain and the Sweetwater Reservoir and the adjacent drainage area.

- Create, for the planning area as a whole, a balanced community of residential, commercial and industrial uses. To the extent that employment uses may be more difficult to establish, provide for additional designations of commercial and industrial land and encourage retention of vacant land for commercial and industrial uses.

- Assure that all new developments are provided with acceptable levels of public services. Each development should include local public facilities required to serve the development and also contribute toward construction of City-wide facilities needed by the development.

- Encourage orderly and compact patterns of development, which will make maximum use of existing public facilities and avoid "leap frog" development. In particular, encourage development phasing which will substantially build out drainage and hydrologic basins with existing public service facilities before developing new basins.

Chula Vista General Plan Land Use Designations: The City of Chula Vista General Plan Update designates Salt Creek Ranch for three residential categories, R-L, R-LM and R-M. These areas are shown on Figure 3-2. The R-L (Residential-Low) category includes rural housing and single family detached homes at densities ranging from 0.5 to 3 du/acre. This category is characterized by homes on large, rural and estate type lots, an appropriate residential land use for variable terrain, lands with relatively steep slopes, or lands adjacent to greenbelts.

ıse see the response
omment 7 of the
ɛr from the Baldwin
npany.

The R-LM (Residential Low-Medium) category includes single family detached homes on medium-sized lots with densities ranging from 3 to 6 du/acre. Typical lot sizes are on the order of 7000 square feet. Single-family attached units would be permitted as residential clusters.

The R-M (Residential-Medium) category includes small single family detached units, zero lot line homes, patio homes and attached units such as duplexes and medium density townhomes with densities ranging from 6 to 11 du/acre.

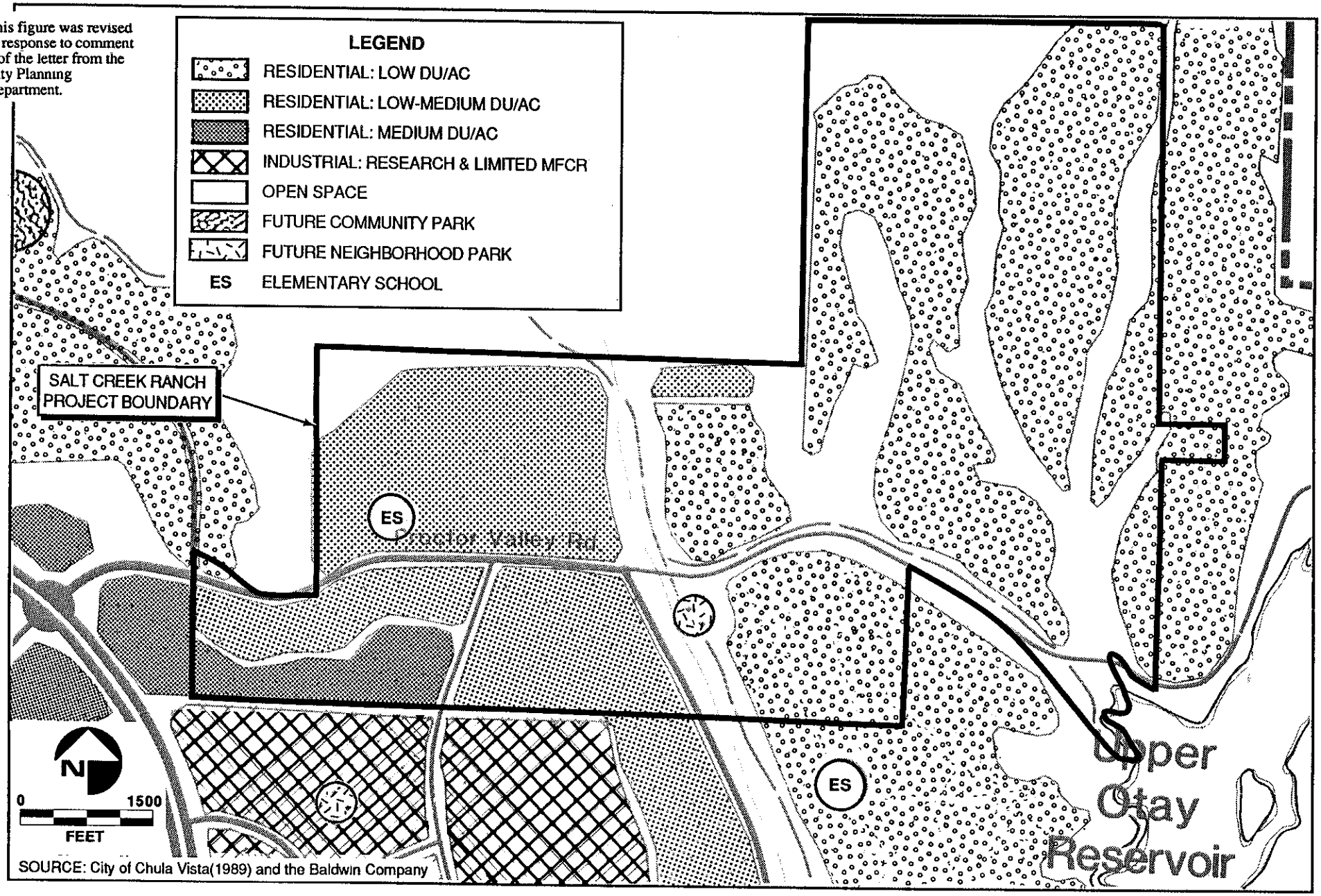
With the exception of an approximately 10 acre R-LM area in the northern portion of the site, all of the Salt Creek Ranch property east of Salt Creek is designated for R-L uses. The onsite area west of Salt Creek is designated primarily for R-LM uses with the exception of the most southwesterly corner of the property which is designated R-M on the General Plan.

The residential densities have three density guidelines: baseline, midpoint, and maximum. The range of densities between the baseline and the midpoint density is defined as the lower density range. The range of densities between the midpoint and the maximum densities is defined as the higher density range. Residential projects with densities in the higher density range can be considered to be in conformance with the general plan only if they contain features which provide exceptional and extraordinary benefits to the residents of the City as interpreted by the City Council after review by the Planning Commission.

Chula Vista General Plan Housing Element: The City expects every development with more than 50 dwelling units to explore methods to devote a minimum of 10 percent of the units to low and moderate income housing (Housing Element, Section 3.3).

Zoning: The project site lies outside the City's jurisdictional boundaries and therefore contains no zoning districts. This acreage is covered by County zoning classification S-87, Limited Control, which provides "limited controls on the use of property in portions of the unincorporated area of the County pending specific studies to enable rezoning of said area in conformance with the adopted General Plan" (County of San Diego 1985). Uses presently allowed in the zone are similar to the General Agricultural (A-72) Use Regulations intended to create and preserve areas for the raising of crops and animals, including Family Residential (2 1/2 acre lot size), Essential and Fire Protection Services, various agricultural uses, and custom manufacturing.

This figure was revised in response to comment 6 of the letter from the City Planning Department.



ERC Environmental and Energy Services Co.

City General Plan Designations

FIGURE 3-2

Impacts

Compatibility With Surrounding Land Uses

The uses proposed for lands surrounding the project site include residential, open space, business center, industrial (research and manufacturing) and institutional (public facilities). In general, Salt Creek Ranch residential urban uses are compatible with proposed surrounding uses, contingent upon implementation of specific development regulations where applicable as specified in the General Plan Update.

Considering specific aspects of the proposed land use plan, potential compatibility conflicts could occur in three specific areas as described in the General Plan Update. The three areas are the EastLake Business Park/Salt Creek Ranch transition area, urban uses near and/or tributary to Otay Lakes reservoirs, and urban uses with respect to the City of Chula Vista greenbelt. These three areas are discussed below.

Potential compatibility conflicts could occur from placement of residential uses adjacent to the EastLake Business Park which borders the project site on the south. These compatibility conflicts could result in significant adverse impacts if not mitigated. The General Plan Update has specific mitigating design standards to ensure compatibility/transition for this interface, incorporated herein by reference and as described in the mitigation measures section below.

Another potential compatibility issue with the proposed project is urban development in proximity to the Upper Otay water supply reservoir. Urban runoff reaching the reservoir could have significant adverse impact on water quality. More specifically, locating the proposed equestrian center on the northern end of Upper Otay Reservoir could cause significant water quality impacts from rain water runoff to the reservoir. The reservoir is also part of the Chula Vista Greenbelt, thus the view from the reservoir environs to the surrounding areas is potentially significantly impacted by development (refer to Section 3.3 for discussion regarding views).

The third area of compatibility concerns the Chula Vista Greenbelt through the Salt Creek Ranch. The Greenbelt is proposed to traverse Salt Creek Ranch through Salt Creek Canyon and stream valley (refer to Section 3.3, Figure 3-3 Topographic Map). The development's interface with the greenbelt area is important from an open space impact and continuity of use perspective.

These potential compatibility issues involving the proposed development could result in significant adverse impacts which can be mitigated by incorporating design standards and policies specified in the General Plan Update. These are described below in the mitigation measures section.

There are two additional areas of potential impact from a land use compatibility standpoint. One of these involves the use of the San Diego Gas and Electric Company (SDG&E) powerline easement (Figures 2-4, 2-7) for private recreational facilities. It is anticipated that additional transmission lines will be added to the easement in the future. Recreational use of such easements may not always be compatible with operation and maintenance requirements of transmission facilities (or their expansion) within the easement. Permitted uses within the easement can be established at the SPA Plan and PC Zoning stage of planning.

The final potential compatibility issue involves a potential visual impact of the Otay MWD reclamation facility on adjacent residential uses. Future residents would be located in close

SOUCE: Estrada Land Planning

ERC Environmental and Energy Services Co.

Topographic Map

FIGURE 3-3

proximity to the facility's storage tanks and reclamation pond. Also, the reclamation pond could be a minor source of odors. These additional compatibility impacts could be considered significant and should be mitigated via design and policies identified in the SPA Plan.

Other environmental factors which may affect compatibility with surrounding land uses include traffic, hydrology, noise impacts and biological resources impacts. The specific impacts of the project with respect to these resources and issues are discussed in other sections within this EIR.

Consistency with General Plan and Zoning

The project site is presently within County of San Diego territory, both within and outside of the City of Chula Vista Sphere of Influence. The City of Chula Vista adopted a General Plan Update (July 11, 1989) which includes the project site and nearby areas known as the Eastern Territories. The land use impacts from converting the land in the Eastern Territories from rural to urban uses have been considered in the Final Environmental Impact Report for the City of Chula Vista General Plan Update (Final EIR 88-2, July 1989). According to EIR 88-2, the project area was previously designated for future urban development, which reduces the significance of the urbanization of these rural lands. EIR 88-2 also concludes that no significant, unmitigated impacts would occur from adopting the land uses as specified in the General Plan Update. This statement assumes that all policies and guidelines pertaining to land use and community and urban design will be followed during individual project planning, approval and implementation, and that these policies will mitigate any potentially significant impacts. That analysis is hereby incorporated by reference into this Draft EIR.

The project generally conforms to the goals and objectives of the Chula Vista General Plan Land Use Element. Two potential conflicts exist with objectives related to the open space network. The community park and school located at the western edge of the property are isolated from the open space corridor; the open space objectives call for connections from the open space system to parks and schools. This conflict is not significant. Grading of the immediate adjacent areas of Upper Otay Lake and Mother Miguel Mountain may conflict with the open space objectives which call for projects to refrain from development or landform alteration of the major natural features including the Otay Reservoirs and Mother Miguel Mountain and the immediate adjacent areas. This conflict is discussed above under Compatibility With Surrounding Land Uses.

A maximum of 3644 units are proposed within the Salt Creek Ranch. The proposed number of units is in the high destiny range permitted on the property, and therefore the project must comply with the 5 criteria provided in Section 6.2 of the general Plan Land Use Element. The planning department has determined that the project would not provide exceptional and extraordinary benefits to the residents of the City and therefore the project density is inconsistent with the General Plan.

Because the project does not address the issue of affordable housing, it is not in compliance with Section 3.3 of the General Plan Housing Element, which requires developers of projects with more than 50 dwelling units to explore methods to devote a minimum of 10 percent of the units as low and moderate income housing.

In accordance with state law, site zoning must be consistent with the General Plan designations for the site. Pre-zoning is proposed at this time, in conjunction with the General Development Plan. Specific Planned Community (PC) zoning will be established for the property (implemented by a Sectional Planning Area [SPA] Plan) subsequent to

General Development Plan and pre-zone approval. The SPA Plan will have separate review and approval within the City of Chula Vista. The zoning incorporated in the SPA Plan will be consistent with the General Plan and General Development Plan designations.

Mitigation Measures

Project land use compatibility issues evaluated in this section can be mitigated by incorporated design techniques as specified in the General Plan Update. Each issue area is mitigated by measures cited below.

1. With respect to the potential land use impacts at the EastLake Business Park/Salt Creek Ranch interface, the City's General Plan proposes the following, hereby incorporated by reference:

   - To achieve an appropriate transition between land uses, a cluster approach shall be used. A cluster plan should create an open space buffer adjacent to the business park which could include recreation or park uses. Such clustering could warrant development of residential uses at the high end R-M category density range.

   In response to this policy, the Salt Creek Ranch General Development Plan proposes the following with respect to the area (see also Section 3.3, Landform/Aesthetics):

   - Buffer zones between the project and EastLake Business Park to the south will provide visual and spatial separation between the residential area and employment park land uses and will help to avoid adverse noise impacts.

   - Techniques to accomplish this objective include variable setbacks and extensive landscaping within the buffer area. Specific measures are to be defined in the SPA Plan.

   - Final design (SPA Plan, Site Plans) of the planning areas on the southern border of the site will specifically address the land use interface.

2. With respect to the potential impact of development in the vicinity of Otay Lakes Reservoir, the following is proposed:

   - Storm drainage and wastewater from residential areas in the Salt Creek Ranch development will be collected in utility systems to be provided and diverted away from the reservoir (see Section 3.5, 3.6 and 3.13; plans to be approved by the City Engineering Department).

   - Runoff from the equestrian center site will be prevented from entering drainages which are tributary to the reservoir. Final design of the facility (tentative map and site plan) must address site runoff from the facility, maintenance and cleaning of the facility, and liquid and solid waste disposal (refer also to Sections 3.5 and 3.6 Mitigation).

   - Detailed design in the SPA Plan must address the view condition from the reservoir to developed areas of the project site. Design will incorporate specific techniques to mitigate view impacts, including site plan orientation, grading techniques, landscaping and architectural design (see also Section 3.3).

3. With respect to impact on the Chula Vista Greenbelt, the following is proposed:

   - The Salt Creek drainage through the project site shall be retained in open space uses. Extensive plantings (approved by the City Parks & Recreation Department and City Landscape Architect prior to tentative map approval) within the drainage will occur and the existing stand of pepper trees will be retained. A nature center is proposed in the open space area which will enhance the value of the greenbelt. The SPA Plan shall define in an Open Space Plan and Chapter guidelines for open space uses, buffer treatment, maintenance and natural resource management.

4. The two additional areas of concern can be mitigated by the following:

   - Land use compatibility impacts relative to use of the SDG&E easement as a private recreational amenity for the project can be mitigated by coordination with SDG&E during all phases of future planning. Such coordination will assure that proposed uses conform with SDG&E policy. The SPA Plan and PC Zoning regulations will define permitted uses within the easement, acceptable to the City and SDG&E.

   - Land use compatibility impacts relative to the Otay Water District reclamation facility can be mitigated by implementing various design techniques to be identified in the project SPA Plan. Such techniques would include orientation of residential structures to minimize view of the facility, as well as the establishment of vegetative and spatial buffers between structures and the facility.

5. Implementation of the following measures will mitigate the project's density and affordable housing inconsistencies with the Chula Vista General Plan:

   - The project shall reduce the proposed number of units to density levels acceptable to the City.

   - The project developers shall explore, in an affordable housing program, methods to devote at least 10 percent of the dwelling units to low and moderate income housing. The program shall be developed prior to or concurrent with the SPA Plan process, and shall be subject to Planning Commission review and approval concurrent with the SPA Plan process or as otherwise acceptable to the City Planning Department.

Analysis of Significance

The implementation of mitigation measures proposed above will reduce the magnitude of potential land use project and cumulative impacts to a level of insignificance, with two exceptions. The project is not in conformance with Section 6.2 of the Land Use Element because it proposes a residential density in the high density range without providing exceptional and extraordinary benefits to the residents of the City. In addition, the project is not in conformance with Section 3.3 of the Housing Element because it does not address affordable housing. These conflicts are not mitigated as proposed, but could be mitigated by implementation of the above #5 mitigation measures.

3.2 CONVERSION OF AGRICULTURAL LANDS

Existing Conditions

Description of Existing Crops and Operations

Portions of the project site have historically been farmed. In the past decade, the principle crop grown on the site has been dry farm barley. Dry farm barley yields of 1.4 tons per acre are common in San Diego County. After harvest, cattle are often grazed on the barley stubble.

According to the EIR on the General Plan Update, dry-farm barley " . . . is a low cost, low yield, low return crop which is not highly valued in terms of Countywide agricultural value or as a crop itself." The project site therefore is not a significant contributor to the agricultural production or economy of San Diego County.

Soil Suitability for Agriculture

According to the U.S. Department of Agriculture, Soil Conservation Service, Soil Survey San Diego Area, (1973), the soil types and capabilities in Table 3-1 can be found on the Salt Creek Ranch site.

The capability class and storie index express the relative suitability of the soils for agricultural use. The storie index is based on soil characteristics only and expresses, numerically, the relative degree of suitability of a soil for general intensive agriculture. The higher the number, the better the agricultural suitability. The capability classes are designated by Roman numerals I through VIII which indicate progressively greater limitations and narrower choices for practical use of soil for agricultural purposes.

Lands designated as Class I or II in capability and 80 to 100 in storie index are defined as "prime" agricultural lands under Government Code Section 512.01 of the California Land Conservation Act of 1965. According to this definition, none of the land on the project site can be considered "prime" agricultural land.

Please see the response to comment 16 of the letter from the Baldwin Company.

The Diablo clay soils on the site have some capability to sustain other than dry-farm crops. DaC soils have good suitability for tomato production. DaD and DaE soils have fair suitability for tomato production. Lack of a source of inexpensive irrigation water would make cultivation of these crops infeasible on the project site.

The Olivenhain soils (OhC and OhE) have fair suitability for citrus production. Again, the lack of irrigation water locally makes cultivation of citrus impractical. According to the General Plan Update, the State of California Department of Conservation designates some lands on the project site as Farmlands of Local Importance and Grazing Land. Farmlands of local importance are those used primarily for non-irrigated crops which are considered important to the County from an economic standpoint. The EIR on the General Plan Update has more recently characterized these lands as having low yield and low return.

Please see the response to comment 13 of the letter from the Baldwin Company.

Impacts

Approximately two-thirds of the project site contains soils which have some capability to support agricultural production. There are no "prime" soils onsite, however, production of existing soils could be enhanced by irrigation. Though the loss of barley production on the site is not considered significant by itself (barley is a low cost, low yield crop), the loss of

Table 3-1

ONSITE SOIL TYPES AND CLASSIFICATIONS

Type	Symbol	Slope	Class	Storie
Diablo clay	DaC	2-9%	II3-5	42
Diablo clay	DaD	9-15%	IIIe-5	47
Diablo clay	DaE	15-30%	IVe-5	30
Diablo-Olivenhain complex	DaE	9-30%	IVe-5	23
Friant fine sandy loam	FwF	30-50%	VIIe-8	5
Linne sandy loam	LsE	9-30%	IVe-1	14
Olivenhain cobbly loam	OhC	2-9%	VIe-7	29
Olivenhain cobbly loam	OhE	9-30%	VIe-7	20
San Miguel-Exchequer rocky silty loam	SnO	9-30%	VIIe-8	8

agricultural soils to urbanization is considered a significant adverse impact on a cumulative basis, in conjunction with ongoing development in the area. Once urbanized, the area would be very difficult to reclaim for agricultural use.

The Open Space and Conservation Element of the General Plan Update states that permanent agriculture is an integral part of the General Plan. It is a goal to maintain agriculture as a viable use. The specific objective relative to agriculture is to "Preserve highly productive agricultural lands for the production of food and fiber." No other specific goals or agricultural use designations exist in the General Plan. The proposed project does not conflict with the General Plan in that the lands in question are not highly productive, nor are they designated for permanent agricultural use.

Please see the response to comment 14 of the letter from the Baldwin Company.

Mitigation Measures

The loss of agricultural soil cannot be mitigated other than by retention of the site in agricultural use. Therefore, no mitigation measures are proposed in this section. It is noted that the No Project Alternative as discussed in Section 5 would maintain the status quo on the property and would allow continuation of existing farming operations.

Analysis of Significance

The project's resulting loss of agricultural production and soil capability will contribute to a cumulative loss of agricultural land use in the area. This impact is not significant on a project-specific basis but will contribute to a cumulative, unavoidable adverse impact on agricultural land use in the region.

3.3 LANDFORM/AESTHETICS

Existing Conditions

Landform and Visual Features

Site topography is illustrated in Figure 3-3. Figures 3-4, 3-5 and 3-6 contain photographs which depict features of the project site. Figure 3-7 provides a photo key map. These photos enhance the description of site landform characteristics contained below.

The project site is located in a terrestrial transition area between the San Miguel/Mother Miguel Mountains to the north and the rolling hills, valleys and mesas of the area to the south. elevations on the property range from approximately 550 feet above mean sea level (AMSL) in the western portion of the site to over 1100 feet AMSL in the northern portion of the property. The steepest portions of the site occur in the north central and northeastern portions of the site (Photo A) although less than 10 percent of the property has slopes with gradients of 25 percent or greater.

Dominant landform features on the site include Salt Creek which traverses the central portion of the site in a north/south direction and gently rolling hillsides and valleys in the eastern portion of the site. Proctor Valley Road has been constructed across the site in an east/west direction (Photos B and C). West of Salt Creek, the topography consists of gently rolling terrain with generally north-south trending ridges. Natural slopes in this area are 5:1 or flatter with the steeper gradients occurring on the slopes and rounded tops of the ridges. Cultivated areas of the site occur predominantly on the flatter topography on either side of Proctor Valley Road, whereas grassland and coastal sage scrub vegetation occurs on the rounded ridges and canyons all of which are north of Proctor Valley Road.

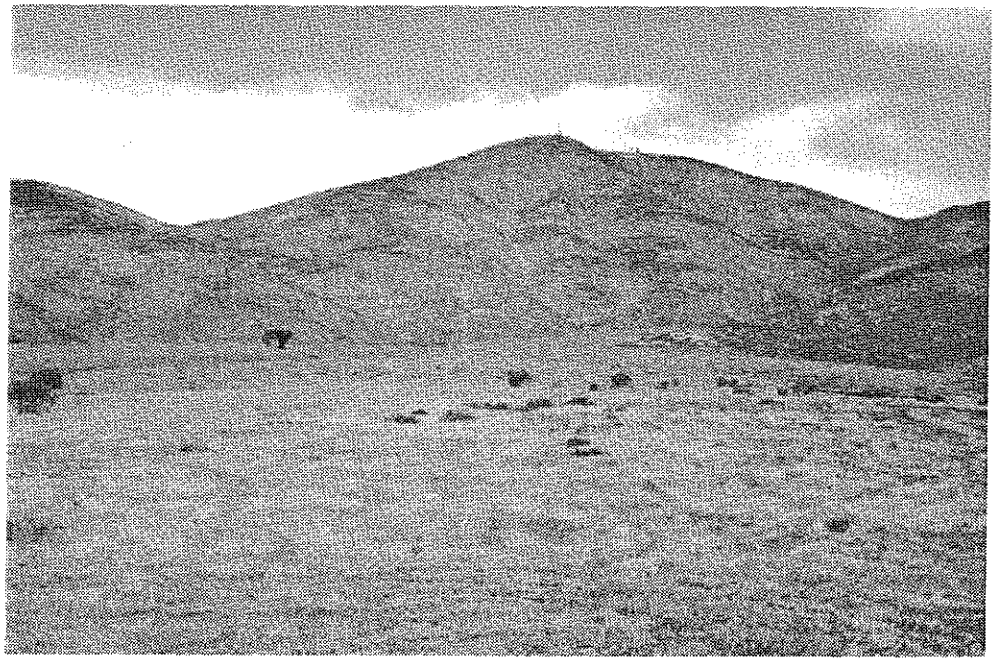


PHOTO A - View of Northeastern Portion of the Project Site Showing SDG&E Transmission Tower and Easement. San Miguel Mountain is in Background.

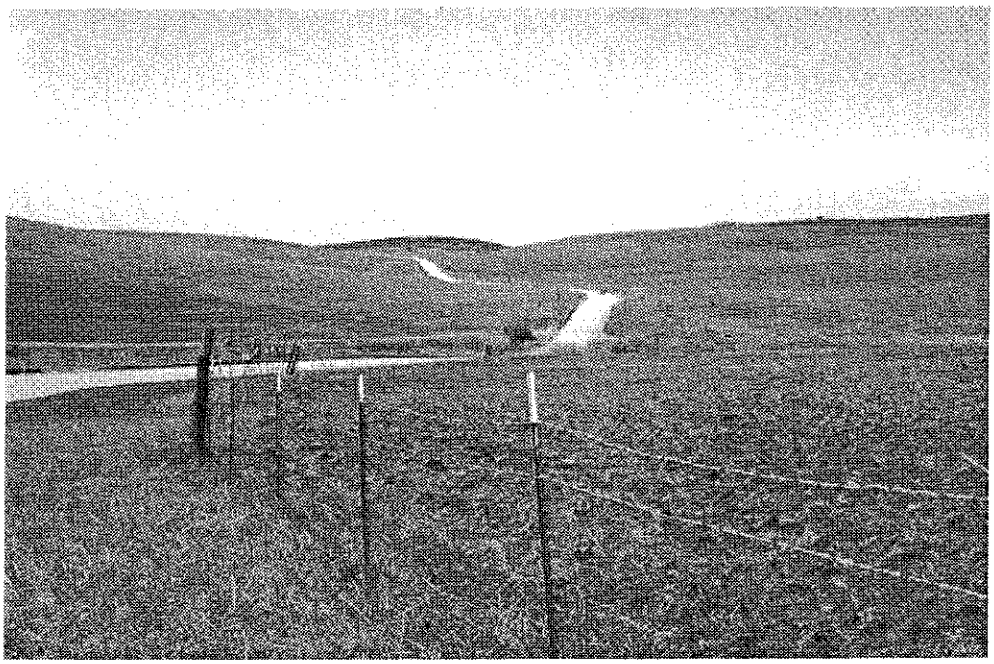


PHOTO B - Proctor Valley Road and Surroundings Looking West from Near Mid-Site. Salt Creek Crosses North-South in Middle Ground.

ERC Environmental and Energy Services Co.

Site Photos (A & B)

FIGURE 3-4

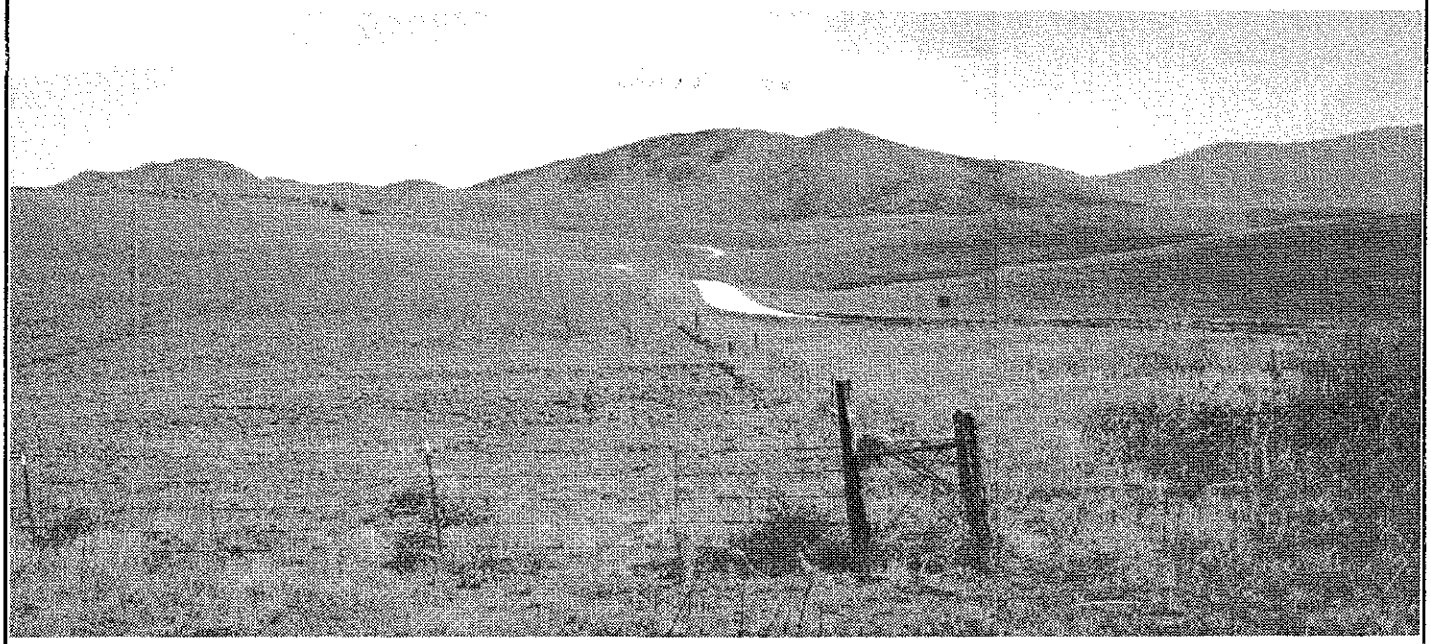


PHOTO C - Proctor Valley Road and Surroundings Looking East from Near Mid-Site. Jamul Mountains are in Background.

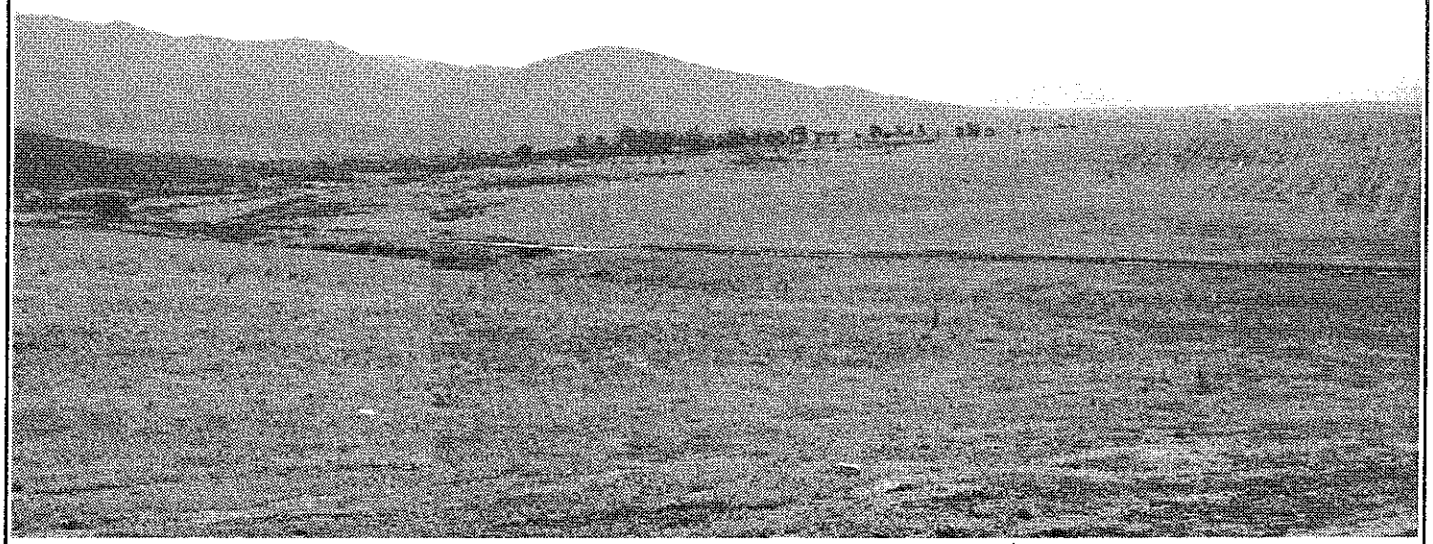


PHOTO D - View of Southeastern Portion of Site with Proctor Valley Road in Middle Ground. Upper Otay Lake is in Left Center Portion of Photo as is the Site of Proposed Equestrian Center.

ERC Environmental and Energy Services Co.

Site Photos (C & D)

FIGURE

3-5

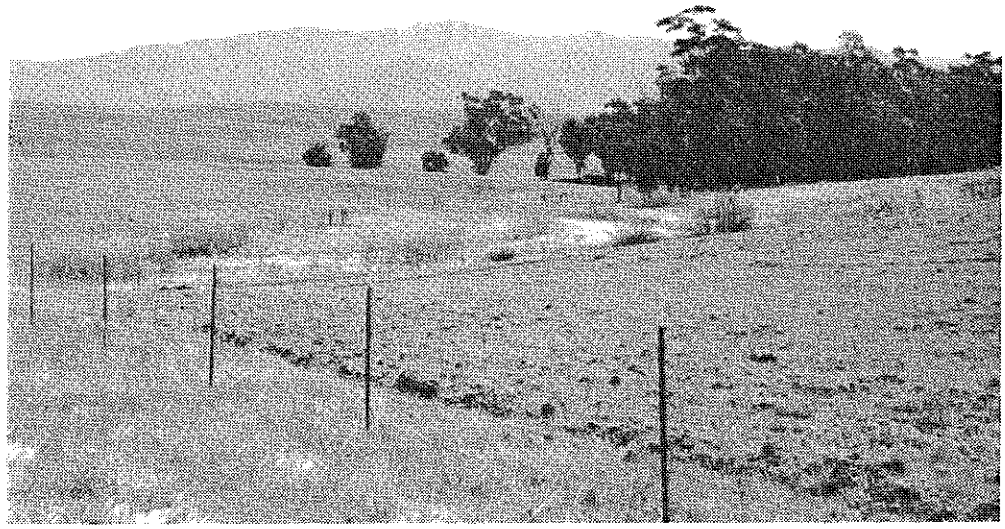


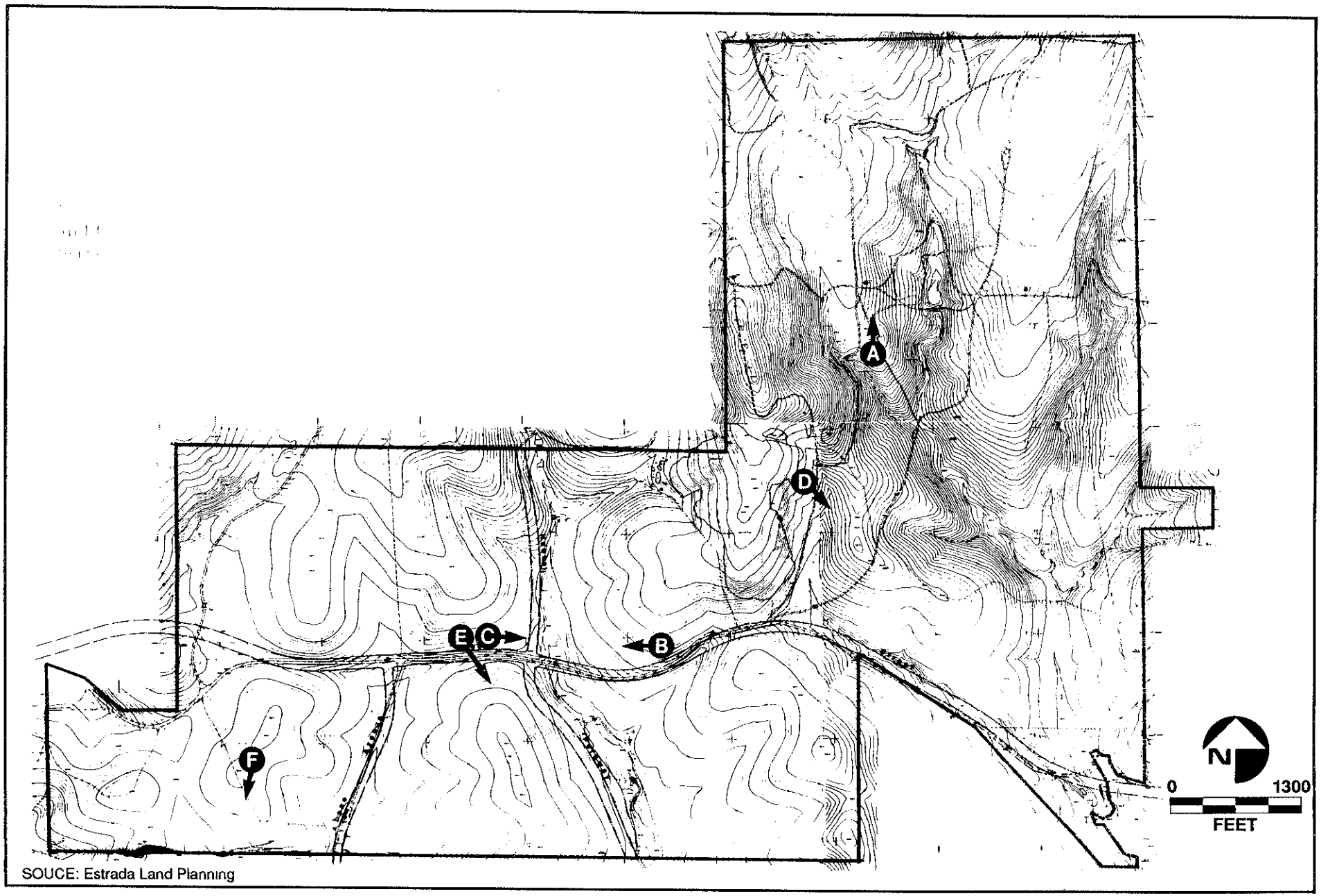
PHOTO E - Pepper Tree Stand Along Salt Creek on South Side of Proctor Valley Road. Middle Ground of Photo Shows Site of Proposed Nature Center and Neighborhood Park.

PHOTO F - Construction Underway at Eastgate Technology Park on Southern Boundary of Salt Creek Ranch. Eastlake Greens Development is in Background. On Clear Days the Ocean can be Seen from this Location.

ERC Environmental and Energy Services Co.

Site Photos (E & F)

FIGURE 3-6



SOUCE: Estrada Land Planning

ERC Environmental and Energy Services Co.

Photo Key Map

FIGURE 3-7

The crest of a narrow south-trending ridge dominates the eastern portion of the property, east of Salt Creek. Two major drainages in this portion of the site drain toward the south and are separated by a rounded ridge. The two drainage channels join near the midpoint of the property to form a larger drainage which discharges to Upper Otay lake at the extreme southeast corner of the property (Photo D).

Another unusual feature of the site is the stand of eucalyptus and pepper trees which exists along Salt Creek south of Proctor Valley Road (Photo E). This vegetation is in contrast to the generally low lying vegetation (less than 3 feet in height) which is characteristic of the grassland and coastal sage scrub predominating the remainder of the site.

The hillsides and ridgelines on the project topographically divide the site and create significant view opportunities. Views to the west and south are enhanced since elevation generally lowers in these directions (Photo F). On clear days from several site vantage points, views of San Diego, the San Diego Bay, and Pt. Loma are available. Other site locations accentuate views of the Otay Lakes, the San Miguel/Mother Miguel Mountains, the Jamul Mountains to the east, Proctor Valley to the northeast and Mexico to the south.

Visual Quality Policy/General Plan Update

The Land Use Element of the General Plan Update includes guidelines and policies affecting the design of proposed development. The specific guidelines most pertinent to this analysis include the hillside development regulations (relative to landform and aesthetics) and the scenic highway policies.

The General Plan contains guidelines for development in hillside areas to assure that there is visual compatibility and to enhance public safety. With respect to grading, guidelines specify that landform grading techniques be used to soften the appearance of cut slopes. Specifically, landform grading is a method of contour grading which creates artificial curves and slopes which simulates the appearance of natural terrain. Also, disturbed slopes should be replanted with native vegetation where feasible.

An important guideline established to preserve aesthetic quality is to maintain the development at a scale which is appropriate to the hillside location. The General Plan also states that significant hillsides (or other unique features) should be preserved in their natural state. Included in the list of significant hillsides and features are the following which occur onsite:

- Native trees or mature man-made groves of unique visual character (eucalyptus and pepper tree standard, Photo E), and

- Areas that are part of, or adjacent to, an open space linkage system (Chula Vista greenbelt along Salt Creek).

The General Plan Update indicates that two proposed scenic roadways will traverse the project site. East H Street from the western property boundary to Hunte Parkway is one of the designated scenic routes: Hunte Parkway from East H Street southerly along Salt Creek is the other scenic route.

Development of the scenic roadways is anticipated to occur concurrently with adjacent development. Therefore, all developments adjacent to scenic roadways are subject to design view to insure that the projects will enhance the scenic quality of the roadway.

Impacts

The existing visual character of the project site will be significantly altered by the proposed development. Rural, gently sloping landscapes will be replaced by structures and the accompanying urban hardscape, interspersed with various open space and recreational uses. Major roadways will traverse site valleys and the Salt Creek drainage. This alteration is considered a significant adverse impact of the proposed project.

In review of the grading plan, the principal valleys and drainages are preserved in their natural state while grading for development is confined largely to the flatter areas on hilltops and fingers. No prominent landform features were identified which are not proposed as open space on the Salt Creek Ranch General Development Plan.

Other impacts relative to the aesthetics of development in steep areas can be avoided by following grading guidelines contained in the General Plan. These are incorporated in the mitigation measures section.

It is proposed that the landscape plan for the Salt Creek Ranch project will define the theme of the community and set the tone for the areas east of SR-125. A native or naturalized Australian landscape theme is envisioned for Salt Creek Ranch in contrast to the more formal landscape treatment west of SR-125. Parkways, particularly along East H Street and Hunte Parkway (the scenic roadways), will establish the landscape character of the project, providing links to enhance Salt Creek. The landscape theme will be implemented by use of drought-tolerant plant materials throughout the project development. Consistent with visual quality policy, the mature stand of eucalyptus and pepper trees will be preserved.

One area of potential conflict with visual quality policy is the alignment of Hunte Parkway in proximity to Salt Creek. Visual quality objectives, intended to preserve areas within and adjacent to Salt Creek (greenbelt) in a natural state, must be respected during design stages of that area of the project and Hunte Parkway.

Specific tract layouts have not been designated for Salt Creek Ranch, thus the extent of implementation of Scenic Highway guidelines cannot be assessed but will be addressed at the SPA Plan Level. Potential impacts of the development on scenic highways could occur unless specific design measures are implemented. Design review for onsite development adjacent to scenic roadways will be required.

Mitigation Measures

Site Design Measures

- Salt Creek will be extensively planted as part of the project to recreate the environmental character of the area prior to agricultural use. As part of the SPA Plan process, an Open Space Plan and Landscape Plan and associated guidelines shall be created and approved by the City Parks and Recreation Department.

- Urban design standards, further refined in the SPA Plan, will reinforce the semi-rural/ranch character of the community, with sensitivity to natural landform and use of landform grading along major transportation corridors and in high visibility areas.

- Grading will be minimized with respect to natural landform. Landform grading sensitive to existing topography to the extent feasible and acceptable to the City Planning Department will be used along major streets and in high visibility areas to maintain a natural viewshed and enhance the character of the development. Techniques used to blend graded areas to natural landforms shall include slope rounding, obscuring slope drainage structures by massing plant materials, landform grading on large slope bands, and use of planting materials to control erosion.

- Visually prominent slopes and vista points shall be preserved to the maximum extent feasible and acceptable to the City Planning and Parks/Recreation Departments.

- Slopes of 25 percent or greater shall be preserved to the maximum extent feasible and acceptable to the City Planning and Engineering Departments.

- Introduction of manufactured slopes in areas designated as natural open space (with environmental sensitivity, as defined in Section 3.7) shall be prohibited, except where necessary to construct roads, trails or other public facilities, subject to the approval of the City Planning Director. Such manufactured slopes shall be revegetated with indigenous species as recommended by the project biologist.

- Village identity and character shall be defined in the SPA Plan by architectural style; design and detailing of site improvements such as walls, fences, and signage; and landscape theme, subject to City SPA Plan approval.

Visual Quality Measures

- During site design, emphasis shall be placed on mitigating views toward the development from the Chula Vista Greenbelt. Special attention to these relationships along the Salt Creek drainage on site will be provided. The SPA Plan shall identify guidelines and measures.

Scenic Highway Measures

- Design review for development adjacent to designated scenic roadways is required. Special attention should be given to areas in proximity to Salt Creek such as Hunte Parkway. The SPA Plan shall establish guidelines and measures by which to confirm mitigation and protection of scenic highway resources.

Analysis of Significance

Development of Salt Creek Ranch will involve a significant amount of landform alteration. Visual impacts associated with the development of the project are considered adverse, but are partially mitigable through strict adherence to visual quality and hillside grading guidelines contained in the General Plan, and through innovative use of site design techniques and landscaping to create a pleasing urban environment. Innovation is evident in the applicant's approach to grading of the site, which leaves canyons and steeper hillsides free of development. Implementation of mitigation measures included above will reduce the project-specific impacts to a level of insignificance. Design of all phases of development must be monitored to insure continued compliance with the City's visual quality objectives. The project will unavoidably contribute to a cumulative adverse effect

on the existing natural landform and aesthetic characteristics of the area, in combination with the various development projects in the Eastern Territories area.

3.4 GEOLOGY AND SOILS

A preliminary geological and soils engineering study was prepared for a 500-acre portion of the project site in February 1988 by GeoSoils, Inc. Another report was prepared in August 1988 for the remaining west portion of the property. The following section is based on information contained in those reports, which are on file at the City of Chula Vista Planning and Engineering Departments. Appendix B to this EIR contains the reports' conclusions and recommendations.

Existing Conditions

Topography

The project site lies within the southern foothills of San Miguel Mountain, northwest of Upper Otay Reservoir. A narrow southerly trending ridge forms a significant topographical feature onsite. The highest point on this ridge is approximately 1100 feet; side slopes from this ridge trend into more subdued topography to a low point of approximately 550 feet. The two major drainage canyons onsite are southerly draining and separated by a rounded ridge; the two channels join together, forming a larger channel which empties into Upper Otay Reservoir. A small dam has been built across the major drainage course, impounding approximately 1.5 acres of shallow water behind it.

Natural slopes are generally 2:1 or flatter, becoming steeper on the side slopes leading into the canyons and gentler away from these drainage courses. The more rounded and moderate terrain is muted towards the south whereas the steeper topography is toward the north, moving into the metavolcanic rocks.

Erosion and Subsurface Water

At the present time, it is apparent that the property is undergoing some erosion rather than deposition from the water running off from San Miguel Mountain, as indicated by the generally shallowly incised channels and relatively thin alluvial deposits. Groundwater seeps exist onsite in channel bottoms, typically within the topsoil or alluvium, and immediately above the bedrock material.

Geologic and Soils Characteristics

The subject property lies within the northern peninsular range geologic province which consists of a north-south trending mountain mass stretching from Baja California into Southern California. The San Miguel Mountain area, of which the subject site is a part, includes a granitic core which has intruded the older Santiago Peak Metavolcanics. Although granitic material is not exposed on the property, it underlies the site. The Rosarito Beach Formation sedimentary deposits have been draped over the metavolcanic and volcanic rocks by water activity from a Tertiary sea.

The following earth materials are recognized on the property:

Bedrock-Santiago Peak Volcanics (Jsp): Rocks of the Santiago Peak Volcanics are exposed onsite and form the more resistant ridge within the study area. These rocks from the Jurassic Period consist primarily of basalts, andesites, and a variety of volcanic breccia and agglomerates.

Bedrock – Rosarito Beach Formation (Trb): A mix of sedimentary rocks and deposits including sandstones, siltstones, conglomeratic sandstones, and gravel to cobble conglomerates comprise the sedimentary rocks found on the property. Sandstone units are often dense, well graded, fine to coarse grained, and constitute the majority of the formation as exposed in exploratory trenches. The siltstone member is commonly light gray, very stiff, and contains some sand. The conglomerates typically range from conglomeratic sandstones to conglomerates with a sandy matrix. All of the sedimentary units within the Rosarito Beach Formation are infested with near surface caliche. Caliche consists of lime based minerals that have dissolved from the overlying materials and redeposited at depth. Locally, the zones of heavy caliche development are less dense, and frequently have been heavily burrowed by rodents.

Surficial Soil Deposits: Surficial soil deposits mantle much of the surface area of the property. The soils have resulted chiefly from weathering and erosion of the underlying bedrock. For purposes herein, topsoil indicates both the inplace soil horizons and the soil subject to downslope transport and deposition (i.e., colluvial deposits).

Most of the soil is porous, soft, moist, silt and clay and is considered to be highly to critically expansive. Abundant roots are found in the upper 12 inches and there are also occasional gravels scattered through much of the topsoil. The topsoil is generally no thicker than 2.5 to 3 feet; some spots contain as much as 7 feet of topsoil.

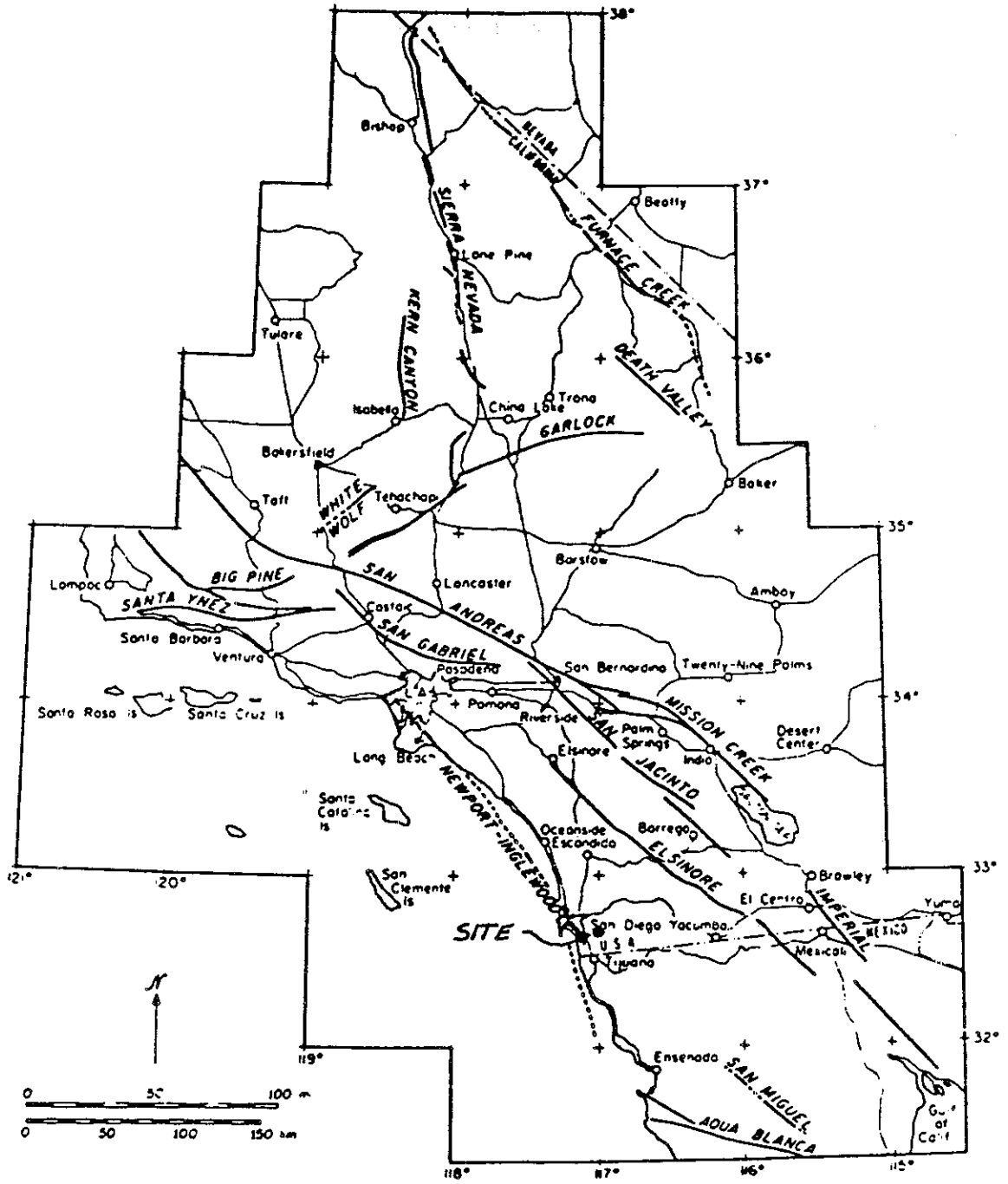
Alluvium: Alluvial soils occupy canyon bottoms throughout the property. The alluvium consists of dark brown, very moist, soft and porous sandy clay, mixed with scattered cobbles and pebbles. The maximum depth of the alluvium explored within the study area was 12 feet, although this depth includes overlying colluvium. Generally, the alluvium is not expected to exceed 10 feet on any portion of the property. Alluvium and topsoil both are generally removed during the grading process. Neither of these deposits are of sufficient density or quality to be left in place where fills are planned over them.

Faulting and Regional Seismicity

No faults in the vicinity of the site are shown on published maps, nor were any encountered during exploration of the property. A number of faults in the southern California area are considered active and would have an effect on the site in the form of ground shaking, should they be the source of an earthquake.

The San Jacinto Fault seems to be the most consistently active zone within a 100-mile radius of the subject site; the San Andreas is the largest fault zone in California. The Elsinore Fault zone represents the closest active feature and the Rose Canyon and La Nacion Faults are considered as possibly active. Figure 3-8 illustrates locations of major faults in Southern California. Distances of these faults from the project site are indicated below:

Fault	Miles from Site
La Nacion	10
Rose Canyon	12
Elsinore	35
San Jacinto	56
San Andreas	84



Modified after Friedman and Others, 1976

SOURCE: GeoSoils, Inc. 1988

ERC Environmental and Energy Services Co.

Fault Map of Southern California

FIGURE 3-8

Impacts

The site is found to be generally suitable for development provided recommendations in the geotechnical reports are followed as discussed below and in the following Mitigation Measures section. The site conditions thought to have the most significant potential impact or constraint on site planning and development are as follows:

1) Difficulty of excavation in granitic/gabbroic or metavolcanic rock.
2) Removals of topsoil, colluvium, alluvium, etc.
3) Slope stability.

Fill Suitability

Topsoil/colluvium, and alluvium should produce good quality fill material. Spreading and drying or mixing may be needed for wet alluvial materials.

Deposits of the Rosarito Beach Formation should generally produce good quality fill material. Materials derived from coarser grained sandstones may not be suitable for tall fill slopes and would also be highly permeable; care should be taken that adequate drainage is provided. If deposits of bentonite clay are encountered, they should be buried in deeper fill areas or otherwise treated to minimize their potential effects on future structures.

Metavolcanic rock of the Santiago Peak Formation should produce poor to good quality fill material, depending upon the degree of weathering, fracturing and general rippibility. Any areas in which blasting is required would produce poor to moderate quality fill due to oversize materials.

Rock Hardness and Rippability

The metavolcanic rock will excavate with varying degrees of difficulty. Most of the rock will require blasting within 2 to 6 feet of the existing surface. Close to the contact with the Rosarito Beach Formation, deeper excavation may be possible with very difficult ripping.

Trenching into the metavolcanic rock for utilities or footings would likely be difficult. This can be mitigated by over-excavating to below the deepest anticipated excavation and rebuilding to design grades with properly compacted fills.

Natural Slope Stability

Natural slopes on the project are generally 2:1 or flatter in gradient and appear stable in the gross and surficial sense. The project design Civil Engineer should evaluate the need for paved interceptor drainage swales.

Seismicity

The possibility of ground acceleration at the site may be considered as approximately similar to the probability for the southern California region as a whole. Ground acceleration on the property will likely not exceed 0.16 g assuming a magnitude 7.5 earthquake on the Elsinore Fault 35 miles from the site. Moderate to severe ground shaking may be expected during the lifetime of the development.

Ground lurching or shallow ground rupture could occur as a result of strong, earthquake induced ground shaking. While this potential exists, the subject property is at no greater risk from this phenomenon than other nearby property given similar site conditions.

Seiche is a phenomena which occurs as a result of earthquake shaking which induces a periodic oscillation or standing wave in a body of water. Seiche could affect the site due to proximity of the Upper Otay Reservoir. The possible of this phenomenon should be considered in planning development of low lying areas of the site near the reservoir.

Seismic-related hazards that are considered negligible and/or completely mitigated as a result of typical site development procedures include liquefaction, seismic settlement or consolidation, and potential for tsunamis.

Mitigation Measures

The following measure is in reference to detailed recommendations from the GeoSoils February 1988 report. The report's conclusions and recommendations are included as Appendix B of this EIR; the entire report is on file at the City Planning and Engineering Departments.

- Conclusions and recommendations of the February 1988 and August 1988 GeoSoils reports, pages 23 through 42, and 24 through 39, respectively, shall be adhered to in accordance with City procedures, subject to approval of the City Engineer prior to any tentative map approvals. Recommendations therein cover the following topics, actions and potential impacts: ripping, soil removals, slope stability/grading, erosion control, sub-surface water control, earthwork grading and balancing, soil expansion, slope design, grading guidelines, foundation recommendations, retaining wall design, graded slope maintenance and planting, and procedures for grading plan review.

Analysis of Significance

Implementation of the above measures will serve to mitigate potential project and cumulative geotechnical impacts to below a level of significance.

3.5 HYDROLOGY

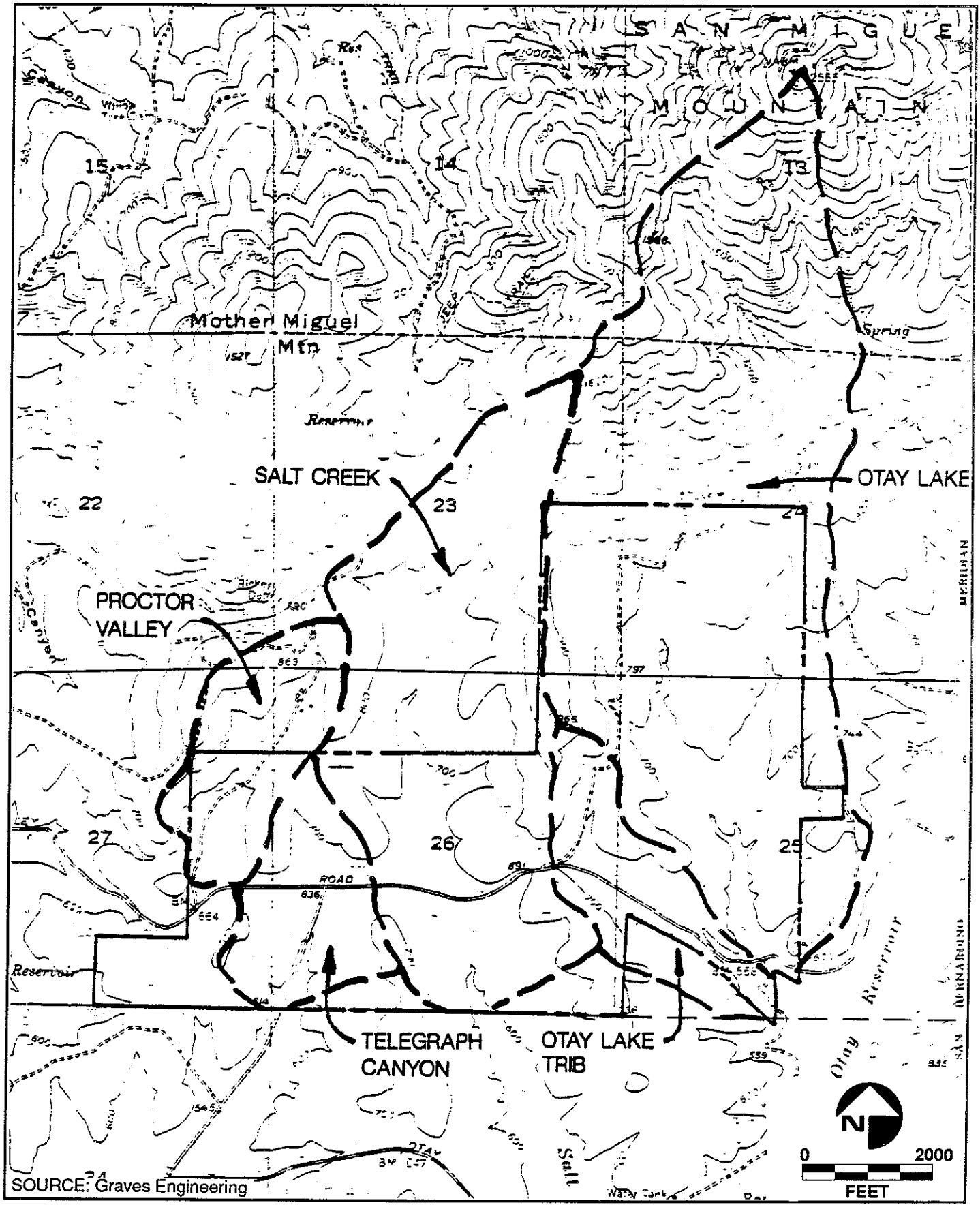
The following section is based on information contained in the Graves Engineering technical report contained in Appendix C of this EIR.

Existing Conditions

The site is characterized topographically by gentle rolling hillsides and valleys. As shown on Figure 3-9, the property is drained via five drainage basins: Otay Lake, Otay Lake Tributary, Salt Creek, Telegraph Canyon and Proctor Valley. (Note that these basins have been named consistent with the sewer basins discussed in Section 3.13, wastewater.)

The drainage basins have similar characteristics with well defined drainage courses. The property has no improved drainage facilities except for drainage crossing of Proctor Valley Road.

The Otay Lake and Otay Lake Tributary basins both drain to Upper Otay Reservoir. The Proctor Valley drainage basin drains to a natural drainage course which flows westerly for nearly 3 miles before reaching urban development. The Telegraph Canyon drainage



SOURCE: Graves Engineering

ERC Environmental and Energy Services Co.

Drainage Basins

FIGURE 3-9

basin within the property is the headwaters for Telegraph Canyon. The outlet point of the property's Telegraph Canyon drainage basin as shown on Figure 3-9 is at the inlet of an existing 72-inch storm drain constructed under the Eastlake Business Centre. This storm drain continues southerly and outlets south of Otay Lakes Road where a series of open channels and underground conduits convey the stormwater parallel to Otay Lakes Road.

Impacts

Implementation of the project will result in the grading of nearly 77 percent of the property. Impervious surfaces such as roads, buildings, driveways will be constructed. Underground drainage facilities will be constructed to collect and convey the stormwater, although the Proctor Valley, Salt Creek and Otay Lake drainage courses are proposed to be left as natural stream elements. The result of this development will be to change the natural drainage characteristics and rate of stormwater runoff. To assess the impact of this change, the peak flow of a 100-year storm event was calculated in accordance with the County of San Diego guidelines. The results are summarized in Table 3-2.

The increases shown in Table 3-2 are typical for urban level development and the differences in "percent change" reflect the difference in the portion of the basin to be developed from 31 percent of the Otay Lakes basin to 100 percent of the Telegraph Canyon basin as well as the differing intensities of development from low (0 to 3 dwelling units per acre) in the Otay Lakes basin to medium (5 to 15 dwelling units per acre) in Telegraph Canyon.

The only existing drainage facilities, except for the EastLake Business Centre, are located in Proctor Valley Road which will be realigned and reconstructed as East H Street within Salt Creek Ranch. The capacity of the Eastlake Business Centre storm drain was designed to accommodate the increase flow rates due to development of Salt Creek Ranch. The increase in runoff from the Otay Lake and Otay Lake Tributary basins will not hydrologically impact Upper Otay Reservoir (see Section 3.6 for analysis of Water Quality impacts). Therefore, the proposed Salt Creek Ranch will have no hydrologic impact on downstream properties.

Onsite, design of storm drain facilities will need to conform to City of Chula Vista design guidelines for sizing and energy dissipation at drain outlets. Enhancement of the natural drainage courses will also be necessary and should account for both the peak flow rates and flow velocities. No specific proposals regarding these facilities are yet available for review.

Mitigation Measures

To ensure that there are no hydrologic impacts, the following measures are recommended:

- Upon preparation of detailed development plans (i.e., prior to Tentative Map submittal), a registered civil engineer shall conduct a hydrologic and hydraulic analysis of the project. This analysis shall be conducted in accordance with City of Chula Vista guidelines and shall include but not be limited to sizing of onsite drainage facilities; design of energy dissipators at drain outlets; verification that downstream drainage facilities including natural channels can accommodate the increase flow rate, and identification of improvements, if necessary, to accommodate increased flows; verification of the adequacy of the Eastlake Business Centre storm drain; and evaluation of enhancements of natural drainage courses.

Please see the response to comment 2 of the letter from the City of Chula Vista Public Works Department.

Table 3-2

100-YEAR PEAK FLOW RATE IN CFS (% CHANGE)

Basin	Acres	Natural Condition (CFS)	With Salt Creek Ranch (CFS)	With Ultimate Cumulative Development (CFS)
Proctor Valley	168	240	270 (+13%)	290 (+21%)
Telegraph Canyon	147	180	295 (+64%)	295 (+64%)
Salt Creek	585	660	705 (+7%)	730 (+11%)
Otay Lake Tributary	156	200	255 (+28%)	260 (+30%)
Otay Lake	1030	1170	1200 (+3%)	1230 (+5%)

- Drainage facilities and energy dissipators shall be constructed in accordance with the approved hydraulic analysis and shall be in place and functioning prior to completion of the grading operation.

Analysis of Significance

Implementation of the above measures will ensure proper mitigation of potential hydrologic impacts to below a level of significance.

3.6 WATER QUALITY

The issue of water quality is limited to potential impacts on the adjacent Upper and Lower Otay reservoirs. The watershed of the reservoirs is illustrated in Figure 3-10. As indicated on Figure 3-10 and Figure 3-9 of the five drainage basins, only the Otay Lake and Otay Lake Tributary basins drain to the reservoirs. The Salt Creek and Telegraph Canyon basins drain to the Eastlake Development. The Proctor Valley basin drains to a natural watercourse which continues northwesterly and eventually intercepts urban development. The following section is a summary of a technical assessment performed by Graves Engineering in July 1989 (Appendix C).

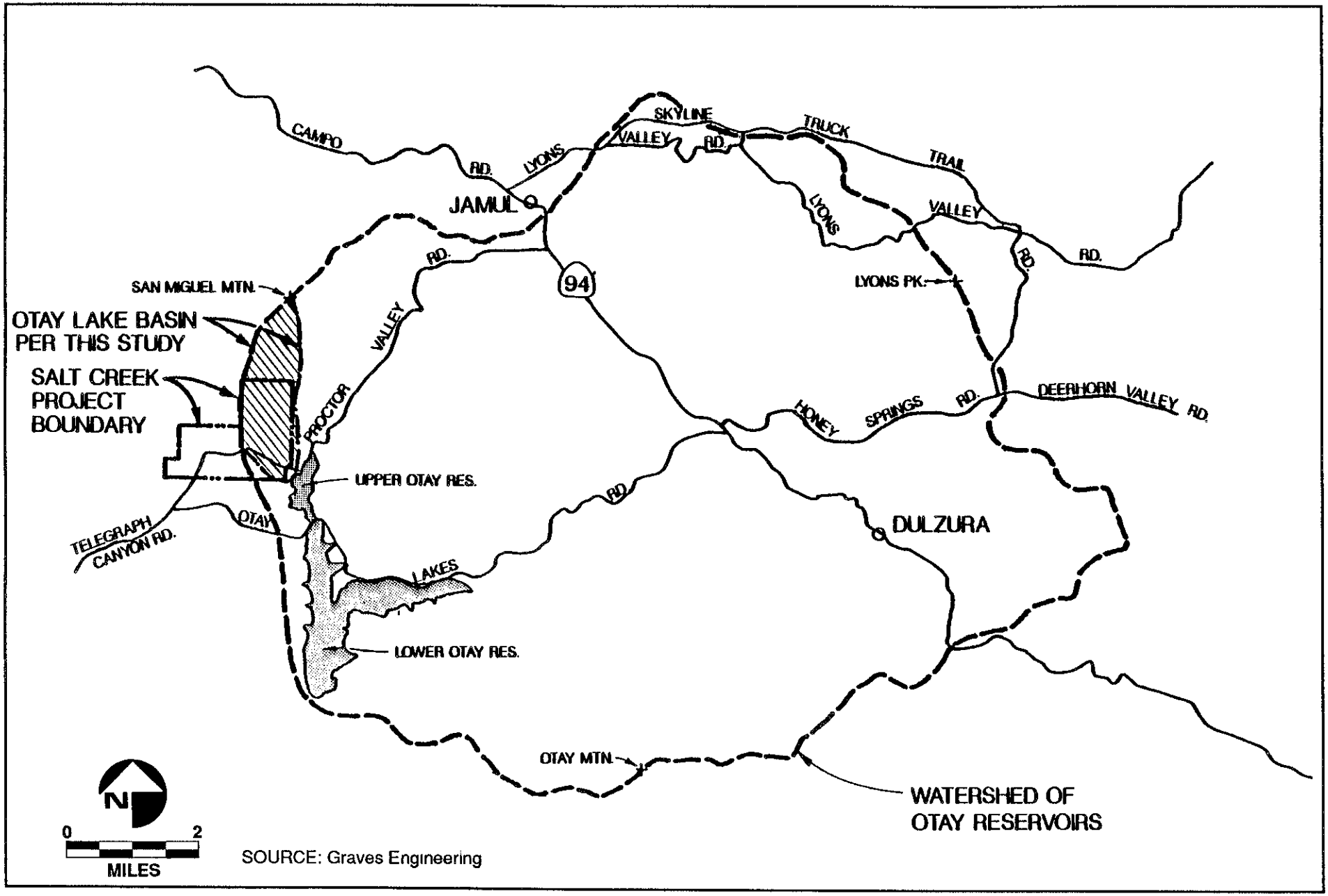
Existing Conditions

The Upper and Lower Otay Reservoirs are owned and operated by the City of San Diego. The reservoirs supply 95 percent of the potable water for the southern part of the City of San Diego as well as a small portion for the cities of Imperial Beach and Coronado. The reservoirs are fed solely by stormwater runoff and are the terminus point of a three reservoir system. The reservoirs are hydraulically connected to Morena and Barrett Reservoirs, both of which are located in separate watersheds, by a series of open and closed flumes and natural streambed whereby water is passed as quickly as possible to the Otay Reservoirs. The last leg of the conveyance is the natural streambed of Dulzura Creek. The City currently filtrates water from the reservoir at a 15 million gallon per day (mgd) plant located immediately downstream of the Lower Otay Reservoir Dam. The City is expanding the plant capacity to 40 mgd with completion set for January 1990.

The Lower Otay Reservoir has a capacity of 56,600 acre-feet (enough water to serve 100,000 homes for one year). The Upper Otay Reservoir was originally designed to hold 2800 acre-feet; however, in the late 1970s the State Division of Dam Safety concluded that the dam could not withstand an overtopping and ordered the dam to be notched to reduce its effective height and capacity. The reservoir's capacity is now 810 acre-feet; however, at that time the outlet value was damaged and left in the open position. The dam retains only a minimal amount of water, the so called low pool, and water continuously drains to Lower Otay Reservoir.

Hydraulically, the Upper Otay Reservoir functions only as a conduit to Lower Otay Reservoir; the California Department of Fish and Game (CDFG) uses the "low pool" water as a hatchery for pure-strain Florida bass. This use is on-going and is covered in the CDFG regulations (Code No. 6.25 of Chapter 3, Article 1). The bass are shipped to several states and to Mexico.

The protection of potable water reservoirs is under the jurisdiction of the State Department of Health Services (DHS). As early as 1976 DHS recognized the potential impacts of urbanization of watersheds of reservoirs in the County of San Diego. In 1976 DHS sent a letter (DHS 1976) to the County of San Diego, which had land development jurisdiction



SOURCE: Graves Engineering

ERC Environmental and Energy Services Co.

Watershed of Otay Reservoirs

FIGURE 3-10

over most of the watershed areas at the time, expressing their concern about the potential water quality impacts of urbanization. The DHS recommended a regulatory approach to this issue; that is, set up specific guidelines to be applied to each development to prevent dry weather surface flow or raw sewage from reaching a reservoir.

The City of San Diego has relied on the regulatory approach and has installed a diversion ditch around its Lake Murray reservoir; has a ditch under construction at its Miramar reservoir; and is planning a ditch around the Lake Hodges reservoir. The purpose of a diversion ditch is to intercept all dry weather flow and runoff resulting from up to a five-year frequency storm event and divert the flow around the reservoir. This design criteria is based on the conventional wisdom that the initial smaller storms of the rainy season will "wash" the urban-landscape of "contaminants" and the runoff from the subsequent storms, small or large, will be relatively "clean".

The water quality of Lower Otay Reservoir is relatively high as indicated in Table 3-3. The City has indicated that consideration is being given to restoring the Upper Otay Reservoir to its full capacity for use by Otay Water District as an emergency water storage facility (Public Works Department 1989; also see Section 3.13, Water).

In addition to water quality impacts associated with urbanization of the watershed, typical impacts are also associated with increase levels of erosion and sedimentation. Graded areas, if not protected through improvement or landscaping, are subject to erosion and would result in transport of sediment to natural drainage courses and ultimately to the Otay Reservoirs. In addition, land development typically results in an increase and concentration of stormwater runoff. If corrective measures are not implemented, erosion of downstream drainage courses could occur again resulting in transport of sediment. Sedimentation of the Otay Reservoirs is a natural and on-going process; uncontrolled erosion could accelerate this process to an unacceptable degree.

Impacts

The Salt Creek Ranch GDP proposes development of over 400 acres in the Otay Reservoirs' watershed. Public sewer lines and two sewage pump stations will be installed (see Section 3-13). The development would be located immediately adjacent to the Upper Otay Reservoirs' high water level and over 2000 feet from the existing "low pool" level.

Although DHS has not yet reviewed the Salt Creek Ranch GDP, DHS has indicated that based on a verbal description of the project there is a 90 percent chance they would require the diversion ditch (DHS, 1989) (Note that various alternatives to a diversion ditch system are being explored by the applicant).

To serve solely the Salt Creek Ranch project, a diversion ditch would need a capacity of 410 cubic feet per second (cfs) (peak flow rate during a 5-year storm based on ultimate development of the Otay Lake and Otay Lake Tributary drainage basins (Figure 3-9)). There are two potential alignments of the diversion ditch. Facilities for either alignment would likely involve both open channels and underground conduits.

The first alignment would begin at the outlet point of the Otay Lake basin and then proceed south following the western shore of Upper Otay Reservoir. At approximately the southwesterly corner of the reservoir, the ditch would veer westerly, cross a saddle and outlet into Salt Creek. This alternative, the shorter of the two alignments, involves diverting runoff from one basin (Otay Lake) to another (Salt Creek). This diversion would have to be resolved on a legal and environmental basis (i.e., agreements with downstream property owners plus mitigations through affected public agencies.)

Table 3-3

SECONDARY WATER QUALITY STANDARDS

CONSUMER ACCEPTANCE LEVELS

Constituent	Maximum Contaminant Levels	Lower Otay Reservoir (City, 1989A)
Color	15 units	31 (inlet) 3 (outlet)
Copper	1.0 mg/l	0.006
Corrosivity	low	(not reported)
Iron	0.3 mg/l	0.015
Manganese	0.05 mg/l	0.081
Odor-threshold	3 units	4 (inlet) 1 (outlet)
Foaming Agents (MBAS)	0.5 mg/l	0.29
Turbidity	5 units	1.82
Zinc	5.0 mg/l	0.015

MINERALIZATION

	Recommended	Upper	Short Term	Lower Otay (City,1989A)
Total Dissolved Solids (TDS)	500 mg/l	1000	1500	413
Chloride	250	500	600	89
Sulfate	250	500	600	(not reported)

The second alignment would extend the ditch southerly along the westerly shore of Lower Otay Reservoir and outlet into Otay River. A ditch in this alignment could also serve the northeasterly portion of Eastlake Development, the proposed Olympic Training Center and applicable portions of the future Otay Ranch development south of Proctor Valley Road.

Two alternatives to the diversion ditch system are currently under investigation. One alternative involves retention basins and diversion via gravity flow and pump stations onsite. Another alternative is a low flow diversion system. The system to handle these flows can be determined at or before the SPA Plan level of approval.

Other aspects of the water quality issue (erosion and sedimentation) can be satisfied by project conformance to existing City of Chula Vista design standards for sediment control during grading operations including construction and maintenance of temporary sediment basins, and design of storm drain facilities and outlet structures.

Mitigation Measures

Please see the response to comments 1,3 and 4 of the letter from the City of San Diego Engineering / Water Utilities Department.

- The project shall be subject to review and approval by the State Department of Health Services (DHS). The project shall implement mitigation measures as set by DHS.

- Prior to or concurrent with SPA Plan approval, a diversion ditch plan, or other acceptable plan to handle drainage to the Otay Drainage Basin, shall be prepared and approved by the City and DHS. Additional environmental analysis may be required based on the specific drainage ditch or other plans. Design of these plans shall also consider providing additional capacity for concurrent or future development.

- If any portion of the project is proposed to be graded during the rainy season, the project proponent shall submit a erosion control plan prepared by a registered civil engineer in accordance with City of Chula Vista design standards. The plan shall be approved prior to issuance of grading permits and shall include placement of sandbags, temporary sediment basins, and an erosion control maintenance plan.

- The project proponent shall submit a storm drain plan prepared by a registered civil engineer in accordance with City of Chula Vista design standards. The plan must be approved prior to the issuance of grading permits and shall include permanent erosion control facilities.

Analysis of Significance

Implementation of the above measures and measures in Sections 3.5 and 3.13 will mitigate project and its contribution to cumulative water quality impacts to a level of insignificance.

3.7 Biological Resources

The Salt Creek Ranch property was previously surveyed for existing biological resources in December 1987 and January 1988 by Regional Environmental Consultants (RECON) (Appendix D of this report). The earlier baseline study is incorporated by reference into this analysis. Field verification of earlier noted sensitive species and plant communities have been performed by ERCE biologists with an intensive survey for any additional expected sensitive plant and animal species that were not previously observed.

The Salt Creek Ranch property was surveyed by ERCE biologists Elyssa K. Robertson and Philip Unitt on March 10, 1989 and on March 17,1989, and revisited in June 1989. The property was surveyed on foot, and all areas of the site were visited. Nomenclature used throughout this report conforms to Munz (1974) for plants, AOU (1983) for birds, Jennings (1983) for reptiles and amphibians, and Jones et al. (1982) for mammals.

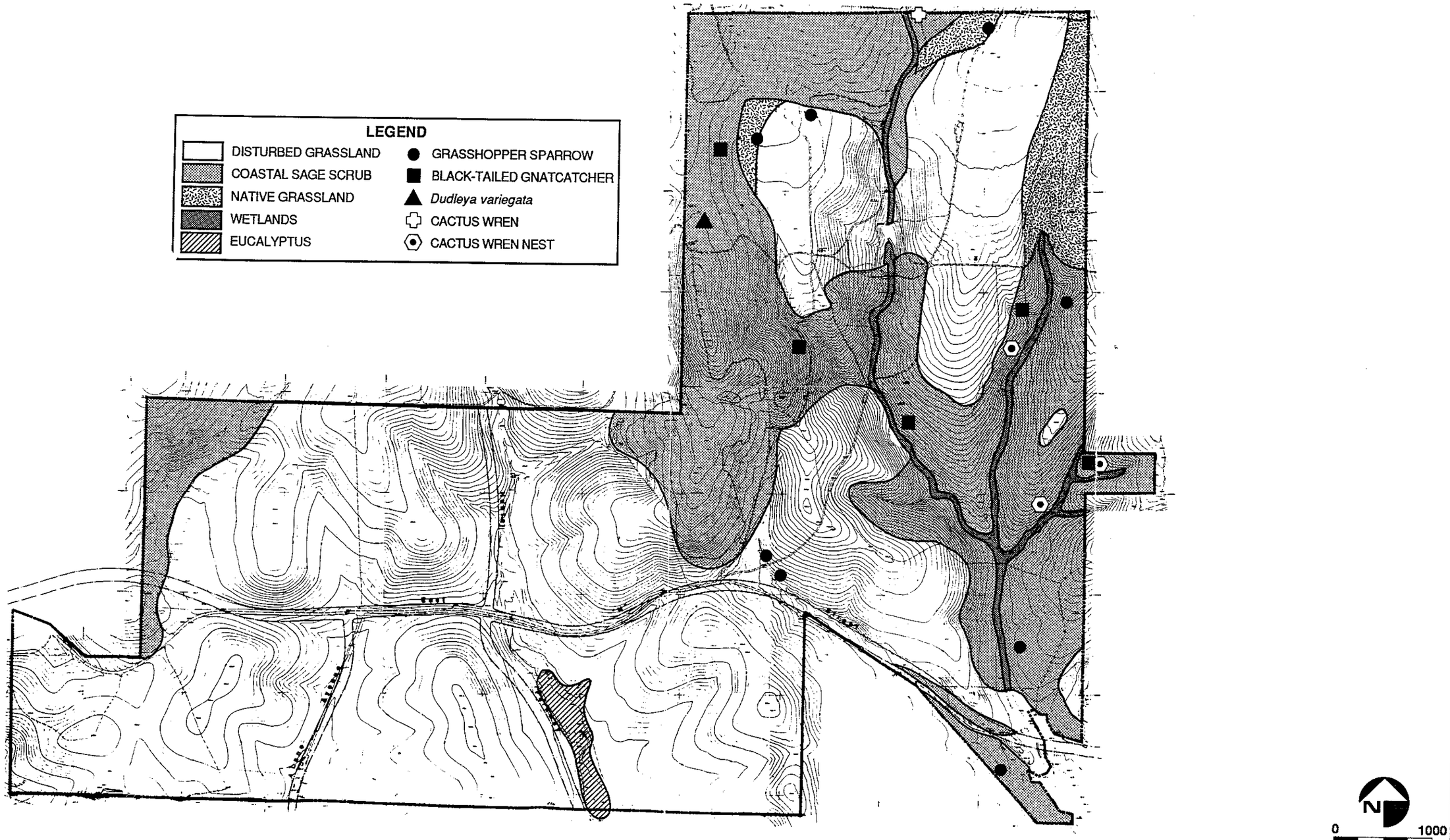
Existing Conditions

Vegetation

The Salt Creek Ranch property currently supports four plant communities; coastal sage scrub, native grassland, disturbed grassland, and wetlands. Coastal sage scrub comprises approximately 365 acres (approximately 30 percent) of the site and is found on the steep slopes of the eastern portion of the site and on the flat area in the east central area (Figure 3-11). The coastal sage scrub onsite is classified as Diegan coastal sage scrub (Holland 1986). Diegan coastal sage scrub is composed of low, soft-woody subshrubs (to about 1 m high), many of which are facultatively drought-deciduous. This association is typically found on dry sites, such as steep, south-facing slopes or clay-rich soils that are slow to release stored water. Dominant shrub species on the Salt Creek Ranch property include California sagebrush (*Artemisia californica*), flat-top buckwheat (*Eriogonum fasciculatum* ssp. *fasciculatum*), laurel sumac (*Rhus laurina*), San Diego sunflower (*Viguiera laciniata*) and white sage (*Salvia apiana*). Typically, the understory of this association is well developed, and includes such species as bedstraw (*Galium aparine*), Indian paint brush (*Castilleja affinis*) and red monkey-flower (*Mimulus puniceus*). Almost the entire area dominated by Diegan coastal sage scrub has a ground cover of ashy-spike moss (*Selaginella cinerascens*). Most of the sage scrub on the property is rather sparse, because it intergrades with grassland and is apparently recovering from fire. Most if not all of the scrub on the site appears to have burned in the past. If not further disturbed the scrub will become considerably more dense with time.

Disturbed grassland on the Salt Creek Ranch property covers approximately 775.97 acres (approximately 65 percent of the site) in areas currently or previously used for agriculture. Many of the grassland areas have been plowed and dry farmed, while other areas have been previously cleared, allowing nonnative annual grasses and other herbaceous weeds to invade. Characteristic species include slender wild oat (*Avena barbata*), soft chess (*Bromus mollis*), red brome (*Bromus rubens*), ripgut grass (*Bromus diandrus*), red-stem filaree (*Erodium cicutarium*), black mustard (*Brassica nigra*), field mustard (*Brassica rapa*), and foxtail fescue (*Festuca megalura*).

California native grassland on the Salt Creek Ranch property covers approximately 43.51 acres (approximately 3.6 percent) and intergrades with disturbed grassland and coastal sage scrub. Often associated with native grasses are numerous species of showy-flowered, annual forbs, especially in years of high rainfall. This association occurs on fine-textured, clay soils, which are moist or even waterlogged during the winter rainy season and very dry during the summer and fall. It is characterized onsite by bunch grass (*Stipa* sp.), wild onion (*Allium* sp), wild hyacinth (*Dichelostemma pulchella*), blazing stars (*Dodecatheon clevelandii*), blue-eyed grass (*Sisyrinchium bellum*), yellow violets (*Viola pedunculata*) and nightshade (*Solanum nodiflorum*). The areas supporting native grasslands may support several sensitive plant species. A survey in this habitat for San Diego thornmint (*Acanthomintha ilicifolia*), Otay tarweed (*Hemizonia conjugens*) and Orcutt's brodiaea (*Brodiaea orcutii*) should be conducted in late spring, early summer (May-June).



ERC Environmental and Energy Services Co.

Biological Resources

Final EIR 89-3
Salt Creek Ranch

FIGURE
3-11

Wetland communities are found along stream courses wherever moisture is at or near the surface year round. Several intermittent creeks traverse the project site, draining to Upper Otay Reservoir or the Otay River. These washes are dominated by spiny rush (*Juncus acutus* var. *sphaerocarpus*) and San Diego marsh elder (*Iva hayesiana*). Salt Creek itself is degraded, being dominated by weedy grasses, pepper trees and eucalyptus trees. An impoundment area in the eastern portion of the site currently holds water. This area was recently surrounded by marsh species such as cattail (*Typha*) and rush (*Juncus* sp), however much of this vegetation is now dead or in a degraded state. Total wetland habitat onsite is approximately 6.85 acres (approximately 0.057 percent). Table 3-4 lists the plant species observed on the Salt Creek Ranch property both during the 1988 survey and the 1989 survey.

Sensitive Habitats

Sensitive habitats are those which are considered rare within the region, are listed by the Conservation Element of the General Plan for the County of San Diego (County of San Diego 1980), or support sensitive plants or animals. Riparian habitat is considered a sensitive resource by the California Department of Fish and Game. This habitat is defined as a wetland by the U.S. Fish and Wildlife Service (Cowardin et al. 1979). Riparian habitat is specifically addressed by the Department of Fish and Game Code Sections 1600-1606 (Streambed Alteration Agreement), and wetlands are also under the jurisdiction of the U.S. Army Corps of Engineers permit process (Reinen 1978). Riparian habitat is considered a valuable but declining resource locally, as well. This habitat type covered less than 0.2 percent of San Diego County in 1963 (CDFG 1965), and this habitat has been severely reduced since.

Wetlands are also subject to Clean Water Act permit provisions regulating their filling. These are enforced by the U.S. Army Corps of Engineers and U.S. Environmental Protection Agency, with technical input from the U.S. Fish and Wildlife Service. Wetland habitat is naturally limited and remaining acreages are important island habitats for migrant birds. Many bird species are restricted to riparian habitat and are dependent on it for breeding. Overall wildlife diversity is normally higher in riparian zones than in surrounding habitats. Such habitat, by occupying natural drainages, also functions to control water quality and erosion and functions as a wildlife corridor.

Three factors are considered in the designation of wetlands: the presence of hydrophytic vegetation, hydric soils, and wetland hydrology. A minimum of one positive wetland indicator from each category must be found for the Corps to determine an area to be wetland (U.S. Army Corps of Engineers 1986). Areas indicated as wetlands by of all three factors during the rainy season may lack the indicators of hydrology and/or vegetation during the dry season, or the vegetation may have been altered or removed through human disturbance. Such areas may still be regarded as wetlands by resource agencies. The presence of *Iva hayesiana* and *Juncus acutus* var. *spharocarpus* in the drainages onsite indicate these areas as wetland and therefore protected by state and federal regulations.

Native grassland should be considered a sensitive habitat; it was never extensive in southern California, and most has been destroyed through agricultural development, grazing, and urbanization. Much of what remains lies around the fringes of expanding cities. The native grassland on the Salt Creek Ranch property is in good condition and constitutes a sensitive resource in the area.

Coastal sage scrub is considered a sensitive habitat by the County of San Diego. Oberbauer (1979) estimated that approximately 70 percent of the original acreage of this habitat in the County has been lost, primarily because of urban expansion along the coast.

Table 3-4

VASCULAR PLANT SPECIES DETECTED ON THE SALT CREEK RANCH PROPERTY

Scientific Name	Common Name	Habitat[1]
Allium haematochiton	Wild Onion	GRLD
Ambrosia psilostachya var. *californica*	Western Ragweed	DIST
Anagallis arvensis	Scarlet Pimpernel	DIST
Artemisia californica	California Sagebrush	CSS
Astragalus trichopodus ssp. *leucopsis*	Coast Locoweed	GRLD
Avena fatua	Wild Oats	DGRLD
Baccharis glutinosa	Mulefat	RS
Baccharis sarothroides	Broom Baccharis	CSS
Brassica nigra	Black Mustard	DGRLD
Brassica rapa	Field Mustard	DGRLD
Brickellia californica	California brickellia	CSS
Bromus diandrus	Ripgut Grass	DGRLD
Bromus mollis	Smooth Brome	DGRLD
Bromus rubens	Ripgut Grass	DGRLD
Calystegia macrostegia ssp *arida*	Chaparral Morning Glory	CSS
Capsella bursa-pastoris	Shepherds Purse	DGRLD
Cardionema ramosissimum	Tread Lightly	DGRLD
Castilleja affinis var. *affinis*	Indian Paint Brush	CSS
Chlorogalum parviflorum	Amole	DGRLD, CSS
Claytonia perfoliata var. *perfoliata*	Miners Lettuce	RIP
Conyza canadensis	Horseweed	DGRLD
Corethrogyne filaginifolia var. *incana*	Sand Aster	CSS
Crassula erecta	Forget-me-not	CSS
Cynodon dactylon	Bermuda Grass	DGRLD
Dichelostemma pulchella	Wild hyacinth	GRLD
Dipsacus sativus	Common Teasel	DGRLD
Distichlis spicata var. *spicata*	Salt Grass	RIP
Dodecatheon clevelandii ssp. *clevelandii*	Blazing Stars	GRLD
Dudleya pulverulenta	Chalk Lettuce	CSS
Dudleya variegata	San Diego Hasseanthus	CSS

Table 3-4 (Continued)

Vascular Plant Species Detected on the Salt Creek Ranch Property

Scientific Name	Common Name	Habitat[1]
Eriogonum fasciculatum	Flat-top Buckwheat	CSS
Erodium cicutarium	White-stemmed Filaree	DGRLD
Eucalyptus sp.	Eucalyptus	DIS
Euphorbia polycarpa var. *polycarpa*	Fairy mats	CSS
Eremocarpus	Dove Weed	DGRLD,DIS
Ferocactus viridescens	Coast Barrel Cactus	CSS
Foeniculum vulgare	Sweet Fennel	DIS
Galium angustifolium	Narrow Leaf Bedstraw	CSS
Galium aparine	Bedstraw	CSS
Geranium carolinianum		CSS,DGRLD
Gnaphalium bicolor	Two-colored Everlasting	CSS
Gutierrezia bracteata	Matchweed	CSS,GRLD
Haplopappus venetus	Isocoma	CSS
Helianthus annuus ssp. *lenticularis*	Common Sunflower	CSS
Hordeum sp.	Barley	DGRLD
Isomeris arborea	Bladderpod	CSS
Iva hayesiana	San Diego Marsh Elder	RIP
Jepsonia parryi	Mesa saxifrage	CSS
Juncus acutus var. *sphaerocarpus*	Spiny Rush	RIP
Lamarckia aurea	Goldentop	DIS
Lathyrus laetiflorus	Wild sweet Pea	CSS
Lepidium sp.	Peppergrass	DGRLD, GRLD
Linanthus dianthiflorus	Ground Pink	DGRLD
Lotus scoparius	Deer weed	CSS
Lupinus sp.	Lupine	GRLD
Malacothamnus fasciculatus	Bush Mallow	CSS
Marah macrocarpus	Wild Cucumber	CSS
Marrubium vulgare	Horehound	DGRLD
Melilotus indicus	Sweet-clover	GRLD

Table 3-4 (Continued)

Vascular Plant Species Detected on the Salt Creek Ranch Property

Scientific Name	Common Name	Habitat[1]
Mimulus guttatus ssp. *guttatus*	Stream Monkey-flower	CSS
Mimulus puniceus	Red Bush Monkey-flower	CSS
Mirabilis californica	Wishbone Bush	CSS
Nicotiana glauca	Tree Tobacco	DRIP
Notholaena newberryi	Cotton Fern	CSS
Opuntia littoralis	Prickly Pear	CSS
Opuntia parryi	Valley Colla	CSS
Oxalis albicans ssp *californica*	California Oxalis	CSS
Pellaea mucronata	Birds Foot Fern	CSS
Pholistoma racemosum		CSS
Pityrogramma triangularis var. *viscosa*	Silverback Fern	CSS
Plantago sp.	Plantain	DGRLD
Porophyllum	Odora	CSS
Raphanus sativus	Wild Radish	DGRLD
Rhus integrifolia	Lemonade Berry	CSS
Rhus laurina	Laurel Sumac	CSS
Rumex crispus	Curly Dock	RIP
Salsola iberica	Russian Thistle	RIP
Salvia apiana	White Sage	CSS
Salvia mellifera	Black Sage	CSS
Salvia munzii	Munz's Sage	CSS
Sambucus mexicanus	Elderberry	CSS
Schinus molle	California Pepper Tree	DIS
Scirpus olneyi	Olney bulrush	MARSH
Scrophularia californica var. *floribunda*	California Bee-plant	CSS
Selaginella bigelovii	Bigelow Clubmoss	CSS
Selaginella cinerascens	Ashy Spike-Moss	CSS
Sidalcea malvaeflora	Wild Hollyhock	GRLD
Sisymbrium sp.	Mustard	DGRLD

Table 3-4 (Continued)

Vascular Plant Species Detected on the Salt Creek Ranch Property

Scientific Name	Common Name	Habitat[1]
Sisyrinchium bellum	Blue-eyed Grass	GRLD
Solanum nodiflorum	Nightshade	GRLD
Stephanomeria virgata	Wreath Plant	GRLD
Stipa sp.	Stipa	GRLD
Tamarix sp.	Tamarisk	MARSH
Thalictrum polycarpus	Meadow-rue	CSS
Typha angustifolia	Lesser Cattail	MARSH
Viguiera laciniata	San Diego Sunflower	CSS
Viola pedunculata	Yellow-pansy Violet	CSS,GRLD
Xanthium strumarium var. *canadense*	Cocklebur	CSS
Yucca whipplei ssp *whipplei*	Our Lord's Candle	CSS
Zygadenus sp.	Camas	GRLD
Zauschneria californica	California Fuchsia	CSS

1 CSS - Coastal Sage Scrub
GRLD - Grassland
DGRLD - Disturbed Grassland
RLP - Riparian

Additional evidence of the decline of this once common habitat is the growing number of declining plant and animal species associated with it. Very little coastal sage scrub lies in areas designated as permanent natural open space in the County. The coastal sage scrub onsite is in two distinct phases of development, one being very open with a native grass understory and more dense areas on the steep slopes.

Sensitive Plant Species

High-interest plants include those listed by the U.S. Fish and Wildlife Services (USFWS 1985a), California Department of Fish and Game (CDFG 1985), and California Native Plant Society (Smith and Berg 1988). The CNPS Listing is sanctioned by the California Department of Fish and Game and essentially serves as its list of "candidate" species for threatened or endangered status. See Appendix D for an explanation of the CNPS and USFWS designations.

Acanthomintha ilicifolia
San Diego Thorn-mint
USFWS: Candidate (Category 2)
CDFG: Endangered
CNPS rating: List 1B, 2-3-2
San Diego thorn-mint is restricted to San Diego County and Baja California. This spring-blooming (April-May) annual plant occurs in clay depressions on mesas and slopes below 300 m (965 ft) elevation and is associated with coastal sage scrub, chaparral, and grassland. In San Diego County, the species is known from Encinitas and San Marcos south to Sweetwater and Otay Lakes (Beauchamp 1986) and from higher elevations on McGinty Mountain (Oberbauer 1979a, Wier 1986). There is a high potential for this species to occur onsite because the habitat is appropriate and near known populations. It is best surveyed from May to June.

Brodiaea orcuttii
Orcutt's Brodiaea
USFWS: Candidate (Category 2)
CNPS rating: List 1B, 1-3-2
This herbaceous, spring-blooming (April-July) perennial from a corm is found only in San Diego County and northern Baja California, where it occurs in association with vernal pools, streams, and seeps. In San Diego County, the species is infrequent, occurring in coastal and foothill regions below 1500 m (4827 ft) elevation. Reported localities include the Santa Margarita Mountains, San Marcos, Poway, Henshaw Dam, Santa Ysabel, Cuyamaca Mountains, Miramar Naval Air Station, Linda Vista, Ramona, Buschalaugh Canyon, Japatul Valley, Woodwardia Canyon, and Lower Otay Reservoir (Beauchamp 1986). Potential occurrence of this species onsite is high but cannot be verified without a survey in May or June.

Corethrogyne filaginifolia var. *incana*
San Diego Sand Aster
CNPS rating: List 4, 1-2-2
This summer-blooming (June-August), perennial herb with violet ligules and yellow disk flowers is restricted to the coastal sage scrub of southwestern San Diego County and possibly Baja California (Munz 1974; Smith and York 1984). It occurs on sandy slopes facing the sea, generally below 100 m (328 ft) elevation. Reported localities in the County include Del Mar, Pacific Beach, Ocean Beach, Point Loma, North Island, and Boundary Monument (Beauchamp 1986). This species was reported during the earlier survey by RECON, possibly by confusion with *Corethrogyne filaginifolia* var. *virgata*.

However neither of these species were observed during the 1989 survey. A survey should be conducted for this species in June to confirm its siting and identification.

Dudleya variegata
Variegated Dudleya or San Diego Hasseanthus
USFWS: Candidate (Category 2)
CNPS rating: List 4, 1-2-2
This species is restricted in distribution to southern San Diego County and northwestern Baja California. According to the CNPS, it occurs (overall) in sufficient numbers that immediate threat of extinction or extirpation is unlikely. However, it appears that this species is actually more restricted in range and more threatened than indicated by its current status in the CNPS Inventory. For example, the northern limits of the species are now Miramar NAS (PSBS 1982), Ralphs Ranch (Wier Biological 1983), Poway (at Lou Grubb Chevrolet, C. Patterson, personal communication), and a small population at Rancho Arbolitos (PSBS 1981). The population at Rancho Arbolitos may now be extirpated, since a development was planned for the area. The species occurs away from the coast and usually grows in areas vulnerable to development rather than at sites at which it might be more easily protected (i.e., peaks). At the current time, the only "protected" sites for *D. variegata* are at the Naval Radio Receiving Facility towers in Imperial Beach and possibly on Miramar Naval Air Station. A small population of this species was observed onsite immediately north of the electrical tower in the north central portion of the site.

Ferocactus viridescens
Coast Barrel Cactus
USFWS : Candidate (Category 2)
CNPS rating: List 2, 1-3-1
Coast barrel cactus is limited to San Diego County and Baja California. In San Diego County, this species is occasional on dry slopes below 1500 m (4922 ft) and is found along the coastal slope from Oceanside south to Boundary Monument. *Ferocactus viridescens* is seriously threatened by urbanization, off-road vehicles, and commercial exploitation. Scattered barrel cactus were observed across the entire site in coastal sage scrub. Total population onsite is estimated at 200+ individuals.

Hemizonia conjugens
Otay Tarplant
USFWS: Candidate (C2)
CDFG: Endangered (CE)
CNPS rating: List 1B, 3-3-2
This late spring-blooming (May-June) annual herb occurs only in southern San Diego County and northwestern Baja California. Within the County, Otay tarplant is found in scattered localities on clay soils and in swales from the vicinity of Sweetwater Reservoir south to the border. It is apparently equally uncommon in Mexico. The primary threat to this species is development of its habitat. The potential for this species to occur onsite is high due to its relative distribution around the site and the presence of clay soils onsite.

Iva hayesiana
San Diego Marsh Elder, San Diego Poverty Weed
CNPS: List 2, 2-2-1
This perennial subshrub occurs in southwestern San Diego County and northern Baja California (Munz 1974). It is frequent in low-lying, moist or alkaline places along the coast and has been recorded along intermittent streams. Although rare in the County, this species is apparently more common and widespread south of the border. Reported localities include Rancho Santa Fe, Miramar Reservoir, Penasquitos Canyon, Alvarado Canyon, Proctor Valley, La Presa, Otay, Tijuana River Valley, and Otay Mesa (Beauchamp

1986). *Iva hayesiana* is threatened primarily by waterway channelization and development. A substantial population of this plant was observed in almost every drainage onsite.

Juncus acutus var. *sphaerocarpus*
Spiny Rush
CNPS : List 4, 1-2-2
Juncus acutus is a relatively common plant associated with moist, saline or alkaline soils. This species is found in wetland areas south of Aqua Hedionda to the Sweetwater Valley. The sensitivity of this plant is due to the decline in wetland habitats throughout the County. *Juncus acutus* is the dominant species present in all wetland areas on the project site.

Salvia munzii
Munz's Sage
CNPS rating: List 2, 2-2-1
Munz's sage is a small shrub which occurs below 500 m (1640 ft) elevation in coastal sage scrub in the south foothill and coastal region of San Diego County. Reported localities for this species include San Miguel, Jamul, and Otay mountains, Dictionary Hill, Proctor Valley, and Lower Otay Lake (Beauchamp 1986). One individual of this species was observed during the RECON survey in 1988, but was not relocated during the field reconnaissance of 1989.

Selaginella cinerascens
Mesa Clubmoss
CNPS rating: List 4, 1-2-1
This prostrate, moss-like plant occurs in San Diego County and northwestern Baja California. It is still relatively abundant in coastal areas, occurring on flat mesas that are prime locations for development, such as Mira Mesa and Tierrasanta. Development of these areas has caused destruction of the habitat of this species. *Selaginella cinerascens* covers a large portion of the area currently supporting coastal sage scrub. This species occurs as an almost continual carpet across the property.

Stipa diegoensis
San Diego County Needle Grass
CNPS rating: List 2, 3-1-1
This perennial bunchgrass occurs locally along vernal streams and on clay soils between 300 and 700 m (984 to 2297 ft) elevation. This species is known from the upper slopes of Jamul and McGinty Mountains, as well as Proctor Valley, Lee Valley, and Otay Mountain (Beauchamp 1986). The potential for this species to occur onsite is high due to its distribution in the surrounding area. Additional surveys for this species should be conducted in summer.

Viguiera laciniata
San Diego Sunflower
CNPS rating: List 2, 1-2-1
This species occurs in southern San Diego County and northwestern Baja California. In San Diego County, *V. laciniata* occurs from the international border north to about Santee and extends from the seacoast east, at a few localities where habitat remains, to about Crest. The primary threat to this species is urbanization. San Diego sunflower is a yellow-flowered, spring-blooming (January-July), xerophytic shrub that occurs in coastal sage scrub. This species occurs as a dominant constituent of the coastal sage scrub onsite.

Wildlife

Birds. Birds identified during the surveys are listed in Table 3-5. Few species occur in the grassland habitats and most of these are winter visitors, not nesting in the area. Only the horned lark (*Eremophila alpestris*), western meadowlark (*Sturnella neglecta)*, and grasshopper sparrow (*Ammodramus savannarum*) are expected to breed there; additional nonbreeding species included the savannah sparrow (*Passerculus sandwichensis*), and vesper sparrow (*Pooecetes gramineus*). The open cultivated land of Otay Ranch and vicinity is one of the few areas in San Diego County where the mountain bluebird (*Sialia mexicana*) occurs regularly; this winter visitor was not seen alive during the surveys, but dead mountain bluebirds shot by vandals were found in the eucalyptus grove along Salt Creek.

Most birds on the site were in the sage scrub or scrub/grassland ecotone, though populations of all species except the western meadowlark seemed sparse. Characteristic species observed in the sage scrub were greater roadrunner (*Geococcyx californianus*), Anna's and Costa's hummingbirds (*Calypte anna* and *C. costae*), Bewick's wren (*Thryomanes bewickii*), coastal cactus wren (*Campylorhynchus brunneicapillus sandiegense*), California black-tailed gnatcatcher (*Polioptila melanura californica*), rufous-crowned sparrow (*Aimophila carpalis*), and brown towhee (*Pipilo fuscus*).

Sensitive Bird Species. The California black-tailed gnatcatcher is a candidate for listing as threatened or endangered by the federal government and is considered a species of special concern by the California Department of Fish and Game (Remsen 1978). Recent taxonomic studies indicate that the coastal race, *P.m. californica*, is a distinct species, restricted to coastal sage scrub habitat (Atwood 1988). The California gnatcatcher population within the United States has been estimated at about 1000 to 1500 pairs with less than 400 pairs in San Diego County (Atwood 1980). The primary cause of the species decline appears to be the cumulative loss of coastal sage scrub vegetation resulting from urban and agricultural development. Little of this species habitat is formally protected or managed. This species is probably extirpated from Ventura and San Bernardino counties and has only remnant populations in Los Angeles County. Orange, Riverside, and San Diego Counties have substantial populations of gnatcatcher, yet these populations are declining proportionately with the loss of coastal sage scrub habitat. The territory size requirements of the gnatcatcher varies with the quality of habitat. Documented home range areas have ranged from 10 to 35 acres in San Diego County (RECON 1987; ERCE 1989, unpublished data).

The sage scrub on the Salt Creek Ranch property appears to be good habitat for the gnatcatcher. At least eight birds, including at least three presumably breeding pairs, were seen there. A more intensive survey would probably reveal a larger population, possibly as many as 5–10 pairs. The population may be expected to increase as the open scrub becomes denser with its recovery from fire.

The rarest bird occurring on the property is the coastal cactus wren. This distinct subspecies lives only in cholla and prickly pear thickets in coastal sage scrub (Rea 1986). Recent population surveys of this wren estimated only 230 pairs remain in San Diego County (Weaver 1989). Most known populations are threatened by development. One individual was seen and heard singing in a rockpile and *Rhamnus crocea* thicket along the northern boundary of the property, away from cactus thickets and in seemingly unsuitable habitat (Figure 3-11). Three areas of cactus thickets bearing nests of cactus wrens were located on the property, but the birds themselves were not seen in them (Figure 3-11). On the basis of the number and distribution of nests and the amount of habitat, it is estimated

Table 3-5

WILDLIFE OBSERVED ON SALT CREEK RANCH

Scientific Name	Common Name	Habitat[1]
Birds		
Fulica americana americana	American Coot	*
Falco sparverius	American Kestrel	FLYING
Archilochus anna	Anna's Hummingbird	CSS
Thyromanes bewickii	Bewick's Wren	CSS
Pipilo fuscus senicula	Brown Towhee	CSS
Campylorhynchus brunneicapillum sandiegense	Coastal Cactus Wren	CSS
Polioptila melanura californica	California Black-tailed Gnatcatcher	CSS
Callipepla californica californica	California Quail	*
Tyrannus vociferans vociferans	Cassin's Kingbird	*
Colaptes auratus	Common Flicker	*
Corvas corax clarionensis	Common Raven	FLYING
Spinus tristis	Goldfinch	CSS
Ammodramus savannarum	Grasshopper Sparrow	GRLD
Ardea herodias	Great Blue Heron	FLYING
Geococcyx californianus	Greater Roadrunner	CSS
Eremophila alpestris	Horned Lark	CSS,GRLD
Carpodacus mexicanus frontalis	House Finch	CSS,DGRLD
Charadrius vociferus vociferus	Killdeer	*
Chondestes grammacus	Lark Sparrow	CSS
Anas platyrhynchos platyrhynchos	Mallard	*
Zenaida macroura marginella	Mourning Dove	CSS
Circus cyaneus hudsonius	Northern Harrier	FLYING
Falco mexicanus	Prairie Falcon	*
Buteo jamaicensis	Red-tailed Hawk	FLYING
Agelaius phoeniceus	Red-winged Blackbird	*
Salpinctes obsoletus obsoletus	Rock Wren	CSS
Pipilo erythrophthalmus	Rufous-sided Towhee	CSS
Aimophila ruficeps lambi	Rufous-crowned Sparrow	CSS
Passerculus sandwichensis	Savannah Sparrow	GRLD,DGRLD
Sayornis saya	Say's Phoebe	*

Table 3-5 (Continued)

WILDLIFE OBSERVED ON SALT CREEK RANCH

Scientific Name	Common Name	Habitat[1]
Zonotrichia melodia	Song Sparrow	CSS
Cathartes aura	Turkey Vulture	*
Pooecetes gramineus	Vesper Sparrow	CSS, GRLD
Tachycineta thalassina lepida	Violet-green Swallow	*
Sialia currucoldes	Mountain Bluebird	GRLD
Sialia mexicana	Western Bluebird	E
Sturnella neglecta	Western Meadowlark	DGRLD, GRLD
Zonotrichia leucophrys	White-crowned Sparrow	CSS
Dendroica coronata	Yellow-rumped Warbler	E
Mammals		
Lepus californicus	Blacktail Jackrabbit	*
Spermophilus beecheyi	California Ground Squirrel	*
Sylvilagus auduboni	Desert Cottontail	*
Canis latrans	Coyote	*
Thomomys bottae	Valley Pocket Gopher	*
Neotoma sp.	Woodrat	CACTUS THICKETS
Reptiles		
Crotalus viridis	California Rattlesnake	CSS, GRLD
Sceloporus orcutti	Granite Spiny Lizard	CSS
Sceloporus occidentalis	Western Fence Lizard	CSS
Cnemidophorous hyperythrus	Orange-throated whiptail	E
Phrynosoma coronatum blainvillei	Coast Horned Lizard	E

1 CSS - Coastal Sage Scrub
GRLD - Grassland
DGRLD - Disturbed Grassland
E - Expected
* - Observed during survey conducted by RECON (1988).

that as many as four pairs may occur on the property. An accurate determination of the site's importance to the cactus wren will require additional study.

The grasshopper sparrow has not been accorded formal recognition as sensitive by any government agency but is of concern locally because it requires native or only moderately disturbed grassland. Many places where it formerly occurred have been developed within the past 20 years. At least seven grasshopper sparrows were seen and heard singing on the property, and this figure is almost certainly not exhaustive (Figure 3-11). The site thus supports one of San Diego County's larger known populations of this species.

Birds of prey as a group are considered sensitive because of their position at the top of the food chain, their vulnerability to human disturbance, and the continuing loss of suitable foraging and nesting habitat. Many raptors prefer to forage in grassland, thus most of the Salt Creek Ranch property represents good habitat for foraging raptors. One active red-tailed hawk pair nest was located on a transmission line tower on the property. At least one pair of northern harrier probably nests on the site as well. Considered a species of special concern by the California Department of Fish and Game, northern harriers nest on the ground in grasslands and marshes. Golden eagles are known to nest in the San Miguel Mountain area and have been noted in the vicinity of the property. Golden eagle is considered a species of special concern by the California Department of Fish and Game and are also protected by the federal regulation.

Reptiles and Amphibians

The field surveys were not conducted at an opportune season for seeing reptiles; the only species noted were the western fence lizard (*sceloporus occidentalis*), granite spiny lizard (*S. orcutti*), and California rattlesnake (*Crotalus viridis*). Two species of sensitive reptiles, the orange-throated whiptail (*Cnemidophorous hyperythrus*), and coast horned lizard (*phrynosoma coronatum blainvillei*) likely occur on the site, because of the substantial amount of appropriate habitat. No sensitive amphibians are expected to occur on the property.

Mammals

The coyote (*Canis latrans*), black-tailed jackrabbit (*Lepus californicus*), desert cottontail (*Sylvilagus auduboni*), brush rabbit (*S bachmani*), California ground squirrel (*Spermophilus beecheyi*), and woodrat (*Neotoma* sp.) were noted on the site. No sensitive mammal species are expected to make significant use of the site. Mountain lions (*Felis concolor*) are known from San Miguel Mountain and may utilize the site, however, none were observed.

Impacts

The current open space concept plan for Salt Creek Ranch calls for 318.58 acres (approximately 26.5 percent) of natural open space. Almost all of this proposed open space, however, consists of strips generally 100 to 500 feet wide, separated by developed zones. Narrow habitats while being of use to wildlife as corridors are also altered and further narrowed because of fire protection buffers. Such narrow strips in otherwise developed areas are subjected to rapid degradation and lose most of their viability as natural habitats. Nonnative weeds invade, replacing native plants. Shy or specialized animals and those requiring large territories are extirpated, to be replaced by species adapted to the urban environment. Native vertebrate populations suffer from increased predation from domestic pets.

Table 3-6 shows impact acreage for each habitat type and remaining natural open space acreage. Table 3-7 summarizes anticipated project impacts to sensitive species.

Table 3-6

SALT CREEK RANCH VEGETATION IMPACTS

Habitat	Total Acreage	Impacted Acreage	Unimpacted Acreage
Coastal Sage Scrub	365.7	178.9	186.8
Native Grassland	43.5	14.6	29.0
Disturbed Grassland	776.0	683.8	92.1
Wetland	6.9	2.1	4.7
Eucalyptus	8.0	2.0	6.0
TOTAL	1200.1	881.4	318.6

A viable sage scrub community would likely remain only along the northeastern edge of the property. A loss of 178.90 acres of sage scrub which supports populations of *Viguieria laciniata, Selaginella cinerascens, Dudleya variegata* and *Ferocactus viridescens*, and probably 5 to 10 pairs of California black-tailed gnatcatchers constitutes a significant cumulative impact.

The relatively large areas of native grassland on the Salt Creek Ranch property have not been noted in previous documents, although native grassland is one of the most sensitive biological resources on the property. An unusually large population of grasshopper sparrow and probable nesting pair of northern harriers add to this sensitivity. The significance of the loss of the native grassland cannot be fully evaluated without surveys in summer for the rare plants that may occur in them. The City of Chula Vista considers the loss of greater than 0.5 acres of native grassland to be significant. Therefore the proposed loss of this habitat is considered a significant impact.

Although the majority of the wetland habitat would remain in open space, the project as proposed would impact approximately 2.13 acres. The filling or alteration of this habitat would require an Army Corps of Engineers 404 permit review process and a Fish and Game 1603 Streambed Alteration Agreement. Impacts to this habitat are considered a significant impact due to the rarity of wetland habitats.

The loss of the agricultural land and disturbed grassland constitutes a loss of foraging habitat for mountain bluebirds, golden eagles, and other birds of prey. The seriousness of this impact, however, is much less than the loss of the native grassland and sage scrub and is considered incremental but not significant.

Of the three cactus thickets with cactus wren nests, one is completely and two are partially lost under the current plan. It is highly unlikely that any of the cactus wrens would survive in the narrow, isolated strips of remaining habitat. Even though the numbers of wrens on the site remains to be determined, the cactus wren is so rare that this loss of habitat constitutes a significant impact.

Table 3-7

SALT CREEK RANCH IMPACTS TO SENSITIVE SPECIES

	Expected Loss	Level of Impact
Sensitive Plants		
Dudleya variegata	20-30 plants	Adverse, cumulative
Ferocactus viridescens	200+ plants	Adverse, cumulative
Iva hayesiana	In all impacted wetlands	Adverse, cumulative
Juncus acutus var. *sphaerocarpus*	In all impacted wetlands	Adverse, cumulative
Selaginella cinerascens	In all impacted Sage Scrub	Adverse, cumulative
Viguiera laciniata	In all impacted Sage Scrub	Adverse, cumulative
Sensitive Animals		
California Gnatcatcher	5-10 pairs	Significant
Coastal Cactus Wren	1 pair	Significant
Grasshopper Sparrow	7	Adverse, cumulative
Birds of Prey	Foraging habitat	Adverse, cumulative

A majority of the *Iva hayesiana* and *Juncus acutus* var. *sphaerocarpus* would be left in open space under the current plan. The majority of wetlands are retained onsite, providing natural open space wildlife corridors through the property.

Dudleya variegata and *Ferocactus viridescens* are CNPS listed species and are candidates for listing by the USFWS. The entire population of these species onsite would be lost under the proposed plan. The loss of these species onsite represents an adverse but nonsignificant impact due to small population size.

The coastal sage scrub onsite supports two relatively large populations of sensitive plants: *Selaginella cinerascens*, and *Viguiera laciniata*. Both of these species are CNPS listed but are not state or federally listed. While the loss of these individuals would not constitute a significant impact at the species level, it is considered to be a cumulative adverse impact.

Direct impacts to 5 to 10 pairs of California gnatcatchers on the Salt Creek Ranch property would be a significant impact. The narrow open space areas proposed by the development would not provide enough habitat to support this number of birds. Suitable habitat offsite is likely to be occupied, therefore relocation of individuals may not be possible.

Direct impacts to the cholla thickets onsite would potentially impact cactus wrens utilizing the area. The impact to the cactus wren is considered significant.

The grasshopper sparrows onsite represent a substantial population. Impacts to this species onsite would constitute an adverse impact due to the relatively large population size.

Raptors onsite utilize the grassland (disturbed and native) for foraging. Impacts to this habitat indirectly impact raptor species. Loss of this habitat would constitute an adverse impact to raptor species.

Mitigation Measures

Please see the response to comments section; modifications of the mitigation measures have occurred in response to comments and changes in project design.

A biological open space recommendation is shown on Figure 3-12. The following measures are provided in an attempt to reduce impacts to biological resources to below a level of significance. Specific mitigation measures are presented first, followed by general recommendations regarding construction practices and open space. Significant biological impacts are identified for riparian wetlands, coastal sage scrub, native grassland, California gnatcatcher, and cactus wren.

Riparian Wetlands

Appropriate mitigation loss of wetlands on this property will most likely take the form of onsite riparian habitat creation or enhancement. The ultimate goal of wetland mitigation from the perspective of the regulatory agencies is replacement of habitat value rather than simple acreage replacement. The quality of wetland habitats onsite is considered moderate due to the lack of large trees. Nonetheless, the opportunity exists to greatly increase the value of this area for wildlife species through appropriate mitigation techniques in more disturbed areas.

- The most appropriate area for wetland habitat creation occurs in Salt Creek. Salt Creek exists at an elevation appropriate to support wetland habitats or could be graded down to an appropriate elevation with minimal soil displacement. This area would then be contiguous with existing wetlands, thereby enlarging and enhancing those areas. Approximately 4.26 acres of wetland habitat shall be created or enhanced onsite to mitigate for the loss of this acreage at a 2:1 ratio

as a result of project implementation. Sufficient habitat exists onsite which would be suitable for wetland revegetation or enhancement techniques. A habitat enhancement plan shall be coordinated and negotiated prior to any SPA Plan approval.

- Habitat replacement or enhancement mitigation measures which are finally agreed upon (prior to SPA Plan approval) shall be thoroughly evaluated and defined in a specific mitigation plan. This plan shall be approved by the City and the resource agencies, and shall provide for monitoring and maintenance of the replacement habitat. The plan will also identify mitigation locations, and provide a more precise wetland habitat quality evaluation by the regulatory agencies, resulting in specific replacement or enhancement acreages, numbers and types of plant species to be used, and planting techniques.

An additional, potentially significant impact to wetland habitat and/or wildlife as a result of this project includes sedimentation and/or siltation into Upper Otay Reservoir. The following measures shall be required and specified in the SPA Plan to reduce this potential impact to below a level of significance:

- Selective grading shall be required and enforced, i.e., only areas immediately subject to development shall be graded.

ease see the response comment 17 of the tter from the Baldwin ompany.

- Grading shall be prohibited during the rainy season (November through March).

- Erosion prevention measures such as fences, hay bales, and/or detention basins shall be onsite during development and in place prior to construction.

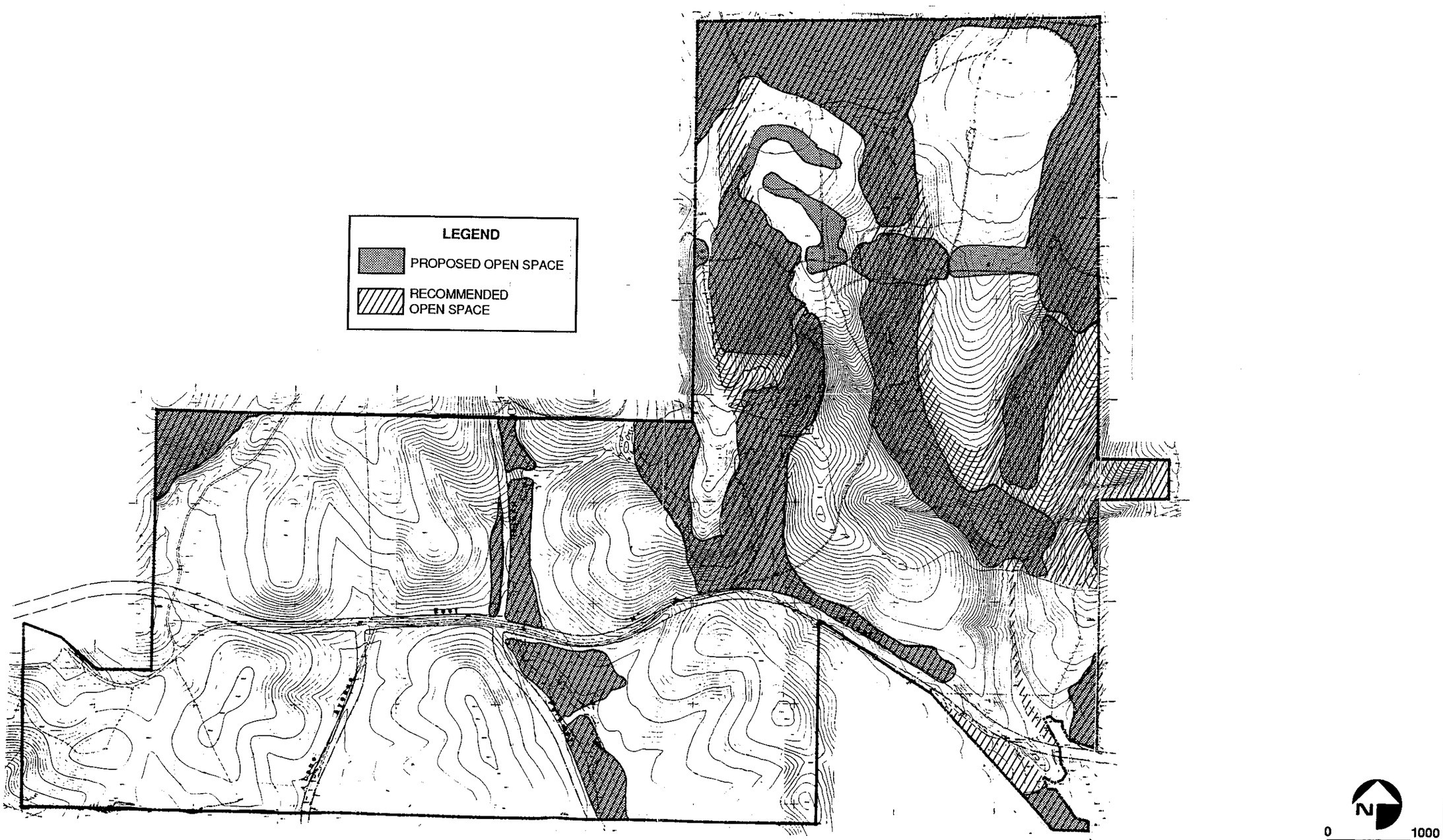
Coastal Sage Scrub

Retention of a portion of the coastal sage scrub onsite as proposed is expected to reduce impacts to this habitat from development. The following measures shall be incorporated into the project's detailed mitigation plan, to be prepared prior to SPA Plan approval:

- Manufactured slopes and disturbed grassland in open space areas shall be revegetated with native scrub species found in the area. Revegetation of these areas would have the benefits of potentially providing habitat for the California gnatcatcher, increasing the quality of the riparian buffer in selected areas, and reducing the probability of nonnative landscaping materials invading natural habitats. Species suitable for this revegetation include the following:

Artemisia californica	California Sagebrush
Eriogonum fasciculatum	Flat-topped Buckwheat
Lotus scoparius	Deerweed
Salvia mellifera	Black Sage
Salvia apiana	White Sage
Haplopappus venetus	Goldenbush
Eschscholzia californica	California Poppy
Lupinus spp.	Lupine

- The coastal sage scrub revegetation areas shall be effectively hydroseeded, followed by a tackified straw mulch. Materials and seed mixes may be changed only with the approval of the project biologist/horticulturist.



ERC Environmental and Energy Services Co.

Proposed and Recommended Open Space

FIGURE 3-12

- This habitat shall be irrigated as needed for the first year to accelerate establishment and coverage. The hydroseeding shall be completed in the summer, if possible, so as to establish cover prior to the rainy season. A number of annual species are included in the hydroseed mixture (California poppy and lupines) to provide color to the slopes. These species should reseed themselves yearly.

Native Grassland

A spring (May-June) survey of the native grassland habitat onsite shall be conducted to determine the presence/absence and abundance of sensitive plant species that could be expected to occur in this habitat. The sensitivity of the loss of native grassland habitat shall be determined after the results of this survey are provided to City staff.

California Gnatcatcher and Cactus Wren

- The recommended open space plan (see Figure 3-12) is designed to provide biological open space areas that are of sufficient size to maintain viable populations of gnatcatcher and wren on the project site. These open space areas are contiguous with each other and/or with open space offsite so that dispersal corridors are maintained. This recommended open space plan would effectively reduce adverse impacts to California gnatcatcher and cactus wren to below a level of significance. The project shall be redesigned to the satisfaction of the City to effectively mitigate these impacts. If no redesign occurs, the project would result in significant and unmitigated adverse biological impact to these species.

General Recommendations

The desired effect of the following general recommendations is to buffer and protect sensitive wetland and upland habitats and the wildlife therein, and to prevent further degradation of the habitat during and after the construction process.

Construction Practices: Additional loss of habitat could occur from the use of heavy equipment in wetland areas, on and offsite. Nonsensitive construction practices resulting in additional impacts to wetland vegetation would increase the total wetland impact acreage, and ultimately, the amount of mitigation required. Impacts to wetland vegetation adjacent to the grading areas would be reduced by adherence to certain construction practices, as outlined below.

- Heavy equipment and construction activities shall be restricted to the grading areas to the greatest degree possible in order to reduce direct impacts to wetland habitat. Construction of cut and fill slopes, and equipment used for this construction, will be kept within the limits of grading. Prohibited activities in the wetland habitat include staging areas, equipment access, and disposal or temporary placement of excess fill. Construction limits and wetland habitat shall be flagged by a qualified biologist. Construction activities shall be monitored by an onsite inspector to ensure that grading activities do not affect additional acreage. Any unauthorized impacts caused by construction operations would require that the contractor replace all habitat to its original condition, with wetland habitat potentially being restored at greater that a 1:1 ratio.

- Fueling of equipment shall not occur in any portion of the site near the intermittent stream.

- Areas designated as natural open space shall not be grubbed, cleared, or graded, but left in their natural state.

- To ensure that contractors are fully aware of specific restrictions of the project, such as staging areas, limits of fill, no vehicle zones, and other appropriate regulations, information shall be clearly shown on the construction plans. Contractors shall be fully aware of the sensitivities and restrictions prior to bidding.

Open Space: The primary means of mitigating significant impacts to biological resources is the preservation of a system of open space which encompasses the most valuable habitat or sensitive species onsite. Designation of open space is only an initial step in preservation of the sensitive resources therein. The integrity of open space must also be preserved through adherence to responsible construction practices, as outlined above, and the exclusion of certain activities.

The following recommendations are provided in an attempt to minimize the effects of the development in natural open space areas subsequent to construction activities:

- In the event that a fire or fuelbreak is deemed necessary, plant species used in this area shall be noninvasive, so as to reduce impacts to remaining native vegetation. Suitable species from a biological standpoint would be low growing, moderately fire-retardant, native species such as prostrate coyote bush (*Baccharis pilularis* var. *pilularis*).

- No clearing of brush shall be allowed outside the fire or fuelbreak, and no fuelbreak clearing will be allowed in sensitive habitat areas. In general, the limits of the fuelbreak will be measured from structures. The width of the fuelbreak may be reduced by the use of low-growing, fire-retardant species (see above measure).

- Plants in riparian and/or natural areas within the project's boundaries shall not be trimmed or cleared for aesthetic purposes.

- Revegetation of cut slopes external and/or adjacent to natural open space shall be accomplished with native plant species which presently occur onsite or are typical for the area. Suitable species include California sagebrush (*Artemisia californica*), flat-top buckwheat (*Eriogonum fasciculatum* ssp. *fasciculatum*), black sage (*Salvia mellifera*), and San Diego sunflower (*Viguiera laciniata*). If this area is hydroseeded, measures shall be taken to ensure the exclusion of nonnative, weedy species from the mixture.

- Fencing shall be installed as feasible and acceptable to the City around the natural open space area to prevent adverse impacts to biological resources from domestic pets and human activity. An alternative would be the planting of barrier plant species that would discourage pedestrian activity into open space areas. Nonnative species would not be acceptable as barrier plantings within open space areas. No active uses shall be planned in the open space easements. Trails shall be sited to avoid sensitive plants and minimize crossing of drainages.

- Landscaping around buildings shall utilize noninvasive exotic species or preferably, native plant species found in the area. Species present onsite, such as desert elderberry (*Sambucus mexicana*) and California buckwheat, would be suitable for planting.

- The City of Chula Vista shall assure the long-term conservation of remaining native habitat onsite (wetlands and uplands) by dedicating these areas as part of a natural open space easement. The City shall place an open space easement in this acreage which would eliminate future building activity and, in effect, set this area aside for the preservation of wildlife. Additional trails or recreational facilities which would promote pedestrian activity in open space areas at the expense of wildlife shall not be constructed.

Analysis of Significance

Impacts to riparian wetland via removal, and potential effects from sedimentation/erosion can be mitigated to below a level of significance by measures herein. Impacts to coastal sage scrub and native grassland habitats, the gnatcatcher and cactus wren would be partially reduced by measures herein; after mitigation these impacts would nevertheless constitute significant adverse biological impacts.

3.8 CULTURAL RESOURCES

The following archaeological/historical resources discussion is extracted information from a confidential report prepared by ERCE, on file at the City Planning Department (Cultural Resource Testing and Evaluation of the Salt Creek Ranch Project, June 1989). The paleontological evaluation is a summary of a report prepared for the project site (PaleoServices, April 1989) which is also on file at the City.

Existing Conditions

Archaeological Resources. An evaluation program to determine site importance under the California Environmental Quality Act (CEQA) was conducted for 27 cultural resource sites (historic and prehistoric) within the proposed Salt Creek Ranch project site. Previous work by Recon identified 19 sites within the project boundary (Wade 1988). An additional eight sites were located in the course of this study. The initial 19 historic and prehistoric sites are SDi-4530 (W-643), SDi-4531 (W-648), SDi-4776 (W-699) (Baldwin 1), SDi-6961, SDi-6963, SDi-7197A (W-2202), SDi-7199 (W-2204), SDi-7211 (W-2205), SDi-7977 (W-2723), SDi-8206C (W-1954C), SDi-8657 (W-2943), SDi-8658 (W-2937), SDi-9169, SDi-10770 (W-3893), SDi-11042 (Baldwin 2), SDi-11043 (Baldwin 3), SDi-11044 (Baldwin 4), SDi-11045 (Baldwin 5), and SDi-11046 (Baldwin 6). Two of these sites (SDi-8206C and SDi-9169) were not recommended for testing (Wade 1988). Two prehistoric sites, SC-1 and SC-2, and prehistoric components associated with historic sites SDi-7977, SDi-11043 (Baldwin 3), SDi-11044 (Baldwin 4), H-4, and H-7; and historic sites H-4, H-6, H-7, H-8, H-9, and H-14 along with historic components within prehistoric sites SDi-7199/W-2204, SDi-7211/W-2205, and SDi-8657/W-2943 were not previously identified by Recon (Wade 1988). In addition, four historic localities, H-11, H-15, H-16, and H-17, were identified adjacent to but outside the project area.

The testing program for prehistoric sites included additional survey work, site record search, literature review, shovel test pits (STPs), surface collection of diagnostic artifacts, excavation of 1 x 1 meter (m) units and data analysis. In all, 19 prehistoric localities were tested resulting in the recovery of over 8,000 artifacts.

The prehistoric sites fall into three categories: quarry sites, lithic scatters, and habitation sites. All of the sites tested appear to be part of a settlement occupied as early as 7000 years ago, on the basis of presence/absence of diagnostic artifacts. These sites contain biface tools (points/knives) milling tools (manos/metates), hammerstones, cores, scraping tools, flakes/angular waste, and faunal remains of shell and bone. A number of these prehistoric sites fall within the Bonita-Miguel Archaeological District and were previously identified by the County of San Diego, State Office of Historic Preservation, and federal agencies as important to our understanding of early prehistoric occupation in San Diego County.

Historical Resources. The sites within the project area that are identified as historic resources consist of historic archaeological resources rather than existing buildings or structures. These historic sites are representative of a rural community settled as early as 1886. Some of the sites were located by Recon (Wade 1988) and others were discovered by ERCE in the process of researching early maps for the evaluation program, that also included historical research, site surveys, backhoe trenching and excavation of STPs.

Based on results of research and testing activities, there is a potential for eight of the sites (SDi-7199[H-2], SDi-8657 [H-13], SDi-11043 [H-12], SDi-11044 [H-5], H-4, H-6, H-7, and H-14) to contain historic materials. Use of these sites in the late 1800s and early 1900s indicates a potential for important historic archaeological features such as privies, cisterns, and trash deposits. The sites represent a period within the regional development of San Diego County that is neither well documented nor well defined, and they have a potential to provide answers to important research questions addressing social, cultural or economic lifestyles and values associated with a rural setting. On the local level, these sites represent a previously unidentified component of the early history of Chula Vista.

The result of the testing program identified eighteen sites/loci (SDi-4530, SDi-4531, SDi-4776, SDi-6961, SDi-6963, SDi-7197 Locus A-1, SDi-7199, SDi-8657, SDi-8658, SDi-10770, SDi-11042, SDi-11043, SDi-11044, SC-2, H-4, H-6, H-7, and H-14) as important under CEQA. (The technical report provides detailed explanations on resource importance).

Paleontological Resources. The project site is underlain by a series of three geological deposits (formations) including from oldest to youngest: meta-volcanic rocks of the Santiago Formation (Jurassic in age, approximately 140 million years old), gritty sandstones of the Sweetwater Formation (presumed Oligocene in age, approximately 28-30 million years old), and bentonitic sandstones of the Otay Formation (Oligocene in age, approximately 27 million years old). Museum records do not document any recorded fossil localities within the project site. However, over 80 sites are recorded in the EastLake area to the south and west. These sites were all discovered during grading operations for the EastLake planned community.

The Otay Formation at EastLake has recently been shown (Demere 1986, 1988) to contain significant paleontological resources including well preserved remains of fossil land vertebrates such as lizards, turtles, birds, hedgehogs, rabbits, rodents, carnivores, camels, mouse-deer, creodonts (extinct pig-like grazing animals). Together these previously reported fossil occurrences point to the high paleontological resource potential of the Otay Formation.

The Sweetwater Formation has also produced fossils; these have generally been rare and fragmentary remains of primarily creodonts. The Santiago Peak Volcanics are not known to contain fossils in the project vicinity, although these rocks have never before been graded in eastern Chula Vista and may possess paleontological resource potential.

Elsewhere in San Diego County these rocks have produced rare but important remains of various types of ancient marine organisms including remains of clams and squid-like animals called belemnites.

Impacts

Archaeological and Historical Resources. Seventeen of the 18 archaeological and historical sites will be impacted by proposed development. Table 3-8 lists all sites included in the assessment, their importance and recommendations for further action. These sites contain information which can address important research questions, possess integrity of deposit; and possess information on a poorly known period of prehistoric and historic occupation.

SDi-8658 is located within proposed open space and likely will not be impacted. Sites SDi-4530, SDi-4531, SDi-7197 Locus A-1, SDi-7199, SDi-8657, SDi-8658, and SDi-10770 fall within a sensitive archaeological region identified as the Bonita-Miguel Archaeological District. This district has been identified as having a number of important archaeological sites and has been defined a potential National Register Property by the County of San Diego (Wirth 1981). The BLM has also identified the Bonita-Miguel Archaeological District as eligible to the National Register of Historic Places (Freel 1976). On the basis of the prehistoric sites, the Bonita-Miguel District was determined a significant property by the U.S. Nuclear Regulatory Commission and the U.S. Department of the Interior (1978).

To ensure that potentially important historic archaeological resources assumed to be present at eight locales (SDi-7199 [H-2], SDi-8657 [H-13], SDi-11043 [H-12], SDi-11044 [H-5], H-4, H-6, H-7, and H-14) are not adversely affected, a program to include monitoring of grading activities and data recovery is recommended. This program should provide for excavation, recording and collection of resources within a 48-hour period if significant features, such as privies or trash deposits, are located during grading. This program should also include analysis of recovered artifacts in relation to an approved research design and a report of findings.

Indirect impacts may occur to historic sites located adjacent and exterior to the project boundary (H-11, H-15, H-16, H-17). The remaining nine sites (SDi-7197 Locus A, SDi-7211, SDi-8206C, SDi-9196, SDi-7977, SDi-11045, SDi-11046, SC-1, and H-9) are identified as not important and, as such, need not be addressed as to impacts and mitigation of impacts.

Paleontological Resources. Development of the project site will potentially result in impacts to significant paleontological resources. Principally, the fossilferous deposits of the Otay and Sweetwater formations possess a high paleontological resource potential. Impacts would occur when mass grading operations cut into the fossil-bearing layers in these two formations.

Mitigation Measures

Mitigation of impacts for important cultural resources can be achieved through either avoidance or by conducting a data recovery program. Avoidance could include capping sites with 2 feet of fill and incorporating these sites or certain sites into the Salt Creek Park system (Chula Vista Greenbelt). Recommended mitigation includes the following:

- If avoidance of archaeological/historic resources cannot be achieved, a data recovery program to mitigate development impacts to important cultural resource sites (listed in Table 3-8) shall be conducted, including monitoring or,

Table 3-8

SUMMARY OF ARCHAEOLOGICAL AND HISTORICAL RESOURCE SITE IMPORTANCE AND RECOMMENDATIONS

Site Number	Site Importance	Recommendation	Comments/Significance
SDi-4530 (W-643)	Important	Data Recovery Program	Within Bonita Miguel National Register District (BMNRD); project impact
SDi-4531 (W-648)	Important	Data Recovery Program	Within BMNRD; project impact
SDi-4776 (W-699)	Important	Data Recovery Program	Project impact
SDi-6961	Important	Data Recovery Program	Project impact
SDi-6963	Important	Data Recovery Program	Project impact
SDi-7197 Locus A-1 (W-2202)	Important	Data Recovery Program	Within BMNRD; project impact
SDi-7197, Locus A	Not important	No additional work	No impact
SDi-7199 (H-2)	Historic-Important Prehistoric-Important	Historic-monitoring Prehistoric-Data Recovery Program	Within BMNRD; project impact
SDi-7211 (H-3)	Not Important	No additional work	No impact
SDi-7977 (H-1)	Not important	No additional work	No impact
SDi-8206C	Not important	No additional work	No impact
SDi-8657 (H-13)	Historic-Important Prehistoric-Important	Historic-monitoring Prehistoric-Data Recovery Program	Within BMNRD; project impact
SDi-8658 (W-2937)	Important	Data Recovery Program	Within BMNRD; project impact
SDi-9169	Not important	No additional work	No impact
SDi-10770 (W-3893)	Important	Data Recovery Program	Within BMNRD; project impact
SDi-11042	Important	Data Recovery Program	Project impact
SDi-11043 (H-12)	Historic-Important Prehistoric-Not Important	Historic-monitor (metal detector survey/ controlled grading)	Project impact

Table 3-8 (Continued)

SUMMARY OF ARCHAEOLOGICAL AND HISTORICAL RESOURCE SITE IMPORTANCE AND RECOMMENDATIONS

Site Number	Site Importance	Recommendation	Comments/Significance
SDi-11044 (H-5)	Historic-Important Prehistoric-Not Important	Historic-monitor	Project impact
SDi-11045	Not Important	No additional work	No impact
SDi-11046 (H-10)	Not important	No additional work	No impact
SC-1	Not Important	No additional work	No impact
SC-2	Important	Data Recovery Program	Project impact
H-4	Historic-Important	Historic-monitor	Project impact
H-6	Historic-Important Prehistoric-Not Important	Historic-monitor	Project impact
H-7	Historic-Important Prehistoric-Not Important	Historic-monitor	Project impact
H-9	Not Important	No additional work	No impact
H-11	Not tested		Outside the project area
H-14	Important	Monitoring	Project impact
H-15	Not tested		Outside the project area
H-16	Not tested		Outside the project area
H-17	Not tested		Outside the project area

where necessary, surface collection and mapping of artifacts, and a phased data recovery program. Recommendations identified in Table 3-8 shall be utilized as the basic framework for the mitigation plan. This phased approach would employ a random sample in conjunction with a focused inventory for features (i.e., hearths, burials). The data recovery program shall be in accordance with a regional approach for all prehistoric sites within Salt Creek Ranch, Salt Creek I and EastLake III, thereby allowing a comprehensive understanding for these Early Period sites. This regional understanding would also be in agreement with the Bonita-Miguel Archaeological District.

- The data recovery program shall follow the Advisory Council's guidelines as defined within Treatment of Archaeological Properties, A Handbook (ACHP 1980). The treatment plan should be oriented to address local and regional research questions and clearly identify the methods to be used to address the research questions. Research questions which should be addressed are listed on pages 5-6 and 5-7 of the June 1989 Salt Creek Ranch Cultural Resource Evaluation (ERC Environmental and Energy Services) on file at the City Planning Department.

- Prior to issuance of a mass-grading permit the developer shall present a letter to the City of Chula Vista indicating that a qualified paleontologist has been retained to carry out resource mitigation. (A qualified paleontologist is defined as an individual with an MS or PhD in paleontology or geology who is familiar with paleontological procedures and techniques.)

- A qualified paleontologist and archaeologist shall be at the pre-grade meeting to consult with the grading and excavation contractors.

- A paleontological monitor shall be onsite at all times during the original cutting or previously undisturbed sediments of the Otay Formation to inspect cuts for contained fossils (the Otay Formation occurs generally above 680 feet elevation). The Sweetwater Formation shall be monitored on a half-time basis. Periodic inspections of cuts involving the Santiago Peak Volcanics shall be conducted in accordance with recommendations of the qualified paleontologist. (A paleontological monitor is defined as an individual who has experience in the collection and salvage of fossil materials. The paleontological monitor should work under the direction of a qualified paleontologist.)

- In the event that well-preserved fossils are discovered, the paleontologist (or paleontological 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 recovering of small fossil remains such as isolated mammal teeth, it may be necessary to set up a screen-washing operation on the site.

- Fossil remains collected during any salvage program shall be cleaned, sorted, and cataloged and then with the owner's permission, deposited in a scientific institution with paleontological collections such as the San Diego Natural History Museum.

Analysis of Significance

Implementation of the above mitigation measures will mitigate potential project and cumulative cultural, historic and paleontological resource impacts to below a level of significance.

3.9 TRAFFIC AND CIRCULATION

A traffic analysis report was prepared for the Salt Creek Ranch project in September 1989 and updated in January 1990 by Basmaciyan-Darnell, Inc. (BDI). The following section is a summary of that report, contained in full as Appendix E to this EIR.

Existing Conditions

Figure 3-13 illustrates the study area and includes the most recent traffic count information available for the streets in the vicinity of the project. The traffic counts for this figure were compiled using information provided by the City of Chula Vista and the County of San Diego. The following paragraphs describe roadways in the immediate vicinity of the project; a more detailed discussion is included in Appendix E.

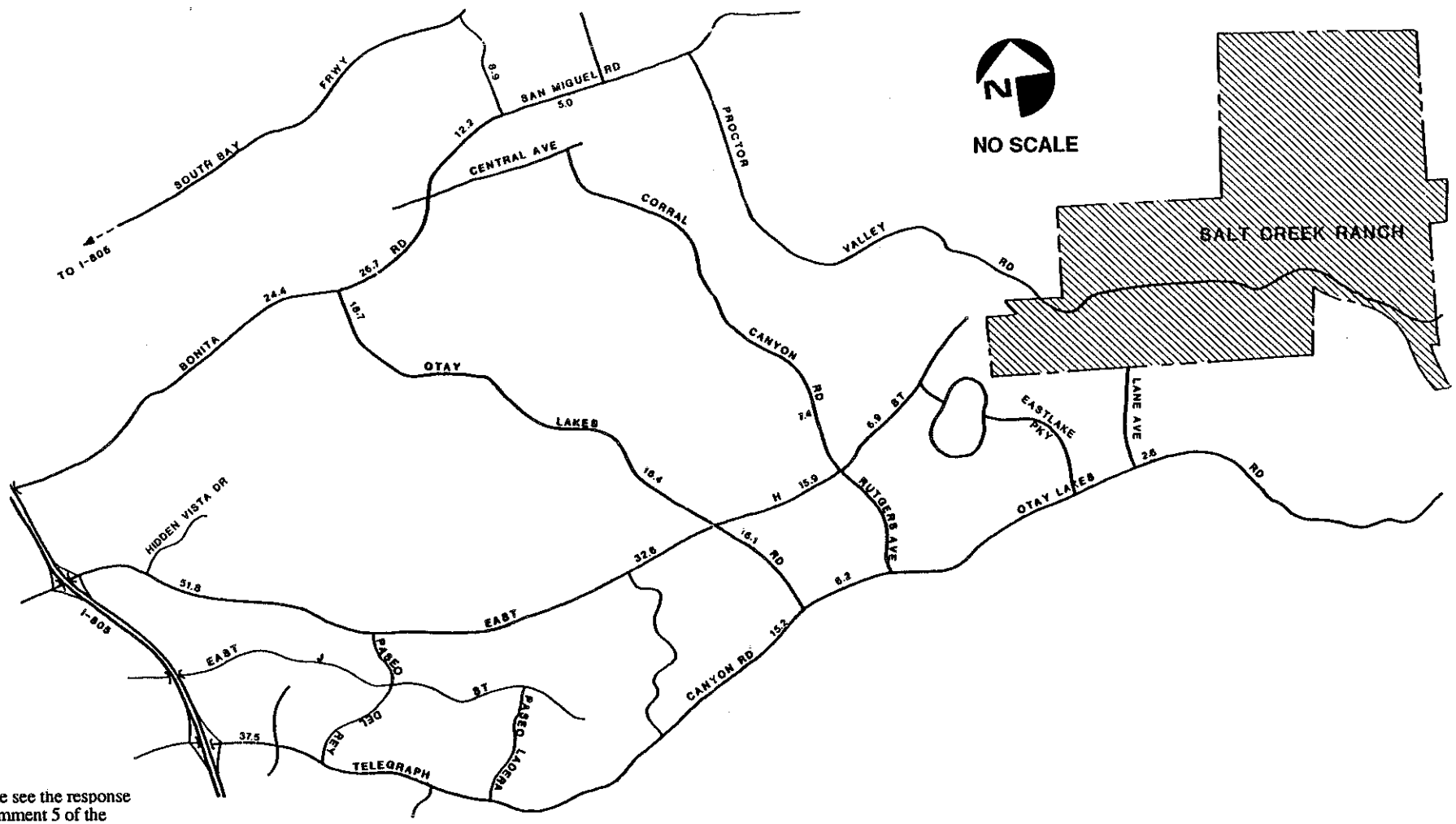
East H Street is planned as a six-lane primary arterial (six lanes, divided) and is currently constructed to ultimate standards east of Interstate 805 (I-805) to Otay Lakes Road. The City Engineering/Public Works Department has indicated that a portion on the north side of East H Street west of Otay Lakes Road requires widening to accommodate a bike lane (C. Swanson, October 1989). East of Otay Lakes Road, East H Street is designated as a four-lane major road and is currently constructed to ultimate standards across the EastLake Hills and Shores development to the intersection with EastLake Drive, just west of the Salt Creek Ranch project site.

Telegraph Canyon Road is an east/west facility connecting I-805 with Otay Lakes Road. Telegraph Canyon Road terminates at its intersection with Otay Lakes Road; Otay Lakes Road then turns and changes its general direction to become an east/west facility. In the future, the east/west portion of Otay Lakes Road (east of the terminus of Telegraph Canyon Road) will be renamed Telegraph Canyon Road. Currently, this facility is constructed with six travel lanes (divided) between I-805 and Paseo del Rey, five travel lanes (three lanes eastbound, two lanes westbound) between Paseo del Rey and Medical Center Drive, four travel lanes (divided) between Medical Center Drive and Paseo Ladera, transitioning to two travel lanes from Paseo Ladero to just east of Otay Lakes Road. Just east of Otay Lakes Road, the EastLake Development Company is constructing this facility to four travel lanes (divided) within a six-lane prime arterial graded width through their property. The existing two-lane segments between Paseo Ladera and Otay Lakes Road will be reconstructed to ultimate prime arterial standards by future assessment districts.

Otay Lakes Road is a north/south facility varying in width between two and four travel lanes from Bonita Road to Telegraph Canyon Road. At this time, Otay Lakes Road is under construction between East H Street and Bonita Road to complete four lane improvements along the north/south portion of this roadway. Ultimate City plans designate Otay Lakes Road as a six-lane prime arterial between Bonita Road and Telegraph Canyon Road.

Corral Canyon Road is a north/south roadway with two lanes (one travel in each direction) with a center two-way left turn lane. The City of Chula Vista has classified this roadway as a two-lane Class II Collector from East H Street north to Central Avenue.

Proctor Valley Road exists today as a two lane partially paved/graded dirt road in a north/south alignment just south of San Miguel Road, where it then follows an east/west alignment across the southern portion of the Salt Creek Ranch property connecting with Campo Road/SR 94 in Jamul. This roadway serves scattered agricultural uses and carries very low traffic volumes. Currently, there is no traffic count data available for this



Please see the response to comment 5 of the letter from the City of Chula Vista Public Works Department.

SOURCE: Basmaciyan-Darnell, Inc.

ERC Environmental and Energy Services Co.

Existing Daily Traffic Volumes (In Thousands)

FIGURE 3-13

roadway. In the future, the east/west portion of Proctor Valley Road will serve as the extension of East H Street across the Salt Creek Ranch property as a four-lane major road. Portions of Proctor Valley Road to the north and west of Salt Creek Ranch will serve as part of the future State Route 125 freeway alignment.

Evaluation of Existing Daily Traffic Volumes

Appendix E, Table 1 provides a comparison of the daily traffic volumes (shown on Figure 3-13) and the City's recommended maximum volume for the roadways (per functional classification). The City of Chula Vista's maximum Level of Service (LOS) C capacities were obtained from the City of Chula Vista General Plan Update (page 2-18) and are included in Appendix A of the traffic report (Appendix E of this EIR).

From Table 1 in Appendix E, it is evident that most street segments operate within the City of Chula Vista's Recommended LOS C volumes; a number of rural two-lane roadways do carry double or triple the maximum recommended LOS C volumes.

Evaluation of Existing Peak Hour Conditions at Key Intersections

In accordance with discussions with City staff, the signalized and unsignalized intersections listed in Table 3-9 were identified for analysis. The existing conditions at these intersections were analyzed by BDI during the commuter peak hour periods (morning and afternoon). Appendix E Figures 4 and 5 illustrate the existing morning and afternoon peak hour turning movements, respectively, and Figure 6 of Appendix E illustrates the lane configurations at the intersections.

Table 3-9 summarizes the analyses of the existing intersection peak hour levels of service. As shown in Table 3-9, all of the signalized intersections operate at fully acceptable levels of service (LOS C or better). The analysis methodology is described and documented in Appendix E.

The currently unsignalized intersection of Telegraph Canyon Road/Otay Lakes Road experiences LOS F and E (Table 3-9) during the morning and afternoon peak hours, respectively, for the major approach left turning vehicles (Otay Lakes Road). This intersection is planned for signalization (currently being designed) at the time Telegraph Canyon Road is widened to four travel lanes.

The unsignalized intersection of Telegraph Canyon Road/Rutgers Road experiences delays (LOS D) for left turning vehicles from the minor approach (Rutgers Road) during the afternoon peak hour. This intersection is planned for future signalization.

Existing Public Transportation Opportunities

The proposed project is not currently served by the Chula Vista Transit Service (CVTS). CVTS Route 705 provides service to the EastLake Business Park.

Impacts

Project Traffic Generation

The Salt Creek Ranch is consistent with the residential density ranges evaluated in the City of Chula Vista General Plan Scenario 4 travel forecasts. The daily trips anticipated to result from the development of the site were estimated using trip generation rates utilized in the City of Chula Vista General Plan travel forecasts. Based on a daily trip rate of 10 trips

Table 3-9
SUMMARY OF EXISTING INTERSECTION LEVELS OF SERVICE

Intersection	AM Peak ICU	AM Peak LOS	PM Peak ICU	PM Peak LOS
Signalized:				
Bonita Road/Otay Lakes Road	0.51	A	0.70	B
Bonita Road/Central Avenue	0.54	A	0.71	C
Central Avenue/Corral Canyon Road	0.42	A	0.45	A
East H Street/Corral Canyon Road	0.45	A	0.45	A
East H Street/Otay Lakes Road	0.68	B	0.52	A
East H Street/Auburn Avenue	0.61	B	0.58	A

	AM Peak		PM Peak	
	Minor St.	Left Turn Major St.	Minor St.	Left Turn Major St.
Unsignalized:				
Telegraph Canyon Road/ Otay Lakes Road	F	B	E	B
Otay Lakes Road/ Rutgers Road	B	A	D	A
San Miguel Road/ Proctor Valley Road	A	A	A	A

per each single family dwelling unit, project development as proposed would generate approximately 36,440 vehicles per day (vpd) with 2,915 and 3,645 trip ends to occur during the morning and afternoon peak hour periods, respectively (see Appendix E, Table 3).

In order to assess the impacts of the proposed project, it is necessary to look at the long term cumulative effects of the project on the circulation system proposed for the City of Chula Vista. City staff has directed BDI to utilize the most recent General Plan land use (Scenario 4) travel forecast prepared by SANDAG (3/10/89). This forecast was adjusted to reflect the proposed Salt Creek Ranch project specific access locations.

Project Traffic Distribution

Project trip distribution is estimated from a buildout select zone assignment from the City of Chula Vista General Plan (Scenario 4) travel forecasts. Appendix E, Figure 7 presents the distribution of Salt Creek Ranch traffic onto the surrounding buildout street system.

As depicted in Appendix E, Figure 7, the majority (60 percent) of the project trips will orient west along East H Street for connection to State Route 125 (north/south destinations) and continue west for destinations along East H Street. The remainder of the project-related traffic will orient south on Lane Avenue (20 percent) and Hunte Parkway (15 percent) for connection to Telegraph Canyon Road and destinations within the EastLake Planned Community.

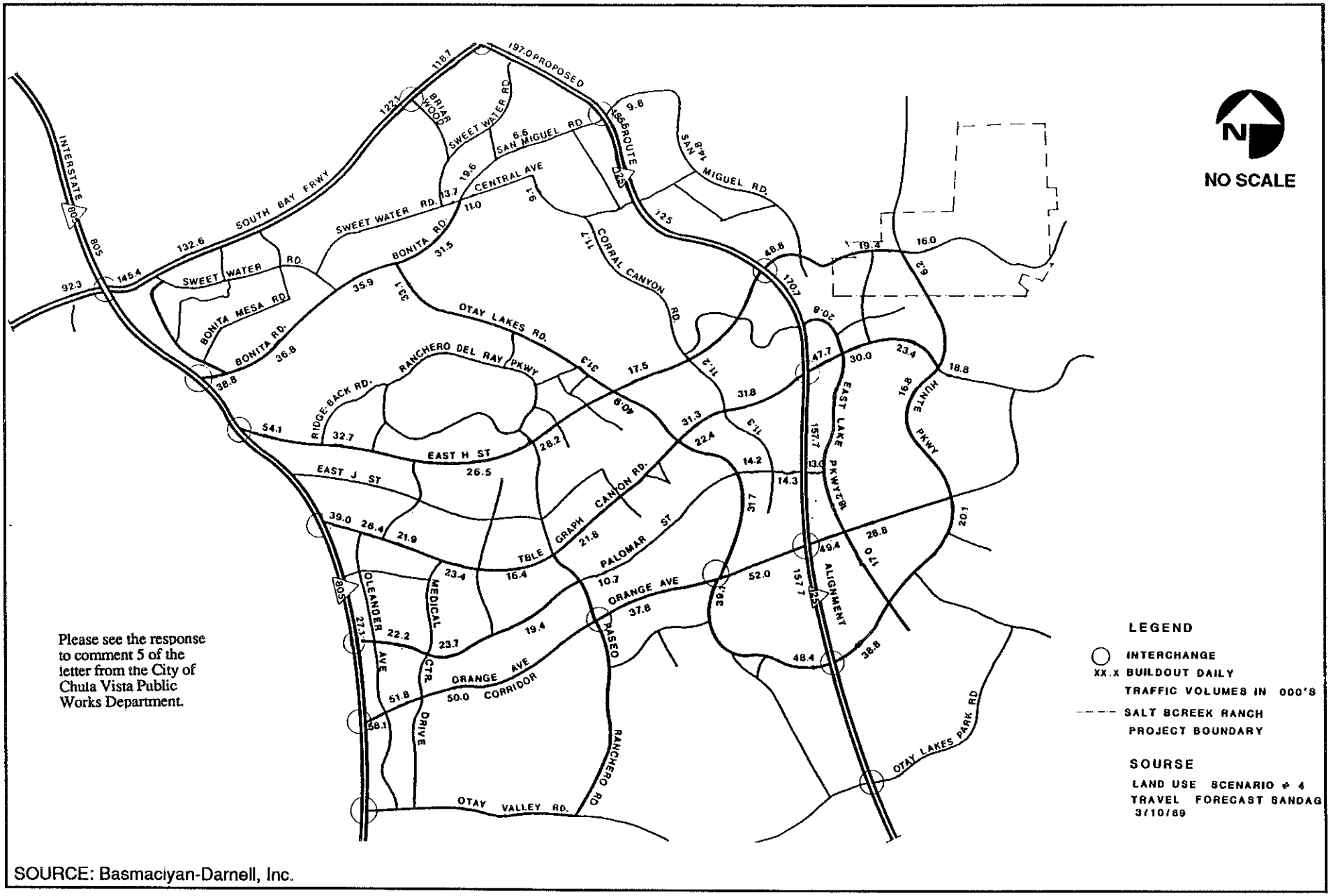
Cumulative Buildout Street Segment Analysis

Figure 3-14 presents the City of Chula Vista General Plan (Scenario 4) buildout travel forecast daily traffic volumes on the street system surrounding Salt Creek Ranch. Figure 3-15 indicates the daily assignment of Salt Creek Ranch trips onto the surrounding street system. This travel forecast was performed by SANDAG (3/10/89) for the City of Chula Vista and is currently in the process of refinement by City staff. Appendix E, Table 5 provides a comprehensive list of street segments in the Eastern Chula Vista Territories along with Circulation Element classifications, maximum LOS C daily traffic volumes, estimated cumulative volumes at buildout, and percentage of Salt Creek daily traffic of buildout daily traffic. Four street segments were projected to carry traffic volumes in excess of LOS C maximum daily volumes, as described below.

East H Street is projected to operate within the City of Chula Vista's recommended maximum LOS C daily traffic volumes on most segments. East of I-805, East H Street is forecast to carry daily volumes in excess of 50,000 vpd. The segment is projected to operate at LOS D during the peak hour with a daily volume of 54,100 vpd as reported in Appendix E, Table 5. The Salt Creek Ranch is expected to contribute only one percent of the total daily traffic on this segment.

East Orange Avenue, between I-805 and Medical Center Drive, is forecasted at cumulative buildout with daily traffic volumes which exceed the City's recommended maximum daily volume for LOS C for a six-lane prime arterial (see Appendix E, Table 5). The proposed Salt Creek Ranch is expected to comprise approximately two percent of those daily traffic volumes.

Bonita Road, between I-805 and Central Avenue, is projected to carry cumulative daily traffic volumes in excess of 30,000 vpd on all segments, above the City's recommended maximum daily traffic volumes for a four-lane major street for LOS C. The Salt Creek Ranch contributes negligible traffic (one percent or less) along Bonita Road under buildout



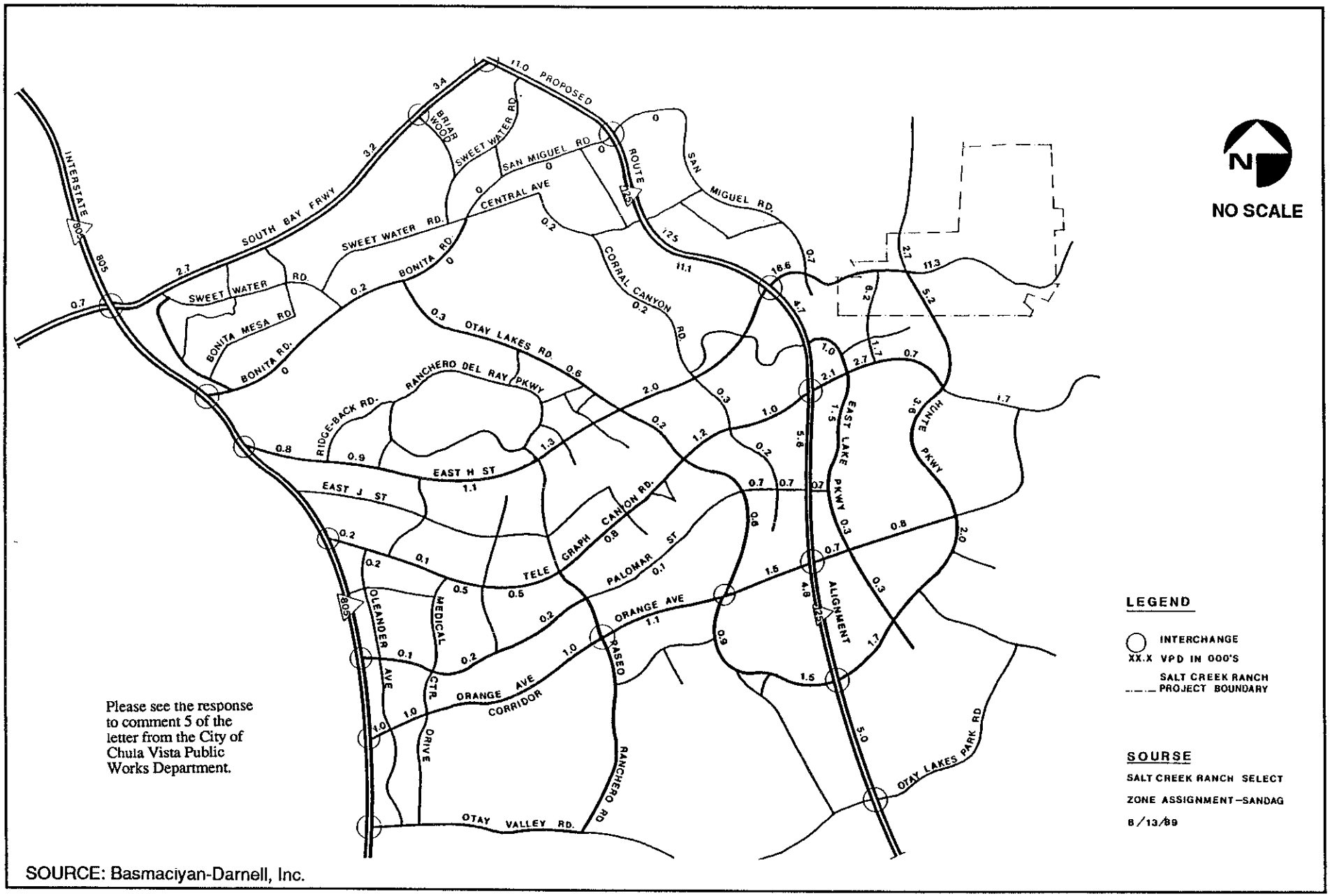
Please see the response to comment 5 of the letter from the City of Chula Vista Public Works Department.

SOURCE: Basmaciyan-Darnell, Inc.

ERC Environmental and Energy Services Co.

Buildout Cumulative Daily Traffic Volumes (In Thousands)

FIGURE 3-14



Please see the response to comment 5 of the letter from the City of Chula Vista Public Works Department.

SOURCE: Basmaciyan-Darnell, Inc.

ERC Environmental and Energy Services Co.

Project Traffic Volumes (Daily Volumes in Thousands)

FIGURE 3-15

conditions. Bonita Road is currently built to ultimate standards between Otay Lakes Road and I-805 and carries in excess of 40,000 vpd east of I-805.

Otay Lakes Road/Telegraph Canyon Road, between East Orange Avenue and State Route 125, is forecast at cumulative buildout to carry 48,400 vpd under buildout conditions. This daily traffic volume exceeds the 40,000 vpd recommended maximum daily traffic volume for LOS C as a six-lane major street. The Salt Creek Ranch contributes 1,500 vpd to this segment which constitutes three percent of the segment's daily traffic.

All other street segments in the Eastern Chula Vista Territories are projected to carry daily traffic volumes below LOS C recommended maximum volumes under buildout of the City's General Plan land use and network assumptions. Full buildout of Otay Ranch was not included in the travel forecasts; planning efforts for the Otay Ranch have not been formalized and are not included.

Buildout Intersection Operations and Signal Warrants

The proposed Salt Creek Ranch contains two future intersections of Circulation Element roadways, Lane Avenue and Hunte Parkway with East H Street. Appendix E describes the Intersection Capacity Utilization (ICU) methodology and assumptions; Appendix E, Figures 10 and 11 depict the morning and afternoon peak hour turning movements and assumed lane configurations at the East H Street/Lane Avenue and East H Street/Hunt Parkway, respectively. Table 3-10 presents a summary of the peak hour levels of service (LOS) for the analyzed intersections under buildout conditions.

As indicated in Table 3-10, both roadway intersections within the Salt Creek Ranch are projected to operate at LOS C or better during both the morning and afternoon peak hours. This assumes the East H Street/Lane Avenue and East H Street/Hunte Parkway intersections are constructed with the geometrics proposed in the following Mitigation Measures section. Results of the traffic signal analysis (Appendix E) indicate that the intersections of East H Street with both Lane Avenue and Hunte Parkway will meet the minimum warrants for signalization.

Table 3-10

ONSITE INTERSECTION BUILDOUT LEVELS OF SERVICE

Intersection	AM Peak		PM Peak	
	ICU	LOS	ICU	LOS
East H Street/Lane Avenue	0.48	A	0.60	A
East H Street/Hunte Parkway	0.69	B	0.78	C

Internal Circulation and Project Access

Since the proposed GDP does not indicate specific points of access or project internal circulation roadways, these issues cannot be addressed specifically at this level of

environmental review. Specific internal roadways, alignments and access to Circulation Element roadways should be analyzed to the satisfaction of the City Traffic Engineer during the SPA Plan and tentative map processing (see Mitigation Measures).

One issue of concern at this time is the proposed onsite elementary school siting along the north side of East H Street. A school location on such a major road would require sensitive site design and access to ensure pedestrian/student safety in that area. This issue would be addressed at the SPA Plan level in coordination with the school district, City Public Works Department and developer (see Section 3.13, Schools, for discussion and mitigation). Similarly, bicycle, equestrian and other trail crossings at East H Street would be addressed in concept at the SPA Plan level and in detail at the subdivision and site plan stages of approval.

Project Phasing/Transportation Phasing Plan

The Eastern Chula Vista Transportation Phasing Plan (ECVTPP) assumed 2,834 dwelling units (DU) for the Salt Creek Ranch, with development phasing of 300 DU increments commencing in the ECVTPP increment 3 and continuing through increment 11 (last increment in the ECVTPP). The ECVTPP is discussed in detail in Appendix E, which includes evaluations by each increment. Appendix E Tables 7 and 8 and Figures 13 through 23 present the ECVTPP by increment. Since the Salt Creek Ranch proposed dwelling units are not consistent with the ECVTPP, it is reasonable to conclude development phasing will also differ. The ECVTPP does not incorporate the entire Salt Creek Ranch property, thus, the entire project was not assumed in phasing plans. Future updates and revisions to the ECVTPP would include the project if the GDP is approved. The project is required to construct roadway improvements based on development proposed, as described below.

Appendix E, Table 7 provides a comparison of the Salt Creek Ranch development phasing with the total ECVTPP development phasing for each of the 11 development increments assumed for the ECVTPP analyses. Appendix E contains a discussion of forecasted volumes and street network assumed for each ECVTPP increment. Also in Appendix E is a discussion of each increment's development and transportation improvement assumptions.

The ECVTPP was created to insure construction of major roadways in eastern Chula Vista to serve existing traffic and future development traffic. Developers will be required to construct Circulation Element roadways which are internal to their respective projects. They will receive credit toward their Development Impact Fee (DIF) contributions. Therefore, Salt Creek Ranch will be required to construct East H Street, Hunte Parkway, and Lane Avenue to ultimate standards through the project. The Salt Creek Ranch would contribute to off-site roadways on a fair share basis with other area developers by participation in the ECVTPP.

Mitigation Measures

- East H Street through the project shall be constructed to ultimate four-lane major street standards consistent with City of Chula Vista design criteria. Construction phasing shall be determined by the City in coordination with the ECVTPP. Future additional right-of-way along this roadway may be required, at the discretion of the City Traffic Engineer, due to future traffic volumes generated by the Otay Ranch project to the south and east. Unsignalized project access points shall be spaced no closer than 0.25 mile apart.

Please see the respons to comment 6 of the letter from the City of Chula Vista Public Works Department.

- Lane Avenue shall be constructed to ultimate Class I Collector standards, from its existing northern terminus at the project's southern boundary to East H Street, consistent with the City of Chula Vista's design criteria. Construction phasing shall be determined by the City and, if necessary, coordinated with the ECVTPP.

- The Circulation Element roadways of Hunte Parkway and Lane Avenue will require the following intersection lane configurations (subject to City Traffic Engineer approval). Implementation/phasing shall occur (as directed by the City) to accommodate forecast buildout daily traffic volumes:

ase see the response comment 6 of the er from the City of ula Vista Public orks Department.

East H Street/Lane Avenue

Eastbound East H St.	– two through, one right
Westbound East H St.	– one left, two through
Northbound Lane Ave.	– two left, one right

East H Street/Hunte Parkway

Eastbound East H St.	– two left, one through, one through/right
Westbound East H St.	– two left, one through, one through/right
Northbound Hunte Pkwy.	– two left, one through/right
Southbound Hunte Pkwy.	– two left, one through/right

- Traffic signals shall be installed on a schedule determined by the City at the intersections of East H Street with both Lane Avenue and Hunte Parkway. Signals will be activated when warrants are met or at the discretion of the City Traffic Engineer.

- Specific project access and internal circulation plans (including bicycle, equestrian and pedestrian routes and crossings) shall be provided to the satisfaction of the City Traffic Engineer at the SPA Plan (general level) and Tentative Map (detailed level) stages of approval.

- To fully mitigate project impacts onto local roads, the project shall participate towards off-site improvements on a fair share basis with other area developers consistent with development assumptions and network improvements within the adopted East Chula Vista Transportation Phasing Plan (ECVTPP). The Salt Creek Ranch project shall also comply with any additional requirements (i.e. road improvements or impact fees) defined in future revisions and updates to the ECVTPP, as it pertains to the project's impacts onto the circulation system. Compliance shall be verified via review and approval of the SPA Plan and tentative maps by the City Traffic Engineer.

Analysis of Significance

Implementation of the above mitigation measures will mitigate project-specific traffic and circulation impacts to below a level of significance. The project's contribution to significant cumulative traffic impacts on various roadways can be mitigated by the above measures, specifically by participation in the ECVTPP and future revisions thereof.

3.10 NOISE

The acoustical analysis focuses on the potential noise impacts associated with project buildout. The roadways proposed in the General Development Plan include the conversion of Proctor Valley Road into an extension of East H Street to the east, and the extension of Lane Avenue and Hunte Parkway to the north.

Existing Conditions

The site is currently undeveloped and the only roadway within the subject property is Proctor Valley Road. Proctor Valley Road exists today as a two-lane partially graded and paved road which follows an east-west alignment across the southern portion of the Salt Creek Ranch property connecting with Campo Road/SR-94 in Jamul. This roadway serves scattered agricultural uses and carries very low traffic volumes. Currently, there is no traffic count data available for this roadway. The only onsite noise generators are limited vehicular traffic on Proctor Valley Road and seasonal agricultural activities. Generally, existing ambient noise levels onsite are expected to range from approximately 50 to 52 dB(A) CNEL. When a vehicle does travel along Proctor Valley Road, ambient noise levels adjacent to the road (i.e., approximately 50 feet from the roadway centerline) would be anticipated to rise by approximately 5 to 8 decibels.

Community noise levels are generally presented in terms of CNEL (Community Noise Equivalent Level). CNEL is the average equivalent A-weighted sound level during a 24-hour day, and is calculated by adding 5 decibels to sound levels in the evening (7 p.m. to 10 p.m.) and adding 10 decibels to sound levels at night (10 p.m. to 7 a.m.). The A-weighted scale measures noise levels corresponding to the human hearing range.

The City of Chula Vista requires that the CNEL of exterior living areas (yards and patios) for residential land uses and for outdoor recreation areas (parklands) not exceed 65 dB(A). In addition, the California Noise Insulation Standard (California Administrative Code, Title 24, Chapter I, Subchapter I, Article 4) requires that interior noise levels in multi-family residential living spaces not exceed a CNEL of 45 dB(A). The City of Chula Vista also applies this interior noise standard to single-family residential homes. With windows closed, typical residential units can be expected to yield between 15 and 20 dB of attenuation. Therefore, residential development in areas above 60 dB(A) CNEL could result in adverse interior noise levels.

Existing noise conditions are not considered significant or unacceptable because the proposed project site is undeveloped, and onsite generators (i.e., limited vehicular traffic and seasonal agricultural activities) do not create a significant amount of noise on a regular basis. Offsite noise generators (e.g., vehicular traffic on Otay Lakes Road and East H Street) are too distant from the site to generate significant noise onsite, and sound attenuation is provided by the complexity of the existing terrain.

Impacts

This preliminary noise analysis addresses potential noise impacts which could be realized from buildout of the site on land uses proposed by the General Development Plan for Salt Creek Ranch.

The noise analysis was conducted with the Federal Highway Administration's Stamina 2.0 noise prediction model. The use of this model for roadway noise level analyses has been accepted in the environmental assessment industry as an accurate tool, having been validated with empirical study and field investigation. The Stamina 2.0 program accepts as

This discussion reviews potential noise impacts which may result from vehicular traffic on roadways proposed for the project site in the GDP. Projected noise contours are discussed from individual roadway segments as they may impact exterior living areas (e.g., residential lots and parkland) throughout the project site. The potential for interior noise impacts are reviewed following this discussion.

East H Street (west of Hunte Parkway). Noise modeling indicates that future cumulative noise levels adjacent to East H Street in this area would exceed 65 dB(A) CNEL. At approximately 70 feet from the centerline of East H Street (20 feet from the ROW limit) noise levels were modeled at approximately 72 dB(A) CNEL. These projected noise levels would exceed the City's guideline by up to 7 dB(A) CNEL resulting in potentially significant noise impacts, if left unmitigated. Noise modeling indicates that the 65 dB(A) CNEL noise contour is approximately 310 feet from the centerline of East H Street in this area (Table 3-11). Therefore, exterior living areas associated with the proposed elementary school and residential lots in the Low/Medium (LM) residential areas (i.e., within 310 feet of the centerline of East H Street) would potentially be subject to significant noise impacts, if left unmitigated. Potential topographic attenuation and building shielding, however, would likely reduce exterior noises levels below 65 dB(A) CNEL in some of these areas.

Lane Avenue. Noise modeling indicates that future cumulative noise levels adjacent to Lane Avenue would exceed 65 dB(A) CNEL. At 65 feet from the centerline of Lane Avenue (20 feet from the ROW limit) noise levels were modeled at approximately 67 dB(A) CNEL. These projected noise levels would exceed the City's guideline by up to 2 dB(A) CNEL resulting in potentially significant noise impacts, if left unmitigated. Noise modeling indicates that the 65 dB(A) CNEL noise contour is approximately 95 feet from the centerline of Lane Avenue. Therefore, exterior living areas associated with residential lots in the Medium (M) and LM residential areas within 95 feet of the centerline of Lane Avenue, the first row of residential lots) would potentially be subject to significant noise impacts, if left unmitigated.

Hunte Parkway (south of East H Street). Noise modeling indicates that future cumulative noise levels adjacent to Hunte Parkway in this area would exceed 65 dB(A) CNEL. At 70 feet from the centerline of Hunte Parkway (20 feet from the ROW limit) noise levels were modeled at approximately 66 dB(A) CNEL. These projected noise levels would exceed the City's guideline by up to 1 dB(A) CNEL resulting in potentially significant noise impacts, if left unmitigated. Noise modeling indicates that the 65 and 60 dB(A) CNEL noise contours are approximately 85 and 240 feet from the centerline of East H Street, respectively. Therefore, exterior living areas associated with residential lots in the LM residential area to the west of Hunte Parkway (within 85 feet of the centerline of Hunte Parkway, the first row of residential lots) would potentially be subject to significant noise impacts, if left unmitigated. Potential topographic attenuation and building shielding, however, would likely reduce exterior noise levels below 65 dB(A) CNEL in some of these areas.

The traffic analysis did not provide traffic volume estimates for Hunte Parkway north of East H Street. It is anticipated that traffic volumes would be low on this roadway segment such that no significant noise impacts would be realized on adjacent land uses. Subsequent site-specific noise assessments at the SPA Plan/tentative map levels will verify this assumption.

East H Street (east of Hunte Parkway). Noise modeling indicates that future cumulative noise levels adjacent to East H Street in the eastern portion of the site would exceed

65 dB(A) CNEL. At 65 feet from the centerline of East H Street (20 feet from the ROW limit) noise levels were modeled at approximately 70 dB(A) CNEL. These projected noise levels would exceed the City's guideline by up to 5 dB(A) CNEL resulting in potentially significant noise impacts, if left unmitigated. Noise modeling indicates that the 65 dB(A) CNEL noise contour is approximately 175 feet from the centerline of East H Street in this area (Table 3-11). Therefore, exterior living areas associated with the nature center, a neighborhood park, an equestrian center, and residential lots in the Low (L) residential areas (within 175 feet of the centerline of East H Street) would potentially be subject to significant noise impacts, if left unmitigated. Potential topographic attenuation and building shielding, however, would likely reduce exterior noises levels below 65 dB(A) CNEL in some of these areas.

There are currently no smaller internal streets (i.e., residential Class I collector streets) proposed on the subject property. Preliminary noise modeling for the EastLake III project in Chula Vista (ERC Environmental and Energy Services Co. 1989) indicates that internal streets projected to carry less than 5,000 ADT (assuming 35 mph) would not generate significant noise levels on adjacent land uses (beyond 30 feet from the centerlines of these roadway segments) that are subject to the 65 dB(A) CNEL guideline.

Interior Noise. The single-family units proposed by the GDP must comply with the City's interior noise standard of 45 dB(A) CNEL. To comply with the interior noise standard the residential units must provide sufficient outdoor-to-indoor building attenuation to reduce the noise levels to acceptable levels. It can be assumed that with closed windows, buildings typically provide 15 to 20 dB(A) of noise reduction (with typical building materials). Thus, any portion of the project property exposed to 60 dB(A) CNEL or greater has the potential for significant adverse interior noise impacts, if left unmitigated. These areas where residential units may be potentially exposed to noise levels greater than 60 dB(A) CNEL include within 700 feet of the centerline of East H Street (in the western portion of the site), within 435 feet of the centerline of East H Street (east of Hunte Parkway), within 255 feet of the centerline of Lane Avenue, and within 240 feet of Hunte Parkway (south of East H Street).

Mitigation Measures

Potentially significant exterior and interior noise impacts anticipated on land uses proposed by the General Development Plan will require mitigation. Methods for mitigating these impacts to below a level of significance are described below.

- Exterior: Potentially significant onsite exterior noise impacts due to vehicular traffic along particular noise-sensitive land uses proposed by the General Development Plan (i.e., neighborhood parks, nature center, elementary school, equestrian center and single-family residential) shall be mitigated by specific measures outlined in subsequent, site-specific noise analyses to be conducted at the SPA Plan level. The most effective method of mitigation involves constructing a wall and berm between the roadway and the potentially impacted land use. Once detailed development plans are presented for Salt Creek Ranch including grading plans (i.e., pad elevations relative to roadway elevations) and specific locations of buildings, an additional acoustical analysis will be required to specifically quantify future noise impacts. Noise modeling of future conditions can then be used to determine the required height and the effectiveness of walls and/or earth berms in reducing noise exposure to acceptable levels onsite. It is anticipated that potential exterior noise impacts realized from development of the land uses proposed by the General Development Plan could be effectively mitigated to below a level of significance

through the use of walls and/or berms, adequate setback of lots and structures or a combination of methods.

- Interior: Potentially significant interior noise impacts shall be mitigated through the reduction of exterior noise levels to below 60 dB(A) in residential areas (assuming the incorporation of standard building materials), or through the use of enhanced building materials such as sound rated windows or insulation. A detailed site-specific acoustical analysis, to be conducted of the SPA Plan level, shall identify where this reduction is necessary and how it will be attained. Performance of effective mitigation will require reducing interior noise levels in single-family units to 45 dB(A) CNEL or below. Potentially significant interior noise impacts realized from development of the proposed General Development Plan land uses shall be effectively mitigated to below a level of significance through the use exterior noise barriers and appropriate building materials.

- Mitigation Monitoring and Reporting. Once a final noise mitigation plan has been created for the site (prior to issuance of grading permits), the City of Chula Vista is required to implement a noise mitigation monitoring and reporting program to comply with California State Assembly Bill Number 3180 (effective January 1, 1989). This program shall be designed to ensure compliance with the proposed mitigation measures and to verify that the required measures are effective at reducing any identified significant impacts to below a level of significance. To fulfill the mitigation monitoring requirement, at the completion of construction of the site and prior to occupancy, interior and exterior CNEL measurements shall be conducted in the field to determine whether the appropriate barrier/wall positions and home construction materials were used to attenuate noise levels to comply with the City's standards. The monitoring shall be conducted by a qualified acoustical engineer using a Type 2 sound level meter. The field monitoring results shall be documented in written report form for review by the City.

Analysis of Significance

For the project to comply with City noise standards, attenuation of potential exterior and interior noise impacts will be required to comply with City's standards. Additional exterior acoustical analysis will be required once final grading plans are prepared for the site to determine future noise levels and appropriate mitigation, if measures are required. Because noise attenuation resulting from intervening topography and/or future structures will be analyzed and final mitigation measures required, future onsite cumulative noise impacts can be mitigated to below a level of significance.

3.11 AIR QUALITY

Existing Conditions

Meteorology/Climate

The climate in the vicinity of the Salt Creek Ranch development project area and all of San Diego County is dominated by a semi-permanent high-pressure cell located over the Pacific Ocean. This high pressure cell maintains clear skies for much of the year. It also drives the dominant onshore circulation and creates two types of temperature inversions, subsidence and radiation, that interact in conjunction with pollutants to degrade local air quality.

Subsidence inversions occur during the warmer months as descending air associated with the Pacific high-pressure cell comes into contact with cool marine air. The boundary between the two layers of air represents a temperature inversion which traps pollutants. The radiation inversion develops on winter nights when air near the ground cools by heat radiation and air aloft remains warm. A shallow inversion layer is formed between the two air masses which can trap vehicular pollutants such as carbon monoxide and oxides of nitrogen.

The closest and most representative weather monitoring station to the project site is the Chula Vista station, located approximately 5 miles northwest of the site. The mean temperature in Chula Vista is 60.2°F; the mean maximum and mean minimum temperatures are 67.2°F and 53.1°F, respectively. Precipitation in the vicinity of the study area averages 8 inches annually, 90 percent of which falls between November and April.

Description of Pollutants

Photochemical oxidants, commonly known as smog, are produced from complex photochemical reactions involving reactive hydrocarbons (RHC) and nitrogen oxides (NO_X). Photochemical oxidants, expressed and measured in terms of ozone (O_3), are considered a major problem in San Diego County. Significant concentrations of oxidants are often recorded at locations far from the primary emission source. For example, smog formed in the Los Angeles area will sometimes be transported over the ocean into San Diego County.

Carbon monoxide (CO) is a colorless, odorless gas produced largely by the incomplete burning of fuel in internal combustion engines. Concentrations of CO occur close to heavily traveled streets, especially at locations where vehicles idle for prolonged periods (e.g., parking lots, drive-through facilities, and congested intersections). These areas of high CO build-up are generally referred to as CO "hotspots".

Since CO build-up typically occurs at locations where traffic is congested, CO hotspot concentrations are correlated with levels of service at intersections. Significant concentrations of carbon monoxide sometimes occur (depending on temperature, wind speed, and other variables) where an intersection's level of service (LOS) is D or worse, as defined by the City of Chula Vista General Plan.

Regulatory Framework

Ambient Air Quality Standards (AAQS) represent the maximum level of background pollution considered safe, with an adequate margin of safety, to protect the public health and welfare. The five primary pollutants of concern for which standards have been established are sulfur dioxide, carbon monoxide, nitrogen oxides, ozone, and suspended particulate matter. National Ambient Air Quality Standards (NAAQS) were promulgated by the Environmental Protection Agency (EPA) in 1971, with states retaining the option to develop different (more stringent) standards. Due to unique air quality problems in California, the California Air Resources Board (CARB) has developed additional AAQS. The currently applicable state and federal standards are presented in Figure 3-16. The City of San Diego implements standards adopted by the Regional Air Quality Maintenance Plan (AQMP) as their threshold standards for air quality (Figure 3-16).

POLLUTANT	AVERAGING TIME	CALIFORNIA STANDARDS (1)		NATIONAL STANDARDS (2)		
		Concentration	Method	Primary	Secondary	Method
Ozone	1 Hour	0.09 ppm (180 µg/m^3)	Ultraviolet Photometry	0.12 ppm (235 µg/m^3)	Same as Primary Standards	Ethylene Chemiluminescence
Carbon Monoxide	8 Hour	9.0 ppm) (10 mg/m 3)	Nondispersive Infrared Spectroscopy	9.0 ppm (10 µg/m^3)	Same as Primary Standards	Nondispersive Infrared Spectroscopy
	1 Hour	20 ppm (23 mg/m3)		35 ppm (40 µg/m 3)		
Nitrogen Dioxide	Annual Average	-	Gas Phase Chemilum-inescence	0.053 ppm (100 µg/m^3)	Same as Primary Standards	Gas Phase Chemiluminescence
	1 Hour	0.25 ppm (470 µg/m^3)		-		
Sulfur Dioxide	Annual Average	-	Ultraviolet Fluorescence	0.03 ppm (80 µg/m 3)	-	Pararosaniline
	24 Hour	0.05 ppm (131 µg/m3)		0.14 ppm (365 µg/m 3)	-	
	3 Hour	-		-	0.5 ppm (1300 µg/m^3)	
	1 Hour	0.25 ppm (655 µg/m 3)		-	-	
Suspended Particulate Matter	Annual Geometric Mean	PM-10 30 µg/m3	Size Selective High Volume Sampler and Gravimetric Analysis	PM-10 (3) 50 µg/m3	Same as Primary Standards	Inertial Separation and Gravimetric Analysis
	24 Hour	PM-10 50 µg/m3		PM-10 150 µg/m^3		
Sulfates	24 Hour	25 µg/m3	Turbidimetric Barium Sulfate	-	-	-
Lead	30 Day Average	1.5 µg/m^3	Atomic Absorption	-	-	Atomic Absorption
	Calendar Quarter	-		1.5 µg/m^3	Same as Primary Standards	
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m 3)	Cadmium Hydroxide Stractan	-	-	-
Vinyl Chloride (chloroethene)	24 Hour	0.010 ppm (26 µg/m^3)	Tedlar Bag Collection, Gas Chromatography	-	-	-
Visibility Reducing Particles	1 Observation	In sufficient amount to reduce the prevailing visibility to less than 10 miles when the relative humidity is less than 70%		-	-	-

ppm - parts per million

µg/m^3 - micrograms per cubic meter

mg/m^3 - milligrams per cubic meter

(1) CO, SO_2 (1 Hour), NO_2, O_3 and PM-10 Standards are not to be exceeded. All other Standards are not to be equaled or exceeded

(2) Not to be exceeded more than once a year

(3) Annual arithmetic mean

ERC Environmental and Energy Services Co.

California and Federal Ambient Air Quality Standards

FIGURE 3-16

In San Diego County, it is the responsibility of the Air Pollution Control District (APCD) to ensure that state and national air quality standards are achieved. APCD's current air quality plan, the 1982 State Implementation Plan (SIP) Revisions, documents the necessary overall strategy and individual tactics by which the San Diego air basin can meet its attainment goal. The SIP Revisions state that if these actions are taken and if regional growth does not exceed anticipated identified SIP levels, then the basin will no longer experience unhealthful air quality due to emissions generated in the basin.

The 1982 SIP Revisions employed the San Diego Association of Governments (SANDAG) Series V growth forecast which is based on Community and General Plan land use designations to project regional growth. Development that seriously departs from the forecast could generate emissions in excess of what is necessary to attain state and federal standards. In 1985, a progress report was prepared by the APCD to assess the San Diego Air Basin's ability to achieve NAAQS attainment goals. The 1985 Progress Report considers the same type of emission reduction tactics identified in the 1982 SIP Revisions, but accounts for growth according to an updated SANDAG growth forecast (Series VI). Since attainment of ozone standards is not expected to be achieved in the near future, formulation of a new SIP Revision will potentially be required. The latest SANDAG growth forecast (Series VII) will be used as the basis for the next SIP Revision.

Ambient Air Quality Summary

Ambient air quality is monitored by the San Diego APCD at the Chula Vista monitoring station. In the absence of site specific air quality data, data from the Chula Vista station is assumed to be representative of the site. Table 3-12 summarizes ambient air quality data at the Chula Vista monitoring station from 1984 through 1988.

The entire San Diego Air Basin has not attained state and federal standards for ozone. The basin is in the progress of being redesignated as an attainment area for particulates. For the remaining criteria pollutants (carbon monoxide, sulfur dioxide, and nitrogen dioxide), the San Diego region is designated as an attainment area.

Please see the respons to comment 3 of the letter from the San Diego Association of Governments.

In addition to adverse ozone levels, the project area experiences congested intersections which have a potential for CO hot spots. Currently, the potential for CO hot spots exists at two unsignaled intersections in the project vicinity. During the morning and afternoon peak hours, the unsignaled intersection of Telegraph Canyon Road/Otay Lakes Road near the Salt Creek Ranch area operates at LOS F and E, respectively. In addition, the unsignaled intersection of Telegraph Canyon Road/Rutgers Road currently experiences LOS D for left turning vehicles from Rutgers Road during the afternoon peak hours. Although both intersections are planned for future signalization (BDI, 1989) the potential for CO hot spots continues to exist at these intersections during peak hours until proper signalization has been completed.

Impacts

Regional Air Quality

Potential air quality degradation resulting from the proposed project would emanate from both stationary and mobile sources. Stationary source pollutant emissions include those generated by the consumption of natural gas and/or fuel oil for mechanical/electrical power and heat generation, and the burning of wood in residential fireplaces. Stationary sources are expected to generate a significant amount of criteria pollutants such as hydrocarbons, nitrogen oxides, sulfur dioxide, carbon monoxide, and particulates. In addition to stationary sources, vehicular traffic contributes a significant amount of carbon monoxide,

Table 3-12

AMBIENT AIR QUALITY SUMMARY - CHULA VISTA MONITORING STATION

Pollutant	Average Time	California Air Quality Standards	Federal Primary Standards	Maximum 1 hr Concentrations [a] 1984	1985	1986	1987	1988	Number of Days Exceeding State Standard [b] 1984	1985	1986	1987	1988	Number of Days Exceeding Federal Standard [b] 1984	1985	1986	1987	1988
Oxidants (Ozone)[c]	1 hr	0.09 ppm	0.12 ppm	0.15	0.20	0.14	0.16	0.22	18	28	20	15	---	4	4	2	2	4
Carbon Monoxide	8 hrs/	9 ppm	9 ppm	4.6	3.9	5.1	3.4	3.6	0	0	0	0	0	0	0	0	0	0
	1 hr	20 ppm	35 ppm	7.0	7.0	7.0	7.0	7.0	0	0	0	0	0	0	0	0	0	0
Nitrogen Dioxide	1 hr/	0.25 ppm	N/A	0.20	0.16	0.14	0.15	0.21	0	0	0	0	0	N/A	N/A	N/A	N/A	N/A
	Annual	N/A	0.053 ppm	0.026	0.028	0.025	0.024	0.026	N/A	N/A	N/A	N/A	N/A	0	0	0	0	0
Sulfur Dioxide	24 hrs/	0.05 ppm	0.14 ppm	0.021	0.015	0.013	0.011	---	0	0	0	0	---	0	0	0	0	---
	1 hr/	0.25 ppm	N/A	0.07	0.08	0.06	0.04	0.09	0	0	0	0	0	N/A	N/A	N/A	N/A	N/A
	Annual	N/A	0.03 ppm	0.003	0.002	0.002	0.001	0.003	N/A	N/A	N/A	N/A	N/A	0	0	0	0	0
Total Suspended Particulates[d] (TSP)	24 hrs/	N/A	260 $\mu g/m^3$	88	96	119	100	109	N/A	N/A	N/A	N/A	N/A	0	0	0	0	N/A
	Annual	N/A	75 $\mu g/m^3$	58	52	50	51	57	N/A	N/A	N/A	N/A	N/A	0	0	0	0	N/A
Fine Particulate Matter [d] (PM-10)	24 hrs/	50 $\mu g/m^3$	150 $\mu g/m^3$	---	---	104	68	---	---	---	---	---	---	N/A	N/A	N/A	0	---
	Annual	30 $\mu g/m^3$	50 $\mu g/m^3$	---	---	32.1	28.1	---	---	---	1	0	---	N/A	N/A	N/A	0	---

Source: San Diego APCD and California Air Resources Board, 1984, 1985, 1986, 1987, 1988.

Notes:

(a) Maximum concentration units for ozone, carbon monoxide, nitrogen dioxide, and sulfur dioxide are in parts per million (ppm). Concentration units for particulate matter (TSP and PM-10) are in micrograms per cubic feet ($\mu g/m^3$).

(b) For annual standards, a value of 1 indicates that the standard has been violated.

(c) California standard for ozone was 0.10 ppm for the year 1984-1988. The standard has been changed to 0.09 ppm in 1989.

(d) In July 1987, the federal standards for TSP were replaced by the standards for fine particulate matter less than 10 microns (PM-10).

nitrogen oxides and hydrocarbons to the local air shed. The level of pollutants emitted from vehicles depends on several factors including trip generation rates, trip lengths, vehicle mix and smog abatement equipment.

Table 3-13 contains a breakdown of the pollutants that would be generated by mobile sources associated with the Salt Creek Ranch development project at buildout level in 1995. The proposed 3,644 residential units would generate 36,440 average daily trips (ADT). The project would generate approximately 85 tons/year of reactive hydrocarbons (RHC), the main precursor to ozone. As shown in Table 3-13, the project will add a small fraction (0.47 percent) to the projected total emission burdens for the San Diego Air Basin.

In the San Diego area, a project is considered to have a significant, cumulative air quality impact if it has not been included in the SANDAG Series V growth forecast, which is the basis for the air quality attainment plans contained in the 1982 SIP Revisions. According to SANDAG's Series V, VI, and VII growth forecast, all of the proposed Salt Creek Ranch area is designated as open space or undeveloped land. Since the project proposes residential development (residential density ranging between 0-3 dwelling units per acre and 6-11 dwelling units per acre), the project is not consistent with the 1982 SIP Revisions and could effect the ability of the region's air quality strategy to attain federal and state standards. The Salt Creek Ranch project will therefore contribute to cumulative regional air quality impacts.

Local Air Quality: Short-Term

During the construction phase of the Salt Creek Ranch development project, short-term emissions of several criteria air pollutants would occur. Significant emissions of nitrogen oxides, carbon monoxide, sulfur dioxide, particulates, and unburned hydrocarbons will be generated from the combustion of fossil fuels by construction equipment. In addition, clearing, earth movement, and vehicle travel on unpaved surfaces can create considerable quantities of fugitive dust. The EPA (1985) estimates that such activities create about 1.2 tons of dust per acre disturbed per month. Construction dust is comprised primarily of large, chemically inert particles which, when inhaled, can be filtered through the human respiratory tract. Therefore, the dust constitutes more of a temporary soiling nuisance on cars, homes, foliage, and other surfaces than a health hazard. Impacts of this type tend to be less severe, more localized, and somewhat more easily controlled than those of other sources. The EPA estimates that dust control measures (i.e., regular watering) can reduce dust emission rates by about one-half.

Local Air Quality: Long-Term

As mentioned previously, CO hot spots currently exist during peak hours at two unsignaled intersections. Under the cumulative development scenario, which incorporates impacts from additional traffic and planned road improvements associated with the project and other approved and proposed projects in the vicinity of the project site, the traffic analysis indicates that all intersections in the project vicinity are predicted to operate at LOS C or better. Furthermore, under buildout conditions within the City of Chula Vista General Planning area, most street segments in the Eastern Territories are projected to carry daily traffic volumes below the City of Chula Vista's LOS C recommended daily traffic volumes.

Table 3-13

SALT CREEK RANCH
SUMMARY OF PROJECTED VEHICLE EMISSIONS
(Ton/Year)

Mobil Source Pollutants	Total Projected Emissions	San Diego Air Basin Burden*	Project % of Total
Carbon Monoxide (CO)	940	201,053	0.47
Nitrogen Oxides (NO_X)	154	32,868	0.47
Sulfur Dioxide (SO_2)	15	1,927	0.47
Total Hydrocarbons (HC)	95	20,393	0.47
Reactive Hydrocarbons (RHC)	85	18,308	0.47
Total Suspended Particulate Matters (TSP)	29	6,212	0.47

*Based on projected vehicle emissions data for the year 1995 (CARB).

Four street segments surrounding the project site are forecast to operate at LOS D or worse under buildout cumulative traffic levels:

East Orange Avenue from Medical Center Drive to I-805
Bonita Road from Central Avenue to I-805
Otay Lakes Road from East Orange Avenue to SR 125
East H Street from Ridgeback Road to I-805

With the Salt Creek Ranch development project contributing up to three percent ~~(3 percent)~~ of the total traffic under buildout conditions, these four street segments are projected to be potential CO hot spots. Important to note is that street segments are less accurate indicators of CO hot spots than are intersections; segments must be at stop-and-go service levels to experience hotspots. Consequently, these street segments could constitute potential future hotspot locations without transportation improvements, but do not constitute a significant cumulative local air quality impact with cumulative traffic and associated required circulation improvements.

Mitigation Measures

There are four basic tactics for the mitigation of air quality presented as part of San Diego's attainment plans (APCD 1986). These are traffic flow improvements, ridesharing, bicycling, and transit. The project, as proposed, incorporates traffic flow improvements (e.g., road construction), and will identify bicycle routes and bus stops at the SPA Plan and subsequent stages of planning. Most intersections affected by the project would be maintained at LOS C or better, although four street segments would operate at LOS D or worse.

Since the project, as proposed, was not included in SANDAG's Series V, VI or VII growth forecasts, further measures are necessary. The only action which would effectively reduce emissions to meet the 1982 SIP Revision is to keep the proposed Salt Creek Ranch area designated as open space or undeveloped land (No Project Alternative). A reduction in project density would reduce but not eliminate emissions impacts. If a reduction does not occur, other specific measures should be considered if formulated or available in the future.

The following measures shall be adhered to, subject to approval by the City, to reduce short-term pollutant emissions:

- Heavy-duty construction equipment with modified combustion/fuel injection systems for emissions control shall be utilized during grading and construction.
- Use watering or other dust palliatives to reduce fugitive dust; emissions reductions of about 50 percent can be realized by implementation of these measures.
- 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 properly covered.
- A 20 mile-per-hour speed limit shall be enforced on unpaved surfaces.

Analysis of Significance

The proposed development represents growth that was not considered when formulating the regional air quality attainment plans contained in the 1982 SIP Revisions for the San Diego region. The project will therefore contribute to an unmitigable cumulative air quality impact on the region's degrading air quality. The project will also contribute, although not significantly, to long-term local air quality degradation by generating traffic on local roads. Cumulative local air quality impacts are not considered significant because adequate intersection levels of service will be maintained. Short-term local air quality impacts can be mitigated by the measures described above.

3.12 FISCAL ANALYSIS

The City of Chula Vista requires the use of fiscal impact reports for all projects as determined in their threshold standard policy. John McTighe & Associates (1989) was retained to prepare an analysis of the fiscal impact on the City of Chula Vista that could result from the Salt Creek Ranch project. This analysis considered all known operating costs and revenues that might be attributed to the development of the Salt Creek Ranch site. The analysis also covered the added capital costs and proposed methods of financing. The John McTighe fiscal report is on file at the City of Chula Vista Planning Department. Sections of the report have been extracted or summarized in this section.

Existing Conditions

The site in its present vacant state generates almost no revenue or cost to the City of Chula Vista. The City of Chula Vista's preliminary 1988-89 budget is $35,747,192. These costs have been allocated to 18 "direct service" activities to allow a determination of which areas would be impacted by the proposed development.

This analysis has considered all known non-enterprise fund operating costs and revenues that might be attributable to the development of Salt Creek Ranch. City operating costs were projected based on a computer model that took into consideration the fiscal year 1988-89 budget of the City and input received from various City operating departments. City revenue projections were based on the existing revenue sources of the City. Computer modelling of the relationship of individual revenue accounts to population, land use and other factors was developed by John McTighe & Associates to simulate the changes in revenue that could be expected over the development of this project. A separate model of assessed valuation/property tax changes was developed to project the effect on City property tax revenues based on the developer's projection of buildout rate and product pricing. The 18 direct service activities and their associated 1988-89 direct service budgeted expenditures are listed in Table 3-14.

Impacts

The development of Salt Creek Ranch is projected to have an overall positive fiscal impact on the City of Chula Vista. Operating revenues are projected to exceed operating costs over the ten year period of time analyzed in this study. However, at buildout in fiscal year 2001 the annual net fiscal impact is expected to be a negative $12,828 in 1989 dollars. This negative impact is principally due to the amount of parkland to be maintained in Salt Creek Ranch. Since the amount of parkland exceeds the current City standards for parkland dedication, it is not surprising to find that the cost of the parkland maintenance is greater than what could be supported by this community alone.

The Salt Creek Ranch development is expected to have a neutral effect on the City's capital expenditures and revenues, in that City policies require that the development will provide public facilities financed either from the developer of the property or from the property itself through the use of public debt mechanisms tied to the property (i.e., 1913 Act assessment districts). The Public Facilities Financing Plan for Salt Creek Ranch details the methods to be used to finance the affected public facilities.

Table 3-15 shows the projected combined operating funds costs and revenues over the buildout period and for five years beyond. The funds included in this grouping are the General Fund, Special Gas Tax, Traffic Safety Fund and State Library Act Fund.

Project costs to the City of Chula Vista would occur in two ways: one-time costs and on-going operational or maintenance costs. One-time costs are related to planning, building inspections, engineering services, and fire prevention. Planning would experience a one-time, but lengthy, impact over a ten year period as the plans for the development of Salt Creek Ranch are formalized and processed. Since the buildout of this project is anticipated to extend over a ten year period, this impact should be minor (i.e., non significant) at any particular point in time. It is not now possible to quantify the cost of this impact on the current planning activity. However, Chula Vista's planning fees have been established at a level intended to recover the full cost of the Planning Department's processing resulting in no net cost to the City. These planning fees include fees for building, plumbing, electrical, housing, and sewer connection permits along with charges for environmental reviews, plan checks, zoning, and engineering.

Table 3-16 summarizes the projected on-going costs. At full project buildout (Year 11), generation of an annual on-going cost to the City would be $2,464,679. These cost projections include such items as street operations; street, sewer, water, and park maintenance; and police, fire, sewer, and library service.

Table 3-14

CITY OF CHULA VISTA
1988-89 GENERAL FUND
DIRECT SERVICE ACTIVITIES' FULL COST

Activity/Department	1988-89 Full Cost
General Government and Non-Departmental	$ 1,105,712
Planning	1,086,301
Community Development	747,544
Police/Animal Regulation	13,460,289
Fire Protection	5,559,511
Building and Housing	781,854
Public Works/Engineering	
Engineering	
Design and Construction	1,181,280
Land Development	712,458
Traffic Engineering	445,852
Public Works	
Street Maintenance	1,368,221
Street Sweeping	253,700
Street Tree Maintenance	569,816
Traffic Operations	374,823
Traffic Signal and Street Light Maintenance	1,088,293
Sewer Systems Maintenance	894,800
Pump Station Maintenance	167,922
Parks and Recreation	3,509,232
Library	2,439,583
TOTAL	$ 35,747,192

Source: City of Chula Vista 1988-89 Adopted Budget; John McTighe & Associates.

Table 3-15

PROJECTED ANNUAL OPERATING REVENUES AND COSTS (In Constant 1989 $)

Fiscal Year	Revenue	Cost	Annual Net Impact	Cumulative Net Impact	Revenue/ Cost Ratio
1992	$357,191	$224,587	$112,922	$112,922	1.59
1993	$637,797	$516,895	$120,902	$233,824	1.23
1994	$917,517	$796,759	$120,758	$354,582	1.15
1995	$1,197,742	$1,069,886	$127,856	$482,438	1.12
1996	$1,462,724	$1,337,933	$124,791	$607,228	1.09
1997	$1,751,106	$1,605,300	$145,807	$753,035	1.09
1998	$2,060,505	$1,876,352	$184,153	$937,188	1.10
1999	$2,334,347	$2,117,507	$216,840	$1,154,028	1.10
2000	$2,400,995	$2,355,732	$45,263	$1,199,291	1.02
2001	$2,451,851	$2,464,679	$(-12,838)	$1,186,462	0.99

Source: John McTighe & Associates, June 1989.

Table 3-16

SUMMARY OF ON-GOING ANNUAL PROJECT CITY COST INCREMENTS (In Constant 1989 $)

Fiscal Year	Cost
1992	$ 244,587
1993	516,895
1994	796,759
1995	1,069,886
1996	1,337,933
1997	1,605,300
1998	1,876,352
1999	2,117,507
2000	2,355,732
2001	2,464,679

Source: John McTighe & Associates, June 1989.

The project would also generate ongoing revenues on an annual basis. These funds are generated by such items as property taxes, sales and use taxes, franchise taxes, property transfer taxes, utility user taxes, and motor vehicle in-lieu taxes. Other minor sources of revenue include business licenses, bicycle licenses, animal licenses, cigarette taxes, fines, forfeitures and penalties, public swimming pool user fees, and other recreation programs. The City places its idle funds in interest-bearing investments. Generally, as the City's total revenue increases, the amount of money available for investment also increases. The analysis has assumed that only the net positive difference between annual revenue and expenditures would be available to earn interest. Therefore, additional revenue ($7,856 estimated in 1992) would be available to the City as a result of the project from investment earnings (assuming a 7.5% interest rate) on project-generated funds. Although annual expenditures are projected to exceed revenues in the year 2001, the cumulative net difference between revenues and expenditures for the years 1992 to 2001 is projected as a positive total (i.e., $1,186,462). This positive net cumulative total (over the ten year planning period) could be directed toward investment earnings which would be available to the City.

The Salt Creek Ranch project would also result in moneys available to the City from certain special funds. These include the Traffic Safety Fund, which receives revenue from fines for violations of the Vehicle Code; the State Library Act Fund, which receives State library funding for expenditures over a fixed per capital amount; the Sewer Service Revenue Fund, based on sewer service charges; and the Special Gas Tax Fund, which is distributed by the State according to a set of formulas that consider the population of Counties compared to the State total, the population of cities to total County population, and the assessed value of cities compared to the total assessed value within the County. The total ongoing revenues by source of the project and the basis for these projections are presented in the Fiscal Technical report (John McTighe & Associates 1989) on file at the City of Chula Vista.

Mitigation Measures

Because the development of Salt Creek Ranch is projected to have an overall positive fiscal impact on the City of Chula Vista over the ten year period of time analyzed, no mitigation is considered necessary. However, at buildout in fiscal year 2001 the annual net fiscal impact is expected to be a negative $12,828 in 1989 dollars principally due to the amount of parkland to be maintained in Salt Creek Ranch. This negative impact would be offset by the project's overall (i.e., cumulative) positive impact and by positive fiscal impacts generated by development of other land uses designated in the City's General Plan.

Analysis of Significance

Based on the fiscal analysis prepared by John McTighe & Associates, the project's cumulative operating revenues are projected to exceed cumulative operating costs which would result in a positive fiscal impact to the City of Chula Vista. The projected negative annual net fiscal impact in the year 2001 (i.e., $12,828 in 1989 dollars) would be offset by the positive cumulative fiscal impact projected over the ten year period analyzed for the project. This negative fiscal impact projected in the year 2001 is acknowledged for informational purposes but is not considered to create an adverse environmental impact, requiring neither mitigation nor fundings pursuant to CEQA.

3.13 Public Services and Utilities

This section is based on research and correspondence with servicing agencies (correspondence in Appendix F) and additional technical water and sewer analyses.

Water

Information regarding water service supply and distribution was obtained from a report prepared by Graves Engineering, Inc. in July 1989 (Appendix C), a report from Wilson Engineering in April 1989, and correspondence with the Otay Water District (Appendix F).

Existing Conditions

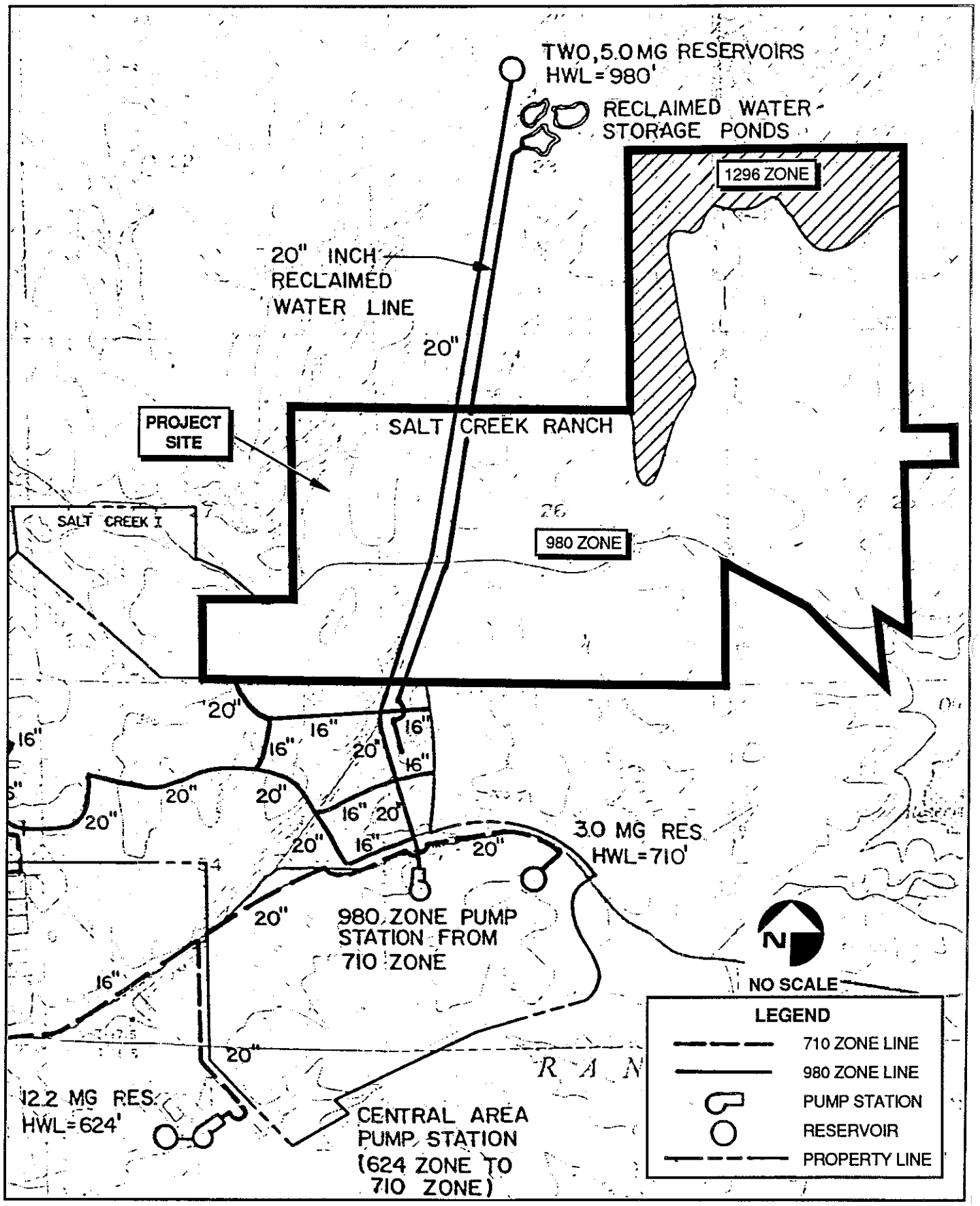
The property is located within the service area of the Otay Water District (OWD), one of 24 member agencies of the San Diego County Water Authority (CWA). The CWA receives water from the Metropolitan Water District facilities via Colorado River and California Aqueduct sources. Water supply to the study area is currently provided by a connection to the San Diego CWA Aqueduct Pipeline 3. OWD currently has an allocation of 24.6 million gallons per day (mgd), which is estimated to be insufficient to serve projected demands until OWD's allocation is increased in the mid-1990s when CWA will complete the new Pipeline No. 4.

In response to this problem, OWC has initiated a three-prong approach to resolving the water supply shortfall. First, OWD and/or private developers are constructing very large water storage reservoirs (greater than 20 million gallons) to help meet peak water demands. OWD had previously proposed these reservoirs, often referred to as Terminal Storage Facilities (TSF), to provide a "fail-safe" ten-day water supply. OWD would use the TSF on a temporary basis to solve the water supply shortfall during the peak demand periods. In the Central Area OWD has an agreement with the developers of Rancho del Ray, Sunbow and Eastlake to construct a 54 million gallon (mg) TSF. OWD is also conducting a siting study for either a single 100 mg or two 50 mg TSF. The studies are focusing on the Eastlake Development, Otay Ranch or OWD-owned property at the headwaters of Salt Creek.

Second, OWD is pursuing inter-agency agreements to either purchase short-term excess water allocation or to lease excess water storage capability. To date, OWD has not developed any inter-agency agreements but has had discussions with Sweetwater Authority (Sweetwater Reservoir) and City of San Diego (Upper and Lower Otay reservoirs). In addition, OWD has spoken with CWA about the feasibility of improvements to CWA pipelines to improve their hydraulic efficiency and consequently increase OWD's allocation.

Third, OWD is initiating a program that will limit the yearly allocation of water service to private developments. In their April 1989 report (OWD 1989), OWD staff recommended implementation of a plan that would limit allocation in the North and Central areas to 1900 equivalent dwelling units (EDU) per year (Note that OWD projected growth in this area at an average of over 3800 units per year from 1989 to 1996.) This allocation rate was dependent on the completion of the aforementioned 54 mg TSF by no later than 1992. Although formal adoption of a water allocation program has not occurred, OWD has stopped issuing Water Service Availability letters unless a development enters into an agreement to either participate in the funding of or construction of a TSF. Regarding water distribution, currently the San Diego CWA Aqueduct connection supplies the 12 million gallon, 624 HGL Patzig Reservoir. The Central Area Pump Station draws water from the Patzig Reservoir and discharges 710 Zone water. The 710 Zone water is then further boosted to the 980 Zone.

The project site falls within the 980 service zone and 1296 Service Zone of OWD. Figure 3-17 presents a map showing the boundaries of the Salt Creek Ranch property and



ERC Environmental and Energy Services Co.

Existing Water Service Zones and Facilities

FIGURE 3-17

the existing water facilities in the vicinity of the project. The existing water facilities adjacent to the Salt Creek Ranch development consist of 980 Zone facilities and lower zone facilities. At the present time there are no facilities in place to serve the 1296 Zone. The following paragraphs describe existing 980 Zone facilities.

Pipelines. Existing water lines in the vicinity of the Salt Creek Ranch project site are primarily located in the EastLake Business Park. A 20-inch transmission pipeline is located in Lane Avenue and extends through the Salt Creek Ranch project to the 980 Zone reservoirs. A 16-inch transmission main is located in East H Street approximately 5,000 feet west of the project. Also, 16-inch pipelines are located in Miller Drive and Boswell Street.

Pumping Facilities. There is presently one booster pump station in operation which takes water from the 710 Zone and pumps it to the 980 Zone reservoirs. This pump station is located south of the project site (Figure 3-17), at the southeastern corner of Lane Avenue and Otay Lakes Road.

Reservoirs. There are two existing 5 million gallon reservoirs (located on the same site) in the 980 Zone water system. The reservoirs are located on the Otay Water District Reclamation Property (Figure 3-17, north of site). The current maximum day demand (exerted by EastLake development) is 2,000 gpd in the 980 zone.

Please see the respon to comment 18 of the letter from the Baldw Company

The Otay Water District has determined that the existing 10 million gallons of reservoir storage capacity is adequate for build-out of the 980 Zone. This reservoir storage capacity is for operational storage and fire protection storage only, and does not include emergency storage capacity.

Otay Water District Master Plan. The Otay Water District has a master plan of ultimate facilities for the 980 Zone (OWD Central Area Master Plan Update, 1987). This master plan identifies all the facilities necessary to provide ultimate service to the 980 Zone but does not address timing of the required improvements. The Otay Water District anticipates that the timing and rate of development will dictate the need for construction of the master planned facilities. The facilities that the Otay Water District has master planned for the 980 Zone which are yet to be built include distribution and transmission pipelines, upgrading of an existing water booster station, and a second water booster station.

The analysis for the Update included all of that portion of Salt Creek Ranch below elevation 840 at an average density of 5 dwelling units per acre. Property above elevation 840 lies within the 1296 Pressure Zone that was not analyzed in the Update.

OWD has constructed through developer financing most of the facilities (transmission, storage and pump station) necessary to serve the Salt Creek Ranch (below elevation 840) and adjacent developments (Figure 3-1). The two exceptions are the 980 Pump Station which is currently rated at a capacity of 4000 gallons per minute (gpm) and a second 20-inch pipeline required to extend from the 980 Pump Station to the 980 Reservoir (see Figure 3-17). Ultimate pumping station capacity will be 16,000 gpm, which will be attained by adding a third pump to the existing Booster Station, and a second pump station with three 4,000 gpm pumps. The second pump station will be located to the south, south of Lakeshore Drive at the end of Creekwood Way. In addition, there are no existing facilities to serve development above elevation 840.

Impacts

Project Water Demand and Supply Facilities

Correspondence with OWD (March 1989; Appendix C) indicates that development of the property would require either annexation to Improvement District No. 22 or establishment of a new district, to obtain water service. The Otay Water District criteria have established an average flow rate of 600 gpd/dwelling unit for water system design. Based on 3,644 units and a 10-acre school at 2,500 gpd/acre, the total average day demand for Salt Creek Ranch is 2,221,400 gpd (1,536 gpm; 3.4 cfs). The maximum day demand for the entire project is approximately 4,865,080 gpd (3,379 gpm; 7.5 cfs).

980 Zone Facilities. The majority of the project falls within the 980 Zone. Approximately 150 residential units are above the upper service boundary (840 feet) of the 980 Zone; these lots will require service from the next higher zone, the 1296 Zone. Proposed Facilities and Service Zones are illustrated in Figure 3-18.

As previously discussed, OWD has anticipated development of Salt Creek Ranch in their Central Area Master Plan. The master plan was based on an assumed density of 5 dwelling units per acre while the project proposes an average of 3 dwelling units per acre. Development of the project would require construction of the remaining elements of the master plan; specifically, phased upgrading of the 980 Pump Station (an additional 4,000 gpm pump, or second pump station) and installation of the 20-inch pipeline. The onsite water distribution system and connections would also be constructed, potentially warranting relocation of the existing 20-inch onsite pipeline which crosses the property.

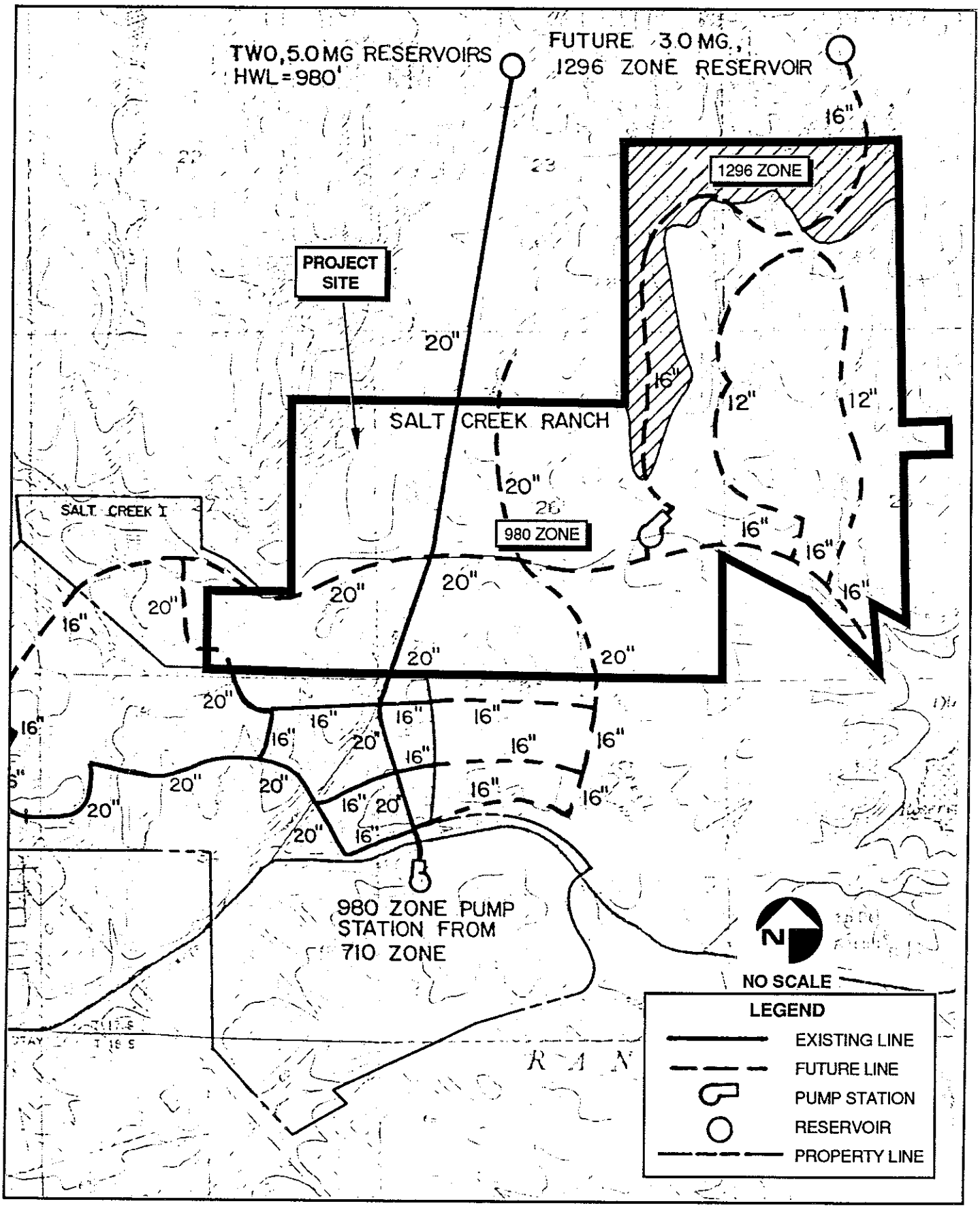
1296 Zone Facilities. Facilities would be constructed to serve homesites above elevation 840. These facilities would consist of water lines providing domestic and fire protection service, a transmission pipeline to a 1296 zone reservoir, a new 1296 Pump Station (ultimate capacity of 2,000 gpm) and a 3.0 million gallon 1296 Reservoir as recommended in the Wilson report (Figure 3-18).

The Terminal Storage Facility (TSF) issue remains unresolved at this point but it is anticipated that Salt Creek Ranch will be required to both participate in the funding of a new TSF and also compete for water allocation with other proposed developments.

Cumulative Impacts

The project and other nearby developments' water demand are summarized in Table 3-17. As shown, the project is estimated to demand 3,379 gallons per minute (gpm) of water at buildout, or approximately one-third of the 980 Zone (Wilson Engineering, March 1989). The cumulative water demand in Table 3-17 represents the total demand of these projects to be serviced by the 980 zone. Assuming facilities (see Appendix C) are installed as recommended and in a timely manner in regard to development phasing, no cumulative impacts with respect to water delivery are anticipated. Emergency storage is discussed below.

Emergency Storage. Emergency storage for the 980 Zone, the future 1296 Zone and other pressure zones served from the San Diego County Water Authority aqueduct connection and the Central Area Pump Station is part of a District-wide project. The intent of the Otay Water district is to provide emergency storage equivalent to five average days' demand. For the Salt Creek Ranch project, the required volume of emergency storage is approximately 11.1 million gallons.



ERC Environmental and Energy Services Co.

Proposed Water Service Facilites

FIGURE **3-18**

Table 3-17

980 ZONE CUMULATIVE WATER DEMANDS

Project	Maximum Day Demand, gpm[1]
Salt Creek Ranch	3,379
Salt Creek I	338
Eastlake Business Center	2,053
Eastlake Hills and Shores	1,262
Eastlake Greens	3,658
Total	10,690

[1] gpm = Gallons per minute

Source: Wilson Engineering, 1989: Salt Creek I Master Plan of Water.

Presently, potential exists for a large storage reservoir, (on the order of 50 to 100 million gallons) or other water storage facilities to be constructed near the Central Area pump station and the aqueduct connection. The exact size and location of water storage facilities have not yet been determined. Discussions have occurred between the Baldwin Company and Otay Water District concerning construction of reservoirs on the Otay Ranch. Reservoirs could provide emergency storage for the Salt Creek Ranch project and other projects. Another method to comply with the emergency storage requirement is to pay a fee contribution to the Control Area Service Zone Terminal Reservoir Construction Fee system, which may be more desirable to the District (Wilson Engineering, October 1989).

Consideration of Reclaimed Water Facilities. Figure 3-17 shows the existing reclaimed water facilities in the project vicinity at the Jamacha Basin Reclamation Plant. The Otay Water District has nine reclaimed water storage ponds on its Reclamation Property. From these ponds, a 20-inch reclaimed water line traverses the Salt Creek Ranch property, paralleling the 20-inch portable water transmission main and ties into Lane Avenue. EastLake built this reclaimed water line to deliver irrigation water to its future golf course development. (Refer to Appendix C, Graves Engineering July 1989 report, Section 6.0, for a detailed discussion of reclaimed water).

Availability of reclaimed water depends on the demand for reclaimed water versus the ability of Otay Water District to product sufficient volumes at its Jamacha Reclamation Plant. Presently the District can produce 1 million gallons per day of reclaimed water south of Otay Lakes Road.

The use of reclaimed water is considered beneficial if it replaces the use of potable water. The Salt Creek Ranch proposed parks and roadside landscaping of major thoroughfares would be ideal candidates. The supply and transmission facilities are already in place and a 20-inch pipeline crosses the property. If the diversion channel recommended in Section 3.5, Hydrology, is constructed, reclaimed water could be used in the Otay Lake and Otay Lake Tributary drainage basins as well as the other basins; otherwise use would be confined to the westerly 60 percent of the property.

Mitigation Measures

- Prior to issuance of building permits, the project site shall either be annexed by OWD into Improvement District No. 22 or a new Improvement District shall be established for the project area. In addition, the project developer shall obtain written verification from OWD at each phase of development that the tract or parcel will be provided adequate water service (will-serve letter).

- Prior to approval of any SPA Plan within Salt Creek Ranch, a Water Master Plan (and/or Agreement) shall be prepared and approved (by the City Engineer and OWD) for the Salt Creek Ranch development project. The Plan shall identify total and incremental water demand; specific facilities (size, location, etc.) including servicing in the 980 and 1296 Pressure Zones; implementation/phasing; and participation in the water allocation program and TSF financing program, encompassing this project and other projects in the OWD Master Plan service area. The Plan shall delineate at a more detailed level the recommendations of the April 1989 and October 1989 Wilson reports and July 1989 Graves report (Appendix C).

- The use of reclaimed water is strongly encouraged and the project proponent shall make every attempt to develop such use. The project proponent shall, if

feasible, negotiate an agreement with OWD to commit to use of reclaimed water at the earliest possible date so that OWD can ensure that an adequate supply is available. If such an agreement is pursued, all documentation shall be subject to site-specific environmental analysis, and shall conform to the applicable regulations of the City of Chula Vista, Regional Water Quality Control Board and the State Department of Health.

- Water conservation measures for onsite landscaping and for maintenance of roadside vegetation shall be created and implemented by the project proponent, in coordination with the City Public Works Department and in consultation with OWD or other qualified water agency/organization. Conservation measures are recommended by the State Resources Agency Department of Water Resources (see AppendixA), and include but are not limited to planting of drought tolerant vegetation and the use of irrigation systems which minimize runoff and evaporation loss (see also following measure).

- The following water conservation measures should be provided; implementation shall be approved prior to issuance of certificates of use and occupancy;

  a.) Low-flush toilets (Section 17921.3, Health and Safety Code).

  b.) Low-flush showers and faucets (California Administrative Code, Title 24, Par 6, Article 1, T20-1406F).

  c.) Insulation of hot water lines in water recirculating systems (California Energy Commission).

Analysis of Significance

Implementation of the above mitigation measures will mitigate project-specific impacts and cumulative water facility/service impacts to below a level of significance. The project, however, in combination with other development, will contribute to an incremental, cumulative impact on the region's limited water supply sources, as would any development on the site.

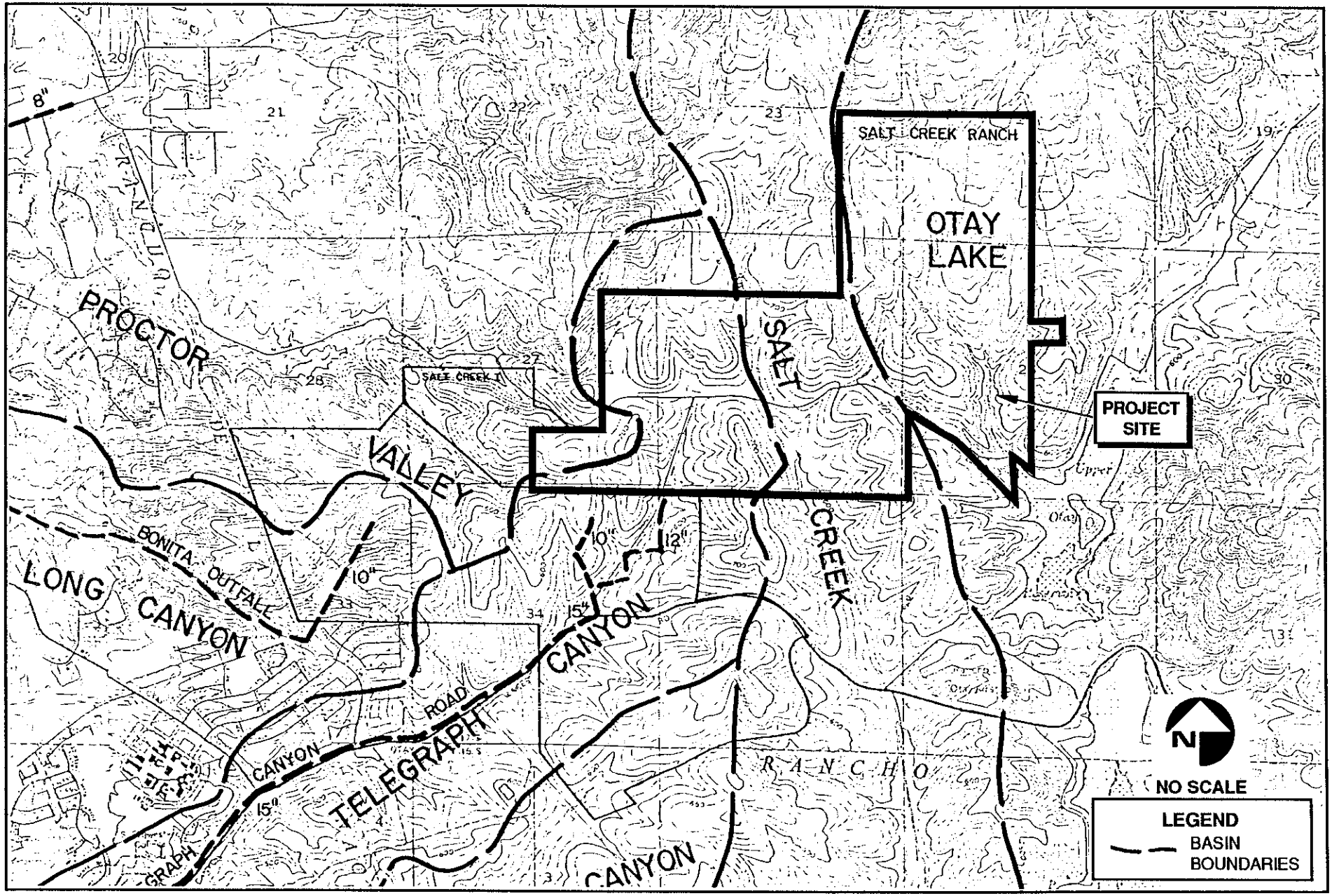
Waste Water

Information regarding sewer service was obtained from an April 1989 report by Wilson Engineering, July 1989 report by Graves Engineering (Appendix C) and correspondence with the City of Chula Vista Public Works Department (Appendix F).

Existing Conditions

The City of Chula Vista is responsible for wastewater services in the project vicinity. The City operates and maintains its own sanitary sewer system with connections to the City of San Diego Metropolitan Sewer System (METRO). Sewer facilities in the area are illustrated in Figure 3-19 and are described below according to the four drainage basins in the site area.

Proctor Valley Basin. The Proctor Valley Basin covers approximately 5 percent of the Salt Creek Ranch property. As can be seen on Figure 3-19, there are no existing facilities near the property in this basin which would allow gravity flow from the project; the nearest facility is the Spring Valley Outfall located northwest of the Salt Creek Ranch project. New development in eastern Chula Vista will warrant new facilities in the future.



ERC
Environmental and Energy Services Co.

Drainage Basins and Existing Sewer Facilites

FIGURE
3-19

Telegraph Canyon Basin. The Telegraph Canyon Basin covers approximately 30 percent of the Salt Creek Ranch property. The Telegraph Canyon Sewer Trunk line is the closest sewer service facility, extending to the site's southern boundary. The facilities shown on Figure 3-19 just south of the property are in the EastLake Business Center. The downstream gravity lines in Otay Lakes Road and Telegraph Canyon Road to the 90-inch Metropolitan Interceptor Sewer make up the Telegraph Canyon Sewer.

Several developments which are not located in the Telegraph Canyon Basin are proposed to be served by the Telegraph Canyon Trunk. These developments include Salt Creek I, portions of Eastlake Development and the proposed Olympic Training Center. The City has determined that these developments can best be served through the Telegraph Canyon Trunk on a temporary basis until permanent sewage collection facilities can be built in the Proctor Valley and Salt Creek and Otay Lake basins. This determination will require temporary lift stations to pump sewage from the adjoining basins into the Telegraph Canyon basin.

The existing Telegraph Canyon Trunk is currently operating at below capacity for its entire length (Eastlake to METRO connection). Evaluation of the Trunk excludes that portion of the Otay Ranch within the Telegraph Canyon at the specific request of Otay Ranch (Chula Vista, 1989). The land in the Telegraph Canyon basin which is currently vacant is predominantly under ownership of the Otay Ranch, EastLake, and Rancho de Rey. As part of the approval of the Eastlake Greens project, the City of Chula Vista has required construction of a metering device to monitor actual flows versus predicted flows in the Telegraph Canyon Trunk.

In analyzing sewerline capacity, it is important to distinguish between design capacity (less than physically full) and pipe capacity. The City of Chula Vista design (capacity) criteria requires that pipes 10 inches and less in diameter flow half full or less, and pipes greater than 10-inches in diameter flow three-quarters full or less.

Salt Creek Basin. The Salt Creek Basin covers approximately 25 percent of the Salt Creek Ranch property. As with the Proctor Valley Basin, there are no existing facilities near the project to allow gravity flow. The nearest Salt Creek Basin facility is a gravity line nearly five miles southwest of the property at Nirvana Avenue in Otay Valley Road. New development in the area is expected to warrant future facilities in this basin.

Otay Lake Basin. The Otay Lake Basin covers the largest area of the Salt Creek Ranch property, approximately 40 percent, although it includes the lowest density development in the project. This basin naturally drains into Upper Otay Lake. No facilities are planned within this basin.

City Threshold Standards/Facility Plan. The City design standards for sewers establish a flow limit of 50 percent full in sewers up to 10" in diameter, and 75 percent full for 12" diameter sewers or larger. These thresholds have not recently been exceeded, although a few sewers will require upgrading to provide added capacity for new development in the eastern area of the City (specifically to date, the Sunbow project).

The City has implemented a sewage flow monitoring program to identify capacity problems (C. Swanson, City Public Works Department, March 1989). Also, a Public Works Facility Plan, which will further define new development sewage generation and facility needs, is currently under preparation scheduled for completion in summer 1989.

Wastewater Treatment. Wastewater is treated by the San Diego METRO System. The City's current total daily wastewater flow into the METRO System is approximately 12.2 million gallons per day (MGD); the City's capacity reservation with METRO is 19.1 MGD. METRO provides for a single regional treatment plant at Point Loma with an ocean outfall for treated effluent. (See also previous discussion under Water Impacts regarding reclaimed water use.)

Impacts

The City of Chula Vista Subdivision Manual has established an average sewage generation factor of 80 gallons per capita per day for projecting sewage flow. A population density of 3.5 persons per dwelling unit was used for single family units, and 3.0 was used for multi-family units to calculate sewage generation (C. Swanson, City Public Works Department, June 1989).

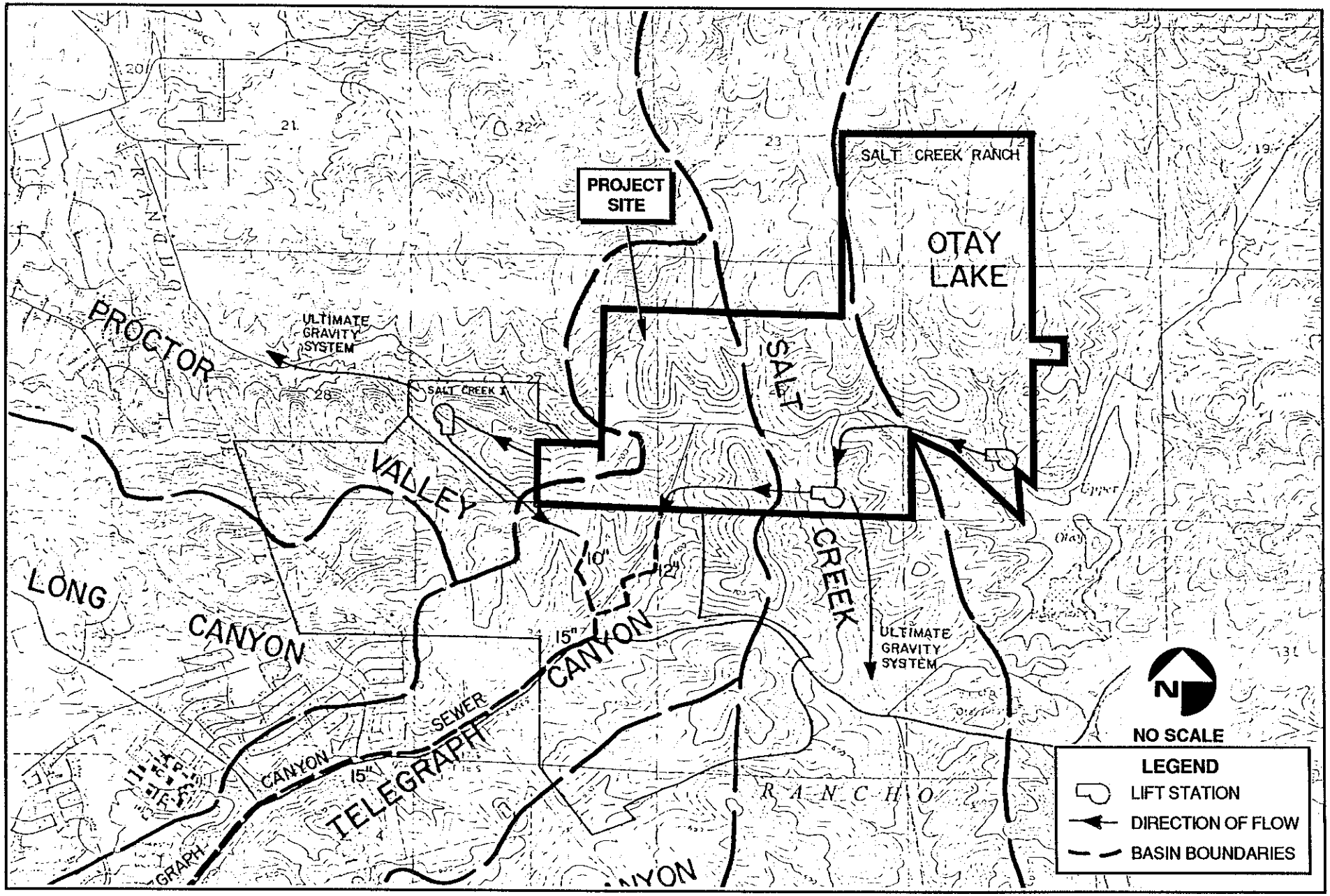
Based on 3,073 single family units, 570 multi-family units, and a 10-acre elementary school (approsoximately 800 students), the average sewage generation for Salt Creek Ranch is estimated at approximately 1,009,360 gpd. The peaking chart in the Chula Vista Manual was used to convert average daily flows to peak wet weather flows. The estimated number of units and corresponding average flow (gallons per day) from each basin is provided below:

Basin	Proposed Units	Flow (gpd)
Proctor Valley Basin	180 SF units	50,400 gpd
Telegraph Canyon Basin	1260 SF units 570 MF units 1 elementary school	502,000 gpd
Salt Creek Basin	655 SF units	182,840 gpd
Otay Lake Basin	980 SF units	274,120 gpd
TOTAL	3073 SF units 570 MF units 1 elementary school	1,009,360 gpd

Figure 3-20 provides a map which presents a schematic for sewering the four drainage basins. The method shown for sewering the Salt Creek Ranch property is a temporary solution until facilities are available to allow gravity flow from each of the basins; note, however, that pumping from the Otay Lake Basin to the Salt Creek Basin will always be required and the Telegraph Canyon Basin will always gravity flow.

As shown on Figure 3-20, the temporary method proposed for sewering Salt Creek Ranch is to utilize the existing Telegraph Canyon Sewer Basin facilities in the EastLake Business Center, until facilities are constructed in the Proctor Valley and Salt Creek Basins. The size and location of onsite sewer facilities for Salt Creek Ranch will be determined when more precise development plans are made available.

Appendix C provides a discussion of the proposed sewering method for each of the four drainage basins. The applicant proposes a gravity collection system to the low points in each basin. A lift station would pump from the Proctor Valley to the Telegraph Canyon Trunk. This lift station may also pump flows from the Salt Creek I development. Flow from the Otay Lake Basin would be pumped to the Salt Creek Basin where a second lift



ERC Environmental and Energy Services Co.

Proposed Sewer Service and Facilities

FIGURE **3-20**

station would pump flows from both basins for the Telegraph Canyon Trunk. Ultimately the Proctor Valley and Salt Creek lift station would be abandoned but the Otay Lake station would always be in operation.

Cumulative Impacts

Sewage flows of the project and other nearby development are estimated in Table 3-18 (Wilson Engineering, March 1989; City Public Works Department, October 1989). As mentioned previously, the Salt Creek Ranch project will generate a sewage flow at buildout of approximately 1,009,360 gallons per day (gpd). This can be accommodated without impact provided that required facilities are designed, financed and implemented in a timely manner.

Available Capacity in Telegraph Canyon Sewer Facilities. The following information is the result of several computer runs (Wilson Engineering, April 1989) performed to estimate future available capacity in Telegraph Canyon sewer facilities, based on cumulative demand.

The City of Chula Vista provided metering data for existing flows in the Telegraph Canyon Sewer. In addition to the existing flows, projected flows from the EastLake Business Center, EastLake Greens, Salt Creek I and the Salt Creek Ranch property were also included to determine available capacity under five scenarios. Existing flows and ultimate flows from the EastLake Business Center and EastLake Greens were included in all five scenarios. A description of flows input from the Salt Creek I property and Salt Creek Ranch is provided in the Wilson sewage report, pages 4 and 5 along with the result of each scenario. Table 3-19 summarizes these results, indicating cumulative development in conjunction with portions of Salt Creek Ranch flows, and under which scenarios design capacity and full capacity are reached.

The March 1989 Wilson report indicates that exceedance of the design capacity may occasionally be acceptable since the contributing basins are only temporarily connected and that sewer upgrades will be necessary only where the pipe capacity is exceeded. The upgrades could involve installing a parallel relief sewer or installing a larger diameter sewer pipe for that segment. The City of Chula Vista has indicated that exceeding the design capacity is unacceptable and that sewer upgrades will be required wherever a sewer exceeds capacity (C. Swanson, October 1989).

Chula Vista Public Works Facility Plan. Preliminary study for the City's Public Works Facility Plan indicates an average daily wastewater flow of 25.1 MGD at full buildout of the eastern City area by year 2050. The Facility Plan, when complete, will determine the capacity of the existing City system in relation to future demand; also, required new or upgraded sewers will be recommended with cost/phasing estimates. New development, including the proposed project, will be required to pay a proportionate share of recommended facility costs. No cumulative impacts are expected so long as the Facility Plan is implemented in the near future and development fees are obtained for sufficient facility financing.

Wastewater Treatment. The City's existing sewage capacity reservation with the METRO System is 19.1 million gallons per day (MGD). Based on the City's projected growth rate (City Public Works Department, February 1989), available capacity is expected to exist for 12-15 years. Consequently, no project impacts to sewage treatment capacity are expected. (See also discussion under Water Impacts regarding reclaimed water use.)

Table 3-18

ESTIMATED CUMULATIVE SEWAGE FLOWS

Drainage Basin	Project	Land Use	Number of Units	Average Flow, gpd
Salt Creek	Salt Creek Ranch	Single Family	653	182,840
Otay	Salt Creek Ranch	Single Family	979	274,120
Proctor Valley	Salt Creek Ranch	Single Family	180	50,400
Telegraph Canyon	Salt Creek Ranch	Single Family	1,261	353,080
		Multi-Family	571	137,040
		Elementary School	800 students	12,000
			Subtotal (Salt Creek Ranch)	**1,009,360**
	Salt Creek I	Single Family	181	50,680
		Multi-Family	369	88,560
	Eastlake Business Park	(1)		642,900
	Eastlake Greens	(1)		610.00
			Total	**2,401,500**

1 Flow based on data in Eastlake Wastwater System Subarea Master Plan, Lowry and Associates, January 1984; NBS/Lowry, May 1987.

Source: Wilson Engineering, March 1989; City of Chula Vista Public Works Department, October 1989.

Table 3-19

SUMMARY OF CUMULATIVE TELEGRAPH CANYON SEWER CAPACITY

Telegraph Canyon Trunk Sewer	Projects Included in Scenario 1	Projects Included in Scenario 2	Projects Included in Scenario 3	Projects Included in Scenario 4	Projects Included in Scenario 5
Existing Flow	Yes	Yes	Yes	Yes	Yes
EastLake Business Center	Yes	Yes	Yes	Yes	Yes
EastLake Greens	Yes	Yes	Yes	Yes	Yes
Salt Creek I	Yes	Yes	Yes	Yes	No
Salt Creek Ranch	Only Proctor Valley Basin Flow	Proctor Valley and Telegraph Canyon Basin Flows	Proctor Valley, Telegraph Canyon and Salt Creek Basin Flows	Yes (all basins flows)	Only Telegraph Basin Flow
Resulting Flows					
Reaches Above Design Capacity	1	5	9	12	2
Reaches Above Full Pipe Capacity	0	0	1	4	0

Source: Wilson Engineering, April 1989.

Mitigation Measures

- Prior to approval of any SPA Plan within Salt Creek Ranch, a Wastewater Master Plan and/or Agreement for the project shall be prepared by the proponent and approved by the City Engineer. The Plan shall identify total and incremental wastewater generation, specific facilities required, funding and implementation/phasing in relation to this project and other associated project's phasing in the area. The Plan shall confirm that the entire project can be sewered to the Telegraph Canyon Trunk Sewer, shall further detail the April 1989 Wilson report, and shall be coordinated with and/or conform to the City's Public Works Facility Plan, when complete. (Note that sewer upgrades, including effects on downstream facilities, will be required wherever the sewer exceeds the design capacity.)

- The project shall be subject to payment of wastewater development fees (to fund trunk sewer and other upgrades) or equivalent proportionate facility financing mechanism identified by the City, when adopted. Payment shall occur prior to issuance of building permits or earlier.

Analysis of Significance

Implementation of the above measures and adherence to City standards will mitigate project and cumulative impacts to wastewater service to below a level of significance.

Police Protection

Existing Conditions

The Chula Vista Police Department provides police service to the project area. The average police response time in the City is approximately 4 minutes for priority calls. The current ratio of officers per 1000 population is approximately 1.13.

The City threshold standard for police service is to properly respond to 84 percent of Priority I calls within 7 minutes and maintain an average response time to all Priority I calls of 4.5 minutes or less; respond to 62.1 percent of Priority II calls within 7 minutes and maintain an average response time to all Priority II calls of 7 minutes or less (City Police Department, May 1989). Achievement of these levels of service is to be reviewed annually. In accordance with City policy, a moratorium could be implemented if it is determined that the above service thresholds are not being met.

Impacts

The Salt Creek Ranch development will increase demands for police services in the area. The projected project population increase of 11,524 will require an additional 12 to 15 officers at buildout to maintain current levels of service. Interim Year 1995 levels of population (6552 persons) would require an additional 7 to 9 police officers. Adherence to police threshold standards would verify that adequate service is maintained; if standards are not met then a building moratorium could occur.

Plans are in the process to increase police services in the City's Eastern Territories to adequately serve this developing area. Also, within the EastLake I Village Center a police staff room is planned which would augment existing facilities. Increased police staff

provided for in the City General Fund should offset project impacts; the project will contribute to the City General Fund. No new facilities would be required onsite.

Mitigation Measures

- The project is subject to adherence to City threshold standards and criteria for police protection service.

Analysis of Significance

Implementation of the above measure and the project's contribution to the City General Fund will ensure mitigation of potential project and cumulative police service impacts.

Fire Protection

Existing Conditions

The City of Chula Vista Fire Department (CVFD) has jurisdiction over most of the project area. Fire Station #4, the closest station to the project site, is located on Otay Lakes Road south of East H Street. A portion of the site lies within the County's Rural Fire Protection District.

As part of the General Plan Update, a Fire Station Master Plan has been prepared and is currently under review. The plan analyzes in detail the long-term fire protection needs on an areawide basis. It also identifies performance standards, thresholds of service, future facility needs, and a development fee structure for financing future stations. Recent performance data indicate that approximately 92 percent of the emergency calls are presently responded to within 7 minutes. A threshold level of 85 percent of the calls responded to within 7 minutes has been established as the level below which service should not fall.

The fire protection network which will maintain the required level of service has been proposed in the draft Fire Station Master Plan. It is noted that this plan is still subject to modification before adoption. Under the proposed plan, the existing Fire Station #4 would be closed in conjunction with the opening of the stations planned for El Rancho Del Rey and Salt Creek I (adjacent to the proposed project site). The new station conceptually located in Salt Creek I may be located on the Salt Creek Ranch site (negotiations underway). The new Salt Creek station would become Station #4 and would serve the project site and surrounding area.

Impacts

Project approval and annexation to the City would entail detachment of the property from the County's Rural Fire Protection District (FPD), tranferring all service responsibilities to the City. This would occur concurrently with the annexation process.

According to Chula Vista Management Service Department preliminary review of the project, the new Station #4 would meet proposed response time guidelines. Additionally, the Fire Station Master Plan indicates that 88-93 percent of the proposed dwelling units in the Salt Creek Ranch project would be within a 5.7 minute travel time of the planned station in the Salt Creek I development (new Station #4). If that station is determined to be located on the project site, response time would be shorter than 5.7 minutes. A more definitive review will be made once the circulation system and planning area layouts for the Salt Creek Ranch have been designed.

Based on the above discussion, adequate fire protection facilities to serve the project site are planned for the area. However, the project would account for a substantial number of the emergency calls to the proposed station. The proposed development will participate with the City through required payment of development fees to help offset the cost of construction and relocation of fire protection facilities to serve the project. With payment of fees, the project will not have a significant impact on fire protection services.

Mitigation Measures

- Prior to approval of the project SPA Plan, a fire station site location for new CV#4 shall be selected and approved by the CVFD. Potential locations include a site on Salt Creek Ranch in the western portion of the property. (Refer also to Section 5, Design Alternative).

- The project shall adhere to General Plan threshold standards and criteria for fire protection service.

Analysis of Significance

Implementation of the above measures will ensure mitigation of potential project and cumulative fire protection impacts.

Schools

ase see the response omment 1 of the er from the Chula ta City School trict and comment 2 he April 25,1990 er from the eetwater Union High ool District.

Existing Conditions

The project site is within the jurisdiction of the Chula Vista City School District (CVCSD; grades kindergarten through 6) and Sweetwater Union High School District (SUHSD; grades 7 through 12). CVCSD is comprised of 29 elementary schools. Enrollment has grown from 14,000 students in 1983-84 to 15,500 students in 1987-88, an increase of 10 percent. Elementary schools in the area include Parkview, Rogers, and Kellogg schools, which are currently at capacity. The CVCSD is planning new facilities including a school in the EastLake development on Hillside Drive and another in the Rancho Del Rey development at the intersection of Paseo Ranchero and East J Street. Chula Vista Elementary School, located on Buena Vista Road south of East H Street, opened in early 1989 and currently has 320 students. During the 1988-89 school year, the entire CVCSD had an enrollment of 16,434 students.

The CVCSD's elementary schools near the project site are currently at capacity; 19 relocatable classrooms have been installed to accommodate students over the past two years. Some students are bused outside of their attendance area boundaries to help alleviate this situation and to achieve ethnic balance.

The SUHSD, with an enrollment of 26,845 students, operated beyond capacity during the 1988-89 school year. Junior high and high schools in the area include Bonita Vista JH and HS and Hilltop JH and HS, which now operate at or near capacity. Construction of a junior high school within the Rancho Del Ray development is expected to be approved in the near future, to begin operation by 1994.

State law allows that developers contribute financially to the acquisition of land and construction of new school facilities. The amount of the contribution can be up to $1.50 per square foot of inhabitable space for residential development. CVCSD's current fee rate is $0.67 per square foot (Shurson 1989). Another funding option open to developers,

which is preferred by SUHSD for new developments, is the establishment of a Mello Roos Community Facilities District (CFD). A Mello Roos District establishes an assessment mechanism for generation of fees to develop school facilities in a specific area of interest (such as a development like Salt Creek Ranch).

Impacts

The Land Use Plan within the Salt Creek Ranch General Development Plan proposes the construction of up to 3644 dwelling units at buildout (Year 2001). By 1995, well over half the units are expected to be completed. For purposes of examining the interim development level, it is assumed that 2100 units will be completed by the Year 1995. Using the appropriate school district student generation rates, the proposed project could generate a total of 1176 student by 1995, increasing to 2040 students at full buildout. As shown in Table 3-20, the project could generate approximately 984 elementary students, 692 junior high students, and 364 high school students at buildout. Estimated interim Year 1995 student levels are also shown on Table 3-20.

The CVCSD indicates that the maximum desirable student attendance at an elementary school is approximately 600 students. From Table 3-20, buildout will generate approximately 984 students which will require about 1.5 elementary schools, or facilities equivalent to two elementary schools operating at somewhat below capacity. One of these elementary schools would need to be operational almost immediately to avoid significant over crowding at existing nearby schools. The second school should be on-line in the 1995 time frame as the first elementary school nears capacity.

The General Development Plan contains a 10-acre elementary school site, located along the north side of East H Street (Figure 2-4). The siting of this school along a major roadway may require sensitive site design for safety (i.e., setbacks, pedestrian crossing, bus access, parking). Special access may be required to ensure safety. This issue would be addressed at the SPA Plan level (see Mitigation). Also, a second elementary school or a financial contribution to an alternative school site would be warranted.

The SUHSD indicates that all existing schools are operating at or near capacity and that the project would impact the District (T. Silva, October 1989). Junior High Schools are typically planned to house approximately 1500 students. Thus, the number of students generated by the proposed project would fill about one half of a junior high school facility at buildout. High Schools are planned to house about 2400 students. Student generation of the proposed project would fill about 15 percent of a high school facility at buildout.

The junior high and high school students generated by the proposed development would place an additional burden on the SUHSD to house the students resulting in significant adverse impact. The SUHSD has recommended establishment of a Mello Roos Community Facilities District (CFD) so that the project can be assessed its fair share of the costs to provide educational facilities for the new students from the development.

se see the response
omment 1 of the
r from the Chula
a City School
rict.

Table 3-20

SALT CREEK RANCH STUDENT GENERATION

School	Generation Rate (Students per unit)	Students Generated by 1995	Students Generated at Buildout
Elementary	0.27 (1)	567	984
Junior High	0.19 (2)	399	692
High School	0.10 (2)	210	364
TOTAL		1,176	2,040

(1) Jim Langsford, CVCSD, telecommunication 5-23-89.
(2) Thomas Silva, SUHSD, telecommunication 5-30-89 and correspondence 10-3-89.

Mitigation Measures

- The project shall adhere to General Plan threshold criteria regarding school facilities and services.
- Prior to SPA Plan approval, the project proponent shall provide documentation confirming elementary school site locations and CVCSD approval of school locations on Salt Creek Ranch. This approval shall entail site location, size and configuration of schools, with provisions for access and pedestrian safety to the satisfaction of CVCSD. Funding shall also be addressed and confirmed in accordance with CVCSD procedures.
- Prior to SPA Plan approval, the project proponent shall provide documentation to the City confirming satisfaction of SUHSD facility funding requirements to offset Salt Creek Ranch student generation impacts. Funding would likely be satisfied via formulation of a Mello Roos CFD or other means acceptable to SUHSD.
- Prior to issuance of any building permits on Salt Creek Ranch, the proponent shall obtain written verification from CVCSD and SUHSD (will-serve letters) that adequate school facilities and associated financing will be provided for project generated students.

Analysis of Significance

Implementation of the above measures will ensure project and cumulative impacts to school services will be mitigated to an insignificant level.

Parks, Recreation and Open Space

Existing Conditions

The City of Chula Vista currently has about 291 acres of parkland for a population of approximately 125,712 persons. The current parkland to population ratio is 2.31 acres per 1,000 population. The threshold standard for park acreage in the City is 3.0 acres per 1,000 population. The City has a shortfall of parkland west of I-805, where the ratio is 1.26 acres per 1000 population. East of I-805, the ratio is presently about 5.85 acres per 1000 population. The City is presently preparing a master plan and implementation program to upgrade the facilities west of I-805.

All new developments in the City of Chula Vista are subject to the City's Parkland Dedication Ordinance. The ordinance establishes land development fees for acquisition and construction of parks, establishes standards for dedication of parkland based on type of dwelling unit proposed, and establishes criteria for acceptance of parks and open space by the City. The tentative requirements for compliance with the City's Parkland Dedication Ordinance will be discussed in the next section.

Impacts

The demographic assumptions uses to determine parkland requirements are contained in the Parkland Dedication Ordinance. Accordingly, a population of 3.22 persons per dwelling unit for single family detached residences and 2.8 persons per dwelling unit for other residential units (i.e., condos, townhomes, etc.) will be used in this analysis. Based on these population generation rates, the proposed project could result in a resident population of 11,524 persons.

Using the parkland standard of 3.0 acres per 1,000 population, approximately 35 acres of public parkland would be required within the development. The Salt Creek Ranch General Development Plan Map shows about 50 acres of public parkland, consisting of a 28.4 acre community park, two neighborhood parks totalling 11.0 acres, six mini-parks totalling 2.0 acres, a 1.0 acre nature center and an 8.3 acre equestrian center. Based on total acreage, the Salt Creek Ranch General Development Plan contains more than the minimum required acreage. The General Development Plan also contains about 10 acres of private recreation amenities and includes about 265.4 acres of undeveloped land to retained as natural open space.

A potential impact would occur if parkland is not provided commensurate with rate of residential development. A Year 1995 development population of 6,552 persons would require the equivalent of 19.7 acres of developed parkland.

Additional criteria for meeting parkland standards are contained in the parkland ordinance. The site plan design is conceptual at this point, however, the following criteria will apply and may or may not be met by the present conceptual design.

- The City's minimum standard for a neighborhood park is a seven acres. The proposed project's two neighborhood parks are approximately 5.5 acres each (total 11.0 acres), which would not meet the minimum size standard.

- The City's minimum standard for a community park is 15 acres which would be exceeded by the project's proposed 28.4 acre community park.

- Other required project facilities based on the City's parkland ordinance include:

  - 11 picnic shelters
  - 5 tennis courts
  - 2 baseball/softball fields (lighted)
  - 2 multi-purpose courts
  - 1 soccer field

- In addition, the project meets a little more than one half of the criteria for a swimming pool and a little less than one half of the criteria for a community center and gymnasium.

It is the City Parks and Recreation Department's desire to establish an equestrian center onsite along with an extensive trail system, picnic facilities, and possible overnight tent camping (Mollinedo, 1989). The project includes an equestrian center and proposes an equestrian trail system as part of the GDP open space standards. The current level of site planning does not indicate the location of equestrian trails onsite, nor is the clear how the equestrian center will tie into off-site trails. Also, tent camping is not provided for in the General Development Plan.

The General Development Plan includes a nature center to serve interpretive and education needs and includes several mini-parks. These additional facilities make a positive contribution to the park facilities which will be available to project and area residents.

Mitigation Measures

- The project shall adhere to General Plan Threshold Standards regarding park facilities and recreational amenities.

- The project shall comply with the City Local Park Code requirements regarding parkland, parkland development and improvements.

- The project SPA Plan shall further define the boundaries, acreage and manner of open space preservation (e.g. dedicated open space; preservation easements) on the Salt Creek Ranch property in a form and manner acceptable to the City Parks and Recreation Department and Planning Department.

Analysis of Significance

Implementation of the above measures will ensure mitigation of project and cumulative impacts regarding parks, recreation and open space to an insignificant level.

Gas, Electricity, Energy

Existing Conditions

The San Diego Gas & Electric Company (SDG&E) provides electricity and natural gas to the area. An SDG&E easement and electric line extends east-west through the northeastern portion of the site.

Impacts

SDG&E will provide gas and electricity to the project. Existing distribution facilities nearby would be extended to serve the development. The proposed GDP respects and

avoids development on the onsite SDG&E easement. Any future uses (i.e. recreational) would need to be coordinated with SDG&E.

Section 3.3.8 of EIR 84-1 for the adjacent EastLake I SPA Plan Plan (1984) provides an extensive discussion on energy and conservation. That section is hereby incorporated by reference; recommended energy conservation mechanisms are listed as mitigation herein (see following). As with any development, the project will contribute to a cumulative increase in demand for non-renewable energy resources.

Mitigation Measures

- The project shall, to the extent feasible and to the satisfaction of the City, provide the following:
  - Encourage the use of public transit by providing bus loading zones at key locations onsite; and facilitate non-vehicular travel by incorporating bicycle and pedestrian trails onsite.
  - Implement efficient circulation systems including phased traffic control devices.
  - Adhere to updated Title 24 building construction and design standards.
  - Install landscaping that provides afternoon shade, reduces glare, encourages summer breezes, discourages winter breezes.
  - Minimize reflective and heat absorbing landscapes.
  - Reserve solar access and implement passive solar systems.
  - Develop dwellings on small lots to decrease indoor and outdoor heating and lighting requirements.
  - Install energy efficient appliances in residential developments.
  - Limit strict lighting and install energy efficient lights.
  - Demonstrate energy conservation practices.
  - Use appropriate building design, orientation, landscaping and materials to maximize passive solar heating and cooling, and construct energy-efficient structures.
- The SPA Plan shall more clearly identify the recreational uses proposed for the SDG&E easement in the site's northeast; uses shall be subject to the approval of the City and SDG&E.

Analysis of Significance

Potential project-specific impacts to energy facilities and resources will be, with implementation of the above measures, mitigated to below a level of significance. The project, in conjunction with other development, will result in an incremental increase in demand and unavoidable cumulative impact on non-renewable energy resources in the region, as would any development on the site.

Public Transit

Existing Conditions

The eastern area of Chula Vista area is serviced by three Chula Vista Transit (CVT) routes. Additional routes are proposed in the area in fiscal year 1990-91 (C. Swanson, City Engineering Department, August 1989).

Impacts

Implementation of the project will result in an increase in public transit demand, creating a need to extend CVT services. This demand may be accommodated so long as proper coordination occurs between interests. Also important to consider are transit facilities (i.e., bus stops). This project's location and configuration support a potential siting for transit facilities as recommended below.

Mitigation Measures

- Prior to final site plan approval, the developer shall consult with City Planning and City Transit staff regarding location of transit facilities (i.e., bus stops) onsite. Should there be a need for such facilities, site design shall provide for said facilities, subject to review and approval by the City.

Analysis of Significance

Any potential impacts to transit services will be mitigated by the above measure to below a level of significance.

Library Facilities

Existing Conditions

The City of Chula Vista currently operates one central library located at 365 F Street in the Chula Vista Civic Center. The library contains approximately 190,000 volumes and circulates over 1 million books per year. During the 1988/89 fiscal year the library averaged 2,032 patrons per day. In terms of books and patrons served, the library is current operating at capacity (Howard 1989).

In addition to the central library, the City of Chula Vista pays the County of San Diego to operate two libraries, located south of Chula Vista in the Montgomery area. The two branches contain a total of approximately 14,000 volumes. Both branches are operating below capacity since the County has a circulation system which includes other County branches. The City is scheduled to assume responsibility for these libraries in 1989.

The City of Chula Vista's library threshold objective is to provide supplemental branch library facilities in the Montgomery/Otay area and in the area east of I-805. A draft Library Master Plan has been prepared for the Chula Vista library system identifying the future facilities required as a result of growth in Chula Vista. Chula Vista will need approximately 123,700 square feet of new public library space by the year 2010, based on projected population. The recommendations contained within the Master Plan state regarding eastern Chula Vista, a leased storefront or portable facility will be needed by the year 2000.

Impacts

Residents generated by the project (10,713) would increase the demand on library facilities within the project vicinity, representing a contribution to a cumulative increase in demand for library facilities. The growth anticipated in eastern Chula Vista will require an expansion of existing facilities. Smaller branch libraries or a large facility within Chula Vista's eastern territory would accommodate the additional demand.

The City of Chula Vista's threshold standard for libraries is 500 square feet of fully staffed and equipped library space per 1000 residents. A 1 acre library site has been included

within the PC regulations for the EastLake project. According to the director of the Chula Vista public library system, the branch will be necessary once 30,000 people are present in the area (Lane 1986). Since it takes approximately three years to plan and construct that type of library facility, plans for the branch library should be developed concurrent with residential development. Financing for the library could be achieved through a Mello-Roos Community Facilities District or through special grants.

Mitigation Measures

- The project applicant shall adhere to General Plan library thresholds, and shall participate in any funding programs created for financing of a library facility (i.e., developer fees, Mello-Roos Community Facilities District for Salt Creek Ranch, etc.) to serve the vicinity, as deemed appropriate by the City.

Analysis of Significance

Any project and cumulative library impacts associated with the project will be mitigated to below a level of significance by implementation of the above mitigation measure.

Solid Waste Disposal

Existing Conditions

Because the site is undeveloped, there is no current need for solid waste disposal. Service in the area is provided by Chula Vista Sanitary Service. Solid waste in the area in disposed at the Otay Sanitary Landfill. The Otay Landfill is located north of Otay Valley Road, 0.5 mile east of I-805. The landfill currently handles about 2,071 tons of solid waste each day and full capacity is expected to be reacted by 1999. In fiscal year 1988-1989, the landfill received approximately 2 million cubic yards of solids waste (E. Severson, County of San Diego Public Works Department, October 1989). The County is currently in the process of evaluating alternative future landfill sites in the south San Diego region, for use at which time the Otay Landfill reaches capacity. No site has yet been selected.

Impacts

Based on an average refuse generation rate of 7.5 pounds per day per capita (C. Swanson, City Engineering Department, August 1989), the project population of 10,713 (2.94 people per unit) would generate 80,348 pounds of refuse per day. The project will contribute to the demand for landfill space; the Otay Landfill is expected to adequately accommodate the project's refuse disposal needs, although capacity will be reached and additional space will ultimately be required. The County future landfill site, when selected and implemented, will serve to alleviate this problem by increasing future landfill capacity in the area beyond that available at the Otay Landfill.

Mitigation Measures

No mitigation is necessary.

Analysis of Significance

The project will, in concert with other development, contribute to a cumulative demand for waste disposal facilities. This project's contribution to the cumulative solid waste impact is not considered significant; regional plans for solid waste disposal will mitigate regional cumulative impacts.

This page intentionally left blank.

SECTION 4
REQUIRED CEQA SECTIONS

4.1 CUMULATIVE IMPACTS SUMMARY

The following discussion is a summary of the project-related impacts which may be significant on a cumulative basis, i.e., when combined with other existing, approved, and reasonably foreseeable future projects. A more detailed impacts analysis for each issue is included in Section 3 of this EIR; the reader is referred to the appropriate subsection for the complete analysis.

Conversion of Agricultural Land

The project's resulting loss of agricultural production and soil capability will contribute to a cumulative loss of agricultural land in the area. Although not significant on a project-specific basis, the loss will contribute to a cumulative adverse impact on agricultural land in the region.

Landform and Aesthetics/Visual Resources

The project will result in urbanization of an existing natural area, permanently altering the aesthetic nature of the site. Visual resources and views will be permanently changed. The project, in conjunction with other development in the area, will significantly change the visual nature of the area into an urban environment.

Hydrology/Drainage/Water Quality

Development of the project site could aggravate existing downstream drainage and flooding problems, and could contribute to water quality degradation downstream and in the Upper Otay Reservoir. As a condition of project development, engineering and design features would be required to ensure that the volume and rate of runoff does not exceed existing, predevelopment levels, and that water quality is maintained. With these features, the project would not contribute to cumulative, offsite drainage or water quality impacts.

Biological Resources

The project's resulting loss of habitat and impact on various sensitive species (see Section 3.7, Mitigation) will contribute to a cumulative impact on biological resources in the region in conjuction with ongoing development in the area.

Transportation and Circulation

The effects of project traffic in combination with ultimate development of the surrounding vicinity, as discussed in Section 3.9, were evaluated in the traffic analysis completed for this project. The local cumulative impacts were considered in that study, and circulation improvements necessary to accommodate total traffic generation were identified. The improvements which would be required as conditions of project development are indicated in Section 3.9 mitigation measures. The project would contribute to the overall increase of traffic volumes in the City of Chula Vista and the entire San Diego region. Some areas of the circulation system are projected to operate below acceptable levels in the future, due to cumulative traffic generated by development throughout the City. The project would participate in the Eastern Chula Vista Transportation Phasing Plan, and would contribute to transportation improvements necessary to support development onsite and in the area.

Air Quality and Noise

The project would generate traffic and associated additional air pollutants in the San Diego area. This would have a significant adverse effect on the maintenance of the long-term air quality of San Diego County. Traffic-generated noise and noise associated with urban development will be created by the project, contributing to the cumulative increase in the area's noise levels.

Public Services and Utilities

The project will generally incrementally increase the demand for public services such as schools, parks, police and fire protection, and utilities such as electricity, natural gas, water and sewer. Most cumulative impacts can be mitigated by measures identified in Section 3.13; the cumulative impact to non-renewable energy resources, however, cannot be mitigated. Water and sewer are discussed below.

Water Availability

The proposed project would incrementally increase regional water consumption, although implementation of the GDP would represent an insignificant impact on current water availability. The extensive conservation measures and use of reclaimed water for irrigation purposes as proposed by the project would reduce water requirements to a certain extent. Regional water supply impacts, however, are unavoidable with any development unless a solution to the loss of California's imported Colorado River supply is found and a guarantee of State Water Project Water can be made.

Sewer Services

Development of the project would incrementally reduce the capacity at the Point Loma Metro Sewer System; due to the large area served by the system and the comparatively small increase generated by Salt Creek Ranch, the project would not represent a significant impact to regional sewer services. When combined with similar projects within the vicinity, a potentially significant impact may occur upon the City of Chula Vista's sewer infrastructure if not mitigated through improvements and the construction of additional facilities. These facilities are proposed by the applicant and/or are required as mitigation herein, serving to mitigate impacts to an insignificant level.

4.2 GROWTH INDUCEMENT

Growth-Regulating Documents and Controls

Growth inducing considerations are critical in the CEQA process at initial project approvals because those first approvals (i.e., General Plan and Zoning) provide for future, subsequent entitlement and project implementation. In other words, the decision to convert the land has been made once an urban General Plan land use designation is established. It is appropriate and necessary to evaluate in depth the growth inducement at that stage of planning. Residential land uses on the project site were included in the July 1989 adopted City General Plan (GP) Update and analyzed in the GP EIR 88-2, thereby incorporating the concept of residential use on the project site (see Land Use Section 3.1) The Growth Inducing Impacts section of the General Plan Update EIR 88-2 is hereby incorporated by reference, serving to document the long-term growth inducing impacts of site development at the General Plan level.

The County of San Diego Regional Land Use Element and Map (August 1984) contains several goals regarding urban growth. The thrust of these goals is to manage urban growth so that balanced communities are planned appropriately with facilities and urban levels of service. The Land Use Element also states that future urban growth should be located contiguous to existing urban areas while the rural character of nonurban lands should be retained (County of San Diego 1984:11-2).

The City of Chula Vista has been developing and refining a growth management plan for the past several years. The plan's intent throughout its many revisions has been to direct growth in and around the City in an orderly fashion, to avoid leapfrog development, and to protect and preserve the City's amenities. The proposed growth management plan is intended to supplement and complement the City's General Plan, and to provide a more specific approach to the direction of growth. The City's policy is intended to promote incremental growth, but to remain flexible to allow consideration of topographic, economic, social, and other factors relative to new development when necessary. Provision of public facilities concurrent with growth is considered an important guide, as is the idea of urban in-filling as opposed to "leapfrog" development. Preservation of open space and greenbelts by methods such as dedication of land, purchasing of development rights, clustering, and zoning practices is recommended as part of growth management in Chula Vista.

Proposed Project Potential Growth Inducing Characteristics

The proposed project consists primarily of residential uses, and recreational and public facilities. Land to the north, east and northwest of the site is largely undeveloped. The closest major development is the EastLake Business Park to the southwest. The development of the Salt Creek Ranch GDP calls for a maximum of 3,644 dwelling units resulting in approximately 9,839 residents (based on SANDAG's 2.7 residents/unit used for population projections).

In assessing growth inducement, a major factor is the potential growth inducing effects of new services and facilities (required of a project) on the surrounding area if it is undeveloped. The project and resulting population would require infrastructure improvements, and extensions of facilities to provide urban levels of service including water, sewer, educational facilities, circulation/roads, law enforcement and fire protection. The development plans for Salt Creek Ranch call for the construction of residences, one elementary school, a potential fire station, and additional public and private recreational facilities, including parks and a nature center. The extension of utilities and services to the property, and the presence of a school, recreational facilities and urban levels of police and fire protection could encourage or accelerate growth of adjacent undeveloped areas. Roadways (i.e. Hunte Parkway and East H Street) are proposed to be extended through the project site to the north and east, respectively. Therefore, growth inducement must be further analyzed.

The proposed project incorporates some of the City's growth management measures. The public facilities are planned to be provided concurrently with need. As required under the City's growth management policies, the proponent has committed to provision and construction of public facilities on a schedule dictated in concept by the City Threshold standards, and established in detail be the project's Public Facilities Financing Program and Development Agreement. Section 2.5 herein describes the conceptual project phasing. The project is participating in the Eastern Territories Transportation Phasing Plan (TPP), which dictates the area's roadway improvements based on identified cumulative growth and need (refer to Section 3.9). The proposed elementary school will serve project students, and will be constructed in accordance with a schedule based on both the project development

schedule and school district needs. A potential fire station site may be identified onsite, based upon a determination of the City (refer to Section 3.13). An open space and park system is proposed. An onsite circulation system, including pedestrian, bicycle and equestrian trails connecting various portions of the community, is also planned. All of these project components are to be coordinated with the City's growth management policies.

Even in consideration of the above, implementation of the proposed Salt Creek Ranch GDP could have secondary growth inducing impacts on undeveloped land in the project vicinity. This impact would not effect whether or not adjacent properties are designated for urban uses, but could effect the timing and character of development of urban designated land. For example, approval of the project and associated extension of Hunte Parkway and other utilities and improvements may encourage any potential urban designated adjacent developments to occur sooner than would otherwise take place without the Salt Creek Ranch project. Also, the project's character could effect adjacent projects' design.

Properties to the south and west consist of the EastLake Community neighborhoods which are already planned; property to the north consists of the Mother Miguel Mountain designated open space and Otay Water District property; land to the east lies within the County Jamul Mountains area. Also, the Otay Ranch property lies to the east, northeast and southeast. The Salt Creek Ranch project could potentially influence the timing and design of potential development to the north and east, constituting a secondary effect.

Annexation of the project site would not induce growth that has not previously been planned for, as the majority of the site is a part of the City's Sphere of Influence and has been included in planning and development forecasting by the City of Chula Vista. Annexation may encourage development to occur more rapidly as result of the provision of public services (as described above) that are more readily available within the City boundaries. Primary growth inducement as a result of annexation and the subsequent extension of services would not occur.

4.3 THE RELATIONSHIP BETWEEN LOCAL SHORT-TERM USES OF THE ENVIRONMENT AND THE MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY

The proposed use of the project site environment would involve the elimination of agricultural land uses and the development of a permanent, residential urban community. While agricultural opportunities would thereby be precluded, the project's acreage does not represent a project-specific significant impact to potential resources. The project would result in an increased housing stock for the City of Chula Vista and in a net gain of public use funds. This development would, however, have certain other long-term effects on the environment. These long-term, cumulative effects are summarized in Section 4.1.

The project is assessed by community planning efforts of the City of Chula Vista which, on a comprehensive basis dictated in the General Plan and other regulating documents, strive for a balance in community land uses, enhancement of the long-term productivity of the City and region, as well as maintenance and conservation of valuable resources. The City, by adoption of the GP Update in July 1989, approved in concept (GP Designations) residential and open space uses on the project site. If the proposed GDP is approved by the City, this project will be found in conformance with those long-term goals.

SECTION 5
ALTERNATIVES TO THE PROJECT

The California Environmental Quality Act (CEQA) requires that an EIR include a discussion of reasonable project alternatives, including a No Project alternative. This discussion is to focus on alternatives "capable of eliminating any significant adverse environmental effects or reducing them to a level of insignificance" (CEQA, Section 15126(d)(3)). This EIR has analyzed potential impacts of the proposed Salt Creek Ranch GDP and related discretionary actions. The following discussion presents evaluations of alternatives as required by CEQA. Section 1.3 of this EIR provides an impact summary matrix of the project as compared to the alternatives evaluated herein.

Please see the response to comment 18 of the letter from the Baldwin Company.

5.1 NO PROJECT ALTERNATIVE

Under the No Project alternative, the site would remain in its present open space and agricultural condition and no development would occur. In addition, the site would remain as unincorporated County land instead of being annexed to the City of Chula Vista.

The No Project alternative would not require the discretionary actions related to the project as proposed, including the annexation and prezoning of County land into the City of Chula Vista and adoption of the General Development Plan. This alternative would not be consistent with the General Plan, which designates residential and open space uses onsite. No agricultural land use impacts, land use compatibility impacts or aesthetic impacts would occur under this project alternative.

Several roads currently proposed for the area would not be constructed under a No Project alternative. This would not be a significant impact, however, because the project-related ADT would not be generated. Cumulative traffic impacts in the area would be reduced under this alternative. There would also be no need for the extension of public transit routes under a No Project alternative.

Similar to public transit, no extension of public services or utilities to the site would be necessary with implementation of a No Project alternative, although improvements to onsite water facilities may still be necessary if surrounding lands are developed. Sewer improvements in the area could be delayed until surrounding lands are developed as could the extension of natural gas and electrical lines and the construction of additional fire stations or branch libraries.

The No Project alternative would reduce the number of public parks and schools in the project vicinity. The loss of potential parks and school would not be significant because the proposed parks and school would primarily be used by future residents of the Salt Creek Ranch residential neighborhoods. Recreational trails (i.e. bicycle, equestrian) onsite would not be created, nor would the proposed nature center.

The site would remain as it is with no disturbance to subsurface soils or geologic features. Also, the site would maintain its present drainage pattern, with no change in the amounts or quality of existing runoff. Erosion would continue to occur at its present rate due to continued agricultural activity on the site. Biological resource impacts of the project identified in this EIR would essentially be eliminated; habitat and sensitive species could remain unimpacted if no future development was permitted. Cultural and paleontological resources would also not be impacted.

Air quality and noise impacts would be greatly reduced by the No Project alternative. The only air quality impacts currently associated with the site are emissions from agricultural

equipment and dust created by plowing or discing activities. These minor sources of pollutants are consistent with the SANDAG Series 7 growth forecasts and Air Pollution Control District (APCD) attainment plans for the San Diego region which assumed no development for the site. Noise levels on the site would be reduced from levels forecasted for the project at proposed buildout.

In summary, many impacts associated with the project would be reduced or eliminated under the No Project alternative. It does not support the goals and objectives of the Chula Vista General Plan Update, however, which anticipates residential/recreational and public facilities' development on the project site.

5.2 INTENSIVE AGRICULTURAL USE

The Intensive Agricultural Use alternative could reduce the project's adverse effects on agricultural resources, biological resources (assuming preservation of resource areas), public services, land use/site character, circulation network, traffic, air quality, water quality, landform/aesthetics, noise environment, hydrology and geology. Expanded agricultural operations would require the importation of water and construction of water distribution facilities for irrigation purposes and some extension of public services. The Agricultural Use alternative would slightly increase (above existing volumes) traffic, particularly trucks, in the project vicinity. As compared to the proposed project, traffic and associated impacts' (and noise and air quality impacts) would be significantly less. The City would not realize the socioeconomic benefits of additional housing opportunities in the area, or roadway construction and improvements required of the project which are needed to upgrade the vicinity's circulation system.

5.3 REDUCED RESIDENTIAL ACREAGE ALTERNATIVE

Reduced development of the site under the Reduced Residential Acreage alternative would, as with the proposed project, convert the site to urbanized uses, eliminate the agricultural resources of the area, change the character of the site, and require extension of public services and facilities/utilities to the area. Cultural resource, geotechnical and hydrological impacts would be similar to proposed project impacts. Although the amount of traffic generated from the site would be reduced, additional roadway improvements would still be required. Noise and air quality impacts would be slightly reduced due to fewer vehicular trips generated.

Some impacts of this alternative would be similar in nature as the proposed project, although slightly less in level of significance (i.e., biological resources, aesthetics). Depending on development configurations, biological resource impacts could be reduced. Impacts to coastal sage scrub and native grassland habitats would not likely be mitigable to below a level of significance. Similarly, aesthetic impacts could be reduced, but the overall cumulative impact to the existing natural character of the area would be unavoidable and significant.

5.4 DESIGN ALTERNATIVE A

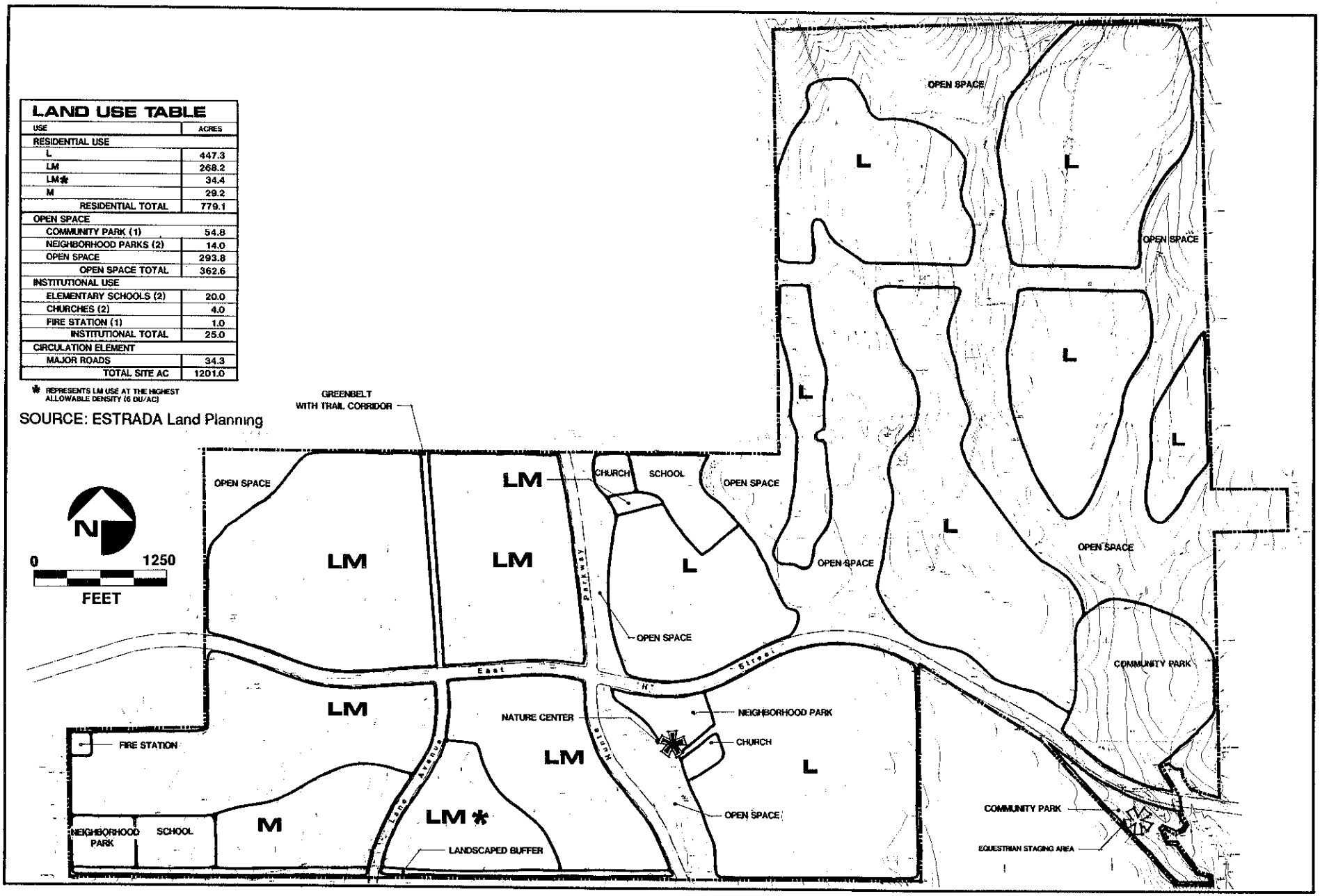
During preparation of this Draft EIR for the Salt Creek Ranch project, the CEQA review process revealed issues of concern to the City and various environmental impacts of the project. The most significant impacts are those related to biological resources, locations of open space and recreation areas, and locations of public facilities, specifically school, fire station and church sites. In an attempt to reduce or eliminate those impacts, the applicant refined the project description, creating Design Alternative A, as illustrated in Figures 5-1 through 5-5. Alternative A was resubmitted to the City as the revised General Development

LAND USE TABLE

USE	ACRES
RESIDENTIAL USE	
L	447.3
LM	268.2
LM*	34.4
M	29.2
RESIDENTIAL TOTAL	779.1
OPEN SPACE	
COMMUNITY PARK (1)	54.8
NEIGHBORHOOD PARKS (2)	14.0
OPEN SPACE	293.8
OPEN SPACE TOTAL	362.6
INSTITUTIONAL USE	
ELEMENTARY SCHOOLS (2)	20.0
CHURCHES (2)	4.0
FIRE STATION (1)	1.0
INSTITUTIONAL TOTAL	25.0
CIRCULATION ELEMENT	
MAJOR ROADS	34.3
TOTAL SITE AC	1201.0

* REPRESENTS LM USE AT THE HIGHEST ALLOWABLE DENSITY (6 DU/AC)

SOURCE: ESTRADA Land Planning



ERC Environmental and Energy Services Co.

Alternative A General Development Plan

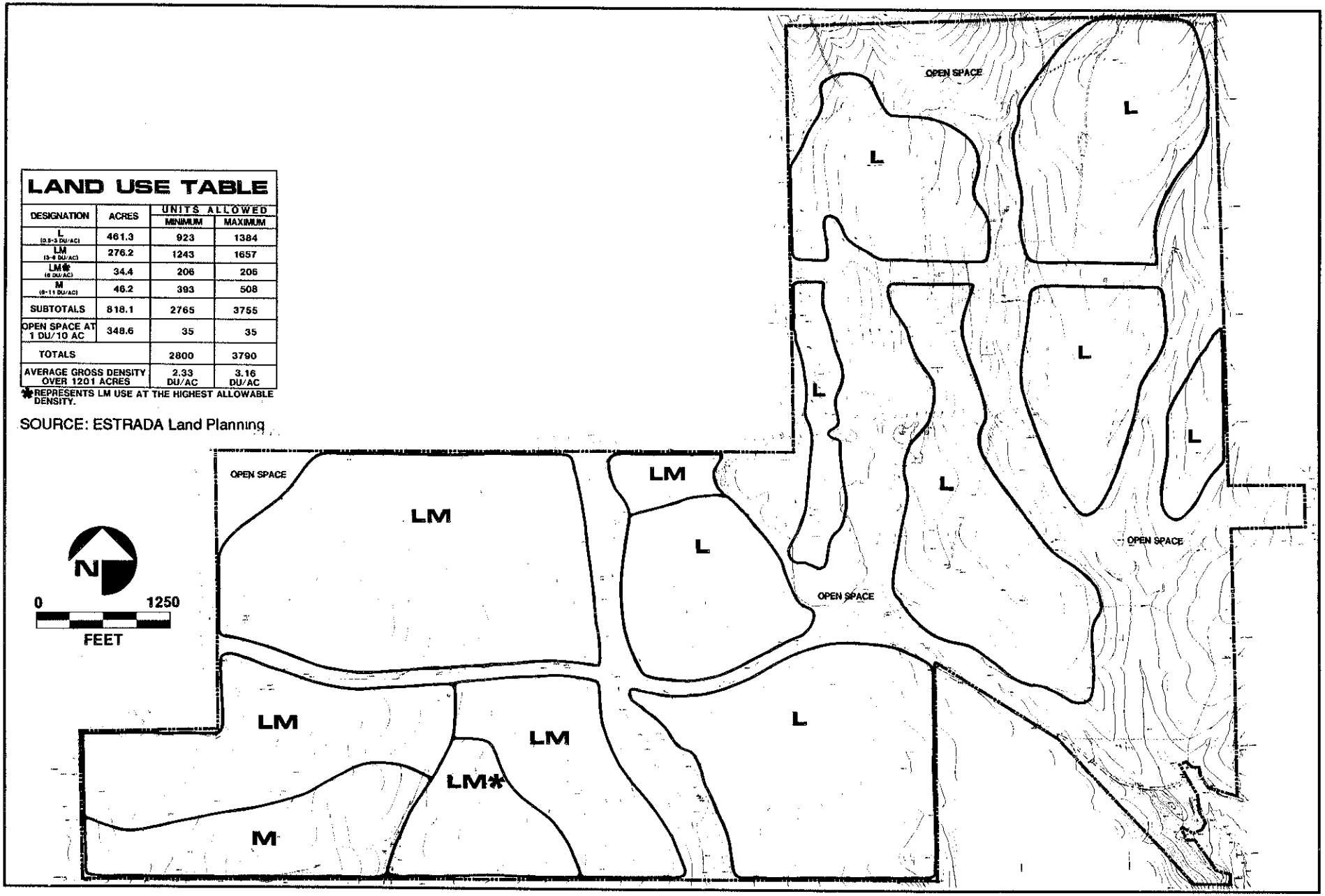
FIGURE 5-1

LAND USE TABLE

DESIGNATION	ACRES	UNITS ALLOWED	
		MINIMUM	MAXIMUM
L (0.5-3 DU/AC)	461.3	923	1384
LM (3-6 DU/AC)	276.2	1243	1657
LM* (6 DU/AC)	34.4	206	206
M (6-11 DU/AC)	46.2	393	508
SUBTOTALS	818.1	2765	3755
OPEN SPACE AT 1 DU/10 AC	348.6	35	35
TOTALS		2800	3790
AVERAGE GROSS DENSITY OVER 1201 ACRES		2.33 DU/AC	3.16 DU/AC

*REPRESENTS LM USE AT THE HIGHEST ALLOWABLE DENSITY.

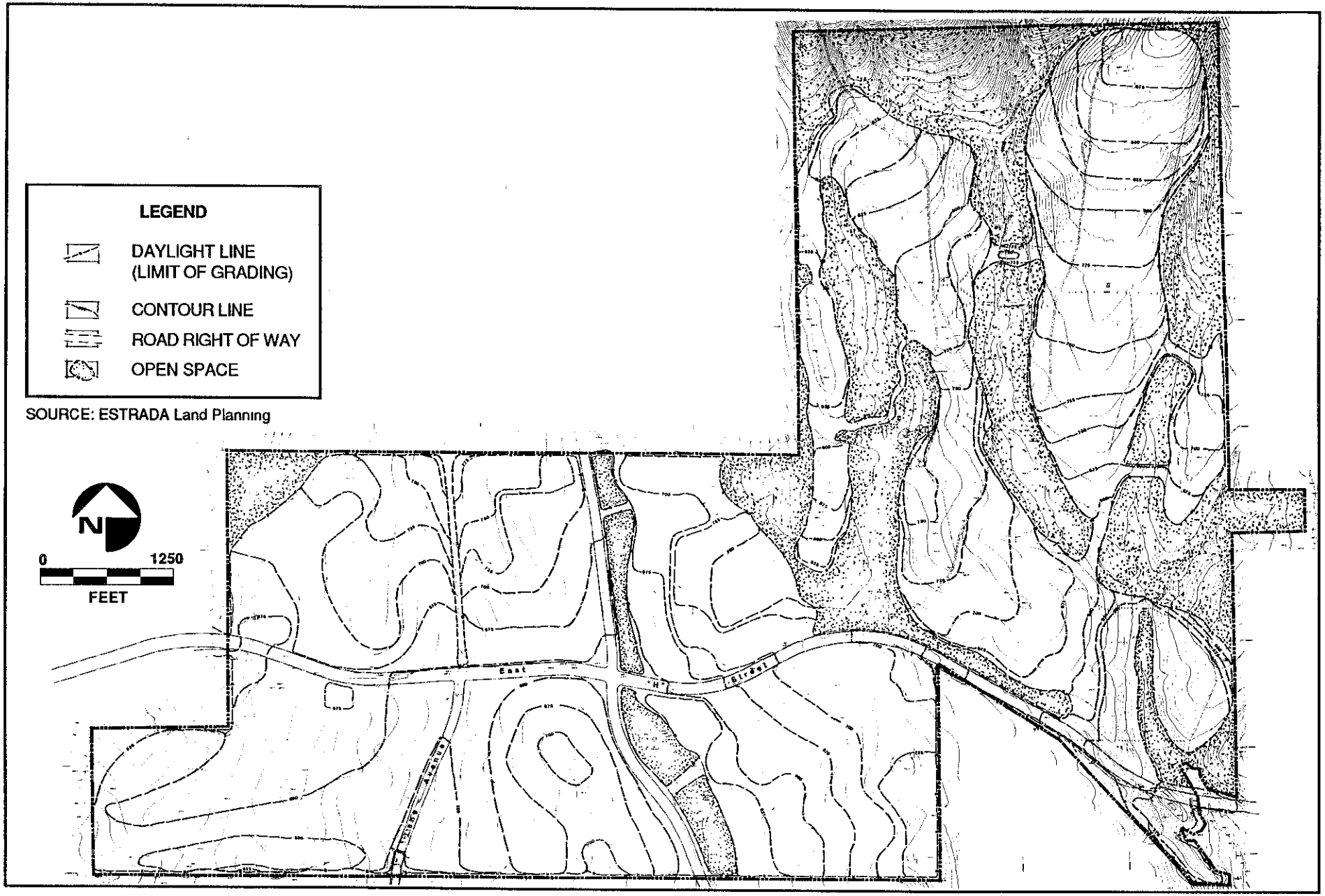
SOURCE: ESTRADA Land Planning



ERC Environmental and Energy Services Co.

Alternative A Proposed Land Use Plan

FIGURE 5-2

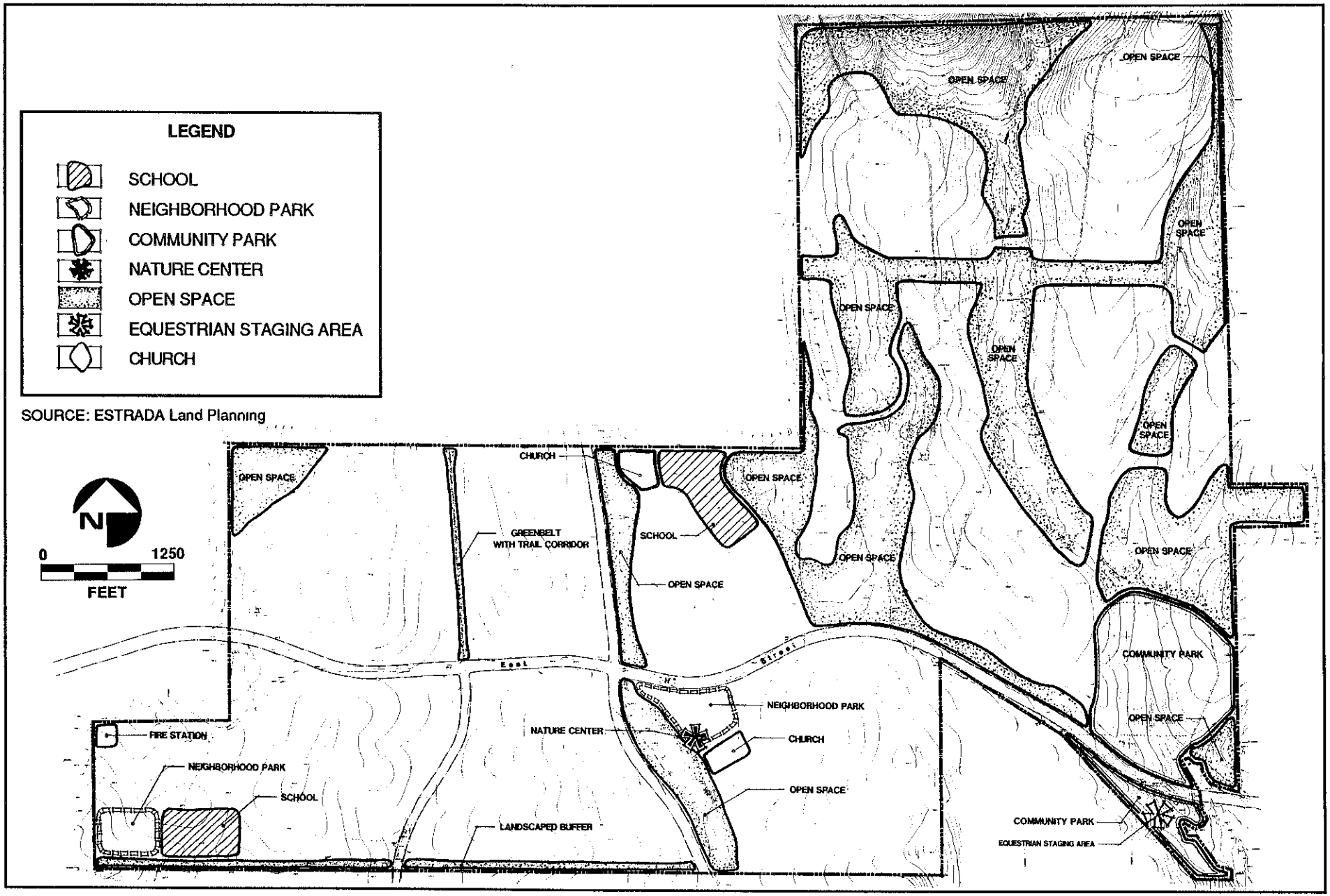


S-5

ERC Environmental and Energy Services Co.

Alternative A Grading Plan

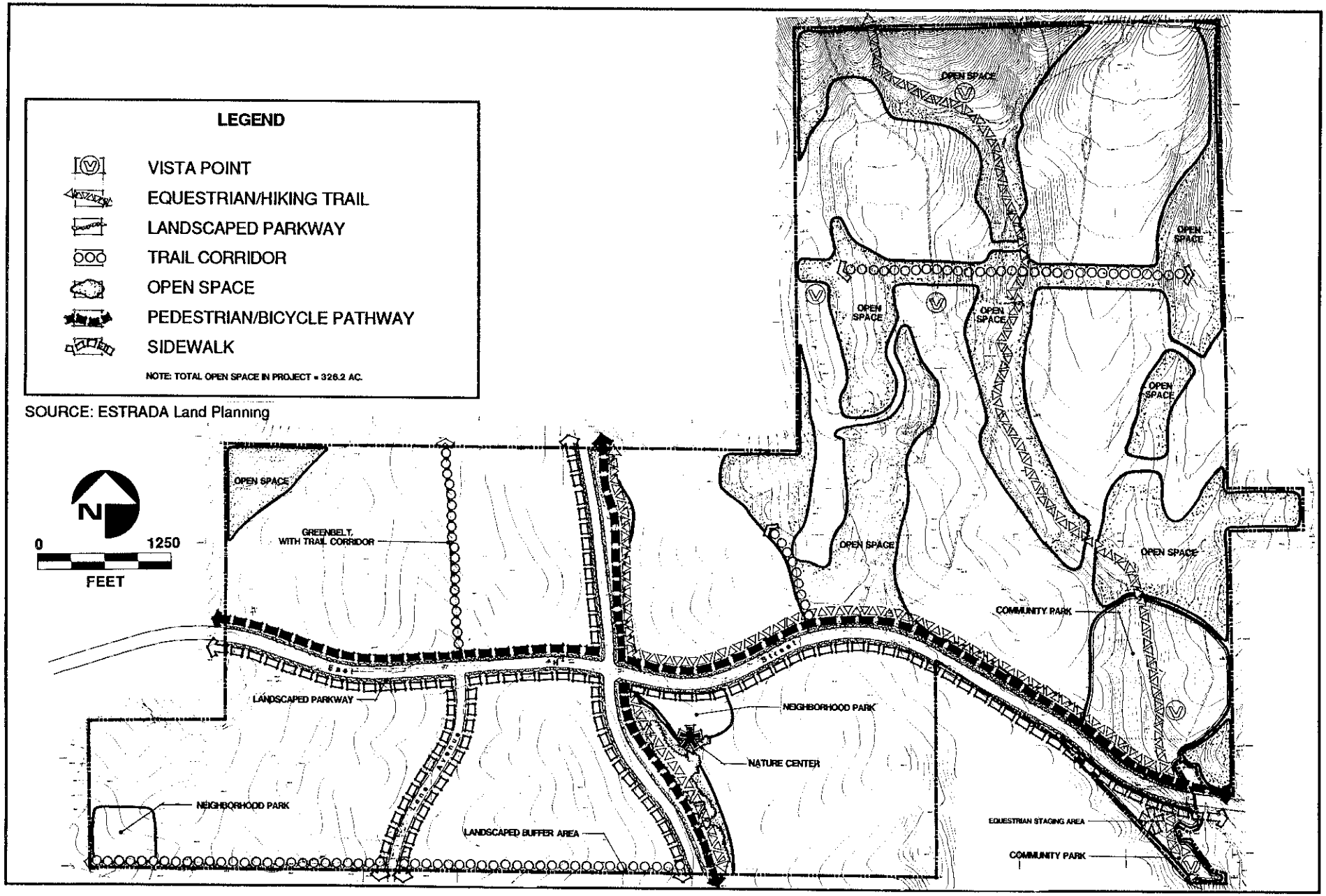
FIGURE 5-3



ERC Environmental and Energy Services Co.

Alternative A Community Facilities Plan

FIGURE 5-4



ERC Environmental and Energy Services Co.

Alternative A Open Space/Trails Concept Plan

FIGURE 5-5

Plan (GDP) in December 1989. The following paragraphs describe the resubmitted Alternative A, discuss the differences between the two plans (originally submitted GDP versus Alternative A), and evaluate the environmental impacts of Alternative A as compared to the original GDP.

DESCRIPTION OF ALTERNATIVE A GDP

Illustrated in Figure 5-1, Alternative A proposes a mix of uses similar to the original GDP. Refinements in land use acreages, as compared to the original GDP, are shown in Table 5-1. Under Alternative A, a range of densities under each category is proposed to provide flexibility; the total number of residential units would range from 2,765 to a maximum of 3,755. The proposed density ranges exceed those permitted in the General Plan as the density calculations incorrectly included school and church sites in the net acreages.

The configuration of residential development and open space in the southeast site area is changed in Alternative A to conserve a portion of sensitive biological resources (see Biological Resources Section 3.7 and evaluation below). The private east-west recreation belt in the northeast has been removed in the Alternative A Plan, although a trail corridor is now included in the same area (see Figure 5-5), to be further described and defined at the SPA Plan level and reflected in precise plans for individual development enclaves. The equestrian center has been replaced with a smaller equestrian staging area within the community park. The total amount of open space is increased in Alternative A to 362.6 acres (Table 5-1).

Alternative A identifies specific locations for public facilities and institutional uses which were not identified in the original GDP. Figures 5-1 and 5-4 illustrate the locations of these uses and Table 5-1 shows acreages. A 1-acre fire station is now included in the GDP, located at the southeast project boundary adjacent to the Salt Creek I property. Two 10-acre elementary school sites are reflected in Alternative A (whereas one elementary school site is identified in the original GDP): one site is located next to a neighborhood park at the southwest project corner abutting the EastLake Business Park, and the other is at the central, north project boundary adjacent to a church site, open space and a low-density residential enclave (Figure 5-1). Two church sites are identified in the Alternative A GDP, located adjacent to parks, open space and/or residential areas. No church sites are identified in the original GDP.

ENVIRONMENTAL ANALYSIS/COMPARISON OF IMPACTS

Land Use

Land uses proposed in Alternative A are described above. Changes from the original GDP to the Alternative A GDP were formulated in response to City concerns, generally refining the location and configuration of open space areas, recreational uses, and incorporating institutional uses as requested by the City and the Chula Vista City School District (CVCSD). Figures 5-1 and 5-4 illustrate the land uses and their orientations. The Alternative incorporates institutional land uses including a fire station site, church site and an additional school site as required in the City Fire Station Master Plan, by CVCSD and by the City Planning Department, whereas the original GDP includes only one school site in an unacceptable location. The school sites are more appropriately located in Alternative A with regard to land use compatibility and access issues. More contiguous open space is provided in the southeast area, in an attempt to create an open space corridor to the east along Proctor Valley Road in conjunction with the Otay Ranch property (see Figure 3-1b). This revision is desirable from a land use perspective and biological standpoint (see

Table 5-1

LAND USE COMPARISON: ALTERNATIVE A VS. ORIGINAL GDP

Land Use	Acres		Units	
	Orig. GDP	Alt. A	Orig. GDP	Alt. A [2]
Residential:				
Low	482.0	447.3	1405	923-1384
LM	270.6	268.2	1542	1243-1657
*LM[1]	32.8	34.4	197[1]	206[1]
Medium	49.1	29.2	500	393-508
TOTAL	834.5	779.1	3644	2765-3755
Open Space:				
Community Park	28.4	49.0 [3]		
Equestrian Ctr.	8.3	0.0		
Neighborhood Parks	11.0	14.0		
Private Rec.	10.1	0.0		
Mini-Parks	2.0	0.0		
Nature Center	1.0	1.0		
Natural O.S.	265.4	311.4		
TOTAL	326.2	362.6		
Institutional Use:				
Elementary School(s)	10.0	20.0		
Fire Station	0.0	1.0		
Churches	0.0	4.0		
TOTAL	10.0	25.0		
Circulation:				
Major Roads	34.3	34.3		

1 Represents low-medium density residential at the highest density allowed.

2 Proposed unit ranges are intended to reflect General Plan midpoint and maximum densities allowed under each density category. These ranges are too high for all categories except *LM as the density calculations incorrectly include school and church sites in the net acreages.

3 Includes 16.4 acres of proposed undisturbed open space within the community park.

Biological Resources discussion below), provided that adequate open space conservation areas are provided as well as recreational open space. The equestrian center in the southeast has been replaced with more community park acreage and an equestrian staging area, effectively reducing potential land use and other impacts associated with an intensive equestrian center.

The Alternative A GDP proposes an improved plan from a land use perspective, slightly reducing impacts as compared to the original GDP. The Alternative A GDP is inconsistent (in density) with the recently adopted (July 1989) City General Plan (Figure 3-2), as is the original GDP. Density ranges for all residential categories except *LM are too high, as the density calculations incorrectly include school and church sites in the net acreages (City Planning Department, March 1989). The ranges were created to reflect the units allowed between the midpoint and maximum densities. If developed above the midpoint density, the project would not be in compliance with the General Plan, as the Planning Department has determined that the alternative would not provide exceptional and extraordinary benefits to the residents of Chula Vista (refer to Land Use Section 3.1). In summary, Alternative A provides additional institutional uses and open space locations similar to General Plan designations. The proposed densities are inconsistent with the General Plan, as with the original GDP.

Agricultural Land Use Conversion

Alternative A will result in similar impacts as the original GDP to agricultural land resources in the region, constituting a contribution to the unavoidable cumulative impact on these agricultural resources.

Aesthetics and Visual Resources

Overall impacts to the existing visual open space resources of the site are generally similar between the two plans. From a regional perspective, Alternative A plan will contribute to the unavoidable, significant cumulative impact on the existing natural aesthetic character of the area, simply by converting the land to urban uses, as does the original GDP.

Minor refinements in school site and residential locations will reduce potential aesthetic-related land use interface impacts, specifically at the southwest project corner where the project abuts the EastLake Business Center. The Alternative A GDP proposes a greenbelt buffer along the south project edge, and positions an elementary school and park site to buffer residential uses from the business park. This will reduce potential aesthetic impacts previously associated with this area of the project.

At the southeast project edge, residential development has been pulled back to respect the sensitive adjacent Upper Otay Reservoir and effectively reduce impacts. The project design has been reconfigured to enlarge the southeast open space and community park area (see Figure 5-1, 5-3 and 5-4), reducing aesthetic impacts to the Otay Lake area. Sensitive site design and buffering will be required along portions of the eastern project boundary where development is proposed, to minimize impacts of residential development on areas to the east. Alternative A was initiated in response to biological impacts identified with the original plan (see Biological Resources discussion below and in Section 3.7), and also reflects a more sensitive project design from an aesthetic standpoint, provided that concerns pertaining to portions of the east project area are mitigated at future design and implementation stages.

Geology and Soils

As with the original GDP, potential geologic and soils related impacts of Alternative A can be mitigated by standard engineering practices and mitigation recommended in this EIR.

Hydrology and Water Quality

Hydrological and water quality impacts would be similar between the two plans. Development would require drainage improvements and provisions for water quality control. The Alternative A revised development configuration in the site's southeast area could result in a lower risk of water quality impact to the Upper Otay Reservoir, due to the Alternative A greater distance of proposed development to the water resource, as compared to the original GDP (Figure 2-4). Mitigation will be required for either plan, as recommended in Sections 3.5 and 3.6 of this EIR and required of future applications. Impacts can be mitigated to below a level of significance.

Biological Resources

Impacts

The alternative design open space concept plan calls for 252.2 acres of natural open space. The overall open space design is an improvement over the proposed open space plan with respect to providing adequate habitat for wildlife existing within the open space. Continuity between open space areas onsite and offsite is significantly better than the proposed plan. Impacts to native plant communities and sensitive animals are reduced in the alternative design compared to the proposed design (Table 5-2). Most of the areas in which California gnatcatchers were sighted and two cactus wren habitat patches would be preserved with the alternative design. Impacts to wetland areas would affect 0.7 acre with the alternative design, compared to 2.1 acres with the proposed design. Impacts to native grassland is increased, from 14.6 acres with the proposed design to 24.2 acres with the alternative design.

Mitigation

Riparian Wetlands

Impacts to riparian wetlands shall be mitigated in the form of onsite habitat creation and/or enhancement. A 2:1 mitigation ratio is considered adequate for the loss of habitat value onsite. Suitable areas for wetland restoration include the Salt Creek corridor and the riparian habitat found within the proposed community park. Mitigation measures to minimize sedimentation/siltation, as described on pages 3-53 and 3-54, shall also be implemented.

Coastal Sage Scrub

Over 56 percent (207.6 acres) of the existing coastal sage scrub habitat onsite is being preserved in natural open space; approximately 158 acres of sage scrub, however, will be affected. This amount of open space to be preserved is in conformance with the Chula Vista General Plan. The City of Chula Vista, however, considers losses of greater than 5 acres of sage scrub significant. To reduce this impact to sage scrub, areas vegetated with disturbed grassland within natural open spaces shall be revegetated with native sage scrub species (see page 3-54 for details).

Please see the response to comment 21 of the letter from the Baldwin Company.

Table 5-2

SALT CREEK RANCH BIOLOGICAL RESOURCES AND PROJECT IMPACTS

Resource	Existing	Proposed Design		Alternative Design	
		Affected	Unaffected	Affected	Unaffected
Coastal Sage Scrub[1]	365.7	178.9	186.8	158.1	207.6
Native Grassland[1]	43.5	14.6	28.9	24.2	19.9
Riparian Wetlands[1]	6.9	2.1	4.8	0.7	6.2
Eucalyptus[1]	8.0	2.0	6.0	1.1	6.9
Disturbed Grassland[1]	776.0	683.8		717.7	58.3
California Gnatcatcher[2]	5	2	3	1	4
Cactus Wren Habitat[3]	3	3	0	1	2
Total	1200.1	881.4	318.7	889.6	310.5

[1] In acres
[2] Numbers of pairs
[3] Numbers of patches

Native Grassland

Approximately 24.2 acres of native grassland is proposed for development in the alternative design. The City of Chula Vista considers losses of native grassland greater than 0.5 acre to be significant. A spring (May-June) survey of the native grassland habitat onsite shall be conducted to determine the presence/absence and abundance of sensitive plant species that could be expected to occur in this habitat. The sensitivity of the loss of native grassland habitat shall be determined after the results of this survey are provided to City staff.

General Recommendations

General recommendations provided on pages 3-57 to 3-59 also apply to the alternative design.

Significance of Impacts After Mitigation

Impacts to riparian wetland, California gnatcatcher, and cactus wren will be reduced to below a level of significance should the above mitigation measures be implemented. Impacts to coastal sage scrub and native grassland are significant and not fully mitigated to below a level of significance.

Cultural Resources

The reconfigured development and open space areas of the Alternative A GDP show no significant differences in impacts to historic and archaeological resources. A minor

reduction in impact to sites SDi-4776, -6961 and -6963 may be realized by the Alternative A Plan due to a change in the residential development area along the site's northwest boundary. The extent of impact reduction is probably not significant because this large archaeological site would require a data recovery program regardless of specific development edges. In summary, implementation of measures cited in Section 3.8 of this EIR would serve to reduce impacts to cultural resources to below a level of significance.

Traffic and Circulation

Similar residential densities are proposed in the Alternative A GDP compared to the original GDP, thus similar traffic generation impacts would result. Impacts can be mitigated to below a level of significance by measures cited in this EIR.

Regarding locations of institutional uses from a circulation standpoint, access to the fire station as illustrated in the Alternative A plan has been conceptually approved by the City Fire Department following extensive negotiations, and the school site locations and configurations have been approved in concept by the CVCSD. The Alternative A GDP represents an improvement over the original GDP from this perspective. Site-specific enclave design and access issues would be further addressed appropriately at the SPA Plan level of planning.

Noise and Air Quality

Because the Alternative A plan proposes similar residential densities, noise and air quality impacts are expected to be similar to the original GDP impacts discussed in this EIR. Onsite noise impacts can be mitigated by site design and noise attenuation measures which would be available at design stages. Long-term regional air quality impacts will be cumulatively significant as with the original plan; short-term impacts can be mitigated by measures herein.

Fiscal Analysis

No significant fiscal differences between the two plans are expected, as similar densities are proposed. The institutional uses specified in the Alternative A plan would be required of the original GDP and would be specified in later stages of planning (i.e., SPA Plan), thus no significant difference in fiscal revenues or costs from public services would likely result from inclusion of these institutional uses in the Alternative A GDP.

Public Services and Utilities

Fire Station and School Sites

As described on previous pages, the Alternative A GDP specifies the location of a 1-acre fire station site, and proposes two 10-acre elementary school sites. These revisions in the plan are in response to requests of the City Fire Department and CVCSD respectively. The Fire Department has identified in the Fire Station Master Plan the need for a fire station site within Salt Creek Ranch. This alternative reflects the 1-acre site. Thus, no fire protection impacts are identified with the Alternative A GDP. Similarly, the CVCSD has requested provision of two elementary school sites within Salt Creek Ranch instead of one, due to the estimated number of students generated (see Section 3.13, Schools). The Alternative A GDP eliminates the previously identified potential elementary school impacts by provision of the second site.

Parks and Recreation

The Alternative A plan proposes a revision from the original GDP regarding the configuration and types of recreation and open space areas. The following discussion evaluates those changes. As illustrated in Figure 5-5 and Table 5-1, the Community Park in the site's southeast has been reconfigured towards the south and expanded (from 28.4 acres to 54.8 acres) to encompass the area previously identified as the equestrian center. This change evolved from discussions with the City, and represents a positive effect on the project's recreation system. The identified private recreation belt extending east-west through the site's northeast along the SDG&E easement has been eliminated on the Alternative A GDP, although a trail corridor is proposed along the same alignment (Figure 5-5), to be further defined at the SPA Plan level. This change represents a functional land use refinement, not a change in recreation, constituting no impact.

The mini parks proposed in the original GDP were determined to be undesirable due to the small size and do not appear on the Alternative A Plan. Natural open space has been increased by approximately 46 acres in the Alternative A plan. In summary, the Alternative A GDP proposes beneficial parks and recreation changes from the original GDP.

Other Public Services and Utilities

Other public service and utilities issues identified in this EIR include water; sewer; police protection/law enforcement; gas/electricity/energy; public transit; library; and solid waste disposal. Alternative A impacts regarding these aforementioned topics would be similar to the originally proposed GDP (refer to Section 3.13 for discussions). The project will contribute (as with any development) to regional cumulative water supply and non-renewable energy resource impacts, which are unmitigable and cumulatively significant.

5.5 ALTERNATIVE SITE ANALYSIS

This alternative analyzes the potential environmental impacts if the project were to be built on another site. Numerous locations would be potential development sites in the Southbay region. Each site would have its own unique environmental conditions. Construction of the project on another site would result in some similar impacts. For example, traffic generated and resulting noise and air quality impacts would be similar. The type and amount of services needed for the site would also be similar although provision of those services might result in other secondary impacts (i.e., additional growth inducing impacts if lines are extended across undeveloped territory). Impacts to geology, hydrology, cultural resources, biology, landforms and visual quality would be unique to the site selected. The following paragraphs provide a description of previous CEQA documentation conducted by the City, and an overview of potential development sites in the general area.

Proposed land use designations within Salt Creek Ranch are consistent with land use designations established for the property by the recently updated Chula Vista General Plan. The EIR for the General Plan update (EIR #88-2) included analysis of a variety of development scenarios for the Eastern Territories, within which Salt Creek Ranch is located. Alternative development scenarios analyzed in the General Plan EIR include the following:

Scenario 1: maintain rural character of the Eastern Territories;

Scenario 2: establish an urban residential community with commercial and employment uses;

Scenario 3: provide higher densities and encourage development of regional activity centers.

These scenarios considered a variety of locations for residential development such as that proposed by Salt Creek Ranch. As a result of the analyses completed for the General Plan update, it was determined that the Salt Creek Ranch property would be an appropriate location for residential land uses with the range of densities proposed by the GDP. Development within Salt Creek Ranch would implement the adopted Chula Vista General Plan and would be similar to other residential development currently occurring in the project vicinity.

Alternative sites within the Chula Vista sphere of influence in the vicinity of Salt Creek Ranch have already been committed to residential or mixed-use development, consistent with the land uses designated in the Chula Vista General Plan. These sites include Bonita Long Canyon, El Rancho Del Rey, EastLake and Sunbow. Together, these projects total over 6,100 acres and limit the area available in the project vicinity for development of a project that would be a feasible alternative to Salt Creek Ranch in light of the size, scope, character and stated objectives of the project. Other areas in the City of Chula Vista west of these projects are already developed with urban uses.

The 2,600-acre property north of Salt Creek Ranch is currently vacant and designated for residential use and open space on the Chula Vista General Plan. This area is currently being planned by San Miguel Partners. The steep topography of this ownership would restrict use of the property for residential development at the densities proposed by Salt Creek Ranch.

The availability of alternative sites on unincorporated County land in the project vicinity is also restricted either due to on-going or planned projects, topographic constraints or incompatibility with existing community character. Residential development in planned communities such as that proposed by Salt Creek Ranch is currently on-going northeast of the project site. Most available land has been incorporated into planned or approved projects such as Rancho San Diego, Loma Del Sol, Las Montanas, Hidden Valley, Singing Hills, The Point and Honey Springs Ranch. Existing development in the community of Jamul, east of Salt Creek Ranch, is generally on lots 0.5-1 acre in size; development at the densities proposed by Salt Creek Ranch would not be compatible with these existing land uses. Land north of the approved or planned communities described above within unincorporated portions of the County or the Cities of El Cajon and Lemon Grove is already devoted to urban uses.

Unincorporated County land east of the planned and approved projects described above is generally restricted by topography and the absence of urban services. Development of a project such as Salt Creek Ranch in these areas would represent "leap-frog" development, and may not satisfy the stated project objectives of Salt Creek Ranch.

Over 23,000 acres of land, portions of which are suitable for residential development such as that proposed by Salt Creek Ranch, is located within Otay Ranch, south and east of the Salt Creek Ranch property. The entire Otay Ranch ownership is currently under review by an Interjurisdictional Task Force established by the County of San Diego and the City of Chula Vista for purposes of evaluating a proposed General Plan Amendment for the property. The land is not available for development for a project such as Salt Creek Ranch at the present time.

Land topographically suitable for residential development such as that proposed by Salt Creek Ranch is also located on Otay Mesa south of the project site. This land has been designated for industrial use by both the City and County of San Diego and is being developed with industrial land uses at the present time. These industrial land uses would not be compatible with a rural-residential planned community such as that proposed by Salt Creek Ranch.

In summary, Salt Creek Ranch is proposed in an area designated by the City of Chula Vista for development at the residential densities proposed by the GDP. Feasible alternative sites are not available in the project area which would achieve the stated objectives of the Salt Creek Ranch property; such alternative sites have already been committed to other land uses, are restricted by topography, do not have urban levels of service, or are situated in areas being developed with land uses incompatible with residential development such as that proposed by Salt Creek Ranch.

SECTION 6
INVENTORY OF MITIGATION MEASURES

Please see the respon to comments sectio modifications of t mitigation measur have occurred response to commen and changes in proje design.

3.1 LAND USE

Project land use compatibility issues evaluated in this EIR can be mitigated by incorporated design techniques as specified in the General Plan Update. Each issue area is mitigated by measures cited below.

1. With respect to the potential land use impacts at the EastLake Business Park/Salt Creek Ranch interface, the City's General Plan proposes the following, hereby incorporated by reference:

   - To achieve an appropriate transition between land uses, a cluster approach shall be used. A cluster plan should create an open space buffer adjacent to the business park which could include recreation or park uses. Such clustering could warrant development of residential uses at the high end R-M category density range.

   In response to this policy, the Salt Creek Ranch General Development Plan proposes the following with respect to the area (see also Section 3.3, Landform/Aesthetics):

   - Buffer zones between the project and EastLake Business Park to the south will provide visual and spatial separation between the residential area and employment park land uses and will help to avoid adverse noise impacts.

   - Techniques to accomplish this objective include variable setbacks and extensive landscaping within the buffer area. Specific measures are to be defined in the SPA Plan.

   - Final design (SPA Plan, Site Plans) of the planning areas on the southern border of the site will specifically address the land use interface.

2. With respect to the potential impact of development in the vicinity of Otay Lakes Reservoir, the following is proposed:

   - Storm drainage and wastewater from residential areas in the Salt Creek Ranch development will be collected in utility systems to be provided and diverted away from the reservoir (see Section 3.5, 3.6 and 3.13; plans to be approved by the City Engineering Department).

   - Runoff from the equestrian center site will be prevented from entering drainages which are tributary to the reservoir. Final design of the facility (tentative map and site plan) must address site runoff from the facility, maintenance and cleaning of the facility, and liquid and solid waste disposal (refer also to Sections 3.5 and 3.6 Mitigation).

   - Detailed design in the SPA Plan must address the view condition from the reservoir to developed areas of the project site. Design will incorporate specific techniques to mitigate view impacts, including site plan orientation, grading techniques, landscaping and architectural design (see also Section 3.3).

3. With respect to impacts on the Chula Vista Greenbelt, the following is proposed:

- The Salt Creek Drainage through the project site shall be retained in open space uses. Extensive plantings (approved by the City Parks & Recreation Department and City Landscape Architect prior to tentative map approval) within the drainage will occur and the existing stand of pepper trees will be retained. A nature center is proposed in the open space area which will enhance the value of the greenbelt. The SPA Plan shall define in an Open Space Plan and Chapter guidelines for open space uses, buffer treatment, maintenance and natural resource management.

4. The two additional areas of concern can be mitigated by the following:

- Land use compatibility impacts relative to use of the SDG&E easement as a private recreational amenity for the project can be mitigated by coordination with SDG&E during all phases of future planning. Such coordination will assure that proposed uses conform with SDG&E policy. The SPA Plan and PC Zoning regulations will define permitted uses within the easement, acceptable to the City and SDG&E.

- Land use compatibility impacts relative to the Otay Water District reclamation facility can be mitigated by implementing various design techniques to be identified in the project SPA Plan. Such techniques would include orientation of residential structures to minimize view of the facility, as well as the establishment of vegetative and spatial buffers between structures and the facility.

5. Implementation of the following measures will mitigate the project's density and affordable housing inconsistencies with the Chula Vista General Plan:

- The project shall reduce the proposed number of units to density levels acceptable to the City.

- The project developers shall explore, in an affordable housing program, methods to devote at least 10 percent of the dwelling units to low and moderate income housing. The program shall be developed prior to or concurrent with the SPA Plan process, and shall be subject to Planning Commission review and approval concurrent with the SPA Plan process or as otherwise acceptable to the City Planning Department.

3.2 Conversion of Agricultural Lands

The loss of agricultural soil cannot be mitigated other than by retention of the site in agricultural use. Therefore, no mitigation measures are proposed in this section. Only the No Project Alternative as discussed in Section 5 would maintain the status quo on the property and would allow continuation of existing farming operations.

3.3 LANDFORM/AESTHETICS

Site Design Measures

- Salt Creek will be extensively planted as part of the project to recreate the environmental character of the area prior to agricultural use. As part of the SPA Plan process, an Open Space Plan and Landscape Plan and guidelines shall be created and approved by the City Parks and Recreation Department.

- Urban design standards, further refined in the SPA Plan, will reinforce the semi-rural/ranch character of the community, with sensitivity to natural landform and use of landform grading along major transportation corridors and in high visibility areas.

- Grading shall be minimized with respect to natural landform. Landform grading sensitive to existing topography to the extent feasible and acceptable to the City Planning Department will be used along major streets and in high visibility areas to maintain a natural viewshed and enhance the character of the development. Techniques used to blend graded areas to natural landform shall include slope rounding, obscuring slope drainage structures by massing plant materials, landform grading on large slope bands, and use of planting materials to control erosion.

- Visually prominent slopes and vista points shall be preserved to the maximum extent feasible and acceptable to the City Planning and Parks/Recreation Departments.

- Slopes of 25 percent or greater shall be preserved to the maximum extent feasible and acceptable to the City Planning and Engineering Departments.

- Introduction of manufactured slopes in areas designated as natural open space (with environmental sensitivity, as defined in Section 3.7) shall be prohibited, except where necessary to construct roads, trails or other public facilities, subject to the approval of the City Planning Director. Such manufactured slopes will be revegetated with indigenous species as recommended by the project biologist.

- Village identity and character will be defined in the SPA Plan by architectural style; design and detailing of site improvements such as walls, fences, and signage; and landscape theme, subject to City SPA Plan approval.

Visual Quality Measures

- During site design, emphasis shall be placed on mitigating views toward the development from the Chula Vista Greenbelt. Special attention to these relationships along the Salt Creek drainage on site will be provide. The SPA Plan shall identify guidelines and measures.

Scenic Highway Measures

- Design review for development adjacent to designated scenic roadways will be required. Special attention should be given to areas in proximity to Salt Creek such as Hunte Parkway. The SPA Plan shall establish guidelines and measures by which to confirm mitigation and protection of scenic highway resources.

3.4 GEOLOGY/SOILS

The following measure is in reference to detailed recommendations from the GeoSoils February and August 1988 reports. The report's conclusions and recommendations are included as Appendix B of this EIR; the entire report is on file at the City Planning and Engineering Departments.

- Conclusions and recommendations of the February 1988 and August 1988 GeoSoils reports, pages 23 through 42, and 24 through 39, respectively, shall be adhered to in accordance with City procedures, subject to approval of the City Engineer prior to any tentative map approvals. Recommendations therein cover the following topics, actions and potential impacts: ripping, soil removals, slope stability/grading, erosion control, sub-surface water control, earthwork grading and balancing, soil expansion, slope design, grading guidelines, foundation recommendations, retaining wall design, graded slope maintenance and planting, and procedures for grading plan review.

3.5 HYDROLOGY

To ensure that there are no hydrologic impacts, the following measures are recommended:

- Upon preparation of detailed development plans (i.e., prior to tentative map submittal), a registered civil engineer shall conduct a hydrologic and hydraulic analysis of the project. This analysis shall be conducted in accordance with City of Chula Vista guidelines and shall include but not be limited to sizing of onsite drainage facilities; design of energy dissipators at drain outlets; verification that downstream drainage facilities including natural channels can accommodate the increase flow rate, and identification of improvements, if necessary, to accommodate increased flows; verification of the adequacy of the Eastlake Business Centre storm drain; and evaluation of enhancements of natural drainage courses.

- Drainage facilities and energy dissipators shall be constructed in accordance with the approved hydraulic analysis and shall be in place and functioning prior to completion of the grading operation.

3.6 WATER QUALITY

- The project shall be subject to review and approval by the State Department of Health Services (DHS). The project shall implement mitigation measures as set by DHS.

- Prior to or concurrent with SPA Plan approval, a diversion ditch plan, or other acceptable plan to handle drainage to the Otay Drainage Basin, shall be prepared and approved by the City and DHS. Additional environmental analysis may be required based on the specific drainage ditch or other plans. Design of these plans shall also consider providing additional capacity for concurrent or future development.

- If any portion of the project is proposed to be graded during the rainy season, the project proponent shall submit a erosion control plan prepared by a registered civil engineer in accordance with City of Chula Vista design standards. The plan shall

be approved prior to issuance of grading permits and shall include placement of sandbags, temporary sediment basins, and an erosion control maintenance plan.

- The project proponent shall submit a storm drain plan prepared by a registered civil engineer in accordance with City of Chula Vista design standards. The plan must be approved prior to the issuance of grading permits and shall include permanent erosion control facilities.

3.7 BIOLOGICAL RESOURCES

- The most appropriate area for wetland habitat creation occurs in Salt Creek. Salt Creek exists at an elevation appropriate to support wetland habitats or could be graded down to an appropriate elevation with minimal soil displacement. This area would then be contiguous with existing wetlands, thereby enlarging and enhancing those areas. Approximately 4.26 acres of wetland habitat shall be created or enhanced onsite to mitigate for the loss of this acreage at a 2:1 ratio as a result of project implementation. Sufficient habitat exists onsite which would be suitable for wetland revegetation or enhancement techniques. A habitat plan shall be coordinated and negotiated prior to any SPA Plan approval.

- Habitat replacement or enhancement mitigation measures which are finally agreed upon (prior to SPA Plan approval) shall be thoroughly evaluated and defined in a specific mitigation plan. This plan shall be approved by the resource agencies, and shall provide for short- and long-term monitoring and maintenance of the replacement habitat. The plan will also identify mitigation locations, and provide a more precise wetland habitat quality evaluation by the regulatory agencies, resulting in specific replacement or enhancement acreages, numbers and types of plant species to be used, and planting techniques.

- Selective grading shall be required and enforced, i.e., only areas immediately subject to development should be graded.

- Grading shall be prohibited during the rainy season (November through March).

- Erosion prevention measures such as fences, hay bales, and/or detention basins shall be onsite during development and in place prior to construction.

- Manufactured slopes and disturbed grassland in open space areas shall be revegetated with native scrub species found in the area. Revegetation of these areas would have the benefits of potentially providing habitat for the California black-tailed gnatcatcher, increasing the quality of the riparian buffer in selected areas, and reducing the probability of nonnative landscaping materials invading natural habitats. Species suitable for this revegetation include the following:

Artemisia californica	California Sagebrush
Eriogonum fasciculatum	Flat-topped Buckwheat
Lotus scoparius	Deerweed
Salvia mellifera	Black Sage
Salvia apiana	White Sage
Haplopappus venetus	Goldenbush
Eschscholzia californica	California Poppy
Lupinus spp.	Lupine

- The coastal sage scrub revegetation areas shall be effectively hydroseeded, followed by a tackified straw mulch. Materials and seed mixes may be changed only with the approval of the project biologist/horticulturist.

- This habitat shall be irrigated as needed for the first year to accelerate establishment and coverage. The hydroseeding shall be completed in the summer, if possible, so as to establish cover prior to the rainy season. A number of annual species are included in the hydroseed mixture (California poppy and lupines) to provide color to the slopes. The species should reseed themselves yearly.

- The recommended open space plan (see Figure 3-12) is designed to provide biological open space areas that are of sufficient size to maintain viable populations of gnatcatcher and wren on the project site. These open space areas are contiguous with each other and/or with open space offsite so that dispersal corridors are maintained. This recommended open space plan would effectively reduce adverse impacts to black-tailed gnatcatcher and cactus wren to below the level of significance. The project shall be redesigned to the satisfaction of the City to effectively mitigate these impacts. If no redesign occurs, the project would result in significant and unmitigated adverse biological impact to these species.

- Heavy equipment and construction activities shall be restricted to the grading areas to the greatest degree possible in order to reduce direct impacts to wetland habitat. Construction of cut and fill slopes, and equipment used for this construction, will be kept within the limits of grading. Prohibited activities in the wetland habitat include staging areas, equipment access, and disposal or temporary placement of excess fill. Construction limits and wetland habitat shall be flagged by a qualified biologist. Construction activities shall be monitored by an onsite inspector to ensure that grading activities do not affect additional acreage. Any unauthorized impacts cause by construction operations would require that the contractor replace all habitat to its original condition, with wetland habitat potentially being restored at greater that a 1:1 ratio.

- Fueling of equipment shall not occur in any portion of the site near the intermittent stream.

- Areas designated as natural open space shall not be grubbed, cleared, or graded, but left in their natural state.

- To ensure that contractors are fully aware of specific restrictions of the project, such as staging areas, limits of fill, no vehicle zones, and other appropriate regulations, information shall be clearly shown on the construction plans. Contractors shall be fully aware of the sensitivities and restrictions prior to bidding.

- In the event that a fire or fuelbreak is deemed necessary, plant species used in this area shall be noninvasive, so as to reduce impacts to remaining native vegetation. Suitable species from a biological standpoint would be low growing, moderately fire-retardant, native species such as prostrate coyote bush (*Baccharis pilularis* var. *pilularis*).

- No clearing of brush shall be allowed outside the fire or fuelbreak, and no fuelbreak clearing will be allowed in sensitive habitat areas. In general, the

limits of the fuelbreak will be measured from the building pads. The width of the fuelbreak may be reduced by the use of low-growing, fire-retardant species (see above measure).

- Plants in riparian and/or natural areas within the project's boundaries shall not be trimmed or cleared for aesthetic purposes.

- Revegetation of cut slopes external and/or adjacent to natural open space shall be accomplished with native plant species which presently occur onsite or are typical for the area. Suitable species include California sagebrush (*Artemisia californica*), flat-top buckwheat (*Eriogonum fasciculatum* ssp. *fasciculatum*), black sage (*Salvia mellifera*), and San Diego sunflower (*Viguiera laciniata*). If this area is hydroseeded, measures shall be taken to ensure the exclusion of nonnative, weedy species from the mixture.

- Fencing shall be installed as feasible and acceptable to the City around the natural open space area to prevent adverse impacts to biological resources from domestic pets and human activity. An alternative would be the planting of barrier plant species that would discourage pedestrian activity into open space areas. Nonnative species would not be acceptable as barrier plantings within open space areas. No active uses shall be planned in the open space easements, including building structures or construction of trails through this area.

- Landscaping around buildings shall utilize noninvasive exotic species or preferably, native plant species found in the area. Species present onsite, such as desert elderberry (*Sambucus mexicana*) and California buckwheat, would be suitable for planting.

- The City of Chula Vista shall assure the long-term conservation of remaining native habitat onsite (wetlands and uplands) by dedicating these areas as part of a natural open space easement. The City shall place an open space easement in this acreage which would eliminate future building activity and, in effect, set this area aside for the preservation of wildlife. Additional trails or recreational facilities which would promote pedestrian activity in open space areas at the expense of wildlife shall not be constructed.

3.8 CULTURAL RESOURCES

- If avoidance of archaeological/historic resources cannot be achieved, a data recovery program to mitigate development impacts to important cultural resource sites (listed in Table 3-8) shall be conducted, including monitoring or, where necessary, surface collection and mapping of artifacts, and a phased data recovery program. Recommendations identified in Table 3-8 shall be utilized as the basic framework for the mitigation plan. This phased approach would employ a random sample in conjunction with a focused inventory for features (i.e., hearths, burials). The data recovery program shall be in accordance with a regional approach for all prehistoric sites within Salt Creek Ranch, Salt Creek I and EastLake III, thereby allowing a comprehensive understanding for these Early Period sites. This regional understanding would also be in agreement with the Bonita-Miguel Archaeological District.

- The data recovery program shall follow the Advisory Council's guidelines as defined within "Treatment of Archaeological Properties" A Handbook (ACHP 1980). The Treatment Plan should be oriented to address local and

regional research questions and clearly identify the methods to be used to address the research questions. Research questions to be addressed are listed on pages 5-6 and 5-7 of the June 1989 Salt Creek Ranch Cultural Resource Evaluation (ERC Environmental and Energy Services) on file at the City Planning Department.

- Prior to issuance of a mass-grading permit the developer shall present a letter to the City of Chula Vista indicating that a qualified paleontologist has been retained to carry out resource mitigation. (A qualified paleontologist is defined as an individual with an MS or PhD in paleontology or geology who is familiar with paleontological procedures and techniques.

- A qualified paleontologist and archaeologist shall be at the pre-grade meeting to consult with the grading and excavation contractors.

- A paleontological monitor shall be onsite at all times during the original cutting or previously undisturbed sediments of the Otay Formation to inspect cuts for contained fossils (the Otay Formation occurs generally above 680 feet elevation). The Sweetwater Formation shall be monitored on a half-time basis. Periodic inspections of cuts involving the Santiago Peak Volcanics shall be conducted in accordance with recommendations of the qualified paleontologist. (A paleontological monitor is defined as an individual who has experience in the collection and salvage of fossil materials. The paleontological monitor should work under the direction of a qualified paleontologist.)

- In the event that well-preserved fossils are discovered, the paleontologist (or paleontological 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 recovering of small fossil remains such as isolated mammal teeth, it may be necessary to set up a screen-washing operation on the site.

- Fossil remains collected during any salvage program shall be cleaned, sorted, and cataloged and then with the owner's permission, deposited in a scientific institution with paleontological collections such as the San Diego Natural History Museum.

3.9 TRAFFIC AND CIRCULATION

- East H Street through the project shall be constructed to ultimate four-lane major street standards consistent with City of Chula Vista design criteria. Construction phasing shall be determined by the City in coordination with the ECVTPP. Future additional right-of-way along this roadway may be required, at the discretion of the City Traffic Engineer, due to future traffic volumes generated by the Otay Ranch project to the south and east. Unsignalized project access points shall be spaced no closer than one-quarter mile apart.

- Lane Avenue shall be constructed to ultimate Class I Collector standards, from its existing northern terminus at the project's southern boundary to East H Street, consistent with the City of Chula Vista's design criteria. Construction phasing shall be determined by the City and, if necessary, coordinated with the ECVTPP.

- The Circulation Element roadways of Hunte Parkway and Lane Avenue will require the following intersection lane configurations (subject to City Traffic

Engineer approval). Implementation/phasing shall occur (as directed by the City) to accommodate forecast buildout daily traffic volumes:

East H Street/Lane Avenue

Eastbound East H St.	– two through, one right
Westbound East H St.	– one left, two through
Northbound Lane Ave.	– two left, one right

East H Street/Hunte Parkway

Eastbound East H St.	– two left, one through, one through/right
Westbound East H St.	– two left, one through, one through/right
Northbound Hunte Pkwy.	– two left, one through/right
Southbound Hunte Pkwy.	– two left, one through/right

- Traffic signals shall be installed on a schedule determined by the City at the intersections of East H Street with both Lane Avenue and Hunte Parkway signals will be activated when warrants are met or at the discretion of the City Traffic Engineer.

- Specific project access and internal circulation plans (including bicycle, equestrian and pedestrian routes and crossings) shall be provided to the satisfaction of the City Traffic Engineer at the SPA Plan (general level) and Tentative Map (detailed level) stages of approval.

- To fully mitigate project impacts onto local roads, the project shall participate towards off-site improvements on a fair share basis with other area developers consistent with development assumptions and network improvements within the adopted East Chula Vista Transportation Phasing Plan (ECVTPP). The Salt Creek Ranch project shall also comply with any additional requirements (i.e. road improvements or impact fees) defined in future revisions and updates to the ECVTPP, as it pertains to the project's impacts onto the circulation system. Compliance shall be verified via review and approval of the SPA Plan and tentative maps by the City Traffic Engineer.

3.10 NOISE

- Exterior: Potentially significant onsite exterior noise impacts due to vehicular traffic along particular noise-sensitive land uses proposed by the General Development Plan shall be mitigated by specific measures outlined in subsequent, site-specific noise analyses to be conducted at the SPA Plan level. ~~It is anticipated that~~ mitigation measures are anticipated to include use of walls and/or berms, adequate setback of lots and structures or a combination of methods.

- Interior: Potentially significant interior noise impacts shall be mitigated through the reduction of exterior noise levels to below 60 dB(A) in residential areas (assuming the incorporation of standard building materials), or through the use of enhanced building materials (e.g., sound rated windows or insulation). A detailed site-specific acoustical analysis, to be conducted of the SPA Plan level, shall identify where this reduction is necessary and how it will be attained.

Performance of effective mitigation will require reducing interior noise levels in single-family units to 45 dB(A) CNEL or below. It is anticipated that mitigation measures will include the use exterior noise barriers and appropriate building materials.

3.11 AIR QUALITY

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

- Watering or other dust palliatives shall be used to reduce fugitive dust; emissions reductions of about 50 percent can be realized by implementation of these measures.

- 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 properly covered.

- A 20 mile-per-hour speed limit shall be enforced on unpaved surfaces.

3.13 PUBLIC SERVICES AND UTILITIES

- Prior to issuance of building permits, the project site shall either be annexed by OWD into Improvement District No. 22 or a new Improvement District shall be established for the project area. In addition, the project developer shall obtain written verification from OWD at each phase of development that the tract or parcel will be provided adequate water service (will-serve letter).

- Prior to approval of any SPA Plan within Salt Creek Ranch, a Water Master Plan (and/or Agreement) shall be prepared and approved (by the City Engineer and OWD) for the Salt Creek Ranch development project. The Plan shall identify total and incremental water demand; specific facilities (size, location, etc.) including servicing in the 980 and 1296 Pressure Zones; implementation/phasing; and participation in the water allocation program and TSF financing program, encompassing this project and other projects in the OWD Master Plan service area. The Plan shall delineate at a more detailed level the recommendations of the April 1989 and October 1989 Wilson reports and July 1989 Graves report (Appendix C).

- The use of reclaimed water is strongly encouraged and the project proponent shall make every attempt to develop such use. The project proponent shall, if feasible, negotiate an agreement with OWD to commit to use of reclaimed water at the earliest possible date so that OWD can ensure that an adequate supply is available. If such an agreement is pursued, all documentation shall be subject to site-specific environmental analysis, and shall conform to the applicable regulations of the City of Chula Vista, Regional Water Quality Control Board and the State Department of Health.

- Water conservation measures for onsite landscaping and for maintenance of roadside vegetation shall be created and implemented by the project proponent, in coordination with the City Public Works Department and in consultation with OWD or other qualified water agency/organization. Conservation measures are recommended by the State Resources Agency Department of Water Resources

(see AppendixA), and include but are not limited to planting of drought tolerant vegetation and the use of irrigation systems which minimize runoff and evaporation loss (see also following measure).

- The following water conservation measures should be provided; implementation shall be approved prior to issuance of certificates of use and occupancy;

  a.) Low-flush toilets (Section 17921.3, Health and Safety Code).

  b.) Low-flush showers and faucets (California Administrative Code, Title 24, Par 6, Article 1, T20-1406F).

  c.) Insulation of hot water lines in water recirculating systems (California Energy Commission).

- Prior to approval of any SPA Plan within Salt Creek Ranch, a Wastewater Master Plan and/or Agreement for the project shall be prepared by the proponent and approved by the City Engineer. The Plan shall identify total and incremental wastewater generation, specific facilities required, funding and implementation/phasing in relation to this project and other associated project's phasing in the area. The Plan shall confirm that the entire project can be sewered to the Telegraph Canyon Trunk Sewer, shall further detail the April 1989 Wilson report, and shall be coordinated with and/or conform to the City's Public Works Facility Plan, when complete. (Note that sewer upgrades, including effects on downstream facilities, will be required wherever the sewer exceeds the design capacity).

- The project shall be subject to payment of wastewater development fees (to fund trunk Sewer and other upgrades) or equivalent proportionate facility financing mechanism identified by the City, when adopted. Payment shall occur prior to issuance of building permits or earlier.

- The project is subject to adherence to City threshold standards and criteria for police protection service.

- Prior to approval of the project SPA Plan, a fire station site location for new CV#4 shall be selected and approved by the CVFD. Potential locations include a site on Salt Creek Ranch in the western portion of the property. (Refer also to Section 5, Design Alternative).

- The project shall adhere to General Plan threshold standards and criteria for fire protection service.

- The project shall adhere to General Plan threshold criteria regarding school facilities and services.

- Prior to SPA Plan approval, the project proponent shall provide documentation confirming elementary school site locations and CVCSD approval of school locations on Salt Creek Ranch. This approval shall entail site location, size and configuration of schools, with provisions for access and pedestrian safety to the satisfaction of CVCSD. Funding shall also be addressed and confirmed in accordance with CVCSD procedures.

- Prior to SPA Plan approval, the project proponent shall provide documentation to the City confirming satisfaction of SUHSD facility funding requirements to offset Salt Creek Ranch student generation impacts. Funding would likely be satisfied via formulation of a Mello Roos CFD or other means acceptable to SUHSD.

- Prior to issuance of any building permits on Salt Creek Ranch, the proponent shall obtain written verification from CVCSD and SUHSD (will-serve letters) that adequate school facilities and associated financing will be provided for project generated students.

- The project shall adhere to General Plan Threshold Standards regarding park facilities and recreational amenities.

- The project shall comply with the City Local Park Code requirements regarding parkland, parkland development and improvements.

- The project SPA Plan shall further define the boundaries, acreage and manner of open space preservation (e.g. dedicated open space; preservation easements) on the Salt Creek Ranch property in a form and manner acceptable to the City Parks and Recreation Department and Planning Department.

- The project applicant shall encourage the use of public transit by providing bus loading zones at key locations onsite; and facilitate non-vehicular travel by incorporating bicycle and pedestrian trails onsite.

- The project applicant shall implement efficient circulation systems including phased traffic control devices.

- The project applicant shall adhere to updated Title 24 building construction and design standards.

- The project applicant shall install landscaping that provides afternoon shade, reduces glare, encourages summer breezes, discourages winter breezes.

- The project applicant shall minimize reflective and heat absorbing landscapes.

- The project applicant shall reserve solar access and implement passive solar systems.

- The project applicant shall develop dwellings on small lots to decrease indoor and outdoor heating and lighting requirements.

- The project applicant shall install energy efficient appliances in residential developments.

- The project applicant shall limit strict lighting and install energy efficient lights.

- The project applicant shall demonstrate energy conservation practices.

- The project applicant shall use appropriate building design, orientation, landscaping and materials to maximize passive solar heating and cooling, and construct energy-efficient structures.

- The SPA Plan shall more clearly identify the recreational uses proposed for the SDG&E easement in the site's northeast; uses shall be subject to the approval of the City and SDG&E.

- Prior to final site plan approval, the developer shall consult with City Planning and City Transit staff regarding location of transit facilities (i.e., bus stops) onsite. Should there be a need for such facilities, site design shall provide for said facilities, subject to review and approval by the City.

- The project applicant shall adhere to General Plan library thresholds, and shall participate in any funding programs created for financing of a library facility (i.e., developer fees, Mello-Roos Community Facilities District for Salt Creek Ranch, etc.) to serve the vicinity, as deemed appropriate by the City.

This page intentionally left blank.

SECTION 7
REFERENCES

Advisory Council Historic Preservation (ACHP). 1980.

American Ornithologists' Union. 1983. Checklist of North American Birds. 6th Edition. American Ornithological Union, [Washington, D.C.].

Air Pollution Control District (APCD) 1986 Draft Progress in Air Pollution Control During 1985. San Diego. June.

Attwood J. L. 1988. Speciation and geographic variation in black-tailed gnatcatchers. Ornithological Monograph 42. 74 pp.

Atwood, J. 1980. The United States distribution of the California black-tailed gnatcatcher. Western Birds 11:65-78.

Bauder, E. T. 1986. San Diego Vernal Pools, recent and projected losses; their conditions; and threats the their existence 1979-1990. U.S. Fish and Wildlife Service, Office of Endangered Species.

Beauchamp, R. M. 1986. A flora of San Diego County. Sweetwater River Press. 241 pp.

California Administrative Code, Title 24, Chapter I, Subchapter I, Article 4.

California Administrative Code, Title 24, Par 6, Article 1, T20-1406F.

California Department of Fish and Game. 1985. Designated endangered or rare plants. The Resources Agency, June 19.

California Department of Fish and Game. 1965. California Fish and Wildlife Plan. The Resources Agency, Volume 3(c):908.

California Department of Health Services (DHS). Letter addressed to County of San Diego.

Chula Vista, City of. 1989. Municipal Code.

Chula Vista, City of. 1988-89. City of Chula Vista Proposed Budget.

Chula Vista, City of. 1988. Noise Element of General Plan.

Chula Vista, City of. 1974. Scenic Highway Element of the Chula Vista General Plan.

Chula Vista, City of. 1982. Chula Vista General Plan, EastLake Policy Plan, City Council Resolution No. 10996, September 7.

Chula Vista, City of. 1982. Housing Element.

Chula Vista, City of. 1989a. General Plan Update. March.

Chula Vista, City of. 1989b. General Plan Update EIR 88-2. March.

Chula Vista, City of. 1989. Draft Fire Station Master Plan. March.

Chula Vista, City of. 1989. Planning Department, Cultural Resources Testing and Evaluation of the Salt Creek Ranch Project, June.

Chula Vista, County of. 1983. Conservation Element (Part X) of the County General Plan. Planning Department, GPA-80-61.

Corwardin, L. M., F. C. Golet, and E. T. LaRoe. 1979. Classification of Wetlands and Deepwater Habitats of the United States. U.S. Fish and Wildlife Service, U.S. Department of Interior, December.

Demere, T. A. 1986. EastLake: "A new chapter in the geologic history of San Diego County," *Environmental Southwest* 515:9-13.

Demere, T. A. 1988. Early Arikareean (Late Oligocene) vertebrate fossils and biostratigraphic correlations of the Otay Formation at EastLake, San Diego County, California. In Filewicz, M. V. and Squires, R. L. (eds.), Paleogene Stratigraphy, West Coast of North American, Pacific Section S.E.P.M., West Cast Paleogene Symposium Vol. 58, p.35-43.

ERCE. 1989. Phase 1 Report, Amber Ridge California gnatcatcher study. Prepared for Weingarten, Siegel, Fletcher Group, Inc.

ERC Environmental and Energy Services Company. Noise Modeling for EastLake III.

Everett, W. T. 1979. Threatened, declining and sensitive bird species in San Diego County. San Diego Audubon Society, Sketches, June.

F&G Regulations (code NO. 6.26 of Chapter 3, Article 1)

Federal Highway Administration. 1978. Highway Traffic Noise Prediction Model (FHWA-RD-77-108), December.

Grinnell, J. and A. H. Miller. 1944. The distribution of the birds of California. Pacific Coast Avifauna 27.

HBW Associates, Inc. 1986. Master Plan for the Chula Vista Public Library Draft, December.

Holland, R. F. 1986. Preliminary Descriptions of the Terrestrial Natural Communities of California. Nongame-Heritage Program, California Department of Fish and Game. October.

Jennings, M. R. 1983. An annotated checklist of the amphibians and reptiles of California. California Department of Fish and Game 69(3):151-171.

John McTighe & Associates. 1989. City of Chula Vista Salt Creek One Fiscal Impact Analysis. April.

Jones, J. K., Jr., D. C. Carter, H. H. Genoways, R. S. Hoffman, and D. W. Rice. 1982. Revised checklist of North American mammals north of Mexico. Occasional Papers of the Museum Texas Tech. University 80:1-22.

Kuper T. H. 1977. Reconnaissance of the marine sedimentary rocks of southwestern San Diego County, Plates 1-4; in G. T. Farrand (ed.) Geology of southwestern San Diego County and northwestern Baja California. Guidebook, San Diego Association of Geologists.

Mestre Grene Associates. 1989. Noise Analysis for Salt Creek 1, March.

Munz, P. A. 1974. A flora of southern California. University of California Press, Berkeley. 1086 pp.

Oberbauer, T. A. 1979a. Distribution and dynamics of San Diego County grasslands. Unpublished M.A. theses, San Diego State University, San Diego.

Otay Water District Central Area Master Update. 1987.

P&D Technologies. 1988. Traffic Analysis for EastLake I, (ADT volumes) December.

P&D Technologies. 1989. Draft EIR City of Chula Vista General Plan Update, March.

Pacific Southwest Biological Services (PSBS). 1981.

Pacific Southwest Biological Services (PSBS). 1982.

Rea, A. M. 1986. Cactus Wren. In A. R. Philips (ed.) Known Birds of North Middle American. Part 1. Denver Museum of Natural History. p. 119.

RECON. 1987. Home range, nest site, and territory parameters of the black-tailed gnatcatcher population on the Rancho Santa Fe Highlands study area. September.

RECON. 1988. Survey of Biological Resources on the Baldwin Property. January.

Reinen, R. H. 1978. Notice of exercise of Section 404 jurisdiction over certain streams and wetlands in California. Los Angeles District, Corps of Engineers. July 15.

Remsen, V. 1978. The species of special concern list: an annotated list of declining or vulnerable birds in California. Western Field Ornithologist, Museum of Vertebrate Zoology, University of California, Berkeley.

San Diego Association of Governments (SANDAG). 1985. Final Series 6 Regional Growth Forecasts, 1980-2000.

San Diego Association of Governments (SANDAG). 1987. Draft Series 7 Regional Growth Forecasts.

San Diego Association of Governments (SANDAG). 1988. Traffic Generators Manual, July.

SDHS (San Diego Herpetological Society). 1980. Survey and status of endangered and threatened species of reptiles natively occurring in San Diego County. Prepared for Fish and Wildlife Committee, San Diego Department of Agriculture, 33 pp.

Section 17921.3, Health and Safety Code.

Smith, J. P. and K. Berg. 1988. Inventory of rare and endangered vascular plants of California. California Native Plant Society, Special Publication No. 1, 4th edition.

Smith, J. P., Jr. and R. York. 1984. Inventory of rare and endangered vascular plants of California. California Native Plant Society, special publication no. 1 (3rd Edition).

Tate, J., Jr. 1986. The Blue Lis of 1986. American Birds 40:227-236.

Tate, J., Jr., and D. J. Tate. 1982. The Blue List for 1982. American Birds 35(1):3-10.

United States Army Corps of Engineers. 1986. Corps of Engineers wetland delineation manual. Environmental Laboratory., Waterways Experiment Station, Vicksburg, MI. Technical report. pp. 9-86

United States Environmental Protection Agency, Compilation of Air Pollution Emission Factors. AP-42, Supplement 7.

United States Fish and Wildlife Service: 1985a. Endangered and threatened wildlife and plants: Review of plant taxa for listing as endangered or threatened species; Notice of review; Federal Register, 50(188):39526-39527, September 27.

Weaver K. 1989. Personal communication to Patrick Mock, April.

WESTEC Services, Inc. 1979. Environmental Assessment: Miguel to Tijuana interconnection Project 230 KV Transmission Line. Prepared for San Diego Gas and Electric Co. September.

WESTEC Services, Inc. 1980. Jamacha Basin Waste Water Reclamation Project: Phase II Expansion. Prepared for Otay Municipal Water District. May.

WESTEC Services, Inc. 1981. EastLake EIR, Appendix A. Biological survey report. Prepared for City of Chula Vista.

WESTEC Services, Inc. 1982. EastLake Final Environmental Impact Report, prepared for the City of Chula Vista, February.

WESTEC Services, Inc. 1985. EastLake I Sectional Planning Area (SPA) Plan final Environmental Impact Report, prepared for the City of Chula Vista, January.

Wier Biological. 1983. Biological Survey report and planning constraints for the Alva-R-4S Ranch, prepared for PRC Engineering San Diego.

Wier, H. A. 1986. Biological survey report of the Singing Hills Specific Plan, McGinty Mountain, San Diego, California Prepared for McGinty Ranch General Plan Partnership, San Diego, California.

SECTION 8
INDIVIDUALS AND AGENCIES CONSULTED

California Department of Conservation
Dennis J. O'Bryant, Environmental Program Coordinator

California Department of Fish and Game
Pete Bontadilli, Director

California Department of Health and Services

California Department of Transportation
James T. Cheshire, Chief; Environmental Planning Branch

California Department of Water Resources
Charles R. White, Chief; Planning Branch, Southern District

California Energy Commission

Chula Vista Community Hospital
Fred Baker

Chula Vista Police Department
Keith Hawkins

City of Chula Vista
George Krempl, Director of Planning
John Lippitt, City Engineer
Christopher Lyman, Finance Director
Manuel A. Mollinedo, Director of Parks and Recreation
Douglas Reid, Environmental Review Coordinator
Shauna Stokes, Parks and Recreation Department
Cliff Swanson, Public Works Department
William J. Winters, Director of Public Safety

County of San Diego

Lauren M. Wasserman, Director; Department of Planing and Land Use

Estrada Land Use and Planning

Steve Estrada

Otay Water District

Doug Reid, Environmental Review Coordinator

Regional Environmental Consultants (RECON)

Bobbie A. Steele

Cammeron Patterson

San Diego Local Agency Formation Commission (LAFCO)

Jane P. Merrill, Executive Officer

Wilson Engineering

SECTION 9
CONSULTANT IDENTIFICATION

This report was prepared by ERC Environmental and Energy Services Co., of San Diego, California, in consultation with Basmaciyan-Darnell, Inc., GeoSoils, Graves Engineering, Inc., and John McTighe and Associates. Members of ERCE's professional staff and consultants contributing to the report are listed below:

ERCE

Elan Allen; M.S. Geology
Suzanne Aucella; M.R.P Regional Planning
Dennis Gallegos; B.A. Anthropology
Steve Lacy; M.S. Biology
Thuy Lee; M.S. Chemical Engineering
Guy Magliato; B.A. Environmental Studies
Dennis R. Marcin; B.S. Geology
Pat Mock; Ph.D. Biology
Tom Morrison; M.R.M. Environmental Impact Assessment
Jeanne Muñoz; Ph.D. Anthropology
Karlee Nevil; B.A. Environmental Studies
Roxana Phillips; M.A. History
James Prine; B.S. Forest Ecology
Elyssa Robertson; B.S. Biology
Tom Ryan; M.S. Environmental Studies

Consultants

Bill Darnell; Basmaciyan-Darnell, Inc., Traffic Engineering Consultant
Joe LaCava; Graves Engineering, Inc., Hydrology Consultant
Tom Demeré; Paleo Services
John McTighe; John McTighe and Associates, Economic Consultant
Timothy E. Metcalfe, Thomas M. Skang, Chris E. Lillback; GeoSoils, Geotechnical Consultant

I hereby affirm that to the best of our knowledge and belief, the statements and information herein contained are in all respects true and correct and that all known information concerning the potentially significant environmental effects of the project has been included and fully evaluated in this EIR.

Jeanne Muñoz
Project Director

3. The area will have high density, 12,600 people, utilizing the proposed recreational and natural open space areas. While interpretive, hiking, and equestrian uses are warranted, sensitive habitat and sensitive wildlife areas should have limited use, with permanent fencing or suitable buffers to prevent excessive deterioration of those habitat areas.

4. The Upper Otay Reservoir is a source of domestic water and also constitutes a Department warmwater Florida largemouth bass hatchery. No contaminated run-off from the housing development should be permitted to enter this reservoir through any route. We recommend that detention basins or bypass systems be provided so as to not adversely impact the reservoir water quality.

5. The major watershed of Salt Creek flows through this development. We recommend revegetation of the Salt Creek area with native plants and provision of a buffer area to protect the natural open space area from degradation. Adverse impacts to wetlands should be avoided. Unavoidable adverse impacts should be compensated such that no net loss of either wetland acreage or wetland habitat values would result from project implementation.

Diversion, obstruction of the natural flow or changes in the bed, channel, or bank of any river, stream, or lake will require notification to the Department as called for in the Fish and Game Code. This notification (with fee) and the subsequent agreement must be completed prior to initiating any such changes. Notification should be made after the project is approved by the lead agency.

Thank you for the opportunity to review and comment on this project at the early planning stage. We look forward to the opportunity to provide comments on the Notice of Preparation and the Draft EIR for this project. If you have any questions, please contact Mr. Fred Worthley, Regional Manager of Region 5, at 330 Golden Shore, Suite 50, Long Beach, CA 90802 or by telephone at (213) 590-5113.

Sincerely,

for Pete Bontadelli
Director

LAFCO

1600 Pacific Highway · Room 452
San Diego, CA 92101 · (619) 531-5400

San Diego Local Agency Formation Commission

October 26, 1989

Doug Reid
Environmental Review Coordinator
City of Chula Vista
276 Fourth Avenue
Chula Vista, CA 92010

SUBJECT: Notice of Preparation for a Draft EIR 89-3, Salt Creek Ranch

Dear Mr. Reid:

Thank you for the opportunity to comment on the above mentioned NOP. LAFCO is a responsible agency for this project and will use this environmental document in considering annexation of the territory to Chula Vista. The outline on probable environmental effects (page i) adequately covers the potential environmental issues. The section on public services and utilities will need to address fire, police and emergency service response, water availability, sewer service and available sewer capacity.

A portion of the territory is within the Rural Fire Protection District and should be detached from the district concurrent with annexation. The project description and listed discretionary actions should include this detachment.

If you have any questions regarding these comments, please contact Dana Smith at 531-5400.

Sincerely,

Jane P. Merrill

JANE P. MERRILL
Executive Officer

JPM:DMS:ih

RECEIVED

OCT 30 1989

LAUREN M. WASSERMAN
DIRECTOR
(619) 694-2962

County of San Diego

DEPARTMENT OF PLANNING AND LAND USE

MAIN OFFICE
5201 RUFFIN ROAD, SUITE B, SAN DIEGO, CALIFORNIA 92123-1666
INFORMATION (619) 694-2960

FIELD OFFICE
334 VIA VERA CRUZ
SAN MARCOS
CALIFORNIA 92069-2636
(619) 741-4236

October 25, 1989

OCT 31 1989

Doug Reid, Environmental Coordinator
City of Chula Vista Planning Department
P.O. Box 1087
Chula Vista, CA 92012

SUBJECT: NOTICE OF PREPARATION OF A DRAFT ENVIRONMENTAL IMPACT REPORT FOR SALT CREEK RANCH (CASE NO. EIR-89-3)

Dear Mr. Reid:

We have the following comments in response to your Notice of Preparation for the Salt Creek Ranch General Development Plan:

REGIONAL FACILITIES:

The Otay Subregional Plan, a portion of the San Diego County General Plan, designates this property for rural, agricultural uses. Such uses require minimal provision of the regional services which the San Diego County government is responsible for. The proposed development of Salt Creek Ranch with urban uses will incrementally add to the cost of providing regional services such as are provided by the County Departments of Health Services and Social Services. Provision of such regional services at a proper level without supporting revenue sources is a major problem facing San Diego County. The Environmental Impact Report should address the funding of regional services to the Salt Creek Ranch project area.

GROWTH INDUCTION:

The Otay, Sweetwater, and Jamul-Dulzura Subregional Plans, portions of the San Diego County General Plan, designate land surrounding the Salt Creek Ranch property for rural, agricultural uses. Extension of urban levels of development and supporting infrastructure through this project may induce further increases of density and intensity into areas such as the Rancho San Miguel property, the slopes of Mount San Miguel, and the Proctor Valley area (a parcel also owned by the Baldwin Company). The Environmental Impact Report should discuss methods of discouraging extension of urban services to offsite properties which may be unsuitable for future urban levels of development.

CIRCULATION

1. The proposed circulation pattern would route all traffic emanating from East "H" Street and Proctor Valley Road to the west into one "funnel" -- Proctor Valley Road to the east. Since the Baldwin Company is planning intensive development on the Proctor Valley portion of Otay Ranch, the traffic impacts upon this "funnel" road system need to be fully analyzed in the Environmental Impact Report.

2. The General Development Plan shows Hunte Parkway continuing north of East "H" Street into property owned by the Otay Water District. This road is not shown on the Chula Vista Circulation Element, nor the County Circulation Element. The Environmental Impact Report will need to address the purpose of this road, and its eventual destination, since the area to the north consists mainly of steep terrain around Mount San Miguel.

3. The Environmental Impact Report should address the traffic impacts if a small area for neighborhood commercial uses is included within the project. Inclusion of such an area might help to reduce vehicle trips generated by the need for residents to go offsite for retail commercial services.

Thank you for soliciting our comments to the Notice of Preparation for Salt Creek Ranch. If you have any questions, please contact Gordon Howard of this office at 694-3681.

Dennis J. Ventilli

LAUREN M. WASSERMAN, Director
Department of Planning and Land Use

LMW:GH:sv

AUTHOR\SPLTRGH.109

Sweetwater Union High School District

ADMINISTRATION CENTER
1130 FIFTH AVENUE
CHULA VISTA, CALIFORNIA 92011
(619) 691-5553

PLANNING DEPARTMENT
October 3, 1989

Mr. Douglas Reid
Environmental Review Coordinator
City of Chula Vista
P.O. Box 1087
Chula Vista, Ca 92012

Dear Mr. Reid:

Re: Notice of Draft E.I.R./Salt Creek Ranch Case No. EIR-89-3

I am in receipt of the Notice of Draft Environmental Impact Report for the proposed Salt Creek Ranch Planned Development and would like the general information identified in this correspondence discussed in the report. The draft should include a listing and analysis of the existing school facilities and their current enrollments as well as the proposed schools and related anticipated enrollments. The report should also assess the potential impact the build-out of Salt Creek Ranch will have upon the District and identify possible mitigation measures.

Based on the phasing of Salt Creek Ranch as identified in the Notice, I've been able to generate the estimated increase in the district's overall enrollment. The result is tabulated below:

School Year	Projected Enrollment	Increased Enrollment Due To Salt Creek Phasing
1991-1992	29,974	30,192-30,206
1994-1995	34,516	34,893-34,922
2000-2001	41,256	41,503-41,532

The projections for 1991-1992 and 1994-1995 were taken from the District's 1988-1989 approved SAB411. Trend line analysis was used to estimate the proposed enrollment for the 2000-2001 school year.

I'm certain that the analysis provided in the draft report will find that the project will significantly impact the school district. I have already responded to previous notices regarding this project and have expressed the district's desire to establish a Mello Roos Community Facilities District for this project. That funding mechanism should also be discussed in the E.I.R.

If you have any questions or comments, please feel free to call me at 691-5553.

Respectfully,

Thomas Silva
Director of Planning

TS/sf
cc: Kate Shurson, Chula Vista City Schools

APPENDIX B

GEOTECHNICAL REPORT (RECOMMENDATIONS)

Abstracted From:
Preliminary Geological and Soils Engineering Study
by GeoSoils Inc.
February 1988

LABORATORY TESTING

Laboratory tests were performed on selected bulk and relatively undisturbed samples to evaluate physical characteristics including water content, dry density, shear strength and maximum dry density. Tests procedures utilized and test results are presented in Appendix C.

CONCLUSIONS

Based upon site studies and analyses conducted by this firm, development of the site appears feasible from a geotechnical standpoint. The site conditions thought to have the most significant impact on site planning and development are as follows:

1) Difficulty of excavation in granitic /gabbroic rock.
2) Removals of topsoil, colluvium, alluvium, etc.
3) Slope stability.

Conclusions given herein reflect the indicated geologic environment and have led to the general design and construction recommendations given in the following sections.

Rock Hardness and Rippability

It appears that blasting would be required within 6 feet of the existing surface, and possibly from the surface, in most of the metavolcanic rock. Deeper excavation with conventional heavy duty equipment may be possible near the contact between the metavolcanic and sedimentary units; it appears that very difficult ripping would be encountered below about 7 feet.

The results of a seismic traverse are valid only for the location at which they are run, and are subject to varying interpretations. As such, it is recommend that further evaluation of rock hardness, whether by seismic traverse or other method, be performed for cut areas when grading plans become available.

Removals

In general, all topsoil, colluvium and alluvium should be removed in areas to receive fill or where exposed at grade in cut areas. In addition, near surface areas of heavy caliche development which are less dense and/or have been heavily burrowed by rodents may require removal. These materials may be reused as compacted fill provided they are free of deleterious materials (organics, trash, etc.).

Graded Slope Stability

In general fill slopes proposed at 2:1 gradients should be stable to 65 feet in height. Proposed cut slopes at should be designed at gradients of 2:1. Low height (less than 10 feet) may be acceptable at gradients of 1.5:1 if geologic conditions permit. In areas of metavolcanic rock, 1.5:1 cut slopes to greater heights may be acceptable, based on review of specific locations by this office. It should be kept in mind that adverse geologic conditions requireing remedial grading are more likely to be encountered on steeper slopes. When more finalized plans have been prepared they should be reviewed by this office. General design parameters intended to result in satisfactory cut slopes have been established and are included in the recommendations section of this report.

The gross stability of proposed 2:1 fill slopes was analyzed using Taylors Chart and the following effective shear strength parameters:

*Angle of Internal Friction= 30°
*Apparent Cohesion= 250 psf

Stability calculations indicate factors of safety exceeding 1.5 for gross and surficial stability of 2:1 fill slopes up to 65 feet high. Shear strengths parameters used for the analysis are based upon our laboratory testing of materials considered representative for earth materials on the project. Based upon

these analyses anticipated cut slopes are also considered to be grossly stable assuming no adverse geologic conditions are encountered, as the shear strength of the various units of the Rosarita Beach Formation should be comparable to or exceed the samples tested.

Metavolcanic bedrock units are affected by jointing, fracturing and shearing. Sedimentary bedrock in contact with metavolcanic rock may also pose slope stability problems. When continuous and adversely oriented planes of weakness are exposed, failures can result. Should such features be noted during construction remedial grading would be recommended which would likely include additional grading in order to stabilize any potential failure mass.

Erosion Control

Evaluation of cut slopes during grading will be necessary in order to identify any areas of severely weathered rock or cohesionless materials. Should any such material be noted during construction remedial grading would be recommended.

In general, cut slope designs should conform to parameters in Chapter 70 of the Uniform Building Code. Paved interceptor terrace drains should be provided for any cut or fill slope exceeding 30± feet in height.

Subsurface Water Control

Canyon areas within the proposed development periodically transmit some subsurface water in irregular quantities. Subdrainage systems placed beneath canyon fills are necessary in order to provide effective control of subsurface water. Additional underdrain systems may be required as evaluated by representatives of GeoSoils, Inc. during grading, if any seepage or springs are uncovered during the construction process. Detailed recommendations for the design of subdrains are also included herein as shown in Appendix D. Tentative subdrain locations should be delineated on 40 scale grading plans.

Earth Materials (Grading)

Earth materials proposed to be excavated on the project during construction are considered satisfactory for use in properly placed compacted fills. Grading procedures should conform to the guidelines given in the Recommendations Section of this report.

Excavated volcanic rock may produce some significant oversized rock material which may require specialized treatment in compacted fills.

Earth Work Balancing

Shrinkage is typical of the alluvial and colluvial/topsoil materials and bulking is expected in the bedrock units. It would be advisable on a project of this size to evaluate these factors

during earthwork construction so that grade adjustments can be made to compensate for actual shrinkage-bulk factors and for variations of pre-construction topographic maps. For preliminary purposes the following factors could be applied:

Colluvium/Topsoil:	10-15% shrinkage
Alluvium:	10-12% shrinkage
Rosarita Beach Formation:	0-4% bulking
Santiago Peak Volcanics	5-15% bulking

Expansive Soils

Based on our observations and test results, earth materials on the site range from low to critically expansive. Typically the topsoils and alluvial materials are highly to critically expansive, and bedrock materials appear to be mostly low to moderately expansive. However, Test Pits TP-15 and TP-25 located in northern end of the easternmost canyon and in the central canyon above the pond, respectively, encountered critically expansive Rosarito Beach Formation materials. While it is anticipated that these canyon areas will be filled during grading, it should be anticipated that other locally occurring areas of expansive Rosarito Beach Formation materials could be encountered.

RECOMMENDATIONS

The recommendations given below have been formulated based upon the geotechnical data collected during our site evaluations, our experience with similar material types and general conditions. These recommendations should be considered during the preparation of the finalized plans and implemented during construction of the project.

Slope Design

All slopes should be designed and constructed in accordance with the minimum requirements of the County of San Diego, the Uniform Building Code, the recommendations in Appendix D and the following:

1. Fill slopes should be designed at 2:1 (horizontal to vertical) gradients. Fill slopes should be properly built and compacted. Guidelines for slope construction are presented in Appendix D.

2. Cut slopes should be designed at gradients of 2:1. While stabilization of these slopes is not anticipated, adversely oriented clay seams, joints, fracture planes or cohesionless zones could be encountered which may require remedial grading.

3. Should blasting be necessary, care should be taken in blasting hard rock in proximity to proposed cut slopes. Over-blasting of hard rock would result in weakened rock conditions which could require remedial grading to stabilize the affected cut slopes.

4. Loose rock debris remaining on the face of cut slopes should be removed during grading. This can be accomplished by high pressure water washing or by hand scaling, as warranted.

5. Cut slopes should be mapped by the project engineering geologist during grading to allow amendments to the recommendations should exposed conditions warrant alteration of the design or stabilization.

Grading Guidelines

All grading should conform to the guidelines presented in Appendix D, Chapter 70 of the Uniform Building Code, and the requirements of the County of San Diego. Specific guidelines and comments pertinent to the Rancho Miguel Project are offered below:

Removals:

1. Prior to placing fill, surficial soil deposits including topsoils, colluvium, and alluvium should be removed to

competent underlying materials. Removal operations should be observed by our representative.

Removal depths over most of the site should generally be on the order of 2 to 4 feet for topsoil and 3 to 7 feet in alluvial areas. Locally deeper removals of colluvial and alluvium should be anticipated in swale areas.

As removal quantity estimates depend largely upon interpretation of geotechnical data applied to a specific grading plan, we suggest that this office be contacted regarding this interpretation. We would be glad to provide assistance in preparation of these estimates.

Rock Excavation and Fill:

1. Excavated metavolcanic rock materials are expected to generate large rock debris which may require special handling during grading. Seismic/rippability studies indicate blasting will likely be necessary. Large rocks generated may be placed within deeper compacted fills in accordance with the guidelines in Appendix D.

2. Where blasting is necessary, care should be taken in proximity to proposed cut slopes. Over-blasting of hard rock would result in weakened rock conditions which could

require remedial grading to stabilize the affected cut slopes.

3. Decreasing shot-hole spacings can result in better quality fill materials which may otherwise require specialized burial techniques. It is important that blasting procedures, when utilized, be such that generally minus 2 foot sized materials is produced and that sufficient fines (sands and gravels) to fill all void spaces are present. This procedure would facilitate fill placement and decrease the need to drill and shot large rocks produced. If blasting results in a paucity of fines, mixing with granular material may be required.

4. Street and pad areas underlain by hard rock should be over-excavated to the depth of proposed excavations (utilities, foundations, etc.) and rebuilt to grade with properly compacted fill. This is intended to minimize difficulty in excavating for footings and utility lines.

Subdrains:

1. Canyon underdrain systems, consisting of pipe and filter material should be placed within bedrock materials beneath fills compacted in the major on-site canyons. Recommended subdrain locations can be provided when 40 scale grading plans are available.

2. Groundwater seeps, if encountered on canyon sidewalls during clean-out operations, should be drained with lateral systems which connect into the main canyon subdrains. The need for these additional systems can be evaluated during grading when subsurface conditions are exposed.

3. Subdrain systems should extend up canyon to levels of ten feet below the finished fill grade. The systems should be constructed in accordance with one of the alternate designs given in Appendix D.

Lot Capping/Street Overexcavation:

Care should be taken to avoid placing highly expansive materials encountered within three feet of finish grade. Transition lots (cut/fill) should be over excavated to a minimum depth of three feet to provide more uniform foundation support conditions. The need to cap cut lots should be evaluated during grading, as undercutting may be benificial to facilitate utility and foundation trenching in hard rock areas.

Consideration should be given to overexcavation of street areas where hard rock is exposed. Accordingly, provisions for the potential need of a Cat 245 hoe or equivalent during trenching operations should be included into project planning. Overexcavation should extend at least one foot below the lowest utility invert.

Foundation Recommendations

Based on our observations and test results, onsite soils appear to vary from low to critically expansive in nature. Both cut and fill lots will be constructed. Preliminary recommendations for foundation construction are presented below. The specific criteria to use for each lot or building pads should be based on evaluation and expansion testing performed after grading is complete. Consideration should be given to burying expansive materials in deeper fill areas as feasible.

Design:

1. An allowable soil bearing pressure of 1,500 pounds per square foot may be used for the design of continuous footings with a minimum width of 12 inches and depth of 12 inches. The bearing pressure may be increased by one-third for seismic or other temporary loads.

2. An allowable coefficient of friction between concrete and compacted fill or bedrock of 0.4 may be used with the deadload forces.

3. All footings should maintain a minimum horizontal distance of five feet from the outside bottom edge of the footing to the face of any adjacent descending slope. This is not intended to supercede any required building clearance from slopes as

set forth by the County of San Diego or the Uniform Building Code.

Construction:

The following recommendations may be applied to construction of foundations for typical one and two story residential structures, based upon anticipation that very highly expansive materials will not be placed at finish grades.

Low Expansive Soils:

1. Footings may be constructed according to standard building code requirements regarding width and depth. No reinforcement is necessary due to expansion. However, consideration should be given to placing one No. 4 reinforcing bar near the top and bottom of footings.

2. Concrete slabs, where moisture condensation is undesirable, should be underlain with a vapor barrier consisting of a minimum of six mil polyvinyl chloride or equivalent membrane with all laps sealed. This membrane should be covered with a minimum of one inch of sand to aid in uniform curing of the concrete.

3. Concrete slabs, except in garage areas, should be reinforced with six inch by six inch, No. 10 by No. 10 welded wire mesh. All slab reinforcement should be supported to ensure proper

positioning during placement of concrete. Garage slabs should be poured separately from the residence footings. A positive separation should be maintained with expansion joint material to permit relative movement.

4. No specific presaturation is required, however, footing trenches and soil at pad grade should be well watered prior to pouring concrete.

Moderately Expansive Soils:

1. Exterior footings should be founded at a minimum depth of 18 inches below the lowest adjacent ground surface. Interior footings may be founded at a depth of 12 inches below the lowest adjacent ground surface. All footings should be reinforced with two No. 4 reinforcing bars, one placed near the top and one placed near the bottom of the footing.

2. A grade beam, reinforced as above, and at least 12 inches wide should be provided across garage entrances. The base of the grade beam should be at the same elevation as the bottom of adjoining footings.

3. Concrete slabs, where moisture condensation is undesirable, should be underlain with a vapor barrier consisting of a minimum of six mil polyvinyl chloride or equivalent membrane with all laps sealed. This membrane should be covered with a

minimum of one inch of sand to aid in uniform curing of the concrete.

4. Concrete slabs, except in garage areas, should be reinforced with six inch by six inch, NO. 10 by No. 10 welded wire mesh. All slab reinforcement should be supported to ensure placement near the vertical midpoint of the concrete.

5. Garage slabs need not be reinforced with the above criteria; however, they should be poured separately from the residence footings and be quartered with expansion joints or saw cuts. A positive separation from the footings should be maintained with expansion joint material to permit relative movement.

6. Presaturation is recommended for these soil conditions. The moisture content of the subgrade soils should be equal to or greater than optimum moisture to a depth of 18 inches below grade in the slab areas and verified by this office within 48 hours of pouring slabs and prior to placing visqueen or reinforcement.

Highly Expansive Soils:

1. Exterior footings should be founded at a minimum depth of 18 inches below the lowest adjacent ground surface. Interior footings should have a minimum embedment of 18 inches below the top of the lowest adjacent concrete slab surface.

However, a minimum penetration of 12 inches into the soil is required.

All footings should be reinforced with a minimum of four No. 4 reinforcing bars two placed near the top and two placed near the bottom of the footing.

2. A grade beam, reinforced as above and at least 12 inches wide, should be utilized across garage entrances. The base of the grade beam should be at the same elevation as the bottom of the adjoining footings.

3. Concrete slabs should be underlain with a minimum of four inches of washed sand or crushed rock. In addition, where moisture condensation is undesirable, a vapor barrier consisting of a minimum of six mil polyvinyl chloride or equivalent membrane with all laps sealed should be provided. One inch of the sand should be placed over the membrane to aid in uniform curing of the concrete.

4. Concrete slabs, including garages, should be reinforced with six inch by six inch, No. 6 by No. 6 welded wire mesh or its equivalent. All slab reinforcement should be supported to ensure placement near the vertical midpoint of the concrete.

5. Garage slabs should be poured separately from the residence footings and be quartered with expansion joints or saw cuts.

A positive separation from the footings should be maintained with expansion joint material to permit relative movement.

6. Presaturation is recommended for these soil conditions. The moisture condition of each slab area should be equal to or greater than 120 percent of optimum to a depth of 18 inches below slab grade and verified by this office within 48 hours of pouring slabs and prior to placing visqueen or reinforcement.

7. Alternatively, post-tensioned foundations and slab systems may be used. If these are used, presaturation to at least 120 percent of optimum moisture at 18 inches below slab grade is recommended and perimeter cut off walls at least 18 inches deep should be constructed.

Retaining Wall Design (For Wall Height Less Than 15 Feet)

1. Active earth pressure may be used for retaining wall design, provided the top of the wall is not restrained from minor deflections. For convenience, an equivalent fluid approach may be used to compute the horizontal pressure against the wall. Appropriate fluid unit weights are given below for specific slope gradients of the retained material. These do not include other superimposed loading conditions such as traffic, structures, or geologic conditions.

SLOPE RETAINED MATERIAL (HORIZONTAL TO VERTICAL)	EQUIVALENT FLUID UNIT WEIGHT TO BE USED TO COMPUTE ACTIVE EARTH PRESSURE POUNDS PER CUBIC FOOT
Level	30
2 to 1	45
1-1/2 to 1	55

2. An allowable bearing capacity of 1500 pounds per square foot in compacted fill and 2500 psf in bedrock may be used for retaining wall footing design provided the footing is at least twelve inches below the ground surface at the toe. Increases may be allowed in certain areas.

3. Passive earth pressure may similarly be computed using an equivalent fluid unit weight of 250 pounds per cubic foot with a maximum earth pressure of 2000 pounds per square foot.

4. An allowable coefficient of friction between soil and concrete of 0.4 may be used with dead load forces.

5. When combining passive earth pressure and frictional resistance, the passive pressure component should be reduced by one-third.

6. The above criteria assumes that hydrostatic pressures are not allowed to build up behind the wall. Positive drainage must

be provided behind all retaining walls in the form of gravel and exit pipes or adequate weep holes.

Graded Slope Maintenance

1. Water has been shown to weaken the inherent strength of all earth materials. Slope stability is significantly reduced by overly wet conditions. Positive surface drainage away from graded slopes should be maintained and only the amount of irrigation necessary to sustain plant life should be provided for planted slopes. Overwatering should be avoided.

2. Drainage terraces on larger cut slopes are expected to adequately contain the anticipated erosion debris. However, in isolated cases, local conditions may generate excessive debris which would clog the bench. This should be removed to prevent deep-seated erosion of the slope.

Graded Slope Planting

1. Graded slopes constructed within and utilizing weathered bedrock materials are considered erosive. Eroded debris may be minimized and surficial slope stability enhanced by establishing and maintaining a suitable vegetation cover soon after construction.

2. Plants selected by the project Landscape Architect should be light weight, deep rooted types which require little water and are capable of surviving the prevailing climate.

3. Graded cut slopes exposing granitic and gabbroic rocks are expected to be relatively non-erosive and may present difficulty establishing vegetation on the hard rock. Jute-type matting or other fibrous covers may help allow the establishment of a sparse plant cover.

Plan Review

Specific grading plans should be submitted to this office for review and comment as they become available, to minimize any misunderstandings between the plans and recommendations presented herein. Additional site exploration may be warranted at that time. In addition, foundation excavations and earthwork construction performed on the site should be observed and tested by this office. If conditions are found to differ substantially from those stated, appropriate recommendations would be offered at that time.

Expansive Soils

Based on our observations and test results, earth materials on the site range from low to very highly expansive. Typically the topsoils and alluvial materials are medium to very highly expansive, and bedrock materials appear to be mostly low to moderately expansive with some very highly expansive zones.

RECOMMENDATIONS

The recommendations given below have been formulated based upon the geotechnical data collected during our site evaluations, our experience with similar material types and general conditions. These recommendations should be considered during the preparation of the finalized plans and implemented during construction of the project.

Slope Design

All slopes should be designed and constructed in accordance with the minimum requirements of the County of San Diego, the Uniform Building Code, the recommendations in Appendix E and the following:

1. Fill slopes should be designed at 2:1 (horizontal to vertical) gradients. Fill slopes should be properly built and compacted. Guidelines for slope construction are presented in Appendix E.

2. a) Cut slopes should be generally designed at gradients of 2:1.

   b) Cut slopes in metavolcanic and low height slopes (>10 feet) can be considered at 1.5:1 gradients. This office should be contacted prior to utilizing this in grading plans design.

3. Should blasting be necessary in the metavolcanic rocks, care should be taken in proximity to proposed cut slopes. Over-blasting of hard rock would result in weakened rock conditions which could require remedial grading to stabilize the affected cut slopes.

4. Loose rock debris remaining on the face of cut slopes should be removed during grading. This can be accomplished by high pressure water washing or by hand scaling, as warranted.

5. All slopes should be mapped by the project engineering geologist during grading to allow amendments to the recommendations should exposed conditions warrant alteration of the design or stabilization.

Grading Guidelines

All grading should conform to the guidelines presented in Appendix E, Chapter 70 of the Uniform Building Code, and the requirements of the County of San Diego. Specific guidelines and

comments pertinent to the Rancho Miguel Project are offered below:

Removals:

1. Prior to placing fill, surficial soil deposits including topsoils, colluvium, and alluvium should be removed to competent underlying materials. Removal operations should be observed by our representative.

   Removal depths over most of the site should generally be on the order of 3 to 5 feet for topsoil and 5 to 8 feet in alluvial areas. Locally deeper removals of colluvium and alluvium should be anticipated in swale areas and canyons.

   As removal quantity estimates depend largely upon interpretation of geotechnical data applied to a specific grading plan, we suggest that this office be contacted regarding this interpretation. We would be glad to provide assistance in preparation of these estimates.

Rock Excavation and Fill:

1. Excavated metavolcanic rock materials are expected to generate large rock debris which may require special handling during grading. Seismic/rippability studies indicate blasting will likely be necessary. Large rocks generated may be placed within deeper compacted fills in accordance with the guidelines in Appendix E.

2. Where blasting is necessary, care should be taken in proximity to proposed cut slopes. Over-blasting of hard rock would result in weakened rock conditions which could require remedial grading to stabilize the affected cut slopes.

3. Decreasing shot-hole spacings can result in better quality fill materials which may otherwise require specialized burial techniques. It is important that blasting procedures, when utilized, be such that generally minus 2 foot sized materials is produced and that sufficient fines (sands and gravels) to fill all void spaces are present. This procedure would facilitate fill placement and decrease the need to drill and shot large rocks produced. If blasting results in a lack of fines, mixing with granular material would be required.

4. Consideration should be given to over-excavating street and pad areas underlain by hard rock (metavolcanics) to the depth of proposed excavations (utilities, foundations, etc.) and rebuilding to grade with properly compacted fill. This is intended to minimize difficulty in excavating for footings and utility lines.

Subdrains:

1. Canyon underdrain systems, consisting of pipe and filter material should be placed within bedrock materials beneath fills compacted in the major on-site canyons. Recommended subdrain locations can be provided when 40' scale grading plans are available.

2. Groundwater seeps, if encountered on canyon sidewalls during clean-out operations, should be drained with lateral systems which connect into the main canyon subdrains. The need for these additional systems can be evaluated during grading when subsurface conditions are exposed.

3. Specially designed subdrain systems may be needed for Salt Creek.

Lot Capping/Street Overexcavation:

Care should be taken to avoid placing highly expansive materials encountered within three feet of finish grade. Transition lots (cut/fill) should be over excavated to a minimum depth of three feet to provide more uniform foundation support conditions. The need to cap cut lots should be evaluated during grading, as undercutting may be beneficial to facilitate utility and foundation trenching in areas of hard metavolcanic rock or cemented sandstones, or due to the presence of materials with

significantly different expansive potential (e.g. claystones and sandstones).

Consideration should be given to overexcavation of street areas where hard rock is exposed. Accordingly, provisions for the potential need of a Cat 245 hoe or equivalent during trenching operations should be included into project planning. Overexcavation should extend at least one foot below the lowest utility invert.

Foundation Recommendations

Based on our observations and test results, onsite soils appear to vary from low to very highly expansive in nature. Both cut and fill lots will be constructed. Preliminary recommendations for foundation construction are presented below. The specific criteria to use for each lot or building pads should be based on evaluation and expansion testing performed after grading is complete. Consideration should be given to burying expansive materials in deeper fill areas as feasible.

Design:

1. An allowable soil bearing pressure of 1,500 pounds per square foot may be used for the design of continuous footings with a minimum width of 12 inches and depth of 12 inches. The bearing pressure may be increased by one-third for seismic or other temporary loads.

2. An allowable coefficient of friction between concrete and compacted fill or bedrock of 0.4 may be used with the deadload forces.

3. All footings should maintain a minimum horizontal distance of five feet from the outside bottom edge of the footing to the face of any adjacent descending slope. This is not intended to supercede any required building clearance from slopes as set forth by the County of San Diego or the Uniform Building Code.

Construction:

The following recommendations may be applied to construction of foundations for typical one and two story residential structures, based upon anticipation that very highly expansive materials will not be placed at finish grades.

Low Expansive Soils:

1. Footings may be constructed according to standard building code requirements regarding width and depth. No reinforcement is necessary due to expansion. However, consideration should be given to placing one No. 4 reinforcing bar near the top and bottom of footings.

2. Concrete slabs, where moisture condensation is undesirable, should be underlain with a vapor barrier consisting of a minimum of six mil polyvinyl chloride or equivalent membrane

with all laps sealed. This membrane should be covered with a minimum of one inch of sand to aid in uniform curing of the concrete.

3. Concrete slabs, except in garage areas, should be reinforced with six inch by six inch, No. 10 by No. 10 welded wire mesh. All slab reinforcement should be supported to ensure proper positioning during placement of concrete. Garage slabs should be poured separately from the residence footings. A positive separation should be maintained with expansion joint material to permit relative movement.

4. No specific presaturation is required, however, footing trenches and soil at pad grade should be well watered prior to pouring concrete.

Moderately Expansive Soils:

1. Exterior footings should be founded at a minimum depth of 18 inches below the lowest adjacent ground surface. Interior footings may be founded at a depth of 12 inches below the lowest adjacent ground surface. All footings should be reinforced with two No. 4 reinforcing bars, one placed near the top and one placed near the bottom of the footing.

2. A grade beam, reinforced as above, and at least 12 inches wide should be provided across garage entrances. The base

of the grade beam should be at the same elevation as the bottom of adjoining footings.

3. Concrete slabs, where moisture condensation is undesirable, should be underlain with a vapor barrier consisting of a minimum of six mil polyvinyl chloride or equivalent membrane with all laps sealed. This membrane should be covered with a minimum of one inch of sand to aid in uniform curing of the concrete.

4. Concrete slabs, except in garage areas, should be reinforced with six inch by six inch, No. 10 by No. 10 welded wire mesh. All slab reinforcement should be supported to ensure placement near the vertical midpoint of the concrete.

5. Garage slabs need not be reinforced with the above criteria; however, they should be poured separately from the residence footings and be quartered with expansion joints or saw cuts. A positive separation from the footings should be maintained with expansion joint material to permit relative movement.

6. Presaturation is recommended for these soil conditions. The moisture content of the subgrade soils should be equal to or greater than optimum moisture to a depth of 18 inches below grade in the slab areas and verified by this office within 48 hours of pouring slabs and prior to placing visqueen or reinforcement.

Highly Expansive Soils:

1. Exterior footings should be founded at a minimum depth of 18 inches below the lowest adjacent ground surface. Interior footings should have a minimum embedment of 18 inches below the top of the lowest adjacent concrete slab surface. However, a minimum penetration of 12 inches into the soil is required.

   All footings should be reinforced with a minimum of four No. 4 reinforcing bars two placed near the top and two placed near the bottom of the footing.

2. A grade beam, reinforced as above and at least 12 inches wide, should be utilized across garage entrances. The base of the grade beam should be at the same elevation as the bottom of the adjoining footings.

3. Concrete slabs should be underlain with a minimum of four inches of washed sand or crushed rock. In addition, where moisture condensation is undesirable, a vapor barrier consisting of a minimum of six mil polyvinyl chloride or equivalent membrane with all laps sealed should be provided. One inch of the sand should be placed over the membrane to aid in uniform curing of the concrete.

4. Concrete slabs, including garages, should be reinforced with six inch by six inch, No. 6 by No. 6 welded wire mesh or its

equivalent. All slab reinforcement should be supported to ensure placement near the vertical midpoint of the concrete.

5. Garage slabs should be poured separately from the residence footings and be quartered with expansion joints or saw cuts. A positive separation from the footings should be maintained with expansion joint material to permit relative movement.

6. Presaturation is recommended for these soil conditions. The moisture condition of each slab area should be equal to or greater than 120 percent of optimum to a depth of 18 inches below slab grade and verified by this office within 48 hours of pouring slabs and prior to placing visqueen or reinforcement.

Post Tensioned Foundations and Slab Systems

As an alternative to conventional spread footings post tensioned slabs may be employed. The recommendations found below should be incorporated into the construction methods for the post tensioned foundation systems.

A fairly common contributing factor to distress of structures using post tensioned slabs is a significant fluctuation in the moisture content of soils underlying the perimeter of the slab compared to the center causing a "dishing" or "arching" of the slabs.

To help maintain the moisture content within the slab area perimeter "cut off" walls in conjunction with presaturation may be employed with the post tension foundation.

Presaturation is recommended for the soil conditions having low to highly expansion potential. The moisture content of the subgrade soils should be equal to or greater than the optimum moisture to the depths below grade as recommended in the previous construction sections regarding presaturation.

Perimeter cut off walls should be 12 inches deep for low expansive soils, 18 inches deep for medium and highly expansive soils, and 24 inches for very highly expansive soils. They should be a minimum of 4 inches in width. The cut off walls may be integrated into the slab design or independent of the slab.

A visqueen vapor barrier should be lapped adequately to provide a continuous water-proof barrier under the entire slab. Other recommendations presented in the report should be adhered to during the design and construction phase of the project.

Retaining Wall Design (For Wall Height Less Than 15 Feet)

1. Active earth pressure may be used for retaining wall design, provided the top of the wall is not restrained from minor deflections. For convenience, an equivalent fluid approach may be used to compute the horizontal pressure against the

wall. Appropriate fluid unit weights are given below for specific slope gradients of the retained material. These do not include other superimposed loading conditions such as traffic, structures, or geologic conditions.

SLOPE RETAINED MATERIAL (HORIZONTAL TO VERTICAL)	EQUIVALENT FLUID UNIT WEIGHT TO BE USED TO COMPUTE ACTIVE EARTH PRESSURE POUNDS PER CUBIC FOOT
Level	30
2 to 1	45
1-1/2 to 1	55

2. An allowable bearing capacity of 1,500 pounds per square foot in compacted fill and 2,500 psf in bedrock may be used for retaining wall footing design provided the footing is at least twelve inches below the ground surface at the toe. Increases may be allowed in certain areas.

3. Passive earth pressure may similarly be computed using an equivalent fluid unit weight of 250 pounds per cubic foot with a maximum earth pressure of 2,000 pounds per square foot.

4. An allowable coefficient of friction between soil and concrete of 0.4 may be used with dead load forces.

5. When combining passive earth pressure and frictional resistance, the passive pressure component should be reduced by one-third.

6. The above criteria assumes that hydrostatic pressures are not allowed to build up behind the wall. Positive drainage must be provided behind all retaining walls in the form of gravel and exit pipes or adequate weep holes.

Graded Slope Maintenance

1. Water has been shown to weaken the inherent strength of all earth materials. Slope stability is significantly reduced by overly wet conditions. Positive surface drainage away from graded slopes should be maintained and only the amount of irrigation necessary to sustain plant life should be provided for planted slopes. Overwatering should be avoided.

2. Drainage terraces on larger cut slopes are expected to adequately contain the anticipated erosion debris. However, in isolated cases, local conditions may generate excessive debris which would clog the bench. Debris should be removed to prevent deep-seated erosion of the slope.

Graded Slope Planting

1. Graded slopes constructed within and utilizing weathered bedrock materials are considered erosive. Eroded debris may be minimized and surficial slope stability enhanced by

establishing and maintaining a suitable vegetation cover soon after construction.

2. Plants selected by the project landscape architect should be light weight, deep rooted types which require little water and are capable of surviving the prevailing climate.

3. Graded cut slopes exposing granitic and gabbroic rocks are expected to be relatively non-erosive and may present difficulty establishing vegetation on the hard rock. Jute-type matting or other fibrous covers may help allow the establishment of a sparse plant cover.

Additional Studies

Additional studies will likely be needed on site when grading plans are available. These studies would consist of drilling of deeper borings to evaluate higher cut slopes and deeper cut areas. Also, alluvial depths in Salt Creek may warrant further exploration. Additional rock hardness evaluation studies might be warranted.

Plan Review

Tentative maps and grading plans should be submitted to this office for review and comment as they become available, to minimize any misunderstandings between the plans and recommendations presented herein. In addition, earthwork construction and foundation excavations performed on the site

APPENDIX C

DRAINAGE, SEWER AND WATER REPORT (GRAVES ENGINEERING)

ENVIRONMENTAL CONSTRAINTS INVENTORY

FOR

SALT CREEK RANCH

(Sewer, Water, Reclaimed Water, Hydrology, Water Quality)

July 1989

prepared for:

ERC
5510 Morehouse Drive
San Diego, CA 92121

Jeanne Muñoz, Project Manager

prepared by:

GRAVES ENGINEERING, INC.
8963 Complex Drive, Suite A
San Diego, CA 92123
(619) 565-9512

TABLE OF CONTENTS

Reclaimed Water

This section is limited to the availability of reclaimed water to serve Salt Creek Ranch. OWD has capacity to provide 1.0 million gallons per day of reclaimed water. Facilities have been constructed to use all of this capacity to provide construction water for the grading of the Eastlake Greens residential development and golf course. OWD is negotiating to supply a portion of the capacity as irrigation water for the golf course. The reclaimed water supply line passes through Salt Creek Ranch. Reclaimed water could be used for the project proposed parks and roadside landscaping. There may be some restriction in use in the eastern portion that drains to Upper Otay Reservoir. The following mitigation measures are proposed if reclaimed water is used:

1. The use of reclaimed water is strongly encouraged and the project proponent shall make every attempt to develop such use.

2. The project proponent shall, if feasible, negotiate an agreement with OWD to commit to use of reclaimed water at the earliest possible date so that OWD can ensure that an adequate supply is available.

3. The use of reclaimed water shall be subject to site-specific environmental analysis.

4. The use of reclaimed water shall conform to the applicable regulations of the City of Chula Vista, Regional Water Quality Control Board and the State Department of Health.

Hydrology

Peak stormwater runoff rates from the property will increase upon completion of development. This increase will be comparable to similar types of developments. Existing downstream storm drain facilities have been designed to accommodate this increase rate. The following mitigation measures are proposed:

1. Upon preparation of detailed development plans, a registered civil engineer shall conduct a hydrologic and hydraulic analysis of the project. This analysis shall be conducted in accordance with City of Chula Vista guidelines and shall include but not be limited to: sizing of onsite drainage facilities; design of energy dissipators at drain outlets; verification that downstream drainage facilities including natural channel can accommodate the increase flow rate; verification of the adequacy of the Eastlake Business Centre storm drain; and evaluation of enhancements of natural drainage courses.

2. Drainage facilities and energy dissipators shall be constructed in accordance with the approved hydraulic analysis and shall be in place and functioning prior to completion of the grading operation.

Water Quality

The eastern portion of the project drains to Upper and Lower Otay Reservoirs which are potable water storage facilities actively used by the City of San Diego. Runoff from development of the Salt Creek Ranch will incrementally degrade the water quality of the reservoirs. The State Department of Health Services will likely require that a

diversion ditch be constructed to intercept dry weather flows and storms up to a 5-year magnitude from the eastern portion of the project and convey said flows around the reservoirs.

The following mitigation measures are proposed:

The project shall be subject to review and approval by the State Department of Health Services. The project shall implement mitigation measures as set by DHS. If a diversion ditch is required, additional environmental analysis will be required based on the specific alignment of the ditch. Design of a diversion ditch shall also consider providing additional capacity for concurrent or future development.

If any portion of the project is graded during the rainy season, the project proponent shall submit a erosion control plan prepared by a registered civil engineer in accordance with City of Chula Vista design standards. The plan shall include placement of sandbags, temporary sediment basins, and an erosion control maintenance plan.

2.0 SCOPE OF WORK

Graves Engineering, Inc. was engaged by ERC to provide technical consulting services in support of their preparation of the Environmental Constraints Inventory/ Environmental Impact Report of Salt Creek Ranch for the City of Chula Vista. Specifically, the services were to focus on the issues of water, sewer, reclaimed water, hydrology and water quality. Water and sewer analysis was limited to a critical review and verification of analysis supplied by the project proponent. Reclaimed water analysis was to be limited to the availability of and suitability for use within the project with no analysis of potential impact of such use. Hydrology analysis was to assess the impact of increased runoff and erosion potential due to project development. The water quality issue was limited to the potential impact on the Upper and Lower Otay Reservoirs.

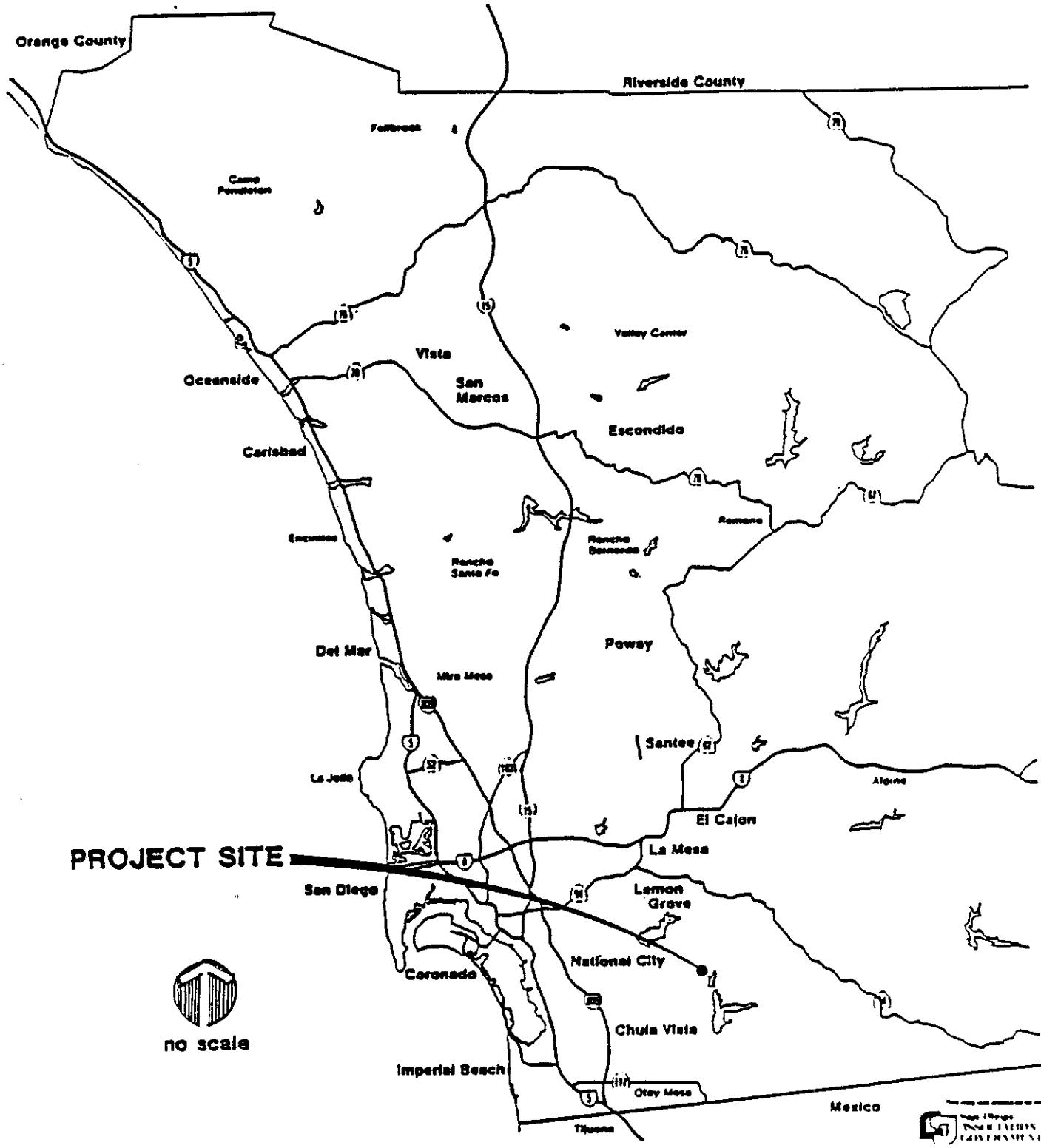
3.0 PROJECT DESCRIPTION

For the purposes of this analysis the project is as defined by the "Salt Creek Ranch General Development Plan" prepared by Estrada Land Planning for The Baldwin Company (Estrada, 1989).

Salt Creek Ranch encompasses 1200 acres in the southern foothills of San Miguel Mountain (see Figures 3-1 and 3-2) Although the property is within the unincorporated area of the County of San Diego, most of the property is within the sphere of influence of City of Chula Vista and annexation of the entire property to the City is anticipated prior to implementation of development.

Salt Creek Ranch continues the eastward progression of urban development in eastern Chula Vista as characterized by the Rancho del Rey and Eastlake developments.

The project proposes a residential community with a "semi-rural/ranch" theme. The project proponent proposes to preserve the major drainage courses and steeper slopes in open space easements. Residential densities will vary from 5 to 15 dwelling units per acre in the southwest area to 0 to 3 dwelling units per acre in the northern and eastern portion. The project proponent seeks approval of 3644 dwelling units (average density of 3 dwelling units per acre). Community, neighborhood and "mini" parks are also proposed as well as an elementary school site (see Figure 3-3).



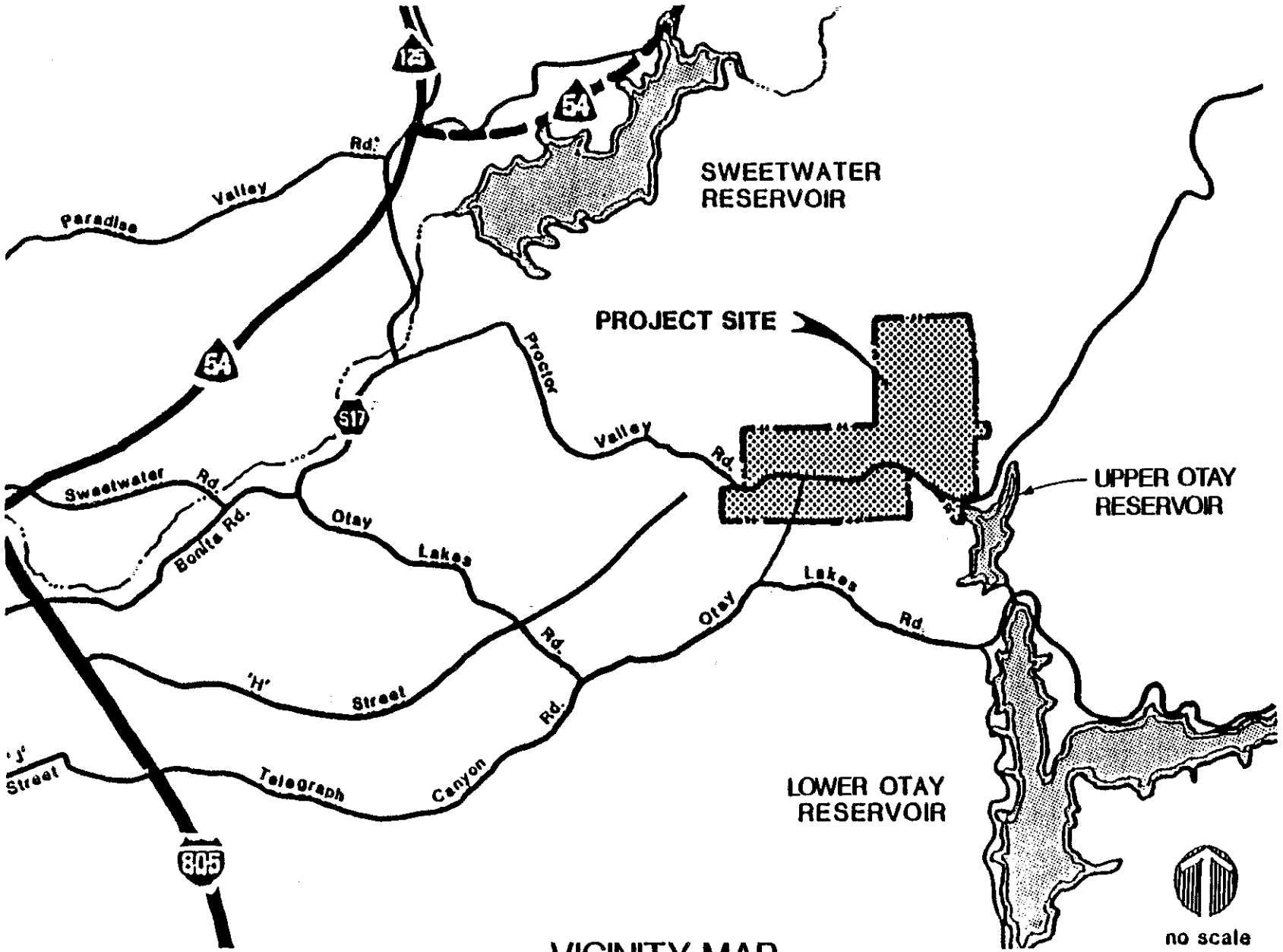
Regional Map

SOURCE : SALT CREEK RANCH, General Development Plan

GRAVES ENGINEERING
A California Corporation
8963 Complex Dr. Ste A, San Diego, Ca. 92123
TELEPHONE : (619) 565-9512

SALT CREEK RANCH

FIG. 3-1



VICINITY MAP

SOURCE : SALT CREEK RANCH , General Development Plan

GRAVES ENGINEERING
A California Corporation
8963 C[illegible]x Dr. Ste A, San Diego, Ca. 92123
P[illegible] (61[illegible]-95[illegible]

SALT CREEK RANCH

Fig. 3-2

SALT CREEK RANCH

General Development Plan

LAND USE TABLE

USE	ACRES	UNITS
RESIDENTIAL USE		
L	492.0	1405
LM	270.6	1542
LM*	32.8	197
M	48.1	500
RESIDENTIAL TOTAL	834.6	3644
OPEN SPACE		
RECREATIONAL OPEN SPACE		
COMMUNITY PARK	28.4	
EQUESTRIAN CENTER	8.3	
NEIGHBORHOOD PARKS	11.0	
PRIVATE REC. AREA	10.1	
MINI-PARKS	2.0	
NATURE CENTER	1.0	
NATURAL OPEN SPACE	265.4	
OPEN SPACE TOTAL	326.2	
INSTITUTIONAL USE		
ELEMENTARY SCHOOL	10.0	
CIRCULATION ELEMENT		
MAJOR ROADS	34.3	
TOTAL SITE AC	1,205 AC	

* REPRESENTS LM USE AT THE HIGHEST ALLOWABLE DENSITY.

THE BALDWIN COMPANY
SAN DIEGO

ESTRADA Land Planning

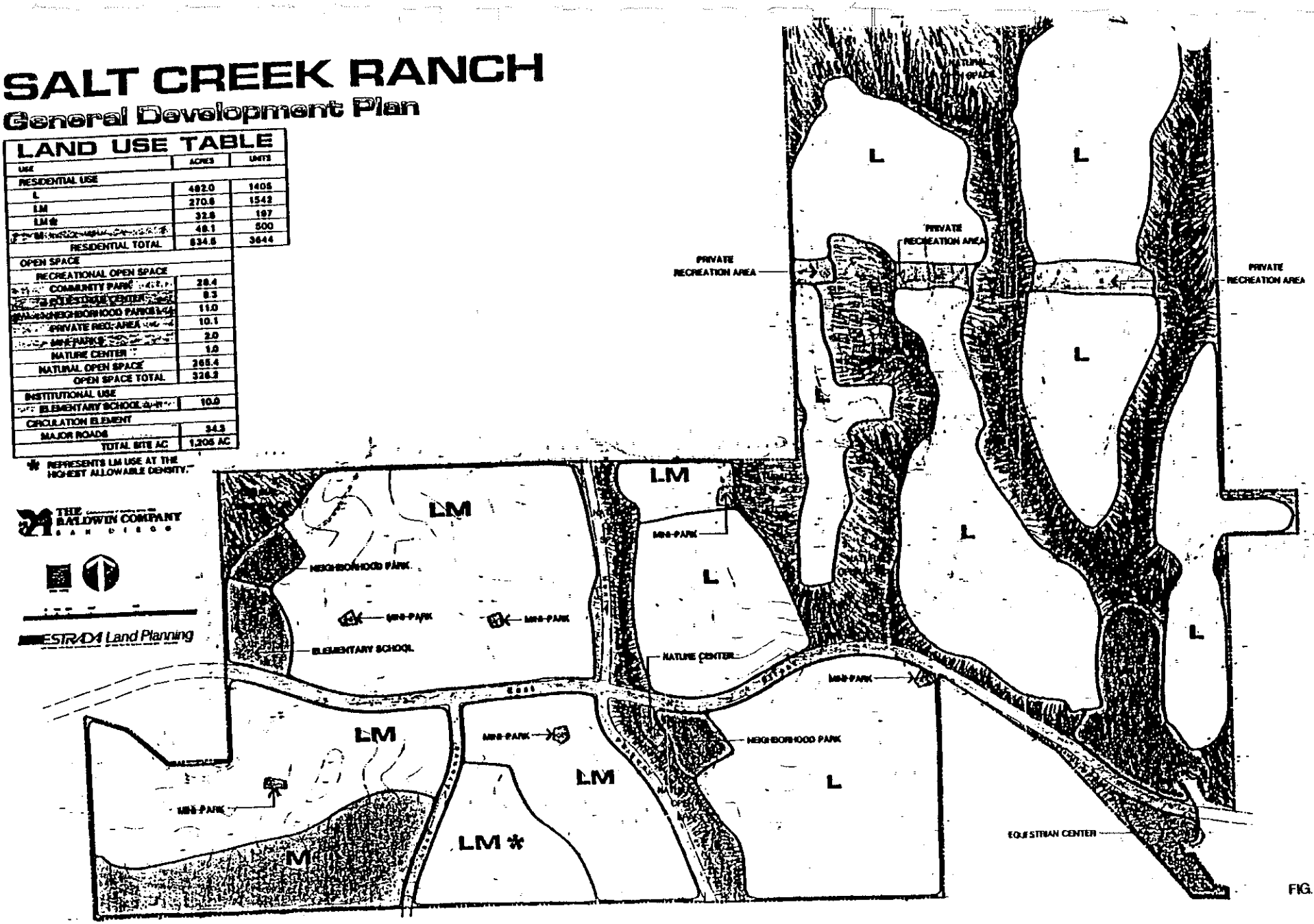


FIG. 3-3

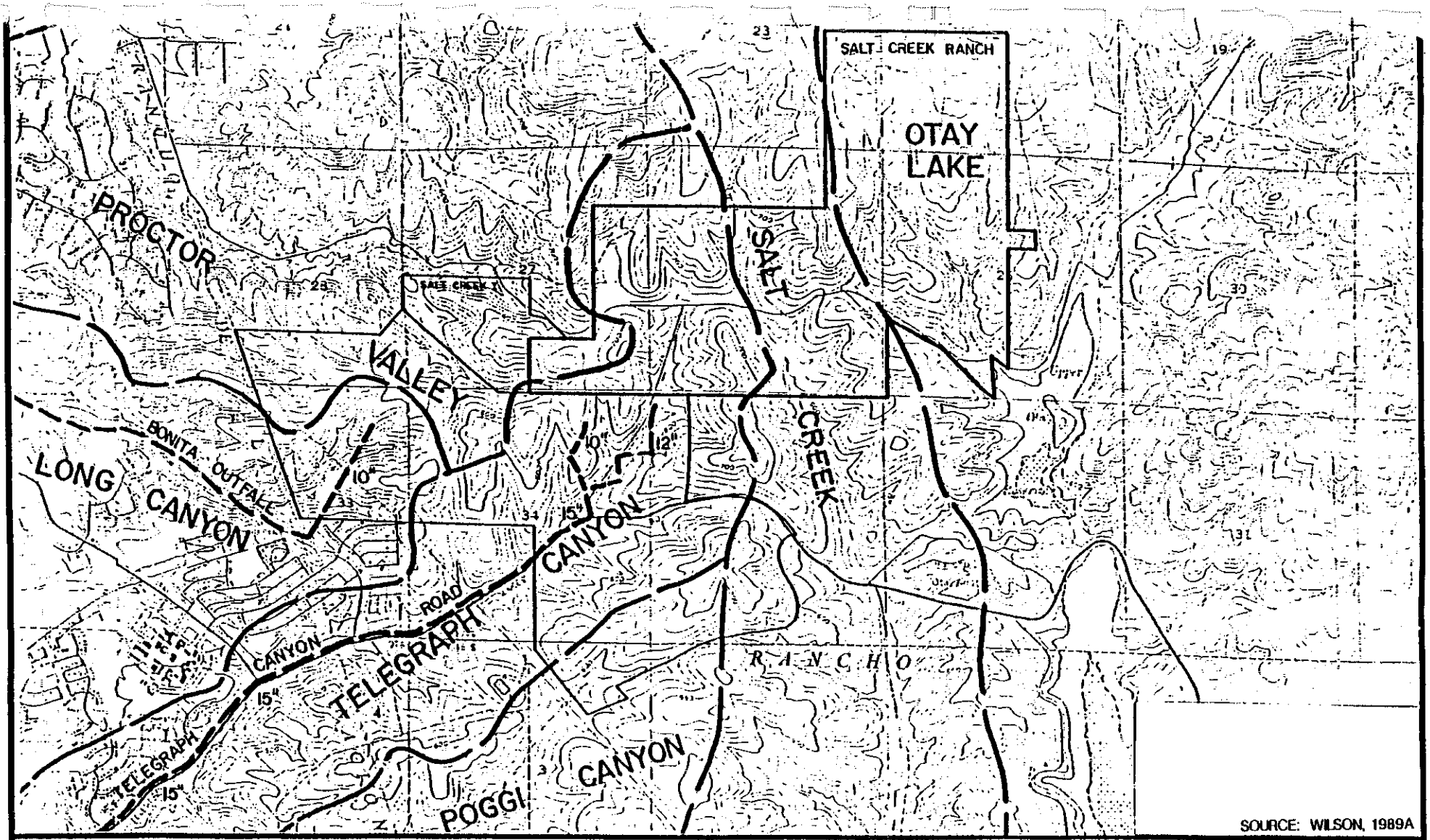
4.0 SEWER

Existing Conditions

Sewer service in the project vicinity is provided by the City of Chula Vista. The City owns and maintains a series of pipelines and lift stations that collect sewage for disposal in the Metropolitan Sewer System (METRO). METRO provides for a single regional treatment plant on the Point Loma peninsula with an ocean outfall for the treated effluent.

The closest sewer service to the project is via the Telegraph Canyon Sewer Trunk Line that extends to the project's southern boundary in serving the Eastlake Business Center (see Figure 4-1). Sewer service is also provided via the Bonita Outfall which serves the Long Canyon Basin and a portion of the Eastlake Development. There is no gravity sewer service in the Salt Creek and Otay Lake basins and the closest service for the Proctor Valley Basin is over three miles away.

Several developments which are not located in the Telegraph Canyon Basin are proposed to be served by the Telegraph Canyon Trunk. These developments include Salt Creek I (located to the west of Salt Creek Ranch), portions of Eastlake Development and the proposed Olympic Training Center (both located south of the project). The City has determined that these developments can best be served through the Telegraph Canyon Trunk on a temporary basis until permanent sewage collection facilities can be built in the Proctor Valley and Salt Creek and Otay Lake basins. This determination will require temporary lift stations to pump sewage from the adjoining basins into the Telegraph Canyon basin.



EXISTING SEWER FACILITIES

GRAVES ENGINEERING INC.

4-1
FIGURE

indicates that flow projection are greater than or equal to actual flow rates.

The City is currently in the process of determining the mechanism for individual developments to fund the necessary trunk upgrades (City, 1989).

Mitigations

To mitigate sewer impacts the following measure should be complied with:

1. Obtain an agreement from the City of Chula Vista to allow sewering of the entire project to the Telegraph Canyon Trunk sewer.

2. Agree to fund the project's fair-share portion of trunk sewer upgrades.

5.0 WATER

Existing Conditions

The section deals with the issues of water supply and water distribution.

Water service in the project vicinity is provided by the Otay Water District (OWD). OWD generally serves the unincorporated area from the United States/Mexico border north to the Rancho San Diego area. The project vicinity is in OWD's Central Area.

OWD receives all of its water from the County Water Authority (CWA) via connections to CWA Pipeline No. 3. OWD currently has an allocation of 24.6 million gallons per day (mgd). OWD's allocation will be increased in the mid-1990's when CWA will complete the new Pipeline No. 4. In 1988 OWD determined that the anticipated peak demand of present and known future committed connections would reach peak week demands of 25.6 mgd (OWD, 1989A). Since the future committed connections represents only a small portion of the known future development and since OWD cannot increase its water allotment until the mid-1990's, OWC has initiated a three-prong approach to resolving the water supply shortfall. First, OWD and/or private developers are constructing very large water storage reservoirs (that is, greater than 20 million gallons) to help meet the peak water demands. OWD had previously proposed these reservoirs, often referred to as Terminal Storage Facilities (TSF), to provide a "fail-safe" ten-day water supply. The TSF were proposed in response to OWD's recognition that the district was vulnerable to shut-downs in the CWA pipelines either due to problems or routine maintenance. OWD would use the TSF on a temporary basis to solve the water supply shortfall

during the peak demand periods. Second, OWD is pursuing inter-agency agreements to either purchase short-term excess water allocation or to lease excess water storage capability. Third, OWD is initiating a program that will limit the yearly allocation of water service to private developments.

In the Central Area OWD has an agreement with the developers of Rancho del Ray, Sunbow and Eastlake to construct a 54 million gallon (mg) TSF. OWD is also conducting a siting study for either a single 100 mg or two 50 mg TSF. The studies are focusing on the Eastlake Development, Otay Ranch or OWD-owned property at the headwaters of Salt Creek.

To date, OWD has not developed any inter-agency agreements but has had discussions with Sweetwater Authority (Sweetwater Reservoir) and City of San Diego (Upper and Lower Otay Reservoir). In addition, OWD has spoken with CWA about the feasibility of improvements to CWA pipelines to improve their hydraulic efficiency and consequently increase OWD's allocation.

In their April 1989 report (OWD, 1989A), OWD staff recommended implementation of a plan that would limit allocation in the North and Central areas to 1900 equivalent dwelling units (EDU) per year. This allocation rate was dependent on the completion of the aforementioned 54 mg TSF by no later than 1992. Based on OWD's research, development in the north and central areas (including Salt Creek Ranch) was anticipated to develop at an average of over 3800 dwelling units per year from 1989 to 1996. Although formal adoption of a water allocation program has not occurred, OWD has stopped issuing Water Service Availability letters unless a development enters into an agreement to either participate in the funding of or construction of a TSF.

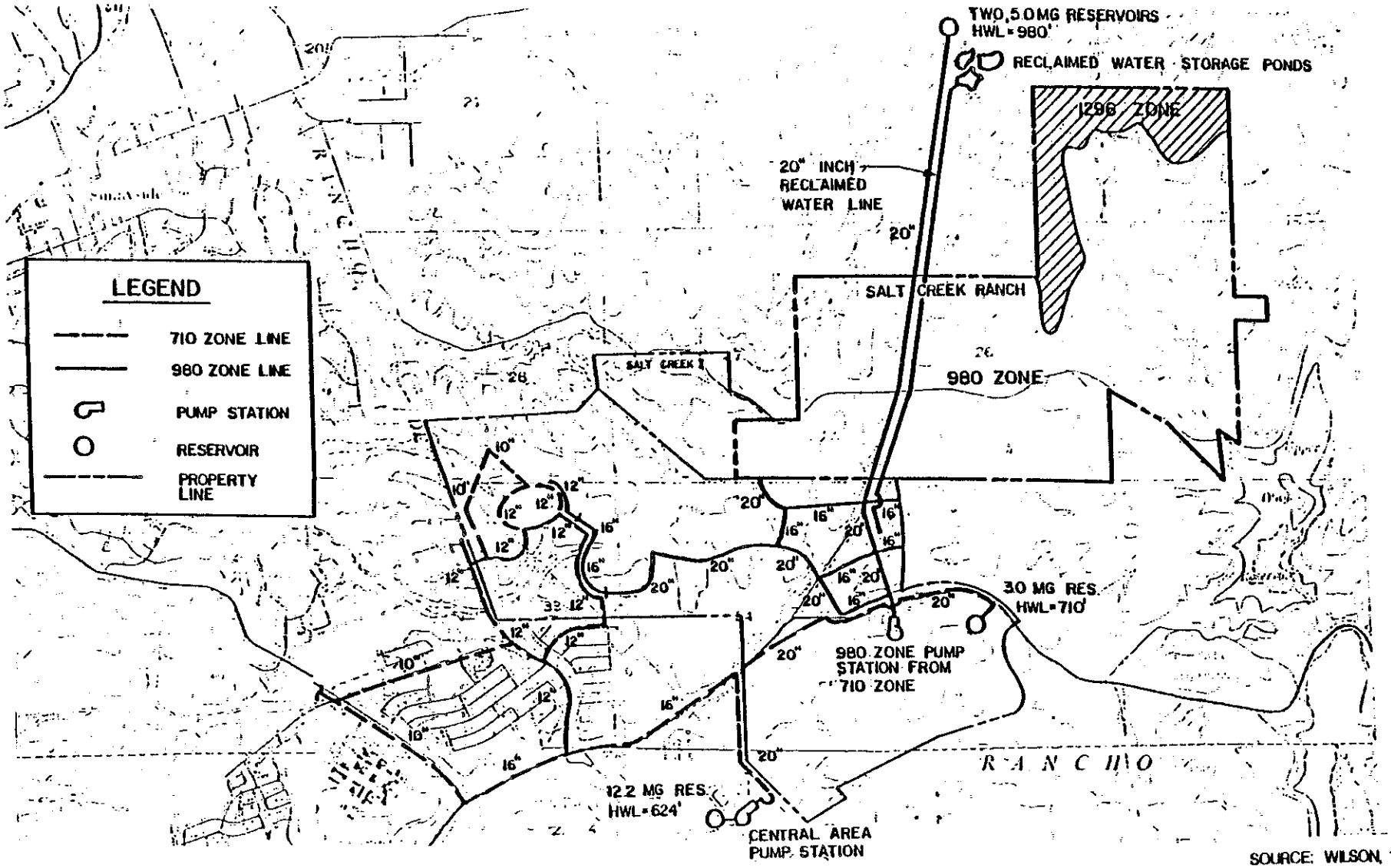
Planning for water distribution systems in the project vicinity is defined by the OWD Central Area Water Master Plan Update (OWD, 1987). The analysis for the Update included all of that portion of Salt Creek Ranch below elevation 840 at an average density of 5 dwelling units per acre. Property above elevation 840 lies within the 1296 Pressure Zone that was not analyzed in the Update.

OWD has constructed through developer financing most of the facilities (transmission, storage and pump station) necessary to serve the Salt Creek Ranch (below elevation 840) and adjacent developments (see Figure 5-1). The two exceptions are the 980 Pump Station which is currently rated at a capacity of 4000 gallons per minute (gpm) that will have an ultimate capacity of 16,000 gpm and a second 20-inch pipeline from the 980 Pump Station to the 980 Reservoir (see Figure 5-2). In addition, there are no existing facilities to serve development above elevation 840.

Impacts

As previously discussed, OWD has anticipated development of Salt Creek Ranch in their Central Area Master Plan. The master plan was based on an assumed density of 5 dwelling units per acre while the project proposes an average of 3 dwelling units per acre. Development of the project would require construction of the remaining elements of the master plan; that is, phased upgrading of the 980 Pump Station and installation of the 20-inch pipeline. In addition, the onsite water distribution system would be constructed.

As previously discussed, facilities would have to be constructed to serve homesites above elevation 840. These facilities could be a new 1296 Pump Station and 1296



SOURCE: WILSON, 1989B

PROPOSED WATER FACILITIES

GRAV NGINEERING INC

5-2
FIGURE

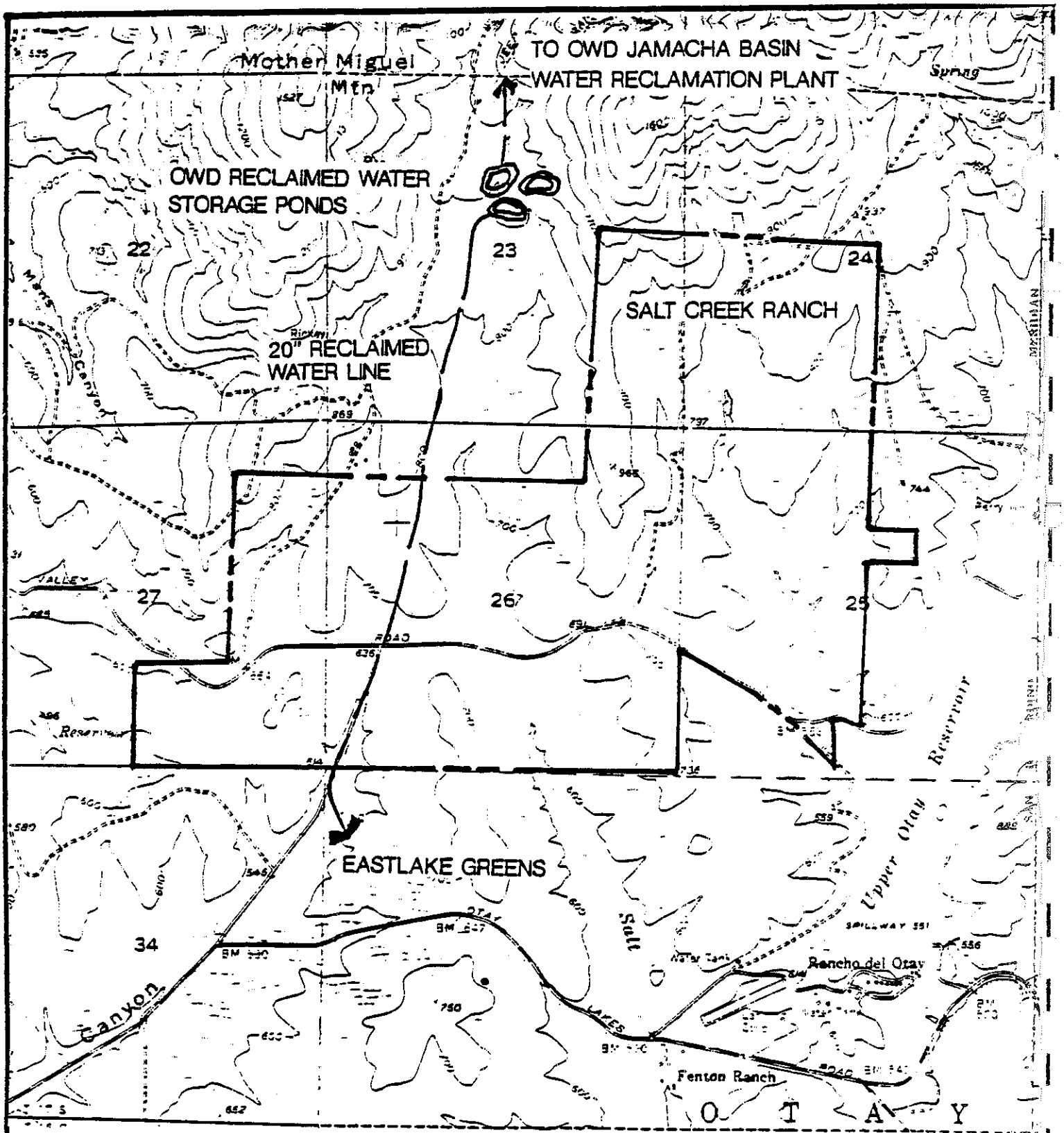
6.0 RECLAIMED WATER

Existing Setting

Beneficial use of reclaimed water occurs only on a limited basis in San Diego County. These uses are generally limited to pilot plants or localized reuse within a self-contained community that is served by a small wastewater reclamation plant. In general, reclamation plants are built when no sewage outfall is available and reclaimed water use is driven by the need to dispose of the treated effluent rather than as a substitute for potable water.

In the late 1970's Otay Water District constructed the Jamacha Basin Reclamation Plant on the north bank of the Sweetwater River just downstream from Highway 94 (Campo Road). This plant, located 3.5 miles north of Salt Creek Ranch, can currently produce 1.0 million gallons per day (mgd) of reclaimed water. OWD has design studies underway to increase production capability to 1.3 mgd. For a number of years the plant could not operate at capacity because no beneficial use of the reclaimed water could be found. Later, the plant was operated at full capacity as beneficial uses were found but a majority of the reclaimed water was deposed via the Spring Valley Outfall to the San Diego Metropolitan Sewer System (METRO) for disposal. At that time, holding ponds were constructed at the headwaters of Salt Creek.

OWD has signed agreements with Eastlake Development and is currently providing reclaimed water for construction purposes during grading of the Eastlake Greens residential development and golf course. To supply this water a 20-inch pipeline was installed from the holding ponds south via Lane Avenue to Eastlake Greens (see Figure 6-1). OWD and



EXISTING RECLAIMED WATER FACILITIES

GRAVES ENGINEERING		FIG. 6-

Eastlake are negotiating an agreement for OWD to supply 100% of its reclaimed water to irrigate the Eastlake Green golf course. OWD to date has been reluctant to commit 100% of its capacity to the golf course. OWD seeks to reserve a portion to encourage other developments to consider reclaimed water as a viable alternative to potable water. OWD historically has had difficulty developing a demand for reclaimed water in new developments. Neither the City of Chula Vista nor the County of San Diego, for example, require the use of reclaimed water or the installation of a parallel reclaimed water system. Since demand for reclaimed water is not currently predictable, OWD is challenged with developing additional capacity for an uncertain market. OWC actively encourages use of reclaimed water on Salt Creek Ranch (OWD, 1989).

Use of reclaimed water is controlled by the State Department of Health and the Regional Water Quality Control Board. Use of reclaimed water is generally done conservatively and is typically limited to areas where the general public does not have access to the irrigation facilities such as golf courses, parks and roadside landscaping. Irrigation of residential landscaping has generally not been done. Use of reclaimed water has also generally not been practiced upstream of potable water storage reservoirs. A proposal to conduct such a use could trigger the requirement the need for tertiary treatment (i.e. the most advanced level of treatment). OWD currently only provides secondary treatment at the Jamacha Plant.

Impacts

No impact analysis for reclaimed water was conducted since the use of reclaimed water at Salt Creek Ranch has not been decided. In general, the use of reclaimed water is

considered to be beneficial if it replaces the use of potable water. The proposed parks and roadside landscaping of major thoroughfares would be ideal candidates. The supply and transmission facilities are already in place and a 20-inch pipeline crosses the property. If the diversion channel recommended in Section 7.0, Hydrology is constructed, reclaimed water could be used in the Otay Lake and Otay Lake Tributary drainage basins as well as the other basins; otherwise use would be confined to the westerly 60% of the property.

Mitigation Measures

The City of Chula Vista should condition approval of the General Development Plan as follows:

1. The use of reclaimed water is strongly encouraged and the project proponent shall make every attempt to develop such use.

2. The project proponent shall, if feasible, negotiate an agreement with OWD to commit to use of reclaimed water at the earliest possible date so that OWD can ensure that an adequate supply is available.

3. The use of reclaimed water shall be subject to site-specific environmental analysis.

4. The use of reclaimed water shall conform to the applicable regulations of the City of Chula Vista, Regional Water Quality Control Board and the State Department of Health.

7.0 HYDROLOGY

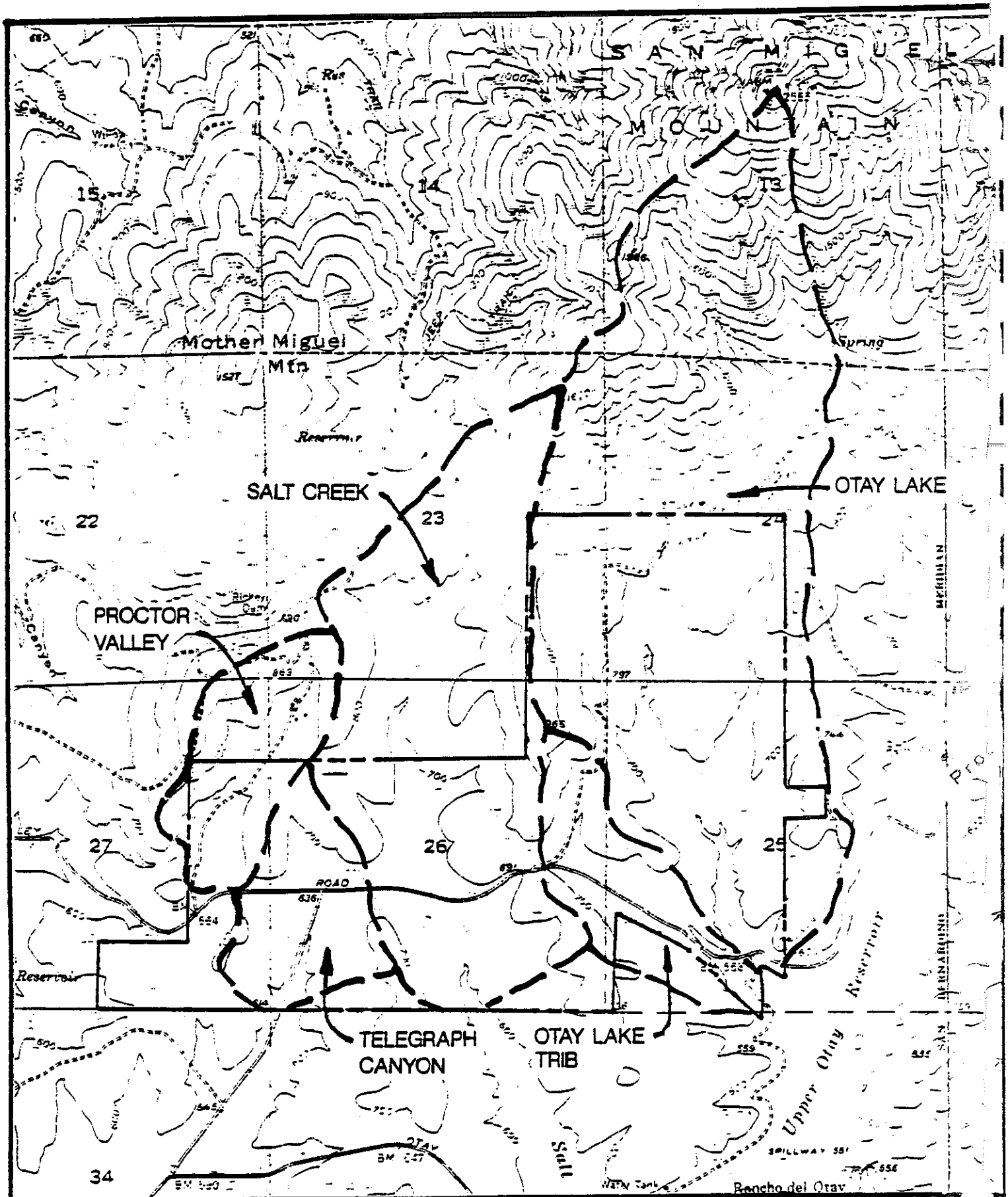
Existing Setting

Salt Creek Ranch is located in the southern foothills of San Miguel Mountain. The site is characterized by gentle rolling hillsides and valley areas. As shown on Figure 7.1, the property is drained via five drainage basins: Otay Lake, Otay Lake Tributary, Salt Creek, Telegraph Canyon and Proctor Valley. (Note: These basins have been named consistent with the sewer basins discussed in Section 4.0).

The drainage basins have similar characteristics with well-defined drainage courses and vegetation ranging from coastal sage scrub in the north to Southern California grassland in the south. The majority of the grasslands have been cultivated and are currently lying fallow.

The property has no improved drainage facilities except for drainage crossing of Proctor Valley Road.

The Otay Lake and Otay Lake Tributary basins both drain to Upper Otay Reservoir. The Proctor Valley drainage basin drains to a natural drainage course which flows westerly for nearly three miles before reaching urban development. The Telegraph Canyon drainage basin within the property is the headwaters for Telegraph Canyon. The outlet point of the property's Telegraph Canyon drainage basin as shown on Figure 7.1 is at the inlet of an existing 72-inch storm drain constructed under the Eastlake Business Centre. This storm drain continues southerly and outlets south of Otay Lakes Road where a series of open channels and underground conduits convey the stormwater parallel to Otay Lakes Road.



GRAVES ENGINEERING

DRAINAGE BASINS

Fi
7-1

Impacts

Implementation of the project will result in the grading of nearly 77% of the property. The developed portion will be regraded to provide homesites, roadways and parks. Impervious surfaces such as roads, buildings, driveways will be constructed. Underground drainage facilities will be constructed to collect and convey the stormwater, although the Proctor Valley, Salt Creek and Otay Lake drainage courses are proposed to be left as natural stream elements. The result of this development will be to change the natural drainage characteristics and rate of stormwater runoff. To assess the impact of this change, the peak flow of a 100-year storm even was calculated in accordance with the County of San Diego guidelines. The results are summarized as follows:

TABLE 7-1

100-Year Peak Flow Rate in CFS (% Change)

Basin	Acre	Natural	Salt Creek Ranch	Ultimate Development
Proctor Valley	168	240	270 (+13%)	290 (+21%)
Telegraph Canyon	147	180	295 (+64%)	295 (+64%)
Salt Creek	585	660	705 (+7%)	730 (+11%)
Otay Lake Tributary	156	200	255 (+28%)	260 (+30%)
Otay Lake	1030	1170	1200 (+3%)	1230 (+5%)

The increases are typical for urban level development and the differences in "percent change" reflect the difference in the portion of the basin to be developed from 31% of the Otay Lakes basin to 100% of the Telegraph Canyon basin as well as the differing intensities of development from low (0

to 3 dwelling units per acre) in the Otay Lakes basin to medium (5 to 15 dwelling units per acre) in Telegraph Canyon.

The only existing drainage facilities, except for the Eastlake Business Centre, are located in Otay Lakes Road which will be realigned and reconstructed as part of Salt Creek Ranch. The capacity of the Eastlake Business Centre storm drain was designed to accommodate the increase flow rates due to development of Salt Creek Ranch. The increase in runoff from the Otay Lake and Otay Lake Tributary basins will not hydrologically impact Upper Otay Reservoir (see Section 8.0 for analysis of Water Quality impacts). Therefore, the proposed Salt Creek Ranch will have no hydrologic impact on downstream properties.

Onsite it is anticipated that design of storm drain facilities will conform to City of Chula Vista design guidelines for sizing and energy dissipation at drain outlets. It is also anticipated that proposals for enhancement of the natural drainage courses will take into account both the peak flow rates and flow velocities; although no specific proposals are available for review at this time.

Mitigations

To ensure that there are no hydrologic impacts, the project proponent and the City of Chula Vista shall implement the following measures:

1. Upon preparation of detailed development plans, a registered civil engineer shall conduct a hydrologic and hydraulic analysis of the project. This analysis shall be conducted in accordance with City of Chula Vista

guidelines and shall include but not be limited to: sizing of onsite drainage facilities; design of energy dissipators at drain outlets; verification that downstream drainage facilities including natural channels can accommodate the increase flow rate; verification of the adequacy of the Eastlake Business Centre storm drain; and evaluation of enhancements of natural drainage courses.

2. Drainage facilities and energy dissipators shall be constructed in accordance with the approved hydraulic analysis and shall be in place and functioning prior to completion of the grading operation.

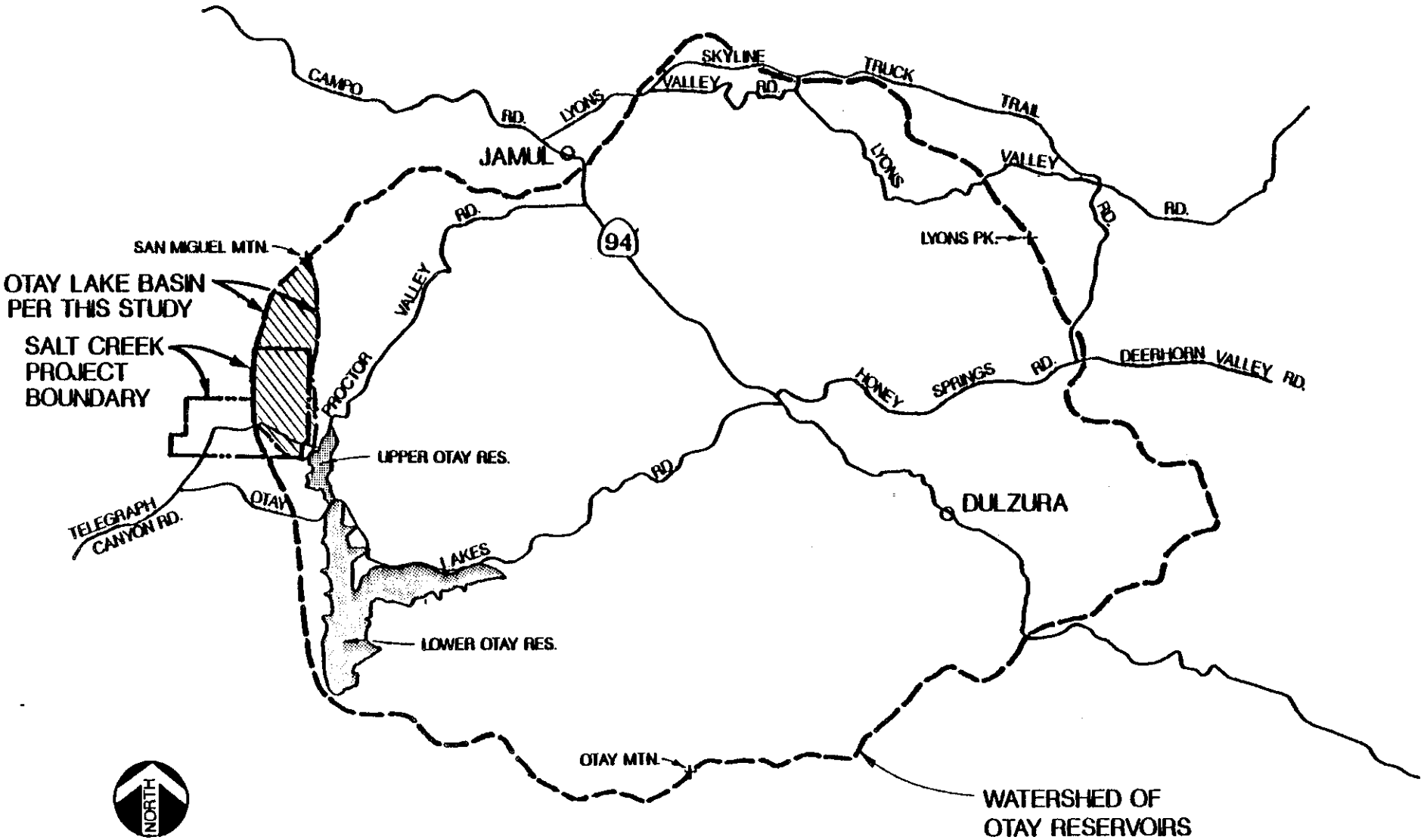
8.0 WATER QUALITY

The issue of water quality is limited to potential impacts on the adjacent Upper and Lower Otay Reservoirs. As indicated on Figure 7-1, only the Otay Lake and Otay Lake Tributary basins drain to the reservoirs. The Salt Creek and Telegraph Canyon basins drain to the Eastlake Development. The Proctor Valley basin drains to a natural watercourse which continues northwesterly and eventually intercepts urban development.

Existing Setting

The Upper and Lower Otay Reservoirs are owned and operated by the City of San Diego. The reservoirs supply 95% of the potable water for the southern part of the City of San Diego as well as a small portion for the cities of Imperial Beach and Coronado. The reservoirs are fed solely by stormwater runoff and are the terminus point of a three reservoir system. The reservoirs are hydraulically connected to Morena and Barrett Reservoirs, both of which are located in separate watersheds, by a series of open and closed flumes and natural streambed whereby water is passed as quickly as possible to the Otay Reservoirs. The last leg of the conveyance is the natural streambed of Dulzura Creek. The City currently filtrates water from the reservoir at a 15 million gallon per day (mgd) plant located immediately downstream of the Lower Otay Reservoir Dam. The City is expanding the plant capacity to 40 mgd with completion set for January 1990.

The Lower Otay Reservoir has a capacity of 56,600 acre-feet (enough water to serve 100,000 homes for one year). The Upper Otay Reservoir was originally designed to hold 2800 acre-feet; however, in the late 1970s the State Division of



GRAVES ENGINEERING
8963 COMPLEX DR. STE. A
SAN DIEGO, CA. 92123 (619) 565 9512

WATERSHED OF OTAY RESERVOIRS

Fig.
8-1

Dam Safety concluded that the dam could not withstand an overtopping and ordered the dam to be notched to reduce its effective height and capacity. The reservoir's capacity is now 810 acre-feet; however, at that time the outlet value was damaged and left in the open position. The dam retains only a minimal amount of water, the so called low pool, and water continuously drains to Lower Otay Reservoir.

Hydraulically, the Upper Otay Reservoir only functions as a conduit to Lower Otay Reservoir; however, the State Department of Fish and Game (F&G) uses the "low pool" water as a hatchery for pure-strain Florida bass. This use is on-going and is covered in the F&G regulations (Code No. 6.25 of Chapter 3, Article 1). The bass are shipped to several states as well as Mexico.

The protection of potable water reservoirs is under the jurisdiction of the State Department of Health Services (DHS). As early as 1976 DHS recognized the potential impacts of urbanization of watersheds of reservoirs in the County of San Diego. In 1976 DHS sent a letter (DHS, 1976) to the County of San Diego, which had land development jurisdiction over most of the watershed areas at the time, expressing their concern about the potential water quality impacts of urbanization. They were specifically concerned that "... dry weather surface flow created by lawn watering, car washing, etc., will begin to continuously reach the reservoirs delivering an almost constant load of nutrients, pesticides, petroleum products and other contaminants...". In addition, they noted that "the close proximity of developments to reservoirs is of concern as any failure in the sewage collection system could easily result in raw sewage flowing directly into the water supply." The DHS recommended a regulatory approach to this issue; that is, set up specific guidelines to be applied to each development

to prevent dry weather surface flow or raw sewage from reaching a reservoir. In contrast, an operational approach could also be employed; that is, set up a monitoring program to determine if reservoir water quality exceeds "drinking water standards" and if it does, provide appropriate water treatment levels. The City of San Diego has relied on the regulatory approach and has installed a diversion ditch around its Lake Murray reservoir; has a ditch under construction at its Miramar reservoir; and is planning a ditch around the Lake Hodges reservoir. The purpose of a diversion ditch is to intercept all dry weather flow and runoff resulting from up to a five year frequency storm event and divert the flow around the reservoir. This design criteria is based on the conventional wisdom that the initial smaller storms of the rainy season will "wash" the urban-landscape of "contaminants" and the runoff from the subsequent storms, small or large, will be relatively "clean".

The water quality of Lower Otay Reservoir is relatively high as indicated in Table 8-1.

TABLE 8-1

Secondary Water Quality Standards
(Consumer Acceptance Levels)

Constituent	Maximum Contaminant Levels	Lower Otay Reservoir (City, 1989A)
Color	15 units	31 (inlet, 3 @ outlet)
Copper	1.0 mg/l	0.006
Corrosivity	low	(not reported)
Iron	0.3 mg/l	0.015
Manganese	0.05 mg/l	0.081
Odor-threshold	3 units	4 (inlet, 1 @ outlet)
Foaming Agents (MBAS)	0.5 mg/l	0.29
Turbidity	5 units	1.82
Zinc	5.0 mg/l	0.015

TABLE 8-1
(cont'd)

(Mineralization)

	Recommended	Upper	Short Term	Lower Otay (City,1989A)
Total Dissolved Solids (TDS)	500 mg/l	1000	1500	413
Chloride	250	500	600	89
Sulfate	250	500	600	(not reported)

There are reports (City, 1989C) that consideration is being given to restoring the Upper Otay Reservoir to its full capacity for use by Otay Water District as an emergency water storage facility (see Section 5.0).

In addition to water quality impacts associated with urbanization of the watershed, potential impacts are also associated with increase levels of erosion and sedimentation. Land development involves grading of the natural landform into flat pads and cut/fill slopes. These graded areas, if not protected through improvement or landscaping, are subject to erosion and would result in transport of sediment to natural drainage courses and ultimately to the Otay Reservoirs. In addition, land development typically results in an increase and concentration of stormwater runoff (see Section 7.0). If corrective measures are not implemented, erosion of downstream drainage courses could occur again resulting in transport of sediment. Sedimentation of the Otay Reservoirs is a natural and on-going process; however, uncontrolled erosion could accelerate this process to an unacceptable degree.

Impacts

The current general development plan for Salt Creek Ranch proposes development of over 400 acres in the Otay Reservoirs' watershed. Implementation of this plan will result in construction of over 1000 homes, a community park and an equestrian center. In addition, public sewer lines and two sewage pump stations will be installed (see Section 4.0). The development would be located immediately adjacent to the Upper Otay Reservoirs' high water level and over 2000 feet from the existing "low pool" level.

Although DHS has not yet reviewed the Salt Creek Ranch General Development Plan, DHS has indicated that based on a verbal description of the project there is a 90% chance they would require the diversion ditch (DHS, 1989).

To serve solely the Salt Creek Ranch project such a ditch would need a capacity of 410 cubic feet per second (cfs) (peak flow rate during a 5-year storm based on ultimate development of the Otay Lake and Otay Lake Tributary drainage basins (Figure 7-1)). There are two potential alignments of the diversion ditch. Facilities for either alignment would likely involve both open channels and underground conduits.

The first alignment would begin at the outlet point of the Otay Lake basin and then proceed south following the western shore of Upper Otay Reservoir. At approximately the southwesterly corner of the reservoir, the ditch would veer westerly, cross a saddle and outlet into Salt Creek. This alternative, the shorter of the two alignments, involves diverting runoff from one basin (Otay Lake) to another (Salt Creek). This diversion would have to be resolved on a legal and environmental basis (i.e., agreements with downstream

property owners plus mitigations through affected public agencies.)

The second alignment would extend the ditch southerly along the westerly shore of Lower Otay Reservoir and outlet into Otay River. A ditch in this alignment could also serve the northeasterly portion of Eastlake Development, the proposed Olympic Training Center and applicable portions of the future Otay Ranch development south of Proctor Valley Road.

The other aspect of the water quality issue (erosion and sedimentation) can be satisfied by project conformance to existing City of Chula Vista design standards for sediment control during grading operations including construction and maintenance of temporary sediment basins, and design of storm drain facilities and outlet structures.

Mitigations

The project shall be subject to review and approval by the State Department of Health Services. The project shall implement mitigation measures as set by DHS. If a diversion ditch is required, additional environmental analysis will be required based on the specific alignment of the ditch. Design of a diversion ditch shall also consider providing additional capacity for concurrent or future development.

If any portion of the project is graded during the rainy season, the project proponent shall submit a erosion control plan prepared by a registered civil engineer in accordance with City of Chula Vista design standards. The plan shall include placement of sandbags, temporary sediment basins, and an erosion control maintenance plan.

The project proponent shall submit a storm drain plan prepared by a registered civil engineer in accordance with City of Chula Vista design standards. The plan shall include permanent erosion control facilities

9.0 REFERENCES

Chula Vista 1989A — Personal Conversation with Steve Thomas, City of Chula Vista, July 14, 1989

City, 1989A — City of San Diego - Water Production, Complete Chemical Analysis Monthly Report, May 1989.

City, 1989B — Personal conversation with Bill Brennan, Water Quality Supervisor, City of San Diego Water Utilities Department, July 7, 1989.

City, 1989C — Personal conversation with Jim Brown, Associate Civil Engineer, City of San Diego Water Utilities Department, July 10, 1989.

County, 1985 — Hydrology Manual, Flood Control Division, Department of Public Works, County of San Diego, Revised January 1985.

DHS, 1976 — Correspondence from State Department of Health Services - Water Engineering Section to Mr. Michael Needan, County of San Diego - Environmental Analysis Division, dated March 10, 1976

DHS, 1989 — Personal conversation with Lennie Merrin, State of California, Department of Health Services, July 13, 1989.

Estrada, 1989 — Salt Creek Ranch, General Development Plan, Estrada Land Planning, undated.

OWD, 1987 — Central Area Water Master Plan Update, Otay Water District, January 1989.

OWD, 1989A — Final Otay Water District Report on Allocation of Water Requests Based on Water Availability, April 19, 1989.

OWD, 1989B — Personal conversation with Jim Peasley, Otay Water District, July 14, 1989.

RWQCB, 1970 — Comprehensive Water Quality Control Plan for the San Diego Basin, Abstract, State Water Resources Control Board, California Water Quality Control Board San Diego Region, July 1975.

State, 1978 — Erosion and Sediment Control Handbook, Department of Conservation, Resources Agency, State of California, May 1978.

Wilson, 1989A — Overview of Sewer Service for the Salt Creek Ranch Project, Wilson Engineering, April 1989.

Wilson, 1989B — Overview of Water Services for the Salt Creek Ranch Project, Wilson Engineering, April 1989.

APPENDIX D

BIOLOGICAL DATA

RECON Regional Environmental Consultants
1276 Morena Boulevard, San Diego, CA 92110-3815 (619) 275-3732

January 27, 1988 REC. 1-28

Ms. Claudia Troisi
The Baldwin Company
3188 East Carmel Valley Road
San Diego, CA 92130

Reference: Survey of Biological Resources on the Baldwin Property (RECON Number R-1757)

Dear Ms. Troisi:

The 1,200 acres located in southwest San Diego County (Figure 1) in the vicinity of Proctor Valley Road and Otay Lakes Road (Figure 2) were surveyed for biological resources on December 16, 1987 and January 14, 1988, with a special emphasis on searching for rare, threatened, or endangered plant and wildlife species.

Existing Resources

Vegetation

Two vegetation types occurred on the property (Figure 3): Diegan coastal sage scrub and southern California grassland. The Diegan coastal sage scrub, covering about 450 acres, existed in varying degrees of disturbance caused by fire and grazing. The least disturbed coastal sage scrub existed at the far northwest corner, and along the ridge west of the farm pond. The slopes along the northern boundary and in the northeast corner have been burned but shrubs are resprouting, and along the eastern boundary, the coastal sage scrub appears to have been heavily grazed. At the far western end of the property, the coastal sage scrub is relatively undisturbed. The dominant plant species in the coastal sage scrub were coastal sagebrush (*Artemisia californica*), San Diego sunflower (*Viguiera laciniata*), and flat-top buckwheat (*Eriogonum fasciculatum*). One large stand of valley cholla (*Opuntia parryi* var. *parryi*) was present on the east-facing slope of the drainage along the east boundary of the property.

Southern California grassland covered the remainder (approximately 750 acres) of the site. The grassland is composed of an assortment of native and non-native grass species, with few shrubs but many wildflowers expected to show in the spring. Grass species included needlegrass (*Stipa* sp.), soft chess (*Bromus mollis*) and ripgutgrass (*B. diandrus*). Many other grass species are expected to be present, though they were not identifiable at the time of the survey.

The coastal sage scrub on the site primarily grows on sandy or cobbly loam soils. The southern California grassland grows on clay soils of the Linne and Diablo series.

Plant species that were observed during the survey of the site are listed in Table 1. Many more species are expected to be present on the site, though they were not observable during the season of the survey.

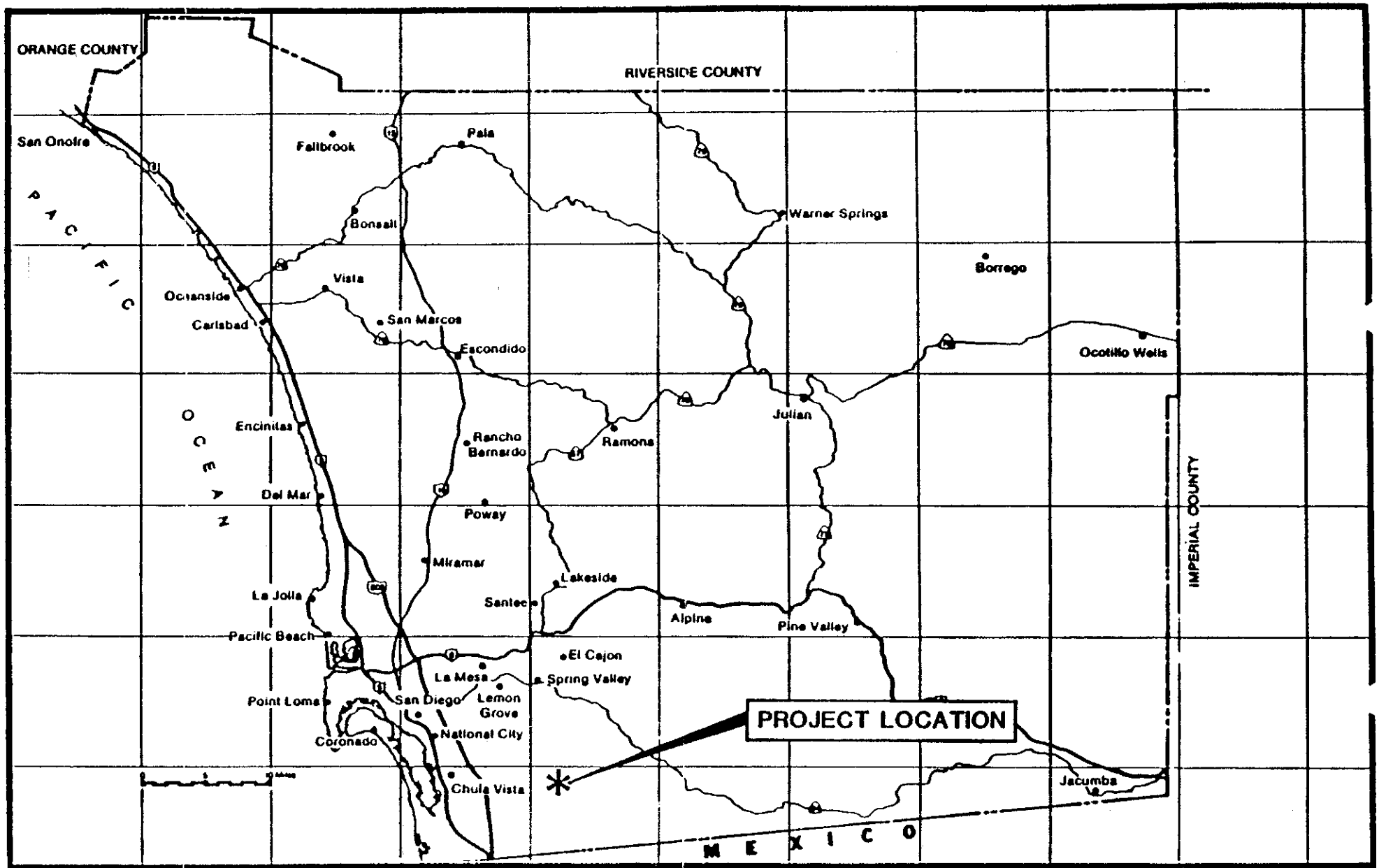


FIGURE 1. THE LOCATION OF THE PROPOSED PROJECT RELATIVE TO THE COUNTY OF SAN DIEGO.

TABLE 1
VASCULAR PLANT LIST

Scientific Name	Common Name	Habitat	Status
Ambrosia psilostachya var. *californica* (Rydb.) Blake	Western ragweed	O/CS/CMC/C	N
Anagallis arvensis L.	Scarlet pimpernel	O/G	I
Artemisia californica Less.	Coastal sagebrush	CS	N
Astragalus trichopodus ssp. *leucopsis* (T. & G.) Thorne	Coast locoweed	CD/CS	N
Avena fatua L.	Wild oats	G/CS/CMC	I
Baccharis glutinosa Pers.	Mule fat	RW/M/CS/CMC	N
Baccharis sarothroides Gray	Chaparral broom	CS	N
Brassica nigra (L.) Koch.	Black mustard	O/G/C	I
Brassica rapa ssp. *sylvestris* (L.) Janchen	Field mustard	O/U	I
Brickellia californica (T. & G.) Gray	California brickellia	CS/C	N
Bromus diandrus Roth.	Ripgut grass	O/G/CS/CMC	I
Bromus mollis L.	Smooth brome	O/G/CS	I
Calystegia macrostegia ssp. *arida* (Greene) Brum	Chaparral morning glory	CS/CMC	N
Capsella bursa-pastoris	Shepard's purse	O	I
Cardionema ramosissimum (Weinm.) Nelson & Macbr.	Tread lightly	CD/CS/G	N
Castilleja affinis H. & A. var. *affinis*	Indian paint brush	CS/CMC/FW	N
Chlorogalum parviflorum S. Wats.	Amole	CS	N
Claytonia perfoliata Donn. var. *perfoliata*	Miner's lettuce	C/M	N
Conyza canadensis (L.) Crong.	Horseweed	U	N
Corethrogyne filaginifolia var. *incana* (Benth.) Gray	Sand aster	CD/CS/CMC	N
Crassula erecta (H. & A.) Berger.	Dwarf stone-crop	O/CS/CMC	N
Cryptantha (Gray) Greene sp.	Forget-me-not	CS/C	N
Cynodon dactylon (L.) Pers.	Bermudagrass	O/M	I
Dichelostemma pulchella (Salisb.) Heller	Wild hyacinth	CS/CMC/G/FW	N
Distichlis spicata (L.) Greene var. *spicata*	Saltgrass	CD/SM	N
Dodecatheon clevelandii Greene ssp. *clevelandii*	Blazing stars	CS/CMC/O	N
Dudleya pulverulenta (Nutt.) Britt. & Rose	Chalk lettuce	CS/CMC	N
Eriogonum fasciculatum Benth. ssp. *fasciculatum*	Flat-top buckwheat	CS	N
Erodium cicutarium (L.) L. Her.	White-stemmed filaree	O/U/G	I
Eucalyptus spp.	Eucalyptus	O	I
Euphorbia polycarpa var. *polycarpa* Benth.	Fairy mats	CS/CMC	N

TABLE 1
VASCULAR PLANT LIST
(continued)

Scientific Name	Common Name	Habitat	Status
Ferocactus viridescens (Nutt.) Britt. & Rose	Coast barrel cactus	CS/G	1-3-1
Foeniculum vulgare Mill.	Sweet fennel	O/G	I
Galium angustifolium Nutt.	Narrow-leaf bedstraw	CS/CMC/U/C	N
Galium aparine L.	Bedstraw	CS/CMC/U/C	I
Gnaphalium bicolor Bioletti	Two-colored everlasting	CS/CMC	N
Gutierrezia bracteata Abrams	Matchweed	CMC/G	N
Haplopappus venetus (HBK) Blake (Greene) Hall	Isocoma	CS	N
Helianthus annuus ssp. *lenticularis* (Dougl.) Ckll.	Common sunflower	O	N
Isomeris arborea Nutt.	Bladderpod	CS/CD	N
Iva hayesiana Gray	San Diego marsh-elder	M/RW/FM	2-2-1
Jepsonia parryi (Torr.) Small	Mesa saxifrage	CS/CMC	N
Lathyrus laetiflorus Greene ssp. *alefeldii* (White) Brads.	Wild sweet pea	CS/CMC	N
Lotus scoparius (Nutt. in T. & G.) Ottley	Deerweed	CD/CS/CMC/O	N
Malacothamnus fasciculatus (Nutt.) Greene var. *fasciculatus*	Bush mallow	CS/CMC	N
Marah macrocarpus (Greene) Greene	Wild cucumber	CS/CMC/FW	N
Marrubium vulgare L.	Horehound	O/G/C	I
Mimulus guttatus ssp. *guttatus* Fishc. ex DC	Stream monkey-flower	M/RW/C	N
Mimulus puniceus (Nutt.) Steud.	Red bush monkey-flower	CS/CMC	N
Mirabilis californica Gray	Wishbone bush	CS/CMC/FW	N
Nicotiana glauca Grah.	Tree tobacco	O/M	I
Notholaena newberryi	Cotton fern	CS/CMC	N
Opuntia littoralis var. *littoralis* (Engelm.) Ckll.	Shore cactus	CS	N
Opuntia parryi var. *parryi* Engelm.	Valley cholla	CS/CMC	N
Oxalis albicans ssp. *californica* (Abrams) Eiten.	California oxalis	CS/CMC	N
Pityrogramma triangularis (Kaulf.) Maxon var. *viscosa* (D.C. Eat.) Weath.	Silverback fern	CS/CMC	N
Raphanus sativus L.	Wild radish	O/G/CS/CMC/U	I
Rhus integrifolia Nutt.	Lemonadeberry	CS/CMC	N
Rhus laurina Nutt. in T. & G.	Laurel sumac	CS/CMC/C	
Rumex crispus L.	Curly dock	M/RW/CS/CMC/O	I

TABLE 1
VASCULAR PLANT LIST
(continued)

Scientific Name	Common Name	Habitat	Status
Salsola iberica Sennen & Pau.	Russian thistle	O/U	I
Salvia mellifera Greene	Black sage	CS/CMC	N
Salvia munzii	Munz's sage	CS	N
Schinus molle L.	Peruvian pepper tree	M/RW/O	I
Scirpus olneyi Gray	Olney bulrush	FM/RW/SM	N
Scrophularia californica var. *floribunda* Greene	California bee-plant	CS/CMC/M/C	N
Selaginella bigelovii Benth.	Bigelow clubmoss	CS/CMC/C	N
Selaginella cinerascens A. A. Eat.	Pygmy spikemoss	CS/CMC	I
Sidalcea malvaeflora ssp. *sparcifolia* C.L. Hitchc.	Wild hollyhock	O	N
Sisyrinchium bellum Wats.	Blue-eyed grass	G/CS/CMC/FW	N
Solanum nodiflorum Jacq.	Nightshade	O/M/G/C	I
Stephanomeria virgata Benth.	Stephanomeria or mule weed	CD/CS/CMC/C	N
Stipa Hitchc. spp.	Foothill needlegrass	CS/CMC	N
Tamarix sp.	Tamarisk	M	I
Thalictrum polycarpum	Meadow-rue	CMC/FW	N
Typha angustifolia L.	Lesser cattail	FM	N
Viguiera laciniata Gray	San Diego sunflower	CS/CMC	N
Viola pedunculata T. & G.	Yellow pansy-violet	G/CS/C	N
Xanthium strumarium var. *canadense* (Mill.) T. & G.	Cocklebur	M/O/U	N
Yucca whipplei Torr. ssp. *whipplei*	Our Lord's candle	CS/CMC	N

TABLE 1
VASCULAR PLANT LIST
(continued)

HABITATS

CD = Coastal strand, coastal dunes
CS = Coastal sage scrub, inland sage scrub
CMC = Coastal mixed chaparral, mixed chaparral, chamise chaparral
G = Grasslands, pasturelands, etc.
FM = Freshwater marsh
FW = Foothill woodland
ISS = Inland sage scrub
M = Mesic areas and wetlands
O = Open places, waste places, roadsides, burns, etc.
RW = Riparian woodlands
SM = Saltwater marsh
VP = Vernal pools
YPF = Yellow pine forest

OTHER TERMS

C = Cismontane
U = Ubiquitous/cosmopolitan
N = Native to locality
I = Introduced species from outside locality
1-2-3 = Rare species CNPS code

Wildlife

Wildlife species that were observed on the site are listed in Table 2. Large mammals, such as deer, bobcats and mountain lions, as well as the small mammals observed, would be expected to use the site. The large expanses of native vegetation and grasslands on and adjacent to the property provide habitat and the acreage needed for the large territories used by the cats.

The large areas of grasslands supporting many small mammals also provide foraging for the many raptor species that were observed or expected to use the site.

Resource Conservation Areas

Resource Conservation Areas (RCAs) are designated by the County of San Diego as overlays in the Land Use Element of the County's General Plan used to identify lands requiring special attention in order to conserve resources in a manner best satisfying public and private objectives. Two RCAs are in the vicinity of the proposed alignment: San Miguel-Jamul Mountains and Mother Miguel Mountain (County of San Diego, 1983). The San Miguel-Jamul Mountains RCA includes the steep northwestern corner of the property. The boundary of the RCA is shown on Figure 4. The San Miguel-Jamul Mountains RCA is important because the mountains support large numbers of rare and endangered plants. The adjacent Mother Miguel Mountain RCA is golden eagle habitat and also contains significant stands of coast barrel cactus.

Sensitive Plant Communities

Diegan coastal sage scrub. Diegan coastal sage scrub, one of four sage scrub communities currently existing in southern California, is considered sensitive by the California Natural Diversity Data Base (Holland, 1986), a program within the Non-Game Heritage Section of the California Department of Fish and Game. One estimate is that as little as 10 to 15 percent of the prehistoric acreage of this plant community in California currently remains (Westman, 1987). Once widespread on the coastal plains and shallow slopes of southern California, the principal factors in the depletion of sage scrub communities are agriculture and urbanization.

Sensitive Plant Species

Five sensitive plant species were observed on the site and many more are known to occur in the vicinity. Those observed, and those that could be present in habitats on the site, are listed in Table 3 with the codes explained in Table 4.

The San Diego sunflower, coast barrel cactus (*Ferocactus viridescens*), and mesa clubmoss (*Selaginella cinerascens*) occur throughout the coastal sage scrub on the property. One Munz's sage (*Salvia munzii*) was observed in coastal sage scrub on the ridge west of the farm pond. San Diego marsh elder (*Iva hayesiana*) was present in most of the drainages on the site.

Certain herabceous species, including San Diego thornmint (*Acanthomintha ilicifolia*), Otay tarweed (*Hemizonia conjugens*) and the Orcutt's brodiaea (*Brodiaea orcuttii*) were not observable during December-January when the surveys were conducted. These sensitive species are considered to have a potential for occurrence on the

TABLE 2
WILDLIFE OBSERVED

Common Name	Scientific Name
Birds	
Turkey vulture	*Cathartes aura*
Northern harrier	*Circus cyaneus hudsonius*
Red-tailed hawk	*Buteo jamaicensis*
American kestrel	*Falco sparverius*
Prairie falcon	*Falco mexicanus*
Mallard	*Anas platyrhynchos platyrhynchos*
California quail	*Callipepla californica californica*
American coot	*Fulica americana americana*
Killdeer	*Charadrius vociferus vociferus*
Mourning dove	*Zenaida macroura marginella*
Greater roadrunner	*Geococcyx californianus*
Anna's hummingbird	*Archilochus anna*
Common flicker	*Colaptes auratus*
Say's phoebe	*Sayornis saya*
Cassin's kingbird	*Tyrannus vociferans vociferans*
Violet-green swallow	*Tachycineta thalassina lepida*
Common raven	*Corvus corax clarionensis*
Rock wren	*Salpinctes obsoletus obsoletus*
Bewick's wren	*Thyromanes bewickii*
California gnatcatcher	*Polioptila (melanura) californica*
House finch	*Carpodacus mexicanus frontalis*
Yellow-rumped warbler	*Dendroica coronata*
Brown towhee	*Pipilo fuscus senicula*
Rufous-crowned sparrow	*Aimophila ruficeps lambi*
Song sparrow	*Zonotrichia melodia*
White-crowned sparrow	*Zonotrichia leucophrys*
Western meadowlark	*Sturnella neglecta*
Red-winged blackbird	*Agelaius phoeniceus*
Mammals	
Rabbit	*Sylvilagus* sp.
Blacktail jackrabbit	*Lepus californicus*
Coyote	*Canis latrans*
California ground squirrel	*Spermophilus beecheyi*
Valley pocket gopher	*Thomomys bottae*
Reptiles	
Western fence lizard	*Sceloporus occidentalis*

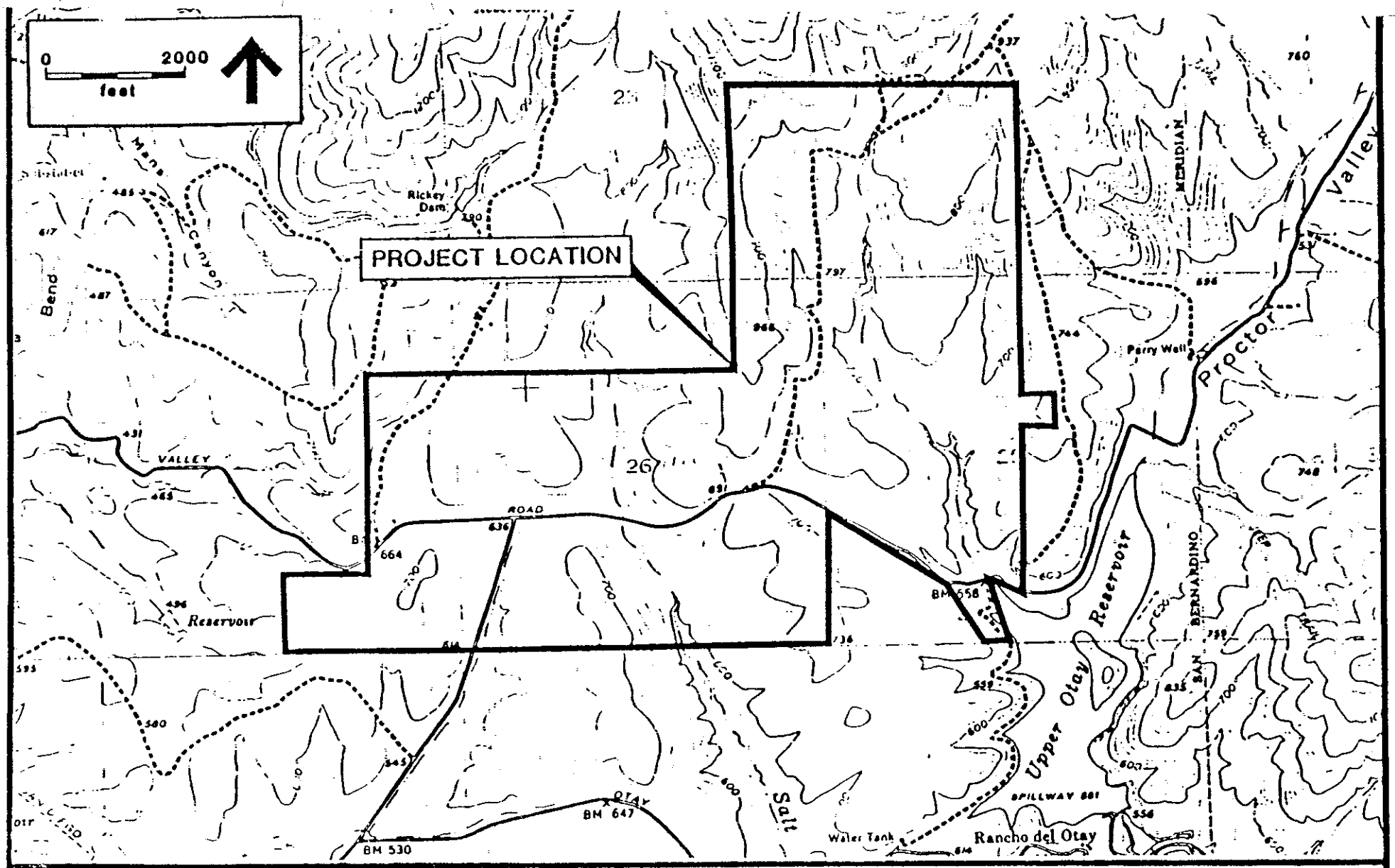


FIGURE 2. PROJECT LOCATION ON U.S.G.S. 7.5 MINUTE TOPOGRAPHIC MAP, JAMUL MOUNTAINS QUADRANGLE

RECON

R-1757 1/88

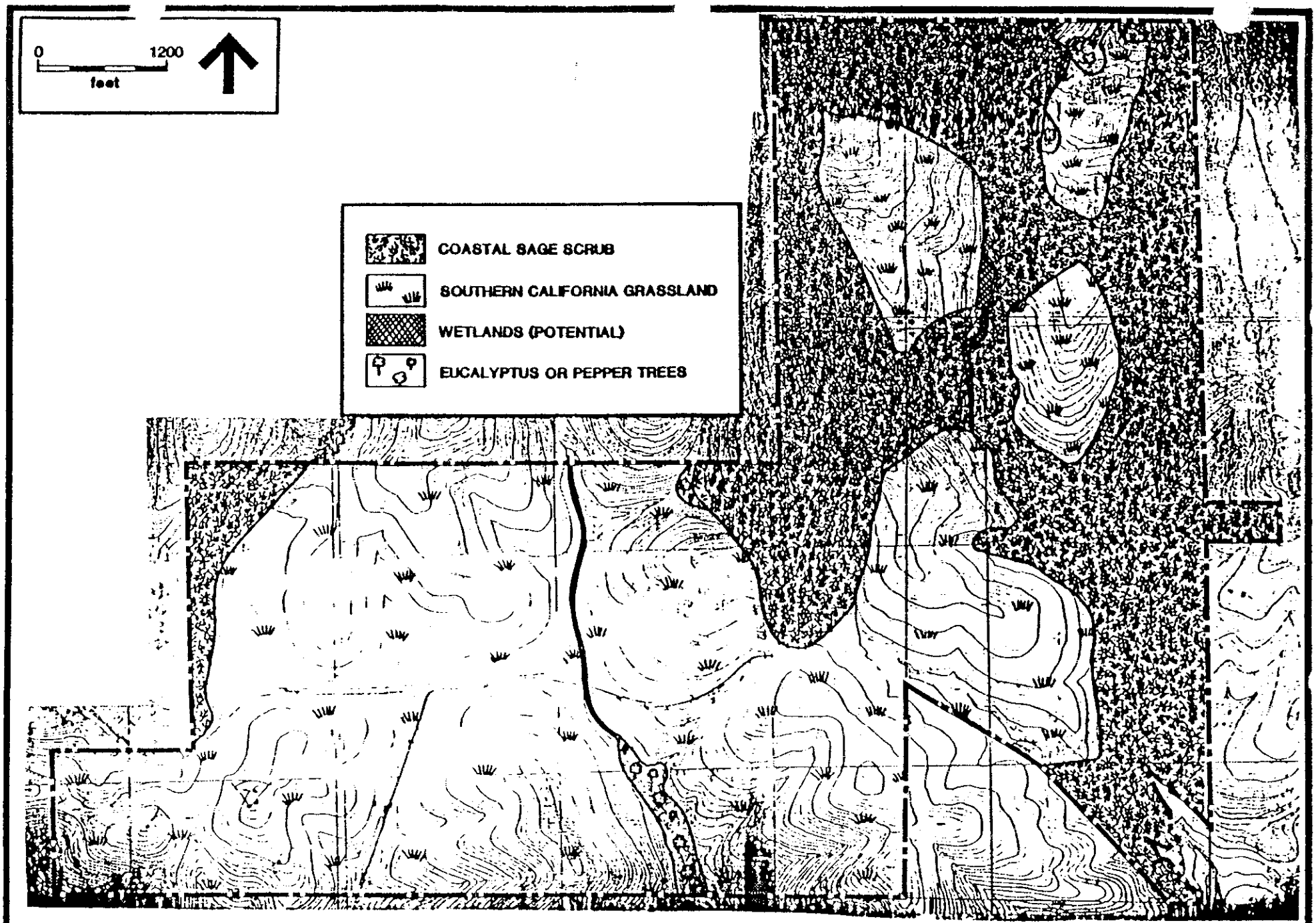


FIGURE 3. VEGETATION MAP

property based on knowledge of their distribution and habitat on nearby areas (see recommendations below).

Sensitive Wildlife Species

One sensitive bird species was observed in several locations on the site. The California black-tailed gnatcatcher is a candidate for listing on the federal Endangered Species List and is a California Department of Fish and Game Species of Special Concern. Everett (1979) considers the bird declining in San Diego County, and Remsen (1979) lists it as declining throughout California. The range of the California black-tailed gnatcatcher covers the coastal plains of southern California and the most northern part of Baja California. Coastal sage scrub dominated by coastal sagebrush is the habitat most commonly used by the gnatcatcher. A pair of gnatcatchers may use a territory of from five to twenty acres depending on the quality of the habitat.

Other sensitive wildlife species that were observed on the site or would be expected to use the site are listed in Table 5. Several of these are raptors, including the golden eagle, for which the Mother Miguel Mountain RCA was designated. Several raptor species, including two sensitive raptor species, were observed hunting and catching prey on the property. All raptors, not only those listed in Table 5, are protected in the State of California.

The cactus wren could use the cholla thicket that is present on the east side of the property. They are known to inhabit the coastal lowlands in cactus thickets in coastal sage scrub.

Potential Significant Impacts

Elimination of coastal sage scrub from the project site would be a significant adverse effect. The coastal sage scrub supports many sensitive plant species and the federal candidate bird, the California black-tailed gnatcatcher. The gnatcatcher was observed at several locations on the site, but all the coastal sage scrub offers potential habitat for the bird.

Elimination of the known sensitive plant populations located on site would also constitute a significant adverse impact. Potential impacts to the sensitive plant species not observed due to seasonal factors, if present, would also be significant.

Recommendations

Preservation of coastal sage scrub in natural open space would decrease adverse impacts resulting from development of the property. Areas that are recommended for open space are shown in Figure 4. Two designations are used. The larger area designates concentrations of biological resources including a large portion of the coastal sage scrub, most of the sensitive plant populations observed, and most of the areas where California black-tailed gnatcatchers were observed. The smaller area approximates a minimum natural open space design which could be considered to adequately mitigate biological impacts. The open space design for the project should incorporate as much of the resource concentration area as possible, and at least include the northwest corner that is within the County's RCA, the slopes of the ridge west of the farm pond, and the slopes along the east side of the drainage along the east boundary of the property.

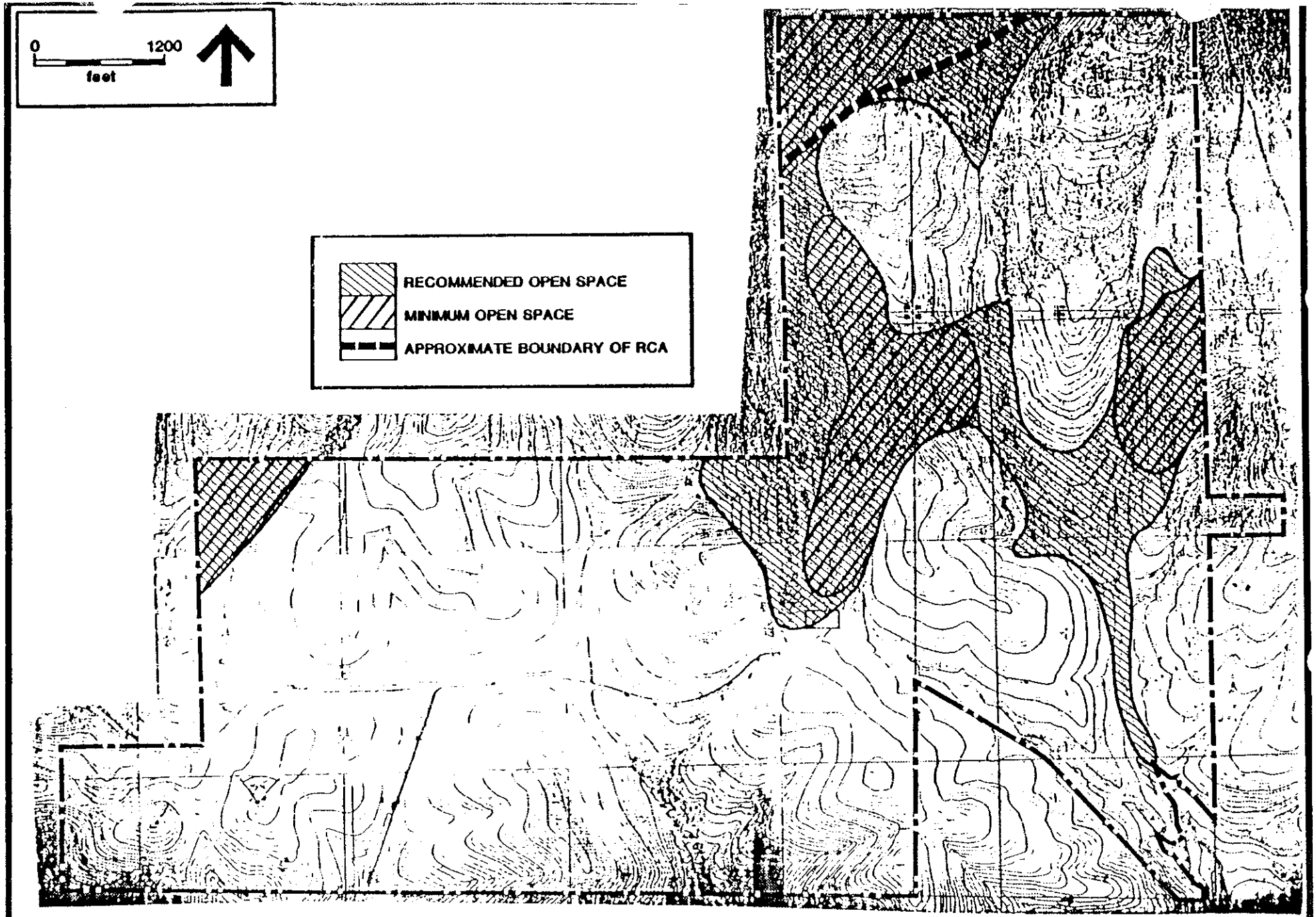


FIGURE 4. OPEN SPACE RECOMMENDATIONS

RECON

TABLE 3
SENSITIVE PLANT SPECIES OBSERVED(*) OR KNOWN TO OCCUR IN THE VICINITY

Species	CNPS Code	State/Federal Code	Habitat Type
Acanthomintha ilicifolia	3-3-2	CE/C2	Clay soils of mesas and valleys
Hemizonia conjugens	3-3-2	CE/C2	Clay slopes and mesas
Brodiaea orcuttii	1-3-2	--/C2	Grasslands and near vernal streams and pools
Dudleya variegata	1-2-2	--/C2	Dry stony places, southwest S.D. County
Opuntia parryi var. *serpentina*	2-3-2	--/C2	Sandy places and dry slopes
Adolphia californica	1-2-1	--/--	Dry slopes
Ambrosia chenopodiifolia	2-2-1	--/--	Mesas and open slopes of southwest S.D. County
Artemisia palmeri	1-1-1	--/--	Low places
Ericameria palmeri	2-2-1	--/--	Dry valleys and plains
*Ferocactus viridescens**	1-3-1	--/--	Dry slopes, western S.D. County
*Iva hayesiana**	2-2-1	--/--	Moist or alkaline places
*Salvia munzii**	2-2-1	--/--	Foothills of south S.D. County
*Selaginella cinerascens**	1-2-1	--/--	Bare slopes and mesas
Stipa diegoensis	3-1-1	--/--	Along vernal streams and on clay slopes
*Viguiera laciniata**	1-2-1	--/--	Open slopes

NOTE: See Table 4 for explanation of codes.

TABLE 5
SENSITIVE WILDLIFE SPECIES OBSERVED*
OR EXPECTED TO OCCUR ON THE SUBJECT PROPERTY

Common Name	Scientific Name	Status[1]	Habitat[2]
Turkey vulture*	*Cathartes aura*	S	all
Southern bald eagle	*Haliaeetus leucocephalus*	CE, FE	G
Golden eagle	*Aquila chrysaetos*	CP	all
Northern harrier*	*Circus cyaneus*	S	all
Black-shouldered kite	*Elanus caerulea*	CP	RW
American peregrine falcon	*Falco peregrinus anatum*	CE,CP,FE	all
Cactus wren	*Campylorhynchus brunneicapillus*	S	CSS
California black-tailed gnatcatcher*	*Polioptila melanura californica*	F2	CSS
Grasshopper sparrow	*Ammodramus savannarum perpallidus*	S	G
Coast horned lizard	*Phrynosoma coronatum blainvillei*	F2	CSS
Orange-throated whiptail	*Cnemidophorus hyperythrus beldingi*	F2	CSS

[1] S - sensitive
CP - protected in California
FE - Federally endangered
F2 - Category 2 of the federal list of proposed species
CE - California endangered
CT - California threatened
F1 - Category 1 of the federal list of proposed species

[2] CSS - coastal sage scrub
G - grassland

These three areas should be connected to the maximum extent possible by continuous natural open space slopes between them. The steep hillside in the northwest corner west of Salt Creek should also be preserved in open space.

Transplantation of some of the impacted sensitive species, and revegetation of some manufactured slopes and drainages within the development are additional mitigation measures which would be required according to current City CEQA review and California Department of Fish and Game 1603 review procedures. The drainages should be maintained as natural open space wherever feasible, and should be planned for belts of natural riparian trees such as sycamores and willows in anticipation of the increased dry season runoff expected to occur after development.

It is anticipated that less than one acre of streambed qualifying as "wetlands" under current U.S. Army Corps of Engineers criteria would be affected by the project, thus avoiding consideration of the development under the requirement of Section 404 of the Clean Water Act.

We do recommend you authorize us to make a directed search for *Hemizonia conjugans* and *Acanthomintha ilicifolia* during the month of June. The belated discovery of these two species on the El Rancho Del Rey property resulted in delays and an additional (supplemental) EIR being required by the City of Chula Vista. We believe your interests would be best served by knowing in advance if this additional constraint exists, rather than leaving a potential for surprise delays.

We look forward to working with you in developing your open space design for the project. If you have any questions, please call.

Sincerely,

Bobbie A. Steele
Biologist

Cameron Patterson
Certified Ecologist

BAS:CCP:st

Attachment C

CALIFORNIA NATIVE PLANT SOCIETY LISTING AND SENSITIVITY CODE AND FEDERAL CANDIDATE SPECIES DESIGNATIONS

California Native Plant Society (1984)

List 1 = Plants of highest priority

1A = Plants presumed extinct in California

1B = Plants rare and endangered in California and elsewhere

List 2 = Plants rare and endangered in California, but common elsewhere

List 3 = Plants about which we need more information

List 4 = Plants of limited distribution (A watch list)

CNPS R-E-D Code

R (Rarity)

1 = Rare, but found in sufficient numbers and distributed widely enough that the potential for extinction or extirpation is low at this time.

2 = Occurrence confined to several populations or to one extended population.

3 = Occurrence limited to one or a few highly restricted populations, or present in such numbers that it is seldom reported.

E (Endangerment)

1 = Not endangered

2 = Endangered in a portion of its range

3 = Endangered throughout its range

D (Distribution)

1 = More or less widespread outside California

2 = Rare outside California

3 = Endemic to California

FEDERAL CANDIDATE SPECIES DESIGNATIONS*

C1 = Enough data are on file to support the federal listing

C1 = Enough data are on file to support federal listing, but the plant is presumed extinct.

C2 = Threat and/or distribution data are insufficient to support federal listing.

C2 = Threat and/or distribution data are insufficient to support federal listing; plant presumed extinct.

C3a = Extinct

C3b = Taxonomically invalid

C3c = Too widespread and/or not threatened

---

*Source: Smith and York (1984)

1) CNPS R-E-D CODE

R (Rarity)

1- Rare, but found in sufficient numbers and distributed widely enough that the potential for extinction or extirpation is low at this time.

2- Occurrence confined to several populations or to one extended population.

3- Occurrence limited to one or a few highly restricted populations, or present in such small numbers that it is seldom reported.

E (Endangerment)

1- Not endangered

2- Endangered in a portion of its range

3- Endangered throughout its range

D (Distribution)

1- More or less widespread outside California

2- Rare outside California

3- Endemic to California

2) STATE LISTED PLANTS

CE= State listed, endangered

CR= State listed, rare

3) FEDERAL CANDIDATES AND FEDERALLY LISTED PLANTS

FE= Federally listed, endangered

FT= Federally listed, threatened

C1= Enough data are on file to support the federal listing

C1*= Enough data are on file to support federal listing, but the plant is presumed extinct

C2= Threat and/or distribution data are insufficient to support federal listing

C2*= Threat and/or distribution data are insufficient to support federal listing; plant presumed extinct

C3a= Extinct

C3b= Taxonomically invalid

C3c= Too widespread and/or not threatened

4) MISCELLANEOUS ABBREVIATIONS

B. L. M.	Bureau of Land Management
ined.	inedita, not yet published
S. R.	Status report, a CNPS summary on that plant
U. S. F. W. S.	United States Fish and Wildlife Service
+	In this state and others
++	Widespread outside California
*	Extinct or extirpated

Source: Smith and York 1984.

TABLE 4. CNPS RATING CODES

References Cited

Everett, William T.
1979 Threatened, Declining and Sensitive Bird Species in San Diego County. *Sketches* 29(10):2-3.

Holland, Robert F.
1986 Preliminary Descriptions of the Terrestrial Natural Communities of California. Nongame-Heritage Program, California Department of Fish and Game. October.

Remsen, Jan
1979 Species of Special Concern: California's Imperiled Birds. *Western Tanager* 45(8):1-8.

San Diego, County of
1983 Conservation Element. *County of San Diego General Plan.*

Smith, J. P., and R. York, eds.
1984 *Inventory of Rare and Endangered Vascular Plants of California* California Native Plant Society Special Publication No. 1, 3rd edition. September.

Westman, Walter E.
1987 Implications of Ecological Theory for Rare Plant Conservation in Coastal Sage Scrub. In *Conservation and Management of Rare and Endangered Plants: Proceedings from a Conference of the California Native Plant Society*, edited by T. S. Elias, pp. 133-140. Sacramento.

APPENDIX E

TRAFFIC REPORT

TRAFFIC STUDY

FOR

SALT CREEK RANCH

CITY OF CHULA VISTA, CALIFORNIA

Prepared by:
Basmaciyan-Darnell, Inc.
964 Fifth Avenue
San Diego, CA 92101

September 1989
(Revised January 22, 1990)

TABLE OF CONTENTS

LIST OF APPENDICES

LIST OF FIGURES

LIST OF FIGURES

LIST OF TABLES

INTRODUCTION

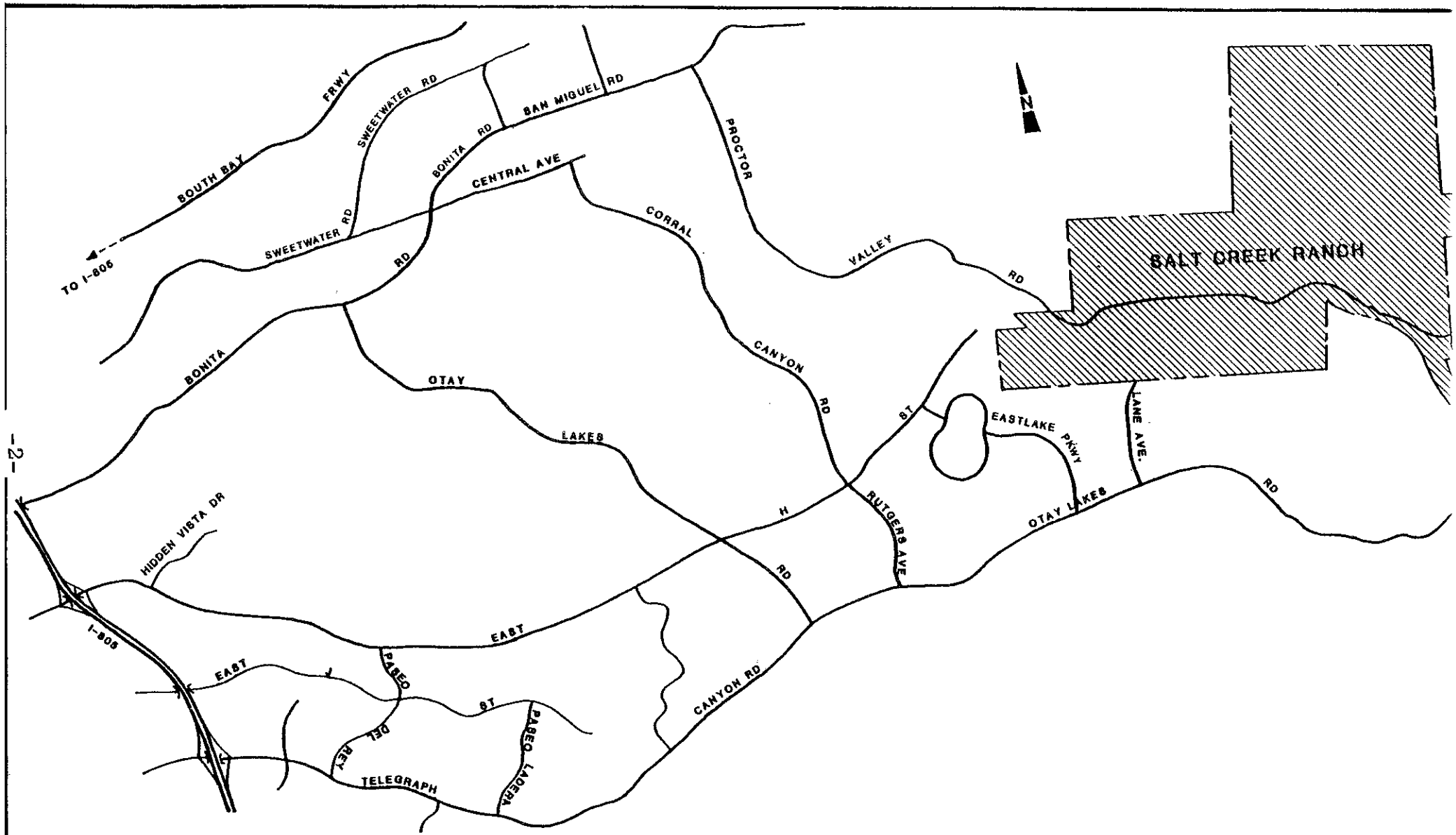
The Salt Creek Ranch, which is located in the northern portion of the 37 square mile "Eastern Territories" (as defined by the City of Chula Vista, consists of approximately 1,200 acres. The project location is depicted on Figure 1. Although the project site lies within the County of San Diego, all but 240 acres of the project's northeastern corner lie within the City of Chula Vista's sphere of influence. The EastLake Technology Park is located south of the proposed project and San Miguel Mountain lies to the north.

The Baldwin Company is seeking approval of a General Development Plan (GDP) and Sectional Planning Area (SPA) with Planned Community (P-C) zoning which will allow 3,644 dwelling units (DU) to be built on the 1,200 acre site. As shown on Figure 2, these dwelling units fall into three land use categories according to the City of Chula Vista's proposed General Plan: R-L (Residential-Low, 0 - 3 DU/acre), R-LM (Residential-Low Medium, 3 - 6 DU/acre), and R-M (Residential-Medium, 6 - 11 DU/acre). The proposed number of dwelling units within the Salt Creek Ranch project is in conformance with the proposed Chula Vista General Plan.

Basmaciyan-Darnell, Inc. (BDI) has been retained by the City of Chula Vista to analyze the transportation related impacts which may result from the implementation of the Salt Creek Ranch project. This analysis includes a description of the existing roadway conditions, an estimate of the number of trips to be generated by the project, and distribution and assignment of these trips on the surrounding street system. Long term cumulative impacts on the street system surrounding the project were analyzed by using the City of Chula Vista's Land Use Scenario 4 travel forecasts prepared by SANDAG in 1988-89 for the General Plan update.

EXISTING CONDITIONS

The study area analyzed in this report includes the key streets and intersections in the vicinity of the proposed Salt Creek Ranch project. In the following sections, the characteristics of the roadway system are described and the existing traffic conditions are evaluated.

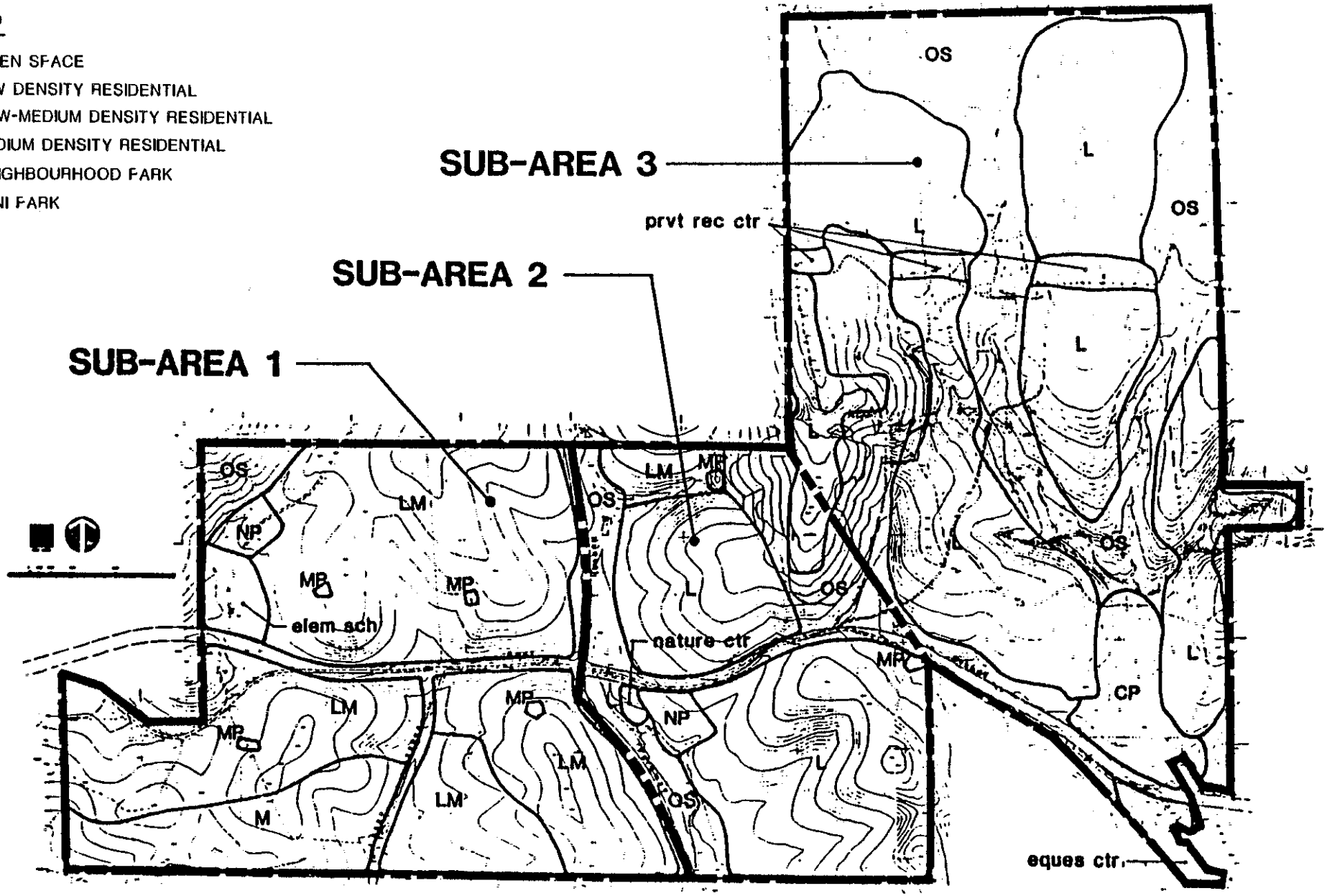


-2-

BDI
BASMACIYAN-DARNELL, INC.

VICINITY MAP

FIGURE 1



BASMACIYAN-DARNELL, INC.

FIGURE 2

SALT CREEK RANCH PROJECT BOUNDERIES

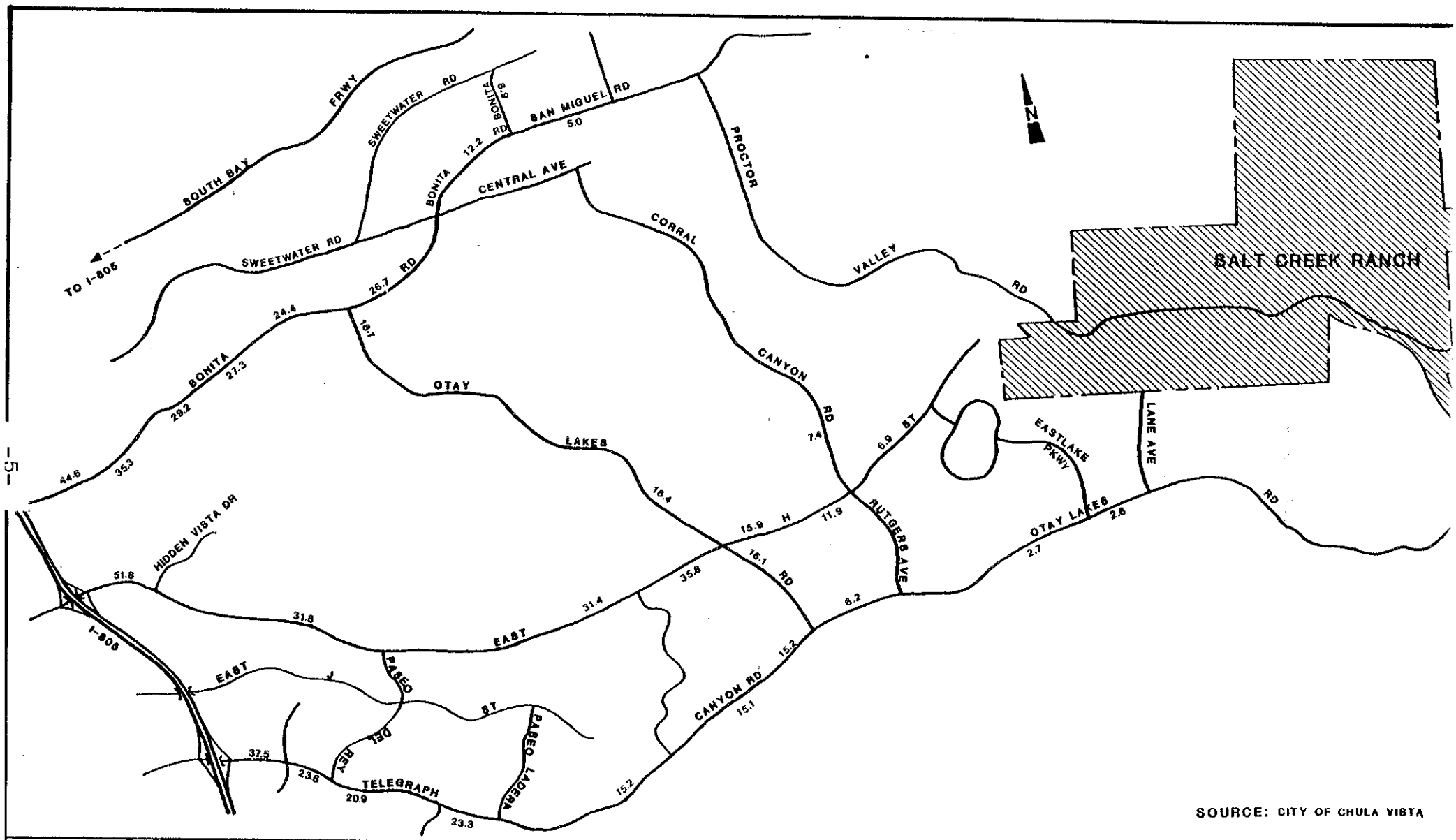
Existing Roadway Characteristics

Figure 3 illustrates the study area and includes the most recent traffic count information available for the streets in the vicinity of the project. The traffic count data shown on this figure were compiled from information provided by the City of Chula Vista and the County of San Diego. The following paragraphs describe some of the salient features of the roadways in the vicinity of the project.

East H Street is planned as a six lane primary arterial (six lanes, divided) and is currently constructed to ultimate standards east of Interstate 805 (I-805) to Otay Lakes Road. East H Street is currently carrying about 51,800 vehicles per day (vpd) east of I-805 and 35,800 vpd west of Otay Lakes Road.

East of Otay Lakes Road, East H Street is designated as a four lane major road and is currently constructed to ultimate standards across the EastLake Hills and Shores development to a point just west of the Salt Creek Ranch project. According to the City of Chula Vista's latest traffic counts, East H Street carries about 15,900 vpd just east of Otay Lakes Road, about 11,900 vpd west of Corral Canyon Road, and 6,900 vpd east of Corral Canyon Road.

Telegraph Canyon Road is an east/west facility connecting I-805 with Otay Lakes Road. Telegraph Canyon Road terminates at its intersection with Otay Lakes Road where Otay Lakes Road turns and changes its general direction to become an east/west facility. In the future, the east/west portion of Otay Lakes Road (east of the terminus of Telegraph Canyon Road) will be renamed Telegraph Canyon Road. Currently, this facility is constructed with six travel lanes (divided) between I-805 and Paseo del Rey, five travel lanes (three lanes eastbound, two lanes westbound) between Paseo del Rey and Medical Center Drive, four travel lanes (divided) between Medical Center Drive and Paseo Ladera, transitioning to two travel lanes from Paseo Ladera to just east of Otay Lakes Road. Just east of Otay Lakes Road, the EastLake Development Company is constructing this facility to four travel lanes (divided) within a six lane prime arterial graded width through their property. The existing two lane segments between Paseo Ladera and Otay Lakes Road will be reconstructed to ultimate prime arterial standards by future Assessment Districts. According to the City's most recent traffic counts, Telegraph Canyon Road is carrying about 37,500 vpd just east of I-805 decreasing to 15,200 vpd just west of Otay Lakes Road. East of the Telegraph Canyon Road/Otay Lakes Road intersection this roadway carries about 6,200 vpd decreasing to 2,600 vpd just east of Lane Avenue.



SOURCE: CITY OF CHULA VISTA

BASMACIYAN-DARNELL, INC.

FIGURE 3

EXISTING DAILY TRAFFIC VOLUMES IN THE PROJECT VICINITY (IN THOUSANDS)

Otay Lakes Road is a north/south facility varying in width between two and four travel lanes from Bonita Road to Telegraph Canyon Road. At this time, Otay Lakes Road is under construction between East H Street and Bonita Road to complete four lane improvements along the north/south portion of this roadway. Ultimate plans designate Otay Lakes Road as a six lane major road between Bonita Road and Telegraph Canyon Road. The most recent traffic count data indicates that Otay Lakes Road is carrying about 18,700 vpd just south of Bonita Road, 16,400 vpd just north of East H Street, and 16,100 vpd just south of East H Street.

Corral Canyon Road is a north/south roadway with two lanes (one travel lane in each direction) with a center two-way left turn lane. The City of Chula Vista has classified this roadway as a Class I Collector (four lanes, undivided) from East H Street north to Central Avenue. According to the City's most recent traffic count data, Corral Canyon Road is carrying about 7,400 vpd just north of East H Street.

Central Avenue is an east/west two lane roadway with its easterly terminus at Country Trails Lane. Central Avenue is designated as a Class I Collector between Bonita Road and Corral Canyon Road. This facility is constructed to ultimate width from just east of Bonita Road to Frisbie Road; however, it is striped for one wide travel lane in each direction with a center two-way left turn lane. From east of Frisbie Road to Corral Canyon Road, Central Avenue consists of one travel lane in each direction. There are traffic signals at the Central Avenue intersections with Bonita Road and Corral Canyon Road.

Bonita Road is designated as a four lane major road just east of I-805 and is constructed to ultimate standards from I-805 to just east of Otay Lakes Road. At its intersection with Otay Lakes Road, Bonita Road transitions into one travel lane in each direction (but is widened at its intersection with Central Avenue), and turns in a northerly direction before it terminates at Sweetwater Road. The City's most recent traffic count information indicates that Bonita Road carries about 44,600 vpd just east of I-805, decreasing to 24,300 vpd just west of Otay Lakes Road. East of Otay Lakes Road, Bonita Road is carrying about 26,700 vpd.

Proctor Valley Road exists today as a two lane partially paved/graded dirt road in a north/south alignment just south of San Miguel Road, where it then follows an east/west alignment across the southern portion of the Salt Creek Ranch property

connecting with Campo Road/SR 94 in Jamul. This roadway basically serves scattered agricultural uses and carries very low traffic volumes. Currently, there are no traffic count data available for this roadway. In the future, the east/west portion of Proctor Valley Road will serve as the extension of East H Street across the Salt Creek Ranch property as a four lane major road.

Portions of Proctor Valley Road to the north and west of Salt Creek Ranch will serve as part of the future State Route 125 freeway alignment.

Evaluation of Existing Daily Traffic Volumes

Table 1 is a comparison of the daily traffic volumes shown on Figure 3 and the City's recommended maximum volume for the roadways (per functional classification). The City of Chula Vista's maximum level of service C capacities were obtained from the City of Chula Vista Draft General Plan (page 2-18) and are included in Appendix A of this report.

From Table 1, it is evident that most street segments operate within the City of Chula Vista's Recommended level of service C volumes. However, a number of rural two lane roadways carry double or triple the maximum recommended level of service C volumes.

Telegraph Canyon Road between Paseo Ladera and Otay Lakes Road carries double the City of Chula Vista's maximum LOS C recommended volumes for a two lane roadway. However, the City is in the process of improving these sections to four and six lanes which would provide additional capacity.

Otay Lakes Road east of Telegraph Canyon Road through the East-Lake project is also currently under construction to four and six travel lanes. This improvement will provide additional capacity.

Bonita Road between Randy Lane and I-805 carries daily traffic volumes which exceed the City's maximum LOS C recommended volumes for a four lane major roadway. This roadway between Otay Lakes Road and Central Avenue carries over triple the City's maximum LOS C recommended daily traffic volumes for a two lane roadway. These segments are also within the County of San Diego's jurisdiction.

Evaluation of Peak Hour Conditions at Key Intersections

In accordance with discussions with City staff, the following signalized and unsignalized intersections were identified for analysis:

TABLE 1

EXISTING STREET SEGMENT OPERATIONS
IN THE PROJECT VICINITY

STREET SEGMENT	CLASSIFICATION (a)	DAILY VOLUME	REC. MAX. VOLUME (b)	V/C
Telegraph Canyon Road:				
I-805 to Crest Dr.	6 M	37,500	40,000	0.94
Crest Dr. to Paseo del Rey	4 M	23,600	30,000	0.79
Paseo del Rey to Medical Cntr. Dr.	4 M	20,900	30,000	0.70
Medical Cntr. Dr to Paseo Ladera	4 M	23,300	30,000	0.78
Paseo Ladera to Buena Vista Way	2 CIII*	15,200	7,500	2.03
Buena Vista Way to Otay Lakes Rd.	2 CIII*	15,100	7,500	2.01
Otay Lakes Road:				
East of Lane Ave.	2 CIII*	2,600	7,500	0.35
Lane Ave. to EastLake Pkwy.	2 CIII*	2,600	7,500	0.35
EastLake Pkwy. to Rutgers Ave.	2 CIII*	2,700	7,500	0.36
Rutgers Ave. to Telegraph Cyn. Rd.	2 CIII*	6,200	7,500	0.83

(a) * = Roadway under construction
# = denotes number of lanes
P = Prime arterial
M = Major street
CI = Class I Collector
CII = Class II Collector
CIII = Class III Collector

(b) Level of Service C recommended volume from City of Chula Vista Draft Circulation Element (See Appendix A).

TABLE 1 -- CONTINUED

STREET SEGMENT	CLASSIFICATION (a)	DAILY VOLUME	REC. MAX. VOLUME (b)	V/C
Telegraph Cyn. Rd. to East H St.	4 M	16,100	30,000	0.54
East H St. to Camino Del Cerro Grande	4 C	16,400	22,000	0.75
Camino Del Cerro Grande to Bonita Rd.	4 M	18,700	30,000	0.62
East H Street:				
I-805 to Hidden Vista Dr.	6 P	51,800	50,000	1.04
Hidden Vista Dr. to Paseo del Rey	6 P	31,800	50,000	0.64
Paseo del Rey to Buena Vista Wy.	6 P	32,600	50,000	0.65
Buena Vista Wy. to Otay Lakes Rd.	6 P	35,800	50,000	0.72
Otay Lakes Rd. to Auburn Ave.	4 M	15,900	30,000	0.53
Auburn Ave. to Corral Cyn. Rd.	4 M	11,900	30,000	0.40
Corral Cyn. Rd. to EastLake Dr.	4 M	6,900	30,000	0.23

(a) * = Roadway under construction
# = denotes number of lanes
P = Prime arterial
M = Major street
CI = Class I Collector
CII = Class II Collector
CIII = Class III Collector

(b) Level of Service C recommended volume from City of Chula Vista Draft Circulation Element (See Appendix A).

TABLE 1 -- CONTINUED

STREET SEGMENT	CLASSIFICATION (a)	DAILY VOLUME	REC. MAX. VOLUME (b)	V/C
Corral Canyon Road:				
East H St. to Blacksmith Rd.	2 CII	7,400	12,000	0.62
Bonita Road:				
I-805 to Plaza Bonita Rd.	4 M	44,600	30,000	1.49
Plaza Bonita Rd. to Randy Ln.	4 M	35,300	30,000	1.18
Randy Ln. to Willow St.	4 M	29,200	30,000	0.97
Willow St. to Allen School Rd.	4 M	27,300	30,000	0.91
Allen School Rd. to Otay Lakes Rd.	4 M	24,400	30,000	0.81
Otay Lakes Rd. to Central Ave.	2 CIII	26,700	7,500	3.56
Central Ave. to San Miguel Rd.	2 CIII	12,200	7,500	1.63
San Miguel Rd. to Sweetwater Rd.	2 CIII	8,900	7,500	1.19
San Miguel Road:				
Bonita Rd. to Proctor Valley Rd.	2 CIII	5,000	7,500	0.67

N.A. = Not available

(a) * = Roadway under construction
# = denotes number of lanes
P = Prime arterial
M = Major street
CI = Class I Collector
CII = Class II Collector
CIII = Class III Collector

(b) Level of Service C recommended volume from City of Chula Vista Draft Circulation Element (See Appendix A).

Bonita Road/Otay Lakes Road
Bonita Road/Central Avenue
Central Avenue/Corral Canyon Road
East H Street/Corral Canyon Road
East H Street/Otay Lakes Road
Telegraph Canyon Road/Otay Lakes Road
Otay Lakes Road/Rutgers Avenue
San Miguel Road/Proctor Valley Road
East H Street/Auburn Avenue

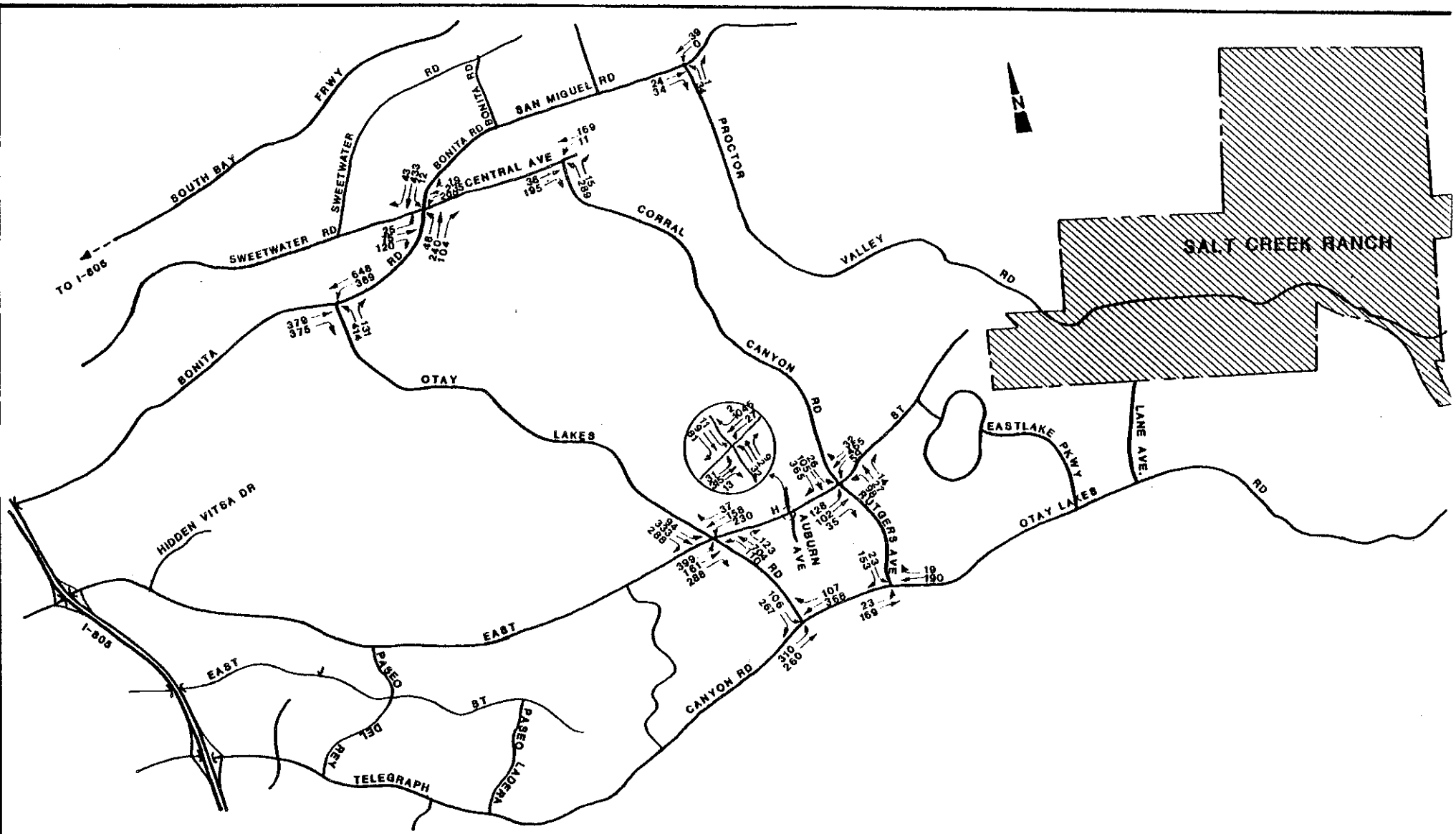
The existing conditions at these intersections were analyzed during the commuter peak hour periods (morning and afternoon) using the peak hour turning movement counts taken by BDI and counts furnished by the City. The count summaries are included in Appendix B. Figures 4 and 5 illustrate the existing morning and afternoon peak hour turning movements, respectively, and Figure 6 illustrates the lane configurations at the intersections used to analyze the existing conditions.

Table 2 summarizes the analyses of the peak hour levels of service for the intersections listed above. As shown in Table 2, all of the signalized intersections operate at fully acceptable levels of service (LOS C or better). The analysis worksheets along with a description of conditions and ICU value ranges for the various levels of service are included in Appendix C. The following paragraphs describe the types of analyses performed to evaluate the peak hour performances of the intersections.

The five signalized intersections were analyzed using the Intersection Capacity Utilization (ICU) methodology specified by the City of Chula Vista. Hourly lane capacities of 1,500 and 1,700 (for turn lanes and through lanes, respectively), and 0.10 as the minimum V/C value for through or left turn movements were used.

The four unsignalized intersections were analyzed using the NCAP Intersection Capacity Analysis program for unsignalized intersections. The NCAP program is based on Transportation Research Board procedures (described in the Highway Capacity Manual).

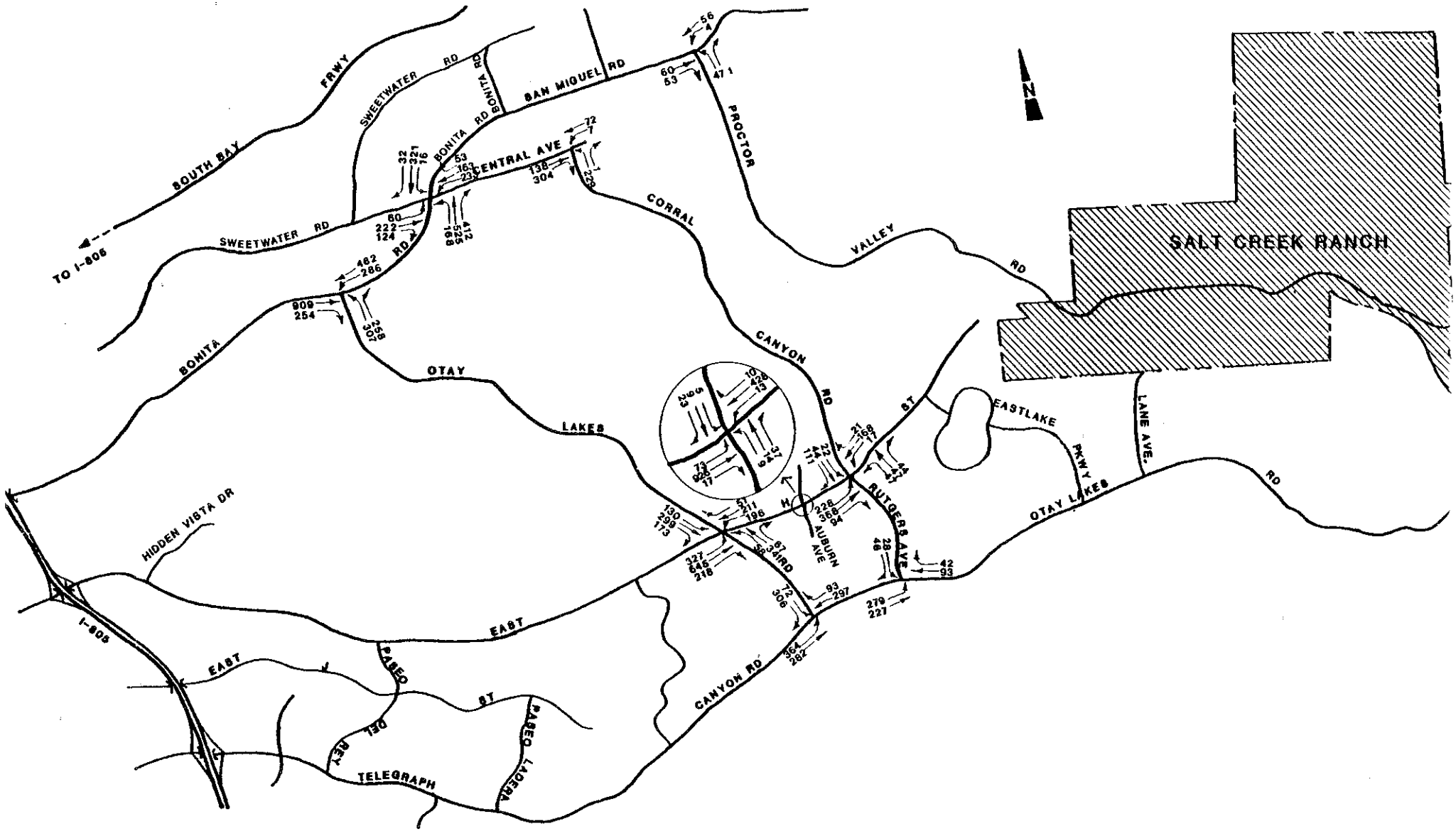
The currently unsignalized intersection of Telegraph Canyon Road/Otay Lakes Road experiences LOS F and E during the morning and afternoon peak hours, respectively, for the minor approach left turning vehicles (southbound Otay Lakes Road). This intersection is planned for signalization (currently being designed) at the time Telegraph Canyon Road is widened to four travel lanes.



BDI
BASMACIYAN-DARNELL, INC.

FIGURE 4

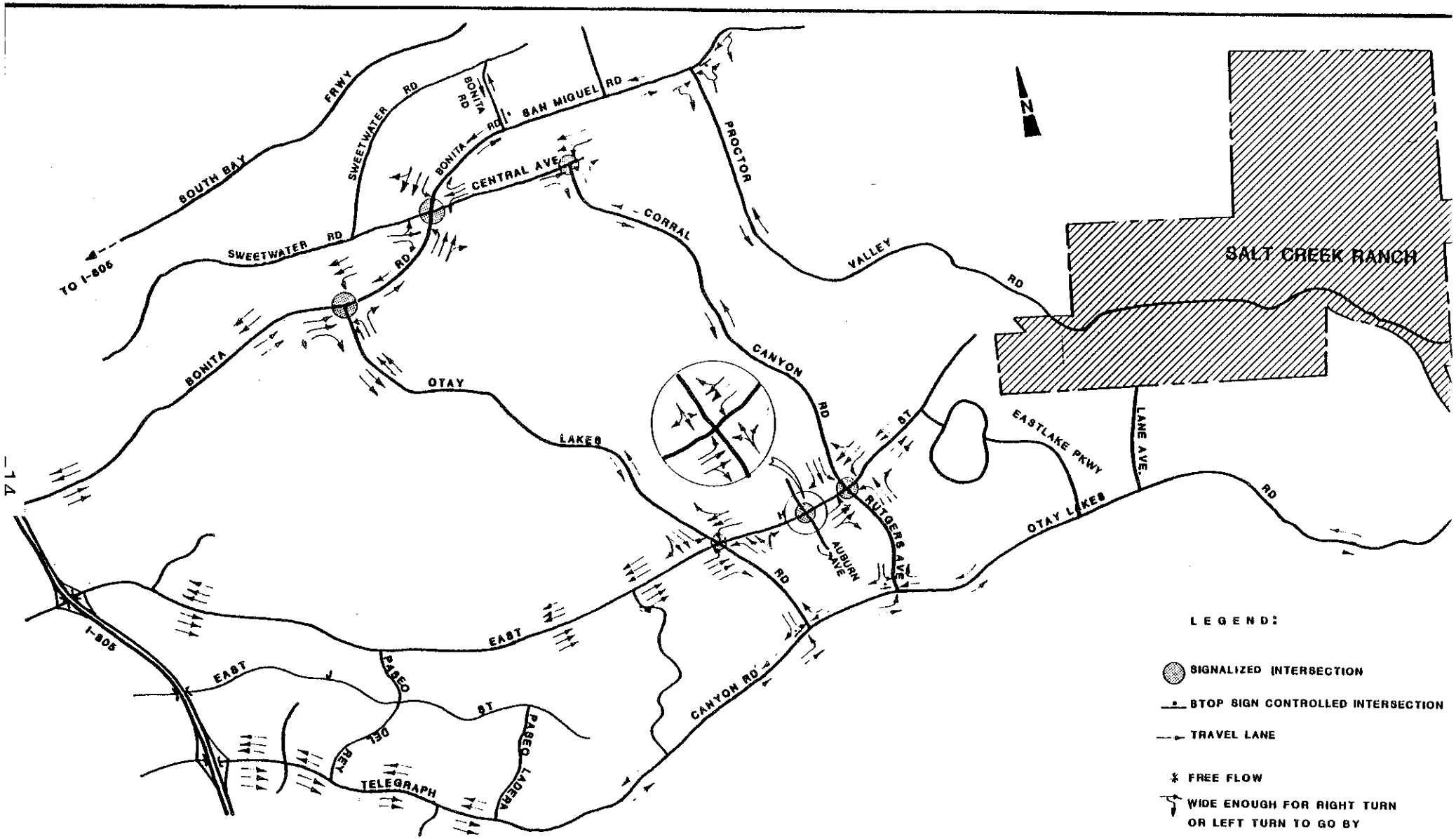
EXISTING MORNING HOUR PEAK HOUR TURNING MOVEMENTS



BASMACIYAN-DARNELL, INC.

FIGURE

EXISTING AFTERNOON PEAK HOUR TURNING MOVEMENTS



BASMACIYAN-BARNELL, INC.

EXISTING STREET AND INTERSECTION GEOMETRICS ON STREETS IN THE PROJECT VICINITY

FIGURE (

TABLE 2

SUMMARY OF EXISTING LEVELS OF SERVICE
AT INTERSECTIONS (a)

INTERSECTION	AM PEAK ICU	AM PEAK LOS	PM PEAK ICU	PM PEAK LOS
Signalized:				
Bonita Rd./Otay Lakes Rd.	0.65	B	0.66	B
Bonita Rd./Central Ave.	0.54	A	0.71	C
Central Ave./Corral Canyon Rd.	0.39	A	0.35	A
East H St./Corral Canyon Rd.	0.67	B	0.45	A
East H St./Otay Lakes Rd.	0.71	C	0.56	A
East H St./Auburn Ave.	0.61	B	0.58	A

	AM PEAK HOUR PERIOD		PM PEAK HOUR PERIOD	
Unsignalized:	Minor St.	Left Turn Major St.	Minor St.	Left Turn Major St.
Telegraph Canyon Rd./ Otay Lakes Rd.	F	B	E	B
Otay Lakes Rd./ Rutgers Ave.	B	A	D	A
San Miguel Rd./ Proctor Valley Rd.	A	A	A	A

(a) ICU worksheets and Level of Service Criteria are included in Appendix C.

The unsignalized intersection of Telegraph Canyon Road/Rutgers Avenue experiences delays (LOS D) for left turning vehicles from the minor approach (Rutgers Avenue) during the afternoon peak hour. This intersection is planned for future signalization.

Existing Public Transportation Opportunities

The proposed project is not currently served by the Chula Vista Transit Service (CVTS). CVTS Route 705, however, does provide service to the EastLake Business Park. The EastLake Business Park is located just south of the Salt Creek Ranch southern boundary, however this stop is not within generally acceptable walking distance (1/4 mile) to the majority of the proposed projects residential units. Appendix D contains a copy of the CVTS 705 Route map.

PROJECT TRAFFIC

Project Traffic

The Salt Creek Ranch General Development Plan is consistent with the residential density ranges evaluated in the City of Chula Vista General Plan Scenario 4 travel forecasts. The daily trips anticipated to result from the development of the site were estimated using trip generation rates utilized in the previously mentioned City of Chula Vista General Plan travel forecasts. Table 3 summarizes the trip generation characteristics for the proposed Salt Creek Ranch land uses, while Table 4 presents the trip generation estimates for the project on a daily and peak hourly basis.

As shown in Table 4, development of the site as proposed would generate approximately 36,440 vpd with 2,915 and 3,644 trip ends to occur during the morning and afternoon peak hour periods, respectively.

Distribution of Project Traffic

The distribution of trips is a function of ultimate travel destinations and the proximity of available travel routes to reach these destinations. The project trip distribution has been estimated from a select zone assignment from the City of Chula Vista Scenario 4 travel forecasts (SANDAG 8/13/89). Figure 7 presents the distribution of Salt Creek Ranch traffic onto the surrounding buildout street system.

TABLE 3

SALT CREEK RANCH TRIP GENERATION CHARACTERISTICS

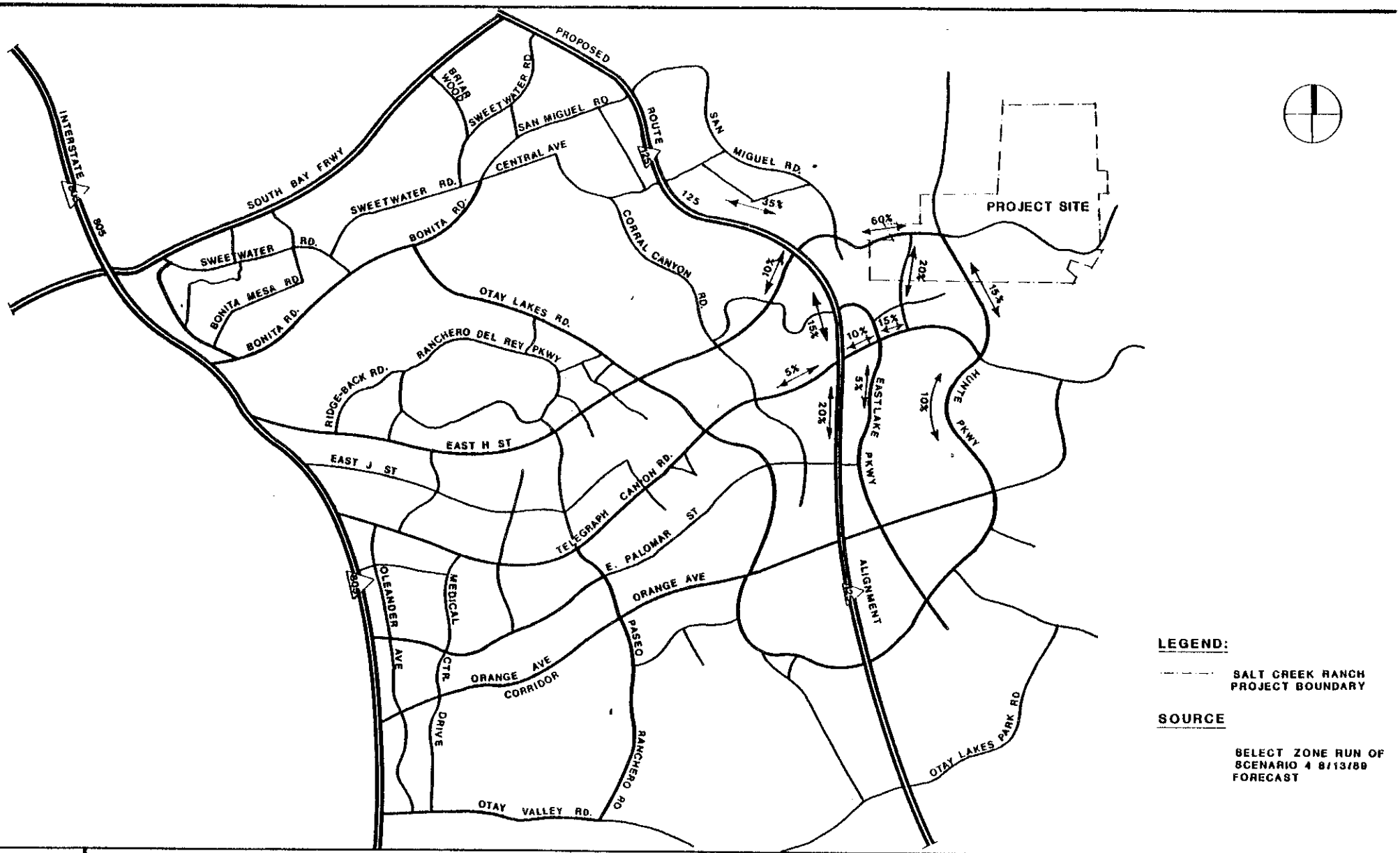
LAND USE	DAILY TRIP RATE	A.M. PEAK HOUR		P.M. PEAK HOUR	
		% OF DAILY	SPLIT IN/OUT	% OF DAILY	SPLIT IN/OUT
Residential	10 trips/DU	8%	20/80	10%	70/30

*SANDAG trip generation rates and peak hour splits as agreed upon with the City's Traffic Engineer.

TABLE 4

SALT CREEK RANCH DAILY AND PEAK HOURLY TRIP GENERATION ESTIMATES

LAND USE	INTENSITY	DAILY TRIP	A.M. PEAK HOUR		P.M. PEAK HOUR	
			I/B	O/B	I/B	O/B
Residential	3,644 DU	36,440	583	2,332	2,551	1,093



BDI
BASMACIYAN-DARNELL, INC.

FIGURE 7

SALT CREEK RANCH BUILDOUT TRIP DISTRIBUTION

As depicted on Figure 7, the majority (60 percent) of the project trips will be oriented west along East H Street connecting to State Route 125 (north/south destinations) and continuing west for destinations along H Street. The remainder of the project-related traffic will be oriented to the south on Lane Avenue (20 percent) and Hunte Parkway (15 percent) for connection to Telegraph Canyon Road and destinations within the EastLake Planned Community.

FUTURE CONDITIONS

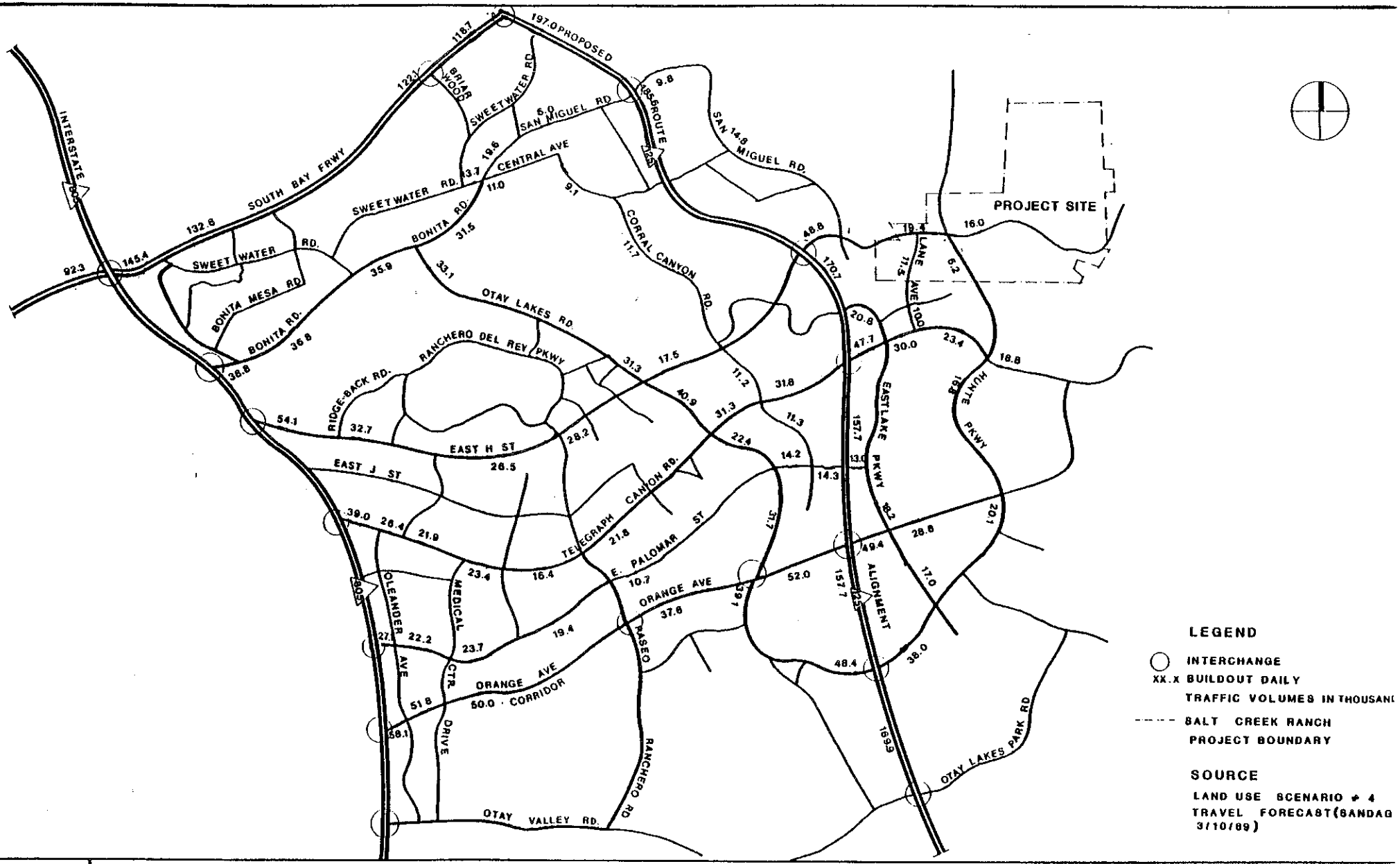
In order to assess the impacts of the proposed project, it is necessary to look at the long term cumulative effects of the project on the circulation system which is currently proposed for the City of Chula Vista. For this purpose, City staff has directed BDI to utilize the most recent land use Scenario 4 travel forecast prepared by SANDAG dated March 10, 1989.

Evaluation of Future Daily Traffic

Figure 8 presents the City of Chula Vista General Plan Scenario 4 buildout travel forecast daily traffic volumes on the street system surrounding Salt Creek Ranch (SANDAG 3/10/89 forecast run). Figure 9 presents the daily assignment of Salt Creek Ranch trips onto the surrounding street system (from the select zone run) Figure 10 presents the Chula Vista Circulation Element Street Classification for the surrounding area streets. Table 5 is a comprehensive list of street segments in the Eastern Chula Vista Territories along with Circulation Element classifications, maximum LOS C daily traffic volumes, and the percentage of the forecast buildout daily traffic that Salt Creek's traffic represents.

As shown, East H Street is projected to operate within the City of Chula Vista's recommended maximum LOS C daily traffic volumes on most segments. The exception is just east of I-805 where East H Street is forecast to carry daily volumes in excess of 50,000 vpd. This facility, however, is projected to operate at LOS C during the peak hour with a daily volume of 56,300 vpd as reported in the Rancho del Rey traffic analysis performed by Urban Systems Associates, Inc. (USA, 1988). In addition, the Salt Creek Ranch is expected to contribute only one percent of the total daily traffic on this segment.

East Orange Avenue, between I-805 and Medical Center Drive, is forecast to carry daily traffic volumes which exceed the City's recommended maximum daily volume for LOS C for a six-lane prime arterial. The proposed Salt Creek Ranch is expected to comprise approximately two percent of daily traffic on this portion of East Orange Avenue.



LEGEND

- INTERCHANGE
- XX.X BUILDOUT DAILY TRAFFIC VOLUMES IN THOUSANI
- SALT CREEK RANCH PROJECT BOUNDARY

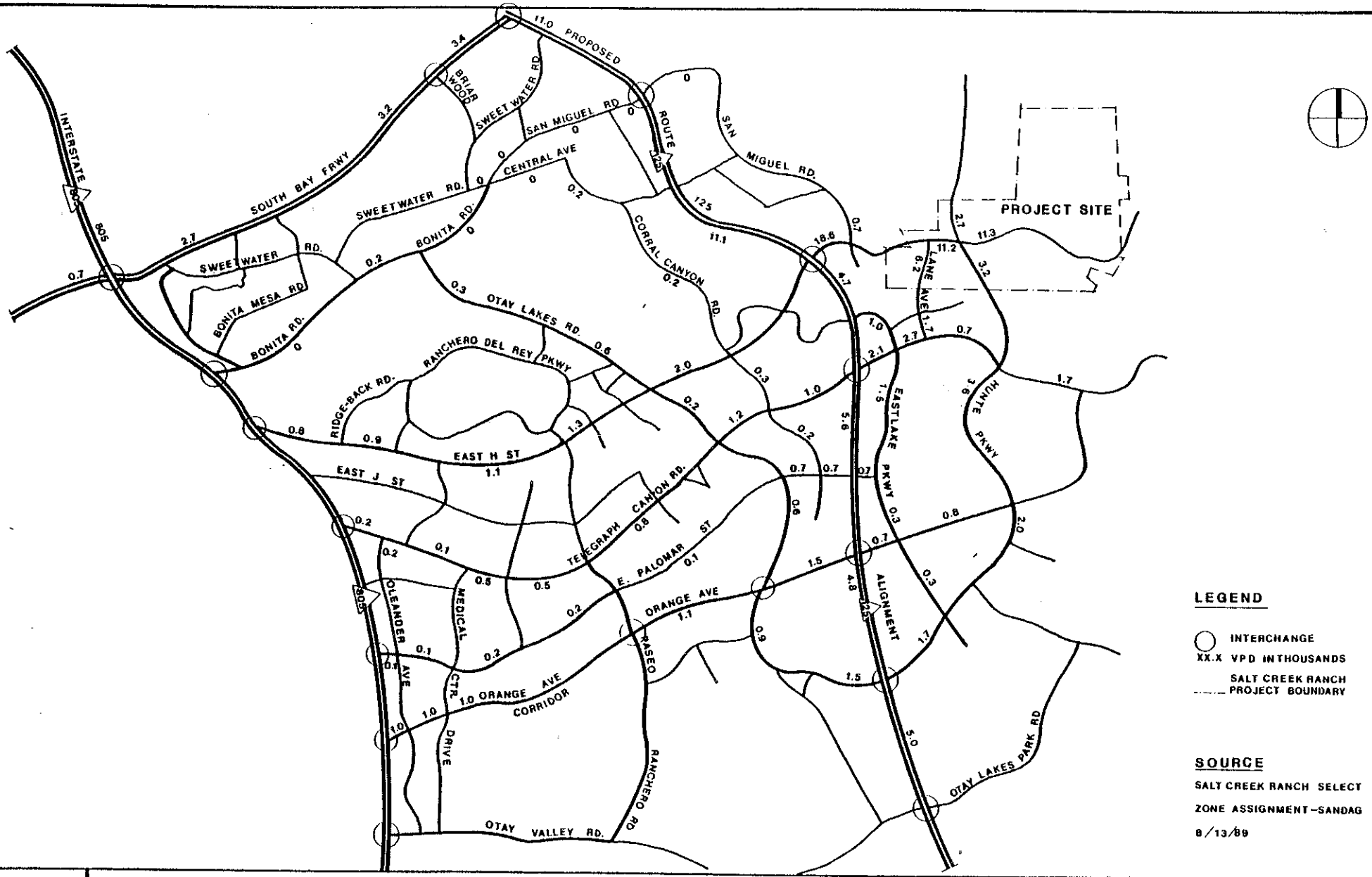
SOURCE

LAND USE SCENARIO # 4
TRAVEL FORECAST(SANDAG 3/10/89)

BDI
BASMACIYAN-DARNELL, INC

BUILDOUT DAILY TRAFFIC VOLUMES (IN THOUSANDS)

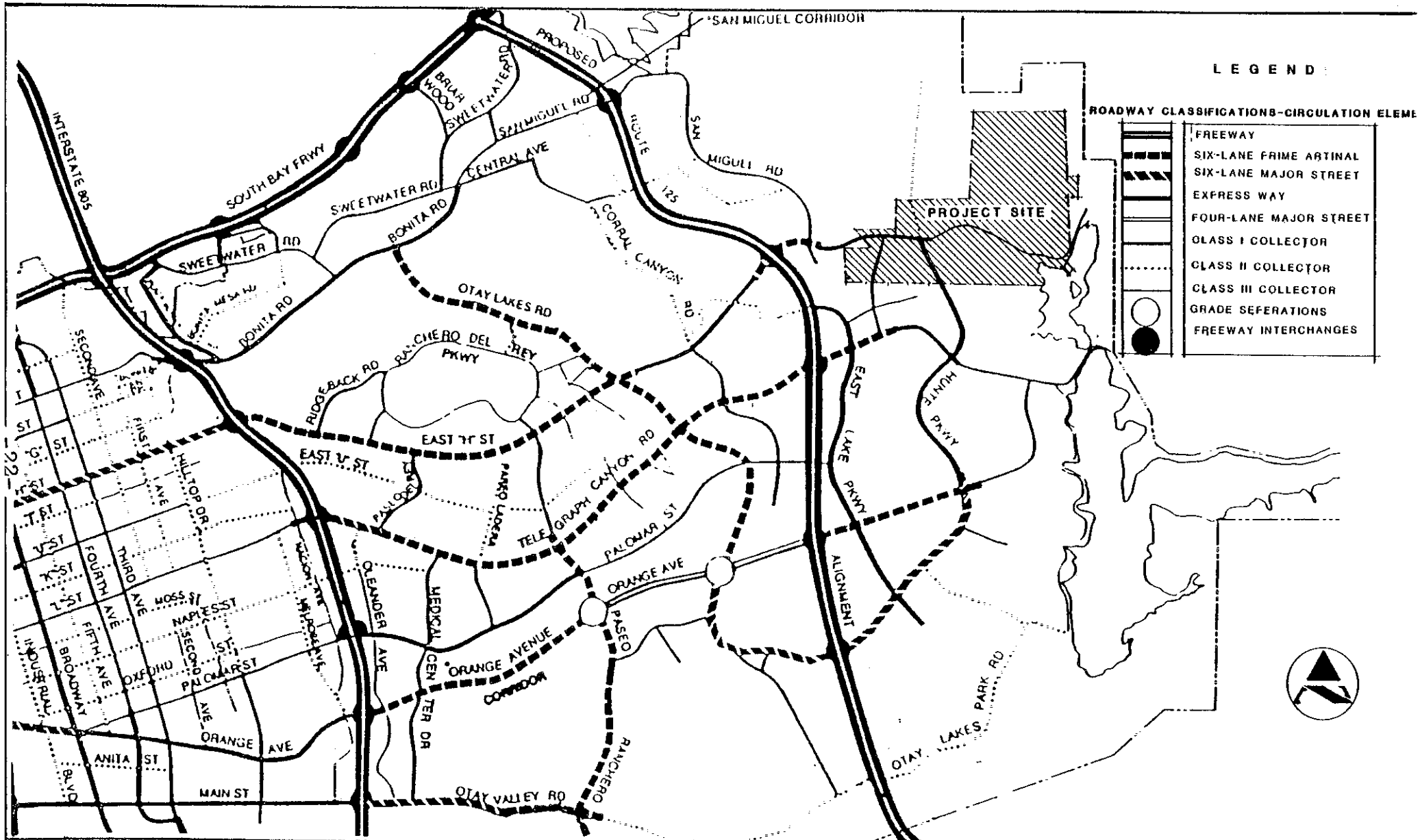
FIGURE 8



BASMACIYAN-DARNELL, INC.

SALT CREEK RANCH BUILDOUT PROJECT ONLY ASSIGNMENT (DAILY VOLUMES IN THOUSANDS)

FIGURE



BDI
BASMACIYAN DARNELL, INC.

CHULA VISTA CIRCULATION ELEMENT FACILITY CLASSIFICATIONS

FIGURE 10

TABLE 5

COMPARISON OF FUTURE TRAFFIC ON AREA STREETS WITH RECOMMENDED VOLUMES (Per Their Classification) AND PERCENTAGE OF TOTAL THAT PROJECT REPRESENTS

STREET SEGMENT	C. E. CLASS (a)	RECOMM. LOS C VOL. (b)	BUILDOUT VOL. (c)	V/C RATIO (d)	SCR VOL. (e)	SCR % OF TOTAL (f)
State Route 125:						
South of SR 54	8 FRWY	NA	197,000	NA	11,000	6%
South of San Miguel Rd.	8 FRWY	NA	185,600	NA	11,100	6%
South of East H St.	8 FRWY	NA	170,700	NA	4,700	3%
South of Telegraph Canyon Rd.	8 FRWY	NA	157,700	NA	5,600	4%
South of East Orange Ave.	8 FRWY	NA	157,700	NA	4,800	3%
South of Hunte Pkwy.	8 FRWY	NA	169,900	NA	5,000	3%
State Route 54:						
West of SR 125	8 FRWY	NA	118,700	NA	3,400	3%
West of Briarwood Rd.	8 FRWY	NA	122,100	NA	3,200	3%
West of Woodman St.	8 FRWY	NA	132,600	NA	2,800	2%
West of Reo Dr.	8 FRWY	NA	145,400	NA	2,700	2%
West of I-805	8 FRWY	NA	92,300	NA	700	1%

N/A = Not Applicable

(a) # = number of lanes; FRWY = Freeway; E = Expressway; P = Prime arterial; M = Major street; C.E.= Circulation Element of General Plan; CIC = Class I Collector; CIIC = Class II Collector

(b) Level of Service C recommended volume from City of Chula Vista Draft Circulation Element (see Appended A).

(c) City of Chula Vista Scenario 4 Travel forecast (SANDAG 3/10/89).

(d) V/C = Volume/Capacity (Recommended maximum daily traffic for LOS C).

(e) Salt Creek Ranch project only assignment (select zone run, SANDAG 8/13/89).

(f) Percentage Salt Creek Ranch traffic represents of total buildout traffic volume.

TABLE 5 - CONTINUED

STREET SEGMENT	C. E. CLASS (a)	RECOMM. LOS C VOL. (b)	BUILDOUT VOL. (c)	V/C RATIO (d)	SCR VOL. (e)	SCR % Of TOTAL (f)
East H Street:						
East of Hunte Pkwy.	4 CIC	22,000	16,000	0.73	11,300	71%
East of Lane Ave.	4 M	30,000	19,400	0.65	11,200	58%
East of SR 125	6 P	50,000	48,800	0.98	18,600	38%
East of Otay Lakes Rd.	4 M	30,000	17,500	0.58	2,000	11%
East of Paseo Ranchero	6 P	50,000	28,200	0.56	1,300	5%
East of Paseo del Rey	6 P	50,000	26,500	0.53	1,100	4%
East of Ridgeback Rd.	6 P	50,000	32,700	0.65	900	3%
East of I-805	6 P	50,000	54,100	1.08	800	1%
Telegraph Canyon Road:						
East of Hunte Pkwy.	4 CIC	22,000	18,800	0.85	1,700	9%
East of Lane Ave.	6 P	50,000	23,400	0.47	700	3%
East of EastLake Pkwy.	6 P	50,000	30,000	0.60	2,700	9%
East of SR 125	6 P	50,000	47,700	0.95	2,100	4%
East of Rutgers Ave.	6 P	50,000	31,800	0.64	1,000	3%
East of Otay Lakes Rd.	6 P	50,000	31,300	0.63	1,200	4%
East of Paseo Ranchero	6 P	50,000	21,800	0.44	800	4%
East of Paseo Ladera	6 P	50,000	16,400	0.33	500	3%
East of Medical Ctr. Dr.	6 P	50,000	23,400	0.47	500	2%
East of Paseo del Rey	6 P	50,000	21,900	0.44	100	1%
East of Oleander Ave.	6 M	40,000	26,400	0.66	200	1%
East I-805	6 M	40,000	39,000	0.98	200	1%

(a) # = number of lanes; FRWY = Freeway; E = Expressway; P = Prime arterial; M = Major street; C.E.= Circulation Element of General Plan; CIC = Class I Collector; CIIC = Class II Collector

(b) Level of Service C recommended volume from City of Chula Vista Draft Circulation Element (see Appended A).

(c) City of Chula Vista Scenario 4 Travel forecast (SANDAG 3/10/89).

(d) V/C = Volume/Capacity (Recommended maximum daily traffic for LOS C).

(e) Salt Creek Ranch project only assignment (select zone run, SANDAG 8/13/89).

(f) Percentage Salt Creek Ranch traffic represents of total buildout traffic volume.

TABLE 5 - CONTINUED

STREET SEGMENT	C. E. CLASS (a)	RECOMM. LOS C VOL. (b)	BUILDOUT VOL. (c)	V/C RATIO (d)	SCR VOL. (e)	SCR % Of TOTAL (f)
East Orange Avenue:						
East of EastLake Pkwy.	6 P	50,000	28,800	0.58	800	3%
East of SR 125	6 P	50,000	49,400	0.99	700	1%
East of Otay Lakes Rd.	6 E	70,000	52,000	0.74	1,500	3%
East of Paseo Ranchero	6 E	70,000	37,800	0.54	1,100	3%
East of Medical Ctr. Dr.	6 P	50,000	50,000	1.00	1,000	2%
East of Oleander Ave.	6 P	50,000	51,800	1.04	1,000	2%
East of I-805	6 P	50,000	58,100	1.16	1,000	2%
Bonita Road:						
East of Central Ave.	4 CIC	22,000	19,600	0.89	0	0%
East of Otay Lakes Rd.	4 M	30,000	31,500	1.05	0	0%
East of Sweetwater Rd.	4 M	30,000	35,900	1.20	200	1%
East of Plaza Bonita Rd.	4 M	30,000	36,800	1.23	0	0%
East of I-805	4 M	30,000	38,800	1.29	0	0%

(a) # = number of lanes; FRWY = Freeway; E = Expressway; P = Prime arterial; M = Major street; C.E.= Circulation Element of General Plan; CIC = Class I Collector; CIIC = Class II Collector

(b) Level of Service C recommended volume from City of Chula Vista Draft Circulation Element (see Appended A).

(c) City of Chula Vista Scenario 4 Travel forecast (SANDAG 3/10/89).

(d) V/C = Volume/Capacity (Recommended maximum daily traffic for LOS C).

(e) Salt Creek Ranch project only assignment (select zone run, SANDAG 8/13/89).

(f) Percentage Salt Creek Ranch traffic represents of total buildout traffic volume.

TABLE 5 - CONTINUED

STREET SEGMENT	C. E. CLASS (a)	RECOMM. LOS C VOL. (b)	BUILDOUT VOL. (c)	V/C RATIO (d)	SCR VOL. (e)	SCR % Of TOTAL (f)
Hunte Parkway						
South of East H St.	4 M	30,000	6,200	0.21	3,200	52%
South of Telegraph Canyon Rd.	4 M	30,000	16,800	0.56	3,600	21%
South of East Orange Ave.	6 M	40,000	20,100	0.50	2,000	10%
East SR 125	6 M	40,000	38,000	0.95	1,700	4%
EastLake Parkway:						
South of SR 125	4 M	30,000	20,800	0.69	1,000	5%
South of Telegraph Canyon Rd.	4 M	30,000	23,800	0.79	1,500	6%
South of East Palomar St.	4 M	30,000	18,200	0.61	300	2%
South of East Orange Ave.	4 M	30,000	17,000	0.57	300	2%

(a) # = number of lanes; FRWY = Freeway; E = Expressway; P = Prime arterial; M = Major street; C.E.= Circulation Element of General Plan; CIC = Class I Collector; CIIC = Class II Collector

(b) Level of Service C recommended volume from City of Chula Vista Draft Circulation Element (see Appended A).

(c) City of Chula Vista Scenario 4 Travel forecast (SANDAG 3/10/89).

(d) V/C = Volume/Capacity (Recommended maximum daily traffic for LOS C).

(e) Salt Creek Ranch project only assignment (select zone run, SANDAG 8/13/89).

(f) Percentage Salt Creek Ranch traffic represents of total buildout traffic volume.

TABLE 5 - CONTINUED

STREET SEGMENT	C. E. CLASS (a)	RECOMM. LOS C VOL. (b)	BUILDOUT VOL. (c)	V/C RATIO (d)	SCR VOL. (e)	SCR % OF TOTAL (f)
Otay Lakes Road:						
South of Bonita Rd.	6 P	50,000	33,100	0.66	300	1%
South of Rancho del Rey	6 P	50,000	31,300	0.63	600	2%
South of East H St.	6 P	50,000	40,900	0.82	200	1%
South of Telegraph Canyon Rd.	6 P	50,000	22,400	0.45	0	0%
South of East Palomar St.	6 P	50,000	31,700	0.63	600	2%
South of East Orange Ave.	6 M	40,000	39,100	0.98	900	2%
West of SR 125	6 M	40,000	48,400	1.21	1,500	3%
Corral Canyon Road/Rutgers Ave:						
South of Telegraph Canyon Road	4 CIC	22,000	11,300	0.51	200	2%
South of East H St.	4 CIC	22,000	11,200	0.51	300	3%
South of Blacksmith Rd.	2 CIIC	12,000	11,700	0.98	200	2%
South of Central Ave.	2 CIIC	12,000	9,100	0.76	200	2%
Central Avenue:						
East of Bonita Rd.	4 CIC	22,000	11,000	0.50	0	0%
East of Sweetwater Rd.	4 CIC	22,000	13,700	0.62	0	0%

(a) # = number of lanes; FRWY = Freeway; E = Expressway; P = Prime arterial; M = Major street; C.E.= Circulation Element of General Plan; CIC = Class I Collector; CIIC = Class II Collector

(b) Level of Service C recommended volume from City of Chula Vista Draft Circulation Element (see Appended A).

(c) City of Chula Vista Scenario 4 Travel forecast (SANDAG 3/10/89).

(d) V/C = Volume/Capacity (Recommended maximum daily traffic for LOS C).

(e) Salt Creek Ranch project only assignment (select zone run, SANDAG 8/13/89).

(f) Percentage Salt Creek Ranch traffic represents of total buildout traffic volume.

TABLE 5 - CONTINUED

STREET SEGMENT	C. E. CLASS (a)	RECOMM. LOS C VOL. (b)	BUILDOUT VOL. (c)	V/C RATIO (d)	SCR VOL. (e)	SCR % OF TOTAL (f)
San Miguel Road:						
East of Bonita Rd.	4 CIC	22,000	6,000	0.30	0	0%
East of SR 125	4 CIC	22,000	9,800	0.45	0	0%
South of Blacksmith Rd.	4 CIC	22,000	14,800	0.67	700	5%
East Palomar Street:						
East of SR 125	4 CIC	22,000	13,000	0.59	700	5%
East of Rutgers Ave.	4 CIC	22,000	14,300	0.65	700	5%
East of Otay Lakes Rd.	4 CIC	22,000	14,200	0.65	700	5%
East of Paseo Ranchero	4 CIC	22,000	10,700	0.49	100	1%
East of Paseo Ladera	4 M	30,000	19,400	0.65	200	1%
East of Medical Center Dr.	4 M	30,000	23,700	0.79	200	1%
East of Oleander Ave.	4 M	30,000	22,200	0.74	100	1%
East of I-805	4 M	30,000	27,100	0.90	100	1%
Lane Avenue:						
South of East H St.	4 CIC	22,000	11,500	0.52	6,200	54%
South of Fenton St.	4 CIC	22,000	10,000	0.45	2,700	27%

(a) # = number of lanes; FRWY = Freeway; E = Expressway; P = Prime arterial; M = Major street; C.E.= Circulation Element of General Plan; CIC = Class I Collector; CIIC = Class II Collector

(b) Level of Service C recommended volume from City of Chula Vista Draft Circulation Element (see Appended A).

(c) City of Chula Vista Scenario 4 Travel forecast (SANDAG 3/10/89).

(d) V/C = Volume/Capacity (Recommended maximum daily traffic for LOS C).

(e) Salt Creek Ranch project only assignment (select zone run, SANDAG 8/13/89).

(f) Percentage Salt Creek Ranch traffic represents of total buildout traffic volume.

Portions of Bonita Road, between I-805 and Central Avenue, are projected to carry daily traffic volumes in excess of 30,000 vpd. The Salt Creek Ranch project contributes negligible traffic (less than one percent) along Bonita Road under buildout conditions. It should be noted that Bonita Road is currently built to ultimate standards between Otay Lakes Road and I-805 and carries in excess of 40,000 vpd east of I-805.

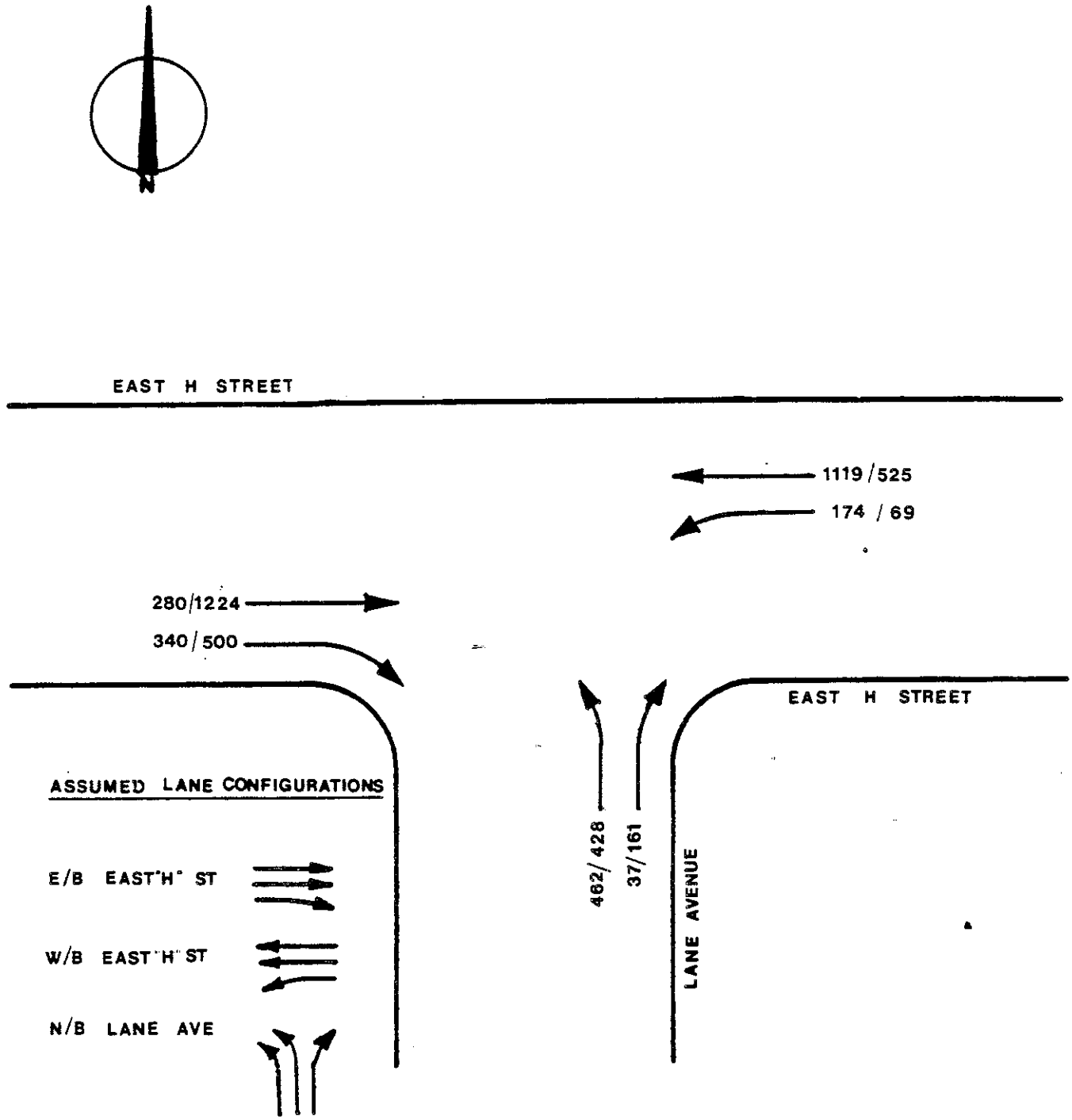
Otay Lakes Road, just south of East Orange Avenue, is forecast to carry 48,400 vpd under buildout conditions. This daily traffic volume exceeds the 40,000 vpd recommended maximum daily traffic volume for LOS C as a six-lane major street. The Salt Creek Ranch project contributes 1,500 vpd to this segment which constitutes three percent of the segment's daily traffic volume.

All other street segments in the Eastern Chula Vista Territories are projected to carry daily traffic volumes below LOS C recommended maximum volumes under buildout of the City's General Plan land use and network. It should be mentioned that full buildout of Otay Mesa was included in the travel forecasts; however, the most recent planning efforts for the Otay Ranch were not available and not included in the Scenario 4 forecasts. Some planning assumptions for Otay Ranch were made by City of Chula Vista staff in preparing the General Plan update which were incorporated into Scenario 4 forecasts.

Evaluation of Peak Hour Conditions at Key Intersections within Salt Creek Ranch

In order to evaluate the project vicinity intersection levels of service at buildout, it was necessary to produce morning and afternoon peak hour turning movement estimates at these intersections. The buildout morning and afternoon peak hour turning movements for the above mentioned intersections were estimated by examining the project select zone assignment, assumed project access points to the circulation system, and surrounding land uses which would utilize these intersections. Since the Salt Creek Ranch is comprised of residential land uses and EastLake II to the south and east contains residential land uses, the intersection of East H Street/Hunte Parkway intersections morning and afternoon peak hour turning volumes were based on eight percent and ten percent peak hour percentages, respectively. The East H Street/Lane Avenue intersection, however, was modified to account for higher peaking characteristics due to the EastLake Business Center to the south.

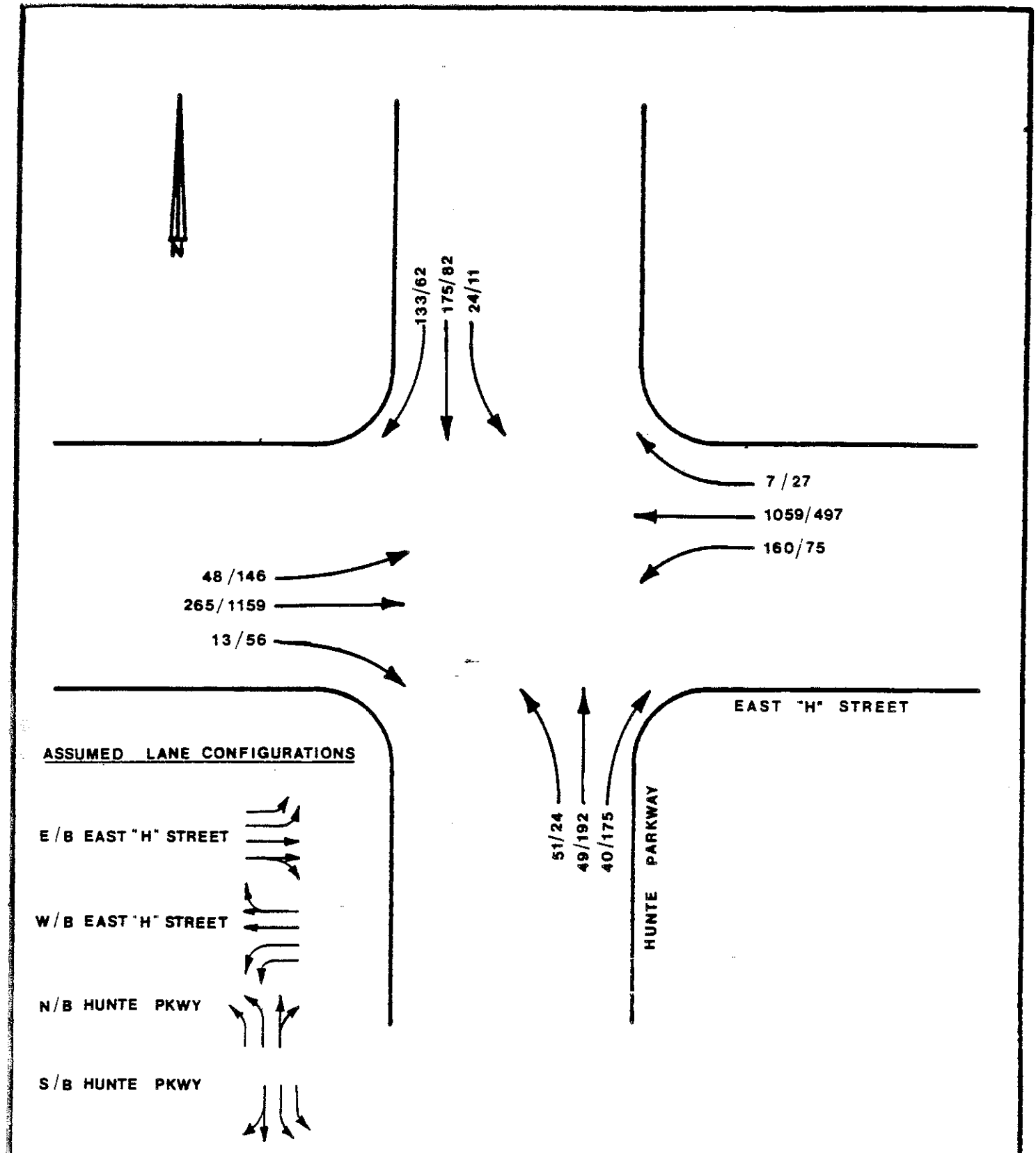
Figures 11 and 12 depict the morning and afternoon peak hour turning movements and assumed lane configurations at the East H Street/Lane Avenue and East H Street/Hunte Parkway intersections,



BASMACIYAN-DARNELL, INC.

FIGURE 11

PEAK HOUR TURNING MOVEMENTS AND ASSUMED LANE CONFIGURATIONS AT EAST "H" STREET/LANE AVENUE AT BUILDOUT



BASMACIYAN-DARNELL, INC.

FIGURE 12

PEAK HOUR TURNING MOVEMENTS AND ASSUMED LANE CONFIGURATIONS AT EAST "H" STREET / HUNTE PARKWAY AT BUILDOUT

respectively. Table 6 presents a summary of the peak hour levels of service for the analyzed intersections under buildout conditions. Appendix E contains the ICU worksheets for the intersections analyzed.

As indicated in Table 6, both Circulation Element roadway intersections within the Salt Creek Ranch are projected to operate at LOS C or better during both the morning and afternoon peak hours with the assumed lane configurations shown on Figures 11 and 12. Dual left turn lanes were assumed on all approaches of the East H Street/Hunte Parkway intersection. City of Chula Vista policy requires that intersecting major streets be planned for dual left turn lanes on all approaches. LOS C is still achievable with one left turn lane on all approaches.

Traffic Signal Control

The proposed Salt Creek Ranch project contains two future intersections of Circulation Element roadways: Lane Avenue/East H Street, Hunte Parkway/East H Street. In order to determine what type of traffic control devices might be required at these intersections within the Salt Creek Ranch under buildout conditions, it was necessary to perform a signal warrant analysis. Since the intersections are planned and traffic estimates are based on forecasted daily traffic volumes, the Caltrans Signal Warrant worksheet (Figure 9-1C Caltrans Traffic Manual) was used for the analysis. Appendix F contains the signal warrant worksheets for the two intersections analyzed. The results of the signal warrant analysis indicate that the intersections of East H Street with both Lane Avenue and Hunte Parkway will meet the minimum warrants for signalization.

All other intersections were not evaluated at this time. At the time tentative maps are submitted, the need for traffic signal control should be evaluated.

Internal Circulation and Project Access

Since the General Development Plan does not indicate specific points of access or project internal circulation roadways, these issues cannot be addressed at this level of analysis. However, specific internal roadways, alignments and access to Circulation Element roadways should be analyzed to the satisfaction of the City Traffic Engineer at the time of the Tentative Map processing.

It should be noted that East H Street through the Salt Creek Ranch is designated as a four-lane major street. Therefore, signalized intersections should be spaced no closer than one-

TABLE 6

SUMMARY OF BUILDOUT LEVELS OF SERVICE
AT INTERSECTIONS WITHIN THE PROJECT (a)

INTERSECTION	AM PEAK ICU	AM PEAK LOS	PM PEAK ICU	PM PEAK LOS
East H Street/Lane Avenue	0.48	A	0.60	A
East H Street/Hunte Parkway	0.69	B	0.77	C

(a) ICU worksheets and Level of Service Criteria are included in Appendix E.

quarter mile apart and unsignalized intersections should be spaced no closer than 660 feet apart where a mid-block median opening may be permitted but only with approval of the City Engineer.

Lane Avenue is designated a Class I Collector and intersections would typically need to be spaced no closer than 660 feet apart unless otherwise approved by the City Engineer. Signalized intersections should be spaced at one-quarter mile intervals.

The Equestrian Center is located south of East H Street while the equestrian trails are located to the north. Therefore, it would be necessary to provide an overcrossing or undercrossing at East H Street. The equestrian crossing should be constructed to the satisfaction of the City Engineer.

The conceptual site plan indicates an elementary school site adjacent to East H Street at the western Salt Creek Ranch boundary. Specific access points to the school site are not indicated. However, from a traffic standpoint it would be desirable for the school to take access via a signalized street running north from East H Street. This street could also serve residential development to the east.

Project Phasing

The Salt Creek Ranch is proposing a General Development Plan which would consist of 3,644 dwelling units (DU) the construction of which will be phased over several years. The East Chula Vista Transportation Phasing Plan (ECVTPP) was prepared by Willdan Associates (6/6/89) and is intended to address phasing of development and street improvements in East Chula Vista.

The ECVTPP was prepared for the City of Chula Vista's Growth Management Program to tie street improvements to the issuance of building permits in East Chula Vista. The primary street improvements listed in the ECVTPP were Development Impact Fee (DIF) roadways adopted by the City Council in 1987. Development assumptions for the DIF were supplied by area developers and adjusted by City staff. Appendix G contains the development phasing for the ECVTPP.

Table 7 is a comparison of the Salt Creek Ranch development phasing with the total ECVTPP development phasing for each of the 11 development increments assumed for the ECVTPP analyses.

The following paragraphs contain a discussion of forecasted volumes and street network assumed for each ECVTPP increment. Table 8 summarizes the forecasted volumes street network assumptions and levels of service for each development increment.

TABLE 7

COMPARISON OF SALT CREEK RANCH DEVELOPMENT TO ECVTPP DEVELOPMENT ASSUMPTIONS

INCREMENT	SALT CREEK RANCH	CUMULATIVE DEVELOPMENT
Base Year	None	1772 DU 19 AC/Industrial 10 AC/Commercial
Increment 1	None	2100 DU 30 AC/Industrial 11 AC/Commercial
Increment 2	None	4100 DU 59 AC/Industrial 42 AC/Commercial
Increment 3	300 DU	6100 DU 94 AC/Industrial 62 AC/Commercial
Increment 4	500 DU	7600 DU 126 AC/Industrial 71 AC/Commercial
Increment 5	745 DU	9100 DU 172 AC/Industrial 85 AC/Commercial
Increment 6	1005 DU	10600 DU 199 AC/Industrial 99 AC/Commercial
Increment 7	1305 DU	21100 DU 229 AC/Industrial 99 AC/Commercial
Increment 8	1605 DU	13400 DU 258 AC/Industrial 104 AC/Commercial
Increment 9	1945 DU	14800 DU 287 AC/Industrial 109 AC/Commercial
Increment 10	2544 DU	16300 DU 313 AC/Industrial 114 AC/Commercial
Increment 11	2834 DU	17091 DU 313 AC/Industrial 119 AC/Commercial

DU = Dwelling Units
AC = Acres
ECVTPP = East Chula Vista Transportation Phasing Plan

TABLE 8 (a)

TRAFFIC VOLUMES AND LOS PER DEVELOPMENT INCREMENT

	Street Segment	Proposed Circulation Element Class	1987 Counts			Base Year (1-1-89)			Increment 1			Increment 2		
			Config	Vol	LOS	Config	Vol	LOS	Config	Vol	LOS	Config	Vol	LOS
	Telegraph Canyon Road													
1.	I-805 - Oleander	6P	6P	38.0	B	6P	34.0	A	6P	41.0	B	6P	35.5	A
	Oleander - Paseo del Rey	6P	4M	25.0	B	4M	25.0	B	4M	28.6	C	4M	19.3	A
	Paseo del Rey - Medical Ctr	6P	4M	25.2	B	4M	22.9	B	4M	25.9	B	4M	17.6	A
	Medical Ctr - Paseo Ladera	6P	4M	15.7	A	4M	12.6	A	4M	14.0	A	4M	19.4	A
2.	Paseo Ladera - Buena Vista	6P	2CII	14.2	C*	2CII	11.0	C	4M	12.5	A	4M	17.5	A
	Buena Vista - Otay Lakes Rd	6P	2CII	12.7	C*	2CII	9.4	B	4M	11.4	A	4M	16.3	A
3.	Otay Lakes Rd - Rutgers	6P	2CII	7.4	A	2CII	8.0	A	4M	13.5	A	4M	19.1	A
	Rutgers - EastLake	6P	2CII	6.5	A	2CII	6.8	A	4M	12.3	A	4M	17.9	A
	EastLake - Lane	6P/4M	2CII	4.3	A	2CII	6.6	A	4M	12.1	A	4M	17.7	A
	Lane - East City Limits	4CI	2CII	2.4	A	2CII	2.5	A	2CII	2.5	A	2CII	2.7	A
	Otay Lakes Road													
4.	Bonita Rd - Canyon Dr	6P	4M/2CII	18.2	C	4M/2CII	19.7	C	4M	20.3	A	4M	25.2	B
	Canyon Dr - East "H" St	6P	4M/2CII	16.6	C	4M/2CII	18.9	C	4M	19.4	A	4M	22.3	A
5.	East "H" St - Gotham	6P	4M	12.1	A	4M	15.2	A	4M	18.2	A	4M	23.2	B
	Gotham - Telegraph Canyon Rd	6P	4M	10.7	A	4M	12.9	A	4M	16.5	A	4M	23.3	B
	East "H" Street													
7.	I-805 - Ridgeback	6P	4D	29.6	C	6P	50.0	C	6P	50.0	C	6P	48.0	C
	Ridgeback - Paseo del Rey	6P	2CII	20.1	D*	6P	26.9	A	6P	31.5	A	6P	29.2	A
	Paseo del Rey - Buena Vista	6P	2CII	20.5	D*	6P	30.2	A	6P	32.3	A	6P	32.5	A
	Buena Vista - Otay Lakes Rd	6P	4D	19.7	A	6P	29.0	A	6P	31.3	A	6P	26.9	A
8.	EastLake Pkwy - SR-125	4M	4M	6.8	A	4M	9.6	A	4M	9.2	A	4M	9.0	A

* Capacities tend to by higher on rural roadways. The City's General Plan capacities are for urban conditions and tend to be conservative. Levels of service for rural conditions are estimated based on field observation.

TABLE 8 -- CONTINUED (a)

TRAFFIC VOLUMES AND LOS PER DEVELOPMENT INCREMENT

	Street Segment	Proposed Circulation Element Class	1987 Counts Config	1987 Counts Vol	1987 Counts LOS	Base Year (1-1-89) Config	Base Year (1-1-89) Vol	Base Year (1-1-89) LOS	Increment 1 Config	Increment 1 Vol	Increment 1 LOS	Increment 2 Config	Increment 2 Vol	Increment 2 LOS
	San Miguel Road													
9.	Bonita Rd - SR-125	4CI	2CII	4.9	A	2CII	4.9	A	2CII	4.9	A	2CII	5.8	A
	Central Avenue													
10.	Bonita Rd - Frisbie	4CI	4CI	10.0	A	4CI	11.4	A	4CI	13.1	A	4CI	12.5	A
	Frisbie - Corral Canyon	4CI	2CII	8.0	A	2CII	9.4	B	2CII	10.3	B	2CII	10.3	B
	Bonita Road													
11.	Otay Lakes Rd - Acacia	4M	2CII	21.7	E**	2CII	21.7	E**	2CII	21.7	E**	2CII	22.0	E**
	Acacia - Central	4M	2CII	20.1	E**	2CII	20.2	E**	2CII	20.2	E**	2CII	21.0	E**
	Central - San Miguel	4M	2CII	12.2	D**	2CII	13.4	D**	2CII	14.0	E**	2CII	17.2	E**
	San Miguel - Sweetwater	4M	2CII	9.8	B	2CII	10.9	C	2CII	11.6	C	2CII	13.9	D**
	Sweetwater Road													
12.	Bonita Rd - SR-54	4CI	2CII	10.0	B	2CII	11.0	C	2CII	11.6	C	2CII	13.4	D**
	SR-125													
	SR-54 - San Miguel	8 Ln Fwy	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	San Miguel - East "H" St	8 Ln Fwy	"	"	"	"	"	"	"	"	"	"	"	"
	E. "H" St - Telegraph Cyn	8 Ln Fwy	"	"	"	"	"	"	"	"	"	"	"	"
	Telegraph Cyn - E.Palomar	8 Ln Fwy	"	"	"	"	"	"	"	"	"	"	"	"

** Levels of service estimated due to rural conditions. These roadway segments are currently under County jurisdiction and are not significantly impacted by development in early TPP phases.

6P - 6 lane Prime Arterial
4M - 4 lane Major
4CI - 4 lane Class I Collector
2CII - 2 lane Class II Collector

TABLE 8 -- CONTINUED (a)

TRAFFIC VOLUMES AND LOS PER DEVELOPMENT INCREMENT

	Street Segment	Proposed Circulation Element Class	Increment 3 Config	Increment 3 Vol	Increment 3 LOS	Increment 4 Config	Increment 4 Vol	Increment 4 LOS	Increment 5 Config	Increment 5 Vol	Increment 5 LOS
	Telegraph Canyon Road										
1.	I-805 - Oleander	6P	6P	37.2	A	6P	39.4	B	6P	35.4	A
	Oleander - Paseo del Rey	6P	4M	21.4	A	4M	23.4	B	4M	20.3	A
	Paseo del Rey - Medical Ctr	6P	4M	19.2	A	4M	21.3	A	4M	19.0	A
	Medical Ctr - Paseo Ladera	6P	4M	26.2	B	4M	28.0	C	4M	25.9	B
2.	Paseo Ladera - Buena Vista	6P	4M	24.3	B	4M	26.2	B	4M	24.4	B
	Buena Vista - Otay Lakes Rd	6P	4M	23.2	B	4M	25.0	B	4M	23.5	B
3.	Otay Lakes Rd - Rutgers	6P	6P	30.9	A	6P	34.0	A	6P	23.7	A
	Rutgers - EastLake	6P	6P	31.6	A	6P	33.9	A	6P	40.3	B
	EastLake - Hunte	6P/4M	4M	23.8	B	4M	25.9	B	4M	28.6	C
	Hunte - East City Limits	4CI	2CII	2.8	A	2CII	2.8	A	2CII	3.0	A
	Otay Lakes Road										
4.	Bonita Rd - Canyon Dr	6P	4M	27.2	C	4M	29.3	C	4M	13.5	A
	Canyon Dr - East "H" St	6P	4M	24.0	B	4M	26.0	B	4M	14.0	A
5.	East "H" St - Gotham	6P	4M	26.2	B	4M	27.5	C	4M	17.0	B
	Gotham - Telegraph Canyon Rd	6P	4M	25.5	B	4M	26,9	C	4M	16.3	A
	East "H" Street										
7.	I-805 - Ridgeback	6P	6P	49.1	C	6P	50.5	C	6P	35.3	A
	Ridgeback - Paseo del Rey	6P	6P	29.2	A	6P	36.8	A	6P	27.6	A
	Paseo del Rey - Buena Vista	6P	6P	32.4	A	6P	34.5	A	6P	24.0	A
	Buena Vista - Otay Lakes Rd	6P	6P	30.7	A	6P	32.4	A	6P	22.3	A
8.	EastLake Pkwy - SR-125	4M	4M	12.3	A	4M	14.9	A	4M	18.0	B

* Capacities tend to by higher on rural roadways. The City's General Plan capacities are for urban conditions and tend to be conservative. Levels of service for rural conditions are estimated based on field observation.

TABLE 8 -- CONTINUED (a)
TRAFFIC VOLUMES AND LOS PER DEVELOPMENT INCREMENT

	Street Segment	Proposed Circulation Element Class	Increment 3 Config	Increment 3 Vol	Increment 3 LOS	Increment 4 Config	Increment 4 Vol	Increment 4 LOS	Increment 5 Config	Increment 5 Vol	Increment 5 LOS
	San Miguel Road										
9.	Bonita Rd - SR-125	4CI	2CII	5.0	A	2CII	5.2	A	4CI	15.2	B
	Central Avenue										
10.	Bonita Rd - Frisbie	4CI	4CI	14.1	A	4CI	14.1	A	4CI	10.4	A
	Frisbie - Corral Canyon	4CI	2CII	13.2	D*	2CII	13.4	D*	2CII	10.2	B
	Bonita Road										
11.	Otay Lakes Rd - Acacia	4M	4M	25.1	B	4M	26.3	B	4M	21.8	A
	Acacia - Central	4M	4M	23.4	B	4M	25.4	B	4M	19.9	A
	Central - San Miguel	4M	2CII	18.0	F*	2CII	19.9	F**	2CII	15.4	E**
	San Miguel - Sweetwater	4M	2CII	14.5	E**	2CII	16.3	F**	2CII	5.8	A
	Sweetwater Road										
12.	Bonita Rd - SR-54	4CI	2CII	14.2	E**	2CII	15.9	F**	2CII	6.8	A
	SR-125										
	SR-54 - San Miguel	8 Ln Fwy	N/A	N/A	N/A	N/A	N/A	N/A	4 Ln Fwy	45.1	-
	San Miguel - East "H" St	8 Ln Fwy	"	"	"	"	"	"	4 Ln Fwy	44.3	-
	E. "H" St - Telegraph Cyn	8 Ln Fwy	"	"	"	"	"	"	4 Ln Fwy	34.5	-
	Telegraph Cyn - E.Palomar	8 Ln Fwy	"	"	"	"	"	"	N/A	N/A	N/A

** Levels of service estimated due to rural conditions. These roadway segments are currently under County jurisdiction and are not significantly impacted by development in early TPP phases.

6P - 6 lane Prime Arterial
4M - 4 lane Major
4CI - 4 lane Class I Collector
2CII - 2 lane Class II Collector

TABLE 8 -- CONTINUED (a)

TRAFFIC VOLUMES AND LOS PER DEVELOPMENT INCREMENT

	Street Segment	Proposed Circulation Element Class	Increment 6 Config	Increment 6 Vol	Increment 6 LOS	Increment 7 Config	Increment 7 Vol	Increment 7 LOS	Increment 8 Config	Increment 8 Vol	Increment 8 LOS
	Telegraph Canyon Road										
1.	I-805 - Oleander	6P	6P	33.4	A	6P	34.2	A	6P	36.3	A
	Oleander - Paseo del Rey	6P	4M	20.4	A	4M	21.3	A	4M	23.5	B
	Paseo del Rey - Medical Ctr	6P	4M	19.3	A	4M	20.0	A	4M	22.0	A
	Medical Ctr - Paseo Ladera	6P	4M	25.4	B	4M	26.4	C	4M	29.4	C
2.	Paseo Ladera - Buena Vista	6P	4M	23.1	B	4M	23.9	B	4M	27.5	C
	Buena Vista - Otay Lakes Rd	6P	4M	22.2	A	4M	23.0	B	4M	25.3	B
3.	Otay Lakes Rd - Rutgers	6P	6P	21.9	A	6P	23.2	A	6P	24.7	A
	Rutgers - SR-125	6P	6P	22.1	A	6P	23.4	A	6P	24.9	A
	SR-125 - EastLake	6P	6P	46.3	C	6P	49.4	C	6P	49.7	C
	EastLake - Lane	6P/4M	6P/4M	32.9	A	6P/4M	34.2	A	6P/4M	34.9	A
	Lane - East City Limits	4C1	2C11	3.3	A	2C11	3.3	A	2C11	3.3	A
	Otay Lakes Road										
4.	Bonita Rd - Canyon Dr	6P	4M	14.2	A	4M	14.7	A	4M	15.9	A
	Canyon Dr - East "H" St	6P	4M	15.2	A	4M	15.6	A	4M	15.5	A
5.	East "H" St - Gotham	6P	4M	16.8	A	4M	16.9	A	4M	17.6	A
	Gotham - Telegraph Canyon Rd	6P	4M	16.2	A	4M	16.4	A	4M	17.2	A
	East "H" Street										
7.	I-805 - Ridgeback	6P	6P	33.9	A	6P	35.9	A	6P	37.3	B
	Ridgeback - Paseo del Rey	6P	6P	26.1	A	6P	28.4	A	6P	29.9	A
	Paseo del Rey - Buena Vista	6P	6P	22.0	A	6P	22.9	A	6P	24.1	A
	Buena Vista - Otay Lakes Rd	6P	6P	19.9	A	6P	20.7	A	6P	21.0	A
8.	EastLake Pkwy - SR-125	4M	4M	19.7	A	4M	20.4	A	4M	20.9	A

* Capacities tend to by higher on rural roadways. The City's General Plan capacities are for urban conditions and tend to be conservative. Levels of service for rural conditions are estimated based on field observation.

TABLE 8 -- CONTINUED(a)

TRAFFIC VOLUMES AND LOS PER DEVELOPMENT INCREMENT

	Street Segment	Proposed Circulation Element Class	Increment 6 Config	Increment 6 Vol	Increment 6 LOS	Increment 7 Config	Increment 7 Vol	Increment 7 LOS	Increment 8 Config	Increment 8 Vol	Increment 8 LOS
	San Miguel Road										
9.	Bonita Rd - SR-125	4CI	4CI	12.2	A	4CI	12.4	A	4CI	12.5	A
	Central Avenue										
10.	Bonita Rd - Frisbie	4CI	4CI	10.2	A	4CI	10.3	A	4CI	10.4	A
	Frisbie - Corral Canyon	4CI	2CII	10.0	B	2CII	10.1	B	2CII	10.2	B
	Bonita Road										
11.	Otay Lakes Rd - Acacia	4M	4M	17.8	A	4M	18.1	A	4M	18.3	A
	Acacia - Central	4M	4M	15.1	A	4M	15.7	A	4M	15.9	A
	Central - San Miguel	4M	2CII	9.8	B	2CII	10.1	B	2CII	10.1	B
	San Miguel - Sweetwater	4M	2CII	5.0	A	2CII	5.2	A	2CII	5.2	A
	Sweetwater Road										
12.	Bonita Rd - SR-54	4CI	2CII	5.9	A	2CII	6.0	A	2CII	6.2	A
	SR-125										
	SR-54 - San Miguel	8 Ln Fwy	4 Ln Fwy	53.8	--	4 Ln Fwy	58.1	--	4 Ln Fwy	61.0	-
	San Miguel - East "H" St	8 Ln Fwy	"	50.1	--	"	54.7	--	4 Ln Fwy	58.1	-
	E. "H" St - Telegraph Cyn	8 Ln Fwy	"	38.0	--	"	40.1	--	4 Ln Fwy	40.7	-
	Telegraph Cyn - E.Palomar	8 Ln Fwy	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

** Levels of service estimated due to rural conditions. These roadway segments are currently under County jurisdiction and are not significantly impacted by development in early TPP phases.

6P - 6 lane Prime Arterial
4M - 4 lane Major
4CI - 4 lane Class I Collector
2CII - 2 lane Class II Collector

TABLE 8 -- CONTINUED (a)

TRAFFIC VOLUMES AND LOS PER DEVELOPMENT INCREMENT

	Street Segment	Proposed Circulation Element Class	Increment 9 Config	Increment 9 Vol	Increment 9 LOS	Increment 10 Config	Increment 10 Vol	Increment 10 LOS	Increment 11 Config	Increment 11 Vol	Increment 11 LOS
	Telegraph Canyon Road										
1.	I-805 - Oleander	6P	6P	37.0	A	6P	40.1	B	6P	40.3	B
	Oleander - Paseo del Rey	6P	6P	25.9	A	6P	28.1	A	6P	28.4	A
	Paseo del Rey - Medical Ctr	6P	6P	24.7	A	6P	26.8	A	6P	27.0	A
	Medical Ctr - Paseo Ladera	6P	6P	34.6	A	6P	39.2	B	6P	39.8	B
2.	Paseo Ladera - Buena Vista	6P	4M	30.0	C	6P	35.1	A	6P	37.0	A
	Buena Vista - Otay Lakes Rd	6P	4M	28.5	C	6P	30.8	A	6P	32.5	A
3.	Otay Lakes Rd - Rutgers	6P	6P	26.6	A	6P	28.5	A	6P	30.0	A
	Rutgers - SR 125	6P	6P	26.7	A	6P	28.6	A	6P	30.0	A
	SR 125 - EastLake	6P	6P	49.4	D	6P	49.7	C	6P	50.4	C/D
	EastLake - Hunte Pkwy	6P/4M	6P/4M	36.3	A	6P/4M	36.2	A	6P/4M	36.8	A
	Hunte - East City Limits	4CI	2CI	2.2	A	2CI	3.3	A	2CI	3.2	A
	Otay Lakes Road										
4.	Bonita Rd - Canyon Dr	6P	4M	13.9	A	4M	14.7	A	4M	15.2	A
	Canyon Dr - East "H" St	6P	4M	18.0	A	4M	19.1	A	4M	19.8	A
5.	East "H" St - Gotham	6P	4M	18.5	A	4M	19.9	A	4M	22.4	B
	Gotham - Telegraph Canyon Rd	6P	4M	18.2	A	4M	19.8	A	4M	22.4	B
	East "H" Street										
7.	I-805 - Ridgeback	6P	6P	41.1	B	6P	42.3	B	6P	43.4	C
	Ridgeback - Paseo del Rey	6P	6P	34.2	A	6P	35.5	A	6P	35.6	A
	Paseo del Rey - Buena Vista	6P	6P	19.0	A	6P	20.5	A	6P	21.4	A
	Buena Vista - Otay Lakes Rd	6P	6P	16.9	A	6P	17.8	A	6P	19.0	A
8.	EastLake Pkwy - SR-125	4M	4M	20.5	A	4M	20.7	A	4M	21.1	A
	San Miguel Road										
9.	Bonita Rd - SR-125	4CI	4CI	16.3	A	4CI	16.4	A	4CI	16.8	B
	Central Avenue										
10.	Bonita Rd - Frisbie	4CI	4CI	9.7	A	4CI	9.9	A	4CI	9.9	A
	Frisbie - Corral Canyon	4CI	2CII	9.5	B	2CII	9.7	B	2CII	9.7	B

* Capacities tend to by higher on rural roadways. The City's General Plan capacities are for urban conditions and tend to be conservative. Levels of service for rural conditions are estimated based on field observation.

TABLE 8 -- CONTINUED (a)

TRAFFIC VOLUMES AND LOS PER DEVELOPMENT INCREMENT

	Street Segment	Proposed Circulation Element Class	Increment 9 Config	Increment 9 Vol	Increment 9 LOS	Increment 10 Config	Increment 10 Vol	Increment 10 LOS	Increment 11 Config	Increment 11 Vol	Increment 11 LOS
	Bonita Road										
11.	Otay Lakes Rd - Acacia	4M	4M	19.0	A	4M	19.4	A	4M	19.3	A
	Acacia - Central	4M	4M	16.3	A	4M	16.7	A	4M	16.6	A
	Central - San Miguel	4M	2C11	12.3	C**	2C11	12.7	C**	2C11	12.8	C**
	San Miguel - Sweetwater	4M	2C11	6.5	A	2C11	5.7	A	2C11	5.9	A
	Sweetwater Road										
12.	Bonita Rd - SR-54	4C1	2C11	6.3	A	2C11	6.6	A	2C11	6.7	A
	SR-125										
	SR-54 - San Miguel	8 Ln Fwy	4 Ln Fwy	64.3	--	4 Ln Fwy	68.0	--	4 Ln Fwy	70.1	--
	San Miguel - East "H" St	8 Ln Fwy	"	69.3	--	"	63.8	--	"	66.2	--
	E. "H" St - Telegraph Cyn	8 Ln Fwy	"	41.9	--	"	43.3	--	"	44.8	--
	Telegraph Cyn - E.Palomar	8 Ln Fwy	4 Ln Fwy	1.5	--	"	1.5	--	"	1.8	--

** Levels of service estimated due to rural conditions. These roadway segments are currently under County jurisdiction and are not significantly impacted by development in early TPP phases.

6P - 6 lane Prime Arterial
4M - 4 lane Major
4C1 - 4 lane Class 1 Collector
2C11 - 2 lane Class II Collector

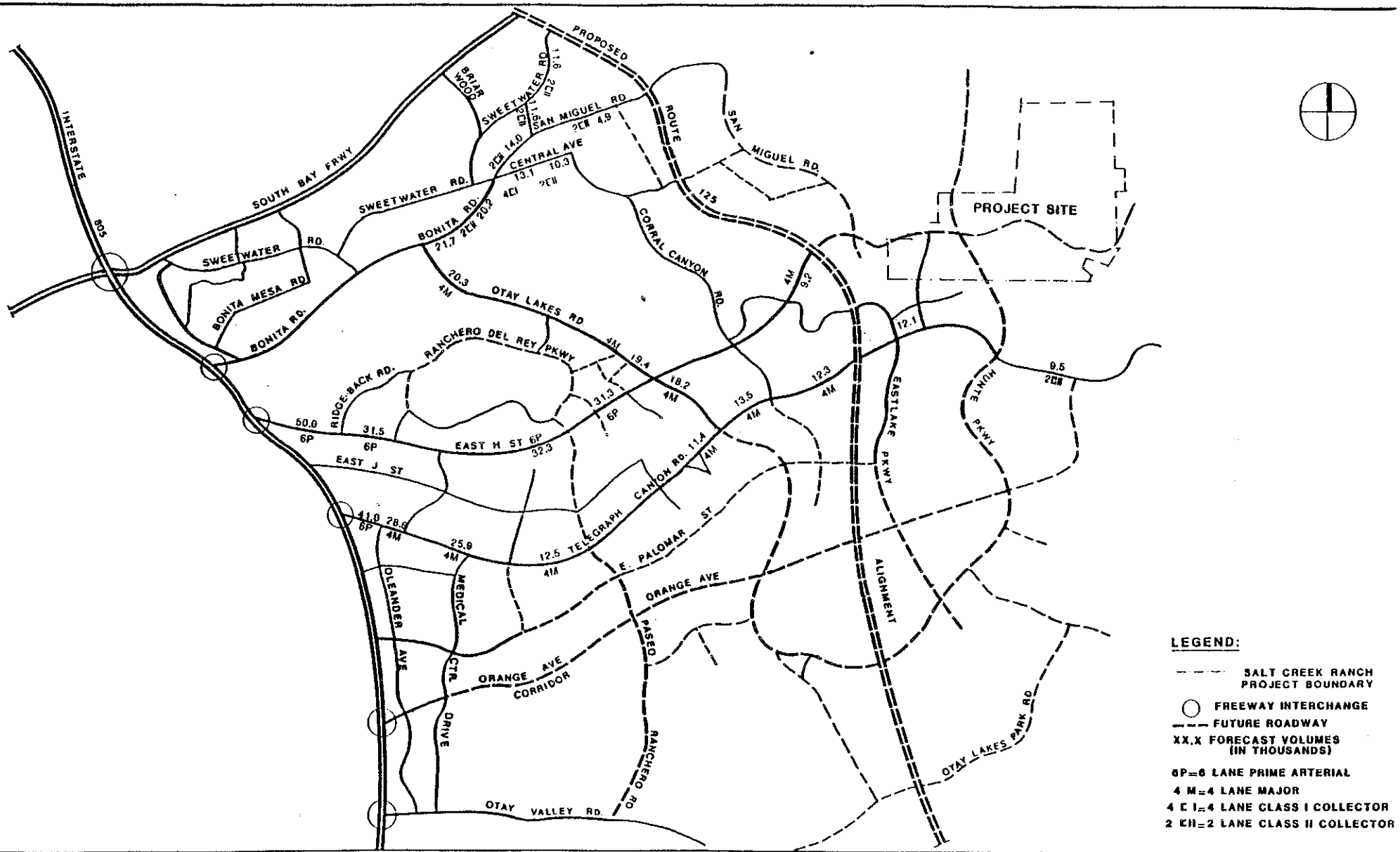
(a) SOURCE: "East Chula Vista Transportation Phasing Plan" prepared by Willdan Assoc. dated June 6, 1989

The data presented in Table 8 was taken from the ECVTPP report and represents the most current land use circulation system improvement. The following paragraphs summarize assumptions.

Increment 1 assumed the development of 2,100 dwelling units, 30 acres of industrial and 11 acres of commercial land uses with the DIF study area. Figure 13 presents daily forecast volumes and assumed street network assumptions under the ECVTPP increment 1 development. In order to accommodate daily traffic volumes associated with the assumed development within this increment, Telegraph Canyon Road would require improvement to four travel lanes (divided) between Paseo Ladera and Otay Lakes Road. Otay Lakes Road between Telegraph Canyon Road and Lane Avenue will require improvement to four travel lanes (divided) to accommodate anticipated traffic volumes at an acceptable level of service. Otay Lakes Road between Bonita Road and East H Street was required to be improved to four-travel lanes (divided) to operate at an acceptable level of service. Bonita Road between Otay Lakes Road and San Miguel Road was forecast to operate below LOS C as a two lane roadway, however, these roadway segments are currently under County of San Diego jurisdiction and are not significantly impacted by development in early Transportation Phasing Plan (TPP) increments. All other street segments are projected to operate at LOS C or better.

Increment 2 assumed the cumulative development of 4,100 dwelling units, 59 acres of industrial, and 42 acres of commercial land uses in the DIR study area. Figure 14 depicts the daily forecast volumes and street network assumptions under ECVTPP increment 2 development. In order to accommodate daily traffic volumes associated with this increment, Medical Center Drive would require construction to four lane Class 1 collector standards from Medical Center Court south to East Orange Avenue. Bonita Road east of Otay Lakes Road and Sweetwater Road between Bonita Road and State Route 54 are projected to operate below LOS C as two lane roadways, however, these roadway segments are currently under County jurisdiction and are not significantly impacted by development in early TPP increments. All other street segments are forecast to operate at LOS C or better with previous improvements.

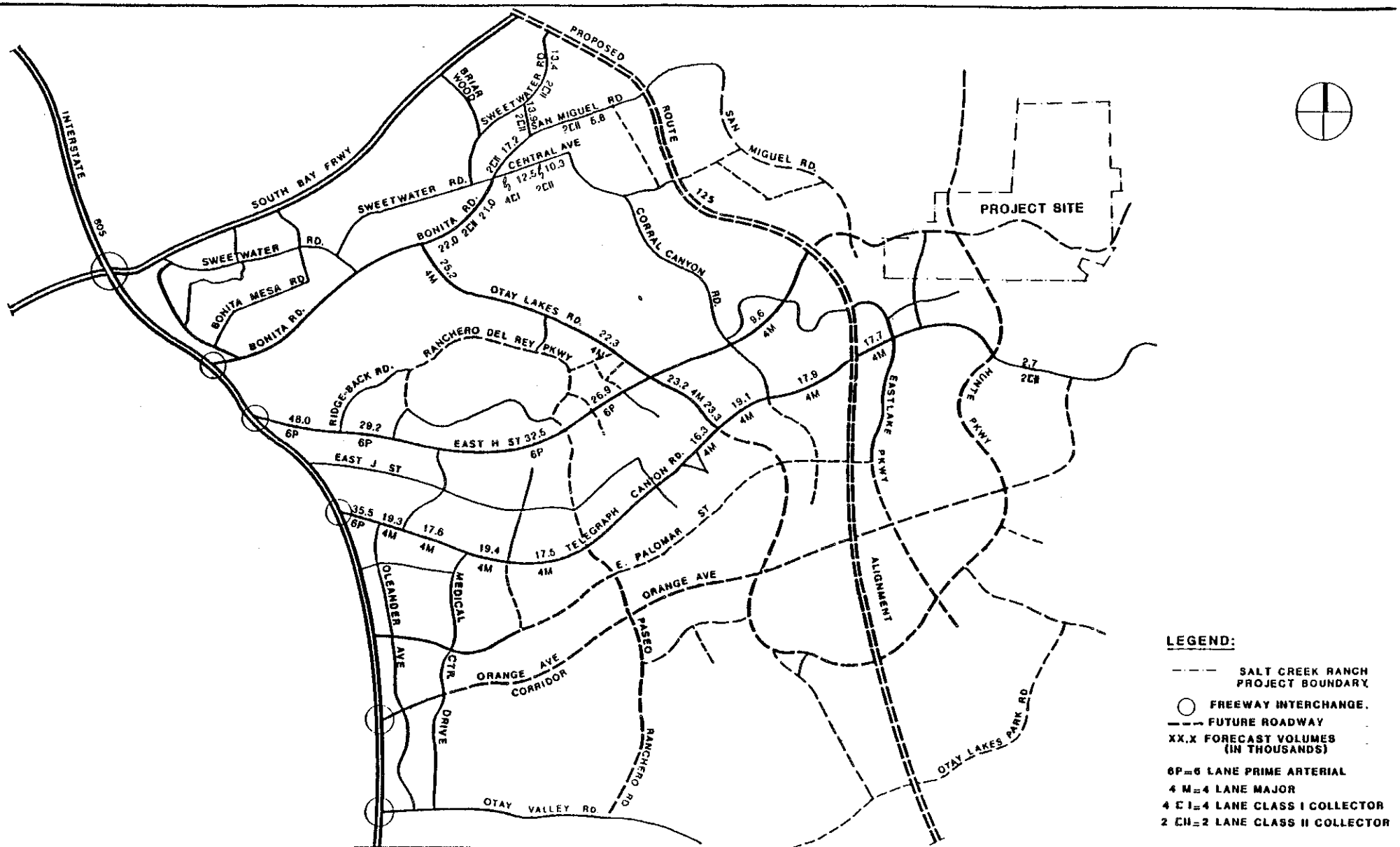
Increment 3 assumed the cumulative development of 6,100 dwelling units, 94 acres of industrial, and 62 acres of commercial land uses in the DIF study area. Figure 15 presents the daily forecast volumes and street network assumptions under cumulative ECVTPP increment 3 development. In order to accommodate daily traffic volumes associated with this increment, Telegraph Canyon Road between Otay Lakes Road and EastLake Parkway will require widening to six travel lanes (divided). Bonita Road will require improvement to four travel lanes (divided) between Otay Lakes



BDI
BASMACIYAN-DARNELL, INC

FIGURE 1

ECVTPP INCREMENT 1 DAILY FORECAST VOLUMES (IN THOUSANDS) AND STREET NET WORK ASSUMPTIONS



BDI
BASMACIYAN-DARNELL, INC.

FIGURE 14

ECVTPP INCREMENT 2 DAILY FORECAST VOLUMES (IN THOUSANDS) AND STREET NET WORK ASSUMPTIONS

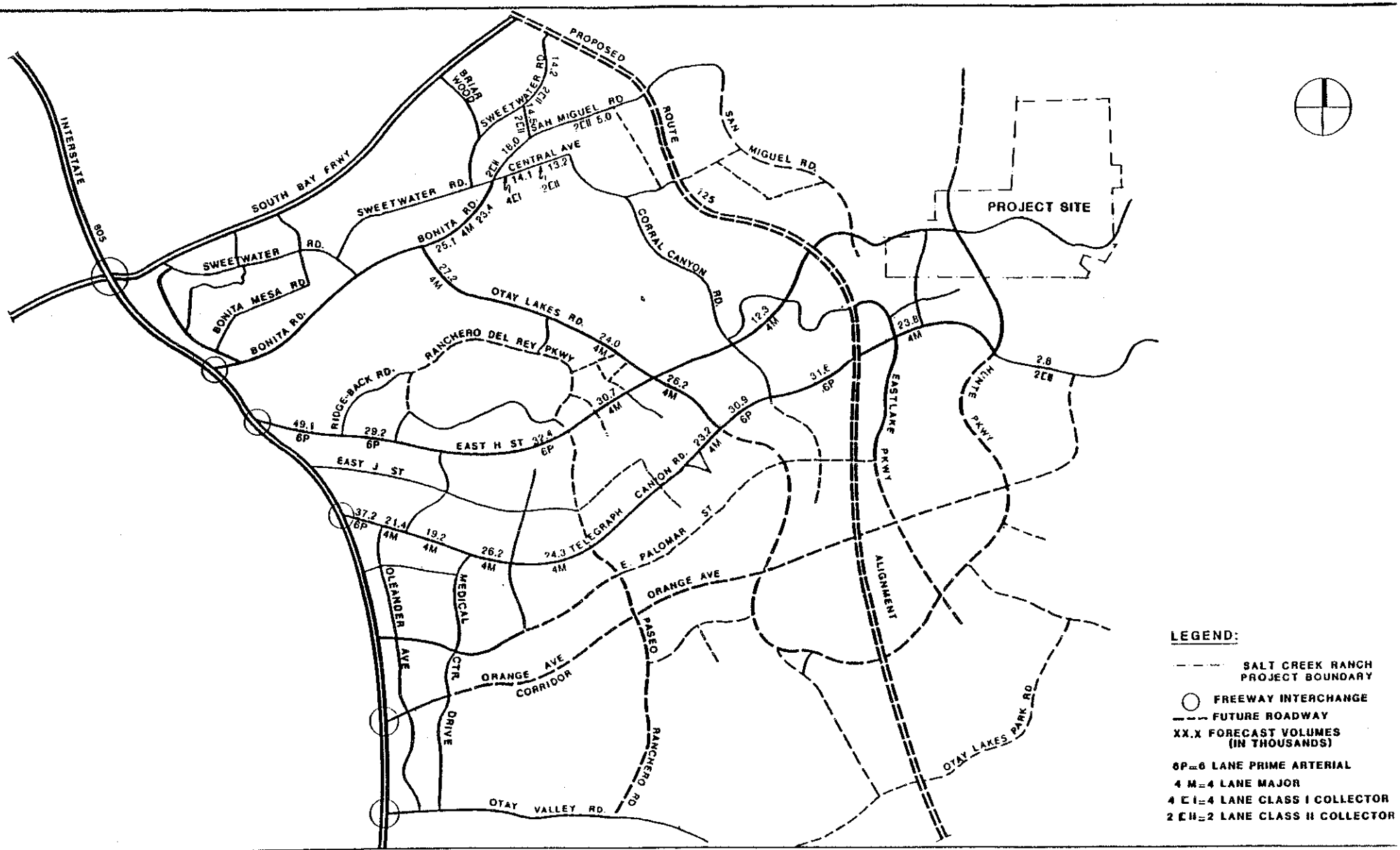


FIGURE 15

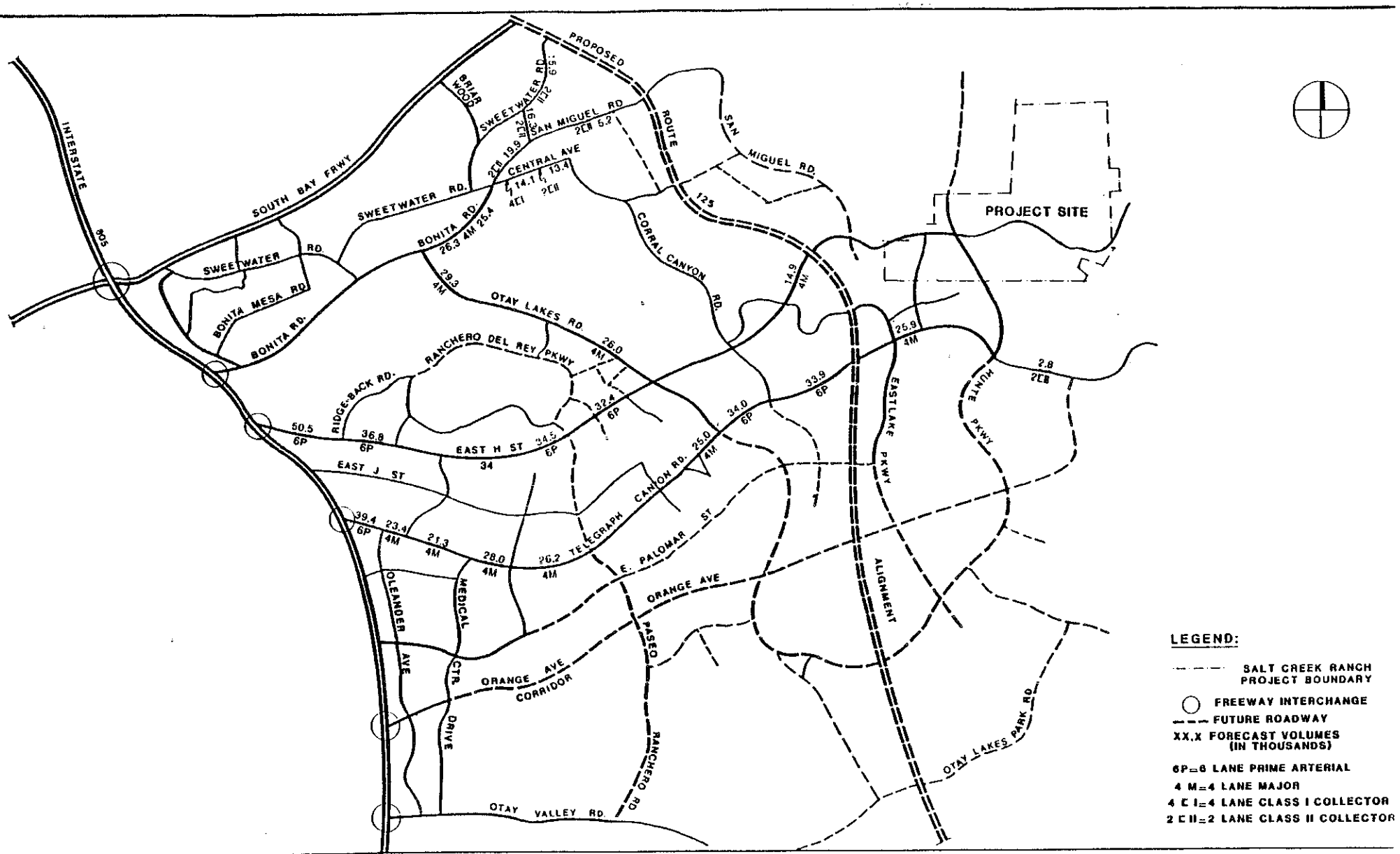
ECVTPP INCREMENT 3 DAILY FORECAST VOLUMES (IN THOUSANDS) AND STREET NET WORK ASSUMPTIONS

BASMACIYAN-DARNELL, INC.

Road and Central Avenue to provide an acceptable level of service. It should be noted, that this is a County of San Diego Transnet (Proposition A) project funded by local sales tax revenues approved by voters in 1987. East Orange Avenue between Interstate 805 and Medical Center Drive will require improvement to four travel lanes (divided) to accommodate forecast daily traffic volumes. Paseo Ladera will require construction to four lane Class 1 collector standards between Telegraph Canyon Road and East Palomar Street in this development increment. Bonita Road east of Central Avenue, Sweetwater Road between Bonita Road and State Route 54 and Central Avenue between Frisbie Street and Corral Canyon Road are projected to operate below LOS C as two lane roadways. However, these street segments are under County jurisdiction and are not significantly impacted by development in early TPP increments. All other roadway segments are forecast to operate at LOS C or better under increment 3 network assumptions.

Increment 4 assumed cumulative development of 7,600 dwelling units, 126 acres of industrial, and 71 acres of commercial land uses within the DIF study area. Figure 16 depicts the daily forecast volumes and street network assumptions under cumulative ECVTPP increment 4 development. No street network improvements were assumed under cumulative increment 4 development. Bonita Road east of Central Avenue, Sweetwater Road between Bonita Road and State Route 54 and Central Avenue between Frisbie Street and Corral Canyon Road are projected to operate below LOS C as two lane roadways. These street segments are under County jurisdiction and are not significantly impacted by development under early TPP development. All other street segments are forecast to operate at LOS C or better under cumulative ECVTPP increment 4 development.

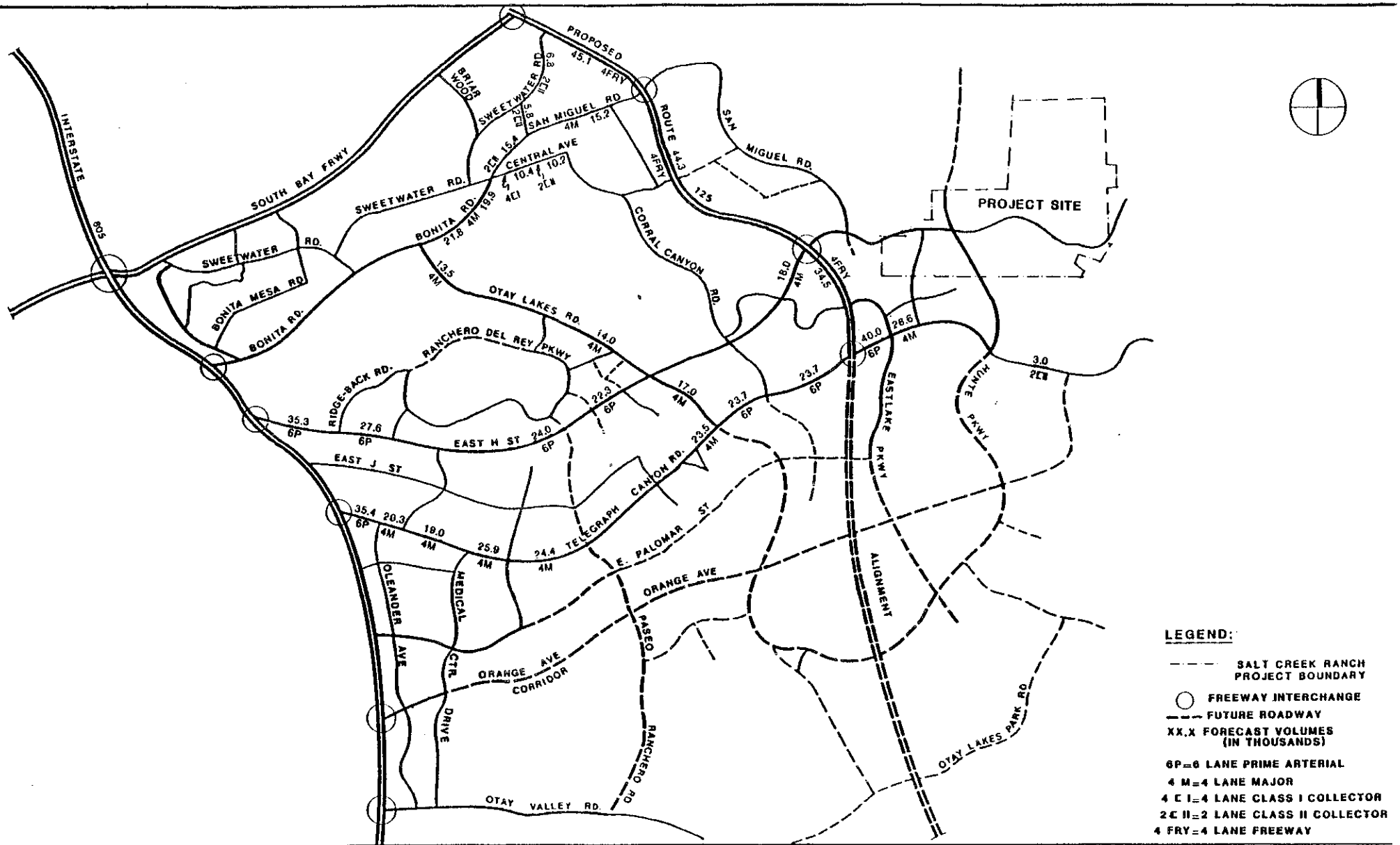
Increment 5 assumed cumulative development of 9,100 dwelling units, 172 acres of industrial, and 85 acres of commercial land uses within the DIF study area. Figure 17 presents the daily forecast volumes and street network assumptions under cumulative ECVTPP increment 5 development. In order to accommodate daily traffic volumes associated with the assumed development within this increment, the construction of State Route 125 between State Route 54 and Telegraph Canyon Road as a four lane freeway with interchanges at State Route 54, San Miguel Road, East H Street and Telegraph Canyon Road will be required. San Miguel Road between Bonita Road and State Route 125 will require improvement to four lane Class 1 collector standards to provide an acceptable level of service. Bonita Road between Central Avenue and San Miguel Road will continue to operate below LOS C as a two lane roadway. As previously mentioned, this segment is under County jurisdiction and is not significantly impacted by development in early TPP increments. All other roadway segments were forecast to operate at LOS C or better under cumulative ECVTPP increment 5 development.



BDI
BASMACIYAN-DARNELL, INC

FIGURE 16

ECVTPP INCREMENT 4 DAILY FORECAST VOLUMES (IN THOUSANDS) AND STREET NET WORK ASSUMPTIONS



BDI
BASMACIYAN-DARNELL, INC.

FIGURE 17

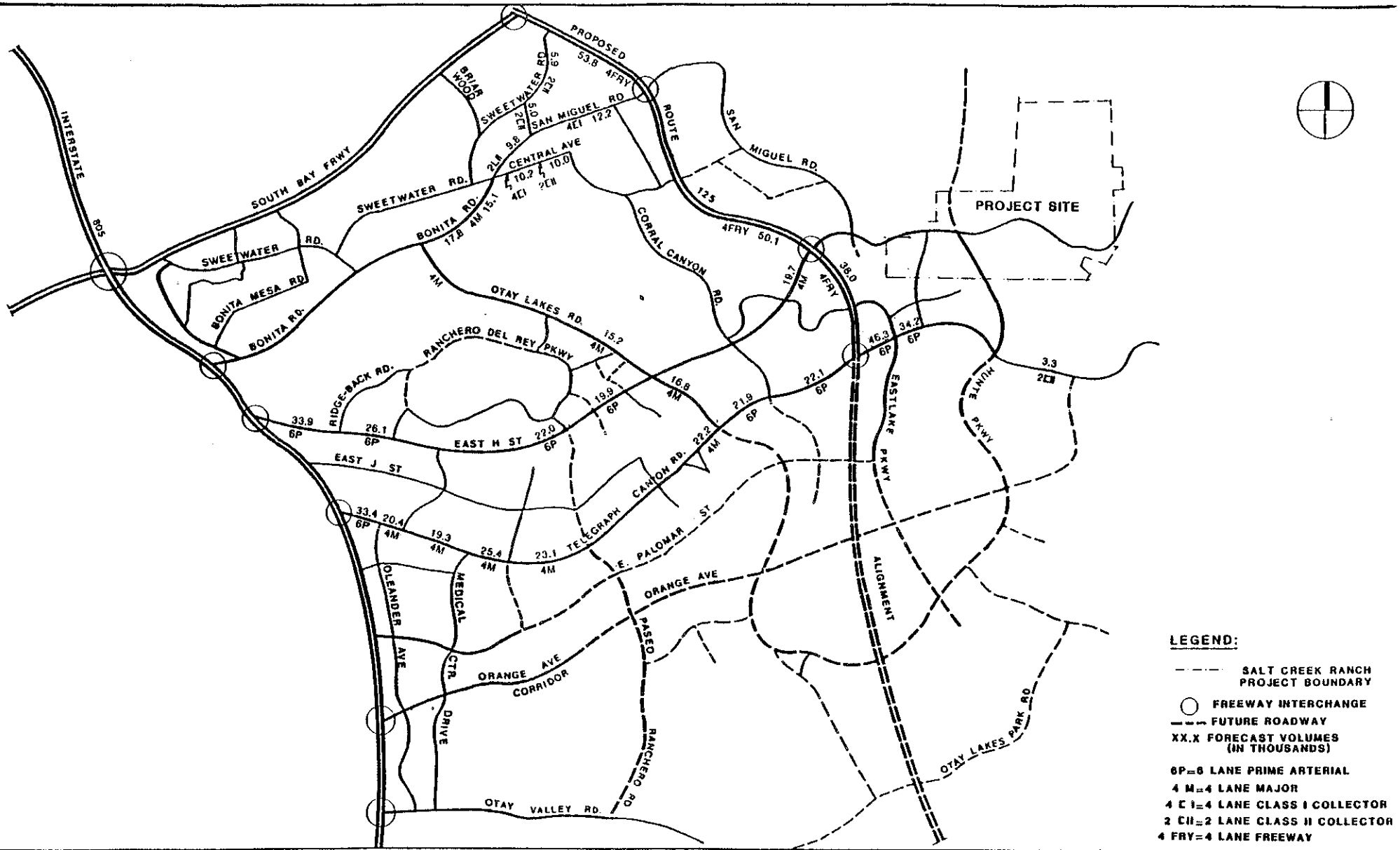
ECVTPP INCREMENT 5 DAILY FORECAST VOLUMES (IN THOUSANDS) AND STREET NET WORK ASSUMPTIONS

Increment 6 assumed cumulative development of 10,600 dwelling units, 199 acres of industrial, and 99 acres of commercial land uses within the DIF study area. Figure 18 depicts the daily forecast volumes and street network assumptions under cumulative ECVTPP increment 6 development. In order to accommodate daily traffic volumes associated with cumulative development within this increment, the South Bay Parkway (State Route 54) will require upgrading to freeway standards (four lanes) with interchanges at all current at-grade intersections. East Orange Avenue will require construction to four travel lanes (divided) east of Medical Center Drive to the Sunbow II eastern boundary to accommodate projected daily traffic volumes. All other street segments are forecast to operate at LOS C or better under cumulative ECVTPP increment 6 development.

Increment 7 assumed the cumulative development of 12,100 dwelling units, 220 acres of industrial, and 99 acres of commercial land uses within the DIF study area. Figure 19 presents the daily forecast volumes and street network assumptions under cumulative ECVTPP increment 7 development. Street network improvements from earlier increments will accommodate forecast daily traffic volumes associated with cumulative ECVTPP increment 7 development at LOS C or better.

Increment 8 assumed the cumulative development of 13,400 dwelling units, 258 acres of industrial, and 104 acres of commercial land uses within the DIF study area. Figure 20 presents the daily forecast volumes and street network assumptions under cumulative ECVTPP increment 8 development. Street network improvements from earlier increments will accommodate forecast daily traffic volumes associated with cumulative ECVTPP increment 8 development at LOS C or better.

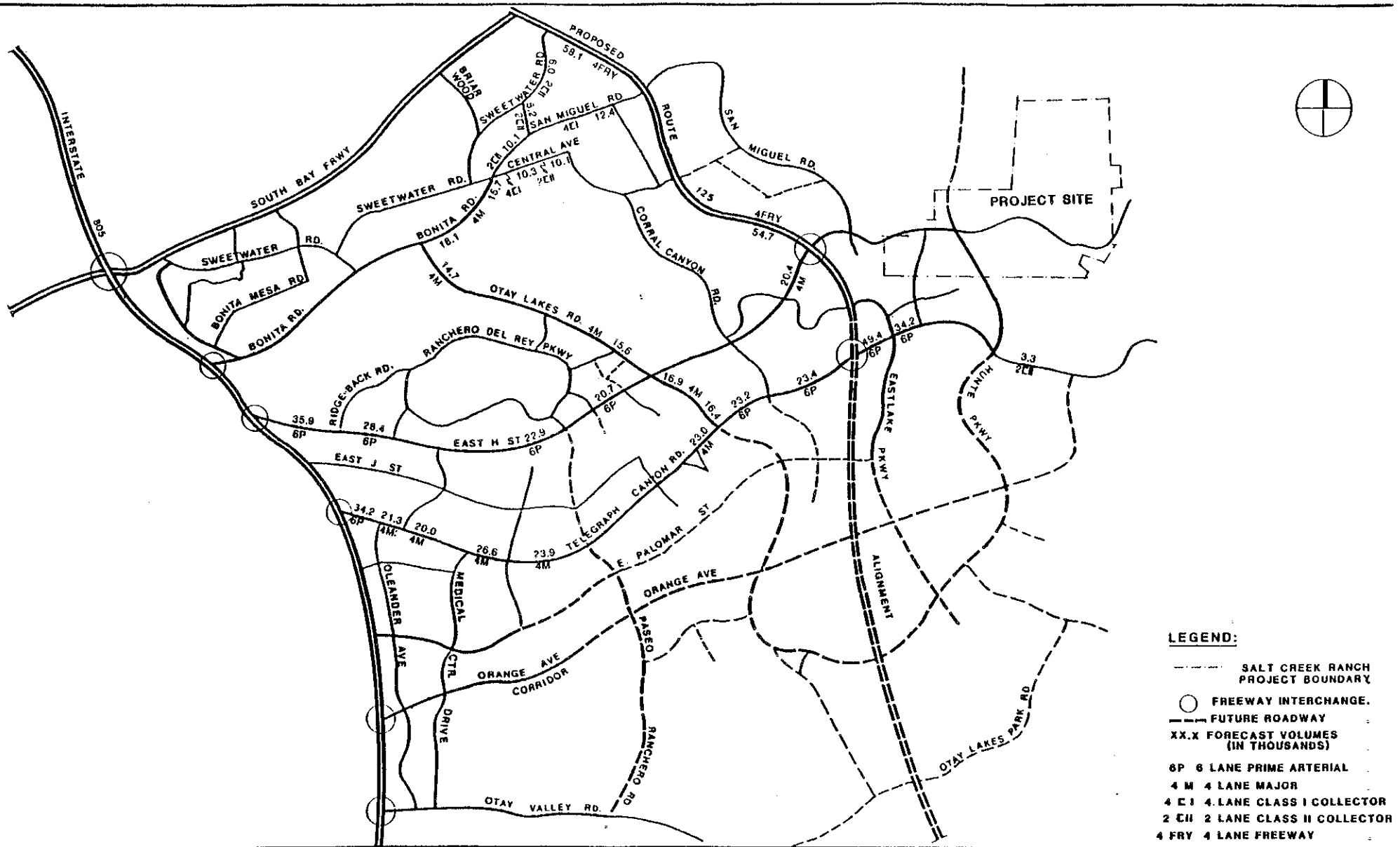
Increment 9 assumed the cumulative development of 14,800 dwelling units, 287 acres of industrial, and 109 acres of commercial land uses within the DIF study area. Figure 21 presents the daily forecast volumes and street network assumptions under cumulative ECVTPP increment 9 development. In order to accommodate daily forecast traffic volumes associated with cumulative increment 9 development, State Route 125 will require construction between Telegraph Canyon Road and East Palomar Street as a four lane freeway (with an interchange at East Palomar Street). East Palomar Street will concurrently require construction between State Route 125 and EastLake Parkway with four travel lanes (divided). Telegraph Canyon Road between Oleander Drive and Paseo Ladera will require improvement to six travel lanes (divided) to provide acceptable levels of service along these segments. All other street segments are projected to provide LOS C or better under cumulative ECVTPP increment 9 development with improvements from previous increments.



BDI
BASMACIYAN-DARNELL, INC

FIGURE 18

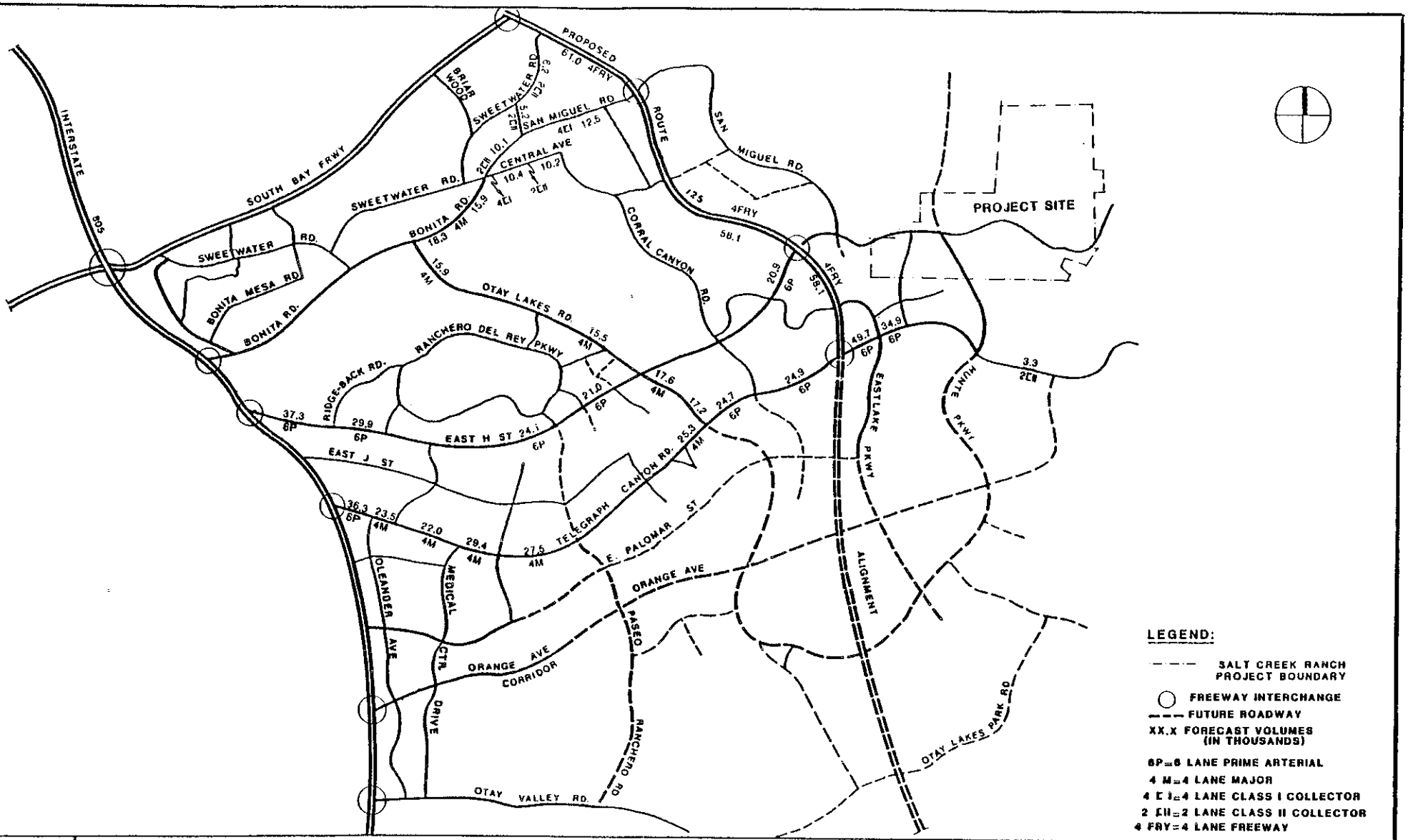
ECVTPP INCREMENT 6 DAILY FORECAST VOLUMES (IN THOUSANDS) AND STREET NET WORK ASSUMPTIONS



BDI
BASMACIYAN-DARNELL, INC

FIGURE 19

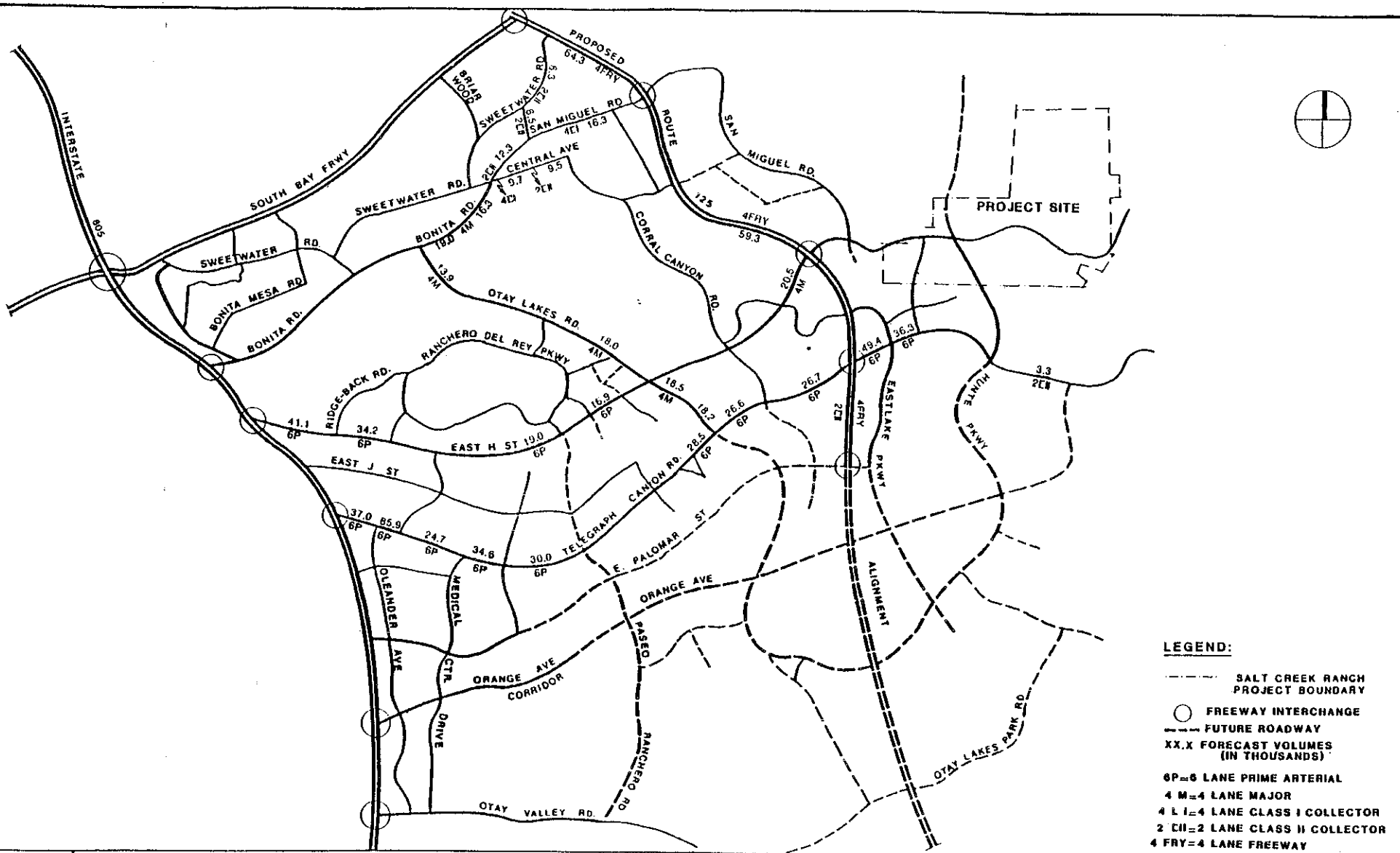
ECVTPP INCREMENT 7 DAILY FORECAST VOLUMES (IN THOUSANDS) AND STREET NET WORK ASSUMPTIONS



BDI
BASMACIYAN-DARNELL, INC

FIGURE 20

ECVTPP INCREMENT 8 DAILY FORECAST VOLUMES (IN THOUSANDS) AND STREET NET WORK ASSUMPTIONS



BDI
BASHAM CIVAN DARNELL, INC

FIGURE 21

ECUTPP INCREMENT 9 DAILY FORECAST VOLUMES (IN THOUSANDS) AND STREET NET WORK ASSUMPTIONS

Increment 10 assumed the cumulative development of 16,300 dwelling units, 313 acres of industrial, and 114 acres of commercial land uses within the DIF study area. Figure 22 presents the daily forecast volumes and street network assumptions under cumulative ECVTPP increment 10 development. In order to accommodate cumulative increment 10 development daily forecast traffic volumes, Telegraph Canyon Road will require improvement to six travel lanes (divided) between Paseo Ladera and Otay Lakes Road. All other street segments are forecast to operate at LOS C or better under cumulative ECVTPP increment 10 development with improvements from previous increments.

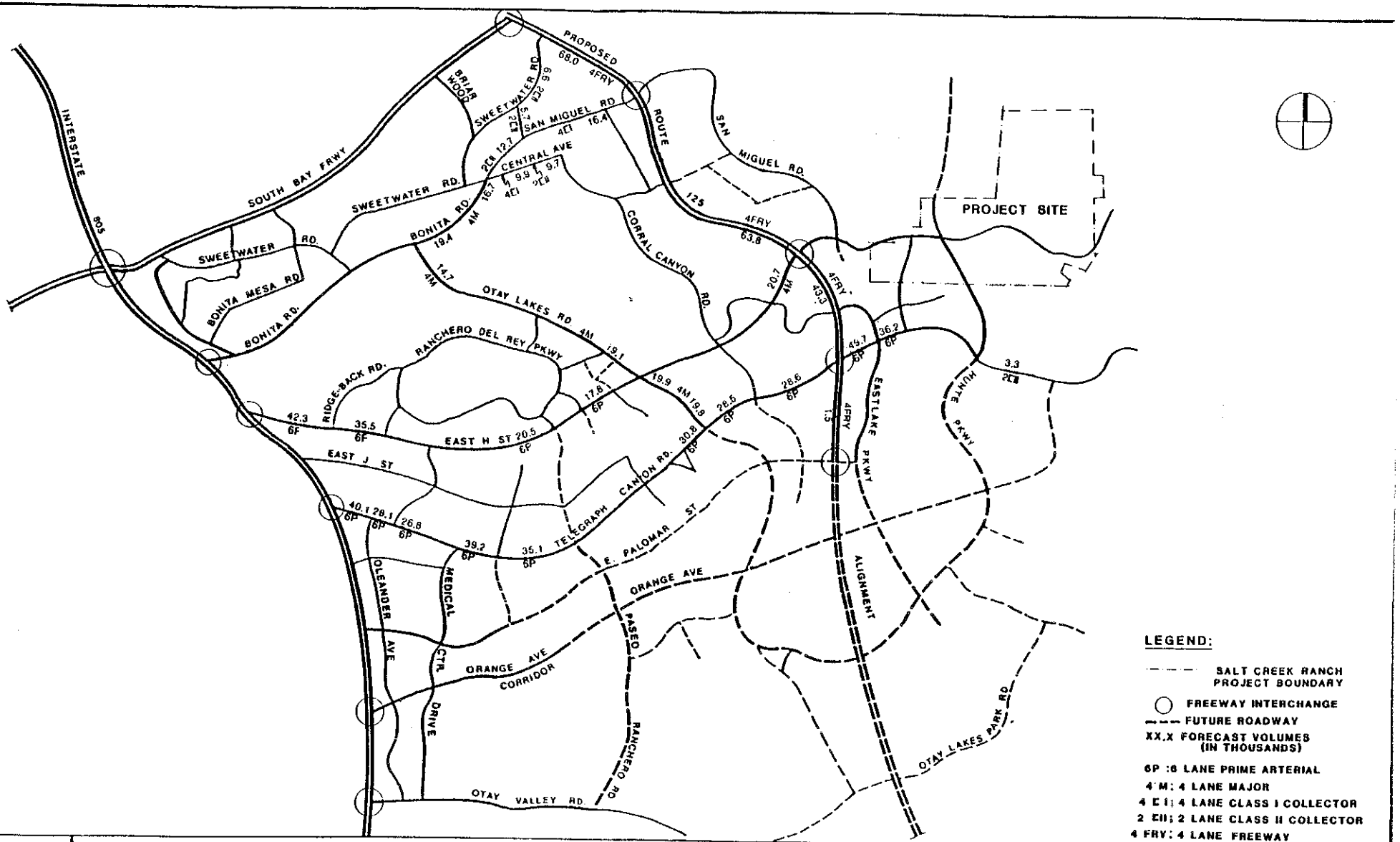
Increment 11 assumed the cumulative development of 17,091 dwelling units, 333 acres of industrial, and 114 acres of commercial land uses within the DIF study area. Figure 23 depicts the daily forecast volumes and street network assumptions under cumulative ECVTPP increment 11 development. Street network improvements from earlier increments will accommodate forecast daily traffic volumes associated with cumulative ECVTPP increment 11 development at LOS C or better on all street segments.

The ECVTPP assumed a total of 2,834 dwelling units for the Salt Creek Ranch for the eleven development increments analyzed. The study generally assumed Salt Creek Ranch development phasing of 300 dwelling units per increment commencing with increment 3 and continuing through increment 11. The Salt Creek Ranch total proposed dwelling units are greater than included in the ECVTPP, in terms of total dwelling units and possibly in terms of development phasing. As the City annually updates the ECVTPP, a more precise project phasing analysis can be provided as well as updating of specific development proposals.

The ECVTPP is to be prepared annually to ensure construction of major circulation roadways in East Chula Vista and to assure compliance with the City's Growth Management Plan. Developers will be required to construct Circulation Element roadways which are internal to their respective projects and receive credit toward their DIF contributions. Therefore Salt Creek Ranch will be required to construct East H Street, Hunte Parkway, and Lane Avenue to ultimate standards through the project will contribute to off-site roadways on a fair share basis with other area developers as required by the ECVTPP. The developers responsibility will be updated with each ECVTPP update.

CONCLUSIONS AND RECOMMENDATIONS

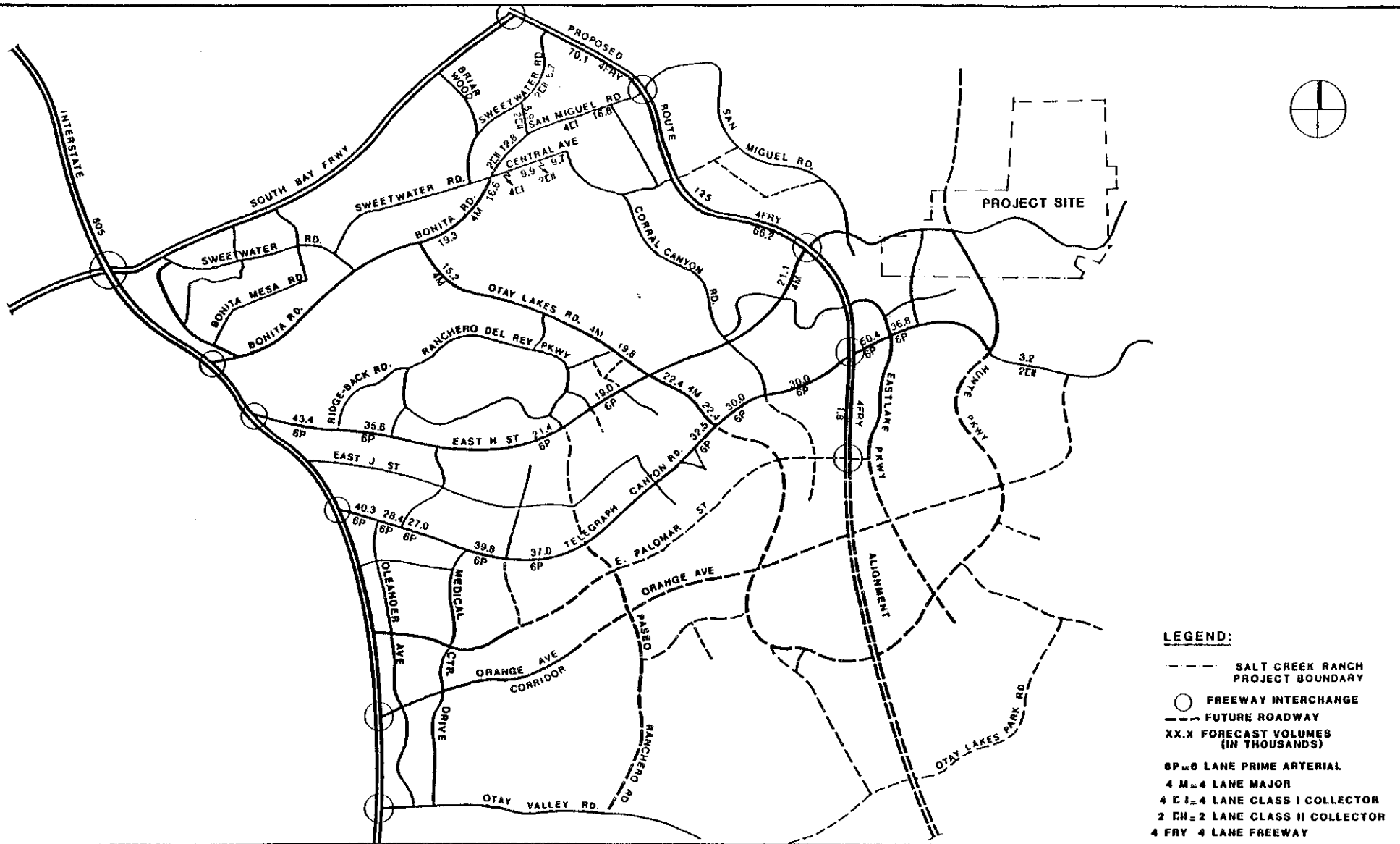
- The Salt Creek Ranch project is located in the extreme northeast corner of the City of Chula Vista Eastern Territories planning area. The proposed General Development Plan



BDI
BASMACIYAN-DARNELL, INC

FIGURE 22

ECVTPP INCREMENT 10 DAILY FORECAST VOLUMES (IN THOUSANDS) AND STREET NET WORK ASSUMPTIONS



BDI
BASMACIYAN-DARNELL, INC

FIGURE 23

ECVTPP INCREMENT 11 DAILY FORECAST VOLUMES (IN THOUSANDS) AND STREET NET WORK ASSUMPTIONS

indicates 3,644 dwelling units (and other supporting park uses) which is above the target density in the City of Chula Vista General Plan, but still within the range of densities currently designated.

- Currently most street segments surrounding the project site carry daily traffic volumes which are below the maximum daily traffic volumes for LOS C. However, a number of rural two lane double or triple the maximum recommended level of service C volumes.

- Most intersections in the project vicinity currently operate at LOS C or better during both the morning and afternoon peak hours. The currently unsignalized intersection of Telegraph Canyon Road/Otay Lakes Road experiences LOS F and E during the morning and afternoon peak hours, respectively, for the minor approach left turning vehicles (southbound on Otay Lakes Road). The signal for this intersection is currently being designed to coincide with the widening of Telegraph Canyon Road to four lanes by the Eastlake Development Company.

  The unsignalized intersection of Telegraph Canyon Road/Rutgers Avenue experiences delays (LOS D) for left turning vehicles from the minor street approach (Rutgers Avenue) during the afternoon peak hour. This intersection is planned for future signalization.

- At buildout of the proposed Salt Creek Ranch, the project can be expected to generate approximately 36,450 trip ends per day, with approximately 2,915 and 3,644 trips ends to occur during the morning and afternoon peak hour periods, respectively.

- Under buildout conditions within the City of Chula Vista General Planning area (and Otay Mesa), most street segments in the Eastern Territories are projected to carry daily traffic volumes below the City of Chula Vista's LOS C recommended daily traffic volumes. The following street segments are forecast to carry traffic volumes above the City's LOS C maximum recommended daily traffic volumes:

  East Orange Avenue from Medical Center Drive to I-805
  Portions of Bonita Road from Central Avenue to I-805
  Otay Lakes Road just south of East Orange Avenue
  East H Street just east of I-805

  The Salt Creek Ranch project contributes insignificantly to these street segments (between zero and three percent) under buildout conditions.

- East H Street through the project should be constructed to ultimate four lane major street standards consistent with the City of Chula Vista design criteria.

- Lane Avenue should be constructed to ultimate Class I Collector standards from its existing northern terminus at the project's southern boundary to East H Street consistent with the City of Chula Vista's design criteria.

- The intersections Hunte Parkway and Lane Avenue with East H Street will require the following lane configurations to accommodate forecast buildout daily traffic volumes:

<u>East H Street/Lane Avenue</u>

Eastbound East H St.	- Two through, one right
Westbound East H St.	- One left, two through
Northbound Lane Ave.	- Two left, one right

<u>East H Street/Hunte Parkway</u>

Eastbound East H St.	- Two left, one through, one through/right
Westbound East H St.	- Two left, one through, one through/right
Northbound Hunte Pkwy.	- Two left, one through/right
Southbound Hunte Pkwy.	- Two left, one through/right

- Traffic signals would be warranted at the intersections of East H Street with both Lane Avenue and Hunte Parkway.

- Specific project access and internal circulation issues should be addressed to the satisfaction of the City Traffic Engineer at the time Tentative Maps are processed.

- The cumulative assessment and phasing of development and circulation system improvements has been assessed in the "East Chula Transportation Phasing Plan." The project is included in the analysis and should be required to participate in the program including funding the necessary off-site improvements on a fair share basis with other area developers. This phasing plan will be updated annually and each update will reflect changing development plan patterns, as well as necessary circulation system improvements to accommodate the development in the Chula Vista Eastern Territories.

APPENDIX A

City of Chula Vista
LOS C Capacities for Street Segments

Source: City of Chula Vista
General Plan
(pages 2-18)

acceptable Level of Service, referred to as grade C, occurs when the demand volume on the facility reaches 80% of the capacity of the facility. This table identifies only those facilities which comprise the local circulation system. Thus, the capacity levels for the freeways serving Chula Vista are excluded. The circulation plan developed for this element utilized Level of Service C as the guideline for determining the functional class of individual facilities, based on forecasted ADT volumes resulting from the proposed general plan land uses.

TABLE 2-1

ROADWAY CAPACITY STANDARDS

Facility Type	# of Lanes	Approx. LOS C ADT
Expressway	6	70,000
Six-Lane Prime Arterial	6	50,000
Six-Lane Major Street	6	40,000
Four-Lane Major Street	4	30,000
Class I Collector	4	22,000
Class II Collector	2	12,000
Class III Collector	2	7,500

A city policy entitled "Threshold/Standards and Growth Management Oversight Committee" (November 17, 1987) requires that all intersections throughout the city maintain operating conditions of Level of Service C or better, with the exception that Level of Service D may occur at signalized intersections for a period not to exceed a total of two hours per day. This policy requires the periodic review of intersection operations and changing volume levels. As

APPENDIX B

Existing Peak Hour Training
Movement Count Summary Sheets

AM PEAK 1728

TURNING MOVEMENT COUNT SUMMARY

AM COUNT

DATE COUNT TAKEN: 2/01/89 CITY: BONITA
INTERSECTION: BONITA RD. / OTAY LAKES RD.
PEAK HOUR: 7.30 AM TO 8.30 AM

	(E/W STREET)						(N/S STREET)									
	Eastbound			Westbound			Northbound			Southbound						
Time	L	T	R	L	T	R	L	T	R	L	T	R	E+W	N+S	Total	Peak Hour
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
6:30 AM	0	15	5	9	30	0	15	0	1	0	0	0	59	16	75	
6:45 AM	0	48	52	51	98	0	82	0	4	0	0	0	249	86	335	410
7:00 AM	0	24	43	51	153	0	67	0	0	0	0	0	271	67	338	748
7:15 AM	0	56	34	40	162	0	90	0	1	0	0	0	292	91	383	1131
7:30 AM	0	81	30	71	177	0	93	0	0	0	0	0	359	93	452	1508
7:45 AM	0	73	49	67	152	0	92	0	3	0	0	0	341	95	436	1609
8:00 AM	0	55	43	103	111	0	84	0	11	0	0	0	312	95	407	1678
8:15 AM	0	58	71	77	149	0	70	0	8	0	0	0	355	78	433	1728
8:30 AM	0	101	47	62	127	0	75	0	12	0	0	0	337	87	424	1700
8:45 AM	0	60	33	40	132	0	62	0	2	0	0	0	265	64	329	1593 1728
PEAK PERIOD	0	267	193	318	589	0	339	0	22	0	0	0				
	0	0	0	0	0	0	0	0	0	0	0	0				

PM PEAK 2385

TURNING MOVEMENT COUNT SUMMARY

PM COUNT

DATE COUNT TAKEN: 2/01/89 CITY: BONITA
INTERSECTION: BONITA RD. / OTAY LAKES RD.
PEAK HOUR: 4.30 PM TO 5.30 PM

	(E/W STREET)						(N/S STREET)									
	Eastbound			Westbound			Northbound			Southbound						
Time	L	T	R	L	T	R	L	T	R	L	T	R	E+W	N+S	Total	Peak Hour
3:30 PM	0	172	86	37	96	0	89	0	8	0	0	0	391	97	488	
3:45 PM	0	208	95	59	82	0	78	0	22	0	0	0	444	100	544	
4:00 PM	0	220	79	37	71	0	92	0	26	0	0	0	407	118	525	
4:15 PM	0	264	97	38	67	0	42	0	22	0	0	0	466	64	530	2087
4:30 PM	0	252	93	61	85	0	77	0	19	0	0	0	491	96	587	2186
4:45 PM	0	316	69	52	95	0	85	0	12	0	0	0	532	97	629	2271
5:00 PM	0	230	56	43	65	0	93	0	28	0	0	0	394	121	515	2261
5:15 PM	0	306	79	93	77	0	65	0	34	0	0	0	555	99	654	2385
5:30 PM	0	178	51	65	108	0	69	0	22	0	0	0	402	91	493	2291
5:45 PM	0	107	28	43	84	0	74	0	52	0	0	0	262	126	388	2050
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1535
6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	881 2385
PEAK PERIOD	0	1104	297	249	322	0	320	0	93	0	0	0				
	0	0	0	0	0	0	0	0	0	0	0	0				

AM PEAK 1653

TURNING MOVEMENT COUNT SUMMARY

AM COUNT

DATE COUNT TAKEN: 1/31/89 CITY: SAN DIEGO
INTERSECTION: BONITA ROAD / CENTRAL AVE.
PEAK HOUR: 7.00 AM TO 8.00 AM

	(E/W STREET)						(N/S STREET)									
	Eastbound			Westbound			Northbound			Southbound						
Time	L	T	R	L	T	R	L	T	R	L	T	R	E+W	N+S	Total	Peak Hour
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
6:30 AM	5	26	14	2	72	10	0	47	1	4	20	13	129	85	214	
6:45 AM	4	51	27	3	77	9	113	53	3	5	28	44	171	246	417	631
7:00 AM	10	48	23	2	83	4	65	55	2	5	8	25	170	160	330	961
7:15 AM	6	51	24	3	97	12	82	72	3	5	11	19	193	192	385	1346
7:30 AM	12	77	25	2	99	13	67	54	6	9	20	40	228	196	424	1556
7:45 AM	20	64	32	5	154	14	85	54	8	6	36	36	289	225	514	1653
8:00 AM	5	32	29	2	59	10	60	32	5	4	12	14	137	127	264	1587
8:15 AM	21	47	24	3	65	6	44	36	12	4	20	39	166	155	321	1523
8:30 AM	20	58	27	1	70	5	60	32	4	1	15	29	181	141	322	1421
8:45 AM	23	62	35	6	63	7	40	31	3	1	24	24	196	123	319	1226 1653
PEAK PERIOD	48	240	104	12	433	43	299	235	19	25	75	120				
	0	0	0	0	0	0	0	0	0	0	0	0				

PM PEAK 2319

TURNING MOVEMENT COUNT SUMMARY

PM COUNT

DATE COUNT TAKEN: 1/31/89 CITY: SAN DIEGO
INTERSECTION: BONITA ROAD / CENTRAL AVE.
PEAK HOUR: 4.45 PM TO 5.45 PM

	(E/W STREET)						(N/S STREET)									
	Eastbound			Westbound			Northbound			Southbound						
Time	L	T	R	L	T	R	L	T	R	L	T	R	E+W	N+S	Total	Peak Hour
3:30 PM	41	147	78	3	90	8	61	41	8	10	46	28	367	194	561	
3:45 PM	35	163	88	5	68	11	58	25	13	8	49	41	370	194	564	
4:00 PM	50	113	88	3	57	5	65	40	9	9	44	34	316	201	517	
4:15 PM	41	136	98	6	81	7	52	50	13	11	53	28	369	207	576	2218
4:30 PM	34	125	86	5	52	3	45	27	6	8	45	26	305	157	462	2119
4:45 PM	35	119	106	6	74	14	72	43	13	20	50	22	354	220	574	2129
5:00 PM	47	138	106	2	67	5	53	33	12	16	49	32	365	195	560	2172
5:15 PM	36	130	118	4	97	6	31	39	21	9	64	31	391	195	586	2182
5:30 PM	50	138	82	4	83	7	67	48	7	15	59	39	364	235	599	2319
5:45 PM	44	126	86	1	48	15	32	24	2	8	37	24	320	127	447	2192
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1632
6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1046 2319
PEAK PERIOD	168	525	412	16	321	32	223	163	53	60	222	124				
	0	0	0	0	0	0	0	0	0	0	0	0				

AM PEAK 715

TURNING MOVEMENT COUNT SUMMARY

AM COUNT

DATE COUNT TAKEN: 2/01/89 CITY: BONITA
INTERSECTION: CENTRAL AVE. / CORRAL CYN.
PEAK HOUR: 6.45 AM TO 7.45 AM

	(E/W STREET)						(N/S STREET)									
	Eastbound			Westbound			Northbound			Southbound						
Time	L	T	R	L	T	R	L	T	R	L	T	R	E+W	N+S	Total	Peak Hour
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
6:30 AM	0	5	40	0	20	0	52	0	0	0	0	0	65	52	117	
6:45 AM	0	7	90	3	33	0	46	0	0	0	0	0	133	46	179	296
7:00 AM	0	7	38	0	52	0	77	0	3	0	0	0	97	80	177	473
7:15 AM	0	10	37	5	54	0	91	0	2	0	0	0	106	93	199	672
7:30 AM	0	12	30	3	30	0	75	0	10	0	0	0	75	85	160	715
7:45 AM	0	11	71	0	29	0	59	0	2	0	0	0	111	61	172	708
8:00 AM	0	9	39	2	26	0	57	0	1	0	0	0	76	58	134	665
8:15 AM	0	12	38	0	26	0	50	0	2	0	0	0	76	52	128	594
8:30 AM	0	8	33	0	30	0	45	0	1	0	0	0	71	46	117	551
8:45 AM	0	10	25	1	12	0	40	0	1	0	0	0	48	41	89	468
PEAK PERIOD	0	36	195	11	169	0	289	0	15	0	0	0				
	0	0	0	0	0	0	0	0	0	0	0	0				

715

PM PEAK 751

TURNING MOVEMENT COUNT SUMMARY

PM COUNT

DATE COUNT TAKEN: 2/01/89 CITY: BONITA
INTERSECTION: CENTRAL AVE. / CORRAL CYN.
PEAK HOUR: 4.30 PM TO 5.30 PM

	(E/W STREET)						(N/S STREET)									
	Eastbound			Westbound			Northbound			Southbound						
Time	L	T	R	L	T	R	L	T	R	L	T	R	E+W	N+S	Total	Peak Hour
3:30 PM	0	12	55	0	17	0	76	0	0	0	0	0	84	76	160	
3:45 PM	0	26	64	2	14	0	49	0	4	0	0	0	106	53	159	
4:00 PM	0	27	58	1	15	0	58	0	1	0	0	0	101	59	160	
4:15 PM	0	33	57	0	22	0	45	0	1	0	0	0	112	46	158	637
4:30 PM	0	36	57	2	22	0	67	0	0	0	0	0	117	67	184	661
4:45 PM	0	47	84	2	27	0	49	0	0	0	0	0	160	49	209	711
5:00 PM	0	26	78	1	12	0	57	0	1	0	0	0	117	58	175	726
5:15 PM	0	29	85	2	11	0	56	0	0	0	0	0	127	56	183	751
5:30 PM	0	37	60	1	23	0	56	0	2	0	0	0	121	58	179	746
5:45 PM	0	24	71	2	20	0	41	0	1	0	0	0	117	42	159	696
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	521
6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	338 751
PEAK PERIOD	0	138	304	7	72	0	229	0	1	0	0	0				
	0	0	0	0	0	0	0	0	0	0	0	0				

AM PEAK 1456

TURNING MOVEMENT COUNT SUMMARY

AM COUNT

DATE COUNT TAKEN: 2/02/89 CITY: BONITA
INTERSECTION: EAST "H" ST. / CORRAL CYN/RUTGERS AVE.
PEAK HOUR: 7.45 AM TO 8.45 AM

	(E/W STREET)						(N/S STREET)									
	Eastbound			Westbound			Northbound			Southbound						
Time	L	T	R	L	T	R	L	T	R	L	T	R	E+W	N+S	Total	Peak Hour
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
6:30 AM	5	7	1	3	62	6	10	5	0	0	8	17	84	40	124	
6:45 AM	15	30	5	4	90	2	11	8	3	8	22	51	146	103	249	373
7:00 AM	14	34	10	5	106	6	16	9	1	10	11	59	175	106	281	654
7:15 AM	17	24	5	12	15	6	21	5	0	5	12	80	79	123	202	856
7:30 AM	11	22	4	8	218	13	14	6	0	7	12	63	276	102	378	1110
7:45 AM	30	34	9	14	87	8	27	9	6	5	30	102	182	179	361	1222
8:00 AM	21	18	5	8	116	9	31	3	0	7	19	130	177	190	367	1308
8:15 AM	26	18	10	7	92	8	25	7	2	7	17	64	161	122	283	1389
8:30 AM	51	32	11	30	170	7	15	8	6	7	39	69	301	144	445	1456
8:45 AM	33	22	11	12	38	5	5	9	3	6	35	22	121	80	201	1296 1456
PEAK PERIOD	128	102	35	59	465	32	98	27	14	26	105	365				
	0	0	0	0	0	0	0	0	0	0	0	0				

PM PEAK 1211

TURNING MOVEMENT COUNT SUMMARY

PM COUNT

DATE COUNT TAKEN: 2/02/89 CITY: BONITA
INTERSECTION: EAST "H" ST. / CORRAL CYN/RUTGERS AVE.
PEAK HOUR: 4.45 PM TO 5.45 PM

	(E/W STREET)						(N/S STREET)									
	Eastbound			Westbound			Northbound			Southbound						
Time	L	T	R	L	T	R	L	T	R	L	T	R	E+W	N+S	Total	Peak Hour
3:30 PM	33	50	15	8	28	9	15	11	6	5	12	41	143	90	233	
3:45 PM	46	78	21	7	48	6	11	15	4	5	14	41	206	90	296	
4:00 PM	55	57	15	3	42	5	13	11	4	2	10	30	177	70	247	
4:15 PM	36	48	16	3	35	6	3	5	1	7	15	16	144	47	191	967
4:30 PM	57	97	16	5	32	3	15	15	5	5	17	26	210	83	293	1027
4:45 PM	52	98	29	6	41	1	12	12	10	4	13	33	227	84	311	1042
5:00 PM	40	88	19	6	23	6	15	15	8	4	17	22	182	81	263	1058
5:15 PM	68	77	22	1	51	6	10	10	16	13	12	33	225	94	319	1186
5:30 PM	68	105	24	4	53	8	10	10	10	1	2	23	262	56	318	1211
5:45 PM	42	63	16	3	30	7	12	12	8	1	18	32	161	83	244	1144
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	881
6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	562 1211
PEAK PERIOD	228	368	94	17	168	21	47	47	44	22	44	111				
	0	0	0	0	0	0	0	0	0	0	0	0				

JHK & Associates Daily Traffic Intersection Analysis

Intrsction:1 Turning Movement Counts

City: CHULA VISTA

Intersection of: N/S Street: OTAY LAKES

E/W Street: H STREET

Count Date: 04/19/89

Day: WEDNESDAY

File: CV076.WK1

Data Collected by: JC,LS

Data Input by: KJ

Weather: CLEAR

Traffic Control: Signalized

Cumulative Time (Hr.)	End of 15 min. prd.	Northbound Left	Northbound Thru	Northbound Right	Southbound Left	Southbound Thru	Southbound Right	Eastbound Left	Eastbound Thru	Eastbound Right	Westbound Left	Westbound Thru	Westbound Right	15 min. Totals
0.25	06:15 AM	3	119	4	2	22	27	19	17	12	43	9	4	281
0.50	06:30 AM	10	109	0	1	12	13	15	20	4	27	16	6	233
0.75	06:45 AM	6	131	5	7	42	35	18	25	7	53	39	9	377
1.00	07:00 AM	37	284	28	27	72	54	127	64	12	95	60	14	874
1.25	07:15 AM	17	157	10	20	46	45	31	26	17	51	33	4	457
1.50	07:30 AM	19	160	9	20	63	60	59	40	36	42	14	2	524
1.75	07:45 AM *	27	203	17	15	81	57	74	50	49	54	31	6	664
2.00	08:00 AM *	40	200	21	30	127	79	91	43	146	81	31	9	898
2.25	08:15 AM *	33	133	29	23	69	60	90	28	48	41	35	11	600
2.50	08:30 AM *	10	168	56	26	56	92	144	40	45	54	61	11	763
2.75	08:45 AM	9	117	31	24	89	66	103	31	63	68	47	1	649
3.00	09:00 AM	34	127	17	12	131	74	109	40	93	99	64	18	818
0.25	11:45 AM	0	59	5	12	43	33	33	55	32	44	40	15	371
0.50	12:00 PM	12	95	9	22	88	41	79	46	80	93	97	10	672
0.75	12:15 PM	4	38	14	14	39	21	57	53	17	49	49	9	364
1.00	12:30 PM	4	75	20	24	30	35	72	39	27	43	50	2	421
1.25	12:45 PM *	18	67	9	29	69	39	67	60	42	67	56	13	536
1.50	01:00 PM *	2	52	8	13	49	46	48	63	14	60	84	9	448
1.75	01:15 PM *	14	58	11	31	58	41	95	79	30	70	86	9	582
2.00	01:30 PM *	11	44	17	25	38	43	64	35	25	67	63	12	444
0.25	03:15 PM	24	99	24	45	52	46	97	86	34	65	63	15	650
0.50	03:30 PM	9	55	14	64	57	73	93	79	24	49	47	2	566
0.75	03:45 PM	13	98	21	49	60	95	74	93	19	59	64	6	651
1.00	04:00 PM	13	46	11	59	49	75	87	82	38	27	28	5	520
1.25	04:15 PM	18	71	7	37	60	50	85	89	36	46	65	13	577
1.50	04:30 PM	14	55	9	37	61	38	89	126	47	33	27	6	542
1.75	04:45 PM	10	53	7	49	69	49	100	152	57	21	30	6	603
2.00	05:00 PM	12	77	12	40	72	36	49	103	49	53	51	14	568
2.25	05:15 PM *	9	85	15	21	80	37	65	134	48	46	64	9	613
2.50	05:30 PM *	10	81	19	44	60	30	79	160	45	38	49	10	625
2.75	05:45 PM *	14	86	13	48	86	52	112	177	51	56	52	13	760
3.00	06:00 PM *	25	89	20	17	73	54	71	174	74	56	46	19	718
06:00 AM TO 09:00 AM														
Maximum		40	284	56	30	131	92	144	64	146	99	64	18	898
Peak Hour Volume		110	704	123	94	333	288	399	161	288	230	158	37	2925
07:30 AM - 08:30 AM =		Pk. Hr.			Intersection Pk. Hr. Volume =			2925		Peak Hr. Factor =				0.81
11:30 AM TO 01:30 PM														
Maximum		18	95	20	31	88	46	95	79	80	93	97	15	672
Peak Hour Volume		45	221	45	98	214	169	274	237	111	264	289	43	2010
12:30 PM - 01:30 PM =		Pk. Hr.			Intersection Pk. Hr. Volume =			2010		Peak Hr. Factor =				0.86
03:00 PM TO 06:00 PM														
Maximum		25	99	24	64	86	95	112	177	74	65	65	19	760
Peak Hour Volume		58	341	67	130	299	173	327	645	218	196	211	51	2716
05:00 PM - 06:00 PM =		Pk. Hr.			Intersection Pk. Hr. Volume =			2716		Peak Hr. Factor =				0.89

PM PEAK 1414

TURNING MOVEMENT COUNT SUMMARY

PM COUNT

DATE COUNT TAKEN: 4/27/89 CITY: CHULA VISTA
INTERSECTION: TELEGRAPH CANYON RD/ OTAY LAKES RD
PEAK HOUR: 3.30 PM TO 4.30 PM

	(E/W STREET)						(N/S STREET)									
	Eastbound			Westbound			Northbound			Southbound						
Time	L	T	R	L	T	R	L	T	R	L	T	R	E+W	N+S	Total	Peak Hour
3:30 PM	83	66	0	0	93	26	0	0	0	19	0	65	268	84	352	
3:45 PM	88	70	0	0	65	9	0	0	0	17	0	70	232	87	319	
4:00 PM	84	74	0	0	51	38	0	0	0	22	0	64	247	86	333	
4:15 PM	109	72	0	0	88	20	0	0	0	14	0	107	289	121	410	1414
4:30 PM	77	58	0	0	60	8	0	0	0	10	0	84	203	94	297	1359
4:45 PM	59	82	0	0	43	4	0	0	0	19	0	52	188	71	259	1299
5:00 PM	56	71	0	0	45	15	0	0	0	8	0	52	187	60	247	1213
5:15 PM	130	91	0	0	31	4	0	0	0	28	0	72	256	100	356	1159
5:30 PM	95	64	0	0	37	15	0	0	0	17	0	36	211	53	264	1126
5:45 PM	60	65	0	0	41	8	0	0	0	9	0	50	174	59	233	1100
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	853
6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	497
PEAK PERIOD	364	282	0	0	297	93	0	0	0	72	0	306				1414
	364	282	0	0	297	93	0	0	0	72	0	306				

AM PEAK 577

TURNING MOVEMENT COUNT SUMMARY

AM COUNT

DATE COUNT TAKEN: 5/3/89 CITY: CHULA VISTA
INTERSECTION: OTAY LAKES RD/RUTGERS ST
PEAK HOUR: 7.15 AM TO 8.15 AM

	(E/W STREET)						(N/S STREET)									
	Eastbound			Westbound			Northbound			Southbound						
Time	L	T	R	L	T	R	L	T	R	L	T	R	E+W	N+S	Total	Peak Hour
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
6:30 AM	4	36	0	0	36	5	0	0	0	4	0	41	81	45	126	
6:45 AM	8	38	0	0	47	6	0	0	0	3	0	42	99	45	144	270
7:00 AM	4	47	0	0	22	3	0	0	0	7	0	32	76	39	115	385
7:15 AM	5	40	0	0	47	4	0	0	0	6	0	36	96	42	138	523
7:30 AM	6	44	0	0	50	4	0	0	0	6	0	43	104	49	153	550
7:45 AM	7	60	0	0	35	5	0	0	0	8	0	43	107	51	158	564
8:00 AM	5	25	0	0	58	6	0	0	0	3	0	31	94	34	128	577
8:15 AM	14	24	0	0	36	6	0	0	0	2	0	31	80	33	113	552
8:30 AM	6	28	0	0	44	3	0	0	0	3	0	20	81	23	104	503
8:45 AM	3	36	0	0	36	4	0	0	0	5	0	21	79	26	105	450 577
PEAK PERIOD	23	169	0	0	190	19	0	0	0	23	0	153				
	0	0	0	0	0	0	0	0	0	0	0	0				

PM PEAK 715

TURNING MOVEMENT COUNT SUMMARY

PM COUNT

DATE COUNT TAKEN: 5/3/89 CITY: CHULA VISTA
INTERSECTION: OTAY LAKES RD/RUTGERS ST
PEAK HOUR: 4.15 PM TO 5.15 PM

	(E/W STREET)						(N/S STREET)									
	Eastbound			Westbound			Northbound			Southbound						
Time	L	T	R	L	T	R	L	T	R	L	T	R	E+W	N+S	Total	Peak Hour
3:30 PM	61	47	0	0	13	8	0	0	0	7	0	6	129	13	142	
3:45 PM	73	44	0	0	22	7	0	0	0	6	0	11	146	17	163	
4:00 PM	54	44	0	0	17	12	0	0	0	6	0	8	127	14	141	
4:15 PM	67	76	0	0	24	13	0	0	0	15	0	14	180	29	209	655
4:30 PM	57	43	0	0	14	9	0	0	0	4	0	7	123	11	134	647
4:45 PM	89	67	0	0	33	8	0	0	0	5	0	12	197	17	214	698
5:00 PM	66	41	0	0	22	12	0	0	0	4	0	13	141	17	158	715
5:15 PM	85	52	0	0	21	12	0	0	0	9	0	14	170	23	193	699
5:30 PM	39	68	0	0	15	4	0	0	0	6	0	9	126	15	141	706
5:45 PM	33	55	0	0	13	7	0	0	0	9	0	9	108	18	126	618
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	460
6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	267 715
PEAK PERIOD	279	227	0	0	93	42	0	0	0	28	0	46				
	0	0	0	0	0	0	0	0	0	0	0	0				

AM PEAK 132

TURNING MOVEMENT COUNT SUMMARY

AM COUNT

DATE COUNT TAKEN: 5/3/89 CITY: CHULA VISTA
INTERSECTION: PROCTOR VALLEY RD/SAN MIGUEL RD
PEAK HOUR: 7.30 AM TO 8.30 AM

	(E/W STREET)						(N/S STREET)									
	Eastbound			Westbound			Northbound			Southbound						
Time	L	T	R	L	T	R	L	T	R	L	T	R	E+W	N+S	Total	Peak Hour
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
6:45 AM	0	4	0	4	0	0	3	0	4	0	0	0	8	7	15	15
7:00 AM	0	4	6	4	10	0	8	0	6	0	0	0	24	14	38	53
7:15 AM	0	3	4	4	4	0	4	0	3	0	0	0	15	7	22	75
7:30 AM	0	6	18	0	7	0	9	0	0	0	0	0	31	9	40	115
7:45 AM	0	4	5	0	10	0	11	0	0	0	0	0	19	11	30	130
8:00 AM	0	7	4	0	15	0	8	0	0	0	0	0	26	8	34	126
8:15 AM	0	7	7	0	7	0	6	0	1	0	0	0	21	7	28	132
8:30 AM	0	7	5	0	5	0	8	0	1	0	0	0	17	9	26	118
8:45 AM	0	7	7	1	8	0	8	0	2	0	0	0	23	10	33	121 132
PEAK PERIOD	0	24	34	0	39	0	34	0	1	0	0	0				
	0	0	0	0	0	0	0	0	0	0	0	0				

PM PEAK 221

TURNING MOVEMENT COUNT SUMMARY

PM COUNT

DATE COUNT TAKEN: 5/3/89 CITY: CHULA VISTA
INTERSECTION: PROCTOR VALLEY RD/SAN MIGUEL RD
PEAK HOUR: 4.45 PM TO 5.45 PM

	(E/W STREET)						(N/S STREET)									
	Eastbound			Westbound			Northbound			Southbound						
Time	L	T	R	L	T	R	L	T	R	L	T	R	E+W	N+S	Total	Peak Hour
3:30 PM	0	15	3	0	4	0	6	0	0	0	0	0	22	6	28	
3:45 PM	0	14	7	0	9	0	6	0	0	0	0	0	30	6	36	
4:00 PM	0	13	16	0	8	0	9	0	1	0	0	0	37	10	47	
4:15 PM	0	9	7	0	9	0	0	0	0	0	0	0	25	0	25	136
4:30 PM	0	11	13	1	4	0	9	0	0	0	0	0	29	9	38	146
4:45 PM	0	21	20	0	6	0	13	0	0	0	0	0	47	13	60	170
5:00 PM	0	10	9	0	17	0	16	0	1	0	0	0	36	17	53	176
5:15 PM	0	25	10	2	18	0	13	0	0	0	0	0	55	13	68	219
5:30 PM	0	4	14	2	15	0	5	0	0	0	0	0	35	5	40	221
5:45 PM	0	14	12	0	12	0	8	0	0	0	0	0	38	8	46	207
6:00 PM	0	17	12	0	7	0	13	0	0	0	0	0	36	13	49	203
6:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	135 221
PEAK PERIOD	0	60	53	4	56	0	47	0	1	0	0	0				
	0	0	0	0	0	0	0	0	0	0	0	0				

JHK & Associates Daily Traffic Intersection Analysis

Intrsction:1 Turning Movement Counts File: CV077.WK1

City: CHULA VISTA Data Collected by: MC,RF

Intersection of: N/S Street: AUBURN AVE Data Input by: KJ

E/W Street: H STREET Weather: CLEAR

Count Date: 04/19/89 Traffic Control: Signalized

Day: WEDNESDAY

Cumulative Time (Hr.)	End of 15 min. prd.		Northbound			Southbound			Eastbound			Westbound			15 min. Totals
			Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	Left	Thru	Right	
0.25	06:15 AM		2	0	0	0	0	8	1	11	0	2	114	0	138
0.50	06:30 AM		2	0	0	0	0	12	5	25	3	3	144	1	195
0.75	06:45 AM		7	1	0	2	1	20	1	39	1	1	187	1	261
1.00	07:00 AM		3	0	3	1	1	25	5	28	1	7	210	3	287
1.25	07:15 AM	*	11	0	2	2	1	31	16	144	3	7	455	1	673
1.50	07:30 AM	*	3	0	3	4	3	10	3	47	3	1	108	0	185
1.75	07:45 AM	*	9	1	0	3	1	15	4	67	3	2	202	1	308
2.00	08:00 AM	*	9	1	4	2	4	25	8	57	4	17	280	0	411
2.25	08:15 AM		14	0	7	1	2	18	4	71	8	13	186	0	324
2.50	08:30 AM		8	0	2	1	3	7	11	69	5	11	170	1	288
2.75	08:45 AM		11	3	18	7	13	15	8	73	3	19	154	4	328
3.00	09:00 AM		14	10	20	5	5	7	3	65	4	9	20	3	165
0.25	11:45 AM		2	2	1	0	0	3	9	84	0	4	70	0	175
0.50	12:00 PM		1	0	2	1	3	4	6	86	5	5	95	1	209
0.75	12:15 PM		2	7	9	2	3	3	5	28	2	9	70	1	141
1.00	12:30 PM	*	1	0	5	2	3	3	15	138	4	7	84	0	262
1.25	12:45 PM	*	0	0	5	2	0	6	8	99	5	7	84	2	218
1.50	01:00 PM	*	2	0	5	0	0	4	8	95	3	1	72	2	192
1.75	01:15 PM	*	3	1	4	3	1	5	9	102	2	1	67	2	200
2.00	01:30 PM		1	0	1	1	5	1	10	64	2	3	78	2	168
0.25	03:15 PM		5	7	7	4	6	6	14	177	11	11	121	0	369
0.50	03:30 PM		7	7	13	3	3	11	12	155	8	8	84	3	314
0.75	03:45 PM		4	6	17	7	6	8	6	174	4	8	128	1	369
1.00	04:00 PM		3	2	5	4	0	6	9	124	1	2	87	3	246
1.25	04:15 PM		3	2	8	6	1	3	16	182	3	4	80	3	311
1.50	04:30 PM		2	2	4	1	7	8	15	224	4	11	88	1	367
1.75	04:45 PM		1	4	8	4	0	9	19	216	2	2	80	2	347
2.00	05:00 PM		4	2	7	3	4	15	19	190	7	7	90	5	353
2.25	05:15 PM	*	3	4	9	3	2	4	25	230	6	4	121	3	414
2.50	05:30 PM	*	2	6	17	1	1	6	17	205	6	3	88	3	355
2.75	05:45 PM	*	2	0	7	0	4	12	15	224	1	2	102	2	371
3.00	06:00 PM	*	2	4	4	1	2	1	16	267	4	4	117	2	424
06:00 AM TO 09:00 AM															
Maximum			14	10	20	7	13	31	16	144	8	19	455	4	673
Peak Hour Volume			32	2	9	11	9	81	31	315	13	27	1045	2	1577
07:00 AM - 08:00 AM = Pk. Hr.			Intersection Pk. Hr. Volume = 1577 Peak Hr. Factor = 0.59												
11:30 AM TO 01:30 PM															
Maximum			3	7	9	3	5	6	15	138	5	9	95	2	262
Peak Hour Volume			6	1	19	7	4	16	40	434	14	16	307	6	872
12:15 PM - 01:15 PM = Pk. Hr.			Intersection Pk. Hr. Volume = 872 Peak Hr. Factor = 0.83												
03:00 PM TO 06:00 PM															
Maximum			7	7	17	7	7	15	25	267	11	11	128	5	424
Peak Hour Volume			9	14	37	5	9	23	73	926	17	13	428	10	1564
05:00 PM - 06:00 PM = Pk. Hr.			Intersection Pk. Hr. Volume = 1564 Peak Hr. Factor = 0.92												

APPENDIX C

Level of Service Criteria for Signalized Intersections

Level of Service Criteria for Unsignalized Intersections

Existing ICU Calculation Worksheets

LOS FOR SIGNALIZED INTERSECTIONS

The Intersection Capacity Utilization (ICU) technique evaluates the performance based on a volume to capacity ratio where the observed peak hour volume at the intersection is divided by the intersection's theoretical capacity.

LEVEL OF SERVICE DEFINITIONS

Level of Service (LOS)	Operating Conditions	Volume/Capacity Ratio (V/C)
A	Free flow, no restrictions on maneuvering or operating speeds. Low traffic volumes and high speeds.	.60 or less
B	Stable flow, few restrictions. Operating speeds beginning to be affected by traffic volumes.	.61-.70
C	Stable flow, more restrictions. Speed and maneuverability more closely controlled by higher traffic volumes.	.71-.80
D	Approaching unstable flow. Traffic volumes profoundly affect arterials.	.81-.90
E	Unstable flow, some stoppages. Speeds lower than LOS "D". Constitutes maximum capacity by definition.	.91 - 1.0
F	Forced flow, many stoppages. Low operating speeds, at times dropping to zero.	undefined

Source: Highway Capacity Manual, 1965

LOS FOR UNSIGNALIZED INTERSECTIONS

The levels of service for the Unsignalized Intersections are a function of the intersection's reserve capacity or amount of additional capacity remaining on the major street for use by vehicles entering or leaving the Major Street. The 1985 Highway Capacity Manual (HCM) describes the level of service criteria for Unsignalized Intersections as follows:

Level of Service	Reserve Capacity *	Expected Delays to Cross Street Traffic
A	Over 400	Little or no delay
B	300-399	Short traffic delays
C	200-299	Average traffic delays
D	100-199	Long traffic delays
E	0-99	Very long traffic delays
F	**	Extreme traffic delays

* Passenger car equivalents per hour

** When demand volume exceeds the capacity of the lane, extreme delays will be encountered which might affect other traffic movements in the intersection. This condition usually warrants improvement to the intersection.

Source: 1985 Highway Capacity Manual, TRB Report No. 209

INTERSECTION: BONITA ROAD/OTAY LAKES ROAD
DATE: 02/01/89
TIME: AM PEAK HOUR

			EXISTING		
Movemnt	No. Lanes	Cap.	Vol.	AM Peak V/C	Crit. Mvmt.
NL	1	1500	414	0.28	1
NR	1	1500	131	0.09	0
NT	NA	NA	0	NA	0
SL	NA	NA	0	NA	0
SR	NA	NA	0	NA	0
ST	NA	NA	0	NA	0
EL	NA	NA	0	NA	0
ER	10	15000	375	0.03	0
ET	2	3400	379	0.11	1
WL	1	1500	389	0.26	1
WR	NA	NA	0	NA	0
WT	2	3400	648	0.19	0

N/S component	0.28
E/W component	0.37
Rt.Tn. component	0.00
ICU	0.65

Critical movement identified by a 1.
Ten lanes for a right turn indicates free movement
NA - Not Applicable

INTERSECTION: BONITA ROAD/OTAT LAKES ROAD
DATE: 02/01/89
TIME: PM PEAK HOUR

	EXISTING				
Movemnt	No. Lanes	Cap.	Vol.	PM Peak V/C	Crit. Mvmt.
NL	1	1500	307	0.20	1
NR	1	1500	258	0.17	0
NT	NA	NA	0	NA	0
SL	NA	NA	0	NA	0
SR	NA	NA	0	NA	0
ST	NA	NA	0	NA	0
EL	NA	NA	0	NA	0
ER	10	15000	254	0.02	0
ET	2	3400	909	0.27	1
WL	1	1500	286	0.19	1
WR	NA	NA	0	NA	0
WT	2	3400	482	0.14	0

N/S component	0.20
E/W component	0.46
Rt.Tn. component	0.00
ICU	0.66

Critical movement identified by a 1.
Ten lanes for a right turn indicates free movement
NA - Not Applicable

INTERSECTION: BONITA RD/CENTRAL AVE
DATE: 1/31/89
TIME: AM PEAK

EXISTING

Movemnt	No. Lanes	Cap.	Vol.	AM Peak V/C	Crit. Mvmt.
NL	1	1500	299	0.20	1
NR	1	1500	19	0.01	0
NT	1	1700	235	0.14	0
SL	NA	NA	25	NA	0
SR	1	1500	120	0.08	0
ST	1	1700	75	0.10	1
EL	1	1500	48	0.10	1
ER	NA	NA	104	NA	0
ET	2	3400	240	0.10	0
WL	1	1500	12	0.10	0
WR	NA	NA	43	NA	0
WT	2	3400	433	0.14	1

N/S component	0.30
E/W component	0.24
Rt.Tn. component	0.00
ICU	0.54

Critical movement identified by a 1.
Ten lanes for a right turn indicates free movement
NA - Not Applicable

INTERSECTION: BONITA RD/CENTRAL AVE
DATE: 1/31/89
TIME: PM PEAK

			EXISTING		
Movemnt	No. Lanes	Cap.	Vol.	PM Peak V/C	Crit. Mvmt.
NL	1	1500	233	0.16	1
NR	1	1500	53	0.04	0
NT	1	1700	163	0.10	0
SL	NA	NA	60	NA	0
SR	1	1500	124	0.08	0
ST	1	1700	222	0.17	1
EL	1	1500	168	0.11	0
ER	NA	NA	412	NA	0
ET	2	3400	525	0.28	1
WL	1	1500	16	0.10	1
WR	NA	NA	32	NA	0
WT	2	3400	321	0.10	0

N/S component	0.33
E/W component	0.38
Rt.Tn. component	0.00
ICU	0.71

Critical movement identified by a 1.
Ten lanes for a right turn indicates free movement
NA - Not Applicable

INTERSECTION: CENTRAL AVE/CORRAL CANYON RD
DATE: 2/1/89
TIME: AM PEAK

		EXISTING			
Movemnt	No. Lanes	Cap.	Vol.	AM Peak V/C	Crit. Mvmt.
NL	1	1500	289	0.19	1
NR	1	1500	15	0.01	0
NT	NA	NA		0.00	0
SL	NA	NA		0.00	0
SR	NA	NA		0.00	0
ST	NA	NA		0.00	1
EL	NA	NA		0.00	0
ER	1	1500	195	0.13	0
ET	1	1700	36	0.10	1
WL	NA	NA	11	0.00	0
WR	NA	NA		0.00	0
WT	2	3400	169	0.10	1

N/S component	0.19
E/W component	0.20
Rt.Tn. component	0.00
ICU	0.39

Critical movement identified by a 1.
Ten lanes for a right turn indicates free movement
NA - Not Applicable

INTERSECTION: CENTRAL AVE/CORRAL CANYON RD
DATE: 2/1/89
TIME: PM PEAK

			EXISTING		
Movemnt	No. Lanes	Cap.	Vol.	PM Peak V/C	Crit. Mvmt.
NL	1	1500	229	0.15	1
NR	1	1500	1	0.00	0
NT	NA	NA		0.00	0
SL	NA	NA		0.00	0
SR	NA	NA		0.00	0
ST	NA	NA		0.00	0
EL	NA	NA		0.00	0
ER	1	1500	304	0.20	0
ET	1	1700	138	0.10	1
WL	NA	NA	7	0.00	0
WR	NA	NA		0.00	0
WT	2	3400	72	0.10	1

N/S component	0.15
E/W component	0.20
Rt.Tn. component	0.00
ICU	0.35

Critical movement identified by a 1.
Ten lanes for a right turn indicates free movement
NA - Not Applicable

INTERSECTION: EAST H ST/CORRAL CYN-RUTGERS AVE
DATE: 2/2/89
TIME: AM PEAK

			EXISTING		
Movemnt	No. Lanes	Cap.	Vol.	AM Peak V/C	Crit. Mvmt.
NL	1	1500	98	0.10	0
NR	1	1500	14	0.01	0
NT	1	1700	27	0.10	0
SL	1	1500	26	0.10	0
SR	1	1500	365	0.24	0
ST	1	1700	105	0.10	0
EL	1	1500	128	0.10	1
ER	NA	NA	35	NA	0
ET	2	3400	102	0.10	0
WL	1	1500	59	0.10	0
WR	NA	NA	32	NA	0
WT	2	3400	465	0.15	1

N/S component	0.20
E/W component	0.25
Rt.Tn. component	0.04
ICU	0.49

Critical movement identified by a 1.
Ten lanes for a right turn indicates free movement
NA - Not Applicable

INTERSECTION: AUBURN AV/H STREET
DATE: 4/19/89
TIME: AM PEAK

INTERSECTION: EAST H ST/COPPAL CAN-RUTGERS AVE
DATE: 2/2/88
TIME: PM PEAK

EXISTING

Movemnt	No. Lanes	Cap.	Vol.	PM Peak V/C	Crit. Mvmt.
NL	1	1500	47	0.10	0
NR	1	1500	44	0.03	0
NT	1	1700	47	0.10	0
SL	1	1500	22	0.10	0
SR	1	1500	111	0.07	0
ST	1	1700	44	0.10	0
EL	1	1500	228	0.15	1
ER	NA	NA	94	NA	0
ET	2	3400	368	0.14	0
WL	1	1500	17	0.10	0
WR	NA	NA	21	NA	0
WT	2	3400	168	0.10	1

N/S component	0.20
E/W component	0.25
Rt.Tn. component	0.00
ICU	0.45

Critical movement identified by a 1.
Ten lanes for a right turn indicates free movement
NA - Not Applicable

INTERSECTION: OTAY LAKES ROAD/EAST H STREET
DATE: 04/19/89
TIME: AM PEAK HOUR

			EXISTING		
Movemnt	No. Lanes	Cap.	Vol.	AM Peak V/C	Crit. Mvmt.
NL	1	1500	110	0.10	0
NR	NA	NA	123	NA	0
NT	2	3400	704	0.24	1
SL	1	1500	94	0.10	1
SR	NA	NA	288	NA	0
ST	2	3400	333	0.18	0
EL	1	1500	399	0.27	1
ER	1	1500	288	0.19	0
ET	2	3400	161	0.10	0
WL	1	1500	230	0.15	0
WR	NA	NA	37	NA	0
WT	2	3400	158	0.10	1

N/S component	0.34
E/W component	0.37
Rt.Tn. component	0.00
ICU	0.71

Critical movement identified by a 1.
Ten lanes for a right turn indicates free movement
NA - Not Applicable

INTERSECTION: OTAY LAKES ROAD/EAST H STREET
DATE: 04/19/89
TIME: PM PEAK HOUR

			EXISTING		
Movemnt	No. Lanes	Cap.	Vol.	PM Peak V/C	Crit. Mvmt.
NL	1	1500	58	0.10	1
NR	NA	NA	67	NA	0
NT	2	3400	341	0.12	0
SL	1	1500	130	0.10	0
SR	NA	NA	173	NA	0
ST	2	3400	299	0.14	1
EL	1	1500	327	0.22	0
ER	1	1500	218	0.15	0
ET	2	3400	645	0.19	1
WL	1	1500	196	0.13	1
WR	NA	NA	51	NA	0
WT	2	3400	211	0.10	0

N/S component	0.24
E/W component	0.32
Rt.Tn. component	0.00
ICU	0.56

Critical movement identified by a 1.
Ten lanes for a right turn indicates free movement
NA - Not Applicable

LOCATION:TELEGRAPH CYN/OTAY LAKES RD | NAME:EXISTING AM PEAK

```
HOURLY VOLUMES                                    | VOLUMES IN PCPH
                                             N    |
Major street:TELEGRAPH CYN                   v    |
=============================================     | =============================================
N= 2                       <---V5---   260        |                           <---V5---
Grade    368---V2--->      v---V4---   310        |          ---V2--->        v---V4---   341
  0%     107---V3---v                 N= 2        |          ---V3---v
================   <|       |>     ==========     | ==================   <|      |>   ==========
Date of Counts:  |    |       |    |              |                    |    |      |    |
4/27/89          |    V7      V9   | X STOP       |                    |    V7     V9   |
Time Period:     |    |       |    |   YIELD      |                    |    |      |    |
7:30AM to 8:30A  |    106     267  |              |                    |   117    294   |
Approach Speed:  Minor Street:      Grade         |
50               OTAY LAKES RD       0%           |
PHF: .74           N= 2
Population:
```

VOLUME ADJUSTMENTS

Movement no.	2	3	4	5	7	9
Volume (vph)	368	107	310	260	106	267
Vol(pcph),see Table 10.1	XXXXXXXX	XXXXXXXX	341	XXXXXXXX	117	294

STEP 1 : RT From Minor Street | /-> V9

Conflicting Flows, Vc | 1/2 V3+V2= 0 + 368 = 368 vph(Vc9)
Critical Gap, Tc | Tc= 5.5 secs (Tab.10.2)
Potential Capacity, Cp | Cp9= 727 pcph (Fig.10.3)
Actual Capacity, Cm | Cm9=Cp9= 727 pcph

STEP 2 : LT From Major Street | v--- V4

Conflicting Flows, Vc | V3+V2= 0 + 368 = 368 vph(Vc4)
Critical Gap, Tc | Tc= 5.5 secs (Tab.10.2)
Potential Capacity, Cp | Cp4= 727 pcph (Fig.10.3)
% of Cp utilized and Impedance Factor | (V4/Cp4)x100= 46.9% P4= .61
Actual Capacity, Cm (Fig.10.5) | Cm4=Cp4= 727 pcph

STEP 3 : LT From Minor Street | <-\ V7

Conflicting Flows, Vc | 1/2 V3+V2+V5+V4=
| 0 + 368 + 260 + 310 = 938 vph(Vc7)
Critical Gap, Tc | Tc= 8 secs (Tab.10.2)
Potential Capacity, Cp | Cp7= 157 pcph (Fig.10.3)
Actual Capacity, Cm | Cm7=Cp7xP4= 157 x .61 = 96 pcph

SHARED LANE CAPACITY SH = (V7+V9)/((V7/Cm7)+(V9/Cm9)) if lane is shared

MOVEMENT	V(PCPH)	CM(PCPH)	CSH(PCPH)	CR (CM-V)	CR (CSH-V)	LOS CM	LOS CSH
7	117	96		-21		F	
9	294	727		433		A	
4	341	727		386		B	

LOCATION:PROCTOR VALLEY RD/SAN MIGUEL R | NAME:EXISTING PM PEAK

HOURLY VOLUMES | VOLUMES IN PCPH

N

Major street:SAN MIGUEL RD

```
N= 2                      <---V5---   56 |                        <---V
Grade      60---V2--->    v---V4---    4 |        ---V2--->       v---V
 0%        53---V3---v              N= 2 |        ---V3---v
                     <|       |>         |                   <|   |>
Date of Counts:  |   |        |    |     |                   |    |
5/3/89           |   V7       V9   | X STOP                  |   V7   V9
Time Period:     |   |        |    |  YIELD                  |    |    |
4:45PM TO 5:45P  |   47        1|        |                   |   52    1
Approach Speed:  Minor Street:     Grade |
35               PROCTOR VALLEY      0%  |
PHF: .81             N= 2
Population:
```

VOLUME ADJUSTMENTS

Movement no.	2	3	4	5	7
Volume (vph)	60	53	4	56	47
Vol(pcph),see Table 10.1	XXXXXXXX	XXXXXXXX	4	XXXXXXXX	52

STEP 1 : RT From Minor Street | /-> V9

Conflicting Flows, Vc	1/2 V3+V2= 27 + 30 = 57 vph(Vc9)
Critical Gap, Tc	Tc= 5.5 secs (Tab.10.2)
Potential Capacity, Cp	Cp9= 1000 pcph (Fig.10.3)
Actual Capacity, Cm	Cm9=Cp9= 1000 pcph

STEP 2 : LT From Major Street | <-- V4

Conflicting Flows, Vc	V3+V2= 53 + 60 = 113 vph(Vc4)
Critical Gap, Tc	Tc= 5.5 secs (Tab.10.2)
Potential Capacity, Cp	Cp4= 981 pcph (Fig.10.3)
% of Cp utilized and Impedance Factor	(V4/Cp4)x100= .4% P4= 1
Actual Capacity, Cm (Fig.10.5)	Cm4=Cp4= 981 pcph

STEP 3 : LT From Minor Street | <-\ V7

Conflicting Flows, Vc	1/2 V3+V2+V5+V4= 27 + 60 + 56 + 4 = 147 vph(Vc
Critical Gap, Tc	Tc= 7 secs (Tab.10.2)
Potential Capacity, Cp	Cp7= 710 pcph (Fig.10.3)
Actual Capacity, Cm	Cm7=Cp7xP4= 710 x 1 = 710 pcp

SHARED LANE CAPACITY SH = (V7+V9)/((V7/Cm7)+(V9/Cm9)) if lane is sha

MOVEMENT	V(PCPH)	CM(PCPH)	CSH(PCPH)	CR (CM-V)	CR (CSH-V)	LOS CM
7	52	710		658		A
9	1	1000		999		A
4	4	981		977		A

INTERSECTION: AUBURN A./H STREET
DATE: 4/13/89
TIME: AM PEAK

			EXISTING		
Movemnt	No. Lanes	Cap.	Vol.	AM Peak V/C	Crit. Mvmt.
NL	NA	NA	32	NA	0
NR	NA	NA	9	NA	0
NT	1	1700	2	0.10	1
SL	NA	NA	11	NA	0
SR	NA	NA	81	NA	0
ST	1	1700	9	0.10	1
EL	1	1500	31	0.10	1
ER	NA	NA	13	NA	0
ET	2	3400	315	0.10	0
WL	1	1500	27	0.10	0
WR	NA	NA	2	NA	0
WT	2	3400	1045	0.31	1

N/S component	0.20
E/W component	0.41
Rt.Tn. component	0.00
ICU	0.61

Critical movement identified by a 1.
Ten lanes for a right turn indicates free movement
NA - Not Applicable

INTERSECTION: AUBURN AV/H STREET
DATE: 4/13/89
TIME: PM PEAK

EXISTING

Movemnt	No. Lanes	Cap.	Vol.	PM Peak V/C	Crit. Mvmt.
NL	NA	NA	9	NA	0
NR	NA	NA	37	NA	0
NT	1	1700	14	0.10	1
SL	NA	NA	5	NA	0
SR	NA	NA	23	NA	0
ST	1	1700	9	0.10	1
EL	1	1500	73	0.10	0
ER	NA	NA	17	NA	0
ET	2	3400	926	0.28	1
WL	1	1500	13	0.10	1
WR	NA	NA	10	NA	0
WT	2	3400	428	0.13	0

N/S component	0.20
E/W component	0.38
Rt.Tn. component	0.00
ICU	0.58

Critical movement identified by a 1.
Ten lanes for a right turn indicates free movement
NA - Not Applicable

APPENDIX D

Transit Route Map and Schedule

ROUTE 705
TIMETABLE

LEAVES OUTBOUND

DEPART BAYFRONT STATION	"E" ST. & BROADWAY	"E" ST. & THIRD AVE.	PLAZA BONITA	WILLOW & BONITA RD.	SOUTHWESTERN COLLEGE	GOTHAM & RUTGERS	ARRIVE OTAY LAKES & GOTHAM
•5:48 AM	5:50	5:53	--------	6:04	6:12	6:14	6:16
6:46	6:49	6:52	7:00	7:06	7:14	7:16	7:18
7:53	7:56	7:59	8:07	8:14	8:22	8:25	8:28
9:09	9:12	9:15	9:23	9:30	9:38	9:41	9:44
10:20	10:23	10:26	10:34	10:41	10:49	10:52	10:55
11:35	11:38	11:41	11:49	11:56	12:04PM	12:07	12:10
12:50	12:53	12:56	1:04	1:11	1:19	1:22	1:26
2:02	2:05	2:08	2:16	2:23	2:31	2:34	2:37
3:23	3:26	3:29	3:37	3:44	3:52	3:55	3:58
4:33	4:36	4:39	4:47	4:54	5:02	5:05	5:08
5:45	5:48	5:51	5:59	6:06	6:14	6:17	6:20
6:56	6:59	7:01	7:08	7:14	7:22	7:24	7:26
• 8:08	8:11	8:13	8:20	8:26	8:34	8:36	8:38
• 9:08	9:11	9:13	9:20	9:26	9:34	9:36	9:37

LEAVES INBOUND

DEPART OTAY LAKES & GOTHAM	WILLOW & BONITA RD.	PLAZA BONITA	"E" ST. & THIRD AVE.	BROADWAY & "E" ST.	ARRIVE BAYFRONT STATION
• 6:18 AM	6:25		6:37	6:40	6:43
7:22	7:29	7:36	7:44	7:47	7:50
8:30	8:37	8:44	8:52	8:55	8:59
9:47	9:54	10:02	10:10	10:13	10:17
11:00	11:07	11:14	11:22	11:25	11:29
12:15PM	12:22	12:29	12:37	12:40	12:44
1:30	1:37	1:44	1:52	1:55	1:59
2:42	2:49	2:58	3:06	3:09	3:13
4:00	4:07	4:14	4:22	4:25	4:29
5:13	5:20	5:27	5:35	5:38	5:41
6:24	6:31	6:38	6:45	6:48	6:51
7:31	7:38	7:45	7:52	7:55	7:58
• 8:40	8:47	8:54	9:01	9:04	9:06
• 9:38	9:45	9:52	9:59	10:02	10:04

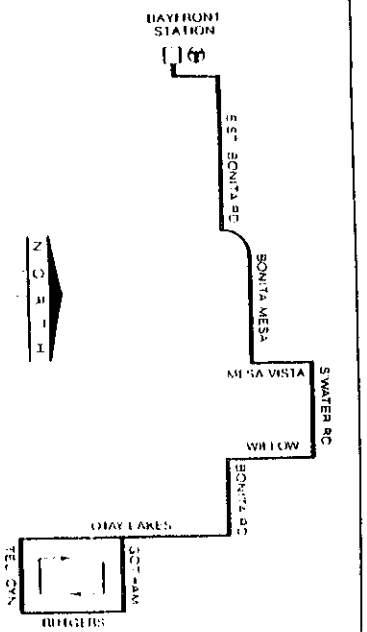
NOTE: Route 705 operates Monday through Saturday

• Denotes trips not operating on Saturday

ROUTE 705

SERVING:

Bayfront Station
Civic Center/Library
Third Avenue Shopping Area
Fredericka Manor
Rohr Manor
Kaiser Clinic
Bonita Centre
Chula Vista Golf Course
Bonita Vista Jr. & Sr. High Schools
Southwestern College



APPENDIX E

ICU Calculation Worksheets for Buildout Conditions

INTERSECTION: EAST "H" STREET/LANE AVE
DATE:
TIME: AM PEAK

EHLAKEBP — BUILDOUT WITH PROJECT

Movemnt	No. Lanes	Cap.	Vol.	AM Peak V/C	Crit. Mvmt.
NL	2	3000	462	0.15	1
NR	1	1500	37	0.02	0
NT	NA	NA		0.00	0
SL	NA	NA		0.00	0
SR	NA	NA		0.00	0
ST	NA	NA		0.00	1
EL	NA	NA		0.00	0
ER	1	1500	340	0.23	1
ET	2	3400	280	0.10	0
WL	1	1500	147	0.10	1
WR	NA	NA		0.00	0
WT	2	3400	1119	0.33	0

N/S component	0.15
E/W component	0.33
Rt.Tn. component	0.00
ICU	0.48

Critical movement identified by a 1.
Ten lanes for a right turn indicates free movement
NA - Not Applicable

INTERSECTION: EAST "H" STREET/LANE AVE
DATE:
TIME: PM PEAK

EHLAKEBF

BUILDOUT WITH PROJECT

Movemnt	No. Lanes	Cap.	Vol.	PM Peak V/C	Crit. Mvmt.
NL	2	3000	428	0.14	1
NR	1	1500	161	0.11	0
NT	NA	NA		0.00	0
SL	NA	NA		0.00	0
SR	NA	NA		0.00	0
ST	NA	NA		0.00	0
EL	NA	NA		0.00	0
ER	1	1500	500	0.33	0
ET	2	3400	1224	0.36	1
WL	1	1500	69	0.05	1
WR	NA	NA		0.00	0
WT	2	3400	525	0.15	0

N/S component	0.14
E/W component	0.46
Rt.Tn. component	0.00
ICU	0.60

Critical movement identified by a 1.
Ten lanes for a right turn indicates free movement
NA - Not Applicable

INTERSECTION: EAST H STREET/HUNTE PARKWAY
DATE:
TIME: AM PEAK HOUR

			HORIZON YEAR		
Movemnt	No. Lanes	Cap.	Vol.	AM Peak V/C	Crit. Mvmt.
NL	2	3000	51	0.10	1
NR	NA	NA	40	NA	0
NT	1	1700	49	0.10	0
SL	2	3000	24	0.10	0
SR	NA	NA	133	NA	0
ST	1	1700	175	0.18	1
EL	2	3000	48	0.10	1
ER	NA	NA	13	NA	0
ET	2	3400	265	0.10	0
WL	2	3000	160	0.10	0
WR	NA	NA	7	NA	0
WT	2	3400	1059	0.31	1

N/S component	0.28
E/W component	0.41
Rt.Tn. component	0.00
ICU	0.69

Critical movement identified by a 1.
Ten lanes for a right turn indicates free movement
NA - Not Applicable

INTERSECTION: EAST H STREET/HUNTE PARKWAY
DATE:
TIME: PM PEAK HOUR

			HORIZON YEAR		
Movemnt	No. Lanes	Cap.	Vol.	PM Peak V/C	Crit. Mvmt.
NL	2	3000	24	0.10	0
NR	NA	NA	175	NA	0
NT	1	1700	192	0.22	1
SL	2	3000	11	0.10	1
SR	NA	NA	62	NA	0
ST	1	1700	82	0.10	0
EL	2	3000	146	0.10	0
ER	NA	NA	56	NA	0
ET	2	3400	1159	0.36	1
WL	2	3000	75	0.10	1
WR	NA	NA	27	NA	0
WT	2	3400	497	0.15	0

N/S component	0.32
E/W component	0.46
Rt.Tn. component	0.00
ICU	0.77

Critical movement identified by a 1.
Ten lanes for a right turn indicates free movement
NA - Not Applicable

APPENDIX F

Traffic Signal Warrant Work-sheets

Figure 9-1C

TRAFFIC SIGNAL WARRANTS

(Based on Estimated Average Daily Traffic – See Note 2)

URBAN XXX RURAL _____

1. Minimum Vehicular

Satisfied XX Not Satisfied _____

Number of lanes for moving traffic on each approach

East H St. (Major Street) / Lane Ave. (Minor Street)

Major Street	Minor Street
1	1
2 or more	1
2 or more 32,100	2 or more 5,200
1	2 or more

Minimum Requirements EADT

Vehicles per day on major street (total of both approaches)		Vehicles per day on higher-volume minor-street approach (one direction only)	
Urban	Rural	Urban	Rural
8,000	5,600	2,400	1,680
9,600	6,720	2,400	1,680
(9,600) Sat	6,720	(3,200) Sat	2,240
8,000	5,600	3,200	2,240

2. Interruption of Continuous Traffic

Satisfied XX Not Satisfied _____

Number of lanes for moving traffic on each approach

Major Street	Minor Street
1	1
2 or more	1
2 or more 32,100	2 or more 5,200
1	2 or more

Vehicles per day on major street (total of both approaches)		Vehicles per day on higher-volume minor-street approach (one direction only)	
Urban	Rural	Urban	Rural
12,000	8,400	1,200	850
14,400	10,080	1,200	850
(14,400) Sat	10,080	(1,600) Sat	1,120
12,000	8,400	1,600	1,120

3. Combination

Satisfied _____ Not Satisfied _____

2 Warrants | 2 Warrants

No one warrant satisfied but following warrants fulfilled 80% or more ___ 1 ___ 2

BASMACIYAN-DARNELL, INC.

Figure F-1

Buildout Scenario 4 Land Use Travel Forecasts
East H Street/Lane Avenue

Figure 9-1C

TRAFFIC SIGNAL WARRANTS

(Based on Estimated Average Daily Traffic – See Note 2)

URBAN XX RURAL _____

	Minimum Requirements EADT	
1. Minimum Vehicular	Vehicles per day on major street (total of both approaches)	Vehicles per day on higher-volume minor-street approach (one direction only)
Satisfied _____ Not Satisfied XX	Urban / Rural	Urban / Rural
Number of lanes for moving traffic on each approach East H St. (Major Street) / Hunte Pkwy. (Minor Street)	8,000 / 5,600 9,600 / 6,720 (9,600) Sat / 6,720 8,000 / 5,600	2,400 / 1,680 2,400 / 1,680 (3,200) Not sat / 2,240 3,200 / 2,240
1 / 1 2 or more / 1 2 or more 19,400 / 2 or more 3,100 1 / 2 or more		
2. Interruption of Continuous Traffic	Vehicles per day on major street (total of both approaches)	Vehicles per day on higher-volume minor-street approach (one direction only)
Satisfied XX Not Satisfied _____	Urban / Rural	Urban / Rural
Number of lanes for moving traffic on each approach Major Street / Minor Street	12,000 / 8,400 14,400 / 10,080 (14,400) Sat / 10,080 12,000 / 8,400	1,200 / 850 1,200 / 850 (1,600) Sat / 1,120 1,600 / 1,120
1 / 1 2 or more / 1 2 or more 19,400 / 2 or more 3,100 1 / 2 or more		
3. Combination	2 Warrants	2 Warrants
Satisfied _____ Not Satisfied _____		
No one warrant satisfied but following warrants fulfilled 80% or more ___ 1 ___ 2		

BASMACIYAN-DARNELL, INC.

Figure F-2

Buildout Scenario 4 Land Use Travel Forecasts
East H Street/Hunte Parkway

APPENDIX G

East Chula Vista Transportation Phasing Plan Development Assumptions

Table 1

ASSUMED LAND USE INCREMENTS PER IDENTIFIED PROPERTY

Developer	Base Year (1/1/89)	Increment 1	Increment 2	Increment 3	Increment 4	Increment 5
EastLake	505 DU 19 Ac. Ind.	962 DU 20 Ac Ind. 10 Ac. Comm.	626 DU 20 Ac. Ind. 21 Ac. Comm.	534 DU 26 Ac. Ind. 18 Ac. Comm.	514 DU 26 Ac. Ind. 7 Ac. Comm.	486 DU 20 Ac. Ind. 14 Ac. Comm.
Rancho del Rey		457 DU 10 Ac. Ind. 1 Ac. Comm.	709 DU 9 Ac. Ind. 2 Ac. Comm.	426 DU 9 Ac. Ind. 2 Ac. Comm.	236 DU 6 Ac. Ind. 2 Ac. Comm.	219 DU
Mission Verde	27 DU	49 DU				
Daly Homes	21 DU					
Ladera Villas		29 DU				
Sunbow	340 DU	145 DU	460 DU 8 Ac. Comm.	440 DU	400 DU	400 DU
Terra Nova		339 DU				
Bonita Long Canyon	279 DU	119 DU				
Salt Creek				300 DU	200 DU	245 DU
Bonita Meadows			205 DU	200 DU		
Rancho San Miguel				100 DU	150 DU	150 DU
Otay Ranch						
Sudberry	10 Ac. Comm.					
Phasing Totals	1,172 DU 19 Ac. Ind. 10 Ac. Comm.	2,100 DU 30 Ac. Ind. 11 Ac. Comm.	2,000 DU 29 Ac. Ind. 31 Ac. Comm.	2,000 DU 35 Ac. Ind. 20 Ac. Comm.	1,500 DU 32 Ac. Ind. 9 Ac. Comm.	1,500 DU 46 Ac. Ind. 14 Ac. Comm.
Cumulative Totals:			4,100 DU 59 Ac. Ind. 42 Ac. Comm.	6,100 DU 94 Ac. Ind. 62 Ac. Comm.	7,600 DU 126 Ac. Ind. 71 Ac. Comm.	9,100 DU 172 Ac. Ind. 85 Ac. Comm.

Table 1 (continued)

ASSUMED LAND USE INCREMENTS PER IDENTIFIED PROPERTY

Developer	Increment 6	Increment 7	Increment 8	Increment 9	Increment 10	Increment 11	Total
EastLake	355 DU 20 Ac. Ind. 14 Ac. Comm	372 DU 20 Ac. Ind.	20 Ac. Ind.	20 Ac. Ind.	20 Ac. Ind.	20 Ac. Ind.	4,354 DU 251 Ac. Ind. 84 Ac. Comm.
Rancho del Rey	551 DU 7 Ac. Ind.	678 DU 10 Ac. Ind.	418 DU 9 Ac. Ind.	334 DU 9 Ac. Ind.	6 Ac. Ind.		4,028 DU 75 Ac. Ind. 7 Ac. Comm.
Mission Verde							76 DU
Daly Homes							21 DU
Ladera Villas							29 DU
Sunbow	184 DU 46 Ac. Ind.						2,369 DU 46 Ac. Ind. 8 Ac. Com
Terra Nova							339 DU
Bonita Long Canyon							398 DU
Salt Creek	260 DU	300 DU	300 DU	340 DU	599 DU	290 DU	2,834 DU
Bonita Meadows							405 DU
Rancho San Miguel	150 DU	150 DU	150 DU	250 DU	150 DU		1,250 DU
Otay Ranch			432 DU 5 Ac. Comm.	476 DU 5 Ac. Comm.	751 DU 5 Ac. Comm.	501 DU 5 Ac. Comm.	2,160 DU 20 Ac. Comm.
Sudberry							10 Ac. Comm.
Phasing Totals	1,500 DU 27 Ac. Ind. 14 Ac. Comm.	1,500 DU 30 Ac. Ind.	1,300 DU 29 Ac. Ind. 5 Ac. Comm.	1,400 DU 29 Ac. Ind. 5 Ac. Comm.	1,500 DU 26 Ac. Ind. 5 Ac. Comm.	791 DU 20 Ac. Ind. 5 Ac. Comm.	18,263 DU* 352 Ac. Ind/BP* 129 Ac. Comm.*
Cumulative Totals:	10,600 DU 199 Ac. Ind. 99 Ac. Comm.	12,100 DU 229 Ac. Ind. 99 Ac. Comm.	13,460 DU 258 Ac. Ind. 104 Ac. Comm.	14,800 DU 287 Ac. Ind. 109 Ac. Comm.	16,300 DU 313 Ac. Ind. 114 Ac. Comm.	17,091 DU 333 Ac. Ind. 119 Ac. Comm.	

*Total includes base year.

APPENDIX F

PUBLIC SERVICES AND UTILITIES CORRESPONDENCE

5510 Morehouse Drive
San Diego, California 92121
Telephone: 619-458-9044
Fax: 619-458-0943

ERC
Environmental and Energy Services Co.

89-328-E
February 14, 1989

Mr. Cliff Swanson
City of Chula Vista
Engineering Department
276 4th Street
Chula Vista, California 92010

Dear Mr. Swanson:

ERCE Environmental and Energy Services Company, Inc. (ERCE), is currently preparing an Environmental Impact Report (EIR) for the Salt Creek Ranch development. The proposed project encompasses 1200 acres and is shown on the enclosed map. Included within the requested discretionary actions would be annexation to the City of Chula Vista.

The proposed plan would result in approximately 3,000 new dwelling units. A preliminary statistical summary of the land use categories and acreages is broken down as follows:

Land Use Designation	Acres	Target # of Units
Low (0-3 du/ac)*	520.2	1040
Low-Medium (3-6 du/ac)	304.0	1504
Medium (6-11 du/ac)	53.7	456
Totals	877.9	3000

* du/ac = dwelling units per acre

To adequately address the proposed project's impacts to the City's sewer service, we will need your department's comments. Please indicate the extent of impact you would expect this development to have and include any additional comments or information that may be of use in preparing the EIR. Specific information regarding existing facilities lines, purchased capacity rights, amount of current capacity now used or committed and threshold standards would also be helpful.

We would appreciate receiving your response prior to February 24th. If you have any questions please call me at 458-9044. Thank you for your time and cooperation.

Sincerely,

Jeanne Muñoz
Senior Project Manager

JM/dp

Enclosure

cc: John Hardesty, Permit Engineer
File #39015000

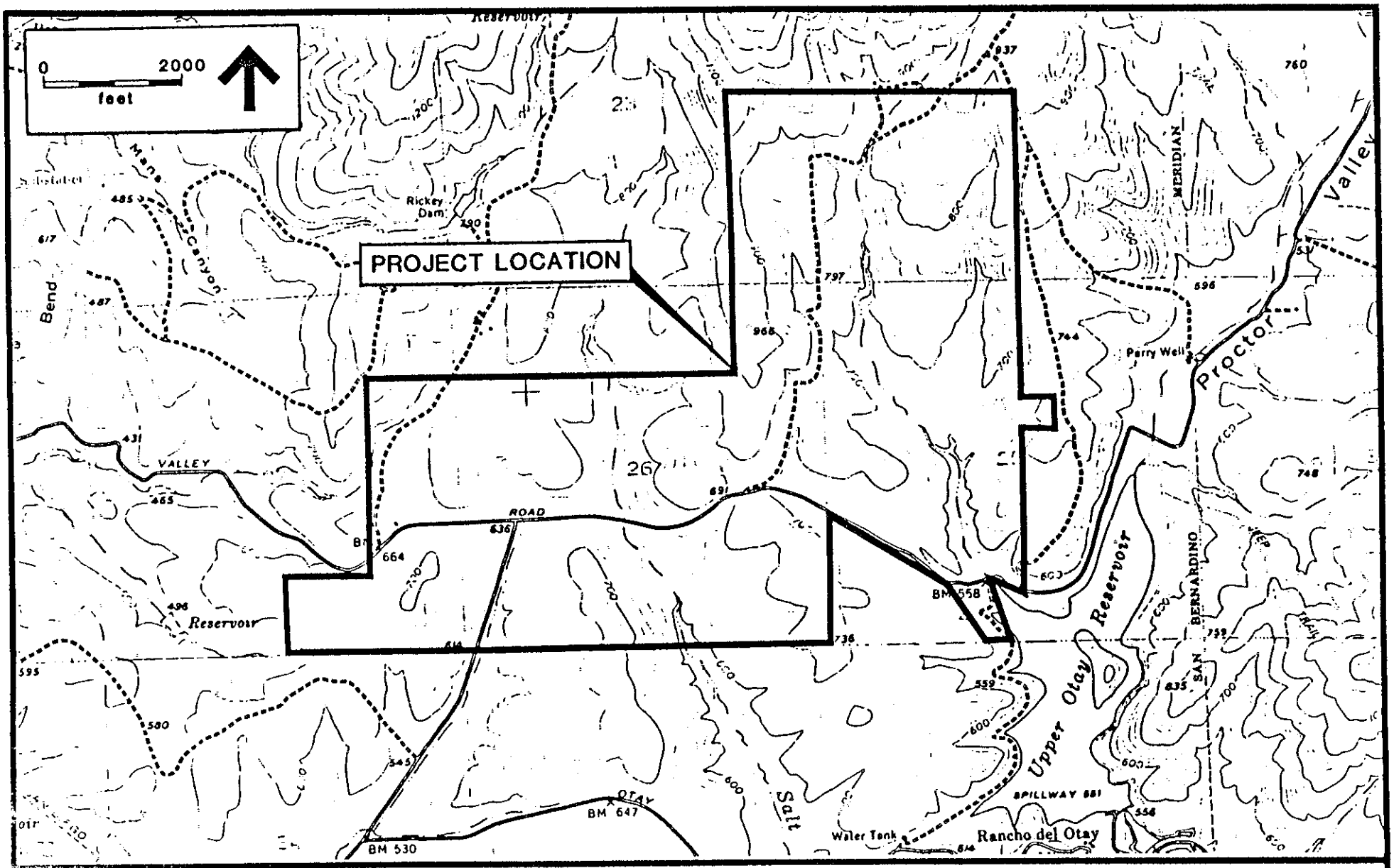


FIGURE 2. PROJECT LOCATION ON U.S.G.S. 7.5 MINUTE TOPOGRAPHIC MAP, JAMUL MOUNTAINS QUADRANGLE

RECON

CITY OF
CHULA VISTA

DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

March 2, 1989
File # HY-039

Environmental and Energy Services Co.
5510 Morehouse Drive
San Diego, CA 92121

Attention: Jeanne Munoz

ENVIRONMENTAL IMPACT REPORT - SALT CREEK RANCH DEVELOPMENT

In response to your February 14, 1989 letter regarding the Environmental Impact Report for the Salt Creek Ranch Development, we are providing you the attached memo concerning the City of Chula Vista compliance with the threshold standards for 1988 sewer and drainage. This memo should answer most of the general questions that you may have.

Your letter, however, does ask us to make some generalized but extensive comments. Because of the nature of those questions, we cannot take the amount of time required to prepare those in-depth answers. It would appear that the development of those answers is part of the job of the consultant preparing the EIR. However, not withstanding that, we are currently having a consultant prepare a Public Facilities Plan which includes an element on the sewer system. As soon as we have a rough draft of that report that we can release, we will forward a copy to you.

Clifford L. Swanson

CLIFFORD L. SWANSON
DEPUTY DIRECTOR OF PUBLIC WORKS/
CITY ENGINEER

CLS:llb

Attachment

(A\LETTERS\SALTCREK.DOC)

February 2, 1989
File # KY-043
KY-057

TO: John P. Lippitt, Director of Public Works

VIA: Kenneth Goldkamp, Senior Civil Engineer

FROM: Eugenia A. Franco, Associate Civil Engineer

SUBJECT: Chula Vista Compliance with the Threshold Standards for 1988 Sewer and Drainage

In response to the memo from George Krempl to you, dated January 13, 1989, we are providing the following comments regarding sewer and drainage threshold standards.

SEWER

There were no major problems attributable to new growth in the City during calendar year 1988 with respect to the established thresholds for sanitary sewers. The City design standards for sewers limit the flow in sewers up to 10" in diameter to 50% full and 75% full for 12" diameter or larger. These thresholds have not been exceeded by new development.

There are, however, a number of sewers which have peak flows exceeding City standards. One of these, the 8" trunk sewer in Melrose Avenue north of Otay Valley Road, may serve new development (Sunbow). However, no additional flow will be allowed into this sewer unless it is upgraded to provide added capacity.

In order to identify existing capacity problems and anticipate potential future problems, City Engineering staff has implemented a sewage flow monitoring program. Additionally, proposed new developments are required to submit environmental documents which address the impact on the sewer system and proposed mitigation measures.

SAN DIEGO METROPOLITAN SEWER AUTHORITY

At present, the City's total daily wastewater flow into the Metro Sewage System is approximately 12.2 million gallons per day (MGD). The City's existing sewage capacity reservation with Metro is 19.1 MGD including the Montgomery area. Based on the projected growth rate, it may be 12-15 years before the actual average daily wastewater flow reaches the available capacity of 19.1 MGD.

The Chula Vista Public Works Facility Plan is being prepared by Engineering Science, Inc. of San Diego. It will be completed by June, 1989. Preliminary study by the consultant projects an average daily wastewater flow of 25.1 MGD at full buildout of the eastern portion of the City, probably by the year 2050. The Facility Plan will determine the ability of the existing City trunk sewer system to handle future wastewater flows due to forecasted growth in the City. Required new or upgraded sewers will be recommended and preliminary cost estimates provided.

New development will be required to pay a proportionate share for the construction of needed new sewers. A specific funding mechanism will need to be developed for each case.

DRAINAGE

No major problems can be attributed to new growth in the City during calendar year 1988 concerning the threshold standards for drainage. One reason for this is that developers have constructed retention basins such that downstream flows are not increased. Each new subdivision is required to construct all drainage facilities to handle storms of a certain magnitude and discharge the flows into a downstream facility. The Environmental Impact Report for each development must address any possible drainage problems either on-site or off-site. The developer is required to implement mitigation measures, if necessary.

The Public Works Facility Plan will identify inadequate drainage facilities, necessary improvements and future required facilities. Developers will be required to dedicate land and construct facilities necessary to serve the proposed development. Facilities benefitting an extensive area with multiple owners may be financed through assessment districts.

EAF:llb

(A\MEMOS\CVC.DOC)

5510 Morehouse Drive
San Diego, California 92121
Telephone: 619-458-9044
Fax: 619-458-0943

ERC
Environmental and Energy Services Co.

89-331-E
February 14, 1989

Ms. Carol Gove, Fire Marshal
City of Chula Vista
Fire Department
447 F Street
Chula Vista, California 92010

Dear Ms. Gove:

ERCE Environmental and Energy Services Company, Inc. (ERCE), is currently preparing an Environmental Impact Report (EIR) for the Salt Creek Ranch development. The proposed project encompasses 1200 acres and is shown on the enclosed map. Included within the requested discretionary actions would be annexation to the City of Chula Vista.

The proposed plan would result in approximately 3,000 new dwelling units. A preliminary statistical summary of the land use categories and acreages is broken down as follows:

Land Use Designation	Acres	Target # of Units
Low (0-3 du/ac)*	520.2	1040
Low-Medium (3-6 du/ac)	304.0	1504
Medium (6-11 du/ac)	53.7	456
Totals	877.9	3000

* du/ac = dwelling units per acre

To adequately address the potential impacts to fire and emergency medical service from the proposed project, we will need your department's comments. Please indicate the extent of impact you would expect this develpment to place on fire and emergency medical services in the City and any additional comments or information that may be of help. Specific information regarding existing facilities, response times now and upon build-out, threshold standards and additional personnel and equipment needed to serve the proposed project would also be helpful.

We would appreciate receiving your response prior to February 24th. If you have any questions please call me at 458-9044. Thank you for your time and cooperation.

Sincerely,

Jeanne Muñoz
Senior Project Manager

JM/dp

Enclosure

cc: File #39015000

CITY OF
CHULA VISTA

MANAGEMENT SERVICES DEPARTMENT

March 6, 1989

Ms. Jeanne Munoz
ERC
5510 Morehouse Drive
San Diego, California 92121

RE: Fire Coverage for the Salt Creek II Development

The City of Chula Vista is currently completing a Fire Station Master Plan, as part of its General Plan update. The Master Plan, which is targeted for public review this month, delineates the fire station network which would serve Chula Vista's Planning Area through buildout. Additionally, the Master Plan proposes adoption of specific response time guidelines for residential and commercial/industrial projects, to better facilitate implementation of the fire service threshold. A preliminary review of Salt Creek II, conducted as part of the fire station study, indicates that the project would meet the proposed response time guidelines. A more definitive review will be made when more detailed information is available regarding planned residential zones and densities within the project area and the project's planned street network.

Fire coverage for the Salt Creek II project would be provided from a fire station site proposed for an adjoining development, west of Salt Creek II. The Master Plan is recommending that a citywide developmental impact fee be established to pay for the fire related facilities outlined in the study.

If I can be of any further assistance, please call me at 691-5296. I will forward you a copy of the Fire Station Master Plan when it is made public.

Sincerely,

Marty Chase
Asst Director

cc: Carol Gove
Ken Lee
Sam Lopez

5510 Morehouse Drive
San Diego, California 92121
Telephone: 619-458-9044
Fax: 619-458-0943

ERC
Environmental
and Energy
Services Co.

89-332-E
February 14, 1989

Mr. Manuel A. Mollinedo
City of Chula Vista
Parks and Recreation Department
276 Fourth Avenue
Chula Vista, California 92010

Dear Mr. Mollinedo:

ERCE Environmental and Energy Services Company, Inc. (ERCE), is currently preparing an Environmental Impact Report (EIR) for the Salt Creek Ranch development. The proposed project encompasses 1200 acres and is shown on the enclosed map. Included within the requested discretionary actions would be annexation to the City of Chula Vista.

The proposed plan would result in approximately 3,000 new dwelling units. A preliminary statistical summary of the land use categories and acreages is broken down as follows:

Land Use Designation	Acres	Target # of Units
Low (0-3 du/ac)*	520.2	1040
Low-Medium (3-6 du/ac)	304.0	1504
Medium (6-11 du/ac)	53.7	456
Totals	877.9	3000

* du/ac = dwelling units per acre

To adequately address the potential impacts to parks and recreational uses from the proposed project, we will need your department's comments. Please indicate the extent of impact you would expect this development to place on park and recreational facilities and any other additional comments or information which may aid in assessing potential impacts. Specific information regarding existing and planned facilities, threshold standards appropriate to this project, the ratio of population to parkland and additional requirements, if any, for on-site parkland and parkland dedication would be helpful.

We would appreciate receiving your response prior to February 24th. If you have any questions please call me at 458-9044. Thank you for your time and cooperation.

Sincerely,

Jeanne Muñoz
Senior Project Manager

JM/dp

Enclosure

cc: Shauna Stokes
File #39015000

CITY OF
CHULA VISTA

PARKS AND RECREATION DEPARTMENT

March 9, 1989

Ms. Jeanne Munoz, Senior Project Manager
ERC Environmental and Energy Services Co.
5510 Morehouse Drive
San Diego, CA 92121

Dear Ms. Munoz:

RE: Salt Creek Ranch Environmental Impact Report

Per your letter of February 14, 1989, requesting information regarding potential impacts to parks and recreational uses from the proposed Salt Creek Ranch Project, we offer the following comments.

1. Attached are copies of the Park Acquisition and Development Fees according to type of dwelling unit and a copy of the Park Acreage Dedication Standards per type of dwelling unit. Also attached for your information is a complete copy of the City's Parkland Dedication Ordinance.

2. The threshold standard of 3 acres per 1,000 people will be applicable for this project.

3. The amount of park area to be dedicated will be based on type of dwelling units proposed. We are unable to determine the required park acreage, from the information given on land use categories and acreages for this project.

4. The Department is interested in developing an equestrian complex on the site, along with an extensive trail system, picnic facilities, possible overnight tent camping facilities and active recreational facilities such as tennis courts, softball fields and soccer fields.

5. A combination of community park and neighborhood park facilities would probably be appropriate for the project. The minimum size for neighborhood parks is seven acres, while the minimum size for a community park is fifteen acres.

6. The Department will not accept park acreage if it is located solely under SDG&E easements or has significant slopes (greater than 10%).

If you have any questions, or need additional information, please do not hesitate to call.

Sincerely,

Manuel A. Mollinedo, Director
Department of Parks and Recreation

cc: Planning Department
MAM:CCS

17.10.030 Application.

The provisions of this chapter shall apply to all subdivisions and divisions created by parcel maps excepting therefrom industrial and completely commercial subdivisions and those subdivisions or divisions of land for which tentative subdivision or parcel maps have been filed within thirty days after the effective date of this chapter.

17.10.040 Area to be dedicated-Required when-Amounts for certain uses.

The amount of parkland dedication required, in accordance with Sections 17.10.010 through 17.10.130, is based on a [redacted] and shall be offered at the time of filing of the final map. The area to be dedicated shall be as follows:

A. [redacted]its, ~~3.7~~ 3.22 persons per dwelling unit, ~~three hundred twenty two~~ four hundred twenty three square feet per unit, or [redacted]

B. A[redacted]either c[redacted], ~~3.1~~ 2.80 persons per dwelling unit, ~~two hundred seventy two~~ three hundred sixty-six square feet per unit, or [redacted]

C. [redacted], ~~2.5~~ 2.48 persons per dwelling unit, ~~two hundred eighteen~~ three hundred twenty-five square feet per unit, o[redacted] ~~two~~ [redacted];

D. [redacted], ~~2.0~~ 2.21 persons per dwelling unit, ~~one hundred seventy four~~ two hundred eighty-eight square feet per unit, or [redacted]

E. Mobile homes, ~~1.8~~ 1.64 persons per dwelling unit, ~~one hundred fifty seven~~ two hundred fifteen square feet per unit, or one acre per two hundred ~~seventy eight~~ three units.

F. Residential and transient motels/hotels, 1.50 persons per dwelling unit, one hundred ninety-six square feet per unit, or one acre per two hundred twenty two units.

~~These amounts of land shall be offered at the time of filing of the final map. If in the judgment of the city suitable land does not exist within the subdivision or for subdivisions containing fifty lots or less, only the payment of fees in lieu of land and improvements may be required. In such cases, the amount of the fee shall be the amount established by the city council in the master fee schedule by resolution plus the value of the improvements required in Section 17.10.070. Where the city deems that a combination of dedication and payment as provided in this section would better serve the park and recreation needs of the future residents of a particular subdivision, it may require such combination provided, however, the city council may by resolution waive all or any portion of said dedication in lieu fee requirements in the interests of stimulating the construction of housing for moderate income families. (Ord. 1806 § 1 (part), 1978; Ord. 1668 § 1 (part), 1976.)~~

PARK AREA UPDATE

The Council adopted new Park Acquisition and Development (PAD) fees in December 1987, which became effective in February 1988. At the same time, the Council approved changes to the Park Development Ordinance, which increased the parkland dedication standard from 2 acres/1,000 persons to 3 acres /1,000 persons and expanded the minimum park improvements expected of developers for turnkey neighborhood and community parks.

The threshold standards for parks incorporated the new parkland dedication standards for areas east of I-805. The size of any new park planned for this area will be based on this standard. The Parks and Recreation Department is currently working on the development of new park and recreation facilities with the Sunbow developer for Phase II of Sunbow and Eastlake Development for Eastlake Greens.

Several other parks, east of 805, are in the construction or planning stage. Bonita Long Canyon Park, an 11 acre park on Corral Canyon Road, will be open to the public on November 5; Sunridge Park, a 6 acre park at East "J" Street and Beechglen Drive, is under the landscape maintenance phase of construction and will be open to the public in summer 1989; Sunbow Park, adjacent to Greg Rogers Park, is in the early construction phase and will be opened in late 1989 or early 1990; the East "H" Street park and community park in Rancho del Rey are in the design stages, with construction slated to begin in summer 1989.

The Parks and Recreation Element of the General Plan, which is currently being updated, will reflect the new dedication standards and will plan for the development of major park facilities in the Eastern territories and ensure the continued adherence to the threshold standards.

/cs

PARK ACQUISITION AND DEVELOPMENT FEES

Park Acquisition Fees

Single family	$390/du
Attached	$335/du
Duplex	$300/du
Multi-family	$265/du
Mobilehome	$200/du
Residential hotel	$180/du

Park Development Fees

	Neighborhood Park	Community Park	TOTAL
Single family	$800/du	$490/du	$1,290/du
Attached	$695/du	$430/du	$1,125/du
Duplex	$615/du	$370/du	$ 985/du
Multi-family	$545/du	$340/du	$ 885/du
Mobilehome	$405/du	$250/du	$ 655/du
Residential and transient motel/hotel	$370/du	$230/du	$ 600/du

WPC 0900R

ORDINANCE NO. 2243

AN ORDINANCE OF THE CITY OF CHULA VISTA AMENDING CHAPTER 17.10 OF THE CHULA VISTA MUNICIPAL CODE RELATING TO NEIGHBORHOOD PARK AND COMMUNITY PARK REQUIREMENTS

The City Council of the City of Chula Vista does ordain as follows:

SECTION I: That Chapter 17.10 of the Chula Vista Municipal Code be, and the same is hereby amended to read as follows:

Chapter 17.10

PARKLANDS AND PUBLIC FACILITIES

Sections:

17.10.010 Dedication of land and development of improvements for park and recreational purposes.

Pursuant to the authority granted by Section 66477 of the Government Code of the state, every subdivider shall, for the purpose of providing neighborhood and community park and recreational facilities directly benefiting and serving the residents of the regulated subdivision, dedicate a portion of the land and develop improvements thereon or in lieu thereof pay ~~a~~ fees for each dwelling unit in the subdivision or do ~~both~~ a combination thereof, as required by the City in accordance with this chapter. The dedication, improvement, or payment of fees in lieu thereof or combination thereof shall be applicable to all residential subdivisions of any type allowed under the various and several residential zones of the city and shall be in addition to any residential construction tax required to be paid pursuant to Chapter 3.32 of this code.

17.10.020 Determination of park and recreational requirements benefiting regulated subdivisions.

The park and recreational facilities for which dedication of land and improvements thereon and/or payment of a fee is required by this chapter shall be those facilities as generally set forth in the park and recreational element of the general plan of the city adopted by Resolution No. 3519 on the 22nd day of September, 1964, and as thereafter amended.

17.10.030 Application.

The provisions of this chapter shall apply to all subdivisions and divisions created by parcel maps excepting therefrom industrial and completely commercial subdivisions and those subdivisions or divisions of land for which tentative subdivision or parcel maps have been filed within thirty days after the effective date of this chapter.

17.10.040 Area to be dedicated-Required when-Amounts for certain uses.

The amount of parkland dedication required, in accordance with Sections 17.10.010 through 17.10.130, is based on a standard of 3 acres per 1000 people and shall be offered at the time of filing of the final map. The area to be dedicated shall be as follows:

A. Single-family dwelling units, ~~3.7~~ 3.22 persons per dwelling unit, ~~three hundred twenty-two~~ four hundred twenty three square feet per unit, or one acre per one hundred ~~thirty-five~~ three units;

B. Attached, cluster housing or planned unit developments under either condominium or subdivided ownership, ~~3.1~~ 2.80 persons per dwelling unit, ~~two hundred seventy-two~~ three hundred sixty-six square feet per unit, or one acre per one hundred ~~sixty~~ nineteen units;

C. Duplexes, ~~2.3~~ 2.48 persons per dwelling unit, ~~two hundred eighteen~~ three hundred twenty-five square feet per unit, or one acre per ~~two hundred~~ one hundred thirty four units;

D. Multiple family dwelling units, ~~2.0~~ 2.21 persons per dwelling unit, ~~one hundred seventy-four~~ two hundred eighty-eight square feet per unit, or one acre per ~~two hundred fifty~~ one hundred fifty-one units;

E. Mobile homes, ~~1.8~~ 1.64 persons per dwelling unit, ~~one hundred fifty-seven~~ two hundred fifteen square feet per unit, or one acre per two hundred ~~seventy-eight~~ three units.

F. Residential and transient motels/hotels, 1.50 persons per dwelling unit, one hundred ninety-six square feet per unit, or one acre per two hundred twenty two units.

~~These amounts of land shall be offered at the time of filing of the final map. If, in the judgment of the city, suitable land does not exist within the subdivision, or for subdivisions containing fifty lots or less, only the payment of fees in lieu of land and improvements may be required. In such cases, the amount of the fee shall be the amount established by the city council in the master fee schedule by resolution, plus the value of the improvements required in Section 17.10.070. Where the city deems that a combination of dedication and payment, as provided in this section, would better serve the public and the park and recreation needs of the future residents of a particular subdivision, it may require such combination; provided, however the city council may, by resolution waive all or any portion of said dedication or in lieu fee requirements in the interests of stimulating the construction of housing for low and moderate income families. (Ord. 1306 § 1 (part), 1978; Ord. 1068 § 1 (part), 1976.)~~

17.10.060 ~~Combination of dedication and fee payment permitted when.~~ Criteria for area to be dedicated.

Acceptance of land for parkland is at the City Council's discretion and in exercising its discretion, Council may consider the following criteria, in addition to any other the Council considers relevant:

A. Topography, soils, soil stability, drainage location of land in subdivision available for dedication.

B. Size and shape of the subdivision and land available for dedication.

C. Physical relationship of the site to the surrounding neighborhood.

D. Location of the site with regard to accessibility to the residents of the neighborhood and its contribution to neighborhood security.

E. The amount, usability, and location of publicly owned property available for combination with dedicated lands in the formation of public park and recreation facilities.

F. Recommendation of the Parks and Recreation Commission.

An offer of dedication may be accepted or rejected by the City Council.

~~The following circumstances may arise which require a combination of the dedication of land and payment of fees:~~

~~A. Only a portion of the land to be subdivided is proposed on the general plan as the location for a local park. That portion of the land within the subdivision falling within the park location as shown on the general plan shall be dedicated for local park purposes, and a fee shall be required for any additional land that would have been required to be dedicated.~~

~~B. A major part of the local park or recreation site has already been acquired, and only a small portion of land is needed from the subdivision to complete the site. The remaining portion shall be required by dedication, and a fee required for the remainder to pay for improvement of the park and recreation facilities in the area serving the subdivision.~~

~~C. A residential development may constitute only a small portion of a particular neighborhood park district, and upon completion of the subdivision, which may be the only developed area in the district, there may be no need for a fully improved neighborhood park. Under such circumstances, the developer may be required to dedicate land in accordance with Section 17.10.040, and in addition thereto, deposit the fees as presently designated, or as may in the future be amended, in the master fee schedule for development of the park in the future.~~

~~For the purpose of implementing the fee as shown in the master fee schedule, any rooms as shown on plans submitted by the subdivider, regardless of their designation thereon, which may be used for bedroom purposes shall be regarded as a bedroom. Residential motels and hotels and transient motels and hotels shall only be required to deposit in lieu fees pursuant to the fees in the master fee schedule for Section 17.10.040. (Ord. 1981 § 1 (part), 1982: Ord. 1668 § 1 (part), 1976.)~~

17.10.07 50 ~~Subdivider/////p~~Park development ~~responsibility~~ improvements- Specifications.

In addition to the dedication of land as required in Section 17.10.040, it shall be the responsibility of the subdivider to develop all or a portion of such land for neighborhood or community park purposes to the satisfaction of the Director of Parks and Recreation and the Parks and Recreation Commission in accordance with the following ~~general~~ criteria:

A. Parklands are to be graded in accordance with a plan which shall be subject to the approval of the director of parks and recreation.
B. All street improvements shall be installed.
C. All utilities shall be extended to the property line.
D. An automatic irrigation system shall be installed.
E. Turf shall be installed.
F. ~~One tree per thousand square feet of area shall be planted in the event the city determines that the improvement of the park shall be delayed for a substantial period of time after the park land has been dedicated. The subdivider shall not be required to improvements, but instead shall pay the fee indicated in Section 17.10.080. (Ord. 1668 § 1 (part), 1976.)~~
F. Landscaping, including trees, shrubs and other plant material, shall be planted in accordance with the City's Landscape Manual.
G. A concrete walkway system shall be installed.
H. Park fixtures, such as signage, tables, benches, trash receptacles, drinking fountains and bike racks, shall be installed.
I. A drainage system shall be installed, if necessary.
J. Play areas, with play equipment for pre-schoolers and primary school-age children, shall be installed.
K. Security lighting fixtures shall be provided.
L. One picnic shelter shall be provided for every 1,000 people.
M. One tennis court shall be provided for every 2,000 people.
N. One baseball/softball field shall be installed for every 5,000 people.
O. One multi-purpose court for basketball, volleyball, and badminton shall be installed for every 5,000 people.
P. One soccer field shall be constructed for every 10,000 people.

In addition to those items listed above, the following facilities shall be required in a community park:

Q. One 50 meter swimming pool with related facilities, such as dressing rooms, will be constructed for every 20,000 people.
R. One community center and gymnasium will be constructed for every 24,000 people.
S. One lighted softball field shall be developed for every 5,000 people.
T. A restroom facility shall be constructed in every community park and may be constructed in neighborhood parks.

17.10.070 In lieu fees for land dedication and/or park development improvements.

A. In lieu fees for land dedication: If, in the judgment of the city, suitable land does not exist within the subdivision, or for subdivisions containing 50 lots or less, the payment of fees in lieu

of land shall be required. In such cases, the amount of the fee shall be the amount established by the city council in the master fee schedule by resolution and based on the area to be dedicated as-set forth in Section 17.10.040. However, when a condominium project, stock cooperative or community apartment project exceeds 50 dwelling units, dedication of land may be required notwithstanding that the number of parcels may be less than 50.

Where the city deems that a combination of dedication and payment, as provided in this chapter, would better serve the public and the park and recreation needs of the future residents of a particular subdivision, it may require such combination. Provided, however, the city council may, by resolution waive all or any portion of said dedication or in lieu fee requirements in the interests of stimulating the construction of housing for low and moderate income families.

Residential motels and hotels and transient motels and hotels shall be required to deposit fees in lieu of dedication of land required in Section 17.10.050 pursuant to the fees in the master fee schedule.

B. In lieu fees for park development improvements: If, in the judgment of the city, suitable land does not exist within the subdivision, or for subdivisions containing 50 lots or less, the payment of fees in lieu of developing improvements shall be required. In such cases, the amount of the fee shall be the amount established by the city council in the master fee schedule by resolution and based on the improvements required in Section 17.10.050. However, when a condominium project, stock cooperative or community apartment project exceeds 50 dwelling units, improvements may be required notwithstanding that the number of parcels may be less than 50.

Where the city deems that a combination of improvements and payment, as provided in this chapter, would better serve the public and the park and recreation needs of the future residents of a particular subdivision, it may require such combination; provided, however, the city council may, by resolution waive all or any portion of said improvements or in lieu fee requirements in the interests of stimulating the construction of housing for low and moderate income families.

In the event the city determines that the improvement of the parkland shall be delayed for a substantial period of time after the parkland has been dedicated, the subdivider shall not be required to install such improvements, but instead shall pay the fee as set forth in the master fee schedule for the value of improvements required in Section 17.10.050.

Residential motels and hotels and transient motels and hotels shall be required to deposit fees in lieu of park development improvements required in Section 17.10.050 pursuant to the fees in the master fee schedule.

17.10.080 Limitation on use of land and/or fees.

The amount of land, improvements and or in lieu fees or combination thereof received under this chapter shall be used only for the purpose of providing neighborhood and community park and recreational facilities to serve the subdivision for which received. The amount and location of the land or in lieu and/amount/of fees or combination thereof shall bear a reasonable relationship to the use of the park and recreational facilities by the future inhabitants of the subdivision.

17.10.090 Commencement of park development.

The city will acquire land for park purposes within/a/specified facilities/service/zone as soon as sufficient funds are available. Any fees collected under this chapter shall be committed within five years after the payment of such fees or the issuance of building permits on one-half of the lots created by the subdivision, whichever occurs later. and/will commence/improvements/at/the/time/building/permits/have/been/issued/to/at/least/eighty/percent/of/the/residential/zoned/property/within/the specified/zone///improvement/shall/contribute/based/upon/revenues/received within/each/zone.

17.10.100 Collection and distribution of fees.

A. Prior to the acceptance of a final subdivision map or approval of a parcel map, any required fees shall have been paid to the city. Any land to be contributed for the purposes outlined in this chapter shall be dedicated to the city and shown on the final subdivision or parcel map. The director of finance shall be responsible for the collection and distribution of fees as set forth in this chapter.//and/the/city/council/shall/review/at/least annually,/the/park/and/recreational/element/of/the/general/plan,/including the/service/areas/for/parks/required/to/be/dedicated/or/acquired/pursuant/to the/terms/of/this/chapter. Fees collected for neighborhood and community parks shall be kept in separate funds. However, the City shall have the ability to shift fee amounts between the neighborhood and community park funds when necessary.

B. Planned developments shall be eligible to receive a credit as determined by the City Council, against the amount of land required to be dedicated, or the amount of the fee imposed, for the value of private open space within the development which is usable for active recreational uses. Such credit, if given, shall be determined on a case by case basis.

17.10.110 Periodic review and amendment authorized.

Costs, population density, and local conditions change over the years, and the specified formula for the payment of fees for acquisition of park sites as stated in this chapter is subject to periodic review and amendment by the city council.

~~17.10.120 Principles and standards.~~

~~The following principles and standards are intended to serve as a general guide in determining the neighborhood facilities for which sites normally will be required in accordance with the general plan:~~

~~A. An elementary school site of approximately ten acres will be required for each six hundred families, more or less, required to be served by such school. Such school site shall be central to the population to be served and shall not be fronted on a major thoroughfare.~~

~~B. Whenever possible, playground and neighborhood recreation areas shall be developed in conjunction with elementary school sites. A park site, if required, shall not normally be less than seven acres in area, except that such site, when adjacent to a school, shall not normally be less than three acres, and such sites shall specifically include areas with natural advantages for park development.~~

SECTION II: This ordinance shall take effect and be in full force on the thirty-first day from and after its adoption.

Presented by

Manuel Mollinedo, Director of Parks and Recreation

Approved as to form by

12/10/87

D. Richard Rudolf, Assistant City Attorney

3574a

Sweetwater Union High School District

ADMINISTRATION CENTER
1130 FIFTH AVENUE
CHULA VISTA CALIFORNIA 92011
(619) 691-5553

PLANNING DEPARTMENT

April 13, 1989

Ms. Jeanne Munoz
Senior Project Manager
ERC
Environmental and Energy Services Company
5510 Morehouse Drive
San Diego, CA 92121

Dear Ms. Munoz:

RE: Salt Creek Ranch Draft EIR

This correspondence is sent in response to your March 24, 1989, request for information regarding the proposed development of Salt Creek Ranch. Please be advised that the property is located within CFD #1 prepared for the EastLake Master Plan Community.

It is my understanding that the tax rate prepared for CFD #1 will apply to the approved land uses of Salt Creek Ranch This will mitigate the impact that your development will have on the Sweetwater Union High District.

It may be necessary for the district consultant to revise the financial analysis of CFD #1 to accommodate this new development. Salt Creek One Development will be required to pay the administrative fees of any consultant services the district may require to process unanticipated change to CFD #1.

Respectfully,

Thomas Silva
Director of Planning

TS/sly

CHULA VISTA CITY SCHOOL DISTRICT

84 EAST "J" STREET • CHULA VISTA, CALIFORNIA 92010 • 619 425-9600

EACH CHILD IS AN INDIVIDUAL OF GREAT WORTH

February 28, 1989

Ms. Jeanne Munoz
Senior Project Manager
ERC Environmental & Energy Services Co.
5510 Morehouse Drive
San Diego, CA 92121

RE: SALT CREEK RANCH DEVELOPMENT

Dear Ms. Munoz:

Schools in the Chula Vista City School District are at capacity and the District has added 19 relocatable classrooms over the past two years to serve new growth. Students are being bused outside their attendance area boundaries to help alleviate this situation and also to achieve ethnic balance.

Please be advised that current developer fees of $ .67 per square foot of habitable living space for residential development are not adequate to provide school facilities to serve the proposed project. The District would be willing to discuss the possibility of a Mello-Roos Community Facilities District as an alternate form of financing.

If you have any questions, please do not hesitate to contact this office.

Sincerely,

Kate Shurson
Director of Planning

KS:dp

CHULA VISTA CITY SCHOOL DISTRICT

84 EAST "J" STREET • CHULA VISTA, CALIFORNIA 92010 • 619 425-9600

EACH CHILD IS AN INDIVIDUAL OF GREAT WORTH

April 12, 1989

Mr. James M. Harter
Vice President & Project Manager
The Baldwin Company
11975 El Camino Real, Suite 200
San Diego, CA 92130

RE: Salt Creek Ranch

Dear Mr. Harter:

It was a pleasure meeting with you and Janay Kruger on April 4 to discuss the proposed Salt Creek Ranch project.

Based on the preliminary General Development Plan, utilizing the District's generation rate of 0.3 students/unit, 1,093 students are estimated. Our facilities accommodate approximately 620 students on a traditional calendar, and approximately 744 students on a year-round, multi-track program. This equates to a need for 1.76 traditional schools, or 1.47 year-round, multi-track schools to serve the development.

Preliminary review indicates that the proposed elementary school site shown on the General Development Plan appears feasible at this time. We would need to review more detailed plans to assure that this is the best location to serve the majority of the student population, and is appropriate in terms of other siting criteria. Further, a second site to serve the remainder of students generated by the project needs to be designated. It is my understanding that there is a proposal to share a site with the EastLake Development Company. This proposal, which is not consistent with the District's existing Mello-Roos agreement with EastLake, will have to be evaluated by the District and our Mello-Roos consultants to determine its feasibility.

In terms of financing construction of school facilities required to serve this project, developer fees are inadequate and will not provide the necessary facilities. Attached is an information sheet which briefly discusses financing options for public facilities. The District has successfully implemented Mello-Roos Community Facilities Districts for financing school facilities, and currently has five in place.

If you have any questions, please do not hesitate to call.

Sincerely,

Kate Shurson

Kate Shurson
Director of Planning

KS:dp