Draft Environmental Impact Report

for the

CARSON CREEK SPECIFIC PLAN

EL DORADO COUNTY

State Clearinghouse No. 94072021

VOLUME II
APPENDICES

May 1996

Michael Brandman Associates

Draft Environmental Impact Report

for the

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Prepared for:

El Dorado County
Planning Department
2850 Fairlane Court
Placerville, California 95667

Contact: Roger Trout, Senior Planner
(916) 621-5355

Prepared by:

Michael Brandman Associates
10423 Old Placerville Road, Suite 100
Sacramento, California 95827

Contact: Julia M. LeBoeuf
(916) 362-3606

JN 11730013

May 1996

Michael Brandman Associates

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APPENDIX A

Notice of Preparation and List of Commenters

NOTICE OF PREPARATION OF A DRAFT ENVIRONMENTAL IMPACT REPORT

LEAD AGENCY:	**EL DORADO COUNTY, Planning Department**
Street Address:	**2850 Fairlane Court**
City/State/Zip:	**Placerville, CA 95667**
Contact:	**Pierre Rivas, Acting Principal Planner** **Roger Trout, Associate Planner**

El Dorado County is the Lead Agency for the preparation and review of an Environmental Impact Report (EIR) for the proposed Carson Creek Specific Plan. The County is soliciting the views of interested persons and agencies as to the scope and content of the environmental information which is germane to the agencies' statutory responsibilities in connection with the proposed project. Your agency will need to use the EIR prepared by our agency when considering your permit or other approval for the project. A summary of the project description, location, and probable environmental effects are contained in the attached materials.

Due to the time limits mandated by State Law, your response to this Notice of Preparation must be sent at the earliest possible date, but no later than 30 days after the receipt of this notice. Send written responses to the El Dorado County Planning Department, attention: Pierre Rivas, at the above address. Include the name of a contact person in your agency.

El Dorado County has conducted a preliminary review and determined that an EIR is clearly required for the processing of the proposed Specific Plan pursuant to California Environmental Quality Act (CEQA) Guidelines Section 15060(c) and therefor an initial study has not been prepared.

A public information meeting has been scheduled for August 4, 1994 from 6:00 P.M. to 8:30 P.M. in the El Dorado County Planning Commission Hearing Room, 2850 Fairlane Court, Placerville, California. The purpose of this meeting is to present information on the environmental review process for the Specific Plan. Public input on the scope of the environmental review is invited in the form of written comments only. No formal verbal testimony will be taken.

PROJECT TITLE:	ADOPTION OF THE CARSON CREEK SPECIFIC PLAN
PROJECT LOCATION:	The project site is located south of the Community of El Dorado Hills and U.S Highway 50. The project is bounded by the El Dorado County/Sacramento County line on the west, White Rock Road on the north, the El Dorado Hills Business Park on the east and the Southern Pacific Railroad right-of-way (not in use) to the south. The project is located within portions of Sections 14, 23, and 26, T9N, R8E, MDM.
PROJECT:	The project consists of the adoption of the Carson Creek Specific Plan to be prepared in conformance with California Government Code Section 65450 et seq. The Specific Plan will further implement the County General Plan (Public Review Draft General Plan) and provide for a comprehensive land use plan for future development of the Plan area.
PROJECT PROPONENT:	Palisades Development, Inc.

DATE: 6-30-94

SIGNATURE Pierre Rivas
NAME AND TITLE: Pierre Rivas, Acting Principal Planner
PHONE: (916) 621-5355

NOTICE OF PREPARATION OF
THE ENVIRONMENTAL IMPACT REPORT FOR
THE CARSON CREEK SPECIFIC PLAN

This Notice of Preparation (NOP) covers the following topics:

I. Description of the Proposed Specific Plan

II. Probable Environmental Effects of the Project Description

III. No Project Alternative

Exhibits:

A: Regional Location Map

B: Vicinity Location Map

C: Carson Creek Land Use Plan Map

Appendices:

A: Carson Creek Specific Plan Assessor's Parcel List

B: Other Relevant Documents

The information in this NOP is a summary of the more detailed information contained in the Carson Creek Specific Plan project submittal. Interested agencies, groups, and individuals seeking more information should refer to the project file and related documents which are available for inspection at the El Dorado County Planning Department located at 2850 Fairlane Court, Placerville, California, 95667. Copies of related documents can be obtained for a fee covering cost of duplication.

I. DESCRIPTION OF THE PROPOSED SPECIFIC PLAN

The project area encompasses 710 acres. It is located southwest of the intersection of Latrobe Road and White Rock Road and is between the El Dorado County/Sacramento County line and the El Dorado Hills Business Park. The project proposes to create 2,941 residential units, including a mixture of multi-family, townhomes and single family residential parcels ranging in size from 3,000 square feet to 7,000 square feet. The project includes commercial centers, industrial area, and an elementary school. 154 acres of open space will be incorporated into the project.

All parcels created by the development would be served by public water, sewer, and natural gas systems. Access to the project will be from Latrobe Road, through the El Dorado Hills Business Park on the east, White Rock Road to the north, and Payen Road to the south and west. A Community Services District will be established to maintain trails, parks and open space areas.

A. Project Site

The property is currently used for livestock grazing, and has been historically managed for this purpose. The existing vegetation on the site is predominantly grassland with scattering of oaks along creeks and drainage ways.

Portions of Carson Creek are located on the site. Principal soils occurring on the site include the Perkins series with large groups of Auburn and Whiterock series soils.

B. Proposed Land Uses and Discretionary Action

The project site is designated Planned Community (PC) on the County General Plan Land Use Map. Development of lands designated PC require the preparation and adoption of a specific plan prior to receiving subsequent discretionary land use approvals. Although the General Plan does not prescribe permitted residential density ranges or development intensities, the project site is located within the Community Region planning concept area of the General Plan. Community Regions are set aside to permit the greatest level of development potential. Without an adopted specific plan, development may occur in accordance with existing zoning (as further described under Section III, the No Project Alternative). The El Dorado Hills/Salmon Falls Area Plan designated this site a mixture of Industrial and Rural Residential. The existing zoning is Research and Development and Exclusive Agriculture. The density of the Carson Creek project as currently proposed is 2,941 units on 710 acres, which would exceeds the density currently allowable under the area plan.

Following the adoption of the Carson Creek Specific Plan, subsequent discretionary actions will include rezones and tentative subdivision maps. Other implementing documents proposed as part of the Specific Plan include the Design Guidelines and Standards and the Public Services and Facilities Financing Plan. The applicant is proposing a Development Agreement between El Dorado County and the Carson Creek property owner to define development responsibilities and obligations.

C. Public Facilities and Services

Proposed infrastructure for Specific Plan area consists of the following:

1. Circulation:

The project site will be served by Latrobe Road and White Rock Road with access to U.S Highway 50. Payen road will also be a primary access route to the site.

2. Wastewater Treatment and Water Supply:

Public water and wastewater treatment will be provide by El Dorado Irrigation District (EID). The Carson Creek Specific Plan area is located adjacent to EID Assessment District No. 3.

3. Fire Protection:

Fire protection to the site will be provided by the El Dorado Hills Fire Department (El Dorado Hills County Water District).

4. Police:

The project would be served by the El Dorado County Sheriff's Department for law enforcement service.

5. Schools:

One elementary school site is planned within the Specific Plan area. The project site is located within the El Dorado Union High School District and both the Buckeye and Latrobe Union School Districts.

6. Parks and Recreation:

The project proposes linear, community, and neighborhood parks to be developed in conjunction with circulation and open space to provide for active and passive recreational opportunities and allow for pedestrian and bicycle access between neighborhoods, surrounding employment, and business centers.

II. PROBABLE ENVIRONMENTAL IMPACTS OF THE PROPOSED SPECIFIC PLAN

1. Geology and Soils:

Development on slopes and soil disturbance may result in erosion and sedimentation. No active faults are know to be located on the site.

2. Air:

The project will result in an increase in air emissions and a deterioration of ambient air quality mainly from automobiles, construction, and woodstoves/fireplaces. El Dorado County currently exceeds State and Federal standards for ozone and particulate matter (PM10). Additional development will exacerbate this non-attainment status.

3. Water Quality and Hydrology:

The project will impact numerous small vernal pools, some freshwater marsh area, and the creeks that drain the site. Potential flood hazards exist due to upstream development, including along Carson Creek. No wells (groundwater) or septic systems are planned to be developed.

4. Biological Resources:

The project will result in removal and alteration of native vegetation on the site. The project will result in some disturbance to wildlife habitat. The site currently supports an unknown diversity and population of wildlife which could be adversely affected. Sensitive wildlife species are not known to occur on the site.

5. Noise:

The project will increase existing noise levels in the area. The site is not impacted from noise from a major freeway or active airport. A portion of the site was in the 65 db contour range of Mather Air Force Base, which has since closed.

6. Light and Glare:

The project will result in an increase in light and glare in the area.

7. Land Use:

The preparation and adoption of the Specific Plan is required for development to occur within the Planned Community area in accordance with the County General Plan. 557 acres of the project is currently under Williamson Act Contract and is scheduled to roll out in the year 2000. Immediate cancellation of the contract would be necessary to allow development to begin prior to that date.

8. Natural Resources:

The project will result in an increase in the use of natural resources.

9. Risk of Upset/Human Health and Safety:

During construction, hazardous materials could be released into the environment.

10. Population and Housing:

The project will result in an increase in the human population of the area. The development could increase the population of the area by approximately 7,823 people (2,941 dwelling units x 2.66 persons per unit). Mixed housing types proposed include: multifamily, townhomes, duplexes, cluster homes, and single family lots in various design concepts including small lots, lots with zero lot lines, "Z-lots", and other creative types. Some housing is intended to be offered for first time buyers.

11. Transportation and Circulation:

New development in this area could exacerbate the congestion on U.S. Highway 50, Latrobe Road, and the U.S. Highway 50/Latrobe Road/El Dorado Hills Boulevard interchange. An opportunity exists to develop a light rail station with up to 700 parking spaces along the Southern Pacific Railroad right-of-way.

12. Public Services:

The project will have an impact on the following public services: fire protection, police protection, schools, parks and other recreational facilities, road maintenance services, public health/hospital services and waste disposal services.

13. Energy:

The project will result in the use of substantial amounts of fuel and other energy sources. The close proximity of the project to employment centers may result in the use of alternative modes of transportation, minimizing fuel consumption.

14. Utilities and Service Systems:

The project will result in a need for the extension of natural gas (PG&E), power lines (PG&E), cable television (King Video), and telephone (Pacific Bell) lines throughout the site. The project will require the extension of public water and wastewater systems and increase the demand for public water supplies and wastewater collection systems. The project will increase demand for solid waste disposal and impact the landfill capacity. Reclaimed water systems may be developed to support irrigation of open space, parks and parkway areas.

15. Aesthetics:

The project may result in the development of hillsides visible from the U.S. Highway 50 corridor, Whiterock Road, Payen Road, and Latrobe Road.

16. Cultural Resources:

The project site may contain prehistoric and historic sites not yet identified in a previous cultural resource survey of the area. These sites could be adversely impacted by the proposed project.

17. Cumulative Impacts:

The project could contribute to cumulative adverse impacts in the areas of: air quality, water quality and supply, wildlife habitat, public services, utilities, transportation and circulation, and energy consumption.

III. NO PROJECT ALTERNATIVE

The project consists of a total of 6 parcels. Two northern parcels (160 acres) are zoned Research and Development. The four southern parcels are zoned Exclusive Agriculture, and are under Williamson Act Contract until February 28, 2000. The Interim General Plan designates the entire project site as Planned Community. The El Dorado Hills/Salmon Falls Area Plan had designated the northern parcels as Industrial and the southern parcels as Rural Residential, 1 dwelling unit per 10 to 160 acre minimum.

The project can only be approved after the adoption of the final El Dorado County General Plan. The no project alternative would either result in the project site remaining as a Planned Community, but without any development until another specific plan is approved, or conversion to another land use designation, to be determined with the adoption of the final El Dorado County General Plan.

Appendix A

Carson Creek Specific Plan
Assessor's Parcel List

	Assessor's Parcel Number	Acreage
1.	108-040-04	7.00
2.	108-040-05	4.00
3.	108-040-06	153.17
4.	108-040-07	204.00
5.	108-040-12	253.97
6.	108-050-02	96.00
	Approximate Total Acreage	712.14

APPENDIX B
Relevant Documents

Preliminary Agricultural Review for Carson Creek Ranch, prepared by Johas and Associates, Inc. November 18, 1991.

Phase 1 Site Assessment of Euer Ranch, prepared by Wheeldon and Associates, January 18, 1991.

Preliminary Site Assessment of Carson Creek Ranch, prepared by Wheeldon and Associates, September 10, 1990.

Draft: Report on Hydrology and Floodplain Delineation for Carson Creek Ranch Project, prepared by J. J. DeVries and O. Balogun, October 11, 1998.

Carson Creek Ranch Vegetation and Wildlife Resources, PAR and Associates, November 8, 1988.

Carson Creek Section 404 Regulatory Compliance, Sugnet and Associates January 21. 1993.

El Dorado Irrigation District Assessment District #3 Development Agreement by and between the County of El Dorado and El Dorado Hills Investors, Ltd., April 1985.

El Dorado Irrigation District Assessment District #3 Final Environmental Impact Report, prepared by CH2M Hill, September 1984.

El Dorado Hills Specific Plan, adopted July 18, 1988.

Draft Environmental Impact Report: El Dorado Hills Specific Plan, prepared by Jones & Stokes Associates, Inc., October 1987.

Certified Environmental Impact Report: El Dorado Hills Specific Plan, prepared by Jones & Stokes Associates, Inc., July 1988.

Draft Project Report and Attachments: Silva Valley Parkway/U.S. 50 Interchange, prepared by Bissell & Kam, Inc., January 1989.

Draft Environmental Impact Report: Silva Valley Parkway Interchange with U.S. Highway 50, prepared by Jones & Stokes Associates, Inc., June 1989.

Certified Environmental Impact Report: Silva Valley Parkway Interchange with U.S. Highway 50, prepared by Jones & Stokes Associates, Inc.

Draft Environmental Impact Report: El Dorado Land Ltd. General Plan and Zoning Amendment, prepared by Jones & Stokes Associates, Inc., November 1988.

Final Environmental Impact Report: El Dorado Land Ltd. General Plan and Zoning Amendment, prepared by Jones & Stokes Associates, Inc., March 1989.

EL DORADO COUNTY

Regional Location

El Dorado County

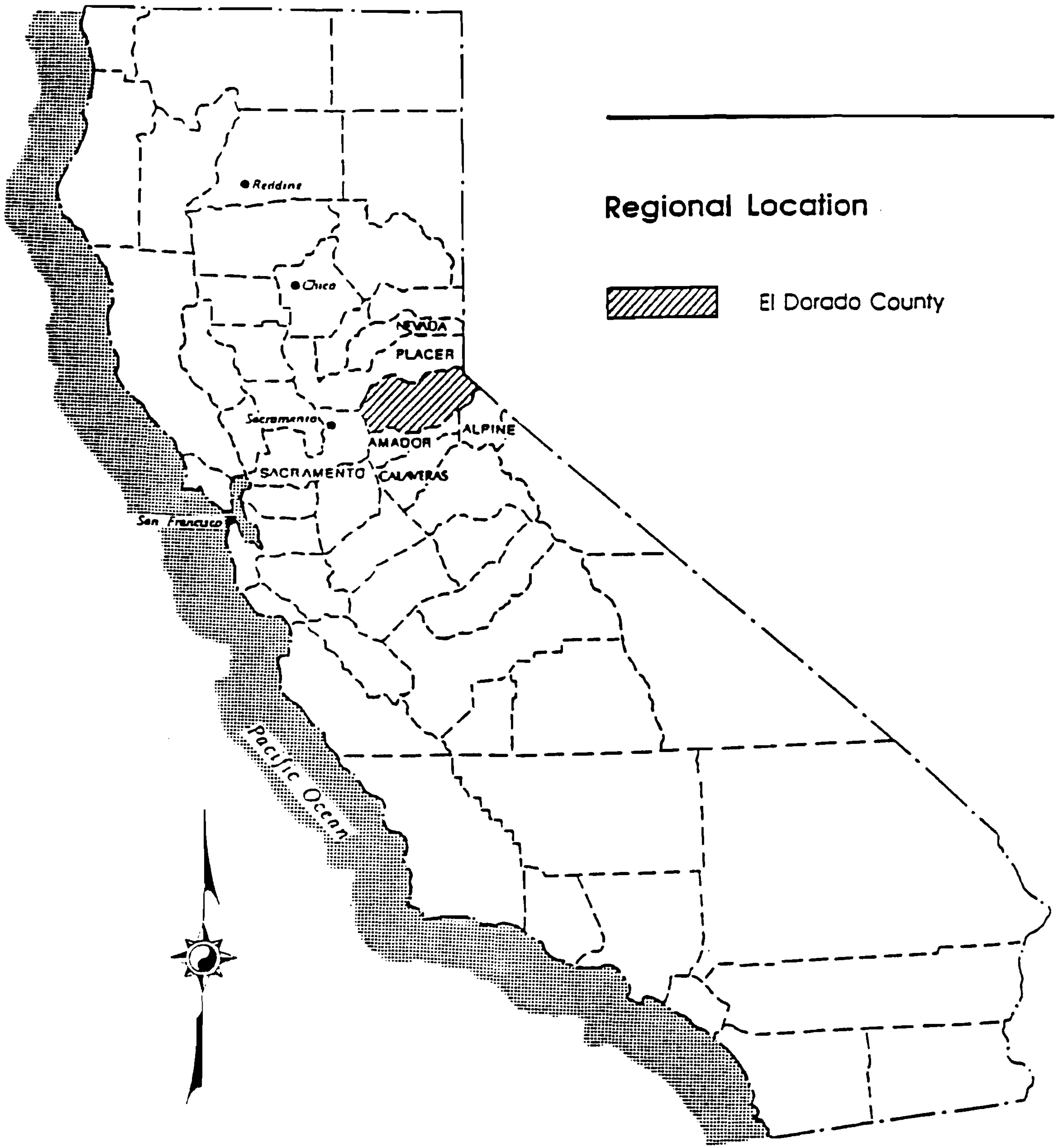


EXHIBIT A

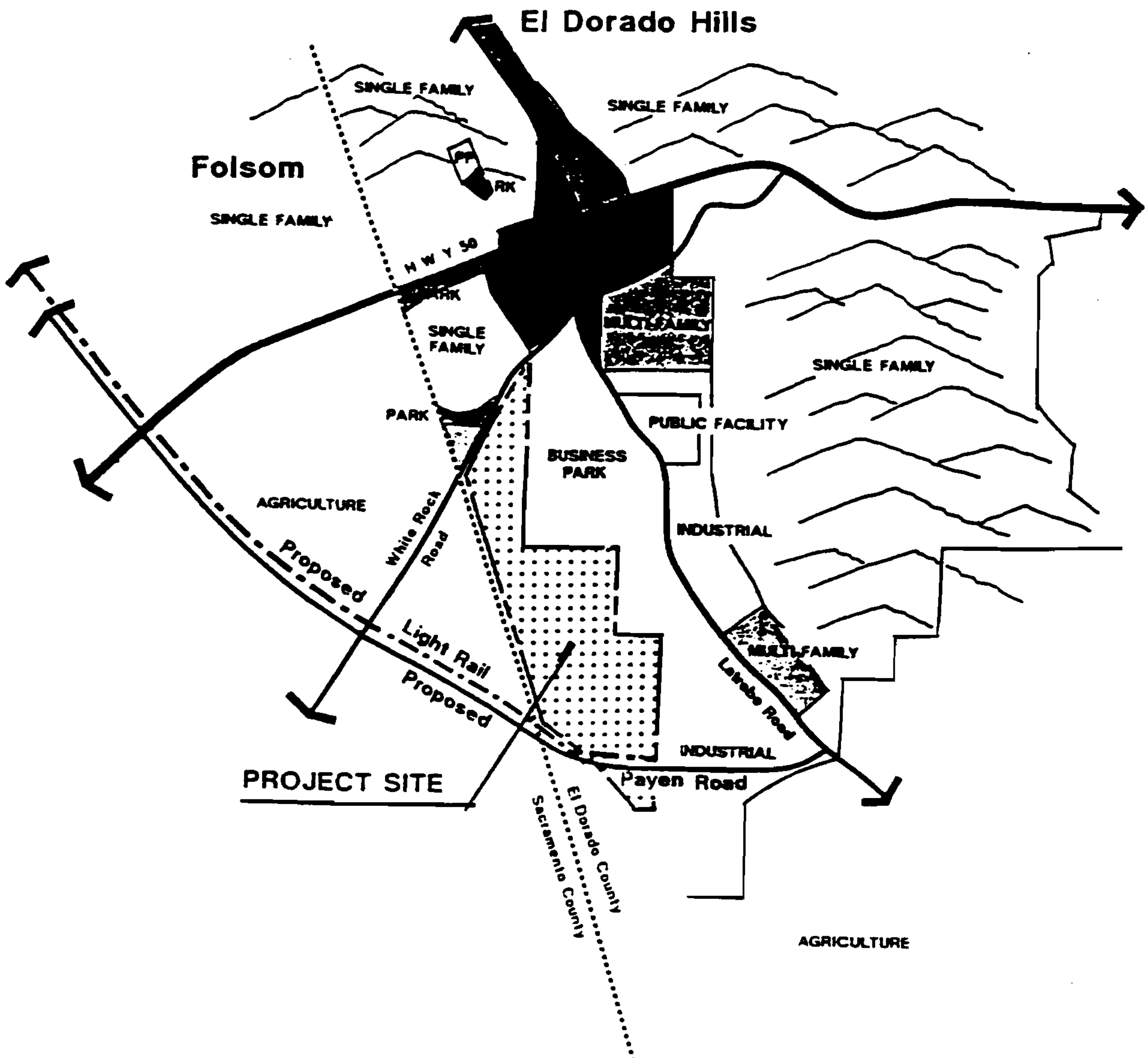
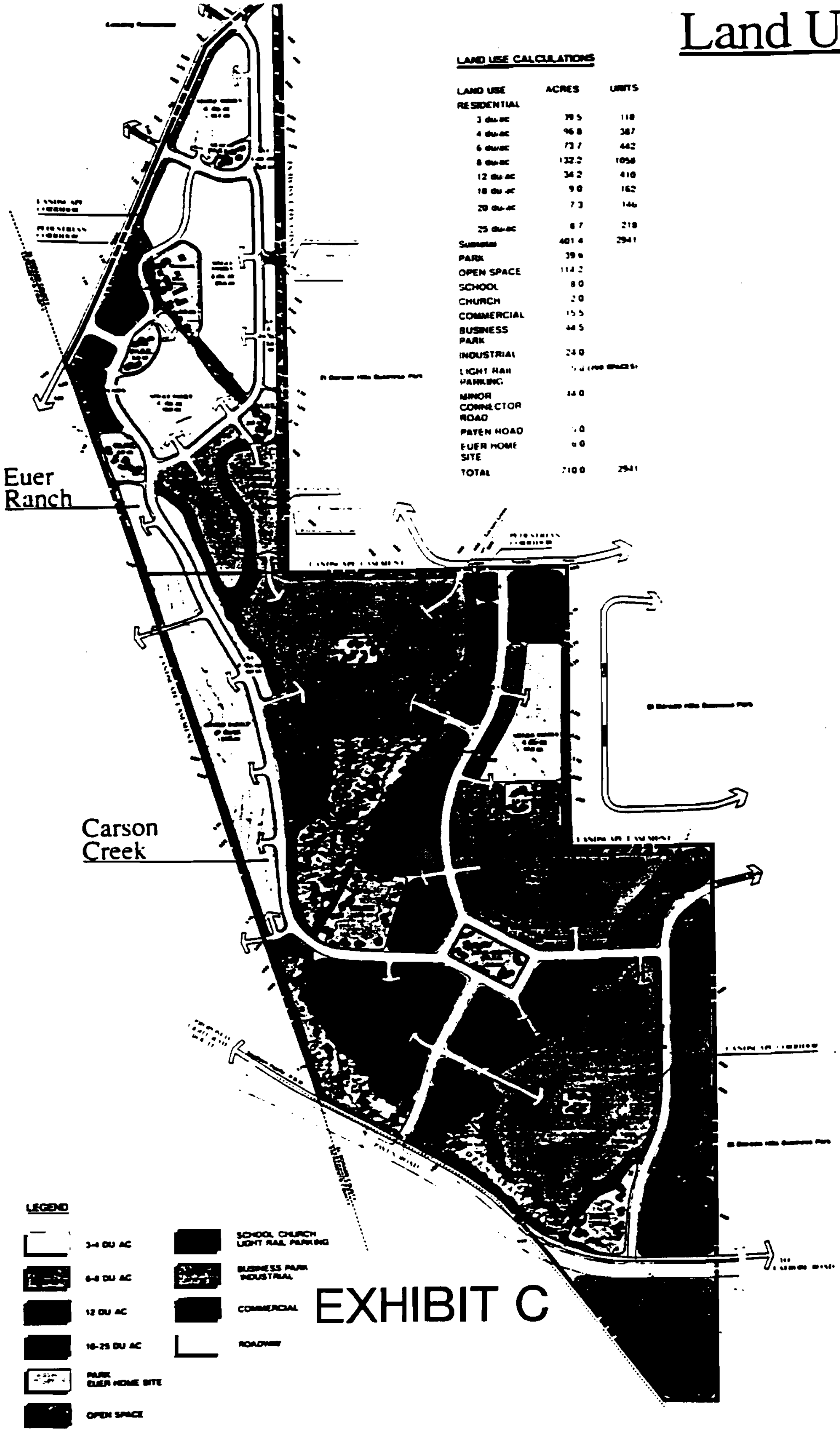

El Dorado Hills
SINGLE FAMILY
SINGLE FAMILY
Folsom
SINGLE FAMILY
HWY 50
SINGLE FAMILY
MULTI-FAMILY
SINGLE FAMILY
PARK
PUBLIC FACILITY
BUSINESS PARK
AGRICULTURE
White Rock Road
INDUSTRIAL
Proposed
Light Rail
Proposed
MULTI-FAMILY
Latrobe Road
INDUSTRIAL
PROJECT SITE
Payen Road
El Dorado County
Sacramento County
AGRICULTURE

EXHIBIT B

Land Use



LAND USE CALCULATIONS

LAND USE	ACRES	UNITS
RESIDENTIAL		
3 du/ac	39.5	118
4 du/ac	96.8	387
6 du/ac	73.7	442
8 du/ac	132.2	1058
12 du/ac	34.2	410
18 du/ac	9.0	162
20 du/ac	7.3	146
25 du/ac	8.7	218
Subtotal	401.4	2941
PARK	39.6	
OPEN SPACE	114.2	
SCHOOL	8.0	
CHURCH	2.0	
COMMERCIAL	15.5	
BUSINESS PARK	44.5	
INDUSTRIAL	24.0	
LIGHT RAIL PARKING	[illegible]	
MINOR CONNECTOR ROAD	14.0	
PAYEN ROAD	[illegible]	
EUER HOME SITE	6.0	
TOTAL	710.0	2941

EXHIBIT C

COUNTY OF
EL DORADO

PLANNING DEPARTMENT

PLACERVILLE OFFICE:

2850 FAIRLANE COURT
PLACERVILLE, CA 95667
(916) 621-5355
FAX 622-1708

SOUTH LAKE TAHOE OFFICE:

3368 LAKE TAHOE BLVD., SUITE 301
SOUTH LAKE TAHOE, CA 96150
(916) 573-3449

September 8, 1994

Gary D. Jakobs, AICP
Michael Brandman Associates
10423 Old Placerville Road, Suite 100
Sacramento, CA 95827

Subject: Carson Creek/Valley View Specific Plan EIR's

Dear Mr. Jakobs:

Michael Brandman Associates has been selected to prepare the EIR for the Carson Creek Specific Plan. I will be contacting you to arrange for a meeting to discuss the scope-of-work and to resolve any issues prior to completing the final contract for consulting services. Attached is a copy of all the comments received by the County during the Notice of Preparation comment period for your evaluation.

Thank you for your interest in El Dorado County. We look forward to working with you.

Sincerely,

Pierre Rivas

Pierre Rivas
Acting Principal Planner

cc: Tom Parilo
Roger Trout

RECEIVED
SEP 12 1994
MICHAEL BRANDMAN ASSOC.

STATE OF CALIFORNIA — BUSINESS, TRANSPORTATION AND HOUSING AGENCY

PETE WILSON, Governor

DEPARTMENT OF TRANSPORTATION
DISTRICT 3, SACRAMENTO
MS 41
P. O. BOX 942874
SACRAMENTO, CA 94274-0001
Telephone 916 327-3859
FAX no. 916 323-7669
TDD 916 323-0026

FOR YOUR INFORMATION

94 SEP 12 PM 12:06
RECEIVED
PLANNING DEPARTMENT

September 7, 1994

FELD027/028
Carson Creek
& Valley View Specific Plans
03-ELD-50 PM-0.8

Ms. Lauren Sevrin
California Trade & Commerce Agency
Office of Permit Assistance
801 K Street, Suite 1700
Sacramento, CA 95814

Dear Ms. Sevrin:

This is an official request from the California Department of Transportation for a Scoping Meeting pursuant to Section 21083.9 of the Public Resources Code. This meeting is needed to bring all impacted jurisdictions together for a discussion of potential transportation impacts resulting from development of the proposed Carson Creek and Valley View Specific Plans.

These two specific plans provide approximately 8,000 additional dwelling units, as well as supporting commercial and limited industrial development, in an area that already suffers from traffic impacts, has a large number of approved unconstructed housing developments, and considerable undeveloped industrial properties. The specific plan areas are located in El Dorado County directly south of SR-50, and extend from the Sacramento County Line almost to the existing SR-50/Bass Lake Interchange.

State Route 50, the critical east-west link for the movement of people and goods to and through El Dorado County, will be severely impacted. Existing SR 50 interchanges which may be impacted include the Scott Road Interchange in Sacramento County and the Latrobe Road and Bass Lake Interchanges in El Dorado County. In addition, two proposed interchanges will be impacted, "County Line Interchange" at the county line, and Silva Valley Interchange, at the current Silva Valley underpass. The Department and local agencies are pursuing public transportation and demand management alternatives, which could also be impacted.

We recommend that the following persons or agencies be invited to participate:

Regional Transit (Sacramento) - Anthony Palmere
City of Folsom - Brad Kortick - Community Development Director
Sacramento County - Tom Hutchings - Planning & Community Development Director
El Dorado County - Thomas Parilo - Planning Director
Sacramento Area Council of Governments - Mike Hoffacker - Executive Director
El Dorado County Transportation Commission - Don Farrimond-Executive Director
El Dorado County Air Pollution Control District - Ronald Duncan
Sacramento Metropolitan Air Quality Management District - Les Ornelas
El Dorado County Transit - Cassie Harrison - Director

If you have any questions or need additional information please call Tom Meyers at (916) 323-0543.

JEFFREY PULVERMAN, Chief
Office of Transportation
Planning - Metropolitan

cc: Anthony Palmere, Regional Transit
Brad Kortick, City of Folsom
Tom Hutchings, Sacramento County
Thomas Parilo, El Dorado County
Mike Hoffacker, Sacramento Area Council of Governments
Don Farrimond, El Dorado County Transportation Commission
El Dorado County Air Pollution Control District
Les Ornelas, Sacramento Metropolitan Air Quality Management District
Cassie Harrison, El Dorado County Transit

CARSON CREEK SPECIFIC PLAN NOTICE OF PREPARATION - COMMENTS RECEIVED June 30, 1994 to February 13, 1995		
Agency	**Individual**	**Date**
State Agencies		
California Department of Fish and Game	L. Ryan Broddrick, Regional Manager	7/28/94
California Department of Transportation	Jeffrey Pulverman, Chief, Planning Branch C	7/27/94
California Department of Transportation	Jeffrey Pulverman, Chief, Office of Transportation Planning - Metropolitan	11/2/94
California Regional Water Quality Control Board, Central Valley Region	John D. Moody	7/22/94
El Dorado County Departments		
County of El Dorado Agricultural Commission	Bill Snodgrass, Agricultural Commissioner	8/3/94
County of El Dorado Department of Environmental Management, Air Pollution Control District	Dennis Otani, Program Manager and Michael O. Donnelly, REHS	8/25/94
County of El Dorado Department of General Services	Tom Petersen, Chairman, Trails Advisory Committee	7/22/94
County of El Dorado Department of Transportation	Natalie Porter	8/2/94
County of El Dorado Department of Transportation	Barbara Hawkins	8/11/94
County of El Dorado Local Agency Formation Commission	Margaret E. Stone, Executive Officer	8/12/94
County of El Dorado Transportation Commission	Carol A. Glatfelter, Transportation Planner	7/18/94
Local Agencies		
City of Folsom Community Development Department	Gail Furness de Pardo, Associate Planner	7/19/94
City of Folsom Community Development Department	Gail Furness de Pardo, Associate Planner	8/2/94
El Dorado Hills Community Services District	Velma Gambles, Director of Special Projects	7/18/94
El Dorado HIlls Fire Department	Brian K. Veerkamp, Assistant Chief	8/3/94
El Dorado Irrigation District	Lewis W. Archuletta, Environmental Resources Supervisor	7/29/94

CARSON CREEK SPECIFIC PLAN
NOTICE OF PREPARATION - COMMENTS RECEIVED
June 30, 1994 to February 13, 1995

Agency	Individual	Date
El Dorado Irrigation District	Sharon Fraser, Planning	6/24/94
El Dorado Union High School District	William M. Wright, Attorney at Law	8/1/94
El Dorado Union High School District	Developer Fees Justification Document (included as attachment with above letter)	printed 5/94
El Dorado Union High School District	1994/95 - 1998/99 Facilities Master Plan (included as attachment with above letter)	printed 3/22/94
Latrobe School District	William M. Wright, Attorney at Law	8/1/94
Sacramento Regional Transit District	Anthony J. Palmere	10/12/94
Private Groups and Organizations		
California Native Plant Society	Sue Britting; Conservation Chair, El Dorado Chapter CNPS	7/24/94
El Dorado Hills Business Park Architectural Review Committee	Wayne Hammer	2/13/95
El Dorado County Taxpayers for Quality Growth	Thomas P. Infusino	8/8/94
Placerville Residents Involved in Defending our Environment (P.R.I.D.E.)	Keith Johnson	8/13/94
Private Individuals		
Adam C.E. Smith		7/22/94

These comment letters are available for public review at the El Dorado County Planning Department, 2850 Fairlane Court, Placerville, California 95667.

APPENDIX B

Traffic Data

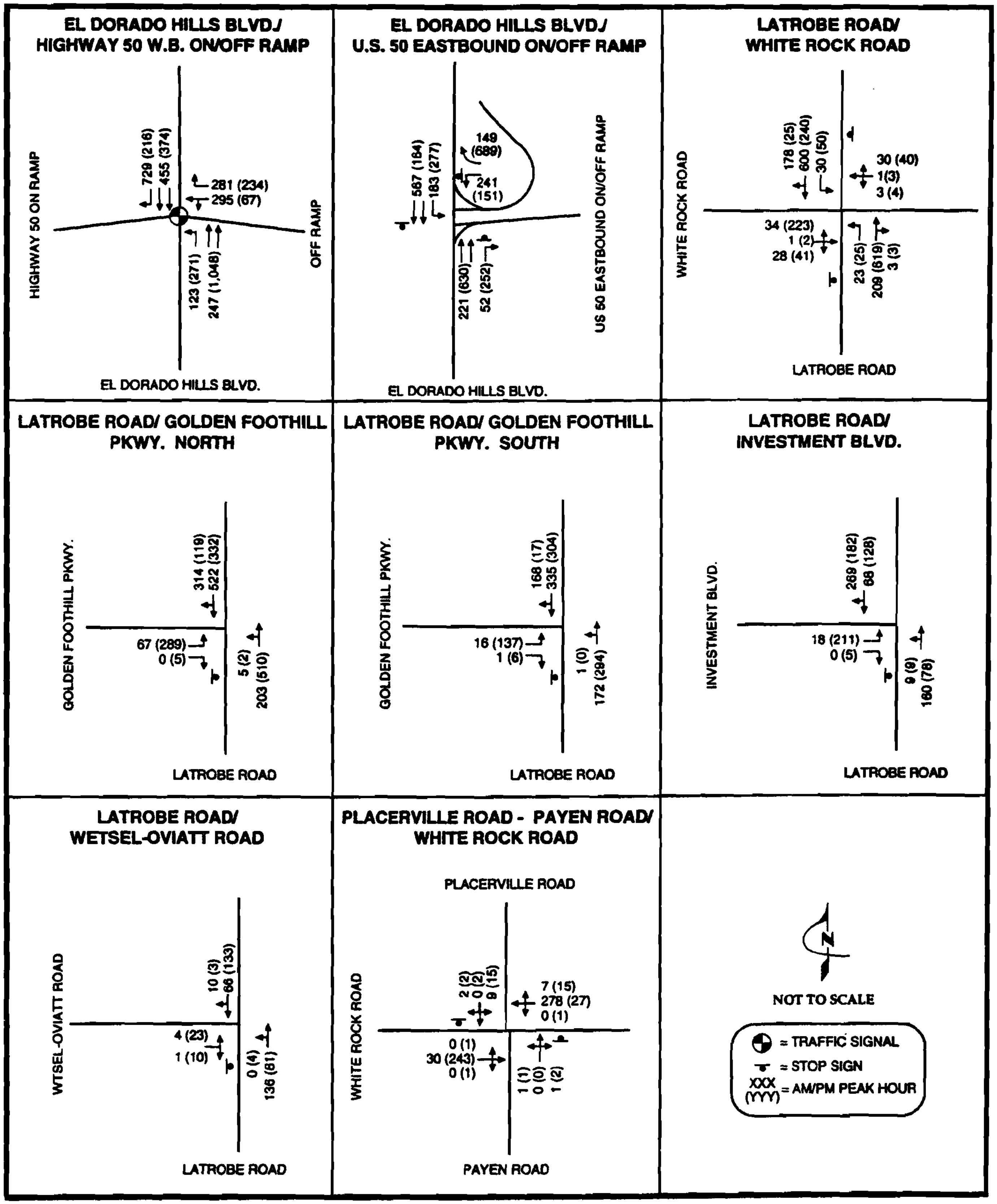


FIGURE X-4

EXISTING GEOMETRICS AND A.M. AND P.M. PEAK HOUR TRAFFIC VOLUMES

Fehr & Peers Associates, Inc.
Transportation Consultants

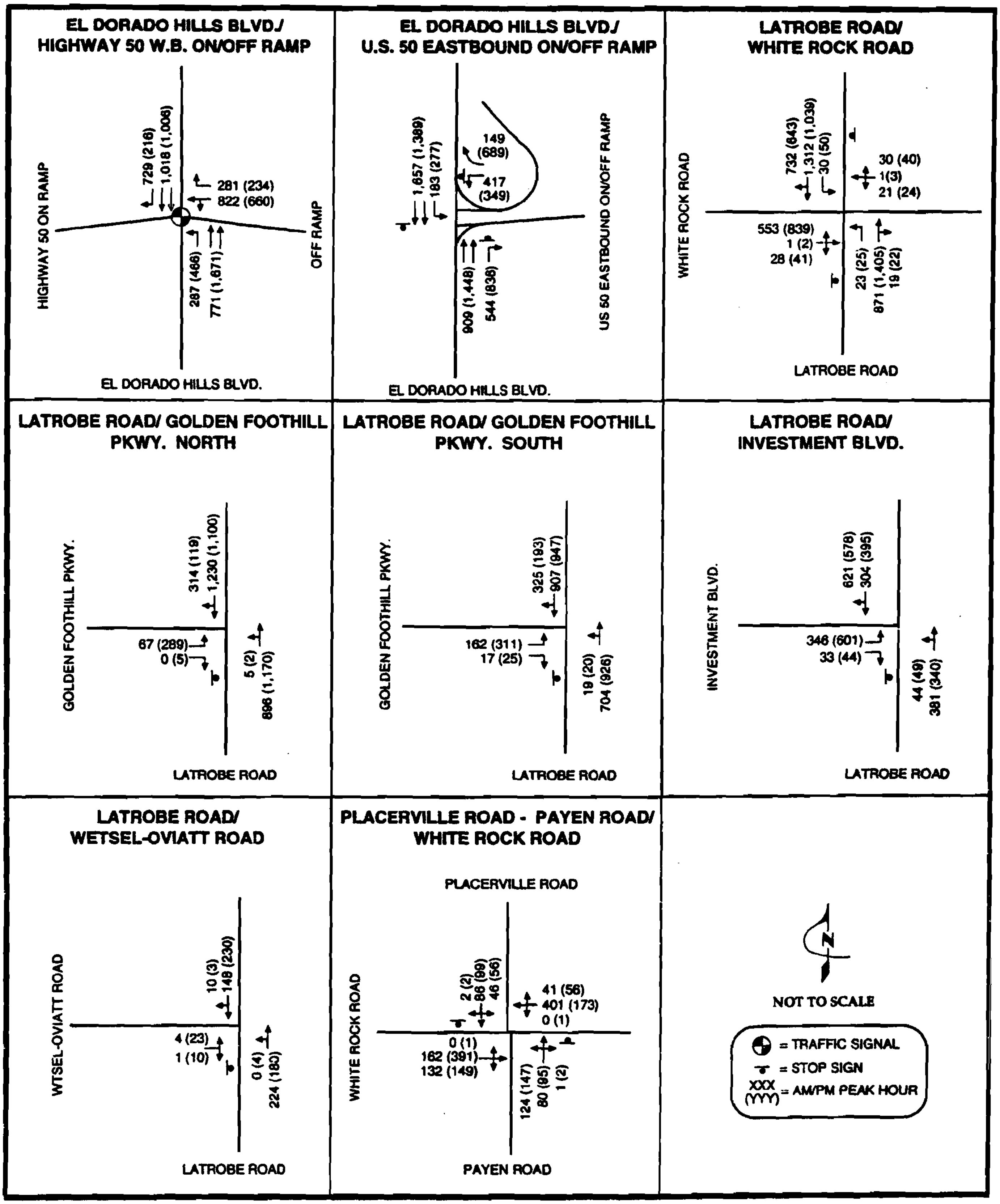


FIGURE X-7

EXISTING PLUS PROJECT GEOMETRICS AND A.M. AND P.M. PEAK HOUR TRAFFIC VOLUMES

Fehr & Peers Associates, Inc.
Transportation Consultants

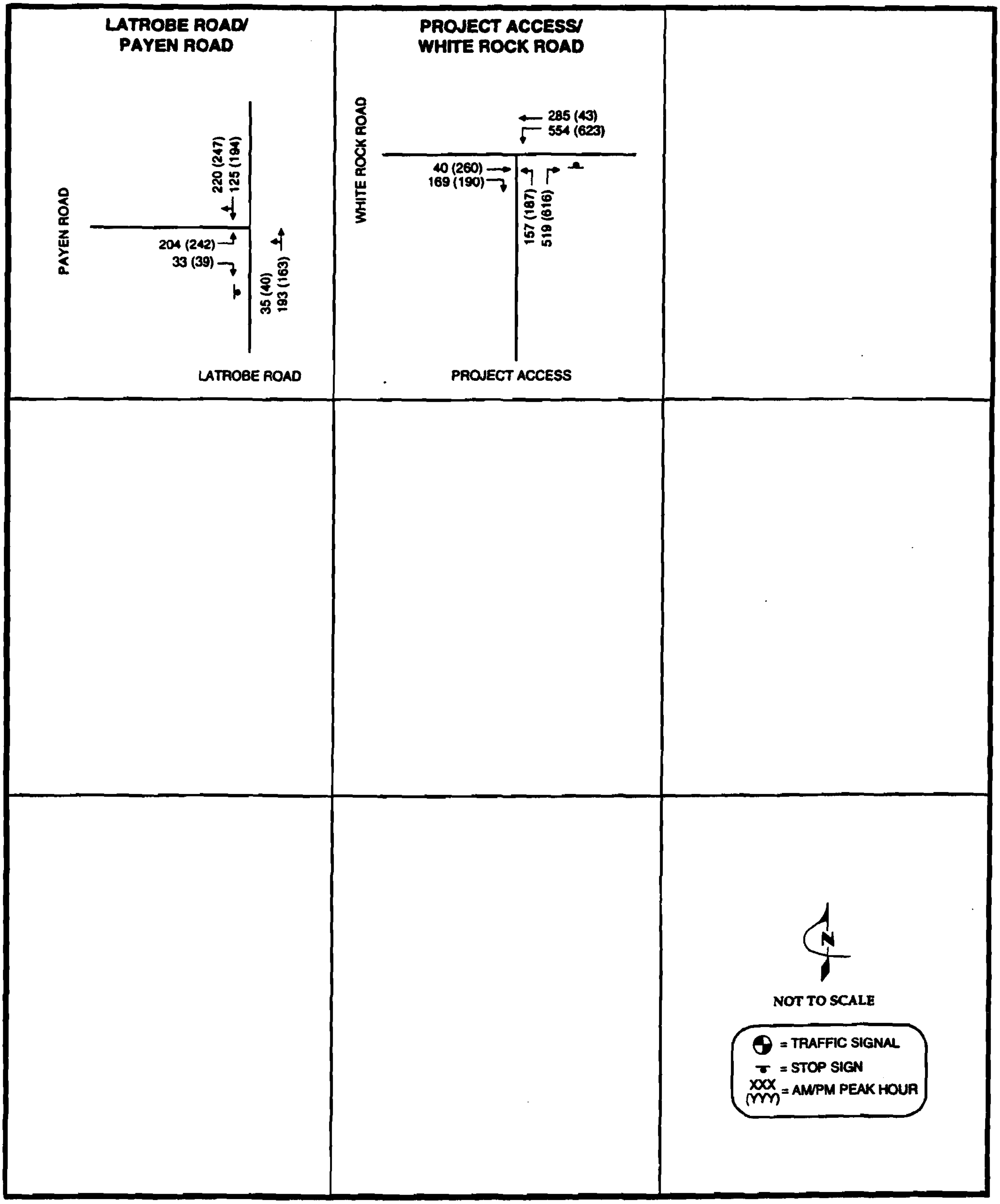


FIGURE X-7 (CONT.)	**EXISTING PLUS PROJECT GEOMETRICS AND A.M. AND P.M. PEAK HOUR TRAFFIC VOLUMES**	Fehr & Peers Associates, Inc. Transportation Consultants

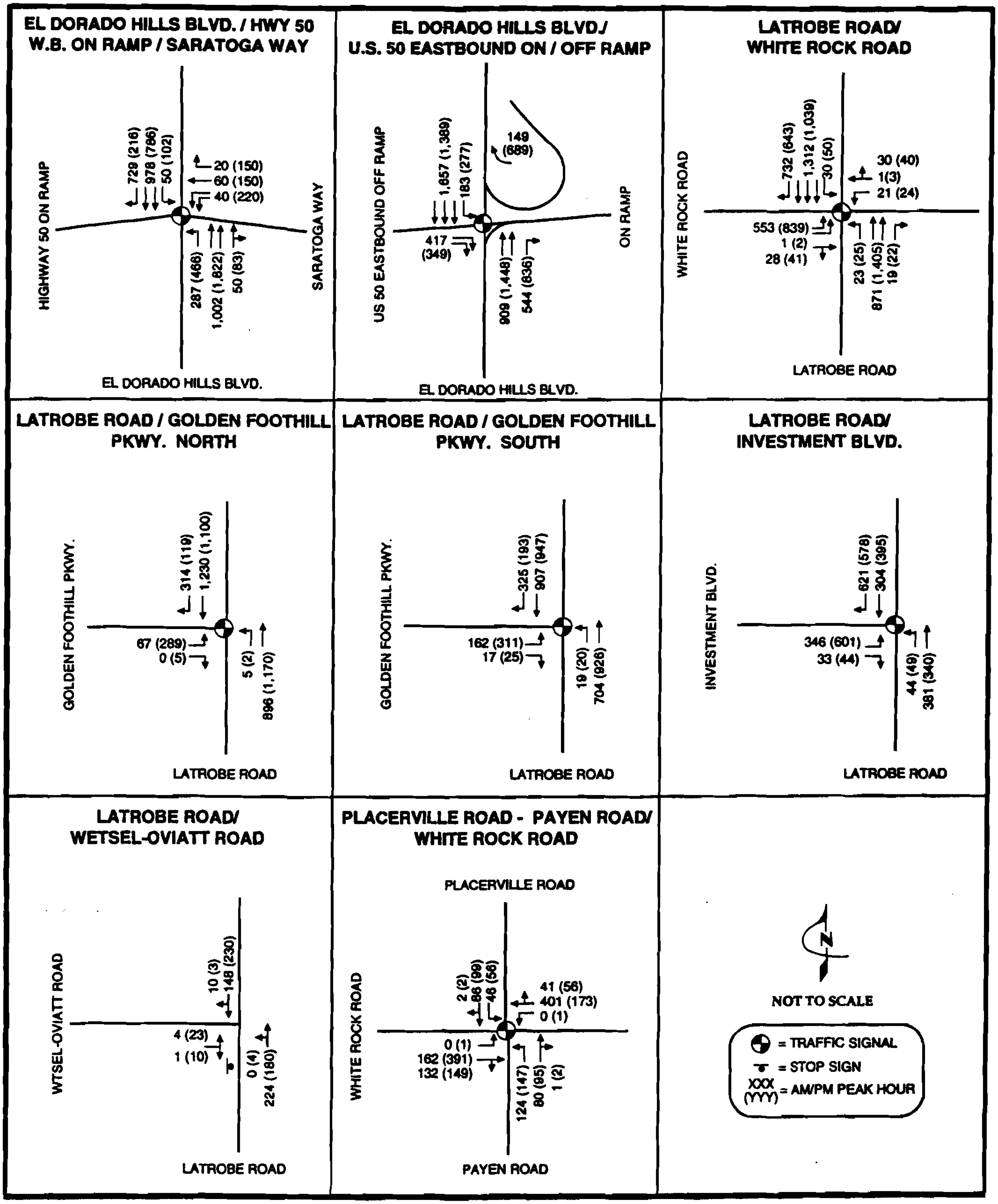


FIGURE X-11	**EXISTING PLUS PROJECT GEOMETRICS AND A.M. AND P.M. PEAK HOUR TRAFFIC VOLUMES (WITH MITIGATIONS)**	Fehr & Peers Associates, Inc. Transportation Consultants

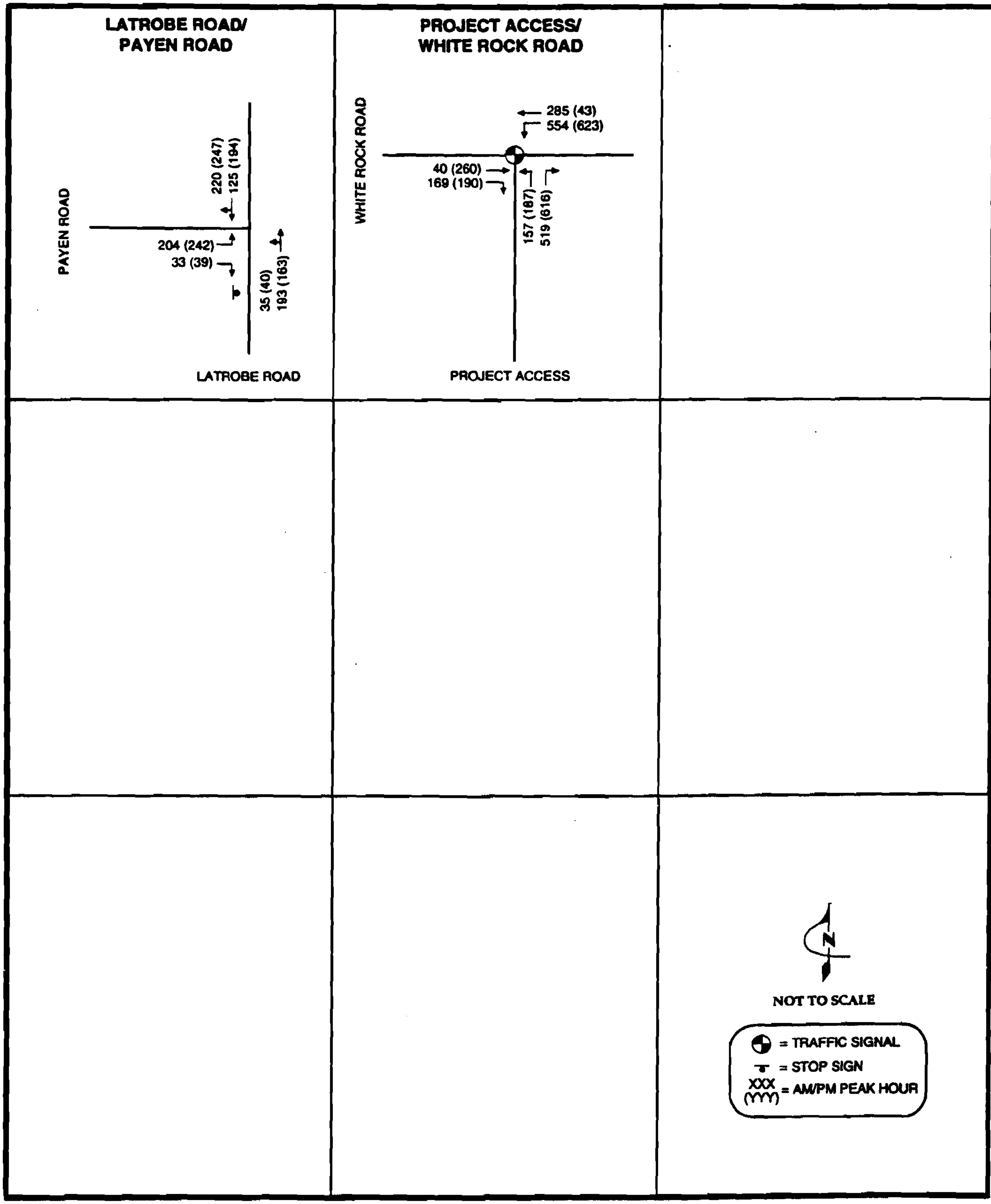


FIGURE X-11 (CONT.)	**EXISTING PLUS PROJECT GEOMETRICS AND A.M. AND P.M. PEAK HOUR TRAFFIC VOLUMES (WITH MITIGATIONS)**	Fehr & Peers Associates, Inc. Transportation Consultants

Level Of Service Computation Report
1985 HCM Operations Method
Base Volume Alternative AM

Intersection #1 US 50 WB Ramp / El Dorado Hills Blvd (Existing)

Cycle (sec):	90	Critical Vol./Cap. (X):	0.856
Loss Time (sec):	3	Average Delay (sec/veh):	17.0
Optimal Cycle:	59	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Prot+Permit		
Rights:	Include			Include			Include			Include		
Min. Green:	10	10	0	0	10	10	0	0	0	10	0	10
Lanes:	1 0 2 0 0			0 0 2 0 1			0 0 0 0 0			0 1 0 0 1		
Volume Module:												
Base Vol:	123	247	0	0	455	729	0	0	0	295	0	281
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	123	247	0	0	455	729	0	0	0	295	0	281
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	137	274	0	0	506	810	0	0	0	328	0	312
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	137	274	0	0	506	810	0	0	0	328	0	312
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.05	1.00	1.00	1.05	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	137	288	0	0	531	810	0	0	0	328	0	312
Saturation Flow Module:												
Sat/Lane:	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Adjustment:	0.94	0.99	1.00	1.00	0.99	0.84	1.00	1.00	1.00	0.86	1.00	0.85
Lanes:	1.00	2.00	0.00	0.00	2.00	1.00	0.00	0.00	0.00	1.00	0.00	1.00
Final Sat.:	1693	3564	0	0	3564	1515	0	0	0	1548	0	1530
Capacity Analysis Module:												
Vol/Sat:	0.08	0.08	0.00	0.00	0.15	0.53	0.00	0.00	0.00	0.21	0.00	0.20
Crit Moves:	****					****		****		****		
Green/Cycle:	0.11	0.72	0.00	0.00	0.61	0.61	0.00	0.00	0.00	0.24	0.00	0.24
Volume/Cap:	0.73	0.11	0.00	0.00	0.24	0.87	0.00	0.00	0.00	0.87	0.00	0.84
Level Of Service Module:												
Delay/Veh:	38.3	2.8	0.0	0.0	6.0	17.5	0.0	0.0	0.0	38.5	0.0	35.4
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
ProgAdjFctr:	1.00	0.85	0.85	1.00	0.85	0.85	1.00	0.85	0.85	0.85	0.85	0.85
AdjDel/Veh:	38.3	2.4	0.0	0.0	5.1	14.9	0.0	0.0	0.0	32.8	0.0	30.1
Queue:	4	2	0	0	6	19	0	0	0	10	0	9

Level Of Service Computation Report
1985 HCM Operations Method
Base Volume Alternative PM

Intersection #1 US 50 WB Ramp/El Dorado Hills Blvd (Existing)

Cycle (sec):	90	Critical Vol./Cap. (X):	0.531
Loss Time (sec):	3	Average Delay (sec/veh):	11.5
Optimal Cycle:	33	Level Of Service:	B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Prot+Permit		
Rights:	Include			Include			Include			Include		
Min. Green:	10	10	0	0	10	10	0	0	0	10	0	10
Lanes:	1 0	2 0	0	0 0	2 0	1	0 0	0 0	0	0 1	0 0	1
Volume Module:												
Base Vol:	271	1048	0	0	374	216	0	0	0	67	0	234
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	271	1048	0	0	374	216	0	0	0	67	0	234
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	301	1164	0	0	416	240	0	0	0	74	0	260
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	301	1164	0	0	416	240	0	0	0	74	0	260
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.05	1.00	1.00	1.05	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	301	1223	0	0	436	240	0	0	0	74	0	260
Saturation Flow Module:												
Sat/Lane:	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Adjustment:	0.94	0.99	1.00	1.00	0.99	0.84	1.00	1.00	1.00	0.86	1.00	0.85
Lanes:	1.00	2.00	0.00	0.00	2.00	1.00	0.00	0.00	0.00	1.00	0.00	1.00
Final Sat.:	1693	3564	0	0	3564	1515	0	0	0	1548	0	1530
Capacity Analysis Module:												
Vol/Sat:	0.18	0.34	0.00	0.00	0.12	0.16	0.00	0.00	0.00	0.05	0.00	0.17
Crit Moves:		####		####			####					####
Green/Cycle:	0.34	0.65	0.00	0.00	0.30	0.30	0.00	0.00	0.00	0.32	0.00	0.32
Volume/Cap:	0.52	0.53	0.00	0.00	0.40	0.52	0.00	0.00	0.00	0.15	0.00	0.53
Level Of Service Module:												
Delay/Veh:	18.7	6.7	0.0	0.0	19.0	20.5	0.0	0.0	0.0	16.6	0.0	19.9
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
ProgAdjFctr:	1.00	0.85	0.85	1.00	0.85	0.85	1.00	0.85	0.85	0.85	0.85	0.85
AdjDel/Veh:	18.7	5.7	0.0	0.0	16.1	17.4	0.0	0.0	0.0	14.1	0.0	16.9
Queue:	6	17	0	0	9	5	0	0	0	1	0	5

Level Of Service Computation Report
4-Way Stop Method
Base Volume Alternative AM

Intersection #2 US 50 EB Ramp / Latrobe Rd (Existing)

Cycle (sec):	1	Critical Vol./Cap. (X):	[illegible]
Loss Time (sec):	0	Average Delay (sec/veh):	26.7
Optimal Cycle:	0	Level Of Service:	D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Ignore		
Lanes:	0 0	2	0 1	1 0	2	0 0	0 0	0	0 0	1 0	0	0 1
Volume Module:												
Base Vol:	0	221	52	183	567	0	0	0	0	241	0	149
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Initial Bse:	0	221	52	183	567	0	0	0	0	241	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.00
PHF Volume:	0	246	58	203	630	0	0	0	0	268	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	246	58	203	630	0	0	0	0	268	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Final Vol.:	0	246	58	203	630	0	0	0	0	268	0	0
Saturation Flow Module:												
Sat/Lane:	240	240	240	311	311	311	0	0	0	319	319	319
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	2.00	1.00	1.00	2.00	0.00	0.00	0.00	0.00	1.00	0.00	1.00
Final Sat.:	0	480	240	311	622	0	0	0	0	319	0	319
Capacity Analysis Module:												
Vol/Sat:	0.00	0.51	0.24	0.65	1.01	0.00	0.00	0.00	0.00	0.84	0.00	0.00
Crit Moves:		****			****				****	****		
Level Of Service Module:												
Delay/Veh:	1.0	7.0	2.5	11.9	46.9	1.0	1.0	1.0	1.0	24.3	1.0	1.0
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	1.0	7.0	2.5	11.9	46.9	1.0	1.0	1.0	1.0	24.3	1.0	1.0
Queue:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx

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Level Of Service Computation Report
4-Way Stop Method
Base Volume Alternative PM

Intersection #2 US 50 EB Ramp / Latrobe Road (Existing)

Cycle (sec):	1	Critical Vol./Cap. (X):	1.228
Loss Time (sec):	0	Average Delay (sec/veh):	39.0
Optimal Cycle:	0	Level Of Service:	E

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Ignore		
Lanes:	0 0 2 0 1			1 0 2 0 0			0 0 0 0 0			1 0 0 0 1		
Volume Module:												
Base Vol:	0	630	252	277	164	0	0	0	0	151	0	589
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Initial Bse:	0	630	252	277	164	0	0	0	0	151	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.00
PHF Volume:	0	700	280	308	182	0	0	0	0	168	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	700	280	308	182	0	0	0	0	168	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Final Vol.:	0	700	280	308	182	0	0	0	0	168	0	0
Saturation Flow Module:												
Sat/Lane:	285	285	285	346	346	346	0	0	0	391	391	391
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	2.00	1.00	1.00	2.00	0.00	0.00	0.00	0.00	1.00	0.00	1.00
Final Sat.:	0	570	285	346	692	0	0	0	0	391	0	391
Capacity Analysis Module:												
Vol/Sat:	0.00	1.23	0.98	0.89	0.26	0.00	0.00	0.00	0.00	0.43	0.00	0.00
Crit Moves:		****		****					****	****		
Level Of Service Module:												
Delay/Veh:	1.0	106	41.8	29.4	2.7	1.0	1.0	1.0	1.0	5.1	1.0	1.0
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	1.0	106	41.8	29.4	2.7	1.0	1.0	1.0	1.0	5.1	1.0	1.0
Queue:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx

Level Of Service Computation Report
1985 HCM Unsignalized Method
Base Volume Alternative AM

Intersection #3 Latrobe Road / White Rock Rd (Existing)

Level Of Service: [illegible]

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	1 0 0 1 0			1 0 0 1 0			0 0 1! 0 0			0 0 1! 0 0		
Volume Module:												
Base Vol:	23	209	3	30	600	178	34	1	28	3	1	30
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	23	209	3	30	600	178	34	1	28	3	1	30
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	26	232	3	33	667	198	38	1	31	3	1	33
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	26	232	3	33	667	198	38	1	31	3	1	33
Adjusted Volume Module:												
Grade:	0%			0%			0%			0%		
% Cycle/Cars:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
% Truck/Comb:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
PCE Adj:	1.10	1.00	1.00	1.10	1.00	1.00	1.10	1.10	1.10	1.10	1.10	1.10
Cycl/Car PCE:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
Trck/Cmb PCE:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
Adj Vol.:	28	232	3	37	667	198	42	1	34	4	1	37

Critical Gap Module: >> Population: 0 << >> Run Speed(N/S): 40 MPH <<

RT Rad/Ang:	20.0 ft/90.0 deg			20.0 ft/90.0 deg			20.0 ft/90.0 deg			20.0 ft/90.0 deg		
Critical Gp:	5.7	xxxx	xxxxx	5.7	xxxx	xxxxx	7.6	7.1	5.9	7.6	7.1	5.9
Capacity Module:												
Cnflict Vol:	864	xxxx	xxxxx	236	xxxx	xxxxx	1094	1060	766	1189	1157	234
Potent Cap.:	391	xxxx	xxxxx	854	xxxx	xxxxx	137	172	379	117	154	766
% Used Cap.:	7.2	xxxx	xxxxx	4.3	xxxx	xxxxx	30.3	0.7	9.0	3.1	0.8	4.8
Impedance:	0.96	xxxx	xxxxx	0.97	xxxx	xxxxx	xxxx	1.00	0.95	xxxx	1.00	0.97
Actual Cap.:	391	xxxx	xxxxx	854	xxxx	xxxxx	124	160	379	103	143	766
Level Of Service Module:												
Unused Cap.:	363	xxxx	xxxxx	818	xxxx	xxxxx	83	159	345	100	142	729
LOS by Move:	B	*	*	A	*	*	*	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	178	xxxxx	xxxx	452	xxxxx
Unused Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	101	xxxxx	xxxx	411	xxxxx
Shared LOS:	*	*	*	*	*	*	*	D	*	*	A	*

RC = 452 → LOS A

Level Of Service Computation Report
1985 HCM Unsignalized Method
Base Volume Alternative PM

Intersection #3 White Rock / Latrobe Road (Existing)

Level Of Service: F

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	1 0 0 1 0			1 0 0 1 0			0 0 1! 0 0			0 0 1! 0 0		
Volume Module:												
Base Vol:	25	619	3	50	240	20	223	2	41	4	3	40
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	25	619	3	50	240	20	223	2	41	4	3	40
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	28	688	3	56	267	22	248	2	46	4	3	44
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	28	688	3	56	267	22	248	2	46	4	3	44
Adjusted Volume Module:												
Grade:	0%			0%			0%			0%		
% Cycle/Cars:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
% Truck/Comb:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
PCE Adj:	1.10	1.00	1.00	1.10	1.00	1.00	1.10	1.10	1.10	1.10	1.10	1.10
Cycl/Car PCE:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
Trck/Cmb PCE:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
Adj Vol.:	31	688	3	61	267	22	273	2	50	5	4	49

Critical Gap Module: >> Population: 0 << >> Run Speed(N/S): 40 MPH <<

RT Rad/Ang:	20.0 ft/90.0 deg			20.0 ft/90.0 deg			20.0 ft/90.0 deg			20.0 ft/90.0 deg		
Critical Gp:	5.7	xxxx	xxxxx	5.7	xxxx	xxxxx	7.6	7.1	5.9	7.6	7.1	5.9
Capacity Module:												
Cnflict Vol:	289	xxxx	xxxxx	691	xxxx	xxxxx	1100	1052	278	1109	1062	689
Potent Cap.:	797	xxxx	xxxxx	491	xxxx	xxxxx	135	174	725	133	172	421
% Used Cap.:	3.8	xxxx	xxxxx	12.4	xxxx	xxxxx	202	1.4	6.9	3.7	2.1	11.6
Impedance:	0.98	xxxx	xxxxx	0.92	xxxx	xxxxx	xxxx	0.99	0.96	xxxx	0.99	0.93
Actual Cap.:	797	xxxx	xxxxx	491	xxxx	xxxxx	111	157	725	114	154	421
Level Of Service Module:												
Unused Cap.:	767	xxxx	xxxxx	430	xxxx	xxxxx	-161	154	675	109	151	372
LOS by Move:	A	*	*	A	*	*	*	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	128	xxxxx	xxxx	314	xxxxx
Unused Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	-197	xxxxx	xxxx	257	xxxxx
Shared LOS:	*	*	*	*	*	*	*	F	*	*	C	*

RC = 125 ⇒ LOS = D

++

IDENTIFYING INFORMATION

AVERAGE RUNNING SPEED, MAJOR STREET.. 45

PEAK HOUR FACTOR...................... .9

AREA POPULATION...................... 10000

NAME OF THE EAST/WEST STREET......... GOLDEN FOOTHILL PKWY N

NAME OF THE NORTH/SOUTH STREET....... LATROBE

NAME OF THE ANALYST.................. FJP

DATE OF THE ANALYSIS (mm/dd/yy)...... 01-11-1995

TIME PERIOD ANALYZED................. AM

OTHER INFORMATION.... EXISTING

INTERSECTION TYPE AND CONTROL

INTERSECTION TYPE: T-INTERSECTION

MAJOR STREET DIRECTION: NORTH/SOUTH

CONTROL TYPE EASTBOUND: STOP SIGN

TRAFFIC VOLUMES

	EB	WB	NB	SB
LEFT	67	--	5	
THRU		--	203	522
RIGHT	0	--		314

NUMBER OF LANES

	EB	WB	NB	SB
LANES	1	--	1	1

	PERCENT GRADE	RIGHT TURN ANGLE	CURB RADIUS (ft) FOR RIGHT TURNS	ACCELERATION LANE FOR RIGHT TURNS
EASTBOUND	0.00	0	0	
WESTBOUND	----	---	---	-
NORTHBOUND	0.00	0	0	
SOUTHBOUND	0.00	0	0	

VEHICLE COMPOSITION

	% SU TRUCKS AND RV S	% COMBINATION VEHICLES	% MOTORCYCLES
EASTBOUND	0	0	0
WESTBOUND	---	---	---
NORTHBOUND	0	0	0
SOUTHBOUND	0	0	0

CRITICAL GAPS

		TABULAR VALUES (Table 10-2)	ADJUSTED VALUE	SIGHT DIST. ADJUSTMENT	FINAL CRITICAL GAP
MINOR RIGHTS					
	EB	6.10	5.60	0.00	5.60
MAJOR LEFTS					
	NB	5.30	5.30	0.00	5.30
MINOR LEFTS					
	EB	7.40	7.40	0.00	7.40

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... GOLDEN FOOTHILL PKWY N
NAME OF THE NORTH/SOUTH STREET.... LATROBE
DATE AND TIME OF THE ANALYSIS..... 01-11-1995 ; AM
OTHER INFORMATION.... EXISTING

MOVEMENT	FLOW-RATE v(pcph)	POTEN-TIAL CAPACITY c_p (pcph)	ACTUAL MOVEMENT CAPACITY c_M (pcph)	SHARED CAPACITY c_{SH} (pcph)	RESERVE CAPACITY $c_R = c_{SH} - v$	LOS
MINOR STREET						
EB LEFT	92	141	139	139 >	47 >	E
				> 139	> 47	>E
RIGHT	0	390	390	390 >	390 >	B
MAJOR STREET						
NB LEFT	7	338	338	338	331	B

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... GOLDEN FOOTHILL PKWY N
NAME OF THE NORTH/SOUTH STREET.... LATROBE
DATE AND TIME OF THE ANALYSIS..... 01-11-1995 ; AM
OTHER INFORMATION.... EXISTING

RC = 67 ⇒ E

****

IDENTIFYING INFORMATION

AVERAGE RUNNING SPEED, MAJOR STREET.. [illegible]

PEAK HOUR FACTOR................... [illegible]

AREA POPULATION...................... 10000

NAME OF THE EAST/WEST STREET......... GOLDEN FOOTHILL PKWY [illegible]

NAME OF THE NORTH/SOUTH STREET....... LATROBE

NAME OF THE ANALYST.................. FLP

DATE OF THE ANALYSIS (mm/dd/yy)...... 01-11-1995

TIME PERIOD ANALYZED................. PM

OTHER INFORMATION.... EXISTING

INTERSECTION TYPE AND CONTROL

INTERSECTION TYPE: T-INTERSECTION

MAJOR STREET DIRECTION: NORTH/SOUTH

CONTROL TYPE EASTBOUND: STOP SIGN

TRAFFIC VOLUMES

	EB	WB	NB	SB
LEFT	299	--	2	
THRU		--	510	332
RIGHT	5	--		119

NUMBER OF LANES

	EB	WB	NB	SB
LANES	1	--	1	1

	PERCENT GRADE	RIGHT TURN ANGLE	CURB RADIUS (ft) FOR RIGHT TURNS	ACCELERATION LANE FOR RIGHT TURNS
EASTBOUND	0.00	0	0	
WESTBOUND	----	---	---	-
NORTHBOUND	0.00	0	0	
SOUTHBOUND	0.00	0	0	

VEHICLE COMPOSITION

	% SU TRUCKS AND RV'S	% COMBINATION VEHICLES	% MOTORCYCLES
EASTBOUND	0	0	0
WESTBOUND	---	---	---
NORTHBOUND	0	0	0
SOUTHBOUND	0	0	0

CRITICAL GAPS

		TABULAR VALUES (Table 10-2)	ADJUSTED VALUE	SIGHT DIST. ADJUSTMENT	FINAL CRITICAL GAP
MINOR RIGHTS					
	EB	6.10	5.60	0.00	5.60
MAJOR LEFTS					
	NB	5.30	5.30	0.00	5.30
MINOR LEFTS					
	EB	7.40	7.40	0.00	7.40

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... GOLDEN FOOTHILL PKWY N
NAME OF THE NORTH/SOUTH STREET.... LATROBE
DATE AND TIME OF THE ANALYSIS..... 01-11-1995 ; PM
OTHER INFORMATION.... EXISTING

MOVEMENT	FLOW-RATE v(pcph)	POTEN-TIAL CAPACITY c_p (pcph)	ACTUAL MOVEMENT CAPACITY c_M (pcph)	SHARED CAPACITY c_{SH} (pcph)	RESERVE CAPACITY $c_R = c_{SH} - v$	LOS
MINOR STREET						
EB LEFT	454	104	104	104	-350	F
				> 105	> -357	> F
RIGHT	8	569	569	569	561	A
MAJOR STREET						
NB LEFT	3	556	556	556	553	A

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... GOLDEN FOOTHILL PKWY N
NAME OF THE NORTH/SOUTH STREET.... LATROBE
DATE AND TIME OF THE ANALYSIS..... 01-11-1995 ; PM
OTHER INFORMATION.... EXISTING

EXISTING (AM)

Level Of Service Computation Report
1985 HCM Unsignalized Method
Base Volume Alternative

Intersection #4 Latrobe Road/ Golden Foothill South

Level Of Service: B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0 1 0 0 0			0 0 0 1 0			1 0 0 0 1			0 0 0 0 0		
Volume Module:												
Base Vol:	1	172	0	0	335	168	16	0	1	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	1	172	0	0	335	168	16	0	1	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	1	191	0	0	372	187	18	0	1	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	1	191	0	0	372	187	18	0	1	0	0	0
Adjusted Volume Module:												
Grade:	0%			0%			0%			0%		
% Cycle/Cars:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
% Truck/Comb:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
PCE Adj:	1.10	1.00	1.00	1.10	1.00	1.00	1.10	1.10	1.10	1.10	1.10	1.10
Cycl/Car PCE:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
Trck/Cmb PCE:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
Adj Vol.:	1	191	0	0	372	187	20	0	1	0	0	0
Critical Gap Module: >> Population: 0 << >> Run Speed(N/S): 40 MPH <<												
RT Rad/Ang:	20.0 ft/90.0 deg			20.0 ft/90.0 deg			20.0 ft/90.0 deg			20.0 ft/90.0 de		
Critical Gp:	5.2	xxxx	xxxxx	5.2	xxxx	xxxxx	7.1	6.6	5.9	7.1	6.6	5.9
Capacity Module:												
Cnflict Vol:	559	xxxx	xxxxx	191	xxxx	xxxxx	658	658	466	752	751	191
Potent Cap.:	659	xxxx	xxxxx	984	xxxx	xxxxx	337	385	571	289	330	807
% Used Cap.:	0.2	xxxx	xxxxx	0.0	xxxx	xxxxx	5.8	0.0	0.2	0.0	0.0	0.0
Impedance:	1.00	xxxx	xxxxx	1.00	xxxx	xxxxx	xxxx	1.00	1.00	xxxx	1.00	1.00
Actual Cap.:	659	xxxx	xxxxx	984	xxxx	xxxxx	337	385	571	289	330	807
Level Of Service Module:												
Unused Cap.:	658	xxxx	xxxxx	984	xxxx	xxxxx	317	385	569	289	330	807
LOS by Move:	A	*	*	*	*	*	B	*	A	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Unused Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*

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RC= 343 ⇒ B

EXISTING [illegible] T (PM)

Level Of Service Computation Report
1985 HCM Unsignalized Method
Base Volume Alternative

Intersection #4 Latrobe Road / Golden Foothill South

Level Of Service: D

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0 0	1	0 0	0 0	0	1 0	1 0	0	0 1	0 0	0	0 0
Volume Module:												
Base Vol:	0	294	0	0	304	17	137	0	6	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	294	0	0	304	17	137	0	6	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	0	327	0	0	338	19	152	0	7	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	0	327	0	0	338	19	152	0	7	0	0	0
Adjusted Volume Module:												
Grade:	0%			0%			0%			0%		
% Cycle/Cars:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
% Truck/Comb:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
PCE Adj:	1.10	1.00	1.00	1.10	1.00	1.00	1.10	1.10	1.10	1.10	1.10	1.10
Cycl/Car PCE:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
Trck/Cmb PCE:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
Adj Vol.:	0	327	0	0	338	19	167	0	7	0	0	0

Critical Gap Module: >> Population: 0 << >> Run Speed(N/S): 40 MPH <<

RT Rad/Ang:	20.0 ft/90.0 deg			20.0 ft/90.0 deg			20.0 ft/90.0 deg			20.0 ft/90.0 de		
Critical Gp:	5.2	xxxx	xxxxx	5.2	xxxx	xxxxx	7.1	6.6	5.9	7.1	6.6	5.9
Capacity Module:												
Cnflict Vol:	357	xxxx	xxxxx	327	xxxx	xxxxx	674	674	347	690	683	327
Potent Cap.:	839	xxxx	xxxxx	866	xxxx	xxxxx	330	376	663	324	370	681
% Used Cap.:	0.0	xxxx	xxxxx	0.0	xxxx	xxxxx	50.7	0.0	1.1	0.0	0.0	0.0
Impedance:	1.00	xxxx	xxxxx	1.00	xxxx	xxxxx	xxxx	1.00	0.99	xxxx	1.00	1.00
Actual Cap.:	839	xxxx	xxxxx	866	xxxx	xxxxx	330	376	663	322	370	681
Level Of Service Module:												
Unused Cap.:	839	xxxx	xxxxx	866	xxxx	xxxxx	163	376	655	322	370	681
LOS by Move:	*	*	*	*	*	*	D	*	A	*	*	*
Movement:	LT	- LTR -	RT	LT	- LTR -	RT	LT	- LTR -	RT	LT	- LTR -	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Unused Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*

RC = 182 => D

EXISTING [illegible] (AM)

Level Of Service Computation Report
1985 HCM Unsignalized Method
Base Volume Alternative

Intersection #5 Latrobe Road / Investment Blvd

Level Of Service: A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0 1 0 0 0			0 0 0 1 0			1 0 0 0 1			0 0 0 0 0		
Volume Module:												
Base Vol:	9	160	0	0	68	269	18	0	0	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	9	160	0	0	68	269	18	0	0	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	10	178	0	0	76	299	20	0	0	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	10	178	0	0	76	299	20	0	0	0	0	0
Adjusted Volume Module:												
Grade:		0%			0%			0%			0%	
% Cycle/Cars:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
% Truck/Comb:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
PCE Adj:	1.10	1.00	1.00	1.10	1.00	1.00	1.10	1.10	1.10	1.10	1.10	1.10
Cycl/Car PCE:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
Trck/Cmb PCE:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
Adj Vol.:	11	178	0	0	76	299	22	0	0	0	0	0

Critical Gap Module: >> Population: 0 << >> Run Speed(N/S): 40 MPH <<

RT Rad/Ang:	20.0 ft/90.0 deg			20.0 ft/90.0 deg			20.0 ft/90.0 deg			20.0 ft/90.0 de		
Critical Gp:	5.2	xxxx	xxxxx	5.2	xxxx	xxxxx	7.1	6.6	5.9	7.1	6.6	5.9
Capacity Module:												
Cnflict Vol:	374	xxxx	xxxxx	178	xxxx	xxxxx	413	413	225	562	562	178
Potent Cap.:	823	xxxx	xxxxx	989	xxxx	xxxxx	491	546	775	393	448	818
% Used Cap.:	1.3	xxxx	xxxxx	0.0	xxxx	xxxxx	4.5	0.0	0.0	0.0	0.0	0.0
Impedance:	0.99	xxxx	xxxxx	1.00	xxxx	xxxxx	xxxx	1.00	1.00	xxxx	1.00	1.00
Actual Cap.:	823	xxxx	xxxxx	989	xxxx	xxxxx	467	542	775	390	444	818
Level Of Service Module:												
Unused Cap.:	812	xxxx	xxxxx	989	xxxx	xxxxx	465	542	775	390	444	818
LOS by Move:	A	*	*	*	*	*	A	*	*	*	*	*
Movement:	LT	- LTR	- RT	LT	- LTR	- RT	LT	- LTR	- RT	LT	- LTR	- RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Unused Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*

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RC = 580 A

EXISTING F[illegible] (PM)

Level Of Service Computation Report
1985 HCM Unsignalized Method
Base Volume Alternative

Intersection #5 Latrobe Road / Investment Blvd.

Level Of Service: C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0 1 0 0 0			0 0 0 1 0			1 0 0 0 1			0 0 0 0 0		
Volume Module:												
Base Vol:	9	78	0	0	128	182	211	0	5	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	9	78	0	0	128	182	211	0	5	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	10	87	0	0	142	202	234	0	6	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	10	87	0	0	142	202	234	0	6	0	0	0
Adjusted Volume Module:												
Grade:	0%			0%			0%			0%		
% Cycle/Cars:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
% Truck/Comb:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
PCE Adj:	1.10	1.00	1.00	1.10	1.00	1.00	1.10	1.10	1.10	1.10	1.10	1.10
Cycl/Car PCE:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
Trck/Cmb PCE:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
Adj Vol.:	11	87	0	0	142	202	258	0	6	0	0	0
Critical Gap Module:	>> Population: 0 << >> Run Speed(N/S): 40 MPH <<											
RT Rad/Ang:	20.0 ft/90.0 deg			20.0 ft/90.0 deg			20.0 ft/90.0 deg			20.0 ft/90.0 de		
Critical Gp:	5.2	xxxx	xxxxx	5.2	xxxx	xxxxx	7.1	6.6	5.9	7.1	6.6	5.9
Capacity Module:												
Cnflict Vol:	344	xxxx	xxxxx	87	xxxx	xxxxx	340	340	243	447	441	87
Potent Cap.:	850	xxxx	xxxxx	1000	xxxx	xxxxx	547	599	757	467	526	911
% Used Cap.:	1.3	xxxx	xxxxx	0.0	xxxx	xxxxx	47.1	0.0	0.8	0.0	0.0	0.0
Impedance:	0.99	xxxx	xxxxx	1.00	xxxx	xxxxx	xxxx	1.00	1.00	xxxx	1.00	1.00
Actual Cap.:	850	xxxx	xxxxx	1000	xxxx	xxxxx	543	594	757	464	522	911
Level Of Service Module:												
Unused Cap.:	839	xxxx	xxxxx	1000	xxxx	xxxxx	285	594	751	464	522	911
LOS by Move:	A	*	*	*	*	*	C	*	A	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Unused Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*

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AC = 317 ⇒ B

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IDENTIFYING INFORMATION

AVERAGE RUNNING SPEED, MAJOR STREET.. 45

PEAK HOUR FACTOR..................... .85

AREA POPULATION...................... 10000

NAME OF THE EAST/WEST STREET......... WETSEL-OVIATT RD

NAME OF THE NORTH/SOUTH STREET....... LATROBE RD

NAME OF THE ANALYST.................. F&P

DATE OF THE ANALYSIS (mm/dd/yy)...... 07-20-1994

TIME PERIOD ANALYZED................. AM PEAK

OTHER INFORMATION.... EXISTING CONDITIONS

INTERSECTION TYPE AND CONTROL

INTERSECTION TYPE: T-INTERSECTION

MAJOR STREET DIRECTION: NORTH/SOUTH

CONTROL TYPE EASTBOUND: STOP SIGN

TRAFFIC VOLUMES

	EB	WB	NB	SB
LEFT	4	--	0	0
THRU	0	--	136	66
RIGHT	1	--	0	10

NUMBER OF LANES

	EB	WB	NB	SB
LANES	1	--	1	1

ADJUSTMENT FACTORS

	PERCENT GRADE	RIGHT TURN ANGLE	CURB RADIUS (ft) FOR RIGHT TURNS	ACCELERATION LANE FOR RIGHT TURNS
EASTBOUND	0.00	90	20	N
WESTBOUND	-----	---	---	-
NORTHBOUND	0.00	90	20	N
SOUTHBOUND	0.00	90	20	N

VEHICLE COMPOSITION

	% SU TRUCKS AND RV'S	% COMBINATION VEHICLES	% MOTORCYCLES
EASTBOUND	0	0	0
WESTBOUND	---	---	---
NORTHBOUND	0	0	0
SOUTHBOUND	0	0	0

CRITICAL GAPS

		TABULAR VALUES (Table 10-2)	ADJUSTED VALUE	SIGHT DIST. ADJUSTMENT	FINAL CRITICAL GAP
MINOR RIGHTS					
	EB	6.10	6.10	0.00	6.10
MAJOR LEFTS					
	NB	5.30	5.30	0.00	5.30
MINOR LEFTS					
	EB	7.40	7.40	0.00	7.40

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... WETSEL-OVIATT RD
NAME OF THE NORTH/SOUTH STREET.... LATROBE RD
DATE AND TIME OF THE ANALYSIS..... 07-20-1994 ; AM PEAK
OTHER INFORMATION.... EXISTING CONDITIONS

MOVEMENT	FLOW-RATE v(pcph)	POTEN-TIAL CAPACITY c_p (pcph)	ACTUAL MOVEMENT CAPACITY c_M (pcph)	SHARED CAPACITY c_{SH} (pcph)	RESERVE CAPACITY $c_R = c_{SH} - v$	LOS
MINOR STREET						
EB LEFT	5	585	585	> 585 >	580 >	A
				> 629 >	622 >	A
RIGHT	1	897	897	> 897 >	896 >	A
MAJOR STREET						
NB LEFT	0	997	997	997	997	A

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... WETSEL-OVIATT RD
NAME OF THE NORTH/SOUTH STREET.... LATROBE RD
DATE AND TIME OF THE ANALYSIS..... 07-20-1994 ; AM PEAK
OTHER INFORMATION.... EXISTING CONDITIONS

RC = 632
⇒ A

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IDENTIFYING INFORMATION

AVERAGE RUNNING SPEED, MAJOR STREET.. 45

PEAK HOUR FACTOR..................... .85

AREA POPULATION...................... 10000

NAME OF THE EAST/WEST STREET......... WETSEL-OVIATT RD

NAME OF THE NORTH/SOUTH STREET....... LATROBE RD

NAME OF THE ANALYST.................. F&P

DATE OF THE ANALYSIS (mm/dd/yy)...... 07-20-1994

TIME PERIOD ANALYZED................. PM PEAK

OTHER INFORMATION.... EXISTING CONDITIONS

INTERSECTION TYPE AND CONTROL

INTERSECTION TYPE: T-INTERSECTION

MAJOR STREET DIRECTION: NORTH/SOUTH

CONTROL TYPE EASTBOUND: STOP SIGN

TRAFFIC VOLUMES

	EB	WB	NB	SB
LEFT	23	--	4	0
THRU	0	--	81	133
RIGHT	10	--	0	3

NUMBER OF LANES

	EB	WB	NB	SB
LANES	1	--	1	1

	PERCENT GRADE	RIGHT TURN ANGLE	CURB RADIUS (ft) FOR RIGHT TURNS	ACCELERATION LANE FOR RIGHT TURNS
EASTBOUND	0.00	90	20	N
WESTBOUND	-----	---	---	-
NORTHBOUND	0.00	90	20	N
SOUTHBOUND	0.00	90	20	N

VEHICLE COMPOSITION

	% SU TRUCKS AND RV'S	% COMBINATION VEHICLES	% MOTORCYCLES
EASTBOUND	0	0	0
WESTBOUND	---	---	---
NORTHBOUND	0	0	0
SOUTHBOUND	0	0	0

CRITICAL GAPS

		TABULAR VALUES (Table 10-2)	ADJUSTED VALUE	SIGHT DIST. ADJUSTMENT	FINAL CRITICAL GAP
MINOR RIGHTS					
	EB	6.10	6.10	0.00	6.10
MAJOR LEFTS					
	NB	5.30	5.30	0.00	5.30
MINOR LEFTS					
	EB	7.40	7.40	0.00	7.40

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... WETSEL-OVIATT RD
NAME OF THE NORTH/SOUTH STREET.... LATROBE RD
DATE AND TIME OF THE ANALYSIS..... 07-20-1994 ; PM PEAK
OTHER INFORMATION.... EXISTING CONDITIONS

MOVEMENT	FLOW-RATE v(pcph)	POTEN-TIAL CAPACITY c_p (pcph)	ACTUAL MOVEMENT CAPACITY c_M (pcph)	SHARED CAPACITY c_{SH} (pcph)	RESERVE CAPACITY $c_R = c_{SH} - v$	LOS
MINOR STREET						
EB LEFT	30	573	572 >	572 >	542 >	A
			>	630 >	587	>A
RIGHT	13	822	822 >	822 >	809 >	A
MAJOR STREET						
NB LEFT	5	956	956	956	950	A

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... WETSEL-OVIATT RD
NAME OF THE NORTH/SOUTH STREET.... LATROBE RD
DATE AND TIME OF THE ANALYSIS..... 07-20-1994 ; PM PEAK
OTHER INFORMATION.... EXISTING CONDITIONS

R C 656
LOS=A

****

IDENTIFYING INFORMATION

AVERAGE RUNNING SPEED, MAJOR STREET.. 45

PEAK HOUR FACTOR..................... .85

AREA POPULATION...................... 10000

NAME OF THE EAST/WEST STREET......... WETSEL-OVIATT RD

NAME OF THE NORTH/SOUTH STREET....... LATROBE RD

NAME OF THE ANALYST.................. F&P

DATE OF THE ANALYSIS (mm/dd/yy)...... 07-20-1994

TIME PERIOD ANALYZED................. AM PEAK

OTHER INFORMATION.... EXISTING CONDITIONS

INTERSECTION TYPE AND CONTROL

INTERSECTION TYPE: T-INTERSECTION

MAJOR STREET DIRECTION: NORTH/SOUTH

CONTROL TYPE EASTBOUND: STOP SIGN

TRAFFIC VOLUMES

	EB	WB	NB	SB
LEFT	4	--	0	0
THRU	0	--	136	66
RIGHT	1	--	0	10

NUMBER OF LANES

	EB	WB	NB	SB
LANES	1	--	1	1

	PERCENT GRADE	RIGHT TURN ANGLE	CURB RADIUS (ft) FOR RIGHT TURNS	ACCELERATION LANE FOR RIGHT TURNS
EASTBOUND	0.00	90	20	N
WESTBOUND	-----	---	---	-
NORTHBOUND	0.00	90	20	N
SOUTHBOUND	0.00	90	20	N

VEHICLE COMPOSITION

	% SU TRUCKS AND RV'S	% COMBINATION VEHICLES	% MOTORCYCLES
EASTBOUND	0	0	0
WESTBOUND	---	---	---
NORTHBOUND	0	0	0
SOUTHBOUND	0	0	0

CRITICAL GAPS

		TABULAR VALUES (Table 10-2)	ADJUSTED VALUE	SIGHT DIST. ADJUSTMENT	FINAL CRITICAL GAP
MINOR RIGHTS					
	EB	6.10	6.10	0.00	6.10
MAJOR LEFTS					
	NB	5.30	5.30	0.00	5.30
MINOR LEFTS					
	EB	7.40	7.40	0.00	7.40

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... WETSEL-OVIATT RD
NAME OF THE NORTH/SOUTH STREET.... LATROBE RD
DATE AND TIME OF THE ANALYSIS..... 07-20-1994 ; AM PEAK
OTHER INFORMATION.... EXISTING CONDITIONS

MOVEMENT	FLOW-RATE v(pcph)	POTEN-TIAL CAPACITY c_p (pcph)	ACTUAL MOVEMENT CAPACITY c_M (pcph)	SHARED CAPACITY c_{SH} (pcph)	RESERVE CAPACITY $c_R = c_{SH} - v$	LOS
MINOR STREET						
EB LEFT	5	585	585	> 585 >	580 >	A
				> 629	> 622	>A
RIGHT	1	897	897	> 897 >	896 >	A
MAJOR STREET						
NB LEFT	0	997	997	997	997	A

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... WETSEL-OVIATT RD
NAME OF THE NORTH/SOUTH STREET.... LATROBE RD
DATE AND TIME OF THE ANALYSIS..... 07-20-1994 ; AM PEAK
OTHER INFORMATION.... EXISTING CONDITIONS

RC =632
=> A

IDENTIFYING INFORMATION

AVERAGE RUNNING SPEED, MAJOR STREET.. 45

PEAK HOUR FACTOR.................... .85

AREA POPULATION...................... 10000

NAME OF THE EAST/WEST STREET......... WETSEL-OVIATT RD

NAME OF THE NORTH/SOUTH STREET....... LATROBE RD

NAME OF THE ANALYST.................. F&P

DATE OF THE ANALYSIS (mm/dd/yy)...... 07-20-1994

TIME PERIOD ANALYZED................. PM PEAK

OTHER INFORMATION.... EXISTING CONDITIONS

INTERSECTION TYPE AND CONTROL

INTERSECTION TYPE: T-INTERSECTION

MAJOR STREET DIRECTION: NORTH/SOUTH

CONTROL TYPE EASTBOUND: STOP SIGN

TRAFFIC VOLUMES

	EB	WB	NB	SB
LEFT	23	--	4	0
THRU	0	--	81	133
RIGHT	10	--	0	3

NUMBER OF LANES

	EB	WB	NB	SB
LANES	1	--	1	1

ADJUSTMENT FACTORS

	PERCENT GRADE	RIGHT TURN ANGLE	CURB RADIUS (ft) FOR RIGHT TURNS	ACCELERATION LANE FOR RIGHT TURNS
EASTBOUND	0.00	90	20	N
WESTBOUND	-----	---	---	-
NORTHBOUND	0.00	90	20	N
SOUTHBOUND	0.00	90	20	N

VEHICLE COMPOSITION

	% SU TRUCKS AND RV'S	% COMBINATION VEHICLES	% MOTORCYCLES
EASTBOUND	0	0	0
WESTBOUND	---	---	---
NORTHBOUND	0	0	0
SOUTHBOUND	0	0	0

CRITICAL GAPS

		TABULAR VALUES (Table 10-2)	ADJUSTED VALUE	SIGHT DIST. ADJUSTMENT	FINAL CRITICAL GAP
MINOR RIGHTS					
	EB	6.10	6.10	0.00	6.10
MAJOR LEFTS					
	NB	5.30	5.30	0.00	5.30
MINOR LEFTS					
	EB	7.40	7.40	0.00	7.40

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... WETSEL-OVIATT RD
NAME OF THE NORTH/SOUTH STREET.... LATROBE RD
DATE AND TIME OF THE ANALYSIS..... 07-20-1994 ; PM PEAK
OTHER INFORMATION.... EXISTING CONDITIONS

MOVEMENT	FLOW-RATE v(pcph)	POTEN-TIAL CAPACITY c_p (pcph)	ACTUAL MOVEMENT CAPACITY c_M (pcph)	SHARED CAPACITY c_{SH} (pcph)	RESERVE CAPACITY $c_R = c_{SH} - v$	LOS
MINOR STREET						
EB LEFT	30	573	572 >	572 >	542 >	A
			>	630 >	587	>A
RIGHT	13	822	822 >	822 >	809 >	A
MAJOR STREET						
NB LEFT	5	956	956	956	950	A

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... WETSEL-OVIATT RD
NAME OF THE NORTH/SOUTH STREET.... LATROBE RD
DATE AND TIME OF THE ANALYSIS..... 07-20-1994 ; PM PEAK
OTHER INFORMATION.... EXISTING CONDITIONS

R C 656
LOS = A

Level Of Service Computation Report
1995 HCM Unsignalized Method
Base Volume Alternative AM

Intersection #12 White Rock / Payen Road (Existing)

Level Of Service: A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 1! 0 0			0 0 1! 0 0			0 0 1 0 0			0 0 0 1 0		
Volume Module:												
Base Vol:	1	0	1	9	0	2	0	30	0	0	278	7
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	1	0	1	9	0	2	0	30	0	0	278	7
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	1	0	1	10	0	2	0	33	0	0	309	8
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	1	0	1	10	0	2	0	33	0	0	309	8
Adjusted Volume Module:												
Grade:	0%			0%			0%			0%		
% Cycle/Cars:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
% Truck/Comb:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
PCE Adj:	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.00	1.00	1.10	1.00	1.00
Cycl/Car PCE:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
Trck/Cmb PCE:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
Adj Vol.:	1	0	1	11	0	2	0	33	0	0	309	8

Critical Gap Module: >> Population: 0 << >> Run Speed(E/W): 40 MPH <<

RT Rad/Ang:	20.0 ft/90.0 deg			20.0 ft/90.0 deg			20.0 ft/90.0 deg			20.0 ft/90.0 deg		
Critical Gp:	7.1	6.6	5.9	7.1	6.6	5.9	5.2	xxxx	xxxxx	5.2	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	352	350	33	347	346	313	317	xxxx	xxxxx	33	xxxx	xxxxx
Potent Cap.:	538	590	960	542	593	694	875	xxxx	xxxxx	1000	xxxx	xxxxx
% Used Cap.:	0.2	0.0	0.1	2.0	0.0	0.4	0.0	xxxx	xxxxx	0.0	xxxx	xxxxx
Impedance:	xxxx	1.00	1.00	xxxx	1.00	1.00	1.00	xxxx	xxxxx	1.00	xxxx	xxxxx
Actual Cap.:	538	590	960	542	593	694	875	xxxx	xxxxx	1000	xxxx	xxxxx
Level Of Service Module:												
Unused Cap.:	537	590	959	531	593	691	875	xxxx	xxxxx	1000	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	*	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	690	xxxxx	xxxx	564	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Unused Cap.:	xxxx	687	xxxxx	xxxx	551	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Shared LOS:	*	A	*	*	A	*	*	*	*	*	*	*

EXISTING (PM)

Level Of Service Computation Report
1985 HCM Unsignalized Method
Base Volume Alternative

Intersection #12 White Rock Road/ Payen Road.

Level Of Service: A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	- T	- R	L	- T	- R	L	- T	- R	L	- T	- R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0	1! 0	0	0 0	1	0 0	0 0	1	0 0	0 0	1! 0	0
Volume Module:												
Base Vol:	1	0	2	15	2	2	1	243	1	1	27	15
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	1	0	2	15	2	2	1	243	1	1	27	15
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	1	0	2	17	2	2	1	270	1	1	30	17
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	1	0	2	17	2	2	1	270	1	1	30	17
Adjusted Volume Module:												
Grade:		0%			0%			0%			0%	
% Cycle/Cars:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
% Truck/Comb:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
PCE Adj:	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.00	1.00	1.10	1.00	1.00
Cycl/Car PCE:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
Trck/Cmb PCE:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
Adj Vol.:	1	0	2	18	2	2	1	270	1	1	30	17

Critical Gap Module: >> Population: 0 << >> Run Speed(E/W): 40 MPH <<

RT Rad/Ang:	20.0 ft/90.0 deg			20.0 ft/90.0 deg			20.0 ft/90.0 deg			20.0 ft/90.0 de		
Critical Gp:	7.1	6.6	5.9	7.1	6.6	5.9	5.2	xxxx	xxxxx	5.2	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	324	319	271	314	312	38	47	xxxx	xxxxx	271	xxxx	xxxxx
Potent Cap.:	558	618	732	565	625	954	1000	xxxx	xxxxx	919	xxxx	xxxxx
% Used Cap.:	0.2	0.0	0.3	3.2	0.4	0.3	0.1	xxxx	xxxxx	0.1	xxxx	xxxxx
Impedance:	xxxx	1.00	1.00	xxxx	1.00	1.00	1.00	xxxx	xxxxx	1.00	xxxx	xxxxx
Actual Cap.:	558	618	732	565	625	954	1000	xxxx	xxxxx	919	xxxx	xxxxx
Level Of Service Module:												
Unused Cap.:	557	618	729	547	622	952	999	xxxx	xxxxx	918	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	A	*	*	A	*	*
Movement:	LT	- LTR	- RT	LT	- LTR	- RT	LT	- LTR	- RT	LT	- LTR	- RT
Shared Cap.:	xxxx	663	xxxxx	xxxx	597	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Unused Cap.:	xxxx	659	xxxxx	xxxx	574	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Shared LOS:	*	A	*	*	A	*	*	*	*	*	*	*

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FACILITY LOCATION.... US 50
ANALYST.............. F&P
TIME OF ANALYSIS..... AM
DATE OF ANALYSIS..... 12-06-1994
OTHER INFORMATION.... EB OFF RAMP TO LATROBE RD

A) ADJUSTMENT FACTORS

PERCENTAGE OF TRUCKS................. 6 (Typical - 200 #/HP)
PEAK HOUR FACTOR..................... .95
HIGHWAY DESIGN SPEED (mph)........... 70
(BUSES AND RV'S ARE CONSIDERED AS TRUCKS)

LEVEL TERRAIN

B) INPUT INFORMATION

NO. OF LANES ON FREEWAY : 2 (per direction)

ANALYSIS RAMP CHARACTERISTICS:
****

(1) RIGHT-HAND RAMP.
(2) ONE LANE RAMP.
(3) LOOP RAMP.

	UPSTREAM RAMP	FREEWAY	ANALYSIS RAMP	DOWNSTREAM RAMP
VOLUME	100	1484	566	N.A.
% TRUCKS	2	6	2	N.A.
RAMP TYPE	ON	N.A.	OFF	N.A.
DISTANCE	6000	N.A.	N.A.	N.A.

****

C) RAMP ANALYSIS RESULTS

TRUCK PRESENCE IN LANE 1: 68 % OF FREEWAY TRUCKS

RAMP ANALYZED WITH UPSTREAM RAMP USING FIGURE I.5- 3

WARINING! IN USING THIS NOMOGRAPH:
Normal range for Du is 700 to 3200 ft

	V1	Vr	Vf
	****	****	*****
VPH	652	566	1584
ET	1.7	1.7	1.7
Fhv	0.93	0.99	0.96
PHF	0.95	0.95	0.95
PCPH	738	602	1737

CHECKPOINT	VOLUME	LOS
***********	******	***
FREEWAY:	1737	B
DIVERGE:	738	B

RAMP ANALYZED WITH UPSTREAM RAMP USING APPROXIMATION METHOD

	V1	Vr	Vf
	****	****	*****
VPH	770	566	1584
ET	1.7	1.7	1.7
Fhv	0.95	0.99	0.96
PHF	0.95	0.95	0.95
PCPH	853	602	1737

CHECKPOINT	VOLUME	LOS
***********	******	***
FREEWAY:	1737	B
DIVERGE:	853	B

IDENTIFYING INFORMATION

FACILITY LOCATION.... US 50
TIME AND DATE........ AM ; 12-06-1994
OTHER INFORMATION.... EB OFF RAMP TO LATROBE RD

****

FACILITY LOCATION.... US 50
ANALYST.............. F&P
TIME OF ANALYSIS..... PM
DATE OF ANALYSIS..... 12-06-1994
OTHER INFORMATION.... EB OFF RAMP TO LATROBE RD

A) ADJUSTMENT FACTORS

PERCENTAGE OF TRUCKS.................. 6 (Typical - 200 #/HP)
PEAK HOUR FACTOR...................... .95
HIGHWAY DESIGN SPEED (mph)............ 70
(BUSES AND RV'S ARE CONSIDERED AS TRUCKS)

LEVEL TERRAIN

B) INPUT INFORMATION

NO. OF LANES ON FREEWAY : 2 (per direction)

ANALYSIS RAMP CHARACTERISTICS:
****

(1) RIGHT-HAND RAMP.
(2) ONE LANE RAMP.
(3) LOOP RAMP.

	UPSTREAM RAMP	FREEWAY	ANALYSIS RAMP	DOWNSTREAM RAMP
	********	*******	********	**********
VOLUME	100	4114	1038	N.A.
% TRUCKS	2	6	2	N.A.
RAMP TYPE	ON	N.A.	OFF	N.A.
DISTANCE	6000	N.A.	N.A.	N.A.

C) RAMP ANALYSIS RESULTS

TRUCK PRESENCE IN LANE 1: 82 % OF FREEWAY TRUCKS

WARNING: % trucks in lane 1, ... Volume is outside Fig 5.6

RAMP ANALYZED WITH UPSTREAM RAMP USING FIGURE I.5- 3

WARINING! IN USING THIS NOMOGRAPH:
Normal range for Vf is 70 to 4200 vph
Normal range for Du is 700 to 3200 ft

	V1	Vr	Vf
VPH	1838	1038	4214
ET	1.7	1.7	1.7
Fhv	0.93	0.99	0.96
PHF	0.95	0.95	0.95
PCPH	2080	1104	4621

CHECKPOINT	VOLUME	LOS
FREEWAY:	4621	F
DIVERGE:	2080	F

RAMP ANALYZED WITH UPSTREAM RAMP USING APPROXIMATION METHOD

	V1	Vr	Vf
VPH	2308	1038	4214
ET	1.7	1.7	1.7
Fhv	0.94	0.99	0.96
PHF	0.95	0.95	0.95
PCPH	2585	1104	4621

CHECKPOINT	VOLUME	LOS
FREEWAY:	4621	F
DIVERGE:	2585	F

IDENTIFYING INFORMATION

FACILITY LOCATION.... US 50
TIME AND DATE........ PM ; 12-06-1994
OTHER INFORMATION.... EB OFF RAMP TO LATROBE RD

****

FACILITY LOCATION.... US 50
ANALYST.............. F&P
TIME OF ANALYSIS..... AM
DATE OF ANALYSIS..... 12-06-1994
OTHER INFORMATION.... EB ON RAMP FROM LATROBE

A) ADJUSTMENT FACTORS

PERCENTAGE OF TRUCKS................. 6 (Typical - 200 #/HP)
PEAK HOUR FACTOR..................... .95
HIGHWAY DESIGN SPEED (mph)........... 70
(BUSES AND RV'S ARE CONSIDERED AS TRUCKS)

SEGMENT LENGTH (mi.)................. .3
SEGMENT GRADE (%).................... 4.6

B) INPUT INFORMATION

NO. OF LANES ON FREEWAY : 2 (per direction)

ANALYSIS RAMP CHARACTERISTICS:
****

(1) RIGHT-HAND RAMP.
(2) ONE LANE RAMP.

	UPSTREAM RAMP	FREEWAY	ANALYSIS RAMP	DOWNSTREAM RAMP
	********	*******	********	**********
VOLUME	566	1484	727	N.A.
% TRUCKS	2	6	2	N.A.
RAMP TYPE	OFF	N.A.	ON	N.A.
DISTANCE	1100	N.A.	N.A.	N.A.

****

C) RAMP ANALYSIS RESULTS

TRUCK PRESENCE IN LANE 1: 78 % OF FREEWAY TRUCKS

RAMP ANALYZED WITH UPSTREAM RAMP USING FIGURE I.5- 1

	V1	Vr	Vf
	****	****	*****
VPH	369	727	918
ET	7.0	7.0	7.0
Fhv	0.58	0.89	0.74
PHF	0.95	0.95	0.95
PCPH	670	860	1306

CHECKPOINT	VOLUME	LOS
**********	******	***
FREEWAY:	2166	B
MERGE:	1530	D

IDENTIFYING INFORMATION

FACILITY LOCATION.... US 50
TIME AND DATE........ AM ; 12-06-1994
OTHER INFORMATION.... EB ON RAMP FROM LATROBE

****

FACILITY LOCATION.... US 50
ANALYST.............. F&P
TIME OF ANALYSIS..... PM
DATE OF ANALYSIS..... 12-06-1994
OTHER INFORMATION.... EB ON RAMP FROM LATROBE

A) ADJUSTMENT FACTORS

PERCENTAGE OF TRUCKS................. 6 (Typical - 200 #/HP)
PEAK HOUR FACTOR...................... .95
HIGHWAY DESIGN SPEED (mph)........... 70
(BUSES AND RV'S ARE CONSIDERED AS TRUCKS)

SEGMENT LENGTH (mi.)................. .3
SEGMENT GRADE (%).................... 4.6

B) INPUT INFORMATION

NO. OF LANES ON FREEWAY : 2 (per direction)

ANALYSIS RAMP CHARACTERISTICS:

(1) RIGHT-HAND RAMP.
(2) ONE LANE RAMP.

	UPSTREAM RAMP	FREEWAY	ANALYSIS RAMP	DOWNSTREAM RAMP
VOLUME	1038	4114	1113	N.A.
% TRUCKS	2	6	2	N.A.
RAMP TYPE	OFF	N.A.	ON	N.A.
DISTANCE	1100	N.A.	N.A.	N.A.

****

C) RAMP ANALYSIS RESULTS

TRUCK PRESENCE IN LANE 1: 81 % OF FREEWAY TRUCKS

WARNING: % trucks in lane 1, ... Volume is outside Fig 5.6

RAMP ANALYZED WITH UPSTREAM RAMP USING FIGURE I.5- 1

	V1	Vr	Vf
	****	****	*****
VPH	1069	1113	3076
ET	7.0	7.0	7.0
Fhv	0.54	0.89	0.74
PHF	0.95	0.95	0.95
PCPH	2084	1316	4376

CHECKPOINT	VOLUME	LOS
**********	******	***
FREEWAY:	5692	F
MERGE:	3400	F

IDENTIFYING INFORMATION

FACILITY LOCATION.... US 50
TIME AND DATE........ PM ; 12-06-1994
OTHER INFORMATION.... EB ON RAMP FROM LATROBE

****

FACILITY LOCATION.... US 50
ANALYST.............. F&P
TIME OF ANALYSIS..... AM
DATE OF ANALYSIS..... 12-06-1994
OTHER INFORMATION.... WB OFF RAMP TO EL DORADO HILLS BLVD

A) ADJUSTMENT FACTORS

PERCENTAGE OF TRUCKS................. 6 (Typical - 200 #/HP)
PEAK HOUR FACTOR..................... .95
HIGHWAY DESIGN SPEED (mph)........... 70
(BUSES AND RV'S ARE CONSIDERED AS TRUCKS)

SEGMENT LENGTH (mi.)................. .3
SEGMENT GRADE (%)....................-4.6

B) INPUT INFORMATION

NO. OF LANES ON FREEWAY : 2 (per direction)

ANALYSIS RAMP CHARACTERISTICS:
****

(1) RIGHT-HAND RAMP.
(2) ONE LANE RAMP.

	UPSTREAM RAMP	FREEWAY	ANALYSIS RAMP	DOWNSTREAM RAMP
VOLUME	N.A.	4231	1103	1016
% TRUCKS	N.A.	6	2	2
RAMP TYPE	N.A.	N.A.	OFF	ON
DISTANCE	N.A.	N.A.	N.A.	1910

****

C) RAMP ANALYSIS RESULTS

TRUCK PRESENCE IN LANE 1: 82 % OF FREEWAY TRUCKS

WARNING: % trucks in lane 1, ... Volume is outside Fig 5.6

RAMP ANALYZED WITH DOWNSTREAM RAMP USING FIGURE I.5- 2

WARINING! IN USING THIS NOMOGRAPH:
Normal range for Vf is 400 to 4200 vph

	V1	Vr	Vf
	****	****	*****
VPH	2198	1103	4231
ET	1.7	1.7	1.7
Fhv	0.94	0.99	0.96
PHF	0.95	0.95	0.95
PCPH	2461	1173	4639

CHECKPOINT	VOLUME	LOS
**********	******	***
FREEWAY:	4639	F
DIVERGE:	2461	F

RAMP ANALYZED WITH DOWNSTREAM RAMP USING APPROXIMATION METHOD

	V1	Vr	Vf
	****	****	*****
VPH	2354	1103	4231
ET	1.7	1.7	1.7
Fhv	0.94	0.99	0.96
PHF	0.95	0.95	0.95
PCPH	2636	1173	4639

CHECKPOINT	VOLUME	LOS
**********	******	***
FREEWAY:	4639	F
DIVERGE:	2636	F

IDENTIFYING INFORMATION

FACILITY LOCATION.... US 50
TIME AND DATE........ AM ; 12-06-1994
OTHER INFORMATION.... WB OFF RAMP TO EL DORADO HILLS BLVD

****

FACILITY LOCATION.... US 50
ANALYST.............. F&P
TIME OF ANALYSIS..... PM
DATE OF ANALYSIS..... 12-06-1994
OTHER INFORMATION.... WB OFF RAMP TO EL DORADO HILLS BLVD

A) ADJUSTMENT FACTORS

PERCENTAGE OF TRUCKS................. 6 (Typical - 200 #/HP)
PEAK HOUR FACTOR..................... .95
HIGHWAY DESIGN SPEED (mph)........... 70
(BUSES AND RV'S ARE CONSIDERED AS TRUCKS)

SEGMENT LENGTH (mi.)................. .3
SEGMENT GRADE (%)....................-4.6

B) INPUT INFORMATION

NO. OF LANES ON FREEWAY : 2 (per direction)

ANALYSIS RAMP CHARACTERISTICS:
****
(1) RIGHT-HAND RAMP.
(2) ONE LANE RAMP.

	UPSTREAM RAMP	FREEWAY	ANALYSIS RAMP	DOWNSTREAM RAMP
	********	*******	********	**********
VOLUME	N.A.	2017	894	682
% TRUCKS	N.A.	6	2	2
RAMP TYPE	N.A.	N.A.	OFF	ON
DISTANCE	N.A.	N.A.	N.A.	1910

C) RAMP ANALYSIS RESULTS

TRUCK PRESENCE IN LANE 1: 65 % OF FREEWAY TRUCKS

RAMP ANALYZED WITH DOWNSTREAM RAMP USING FIGURE I.5- 2

	V1	Vr	Vf
VPH	1326	894	2017
ET	1.7	1.7	1.7
Fhv	0.96	0.99	0.96
PHF	0.95	0.95	0.95
PCPH	1454	951	2212

CHECKPOINT	VOLUME	LOS
FREEWAY:	2212	C
DIVERGE:	1454	C

IDENTIFYING INFORMATION

FACILITY LOCATION.... US 50
TIME AND DATE........ PM ; 12-06-1994
OTHER INFORMATION.... WB OFF RAMP TO EL DORADO HILLS BLVD

****

FACILITY LOCATION.... US 50
ANALYST.............. F&P
TIME OF ANALYSIS..... AM
DATE OF ANALYSIS..... 12-06-1994
OTHER INFORMATION.... WB ONRAMP FROM EL DORADO HILLS BLVD

A) ADJUSTMENT FACTORS

PERCENTAGE OF TRUCKS................. 6 (Typical - 200 #/HP)
PEAK HOUR FACTOR...................... .95
HIGHWAY DESIGN SPEED (mph)........... 70
(BUSES AND RV'S ARE CONSIDERED AS TRUCKS)

LEVEL TERRAIN

B) INPUT INFORMATION

NO. OF LANES ON FREEWAY : 2 (per direction)

ANALYSIS RAMP CHARACTERISTICS:
****
(1) RIGHT-HAND RAMP.
(2) ONE LANE RAMP.

	UPSTREAM RAMP	FREEWAY	ANALYSIS RAMP	DOWNSTREAM RAMP
	********	*******	********	**********
VOLUME	1103	4231	1016	N.A.
% TRUCKS	2	6	2	N.A.
RAMP TYPE	OFF	N.A.	ON	N.A.
DISTANCE	1910	N.A.	N.A.	N.A.

****

C) RAMP ANALYSIS RESULTS

TRUCK PRESENCE IN LANE 1: 82 % OF FREEWAY TRUCKS

WARNING: % trucks in lane 1, ... Volume is outside Fig 5.6

RAMP ANALYZED WITH UPSTREAM RAMP USING FIGURE I.5- 1

	V1	Vr	Vf
	****	****	*****
VPH	1098	1016	3128
ET	1.7	1.7	1.7
Fhv	0.91	0.99	0.96
PHF	0.95	0.95	0.95
PCPH	1270	1080	3430

CHECKPOINT	VOLUME	LOS
***********	******	***
FREEWAY:	4510	F
MERGE:	2350	F

IDENTIFYING INFORMATION

FACILITY LOCATION.... US 50
TIME AND DATE........ AM ; 12-06-1994
OTHER INFORMATION.... WB ONRAMP FROM EL DORADO HILLS BLVD

```
*****************************************************************

   FACILITY LOCATION.... US 50
   ANALYST.............. F&P
   TIME OF ANALYSIS..... PM
   DATE OF ANALYSIS..... 12-06-1994
   OTHER INFORMATION.... WB ONRAMP FROM EL DORADO HILLS BLVD

A) ADJUSTMENT FACTORS
   ------------------------------------------------------------
   PERCENTAGE OF TRUCKS................. 6 (Typical - 200 #/HP)
   PEAK HOUR FACTOR..................... .95
   HIGHWAY DESIGN SPEED (mph)........... 70
   (BUSES AND RV'S ARE CONSIDERED AS TRUCKS)

   LEVEL TERRAIN

B) INPUT INFORMATION
   ------------------------------------------------------------
   NO. OF LANES ON FREEWAY :  2  (per direction)

   ANALYSIS RAMP CHARACTERISTICS:
   ******************************
   (1) RIGHT-HAND RAMP.
   (2) ONE LANE RAMP.
```

	UPSTREAM RAMP	FREEWAY	ANALYSIS RAMP	DOWNSTREAM RAMP
VOLUME	894	2017	682	N.A.
% TRUCKS	2	6	2	N.A.
RAMP TYPE	OFF	N.A.	ON	N.A.
DISTANCE	1910	N.A.	N.A.	N.A.

C) RAMP ANALYSIS RESULTS

TRUCK PRESENCE IN LANE 1: 74 % OF FREEWAY TRUCKS

RAMP ANALYZED WITH UPSTREAM RAMP USING FIGURE I.5- 1

	V1	Vr	Vf
VPH	445	682	1123
ET	1.7	1.7	1.7
Fhv	0.93	0.99	0.96
PHF	0.95	0.95	0.95
PCPH	504	725	1231

CHECKPOINT	VOLUME	LOS
FREEWAY:	1956	B
MERGE:	1229	C

IDENTIFYING INFORMATION

FACILITY LOCATION.... US 50
TIME AND DATE........ PM ; 12-06-1994
OTHER INFORMATION.... WB ONRAMP FROM EL DORADO HILLS BLVD

[redacted]2.f/.deg
[redacted]63:Pag4-
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EXIST WITH PROJECT (AM)

Level Of Service Computation Report
1985 HCM Operations Method (Future Volume Alternative)

****

Intersection #1 LATROBE/50 WB RAMP

****

Cycle (sec):	90	Critical Vol./Cap. (X):	1.301
Loss Time (sec):	3	Average Delay (sec/veh):	95.7
Optimal Cycle:	180	Level Of Service:	F

****

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Prot+Permit		
Rights:	Include			Include			Include			Include		
Min. Green:	10	10	0	0	10	10	0	0	0	10	0	10
Lanes:	1 0 2 0 0			0 0 2 0 1			0 0 0 0 0			0 1 0 0 1		
Volume Module:												
Base Vol:	123	247	0	0	455	729	0	0	0	295	0	281
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Bse:	123	247	0	0	455	729	0	0	0	295	0	281
Added Vol:	164	524	0	0	563	0	0	0	0	527	0	0
Initial Fut:	287	771	0	0	1018	729	0	0	0	822	0	281
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	319	857	0	0	1131	810	0	0	0	914	0	312
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	319	857	0	0	1131	810	0	0	0	914	0	312
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.05	1.00	1.00	1.05	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	319	900	0	0	1187	810	0	0	0	914	0	312
Saturation Flow Module:												
Sat/Lane:	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Adjustment:	0.94	0.99	1.00	1.00	0.99	0.84	1.00	1.00	1.00	0.95	1.00	0.85
Lanes:	1.00	2.00	0.00	0.00	2.00	1.00	0.00	0.00	0.00	1.00	0.00	1.00
Final Sat.:	1693	3564	0	0	3564	1515	0	0	0	1710	0	1530
Capacity Analysis Module:												
Vol/Sat:	0.19	0.25	0.00	0.00	0.33	0.53	0.00	0.00	0.00	0.53	0.00	0.20
Crit Moves:	****					****				****		
Green/Cycle:	0.14	0.56	0.00	0.00	0.41	0.41	0.00	0.00	0.00	0.41	0.00	0.41
Volume/Cap:	1.30	0.45	0.00	0.00	0.81	1.30	0.00	0.00	0.00	1.30	0.00	0.50
Level Of Service Module:												
Delay/Veh:	241.7	9.1	0.0	0.0	20.3	216.8	0.0	0.0	0.0	215.2	0.0	15.4
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
ProgAdjFctr:	1.00	0.85	0.85	1.00	0.85	0.85	1.00	0.85	0.85	0.85	0.85	0.85
AdjDel/Veh:	241.7	7.8	0.0	0.0	17.2	184.3	0.0	0.0	0.0	182.9	0.0	13.1
Queue:	27	13	0	0	28	69	0	0	0	77	0	6

****

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EXIST WITH PROJECT (PM)

Level Of Service Computation Report
1985 HCM Operations Method (Future Volume Alternative)

****

Intersection #1 LATROBE / 50 WB RAMP

****

Cycle (sec):	90	Critical Vol./Cap. (X):	1.100
Loss Time (sec):	3	Average Delay (sec/veh):	45.6
Optimal Cycle:	180	Level Of Service:	E

****

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:		Protected			Protected			Protected			Prot+Permit	
Rights:		Include			Include			Include			Include	
Min. Green:	10	10	0	0	10	10	0	0	0	10	0	10
Lanes:	1 0 2 0 0			0 0 2 0 1			0 0 0 0 0			0 1 0 0 1		
Volume Module:												
Base Vol:	271	1048	0	0	374	216	0	0	0	67	0	234
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Bse:	271	1048	0	0	374	216	0	0	0	67	0	234
Added Vol:	195	623	0	0	632	0	0	0	0	593	0	0
Initial Fut:	466	1671	0	0	1006	216	0	0	0	660	0	234
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	517	1857	0	0	1118	240	0	0	0	733	0	260
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	517	1857	0	0	1118	240	0	0	0	733	0	260
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.05	1.00	1.00	1.05	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol.:	517	1950	0	0	1174	240	0	0	0	733	0	260
Saturation Flow Module:												
Sat/Lane:	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800	1800
Adjustment:	0.94	0.99	1.00	1.00	0.99	0.84	1.00	1.00	1.00	0.95	1.00	0.85
Lanes:	1.00	2.00	0.00	0.00	2.00	1.00	0.00	0.00	0.00	1.00	0.00	1.00
Final Sat.:	1693	3564	0	0	3564	1515	0	0	0	1710	0	1530
Capacity Analysis Module:												
Vol/Sat:	0.31	0.55	0.00	0.00	0.33	0.16	0.00	0.00	0.00	0.43	0.00	0.17
Crit Moves:	****				****					****		
Green/Cycle:	0.28	0.58	0.00	0.00	0.30	0.30	0.00	0.00	0.00	0.39	0.00	0.39
Volume/Cap:	1.10	0.95	0.00	0.00	1.10	0.53	0.00	0.00	0.00	1.10	0.00	0.44
Level Of Service Module:												
Delay/Veh:	92.3	21.1	0.0	0.0	80.1	20.9	0.0	0.0	0.0	83.2	0.0	15.7
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
ProgAdjFctr:	1.00	0.85	0.85	1.00	0.85	0.85	1.00	0.85	0.85	0.85	0.85	0.85
AdjDel/Veh:	92.3	17.9	0.0	0.0	68.1	17.8	0.0	0.0	0.0	70.7	0.0	13.3
Queue:	25	51	0	0	52	5	0	0	0	34	0	5

****

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EXIST WITH PROJECT (AM)

Level Of Service Computation Report
1994 HCM 4-Way Stop Method (Future Volume Alternative)

Intersection #2 LATROBE/EB RAMP

Cycle (sec):	1	Critical Vol./Cap. (X):	2.841
Loss Time (sec):	0	Average Delay (sec/veh):	OVERFLOW
Optimal Cycle:	0	Level Of Service:	F

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Ignore		
Lanes:	0 0	2	0 1	1 0	2	0 0	0 0	0	0 0	1 0	0	0 1
Volume Module:												
Base Vol:	0	221	52	183	567	0	0	0	0	241	0	149
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Bse:	0	221	52	183	567	0	0	0	0	241	0	0
Added Vol:	0	688	492	0	1090	0	0	0	0	176	0	0
Initial Fut:	0	909	544	183	1657	0	0	0	0	417	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.00
PHF Volume:	0	1010	604	203	1841	0	0	0	0	463	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1010	604	203	1841	0	0	0	0	463	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Final Vol.:	0	1010	604	203	1841	0	0	0	0	463	0	0
Saturation Flow Module:												
Sat/Lane:	279	279	279	324	324	324	0	0	0	290	290	290
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	2.00	1.00	1.00	2.00	0.00	0.00	0.00	0.00	1.00	0.00	1.00
Final Sat.:	0	558	279	324	648	0	0	0	0	290	0	290
Capacity Analysis Module:												
Vol/Sat:	0.00	1.81	2.16	0.63	2.84	0.00	0.00	0.00	0.00	1.60	0.00	0.00
Crit Moves:			****		****				****	****		
Level Of Service Module:												
Delay/Veh:	0.0	971	3739	10.8	xxxx	0.0	0.0	0.0	0.0	431.3	0.0	0.0
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	971	3739	10.8	xxxx	0.0	0.0	0.0	0.0	431.3	0.0	0.0
LOS by Move:	*	F	F	C	F	*	*	*	*	F	*	*

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EXIST WITH PROJECT (PM)

Level Of Service Computation Report
1994 HCM 4-Way Stop Method (Future Volume Alternative)

Intersection #2 LATROBE / 50 EB RAMP

Cycle (sec):	1	Critical Vol./Cap. (X):	2.677
Loss Time (sec):	0	Average Delay (sec/veh):	8165.5
Optimal Cycle:	0	Level Of Service:	F

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Ignore		
Lanes:	0 0	2 0	1	1 0	2 0	0	0 0	0 0	0	1 0	0 0	1
Volume Module:												
Base Vol:	0	630	252	277	164	0	0	0	0	151	0	689
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Bse:	0	630	252	277	164	0	0	0	0	151	0	0
Added Vol:	0	818	584	0	1225	0	0	0	0	198	0	0
Initial Fut:	0	1448	836	277	1389	0	0	0	0	349	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.00
PHF Volume:	0	1609	929	308	1543	0	0	0	0	387	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	1609	929	308	1543	0	0	0	0	387	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Final Vol.:	0	1609	929	308	1543	0	0	0	0	387	0	0
Saturation Flow Module:												
Sat/Lane:	347	347	347	375	375	375	0	0	0	325	325	325
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	2.00	1.00	1.00	2.00	0.00	0.00	0.00	0.00	1.00	0.00	1.00
Final Sat.:	0	694	347	375	750	0	0	0	0	325	0	325
Capacity Analysis Module:												
Vol/Sat:	0.00	2.32	2.68	0.82	2.06	0.00	0.00	0.00	0.00	1.19	0.00	0.00
Crit Moves:			****		****				****	****		
Level Of Service Module:												
Delay/Veh:	0.0	6701	26199	22.7	2485	0.0	0.0	0.0	0.0	92.3	0.0	0.0
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	6701	26199	22.7	2485	0.0	0.0	0.0	0.0	92.3	0.0	0.0
LOS by Move:	*	F	F	D	F	*	*	*	*	F	*	*

EXIST WITH PROJECT (PM)

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---------------------------------------------------------------------------
                         EXIST WITH PROJECT (AM)


---------------------------------------------------------------------------
                    Level Of Service Computation Report
          1985 HCM Unsignalized Method (Future Volume Alternative)
***************************************************************************
Intersection #3  LATROBE/WHITE ROCK ROAD
***************************************************************************
                                       Level Of Service:              F
***************************************************************************
Approach:     North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:     Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Rights:         Include          Include         Include          Include
Lanes:        1  0  0  1  0    1  0  0  1  0    0  0  1! 0  0    0  0  1! 0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      23  209    3    30  600   178    34    1    28     3    1    30
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PasserByVol:    0    0    0     0    0     0     0    0     0     0    0     0
Initial Bse:   23  209    3    30  600   178    34    1    28     3    1    30
Added Vol:      0  662   16     0  711   554   519    0     0    18    0     0
Initial Fut:   23  871   19    30 1311   732   553    1    28    21    1    30
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.90 0.90  0.90 0.90 0.90  0.90  0.90 0.90  0.90  0.90 0.90  0.90
PHF Volume:    26  967   22    33 1457   814   614    1    31    23    1    33
Reduct Vol:     0    0    0     0    0     0     0    0     0     0    0     0
Final Vol.:    26  967   22    33 1457   814   614    1    31    23    1    33
Adjusted Volume Module:
Grade:             0%              0%              0%              0%
% Cycle/Cars:   xxxx xxxx       xxxx xxxx       xxxx xxxx       xxxx xxxx
% Truck/Comb:   xxxx xxxx       xxxx xxxx       xxxx xxxx       xxxx xxxx
PCE Adj:     1.10 1.00  1.00 1.10 1.00  1.00  1.10 1.10  1.10  1.10 1.10  1.10
Cycl/Car PCE:   xxxx xxxx       xxxx xxxx       xxxx xxxx       xxxx xxxx
Trck/Cmb PCE:   xxxx xxxx       xxxx xxxx       xxxx xxxx       xxxx xxxx
Adj Vol.:      28  967   22    37 1457   814   675    1    34    25    1    37
Critical Gap Module: >> Population: 0 << >> Run Speed(N/S): 40 MPH <<
RT Rad/Ang:  20.0 ft/90.0 deg 20.0 ft/90.0 deg 20.0 ft/90.0 deg 20.0 ft/90.0 deg
Critical Gp:  5.7 xxxx xxxxx   5.7 xxxx xxxxx   7.6  7.1   5.9   7.6  7.1   5.9
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 2271 xxxx xxxxx   989 xxxx xxxxx  2946 2912  1864  3340 3308   978
Potent Cap.:  130 xxxx xxxxx   334 xxxx xxxxx    50   65   105    50   65   279
% Used Cap.: 21.6 xxxx xxxxx  11.0 xxxx xxxxx  1351  1.9  32.6  50.3  1.9  13.2
Impedance:   0.85 xxxx xxxxx  0.94 xxxx xxxxx  xxxx 0.99  0.75  xxxx 0.99  0.91
Actual Cap.:  130 xxxx xxxxx   334 xxxx xxxxx    36   52   105    30   52   279
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
Unused Cap.:  102 xxxx xxxxx   298 xxxx xxxxx  -639   51    71     5   51   242
LOS by Move:    D    *     *     C    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx   37 xxxxx  xxxx   63 xxxxx
Unused Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx -674 xxxxx  xxxx   -0 xxxxx
Shared LOS:     *    *     *     *    *     *     *    F     *     *    F     *
```

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Level Of Service Computation Report
1985 HCM Unsignalized Method (Future Volume Alternative)

Intersection #3 LATROBE / WHITE ROCK ROAD

Level Of Service: F

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:		Uncontrolled			Uncontrolled			Stop Sign			Stop Sign	
Rights:		Include			Include			Include			Include	
Lanes:		1 0 0 1 0			1 0 0 1 0			0 0 1! 0 0			0 0 1! 0 0	
Volume Module:												
Base Vol:	25	619	3	50	240	20	223	2	41	4	3	40
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Bse:	25	619	3	50	240	20	223	2	41	4	3	40
Added Vol:	0	786	19	0	799	623	616	0	0	20	0	0
Initial Fut:	25	1405	22	50	1039	643	839	2	41	24	3	40
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
PHF Volume:	28	1561	25	56	1155	715	932	2	46	26	3	44
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	28	1561	25	56	1155	715	932	2	46	26	3	44
Adjusted Volume Module:												
Grade:		0%			0%			0%			0%	
% Cycle/Cars:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
% Truck/Comb:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
PCE Adj:	1.10	1.00	1.00	1.10	1.00	1.00	1.10	1.10	1.10	1.10	1.10	1.10
Cycl/Car PCE:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
Trck/Cmb PCE:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
Adj Vol.:	31	1561	25	61	1155	715	1025	2	50	29	4	49
Critical Gap Module: >> Population: 0 << >> Run Speed(N/S): 40 MPH <<												
RT Rad/Ang:		20.0 ft/90.0 deg			20.0 ft/90.0 deg			20.0 ft/90.0 deg			20.0 ft/90.0 deg	
Critical Gp:	5.7	xxxx	xxxxx	5.7	xxxx	xxxxx	7.6	7.1	5.9	7.6	7.1	5.9
Capacity Module:												
Cnflict Vol:	1870	xxxx	xxxxx	1586	xxxx	xxxxx	3229	3182	1512	3574	3526	1573
Potent Cap.:	130	xxxx	xxxxx	153	xxxx	xxxxx	50	65	138	50	65	125
% Used Cap.:	23.5	xxxx	xxxxx	40.0	xxxx	xxxxx	2051	3.8	36.4	58.1	5.6	39.0
Impedance:	0.83	xxxx	xxxxx	0.68	xxxx	xxxxx	xxxx	0.98	0.72	xxxx	0.97	0.69
Actual Cap.:	130	xxxx	xxxxx	153	xxxx	xxxxx	19	37	138	20	37	125
Level Of Service Module:												
Unused Cap.:	99	xxxx	xxxxx	92	xxxx	xxxxx	xxxx	34	87	-9	33	76
LOS by Move:	E	*	*	E	*	*	*	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	20	xxxxx	xxxx	42	xxxxx
Unused Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	-40	xxxxx
Shared LOS:	*	*	*	*	*	*	*	F	*	*	F	*

EXIST WITH PROJECT (PM)

```
-----------------------------------------------------------------------------
                    Level Of Service Computation Report
          1985 HCM Unsignalized Method (Future Volume Alternative)
*****************************************************************************
Intersection #4   LATROBE/ GOLDEN FOOTHILL PKWY SOUTH
*****************************************************************************
                                    Level Of Service:                 F
*****************************************************************************
Approach:     North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:      Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Rights:          Include          Include          Include          Include
Lanes:        0  1  0  0  0    0  0  0  1  0    1  0  0  0  1    0  0  0  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0  294     0     0  304    17   137    0     6     0    0     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Bse:    0  294     0     0  304    17   137    0     6     0    0     0
Added Vol:     20  632     0     0  643   176   174    0    19     0    0     0
Initial Fut:   20  926     0     0  947   193   311    0    25     0    0     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.90 0.90  0.90  0.90 0.90  0.90  0.90 0.90  0.90  0.90 0.90  0.90
PHF Volume:    22 1028     0     0 1052   215   345    0    28     0    0     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Final Vol.:    22 1028     0     0 1052   215   345    0    28     0    0     0
Adjusted Volume Module:
Grade:             0%               0%               0%               0%
% Cycle/Cars:   xxxx xxxx        xxxx xxxx        xxxx xxxx        xxxx xxxx
% Truck/Comb:   xxxx xxxx        xxxx xxxx        xxxx xxxx        xxxx xxxx
PCE Adj:     1.10 1.00  1.00  1.10 1.00  1.00  1.10 1.10  1.10  1.10 1.10  1.10
Cycl/Car PCE:   xxxx xxxx        xxxx xxxx        xxxx xxxx        xxxx xxxx
Trck/Cmb PCE:   xxxx xxxx        xxxx xxxx        xxxx xxxx        xxxx xxxx
Adj Vol.:      24 1028     0     0 1052   215   380    0    31     0    0     0
Critical Gap Module: >> Population: 0 << >> Run Speed(N/S): 40 MPH <<
RT Rad/Ang:  20.0 ft/90.0 deg 20.0 ft/90.0 deg 20.0 ft/90.0 deg 20.0 ft/90.0 deg
Critical Gp:  5.2 xxxx xxxxx xxxxx xxxx xxxxx   7.1 xxxx   5.9 xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 1267 xxxx xxxxx  xxxx xxxx xxxxx  2210 xxxx  1160  xxxx xxxx xxxxx
Potent Cap.:  280 xxxx xxxxx  xxxx xxxx xxxxx    65 xxxx   216  xxxx xxxx xxxxx
% Used Cap.:  8.6 xxxx xxxxx xxxxx xxxx xxxxx 584.2 xxxx  14.4 xxxxx xxxx xxxxx
Impedance:   0.95 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx  0.90  xxxx xxxx xxxxx
Actual Cap.:  280 xxxx xxxxx  xxxx xxxx xxxxx    62 xxxx   216  xxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
Unused Cap.:  256 xxxx xxxxx  xxxx xxxx xxxxx  -318 xxxx   185  xxxx xxxx xxxxx
LOS by Move:    C    *     *     *    *     *     F    *     D     *    *     *
Movement:     LT - LTR - RT   LT - LTR - RT   LT - LTR - RT   LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Unused Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    *     *
-----------------------------------------------------------------------------
```

EXIST WITH PROJECT (PM)

```
Path: F:\CARSON\5-1-96\EXPM
File: TEMP     .PRN    4,418 .a..  5-02-96  2:11:24 am        Page 1

-----------------------------------------------------------------------------
                      EXIST WITH PROJECT (PM)


-----------------------------------------------------------------------------
                 Level Of Service Computation Report
        1985 HCM Unsignalized Method (Future Volume Alternative)
*****************************************************************************
Intersection #4  LATROBE / GOLDEN  PKWY  SOUTH
*****************************************************************************
                                     Level Of Service:               F
*****************************************************************************
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:      Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Rights:          Include          Include          Include          Include
Lanes:        0  1  0  0  0    0  0  0  1  0    1  0  0  0  1    0  0  0  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0  294     0     0  304    17   137    0     6     0    0     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Bse:    0  294     0     0  304    17   137    0     6     0    0     0
Added Vol:     20  632     0     0  643   176   174    0    19     0    0     0
Initial Fut:   20  926     0     0  947   193   311    0    25     0    0     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.90 0.90  0.90  0.90 0.90  0.90  0.90 0.90  0.90  0.90 0.90  0.90
PHF Volume:    22 1028     0     0 1052   215   345    0    28     0    0     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Final Vol.:    22 1028     0     0 1052   215   345    0    28     0    0     0
Adjusted Volume Module:
Grade:            0%               0%               0%               0%
% Cycle/Cars:   xxxx  xxxx       xxxx  xxxx       xxxx  xxxx       xxxx  xxxx
% Truck/Comb:   xxxx  xxxx       xxxx  xxxx       xxxx  xxxx       xxxx  xxxx
PCE Adj:     1.10 1.00  1.00  1.10 1.00  1.00  1.10 1.10  1.10  1.10 1.10  1.10
Cycl/Car PCE:   xxxx  xxxx       xxxx  xxxx       xxxx  xxxx       xxxx  xxxx
Trck/Cmb PCE:   xxxx  xxxx       xxxx  xxxx       xxxx  xxxx       xxxx  xxxx
Adj Vol.:      24 1028     0     0 1052   215   380    0    31     0    0     0
Critical Gap Module: >> Population: 0 << >> Run Speed(N/S): 40 MPH <<
RT Rad/Ang:  20.0 ft/90.0 deg 20.0 ft/90.0 deg 20.0 ft/90.0 deg 20.0 ft/90.0 deg
Critical Gp:  5.2 xxxx xxxxx xxxxx xxxx xxxxx   7.1 xxxx   5.9 xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 1267 xxxx xxxxx  xxxx xxxx xxxxx  2210 xxxx  1160  xxxx xxxx xxxxx
Potent Cap.:  280 xxxx xxxxx  xxxx xxxx xxxxx    65 xxxx   216  xxxx xxxx xxxxx
% Used Cap.:  8.6 xxxx xxxxx xxxxx xxxx xxxxx 584.2 xxxx  14.4 xxxxx xxxx xxxxx
Impedance:   0.95 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx  0.90  xxxx xxxx xxxxx
Actual Cap.:  280 xxxx xxxxx  xxxx xxxx xxxxx    62 xxxx   216  xxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
Unused Cap.:  256 xxxx xxxxx  xxxx xxxx xxxxx  -318 xxxx   185  xxxx xxxx xxxxx
LOS by Move:    C    *     *     *    *     *     F    *     D     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Unused Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    *     *
```

```
Path: F:\CARSON\5-1-96\EXPM
File: NEWPM   .PRN   26,218 .a..  5-02-96  2:08:36 am        Page 5

------------------------------------------------------------------------------
                 Level Of Service Computation Report
        1985 HCM Unsignalized Method (Future Volume Alternative)
******************************************************************************
Intersection #5  LATROBE/INVESTMENT
******************************************************************************
                                Level Of Service:                  F
******************************************************************************
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:      L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Rights:           Include          Include          Include          Include
Lanes:        0  1  0  0  0    0  0  0  1  0    1  0  0  0  1    0  0  0  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:        9   78     0     0  128   182   211    0     5     0    0     0
Growth Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PasserByVol:     0    0     0     0    0     0     0    0     0     0    0     0
Initial Bse:     9   78     0     0  128   182   211    0     5     0    0     0
Added Vol:      40  262     0     0  267   396   390    0    39     0    0     0
Initial Fut:    49  340     0     0  395   578   601    0    44     0    0     0
User Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:      0.90 0.90  0.90  0.90 0.90  0.90  0.90 0.90  0.90  0.90 0.90  0.90
PHF Volume:     54  377     0     0  439   642   668    0    49     0    0     0
Reduct Vol:      0    0     0     0    0     0     0    0     0     0    0     0
Final Vol.:     54  377     0     0  439   642   668    0    49     0    0     0
Adjusted Volume Module:
Grade:              0%               0%               0%               0%
% Cycle/Cars:   xxxx  xxxx       xxxx  xxxx       xxxx  xxxx       xxxx  xxxx
% Truck/Comb:   xxxx  xxxx       xxxx  xxxx       xxxx  xxxx       xxxx  xxxx
PCE Adj:      1.10 1.00  1.00  1.10 1.00  1.00  1.10 1.10  1.10  1.10 1.10  1.10
Cycl/Car PCE:   xxxx  xxxx       xxxx  xxxx       xxxx  xxxx       xxxx  xxxx
Trck/Cmb PCE:   xxxx  xxxx       xxxx  xxxx       xxxx  xxxx       xxxx  xxxx
Adj Vol.:       59  377     0     0  439   642   734    0    54     0    0     0
Critical Gap Module: >> Population: 0 << >> Run Speed(N/S): 40 MPH <<
RT Rad/Ang:  20.0 ft/90.0 deg 20.0 ft/90.0 deg 20.0 ft/90.0 deg 20.0 ft/90.0 deg
Critical Gp:  5.2 xxxx xxxxx xxxxx xxxx xxxxx   7.1 xxxx   5.9 xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 1081 xxxx xxxxx  xxxx xxxx xxxxx  1191 xxxx   760  xxxx xxxx xxxxx
Potent Cap.:  358 xxxx xxxxx  xxxx xxxx xxxxx   147 xxxx   381  xxxx xxxx xxxxx
% Used Cap.: 16.6 xxxx xxxxx xxxxx xxxx xxxxx 500.1 xxxx  14.1 xxxxx xxxx xxxxx
Impedance:   0.89 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx  0.91  xxxx xxxx xxxxx
Actual Cap.:  358 xxxx xxxxx  xxxx xxxx xxxxx   130 xxxx   381  xxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
Unused Cap.:  298 xxxx xxxxx  xxxx xxxx xxxxx  -604 xxxx   327  xxxx xxxx xxxxx
LOS by Move:    C    *     *     *    *     *     F    *     B     *    *     *
Movement:     LT - LTR - RT   LT - LTR - RT   LT - LTR - RT   LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Unused Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    *     *
------------------------------------------------------------------------------
                          EXIST WITH PROJECT (PM)
```

```
ßßßWßgßßß6ßWßßßWsßoR
ßgößôoßßôoßßôßgôôßge
[redacted]N322f7.de82.f/.deg
[redacted]Aßo1-96\EXAM
      File: NEWAM   .PRN    9,118 .a..  5-02-96  2:01:22 am       Page 1

--------------------------------------------------------------------------------
                        EXIST WITH PROJECT (AM)


--------------------------------------------------------------------------------
                   Level Of Service Computation Report
          1985 HCM Unsignalized Method (Future Volume Alternative)
********************************************************************************
Intersection #5  LATROBE/INVESTMENT
********************************************************************************
                                 Level Of Service:                    F
********************************************************************************
Approach:      North Bound     South Bound      East Bound      West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:      Uncontrolled    Uncontrolled      Stop Sign       Stop Sign
Rights:          Include         Include         Include         Include
Lanes:        0  1  0  0  0   0  0  0  1  0   1  0  0  0  1   0  0  0  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:        9  160    0     0   68  269    18    0    0     0    0    0
Growth Adj:   1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
PasserByVol:     0    0    0     0    0    0     0    0    0     0    0    0
Initial Bse:     9  160    0     0   68  269    18    0    0     0    0    0
Added Vol:      35  221    0     0  236  352   328    0   33     0    0    0
Initial Fut:    44  381    0     0  304  621   346    0   33     0    0    0
User Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
PHF Adj:      0.90 0.90 0.90  0.90 0.90 0.90  0.90 0.90 0.90  0.90 0.90 0.90
PHF Volume:     49  423    0     0  338  690   385    0   36     0    0    0
Reduct Vol:      0    0    0     0    0    0     0    0    0     0    0    0
Final Vol.:     49  423    0     0  338  690   385    0   36     0    0    0
Adjusted Volume Module:
Grade:             0%              0%              0%              0%
% Cycle/Cars:   xxxx xxxx       xxxx xxxx       xxxx xxxx       xxxx xxxx
% Truck/Comb:   xxxx xxxx       xxxx xxxx       xxxx xxxx       xxxx xxxx
PCE Adj:      1.10 1.00 1.00  1.10 1.00 1.00  1.10 1.10 1.10  1.10 1.10 1.10
Cycl/Car PCE:   xxxx xxxx       xxxx xxxx       xxxx xxxx       xxxx xxxx
Trck/Cmb PCE:   xxxx xxxx       xxxx xxxx       xxxx xxxx       xxxx xxxx
Adj Vol.:       54  423    0     0  338  690   423    0   40     0    0    0
Critical Gap Module: >> Population: 0 << >> Run Speed(N/S): 40 MPH <<
RT Rad/Ang:  20.0 ft/90.0 deg 20.0 ft/90.0 deg 20.0 ft/90.0 deg 20.0 ft/90.0 deg
Critical Gp:  5.2 xxxx xxxxx xxxxx xxxx xxxxx   7.1 xxxx   5.9 xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: 1028 xxxx xxxxx  xxxx xxxx xxxxx  1156 xxxx   683  xxxx xxxx xxxxx
Potent Cap.:  381 xxxx xxxxx  xxxx xxxx xxxxx   154 xxxx   425  xxxx xxxx xxxxx
% Used Cap.: 14.2 xxxx xxxxx xxxxx xxxx xxxxx 275.0 xxxx   9.4 xxxxx xxxx xxxxx
Impedance:   0.91 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx  0.94  xxxx xxxx xxxxx
Actual Cap.:  381 xxxx xxxxx  xxxx xxxx xxxxx   139 xxxx   425  xxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
Unused Cap.:  327 xxxx xxxxx  xxxx xxxx xxxxx  -284 xxxx   385  xxxx xxxx xxxxx
LOS by Move:     B    *    *     *    *    *     F    *    B     *    *    *
Movement:     LT - LTR - RT   LT - LTR - RT   LT - LTR - RT   LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Unused Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Shared LOS:      *    *    *     *    *    *     *    *    *     *    *    *
```

****

IDENTIFYING INFORMATION

AVERAGE RUNNING SPEED, MAJOR STREET.. 50

PEAK HOUR FACTOR..................... .95

AREA POPULATION...................... 150000

NAME OF THE EAST/WEST STREET......... GOLDEN PKWY NORTH

NAME OF THE NORTH/SOUTH STREET....... LATROBE

NAME OF THE ANALYST.................. F&P

DATE OF THE ANALYSIS (mm/dd/yy)...... 05-01-1996

TIME PERIOD ANALYZED................. AM PEAK

OTHER INFORMATION.... EX WITH PROJECT

INTERSECTION TYPE AND CONTROL

INTERSECTION TYPE: T-INTERSECTION

MAJOR STREET DIRECTION: NORTH/SOUTH

CONTROL TYPE EASTBOUND: STOP SIGN

TRAFFIC VOLUMES

	EB	WB	NB	SB
LEFT	67	--	5	0
THRU	0	--	896	1230
RIGHT	0	--	0	314

NUMBER OF LANES

	EB	WB	NB	SB
LANES	2	--	1	1

ADJUSTMENT FACTORS

	PERCENT GRADE	RIGHT TURN ANGLE	CURB RADIUS (ft) FOR RIGHT TURNS	ACCELERATION LANE FOR RIGHT TURNS
EASTBOUND	0.00	90	20	N
WESTBOUND	-----	---	---	-
NORTHBOUND	0.00	90	20	N
SOUTHBOUND	0.00	90	20	N

VEHICLE COMPOSITION

	% SU TRUCKS AND RV'S	% COMBINATION VEHICLES	% MOTORCYCLES
EASTBOUND	0	0	0
WESTBOUND	---	---	---
NORTHBOUND	0	0	0
SOUTHBOUND	0	0	0

CRITICAL GAPS

		TABULAR VALUES (Table 10-2)	ADJUSTED VALUE	SIGHT DIST. ADJUSTMENT	FINAL CRITICAL GAP
MINOR RIGHTS					
	EB	6.30	6.30	0.00	6.30
MAJOR LEFTS					
	NB	5.40	5.40	0.00	5.40
MINOR LEFTS					
	EB	7.70	7.70	0.00	7.70

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... GOLDEN PKWY NORTH
NAME OF THE NORTH/SOUTH STREET.... LATROBE
DATE AND TIME OF THE ANALYSIS..... 05-01-1996 ; AM PEAK
OTHER INFORMATION.... EX WITH PROJECT

MOVEMENT	FLOW-RATE v(pcph)	POTEN-TIAL CAPACITY c_p (pcph)	ACTUAL MOVEMENT CAPACITY c_M (pcph)	SHARED CAPACITY c_{SH} (pcph)	RESERVE CAPACITY $c_R = c_{SH} - v$	LOS
MINOR STREET						
EB LEFT	78	54	53	53	-25	F
RIGHT	0	127	127	127	127	D
MAJOR STREET						
NB LEFT	6	153	153	153	147	D

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... GOLDEN PKWY NORTH
NAME OF THE NORTH/SOUTH STREET.... LATROBE
DATE AND TIME OF THE ANALYSIS..... 05-01-1996 ; AM PEAK
OTHER INFORMATION.... EX WITH PROJECT

****

IDENTIFYING INFORMATION

AVERAGE RUNNING SPEED, MAJOR STREET.. 50

PEAK HOUR FACTOR..................... .95

AREA POPULATION...................... 150000

NAME OF THE EAST/WEST STREET......... GOLDEN PKWY NORTH

NAME OF THE NORTH/SOUTH STREET....... LATROBE

NAME OF THE ANALYST.................. F&P

DATE OF THE ANALYSIS (mm/dd/yy)...... 05-01-1996

TIME PERIOD ANALYZED................. PM PEAK

OTHER INFORMATION.... EX WITH PROJECT

INTERSECTION TYPE AND CONTROL

INTERSECTION TYPE: T-INTERSECTION

MAJOR STREET DIRECTION: NORTH/SOUTH

CONTROL TYPE EASTBOUND: STOP SIGN

TRAFFIC VOLUMES

	EB	WB	NB	SB
LEFT	289	--	2	0
THRU	0	--	1170	1100
RIGHT	5	--	0	119

NUMBER OF LANES

	EB	WB	NB	SB
LANES	2	--	1	1

ADJUSTMENT FACTORS

	PERCENT GRADE	RIGHT TURN ANGLE	CURB RADIUS (ft) FOR RIGHT TURNS	ACCELERATION LANE FOR RIGHT TURNS
EASTBOUND	0.00	90	20	N
WESTBOUND	-----	---	---	-
NORTHBOUND	0.00	90	20	N
SOUTHBOUND	0.00	90	20	N

VEHICLE COMPOSITION

	% SU TRUCKS AND RV'S	% COMBINATION VEHICLES	% MOTORCYCLES
EASTBOUND	0	0	0
WESTBOUND	---	---	---
NORTHBOUND	0	0	0
SOUTHBOUND	0	0	0

CRITICAL GAPS

		TABULAR VALUES (Table 10-2)	ADJUSTED VALUE	SIGHT DIST. ADJUSTMENT	FINAL CRITICAL GAP
MINOR RIGHTS					
	EB	6.30	6.30	0.00	6.30
MAJOR LEFTS					
	NB	5.40	5.40	0.00	5.40
MINOR LEFTS					
	EB	7.70	7.70	0.00	7.70

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... GOLDEN PKWY NORTH
NAME OF THE NORTH/SOUTH STREET.... LATROBE
DATE AND TIME OF THE ANALYSIS..... 05-01-1996 ; PM PEAK
OTHER INFORMATION.... EX WITH PROJECT

CAPACITY AND LEVEL-OF-SERVICE

MOVEMENT	FLOW-RATE v(pcph)	POTEN-TIAL CAPACITY c_p (pcph)	ACTUAL MOVEMENT CAPACITY c_M (pcph)	SHARED CAPACITY c_{SH} (pcph)	RESERVE CAPACITY $c_R = c_{SH} - v$	LOS
MINOR STREET						
EB LEFT	335	54	54	54	-281	F
RIGHT	6	179	179	179	173	D
MAJOR STREET						
NB LEFT	2	239	239	239	236	C

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... GOLDEN PKWY NORTH
NAME OF THE NORTH/SOUTH STREET.... LATROBE
DATE AND TIME OF THE ANALYSIS..... 05-01-1996 ; PM PEAK
OTHER INFORMATION.... EX WITH PROJECT

****

IDENTIFYING INFORMATION

AVERAGE RUNNING SPEED, MAJOR STREET.. 50

PEAK HOUR FACTOR...................... .95

AREA POPULATION...................... 150000

NAME OF THE EAST/WEST STREET......... WETSEL OVIATT

NAME OF THE NORTH/SOUTH STREET....... LATROBE

NAME OF THE ANALYST.................. F&P

DATE OF THE ANALYSIS (mm/dd/yy)...... 05-01-1996

TIME PERIOD ANALYZED................. AM PEAK

OTHER INFORMATION.... EXIST WITH PROJECT

INTERSECTION TYPE AND CONTROL

INTERSECTION TYPE: T-INTERSECTION

MAJOR STREET DIRECTION: NORTH/SOUTH

CONTROL TYPE EASTBOUND: STOP SIGN

TRAFFIC VOLUMES

	EB	WB	NB	SB
LEFT	4	--	0	0
THRU	0	--	224	148
RIGHT	1	--	0	10

NUMBER OF LANES

	EB	WB	NB	SB
LANES	1	--	1	1

	PERCENT GRADE	RIGHT TURN ANGLE	CURB RADIUS (ft) FOR RIGHT TURNS	ACCELERATION LANE FOR RIGHT TURNS
EASTBOUND	0.00	90	20	N
WESTBOUND	-----	---	---	-
NORTHBOUND	0.00	90	20	N
SOUTHBOUND	0.00	90	20	N

VEHICLE COMPOSITION

	% SU TRUCKS AND RV'S	% COMBINATION VEHICLES	% MOTORCYCLES
EASTBOUND	0	0	0
WESTBOUND	---	---	---
NORTHBOUND	0	0	0
SOUTHBOUND	0	0	0

CRITICAL GAPS

		TABULAR VALUES (Table 10-2)	ADJUSTED VALUE	SIGHT DIST. ADJUSTMENT	FINAL CRITICAL GAP
MINOR RIGHTS					
	EB	6.30	6.30	0.00	6.30
MAJOR LEFTS					
	NB	5.40	5.40	0.00	5.40
MINOR LEFTS					
	EB	7.70	7.70	0.00	7.70

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... WETSEL OVIATT
NAME OF THE NORTH/SOUTH STREET.... LATROBE
DATE AND TIME OF THE ANALYSIS..... 05-01-1996 ; AM PEAK
OTHER INFORMATION.... EXIST WITH PROJECT

MOVEMENT	FLOW-RATE v(pcph)	POTEN-TIAL CAPACITY c_p (pcph)	ACTUAL MOVEMENT CAPACITY c_M (pcph)	SHARED CAPACITY c_{SH} (pcph)	RESERVE CAPACITY $c_R = c_{SH} - v$	LOS
MINOR STREET						
EB LEFT	5	441	441	> 441	> 437	> A
				> 484	> 478	>A
RIGHT	1	789	789	> 789	> 788	> A
MAJOR STREET						
NB LEFT	0	938	938	938	938	A

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... WETSEL OVIATT
NAME OF THE NORTH/SOUTH STREET.... LATROBE
DATE AND TIME OF THE ANALYSIS..... 05-01-1996 ; AM PEAK
OTHER INFORMATION.... EXIST WITH PROJECT

****

IDENTIFYING INFORMATION

AVERAGE RUNNING SPEED, MAJOR STREET.. 50

PEAK HOUR FACTOR..................... .95

AREA POPULATION...................... 150000

NAME OF THE EAST/WEST STREET......... WETSEL OVIATT

NAME OF THE NORTH/SOUTH STREET....... LATROBE

NAME OF THE ANALYST.................. F&P

DATE OF THE ANALYSIS (mm/dd/yy)...... 05-01-1996

TIME PERIOD ANALYZED................. PM PEAK

OTHER INFORMATION.... EXIST WITH PROJECT

INTERSECTION TYPE AND CONTROL

INTERSECTION TYPE: T-INTERSECTION

MAJOR STREET DIRECTION: NORTH/SOUTH

CONTROL TYPE EASTBOUND: STOP SIGN

TRAFFIC VOLUMES

	EB	WB	NB	SB
LEFT	23	--	4	0
THRU	0	--	180	230
RIGHT	10	--	0	3

NUMBER OF LANES

	EB	WB	NB	SB
LANES	1	--	1	1

	PERCENT GRADE	RIGHT TURN ANGLE	CURB RADIUS (ft) FOR RIGHT TURNS	ACCELERATION LANE FOR RIGHT TURNS
EASTBOUND	0.00	90	20	N
WESTBOUND	-----	---	---	-
NORTHBOUND	0.00	90	20	N
SOUTHBOUND	0.00	90	20	N

VEHICLE COMPOSITION

	% SU TRUCKS AND RV'S	% COMBINATION VEHICLES	% MOTORCYCLES
EASTBOUND	0	0	0
WESTBOUND	---	---	---
NORTHBOUND	0	0	0
SOUTHBOUND	0	0	0

CRITICAL GAPS

	TABULAR VALUES (Table 10-2)	ADJUSTED VALUE	SIGHT DIST. ADJUSTMENT	FINAL CRITICAL GAP
MINOR RIGHTS				
EB	6.30	6.30	0.00	6.30
MAJOR LEFTS				
NB	5.40	5.40	0.00	5.40
MINOR LEFTS				
EB	7.70	7.70	0.00	7.70

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... WETSEL OVIATT
NAME OF THE NORTH/SOUTH STREET.... LATROBE
DATE AND TIME OF THE ANALYSIS..... 05-01-1996 ; PM PEAK
OTHER INFORMATION.... EXIST WITH PROJECT

ADJUSTMENT FACTORS

	PERCENT GRADE	RIGHT TURN ANGLE	CURB RADIUS (ft) FOR RIGHT TURNS	ACCELERATION LANE FOR RIGHT TURNS
EASTBOUND	0.00	90	20	N
WESTBOUND	-----	---	---	-
NORTHBOUND	0.00	90	20	N
SOUTHBOUND	0.00	90	20	N

VEHICLE COMPOSITION

	% SU TRUCKS AND RV'S	% COMBINATION VEHICLES	% MOTORCYCLES
EASTBOUND	0	0	0
WESTBOUND	---	---	---
NORTHBOUND	0	0	0
SOUTHBOUND	0	0	0

CRITICAL GAPS

		TABULAR VALUES (Table 10-2)	ADJUSTED VALUE	SIGHT DIST. ADJUSTMENT	FINAL CRITICAL GAP
MINOR RIGHTS	EB	6.30	6.30	0.00	6.30
MAJOR LEFTS	NB	5.40	5.40	0.00	5.40
MINOR LEFTS	EB	7.70	7.70	0.00	7.70

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... PAYEN ROAD
NAME OF THE NORTH/SOUTH STREET.... LATROBE
DATE AND TIME OF THE ANALYSIS..... 05-01-1996 ; AM PEAK
OTHER INFORMATION.... EXIST WITH PROJECT

MOVEMENT	FLOW-RATE v(pcph)	POTEN-TIAL CAPACITY c_p (pcph)	ACTUAL MOVEMENT CAPACITY c_M (pcph)	SHARED CAPACITY c_{SH} (pcph)	RESERVE CAPACITY $c_R = c_{SH} - v$	LOS
MINOR STREET						
EB LEFT	236	385	373	373	137	D
RIGHT	38	710	710	710	672	A
MAJOR STREET						
NB LEFT	41	753	753	753	712	A

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... PAYEN ROAD
NAME OF THE NORTH/SOUTH STREET.... LATROBE
DATE AND TIME OF THE ANALYSIS..... 05-01-1996 ; AM PEAK
OTHER INFORMATION.... EXIST WITH PROJECT

IDENTIFYING INFORMATION

AVERAGE RUNNING SPEED, MAJOR STREET.. 50

PEAK HOUR FACTOR..................... .95

AREA POPULATION...................... 150000

NAME OF THE EAST/WEST STREET......... PAYEN ROAD

NAME OF THE NORTH/SOUTH STREET....... LATROBE

NAME OF THE ANALYST.................. F&P

DATE OF THE ANALYSIS (mm/dd/yy)...... 05-01-1996

TIME PERIOD ANALYZED................. PM PEAK

OTHER INFORMATION.... EXIST WITH PROJECT

INTERSECTION TYPE AND CONTROL

INTERSECTION TYPE: T-INTERSECTION

MAJOR STREET DIRECTION: NORTH/SOUTH

CONTROL TYPE EASTBOUND: STOP SIGN

TRAFFIC VOLUMES

	EB	WB	NB	SB
LEFT	242	--	40	0
THRU	0	--	163	194
RIGHT	39	--	0	247

NUMBER OF LANES

	EB	WB	NB	SB
LANES	2	--	1	1

	PERCENT GRADE	RIGHT TURN ANGLE	CURB RADIUS (ft) FOR RIGHT TURNS	ACCELERATION LANE FOR RIGHT TURNS
EASTBOUND	0.00	90	20	N
WESTBOUND	-----	---	---	-
NORTHBOUND	0.00	90	20	N
SOUTHBOUND	0.00	90	20	N

VEHICLE COMPOSITION

	% SU TRUCKS AND RV'S	% COMBINATION VEHICLES	% MOTORCYCLES
EASTBOUND	0	0	0
WESTBOUND	---	---	---
NORTHBOUND	0	0	0
SOUTHBOUND	0	0	0

CRITICAL GAPS

		TABULAR VALUES (Table 10-2)	ADJUSTED VALUE	SIGHT DIST. ADJUSTMENT	FINAL CRITICAL GAP
MINOR RIGHTS	EB	6.30	6.30	0.00	6.30
MAJOR LEFTS	NB	5.40	5.40	0.00	5.40
MINOR LEFTS	EB	7.70	7.70	0.00	7.70

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... PAYEN ROAD
NAME OF THE NORTH/SOUTH STREET.... LATROBE
DATE AND TIME OF THE ANALYSIS..... 05-01-1996 ; PM PEAK
OTHER INFORMATION.... EXIST WITH PROJECT

MOVEMENT	FLOW-RATE v(pcph)	POTEN-TIAL CAPACITY c_p (pcph)	ACTUAL MOVEMENT CAPACITY c_M (pcph)	SHARED CAPACITY c_{SH} (pcph)	RESERVE CAPACITY $c_R = c_{SH} - v$	LOS
MINOR STREET						
EB LEFT	280	348	334	334	53	E
RIGHT	45	637	637	637	592	A
MAJOR STREET						
NB LEFT	46	671	671	671	625	A

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... PAYEN ROAD
NAME OF THE NORTH/SOUTH STREET.... LATROBE
DATE AND TIME OF THE ANALYSIS..... 05-01-1996 ; PM PEAK
OTHER INFORMATION.... EXIST WITH PROJECT

****

IDENTIFYING INFORMATION

AVERAGE RUNNING SPEED, MAJOR STREET.. 50

PEAK HOUR FACTOR...................... .95

AREA POPULATION....................... 150000

NAME OF THE EAST/WEST STREET......... WHITE ROCK

NAME OF THE NORTH/SOUTH STREET....... PROJECT DRIVEWAY

NAME OF THE ANALYST.................. F&P

DATE OF THE ANALYSIS (mm/dd/yy)...... 05-01-1996

TIME PERIOD ANALYZED................. AM PEAK

OTHER INFORMATION.... EXIST WITH PROJECT

INTERSECTION TYPE AND CONTROL

INTERSECTION TYPE: T-INTERSECTION

MAJOR STREET DIRECTION: EAST/WEST

CONTROL TYPE NORTHBOUND: STOP SIGN

TRAFFIC VOLUMES

	EB	WB	NB	SB
LEFT	0	554	157	--
THRU	40	285	0	--
RIGHT	169	0	519	--

NUMBER OF LANES

	EB	WB	NB	SB
LANES	2	2	2	--

	PERCENT GRADE	RIGHT TURN ANGLE	CURB RADIUS (ft) FOR RIGHT TURNS	ACCELERATION LANE FOR RIGHT TURNS
EASTBOUND	0.00	90	20	N
WESTBOUND	0.00	90	20	N
NORTHBOUND	0.00	90	20	N
SOUTHBOUND	-----	---	---	-

VEHICLE COMPOSITION

	% SU TRUCKS AND RV'S	% COMBINATION VEHICLES	% MOTORCYCLES
EASTBOUND	0	0	0
WESTBOUND	0	0	0
NORTHBOUND	0	0	0
SOUTHBOUND	---	---	---

CRITICAL GAPS

	TABULAR VALUES (Table 10-2)	ADJUSTED VALUE	SIGHT DIST. ADJUSTMENT	FINAL CRITICAL GAP
MINOR RIGHTS				
NB	6.30	6.30	0.00	6.30
MAJOR LEFTS				
WB	5.90	5.90	0.00	5.90
MINOR LEFTS				
NB	8.20	8.20	0.00	8.20

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... WHITE ROCK
NAME OF THE NORTH/SOUTH STREET.... PROJECT DRIVEWAY
DATE AND TIME OF THE ANALYSIS..... 05-01-1996 ; AM PEAK
OTHER INFORMATION.... EXIST WITH PROJECT

MOVEMENT	FLOW-RATE v(pcph)	POTEN-TIAL CAPACITY c_p (pcph)	ACTUAL MOVEMENT CAPACITY c_M (pcph)	SHARED CAPACITY c_{SH} (pcph)	RESERVE CAPACITY $c_R = c_{SH} - v$	LOS
MINOR STREET						
NB LEFT	182	124	30	30	-151	F
RIGHT	601	840	840	840	239	C
MAJOR STREET						
WB LEFT	641	796	796	796	155	D

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... WHITE ROCK
NAME OF THE NORTH/SOUTH STREET.... PROJECT DRIVEWAY
DATE AND TIME OF THE ANALYSIS..... 05-01-1996 ; AM PEAK
OTHER INFORMATION.... EXIST WITH PROJECT

****

IDENTIFYING INFORMATION

AVERAGE RUNNING SPEED, MAJOR STREET.. 50

PEAK HOUR FACTOR..................... .95

AREA POPULATION...................... 150000

NAME OF THE EAST/WEST STREET......... WHITE ROCK

NAME OF THE NORTH/SOUTH STREET....... PROJECT DRIVEWAY

NAME OF THE ANALYST.................. F&P

DATE OF THE ANALYSIS (mm/dd/yy)...... 05-01-1996

TIME PERIOD ANALYZED................. PM PEAK

OTHER INFORMATION.... EXIST WITH PROJECT

INTERSECTION TYPE AND CONTROL

INTERSECTION TYPE: T-INTERSECTION

MAJOR STREET DIRECTION: EAST/WEST

CONTROL TYPE NORTHBOUND: STOP SIGN

TRAFFIC VOLUMES

	EB	WB	NB	SB
LEFT	0	623	187	--
THRU	260	43	0	--
RIGHT	190	0	616	--

NUMBER OF LANES

	EB	WB	NB	SB
LANES	2	2	2	--

	PERCENT GRADE	RIGHT TURN ANGLE	CURB RADIUS (ft) FOR RIGHT TURNS	ACCELERATION LANE FOR RIGHT TURNS
EASTBOUND	0.00	90	20	N
WESTBOUND	0.00	90	20	N
NORTHBOUND	0.00	90	20	N
SOUTHBOUND	-----	---	---	-

VEHICLE COMPOSITION

	% SU TRUCKS AND RV'S	% COMBINATION VEHICLES	% MOTORCYCLES
EASTBOUND	0	0	0
WESTBOUND	0	0	0
NORTHBOUND	0	0	0
SOUTHBOUND	---	---	---

CRITICAL GAPS

	TABULAR VALUES (Table 10-2)	ADJUSTED VALUE	SIGHT DIST. ADJUSTMENT	FINAL CRITICAL GAP
MINOR RIGHTS				
NB	6.30	6.30	0.00	6.30
MAJOR LEFTS				
WB	5.90	5.90	0.00	5.90
MINOR LEFTS				
NB	8.20	8.20	0.00	8.20

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... WHITE ROCK
NAME OF THE NORTH/SOUTH STREET.... PROJECT DRIVEWAY
DATE AND TIME OF THE ANALYSIS..... 05-01-1996 ; PM PEAK
OTHER INFORMATION.... EXIST WITH PROJECT

CAPACITY AND LEVEL-OF-SERVICE

MOVEMENT	FLOW-RATE v(pcph)	POTEN-TIAL CAPACITY c_p (pcph)	ACTUAL MOVEMENT CAPACITY c_M (pcph)	SHARED CAPACITY c_{SH} (pcph)	RESERVE CAPACITY $c_R = c_{SH} - v$	LOS
MINOR STREET						
NB LEFT	217	111	0	0	-217	F
RIGHT	713	719	719	719	5	E
MAJOR STREET						
WB LEFT	721	584	584	584	-137	F

IDENTIFYING INFORMATION

NAME OF THE EAST/WEST STREET...... WHITE ROCK
NAME OF THE NORTH/SOUTH STREET.... PROJECT DRIVEWAY
DATE AND TIME OF THE ANALYSIS..... 05-01-1996 ; PM PEAK
OTHER INFORMATION.... EXIST WITH PROJECT

HCM: SIGNALIZED INTERSECTION SUMMARY Version 2.4 05-02-1996
Center For Microcomputers In Transportation

Streets: (E-W) US 50 WB OFF-RAMP (N-S) LATROBE
Analyst: F&P File Name: 50WBLTPM.HC9
Area Type: Other 3-31-95 PM PEAK
Comment: EXIST PLUS PROJECT (MITIGATED)

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes				2	1	1	1	3	<	1	2	1
Volumes				220	150	150	466	1822	83	102	786	216
PHF or PK15				0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Width				12.0	12.0	12.0	12.0	12.0		12.0	12.0	12.0
Grade					0			0			0	
% Heavy Veh				2	2	2	2	2	2	2	2	2
Parking				(Y/N) N			(Y/N) N			(Y/N) N		
Bus Stops						0			0			0
Con. Peds			0			0			0			0
Ped Button				(Y/N) N			(Y/N) N			(Y/N) N		
Arr Type				3	3	3	3	3	3	3	3	3
RTOR Vols						0			0			150
Lost Time				3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
Prop. Share				-1		-1	-1		-1	-1		-1
Prop. Prot.						-2			-2			-2

Signal Operations

Phase Combination	1	2	3	4		5	6	7	8
EB Left					NB Left	*			
Thru					Thru		*		
Right					Right		*		
Peds					Peds				
WB Left	*				SB Left	*			
Thru	*				Thru		*		
Right	*				Right		*		
Peds					Peds				
NB Right					EB Right				
SB Right					WB Right	*			
Green	7.0A				Green	22.0A	32.0A		
Yellow/AR	3.0				Yellow/AR	3.0	3.0		

Cycle Length: 70 secs Phase combination order: #1 #5 #6

Intersection Performance Summary

	Lane Group: Mvmts	Cap	Adj Sat Flow	v/c Ratio	g/C Ratio	Delay	LOS	Approach: Delay	LOS
WB	L	354	3539	0.656	0.100	22.6	C	23.1	C
	T	186	1863	0.848	0.100	39.6	D		
	R	724	1583	0.218	0.457	7.4	B		
NB	L	556	1770	0.883	0.314	25.6	D	15.8	C
	TR	2538	5552	0.869	0.457	13.6	B		
SB	L	556	1770	0.192	0.314	11.3	B	9.0	B
	T	1703	3725	0.510	0.457	8.9	B		
	R	724	1583	0.095	0.457	7.0	B		

Intersection Delay = 15.1 sec/veh Intersection LOS = C
Lost Time/Cycle, L = 9.0 sec Critical v/c(x) = 0.872

HCM: SIGNALIZED INTERSECTION SUMMARY   Version 2.4   05-02-1996

Center For Microcomputers In Transportation

===

Streets: (E-W) us 50 eb ramp   (N-S) Latrobe Rd

Analyst: F&P   File Name: LT50EBAM.HC9

Area Type: Other   3-30-95 am peak

Comment: exist plus project (mitigated)

===

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes			2					2		1	2	
Volumes			417					909		183	1657	
PHF or PK15			0.95					0.95		0.95	0.95	
Lane Width			12.0					12.0		12.0	12.0	
Grade		0						0			0	
% Heavy Veh			2					2		2	2	
Parking	(Y/N) N						(Y/N) N			(Y/N) N		
Bus Stops			0						0			0
Con. Peds			0			0			0			0
Ped Button	(Y/N) N						(Y/N) N			(Y/N) N		
Arr Type			3					3		3	3	
RTOR Vols			90						0			130
Lost Time			3.00					3.00		3.00	3.00	
Prop. Share	-1		-1				-1		-1	-1		-1
Prop. Prot.			-2						-2			-2

```
                            Signal Operations
Phase Combination 1     2     3     4 |          5     6     7     8
EB  Left                              |NB  Left
    Thru                              |    Thru        *
    Right       *                     |    Right
    Peds                              |    Peds
WB  Left                              |SB  Left   *
    Thru                              |    Thru   *     *
    Right                             |    Right
    Peds                              |    Peds
NB  Right                             |EB  Right
SB  Right                             |WB  Right
Green         20.0A                   |Green    20.0A 30.0A
Yellow/AR      3.0                    |Yellow/AR 3.0   3.0
Cycle Length:  79 secs  Phase combination order: #1 #5 #6
```

Intersection Performance Summary

	Lane Mvmts	Group: Cap	Adj Sat Flow	v/c Ratio	g/C Ratio	Delay	LOS	Approach: Delay	LOS
EB	R	802	3167	0.429	0.253	16.2	C	16.2	C
NB	T	1415	3725	0.710	0.380	14.6	B	14.6	B
SB	L	448	1770	0.431	0.253	16.4	C	7.2	B
	T	2499	3725	0.733	0.671	6.2	B		

Intersection Delay = 10.3 sec/veh Intersection LOS = B

Lost Time/Cycle, L =   6.0 sec   Critical v/c(x)   = 0.649

```
HCM: SIGNALIZED INTERSECTION SUMMARY   Version 2.4        05-02-1996
            Center For Microcomputers In Transportation
=======================================================================
Streets: (E-W) us 50 eb ramp              (N-S) Latrobe Rd
Analyst: F&P                              File Name: LT50EBPM.HC9
Area Type: Other                          3-30-95 pm peak
Comment: exist plus project
=======================================================================
           |  Eastbound    |  Westbound    |  Northbound   |  Southbound
           | L    T    R   | L    T    R   | L    T    R   | L    T    R
           |----  ----  ----|----  ----  ----|----  ----  ----|----  ----  ----
No. Lanes  |           2   |               |      2        | 1    2
Volumes    |         349   |               |    1448       | 277 1389
PHF or PK15|        0.95   |               |    0.95       |0.95 0.95
Lane Width |        12.0   |               |    12.0       |12.0 12.0
Grade      |      0        |               |       0       |        0
% Heavy Veh|           2   |               |       2       |  0     2
Parking    |(Y/N) N        |               |(Y/N) N        |(Y/N) N
Bus Stops  |           0   |               |           0   |            0
Con. Peds  |           0   |            0  |           0   |            0
Ped Button |(Y/N) N        |               |(Y/N) N        |(Y/N) N
Arr Type   |           3   |               |      3        |  3    3
RTOR Vols  |          90   |               |           0   |          130
Lost Time  |        3.00   |               |    3.00       |3.00 3.00
Prop. Share| -1         -1 |               | -1         -1 | -1          -1
Prop. Prot.|            -2 |               |            -2 |             -2
-----------------------------------------------------------------------
                          Signal Operations
Phase Combination 1    2    3    4 |           5     6     7     8
EB  Left                           |NB  Left
    Thru                           |    Thru         *
    Right       *                  |    Right
    Peds                           |    Peds
WB  Left                           |SB  Left    *
    Thru                           |    Thru    *     *
    Right                          |    Right
    Peds                           |    Peds
NB  Right                          |EB  Right
SB  Right                          |WB  Right
Green         11.0A                |Green     22.0A 44.0A
Yellow/AR      3.0                 |Yellow/AR 3.0   3.0
Cycle Length:  86 secs  Phase combination order: #1 #5 #6
-----------------------------------------------------------------------
                  Intersection Performance Summary
     Lane  Group:   Adj Sat    v/c     g/C                    Approach:
     Mvmts   Cap     Flow     Ratio   Ratio   Delay   LOS   Delay   LOS
     -----   ----   -------   -----   -----   -----   ---   -----   ---
EB   R       405     3167     0.671   0.128   26.1    D     26.1    D
NB   T      1906     3725     0.840   0.512   14.1    B     14.1    B
SB   L       462     1805     0.632   0.256   20.3    C      4.9    A
     T      2989     3725     0.514   0.802    2.0    A
             Intersection Delay =  10.5 sec/veh Intersection LOS = B
Lost Time/Cycle, L =   9.0 sec   Critical v/c(x)    = 0.756
-----------------------------------------------------------------------
```

```
HCM: SIGNALIZED INTERSECTION SUMMARY   Version 2.4       05-02-1996
               Center For Microcomputers In Transportation
=====================================================================
Streets: (E-W) Golden Foothill N       (N-S) Latrobe Rd
Analyst: F&P                           File Name: LTGFPNA.HC9
Area Type: Other                       3-30-95 am peak
Comment: exist plus project (with mitigations)
=====================================================================
             |  Eastbound   |  Westbound   |  Northbound  |  Southbound  |
             | L    T    R  | L    T    R  | L    T    R  | L    T    R
             |---- ---- ----|---- ---- ----|---- ---- ----|---- ---- ----
No. Lanes    | 1         1  |              | 1    1       |      1    1
Volumes      |  67        1|              |   5  896     |     1230  314
PHF or PK15  |0.95      0.95|              |0.95 0.95     |     0.95 0.95
Lane Width   |12.0      12.0|              |12.0 12.0     |     12.0 12.0
Grade        |      0       |              |        0     |        0
% Heavy Veh  |  2          2|              |  2    2      |        2    2
Parking      |(Y/N) N       |              |(Y/N) N       |(Y/N) N
Bus Stops    |             0|              |             0|             0
Con. Peds    |             0|             0|             0|             0
Ped Button   |(Y/N) N       |              |(Y/N) N       |(Y/N) N
Arr Type     |  3          3|              |  3    3      |        3    3
RTOR Vols    |             0|              |             0|            70
Lost Time    |3.00      3.00|              |3.00 3.00     |     3.00 3.00
Prop. Share  | -1         -1|              | -1          -1| -1         -1
Prop. Prot.  |            -2|              |             -2|            -2
---------------------------------------------------------------------
                           Signal Operations
Phase Combination 1     2     3     4 |           5     6     7     8
EB  Left          *                   |NB  Left    *
    Thru                              |    Thru    *     *
    Right         *                   |    Right
    Peds                              |    Peds
WB  Left                              |SB  Left
    Thru                              |    Thru          *
    Right                             |    Right         *
    Peds                              |    Peds
NB  Right                             |EB  Right
SB  Right         *                   |WB  Right
Green          9.0A                   |Green      2.0A 60.0A
Yellow/AR      3.0                    |Yellow/AR 3.0   3.0
Cycle Length:  80 secs  Phase combination order: #1 #5 #6
---------------------------------------------------------------------
                   Intersection Performance Summary
     Lane  Group:  Adj Sat   v/c    g/C                   Approach:
     Mvmts   Cap    Flow    Ratio  Ratio   Delay  LOS   Delay  LOS
     -----  ----  -------   -----  -----   -----  ---   -----  ---
EB   L       199    1770    0.357  0.112    21.7   C     21.7    C
     R       178    1583    0.006  0.112    20.4   C
NB   L        44    1770    0.113  0.025    24.7   C      2.5    A
     T      1514    1863    0.623  0.813     2.4   A
SB   T      1397    1863    0.927  0.750    13.2   B     11.1    B
     R      1425    1583    0.180  0.900     0.3   A
            Intersection Delay =   8.2 sec/veh Intersection LOS = B
Lost Time/Cycle, L =   9.0 sec   Critical v/c(x)    = 0.832
---------------------------------------------------------------------
```

```
HCM: SIGNALIZED INTERSECTION SUMMARY   Version 2.4        05-02-1996
           Center For Microcomputers In Transportation
=======================================================================
Streets: (E-W) Golden Foothill N        (N-S) Latrobe Rd
Analyst: F&P                            File Name: LTGFPNP.HC9
Area Type: Other                        3-30-95 pm peak
Comment: exist plus project (with mitigations)
=======================================================================
             |  Eastbound   |  Westbound   |  Northbound  |  Southbound  |
             | L    T    R  | L    T    R  | L    T    R  | L    T    R  |
             |---- ---- ----|---- ---- ----|---- ---- ----|---- ---- ----|
No. Lanes    | 1         1  |              | 1    1       |      1    1
Volumes      | 289        5|               |  2 1170      |     1100  119
PHF or PK15  |0.95     0.95|               |0.95 0.95     |     0.95 0.95
Lane Width   |12.0     12.0|               |12.0 12.0     |     12.0 12.0
Grade        |       0     |               |        0     |        0
% Heavy Veh  |  2         2|               |  2    2      |        2    2
Parking      |(Y/N) N      |               |(Y/N) N       |(Y/N) N
Bus Stops    |            0|               |             0|            0
Con. Peds    |            0|             0|             0|            0
Ped Button   |(Y/N) N      |               |(Y/N) N       |(Y/N) N
Arr Type     |  3         3|               |  3    3      |        3    3
RTOR Vols    |            0|               |             0|           30
Lost Time    |3.00     3.00|               |3.00 3.00     |     3.00 3.00
Prop. Share  | -1        -1|               | -1          -1| -1         -1
Prop. Prot.  |           -2|               |             -2|            -2
-----------------------------------------------------------------------
                          Signal Operations
Phase Combination 1    2    3    4  |         5    6    7    8
EB  Left          *                 |NB  Left  *
    Thru                            |    Thru  *    *
    Right         *                 |    Right
    Peds                            |    Peds
WB  Left                            |SB  Left
    Thru                            |    Thru       *
    Right                           |    Right      *
    Peds                            |    Peds
NB  Right                           |EB  Right
SB  Right         *                 |WB  Right
Green           20.0A               |Green     2.0A 49.0A
Yellow/AR       3.0                 |Yellow/AR 3.0   3.0
Cycle Length:  80 secs  Phase combination order: #1 #5 #6
-----------------------------------------------------------------------
                  Intersection Performance Summary
    Lane  Group:   Adj Sat    v/c     g/C                    Approach:
    Mvmts   Cap     Flow    Ratio   Ratio   Delay   LOS   Delay   LOS
    -----   ----   -------  -----   -----   -----   ---   -----   ---
EB  L        442    1770    0.687   0.250   20.6    C     20.5    C
    R        396    1583    0.013   0.250   14.6    B
NB  L         44    1770    0.045   0.025   24.6    C     23.5    C
    T       1258    1863    0.980   0.675   23.5    C
SB  T       1141    1863    1.015   0.613   34.1    D     31.6    D
    R       1425    1583    0.065   0.900    0.3    A
            Intersection Delay =  26.8 sec/veh Intersection LOS = D
Lost Time/Cycle, L =   6.0 sec   Critical v/c(x)    = 0.901
-----------------------------------------------------------------------
```

```
HCM: SIGNALIZED INTERSECTION SUMMARY   Version 2.4        05-02-1996
            Center For Microcomputers In Transportation
=====================================================================
Streets: (E-W) Golden Foothill S      (N-S) Latrobe Rd
Analyst: F&P                          File Name: LTGFPSA.HC9
Area Type: Other                      3-30-95 am peak
Comment: exist plus project (with mitigations)
=====================================================================
              |  Eastbound    |  Westbound    |  Northbound   |  Southbound   |
              | L    T    R   | L    T    R   | L    T    R   | L    T    R   |
              |---- ---- ----|---- ---- ----|---- ---- ----|---- ---- ----
No. Lanes     | 1         1   |               | 1    1        |      1    1
Volumes       | 162       17|               | 19   704      |      907  325
PHF or PK15   |0.95      0.95|               |0.95 0.95      |     0.95 0.95
Lane Width    |12.0      12.0|               |12.0 12.0      |     12.0 12.0
Grade         |      0       |               |      0        |      0
% Heavy Veh   | 2         2|               | 2    2        |      2    2
Parking       |(Y/N) N       |               |(Y/N) N        |(Y/N) N
Bus Stops     |           0|               |             0|           0
Con. Peds     |           0|              0|             0|           0
Ped Button    |(Y/N) N       |               |(Y/N) N        |(Y/N) N
Arr Type      | 3         3|               | 3    3        |      3    3
RTOR Vols     |           0|               |             0|          70
Lost Time     |3.00      3.00|               |3.00 3.00      |     3.00 3.00
Prop. Share   | -1        -1|               | -1          -1| -1        -1
Prop. Prot.   |           -2|               |             -2|           -2
---------------------------------------------------------------------
                          Signal Operations
Phase Combination 1    2    3    4 |         5    6    7    8
EB  Left          *                |NB  Left  *
    Thru                           |    Thru  *    *
    Right         *                |    Right
    Peds                           |    Peds
WB  Left                           |SB  Left
    Thru                           |    Thru       *
    Right                          |    Right      *
    Peds                           |    Peds
NB  Right                          |EB  Right
SB  Right         *                |WB  Right
Green          13.0A               |Green     5.0A 53.0A
Yellow/AR       3.0                |Yellow/AR 3.0   3.0
Cycle Length:  80 secs  Phase combination order: #1 #5 #6
---------------------------------------------------------------------
                     Intersection Performance Summary
     Lane  Group:  Adj Sat    v/c    g/C                  Approach:
     Mvmts   Cap    Flow     Ratio  Ratio   Delay   LOS   Delay  LOS
     -----  ----  -------   -----   -----   -----   ---   -----  ---
EB   L       288    1770    0.595   0.162   22.4    C     22.1    C
     R       257    1583    0.070   0.162   18.3    C
NB   L       111    1770    0.181   0.063   23.1    C      3.2    A
     T      1421    1863    0.522   0.762    2.7    A
SB   T      1234    1863    0.774   0.663    8.2    B      6.6    B
     R      1365    1583    0.196   0.863    0.6    A
            Intersection Delay =   6.7 sec/veh Intersection LOS = B
Lost Time/Cycle, L =   9.0 sec   Critical v/c(x)    = 0.699
---------------------------------------------------------------------
```

HCM: SIGNALIZED INTERSECTION SUMMARY Version 2.4 05-02-1996
Center For Microcomputers In Transportation

Streets: (E-W) Golden Foothill S (N-S) Latrobe Rd
Analyst: F&P File Name: LTGFPSP.HC9
Area Type: Other 3-30-95 pm peak
Comment: exist plus project (with mitigations)

	Eastbound L	Eastbound T	Eastbound R	Westbound L	Westbound T	Westbound R	Northbound L	Northbound T	Northbound R	Southbound L	Southbound T	Southbound R
No. Lanes	1		1				1	1			1	1
Volumes	311		25				20	926			947	193
PHF or PK15	0.95		0.95				0.95	0.95			0.95	0.95
Lane Width	12.0		12.0				12.0	12.0			12.0	12.0
Grade		0						0			0	
% Heavy Veh	2		2				2	2			2	2
Parking	(Y/N) N						(Y/N) N			(Y/N) N		
Bus Stops			0						0			0
Con. Peds			0			0			0			0
Ped Button	(Y/N) N						(Y/N) N			(Y/N) N		
Arr Type	3		3				3	3			3	3
RTOR Vols			0						0			50
Lost Time	3.00		3.00				3.00	3.00			3.00	3.00
Prop. Share	-1		-1				-1		-1	-1		-1
Prop. Prot.			-2						-2			-2

Signal Operations

Phase Combination	1	2	3	4		5	6	7	8
EB Left	*				NB Left	*			
Thru					Thru	*	*		
Right	*				Right				
Peds					Peds				
WB Left					SB Left				
Thru					Thru		*		
Right					Right		*		
Peds					Peds				
NB Right					EB Right				
SB Right	*				WB Right				
Green	22.0A				Green	7.0A	42.0A		
Yellow/AR	3.0				Yellow/AR	3.0	3.0		

Cycle Length: 80 secs Phase combination order: #1 #5 #6

Intersection Performance Summary

	Lane Group: Mvmts	Cap	Adj Sat Flow	v/c Ratio	g/C Ratio	Delay	LOS	Approach: Delay	LOS
EB	L	487	1770	0.672	0.275	19.2	C	18.8	C
	R	435	1583	0.060	0.275	13.8	B		
NB	L	155	1770	0.136	0.087	21.8	C	9.8	B
	T	1211	1863	0.805	0.650	9.5	B		
SB	T	978	1863	1.019	0.525	39.2	D	34.2	D
	R	1326	1583	0.113	0.837	0.8	A		

Intersection Delay = 22.3 sec/veh Intersection LOS = C
Lost Time/Cycle, L = 9.0 sec Critical v/c(x) = 0.825

HCM SIGNALIZED INTERSECTION SUMMARY Version 2.4 05-09-1996
Center For Microcomputers In Transportation

Streets: (E-W) Investment Blvd (N-S) Latrobe Rd
Analyst: F&P File Name: LTIVAM.HC9
Area Type: Other 3-30-95 am peak
Comment: exist plus project (with mitigations)

	Eastbound L	Eastbound T	Eastbound R	Westbound L	Westbound T	Westbound R	Northbound L	Northbound T	Northbound R	Southbound L	Southbound T	Southbound R
No. Lanes	1		1				1	1			1	1
Volumes	346		33				44	381			304	621
PHF or PK15	0.95		0.95				0.95	0.95			0.95	0.95
Lane Width	1200		12.0				12.0	12.0			12.0	12.0
Grade		0						0			0	
% Heavy Veh	2		2				2	2			2	2
Parking	(Y/N) N						(Y/N) N			(Y/N) N		
Bus Stops			0						0			0
Con. Peds			0			0			0			0
Ped Button	(Y/N) N						(Y/N) N			(Y/N) N		
Arr Type	3		3				3	3			3	3
RTOR Vols			0						0			120
Lost Time	3.00		3.00				3.00	3.00			3.00	3.00
Prop. Share	-1		-1				-1		-1	-1		-1
Prop. Prot.			-2						-2			-2

Signal Operations

Phase Combination	1	2	3	4		5	6	7	8
EB Left	*				NB Left	*			
Thru					Thru	*	*		
Right	*				Right				
Peds					Peds				
WB Left					SB Left				
Thru					Thru		*		
Right					Right		*		
Peds					Peds				
NB Right					EB Right				
SB Right	*				WB Right				
Green	36.0A				Green	5.0A	30.0A		
Yellow/AR	3.0				Yellow/A	3.0	3.0		

Cycle Length: 80 secs Phase combination order: #1 #5 #6

Intersection Performance Summary

	Lane Group: Mvmts	Cap	Adj Sat Flow	v/c Ratio	g/C Ratio	Delay	LOS	Approach: Delay	Approach: LOS
EB	L	796	1770	0.457	0.450	10.1	B	10.0	B
	R	712	1583	0.049	0.450	8.0	B		
NB	L	111	1770	0.416	0.063	24.8	C	10.9	B
	T	885	1863	0.453	0.475	9.3	B		
SB	T	699	1863	0.458	0.375	12.5	B	5.2	B
	R	1365	1583	0.387	0.863	0.8	A		

Intersection Delay = 7.9 sec/veh Intersection LOS = B
Lost Time/Cycle, L = 6.0 sec Critical v/c(x) = 0.455

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HCM: SIGNALIZED INTERSECTION SUMMARY   Version 2.4       05-09-1996
           Center For Microcomputers In Transportation
=====================================================================
Streets: (E-W) Investment Blvd         (N-S) Latrobe Rd
Analyst: F&P                           File Name: LTIVPM.HC9
Area Type: Other                       3-30-95 pm peak
Comment: exist plus project (with mitigations)
=====================================================================
         |  Eastbound   |  Westbound   |  Northbound  |  Southbound
         | L    T    R  | L    T    R  | L    T    R  | L    T    R
         |---- ---- ----|---- ---- ----|---- ---- ----|---- ---- ----
No. Lanes  | 1       1  |              | 1    1       |      1    1
Volumes    | 601     44 |              |  49  340     |     395  578
PHF or PK15|0.95   0.95 |              |0.95 0.95     |    0.95 0.95
Lane Width |12.0   12.0 |              |12.0 12.0     |    12.0 12.0
Grade      |     0      |              |       0      |      0
% Heavy Veh|  2       2 |              |  2    2      |      2    2
Parking    |(Y/N) N     |              |(Y/N) N       |(Y/N) N
Bus Stops  |          0 |              |           0  |           0
Con. Peds  |          0 |           0  |           0  |           0
Ped Button |(Y/N) N     |              |(Y/N) N       |(Y/N) N
Arr Type   |  3       3 |              |  3    3      |      3    3
RTOR Vols  |          0 |              |           0  |         120
Lost Time  |3.00   3.00 |              |3.00 3.00     |    3.00 3.00
Prop. Share| -1      -1 |              | -1         -1| -1        -1
Prop. Prot.|         -2 |              |            -2|           -2
---------------------------------------------------------------------
                         Signal Operations
Phase Combination 1    2    3    4 |           5    6    7    8
EB  Left          *                |NB  Left   *
    Thru                           |    Thru   *    *
    Right         *                |    Right
    Peds                           |    Peds
WB  Left                           |SB  Left
    Thru                           |    Thru        *
    Right                          |    Right       *
    Peds                           |    Peds
NB  Right                          |EB  Right
SB  Right         *                |WB  Right
Green          36.0A               |Green     5.0A 30.0A
Yellow/AR       3.0                |Yellow/AR 3.0   3.0
Cycle Length:  80 secs  Phase combination order: #1 #5 #6
---------------------------------------------------------------------
                    Intersection Performance Summary
    Lane  Group:  Adj Sat   v/c     g/C                  Approach:
    Mvmts  Cap    Flow     Ratio   Ratio   Delay  LOS   Delay  LOS
    -----  ----   -------  -----   -----   -----  ---   -----  ---
EB  L      796    1770     0.795   0.450   16.1   C     15.5   C
    R      712    1583     0.065   0.450    8.1   B
NB  L      111    1770     0.470   0.063   25.7   D     11.1   B
    T      885    1863     0.405   0.475    9.0   B
SB  T      699    1863     0.595   0.375   14.0   B      6.9   B
    R     1365    1583     0.353   0.863    0.8   A
              Intersection Delay =  10.7 sec/veh Intersection LOS = B
Lost Time/Cycle, L =   9.0 sec   Critical v/c(x)    = 0.688
---------------------------------------------------------------------
```

HCM: SIGNALIZED INTERSECTION SUMMARY Version 2.4 05-02-1996
Center For Microcomputers In Transportation

Streets: (E-W) White Rock Road (N-S) Latrobe Rd
Analyst: F&P File Name: LTWREPA.HC9
Area Type: Other 3-30-95 am peak
Comment: exist plus project

	Eastbound L	Eastbound T	Eastbound R	Westbound L	Westbound T	Westbound R	Northbound L	Northbound T	Northbound R	Southbound L	Southbound T	Southbound R
No. Lanes	2	1	<	1	1	<	1	2	1	1	2	1
Volumes	553	1	28	21	1	30	23	871	19	30	1312	732
PHF or PK15	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0	12.0	12.0
Grade		0			0			0			0	
% Heavy Veh	2	2	2	2	2	2	2	2	2	2	2	2
Parking	(Y/N) N			(Y/N) N			(Y/N) N			(Y/N) N		
Bus Stops			0			0			0			0
Con. Peds			0			0			0			0
Ped Button	(Y/N) N			(Y/N) N			(Y/N) N			(Y/N) N		
Arr Type	3	3	3	3	3	3	3	3	3	3	3	3
RTOR Vols			0			0			0			130
Lost Time	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
Prop. Share	-1		-1	-1		-1	-1		-1	-1		-1
Prop. Prot.			-2			-2			-2			-2

Signal Operations

Phase Combination	1	2	3	4		5	6	7	8
EB Left	*				NB Left	*			
Thru		*			Thru		*		
Right		*			Right		*		
Peds					Peds				
WB Left	*				SB Left	*			
Thru		*			Thru		*		
Right		*			Right		*		
Peds					Peds				
NB Right					EB Right				
SB Right	*				WB Right				
Green	28.0A	3.0A			Green	5.0A	42.0A		
Yellow/AR	3.0	3.0			Yellow/AR	3.0	3.0		

Cycle Length: 90 secs Phase combination order: #1 #2 #5 #6

Intersection Performance Summary

	Lane Group: Mvmts	Cap	Adj Sat Flow	v/c Ratio	g/C Ratio	Delay	LOS	Approach: Delay	Approach: LOS
EB	L	1101	3539	0.529	0.311	16.9	C	17.9	C
	TR	53	1593	0.565	0.033	36.8	D		
WB	L	551	1770	0.040	0.311	14.0	B	30.1	D
	TR	53	1592	0.622	0.033	40.9	E		
NB	L	98	1770	0.244	0.056	26.6	D	11.8	B
	T	1738	3725	0.554	0.467	11.5	B		
	R	739	1583	0.027	0.467	8.4	B		
SB	L	98	1770	0.325	0.056	27.1	D	12.1	B
	T	1738	3725	0.834	0.467	16.2	C		
	R	1284	1583	0.494	0.811	2.0	A		

Intersection Delay = 13.2 sec/veh Intersection LOS = B
Lost Time/Cycle, L = 12.0 sec Critical v/c(x) = 0.684

HCM: SIGNALIZED INTERSECTION SUMMARY Version 2.4 05-02-1996

Center For Microcomputers In Transportation

Streets: (E-W) White Rock Road (N-S) Latrobe Rd

Analyst: F&P File Name: LTWREPP.HC9

Area Type: Other 3-30-95 pm peak

Comment: exist plus project (with mitigations)

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	2	1	<	1	1	<	1	2	1	1	2	1
Volumes	839	2	41	24	3	40	25	1405	22	50	1039	643
PHF or PK15	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0	12.0	12.0	12.0	12.0
Grade		0			0			0			0	
% Heavy Veh	2	2	2	2	2	2	2	2	2	2	2	2
Parking	(Y/N)	N		(Y/N)	N		(Y/N)	N		(Y/N)	N	
Bus Stops			0			0			0			0
Con. Peds			0			0			0			0
Ped Button	(Y/N)	N		(Y/N)	N		(Y/N)	N		(Y/N)	N	
Arr Type	3	3	3	3	3	3	3	3	3	3	3	3
RTOR Vols			0			0			0			130
Lost Time	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
Prop. Share	-1		-1	-1		-1	-1		-1	-1		-1
Prop. Prot.			-2			-2			-2			-2

Signal Operations

Phase Combination	1	2	3	4		5	6	7	8
EB Left	*				NB Left	*			
Thru		*			Thru		*		
Right		*			Right		*		
Peds					Peds				
WB Left	*				SB Left	*			
Thru		*			Thru		*		
Right		*			Right		*		
Peds					Peds				
NB Right					EB Right				
SB Right	*				WB Right				
Green	28.0A	3.0A			Green	5.0A	42.0A		
Yellow/AR	3.0	3.0			Yellow/AR	3.0	3.0		

Cycle Length: 90 secs Phase combination order: #1 #2 #5 #6

Intersection Performance Summary

	Lane Mvmts	Group: Cap	Adj Sat Flow	v/c Ratio	g/C Ratio	Delay	LOS	Approach: Delay	LOS
EB	L	1101	3539	0.802	0.311	21.4	C	24.0	C
	TR	53	1596	0.846	0.033	74.2	F		
WB	L	551	1770	0.045	0.311	14.0	B	52.1	E
	TR	53	1602	0.843	0.033	73.3	F		
NB	L	98	1770	0.264	0.056	26.7	D	18.8	C
	T	1738	3725	0.893	0.467	18.8	C		
	R	739	1583	0.031	0.467	8.4	B		
SB	L	98	1770	0.539	0.056	31.1	D	9.8	B
	T	1738	3725	0.661	0.467	12.6	B		
	R	1284	1583	0.421	0.811	1.7	A		

Intersection Delay = 16.8 sec/veh Intersection LOS = C

Lost Time/Cycle, L = 12.0 sec Critical v/c(x) = 0.836

```
HCM: SIGNALIZED INTERSECTION SUMMARY   Version 2.4       05-02-1996
            Center For Microcomputers In Transportation
=====================================================================
Streets: (E-W) WHITE ROCK               (N-S) PROJECT CONNECTOR
Analyst: F&P                            File Name: WRPCAM.HC9
Area Type: Other                        3-31-95 AM PEAK
Comment: EXIST PLUS PROJECT (MITIGATED)
=====================================================================
           |  Eastbound    |  Westbound    |  Northbound   |  Southbound   |
           | L    T    R   | L    T    R   | L    T    R   | L    T    R   |
           |---- ---- ----|---- ---- ----|---- ---- ----|---- ---- ----|
No. Lanes  |      1    1  | 1    1       | 1         1  |
Volumes    |     40  169| 554  285      | 157       519|
PHF or PK15|   0.95 0.95|0.95 0.95      |0.95      0.95|
Lane Width |   12.0 12.0|12.0 12.0      |12.0      12.0|
Grade      |      0      |      0        |      0       |
% Heavy Veh|      2    2|  2    2       |  2          2|
Parking    |(Y/N) N      |(Y/N) N        |(Y/N) N       |
Bus Stops  |            0|             0|             0|
Con. Peds  |            0|             0|             0|              0
Ped Button |(Y/N) N      |(Y/N) N        |(Y/N) N       |
Arr Type   |      3    3|  3    3       |  3          3|
RTOR Vols  |            0|             0|           100|
Lost Time  |   3.00 3.00|3.00 3.00      |3.00      3.00|
Prop. Share|  -1       -1|  -1        -1|  -1        -1|
Prop. Prot.|           -2|            -2|            -2|
---------------------------------------------------------------------
                          Signal Operations
Phase Combination 1     2     3     4 |          5     6     7     8
EB  Left                              |NB  Left  *
    Thru                *             |    Thru
    Right               *             |    Right *
    Peds                              |    Peds
WB  Left          *                   |SB  Left
    Thru          *     *             |    Thru
    Right               *             |    Right
    Peds                              |    Peds
NB  Right         *                   |EB  Right
SB  Right                             |WB  Right
Green          35.0A 15.0A            |Green     21.0A
Yellow/AR       3.0   3.0             |Yellow/AR 3.0
Cycle Length:  80 secs  Phase combination order: #1 #2 #5
---------------------------------------------------------------------
                   Intersection Performance Summary
    Lane  Group:   Adj Sat    v/c     g/C                  Approach:
    Mvmts   Cap     Flow     Ratio   Ratio   Delay  LOS   Delay  LOS
    -----   ----   -------   -----   -----   -----  ---   -----  ---
EB   T       349     1863    0.120   0.188    17.5   C     20.8   C
     R       297     1583    0.600   0.188    21.6   C
WB   L       774     1770    0.753   0.438    15.1   C     11.2   B
     T      1234     1863    0.243   0.663     3.5   A
NB   L       465     1770    0.355   0.262    15.7   C      6.1   B
     R      1167     1583    0.378   0.738     2.6   A
              Intersection Delay =  10.6 sec/veh Intersection LOS = B
Lost Time/Cycle, L =   9.0 sec   Critical v/c(x)    = 0.603
---------------------------------------------------------------------
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HCM: SIGNALIZED INTERSECTION SUMMARY Version 2.4 05-02-1996

Center For Microcomputers In Transportation

Streets: (E-W) WHITE ROCK (N-S) PAYEN ROAD

Analyst: F&P File Name: WRPYAM.HC9

Area Type: Other 3-31-95 AM PEAK

Comment: EXIST PLUS PROJECT (MITIGATED)

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	<	1	1	<	1	1	<	1	1	<
Volumes	1	162	132	1	401	41	124	80	1	46	86	2
PHF or PK15	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0	
Grade		0			0			0			0	
% Heavy Veh	2	2	2	2	2	2	2	2	2	2	2	2
Parking	(Y/N) N			(Y/N) N			(Y/N) N			(Y/N) N		
Bus Stops			0			0			0			0
Con. Peds			0			0			0			0
Ped Button	(Y/N) N			(Y/N) N			(Y/N) N			(Y/N) N		
Arr Type	3	3	3	3	3	3	3	3	3	3	3	3
RTOR Vols			0			0			0			0
Lost Time	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
Prop. Share	-1		-1	-1		-1	-1		-1	-1		-1
Prop. Prot.			-2			-2			-2			-2

Signal Operations

Phase Combination	1	2	3	4		5	6	7	8
EB Left	*				NB Left	*			
Thru		*			Thru		*		
Right		*			Right		*		
Peds					Peds				
WB Left	*				SB Left	*			
Thru		*			Thru		*		
Right		*			Right		*		
Peds					Peds				
NB Right					EB Right				
SB Right					WB Right				
Green	5.0A	20.0A			Green	10.0A	10.0A		
Yellow/AR	3.0	3.0			Yellow/AR	3.0	3.0		

Cycle Length: 57 secs Phase combination order: #1 #2 #5 #6

Intersection Performance Summary

	Lane Mvmts	Group: Cap	Adj Sat Flow	v/c Ratio	g/C Ratio	Delay	LOS	Approach: Delay	LOS
EB	L	155	1770	0.006	0.088	15.3	C	10.3	B
	TR	609	1737	0.533	0.351	10.3	B		
WB	L	155	1770	0.006	0.088	15.3	C	13.1	B
	TR	645	1837	0.721	0.351	13.1	B		
NB	L	311	1770	0.422	0.175	14.1	B	13.7	B
	TR	326	1859	0.261	0.175	13.2	B		
SB	L	311	1770	0.155	0.175	12.9	B	13.2	B
	TR	326	1857	0.285	0.175	13.3	B		

Intersection Delay = 12.4 sec/veh Intersection LOS = B

Lost Time/Cycle, L = 12.0 sec Critical v/c(x) = 0.479

HCM: SIGNALIZED INTERSECTION SUMMARY Version 2.4 05-02-1996
Center For Microcomputers In Transportation

Streets: (E-W) WHITE ROCK (N-S) PAYEN ROAD
Analyst: F&P File Name: WRPYPM.HC9
Area Type: Other 3-31-95 PM PEAK
Comment: EXIST PLUS PROJECT (MITIGATED)

	Eastbound			Westbound			Northbound			Southbound		
	L	T	R	L	T	R	L	T	R	L	T	R
No. Lanes	1	1	<	1	1	<	1	1	<	1	1	<
Volumes	1	391	149	1	173	56	147	95	2	56	99	2
PHF or PK15	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Lane Width	12.0	12.0		12.0	12.0		12.0	12.0		12.0	12.0	
Grade		0			0			0			0	
% Heavy Veh	2	2	2	2	2	2	2	2	2	2	2	2
Parking	(Y/N) N			(Y/N) N			(Y/N) N			(Y/N) N		
Bus Stops			0			0			0			0
Con. Peds			0			0			0			0
Ped Button	(Y/N) N			(Y/N) N			(Y/N) N			(Y/N) N		
Arr Type	3	3	3	3	3	3	3	3	3	3	3	3
RTOR Vols			0			0			0			0
Lost Time	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00	3.00
Prop. Share	-1		-1	-1		-1	-1		-1	-1		-1
Prop. Prot.			-2			-2			-2			-2

Signal Operations

Phase Combination	1	2	3	4		5	6	7	8
EB Left	*				NB Left	*			
Thru		*			Thru		*		
Right		*			Right		*		
Peds					Peds				
WB Left	*				SB Left	*			
Thru		*			Thru		*		
Right		*			Right		*		
Peds					Peds				
NB Right					EB Right				
SB Right					WB Right				
Green	2.0A	26.0A			Green	10.0A	10.0A		
Yellow/AR	3.0	3.0			Yellow/AR	3.0	3.0		

Cycle Length: 60 secs Phase combination order: #1 #2 #5 #6

Intersection Performance Summary

	Lane Group: Mvmts	Cap	Adj Sat Flow	v/c Ratio	g/C Ratio	Delay	LOS	Approach: Delay	LOS
EB	L	59	1770	0.017	0.033	18.1	C	12.7	B
	TR	774	1786	0.771	0.433	12.7	B		
WB	L	59	1770	0.017	0.033	18.1	C	7.3	B
	TR	777	1794	0.310	0.433	7.3	B		
NB	L	295	1770	0.525	0.167	16.1	C	15.5	C
	TR	310	1857	0.330	0.167	14.5	B		
SB	L	295	1770	0.200	0.167	14.0	B	14.3	B
	TR	310	1857	0.342	0.167	14.5	B		

Intersection Delay = 12.5 sec/veh Intersection LOS = B

Lost Time/Cycle, L = 12.0 sec Critical v/c(x) = 0.599

****

FACILITY LOCATION.... US 50
ANALYST.............. F&P
TIME OF ANALYSIS..... AM (WITH MITIGATION)
DATE OF ANALYSIS..... 12-06-1994
OTHER INFORMATION.... EB OFF RAMP TO LATROBE RD

A) ADJUSTMENT FACTORS

PERCENTAGE OF TRUCKS................. 6 (Typical - 200 #/HP)
PEAK HOUR FACTOR..................... .95
HIGHWAY DESIGN SPEED (mph)........... 70
(BUSES AND RV'S ARE CONSIDERED AS TRUCKS)

LEVEL TERRAIN

B) INPUT INFORMATION

NO. OF LANES ON FREEWAY : 3 (per direction)

ANALYSIS RAMP CHARACTERISTICS:
****

(1) RIGHT-HAND RAMP.
(2) ONE LANE RAMP.
(3) LOOP RAMP.

	UPSTREAM RAMP	FREEWAY	ANALYSIS RAMP	DOWNSTREAM RAMP
VOLUME	417	1484	149	N.A.
% TRUCKS	2	6	2	N.A.
RAMP TYPE	ON	N.A.	OFF	N.A.
DISTANCE	1000	N.A.	N.A.	N.A.

****

C) RAMP ANALYSIS RESULTS

TRUCK PRESENCE IN LANE 1: 53 % OF FREEWAY TRUCKS

RAMP ANALYZED WITH UPSTREAM RAMP USING FIGURE I.5- 7

	V1	Vr	Vf
	****	****	*****
VPH	693	149	1901
ET	1.7	1.7	1.7
Fhv	0.94	0.99	0.96
PHF	0.95	0.95	0.95
PCPH	776	158	2084

CHECKPOINT	VOLUME	LOS
**********	******	***
FREEWAY:	2084	A
DIVERGE:	776	B

IDENTIFYING INFORMATION

FACILITY LOCATION.... US 50
TIME AND DATE........ AM (WITH MITIGATION) ; 12-06-1994
OTHER INFORMATION.... EB OFF RAMP TO LATROBE RD

****

FACILITY LOCATION.... US 50
ANALYST.............. F&P
TIME OF ANALYSIS..... PM (MITIGATED)
DATE OF ANALYSIS..... 12-06-1994
OTHER INFORMATION.... EB OFF RAMP TO LATROBE RD

A) ADJUSTMENT FACTORS

PERCENTAGE OF TRUCKS................. 6 (Typical - 200 #/HP)
PEAK HOUR FACTOR..................... .95
HIGHWAY DESIGN SPEED (mph)........... 70
(BUSES AND RV'S ARE CONSIDERED AS TRUCKS)

LEVEL TERRAIN

B) INPUT INFORMATION

NO. OF LANES ON FREEWAY : 3 (per direction)

ANALYSIS RAMP CHARACTERISTICS:
****

(1) RIGHT-HAND RAMP.
(2) ONE LANE RAMP.
(3) LOOP RAMP.

	UPSTREAM RAMP	FREEWAY	ANALYSIS RAMP	DOWNSTREAM RAMP
VOLUME	349	4114	689	N.A.
% TRUCKS	2	6	2	N.A.
RAMP TYPE	ON	N.A.	OFF	N.A.
DISTANCE	1100	N.A.	N.A.	N.A.

C) RAMP ANALYSIS RESULTS

TRUCK PRESENCE IN LANE 1: 57 % OF FREEWAY TRUCKS

RAMP ANALYZED WITH UPSTREAM RAMP USING FIGURE I.5- 7

	V1	Vr	Vf
VPH	1519	689	4463
ET	1.7	1.7	1.7
Fhv	0.93	0.99	0.96
PHF	0.95	0.95	0.95
PCPH	1719	733	4894

CHECKPOINT	VOLUME	LOS
FREEWAY:	4894	D
DIVERGE:	1719	D

IDENTIFYING INFORMATION

FACILITY LOCATION.... US 50
TIME AND DATE........ PM (MITIGATED) ; 12-06-1994
OTHER INFORMATION.... EB OFF RAMP TO LATROBE RD

****

FACILITY LOCATION.... US 50
ANALYST.............. F&P
TIME OF ANALYSIS..... AM MITIGATED
DATE OF ANALYSIS..... 12-06-1994
OTHER INFORMATION.... EB ON RAMP FROM LATROBE

A) ADJUSTMENT FACTORS

PERCENTAGE OF TRUCKS................. 6 (Typical - 200 #/HP)
PEAK HOUR FACTOR..................... .95
HIGHWAY DESIGN SPEED (mph)........... 70
(BUSES AND RV'S ARE CONSIDERED AS TRUCKS)

SEGMENT LENGTH (mi.)................. .3
SEGMENT GRADE (%).................... 4.6

B) INPUT INFORMATION

NO. OF LANES ON FREEWAY : 3 (per direction)

ANALYSIS RAMP CHARACTERISTICS:
****
(1) RIGHT-HAND RAMP.
(2) TWO LANE RAMP.

	UPSTREAM RAMP	FREEWAY	ANALYSIS RAMP	DOWNSTREAM RAMP
	********	*******	********	**********
VOLUME	N.A.	918	727	N.A.
% TRUCKS	N.A.	6	2	N.A.
RAMP TYPE	N.A.	N.A.	ON	N.A.
DISTANCE	N.A.	N.A.	N.A.	N.A.

****

C) RAMP ANALYSIS RESULTS

TRUCK PRESENCE IN LANE 1: 60 % OF FREEWAY TRUCKS

WARNING: % trucks in lane 1, ... Volume is outside Fig 5.6

RESULTS USING FIGURE I.5- 11

WARNING! IN USING THIS NOMOGRAPH:
Normal range for Vr is 1100 to 3000 vph

ITEM	VPH	Fhv	PCPH
V1	154	0.25	331
V(1+A)	476	0.71	706
Va	322	0.91	372
Vb	405	0.91	468
Vf	918	0.77	1255

Vm1 = 703 pcph (LOS = B)
Vm2 = 1174 pcph (LOS = C)

Vf(After merge) = 2095 pcph (LOS = A)

FIRST RAMP RESULTS USING APPROXIMATION METHOD (NOTE 3)

SECOND RAMP RESULTS USING APPROXIMATION METHOD (NOTE 3)

ITEM	VPH	Fhv	PCPH
V1	55	0.25	232
V(1+A)	419	0.67	658
Va	364	0.91	421
Vb	364	0.91	421
Vf	918	0.77	1255

Vm1 = 653 pcph (LOS = B)
Vm2 = 1079 pcph (LOS = C)

Vf(After merge) = 2097 pcph (LOS = A)

IDENTIFYING INFORMATION

FACILITY LOCATION.... US 50
TIME AND DATE........ AM MITIGATED ; 12-06-1994
OTHER INFORMATION.... EB ON RAMP FROM LATROBE

****

FACILITY LOCATION.... US 50
ANALYST.............. F&P
TIME OF ANALYSIS..... PM MITIGATED
DATE OF ANALYSIS..... 12-06-1994
OTHER INFORMATION.... EB ON RAMP FROM LATROBE

A) ADJUSTMENT FACTORS

PERCENTAGE OF TRUCKS................. 6 (Typical - 200 #/HP)
PEAK HOUR FACTOR..................... .95
HIGHWAY DESIGN SPEED (mph)........... 70
(BUSES AND RV'S ARE CONSIDERED AS TRUCKS)

SEGMENT LENGTH (mi.)................. .3
SEGMENT GRADE (%).................... 4.6

B) INPUT INFORMATION

NO. OF LANES ON FREEWAY : 3 (per direction)

ANALYSIS RAMP CHARACTERISTICS:
****

(1) RIGHT-HAND RAMP.
(2) TWO LANE RAMP.

	UPSTREAM RAMP	FREEWAY	ANALYSIS RAMP	DOWNSTREAM RAMP
	********	*******	********	**********
VOLUME	N.A.	3076	1113	N.A.
% TRUCKS	N.A.	6	2	N.A.
RAMP TYPE	N.A.	N.A.	ON	N.A.
DISTANCE	N.A.	N.A.	N.A.	N.A.

****

C) RAMP ANALYSIS RESULTS

TRUCK PRESENCE IN LANE 1: 49 % OF FREEWAY TRUCKS

RESULTS USING FIGURE I.5- 11

WARNING! IN USING THIS NOMOGRAPH:
Normal range for Vf is 600 to 3000 vph

ITEM	VPH	Fhv	PCPH
******	*****	****	******
V1	324	0.29	812
V(1+A)	1318	0.71	1954
Va	994	0.91	1150
Vb	119	0.91	138
Vf	3076	0.77	4205

Vm1 = 1962 pcph (LOS = E)
Vm2 = 2092 pcph (LOS = F)

Vf(After merge) = 5493 pcph (LOS = D)

FIRST RAMP RESULTS USING APPROXIMATION METHOD (NOTE 3)

SECOND RAMP RESULTS USING APPROXIMATION METHOD (NOTE 3)

ITEM	VPH	Fhv	PCPH
******	*****	****	******
V1	185	0.29	672
V(1+A)	742	0.59	1324
Va	557	0.91	644
Vb	557	0.91	644
Vf	3076	0.77	4205

Vm1 = 1316 pcph (LOS = C)
Vm2 = 1968 pcph (LOS = E)

Vf(After merge) = 5493 pcph (LOS = D)

IDENTIFYING INFORMATION

FACILITY LOCATION.... US 50
TIME AND DATE........ PM MITIGATED ; 12-06-1994
OTHER INFORMATION.... EB ON RAMP FROM LATROBE

****

FACILITY LOCATION.... US 50
ANALYST.............. F&P
TIME OF ANALYSIS..... AM MITIGATED
DATE OF ANALYSIS..... 12-06-1994
OTHER INFORMATION.... WB OFF RAMP TO EL DORADO HILLS BLVD

A) ADJUSTMENT FACTORS

PERCENTAGE OF TRUCKS................. 6 (Typical - 200 #/HP)
PEAK HOUR FACTOR..................... .95
HIGHWAY DESIGN SPEED (mph)........... 70
(BUSES AND RV'S ARE CONSIDERED AS TRUCKS)

SEGMENT LENGTH (mi.)................. .3
SEGMENT GRADE (%)....................-4.6

B) INPUT INFORMATION

NO. OF LANES ON FREEWAY : 3 (per direction)

ANALYSIS RAMP CHARACTERISTICS:
****

(1) RIGHT-HAND RAMP.
(2) TWO LANE RAMP.

	UPSTREAM RAMP	FREEWAY	ANALYSIS RAMP	DOWNSTREAM RAMP
VOLUME	N.A.	4231	281	N.A.
% TRUCKS	N.A.	6	2	N.A.
RAMP TYPE	N.A.	N.A.	OFF	N.A.
DISTANCE	N.A.	N.A.	N.A.	N.A.

****

C) RAMP ANALYSIS RESULTS

TRUCK PRESENCE IN LANE 1: 54 % OF FREEWAY TRUCKS

RESULTS USING FIGURE I.5- 12

WARNING! IN USING THIS NOMOGRAPH:
Normal range for Vr is 1100 to 6000 vph

ITEM	VPH	Fhv	PCPH
******	*****	****	******
V1	292	0.88	357
V(1+A)	149	0.62	253
Va	0	0.99	0
Vb	281	0.99	299
Vf	4231	0.96	4639

Vd1 = 253 pcph (LOS = A)
Vd2 = 299 pcph (LOS = A)

Vf(Before diverge) = 4639 pcph (LOS = C)

FIRST RAMP RESULTS USING APPROXIMATION METHOD (NOTE 4)

SECOND RAMP RESULTS USING APPROXIMATION METHOD (NOTE 4)

ITEM	VPH	Fhv	PCPH
******	*****	****	******
V1	536	0.88	641
V(1+A)	536	0.85	664
Va	141	0.99	150
Vb	141	0.99	150
Vf	4231	0.96	4639

Vd1 = 664 pcph (LOS = B)
Vd2 = 150 pcph (LOS = A)

Vf(Before diverge) = 4639 pcph (LOS = C)

IDENTIFYING INFORMATION

FACILITY LOCATION.... US 50
TIME AND DATE........ AM MITIGATED ; 12-06-1994
OTHER INFORMATION.... WB OFF RAMP TO EL DORADO HILLS BLVD

****

FACILITY LOCATION.... US 50
ANALYST.............. F&P
TIME OF ANALYSIS..... PM MITIGATED
DATE OF ANALYSIS..... 12-06-1994
OTHER INFORMATION.... WB OFF RAMP TO EL DORADO HILLS BLVD

A) ADJUSTMENT FACTORS

PERCENTAGE OF TRUCKS................. 6 (Typical - 200 #/HP)
PEAK HOUR FACTOR..................... .95
HIGHWAY DESIGN SPEED (mph)........... 70
(BUSES AND RV'S ARE CONSIDERED AS TRUCKS)

SEGMENT LENGTH (mi.)................. .3
SEGMENT GRADE (%)....................-4.6

B) INPUT INFORMATION

NO. OF LANES ON FREEWAY : 3 (per direction)

ANALYSIS RAMP CHARACTERISTICS:
****
(1) RIGHT-HAND RAMP.
(2) TWO LANE RAMP.

	UPSTREAM RAMP	FREEWAY	ANALYSIS RAMP	DOWNSTREAM RAMP
	********	*******	********	**********
VOLUME	N.A.	2013	234	N.A.
% TRUCKS	N.A.	6	2	N.A.
RAMP TYPE	N.A.	N.A.	OFF	N.A.
DISTANCE	N.A.	N.A.	N.A.	N.A.

****

C) RAMP ANALYSIS RESULTS

TRUCK PRESENCE IN LANE 1: 52 % OF FREEWAY TRUCKS

RESULTS USING FIGURE I.5- 12

WARNING! IN USING THIS NOMOGRAPH:
Normal range for Vf is 2100 to 6000 vph
Normal range for Vr is 1100 to 6000 vph

ITEM	VPH	Fhv	PCPH
V1	156	0.89	182
V(1+A)	45	0.53	89
Va	0	0.99	0
Vb	234	0.99	249
Vf	2013	0.96	2207

Vd1 = 89 pcph (LOS = A)
Vd2 = 249 pcph (LOS = A)

Vf(Before diverge) = 2207 pcph (LOS = B)

FIRST RAMP RESULTS USING APPROXIMATION METHOD (NOTE 4)

SECOND RAMP RESULTS USING APPROXIMATION METHOD (NOTE 4)

ITEM	VPH	Fhv	PCPH
V1	224	0.89	265
V(1+A)	224	0.85	277
Va	117	0.99	124
Vb	117	0.99	124
Vf	2013	0.96	2207

Vd1 = 277 pcph (LOS = A)
Vd2 = 124 pcph (LOS = A)

Vf(Before diverge) = 2207 pcph (LOS = B)

IDENTIFYING INFORMATION

FACILITY LOCATION.... US 50
TIME AND DATE........ PM MITIGATED ; 12-06-1994
OTHER INFORMATION.... WB OFF RAMP TO EL DORADO HILLS BLVD

****

FACILITY LOCATION.... US 50
ANALYST.............. F&P
TIME OF ANALYSIS..... AM MITIGATED
DATE OF ANALYSIS..... 12-06-1994
OTHER INFORMATION.... WB ONRAMP FROM EL DORADO HILLS BLVD

A) ADJUSTMENT FACTORS

PERCENTAGE OF TRUCKS................. 6 (Typical - 200 #/HP)
PEAK HOUR FACTOR...................... .95
HIGHWAY DESIGN SPEED (mph)........... 70
(BUSES AND RV'S ARE CONSIDERED AS TRUCKS)

LEVEL TERRAIN

B) INPUT INFORMATION

NO. OF LANES ON FREEWAY : 3 (per direction)

ANALYSIS RAMP CHARACTERISTICS:
****

(1) RIGHT-HAND RAMP.
(2) TWO LANE RAMP.

	UPSTREAM RAMP	FREEWAY	ANALYSIS RAMP	DOWNSTREAM RAMP
VOLUME	N.A.	3128	1076	N.A.
% TRUCKS	N.A.	6	2	N.A.
RAMP TYPE	N.A.	N.A.	ON	N.A.
DISTANCE	N.A.	N.A.	N.A.	N.A.

****

C) RAMP ANALYSIS RESULTS

TRUCK PRESENCE IN LANE 1: 49 % OF FREEWAY TRUCKS

RESULTS USING FIGURE I.5- 11

WARNING! IN USING THIS NOMOGRAPH:
Normal range for Vf is 600 to 3000 vph
Normal range for Vr is 1100 to 3000 vph

ITEM	VPH	Fhv	PCPH
******	*****	****	******
V1	326	0.74	409
V(1+A)	1311	0.95	1453
Va	985	0.99	1047
Vb	91	0.99	97
Vf	3128	0.96	3430

Vm1 = 1456 pcph (LOS = D)
Vm2 = 1550 pcph (LOS = D)

Vf(After merge) = 4574 pcph (LOS = C)

FIRST RAMP RESULTS USING APPROXIMATION METHOD (NOTE 3)

SECOND RAMP RESULTS USING APPROXIMATION METHOD (NOTE 3)

ITEM	VPH	Fhv	PCPH
******	*****	****	******
V1	188	0.74	267
V(1+A)	726	0.91	840
Va	538	0.99	572
Vb	538	0.99	572
Vf	3128	0.96	3430

Vm1 = 839 pcph (LOS = B)
Vm2 = 1412 pcph (LOS = C)

Vf(After merge) = 4574 pcph (LOS = C)

IDENTIFYING INFORMATION

FACILITY LOCATION.... US 50
TIME AND DATE........ AM MITIGATED ; 12-06-1994
OTHER INFORMATION.... WB ONRAMP FROM EL DORADO HILLS BLVD

****

FACILITY LOCATION.... US 50
ANALYST.............. F&P
TIME OF ANALYSIS..... PM MITIGATED
DATE OF ANALYSIS..... 12-06-1994
OTHER INFORMATION.... WB ONRAMP FROM EL DORADO HILLS BLVD

A) ADJUSTMENT FACTORS

PERCENTAGE OF TRUCKS..,.............. 6 (Typical - 200 #/HP)
PEAK HOUR FACTOR..................... .95
HIGHWAY DESIGN SPEED (mph)........... 70
(BUSES AND RV'S ARE CONSIDERED AS TRUCKS)

LEVEL TERRAIN

B) INPUT INFORMATION

NO. OF LANES ON FREEWAY : 3 (per direction)

ANALYSIS RAMP CHARACTERISTICS:
****
(1) RIGHT-HAND RAMP.
(2) TWO LANE RAMP.

	UPSTREAM RAMP	FREEWAY	ANALYSIS RAMP	DOWNSTREAM RAMP
	********	*******	********	**********
VOLUME	N.A.	1119	832	N.A.
% TRUCKS	N.A.	6	2	N.A.
RAMP TYPE	N.A.	N.A.	ON	N.A.
DISTANCE	N.A.	N.A.	N.A.	N.A.

****

C) RAMP ANALYSIS RESULTS

TRUCK PRESENCE IN LANE 1: 59 % OF FREEWAY TRUCKS

RESULTS USING FIGURE I.5- 11

WARNING! IN USING THIS NOMOGRAPH:
Normal range for Vr is 1100 to 3000 vph

ITEM	VPH	Fhv	PCPH
V1	173	0.71	212
V(1+A)	595	0.95	659
Va	422	0.99	449
Vb	410	0.99	436
Vf	1119	0.96	1227

Vm1 = 661 pcph (LOS = B)
Vm2 = 1095 pcph (LOS = C)

Vf(After merge) = 2112 pcph (LOS = B)

FIRST RAMP RESULTS USING APPROXIMATION METHOD (NOTE 3)

SECOND RAMP RESULTS USING APPROXIMATION METHOD (NOTE 3)

ITEM	VPH	Fhv	PCPH
V1	67	0.71	99
V(1+A)	483	0.93	547
Va	416	0.99	442
Vb	416	0.99	442
Vf	1119	0.96	1227

Vm1 = 541 pcph (LOS = A)
Vm2 = 989 pcph (LOS = B)

Vf(After merge) = 2111 pcph (LOS = B)

IDENTIFYING INFORMATION

FACILITY LOCATION.... US 50
TIME AND DATE........ PM MITIGATED ; 12-06-1994
OTHER INFORMATION.... WB ONRAMP FROM EL DORADO HILLS BLVD

****

FACILITY LOCATION.... US 50
ANALYST.............. F&P
TIME OF ANALYSIS..... AM MITIGATED
DATE OF ANALYSIS..... 04-10-1995
OTHER INFORMATION.... EB DIAGONAL OFF RAMP

A) ADJUSTMENT FACTORS

PERCENTAGE OF TRUCKS................. 6 (Typical - 200 #/HP)
PEAK HOUR FACTOR...................... .95
HIGHWAY DESIGN SPEED (mph)........... 70
(BUSES AND RV'S ARE CONSIDERED AS TRUCKS)

LEVEL TERRAIN

B) INPUT INFORMATION

NO. OF LANES ON FREEWAY : 3 (per direction)

ANALYSIS RAMP CHARACTERISTICS:
****

(1) RIGHT-HAND RAMP.
(2) TWO LANE RAMP.

	UPSTREAM RAMP	FREEWAY	ANALYSIS RAMP	DOWNSTREAM RAMP
VOLUME	N.A.	1484	417	N.A.
% TRUCKS	N.A.	6	2	N.A.
RAMP TYPE	N.A.	N.A.	OFF	N.A.
DISTANCE	N.A.	N.A.	N.A.	N.A.

****

C) RAMP ANALYSIS RESULTS

TRUCK PRESENCE IN LANE 1: 56 % OF FREEWAY TRUCKS

RESULTS USING FIGURE I.5- 12

WARNING! IN USING THIS NOMOGRAPH:
Normal range for Vf is 2100 to 6000 vph
Normal range for Vr is 1100 to 6000 vph

ITEM	VPH	Fhv	PCPH
******	*****	****	******
V1	137	0.93	153
V(1+A)	130	0.82	167
Va	0	0.99	0
Vb	417	0.99	443
Vf	1484	0.96	1627

Vd1 = 167 pcph (LOS = A)
Vd2 = 443 pcph (LOS = A)

Vf(Before diverge) = 1627 pcph (LOS = A)

FIRST RAMP RESULTS USING APPROXIMATION METHOD (NOTE 4)

SECOND RAMP RESULTS USING APPROXIMATION METHOD (NOTE 4)

ITEM	VPH	Fhv	PCPH
******	*****	****	******
V1	273	0.93	309
V(1+A)	273	0.90	319
Va	209	0.99	222
Vb	209	0.99	222
Vf	1484	0.96	1627

Vd1 = 319 pcph (LOS = A)
Vd2 = 222 pcph (LOS = A)

Vf(Before diverge) = 1627 pcph (LOS = A)

IDENTIFYING INFORMATION

FACILITY LOCATION.... US 50
TIME AND DATE........ AM MITIGATED ; 04-10-1995
OTHER INFORMATION.... EB DIAGONAL OFF RAMP

****

FACILITY LOCATION.... US 50
ANALYST.............. F&P
TIME OF ANALYSIS..... PM MITIGATED
DATE OF ANALYSIS..... 04-10-1995
OTHER INFORMATION.... EB DIAGONAL OFF RAMP

A) ADJUSTMENT FACTORS

PERCENTAGE OF TRUCKS................. 6 (Typical - 200 #/HP)
PEAK HOUR FACTOR...................... .95
HIGHWAY DESIGN SPEED (mph)........... 70
(BUSES AND RV'S ARE CONSIDERED AS TRUCKS)

LEVEL TERRAIN

B) INPUT INFORMATION

NO. OF LANES ON FREEWAY : 3 (per direction)

ANALYSIS RAMP CHARACTERISTICS:
****
(1) RIGHT-HAND RAMP.
(2) TWO LANE RAMP.

	UPSTREAM RAMP	FREEWAY	ANALYSIS RAMP	DOWNSTREAM RAMP
	********	*******	********	**********
VOLUME	N.A.	4114	349	N.A.
% TRUCKS	N.A.	6	2	N.A.
RAMP TYPE	N.A.	N.A.	OFF	N.A.
DISTANCE	N.A.	N.A.	N.A.	N.A.

****

C) RAMP ANALYSIS RESULTS

TRUCK PRESENCE IN LANE 1: 53 % OF FREEWAY TRUCKS

RESULTS USING FIGURE I.5- 12

WARNING! IN USING THIS NOMOGRAPH:
Normal range for Vr is 1100 to 6000 vph

ITEM	VPH	Fhv	PCPH
******	*****	****	******
V1	290	0.89	347
V(1+A)	184	0.68	285
Va	0	0.99	0
Vb	349	0.99	371
Vf	4114	0.96	4511

Vd1 = 285 pcph (LOS = A)
Vd2 = 371 pcph (LOS = A)

Vf(Before diverge) = 4511 pcph (LOS = C)

FIRST RAMP RESULTS USING APPROXIMATION METHOD (NOTE 4)

SECOND RAMP RESULTS USING APPROXIMATION METHOD (NOTE 4)

ITEM	VPH	Fhv	PCPH
******	*****	****	******
V1	551	0.89	652
V(1+A)	551	0.86	674
Va	175	0.99	186
Vb	175	0.99	186
Vf	4114	0.96	4511

Vd1 = 674 pcph (LOS = B)
Vd2 = 186 pcph (LOS = A)

Vf(Before diverge) = 4511 pcph (LOS = C)

IDENTIFYING INFORMATION

FACILITY LOCATION.... US 50
TIME AND DATE........ PM MITIGATED ; 04-10-1995
OTHER INFORMATION.... EB DIAGONAL OFF RAMP

****

FACILITY LOCATION.... US 50
ANALYST.............. F&P
TIME OF ANALYSIS..... AM MITIGATED
DATE OF ANALYSIS..... 04-10-1995
OTHER INFORMATION.... WB LOOP OFF RAMP

A) ADJUSTMENT FACTORS

PERCENTAGE OF TRUCKS................. 6 (Typical - 200 #/HP)
PEAK HOUR FACTOR...................... 1
HIGHWAY DESIGN SPEED (mph)........... 70
(BUSES AND RV'S ARE CONSIDERED AS TRUCKS)

SEGMENT LENGTH (mi.)................. .3
SEGMENT GRADE (%)....................-4.6

B) INPUT INFORMATION

NO. OF LANES ON FREEWAY : 3 (per direction)

ANALYSIS RAMP CHARACTERISTICS:
****

(1) RIGHT-HAND RAMP.
(2) ONE LANE RAMP.
(3) LOOP RAMP.

	UPSTREAM RAMP	FREEWAY	ANALYSIS RAMP	DOWNSTREAM RAMP
VOLUME	281	4231	822	N.A.
% TRUCKS	2	6	2	N.A.
RAMP TYPE	ON	N.A.	OFF	N.A.
DISTANCE	1000	N.A.	N.A.	N.A.

****

C) RAMP ANALYSIS RESULTS

TRUCK PRESENCE IN LANE 1: 57 % OF FREEWAY TRUCKS

RAMP ANALYZED WITH UPSTREAM RAMP USING FIGURE I.5- 7

	V1	Vr	Vf
	****	****	*****
VPH	1585	822	4512
ET	1.7	1.7	1.7
Fhv	0.93	0.99	0.96
PHF	1.00	1.00	1.00
PCPH	1704	830	4700

CHECKPOINT	VOLUME	LOS
**********	******	***
FREEWAY:	4700	D
DIVERGE:	1704	D

IDENTIFYING INFORMATION

FACILITY LOCATION.... US 50
TIME AND DATE........ AM MITIGATED ; 04-10-1995
OTHER INFORMATION.... WB LOOP OFF RAMP

****

FACILITY LOCATION.... US 50
ANALYST.............. F&P
TIME OF ANALYSIS..... PM MITIGATED
DATE OF ANALYSIS..... 04-10-1995
OTHER INFORMATION.... WB LOOP OFF RAMP

A) ADJUSTMENT FACTORS

PERCENTAGE OF TRUCKS................. 6 (Typical - 200 #/HP)
PEAK HOUR FACTOR..................... .95
HIGHWAY DESIGN SPEED (mph)........... 70
(BUSES AND RV'S ARE CONSIDERED AS TRUCKS)

SEGMENT LENGTH (mi.)................. .3
SEGMENT GRADE (%).....................-4.6

B) INPUT INFORMATION

NO. OF LANES ON FREEWAY : 3 (per direction)

ANALYSIS RAMP CHARACTERISTICS:
****
(1) RIGHT-HAND RAMP.
(2) ONE LANE RAMP.
(3) LOOP RAMP.

	UPSTREAM RAMP	FREEWAY	ANALYSIS RAMP	DOWNSTREAM RAMP
VOLUME	234	2013	660	N.A.
% TRUCKS	2	6	2	N.A.
RAMP TYPE	ON	N.A.	OFF	N.A.
DISTANCE	1000	N.A.	N.A.	N.A.

****

C) RAMP ANALYSIS RESULTS

TRUCK PRESENCE IN LANE 1: 51 % OF FREEWAY TRUCKS

RAMP ANALYZED WITH UPSTREAM RAMP USING FIGURE I.5- 7

	V1	Vr	Vf
	****	****	*****
VPH	976	660	2247
ET	1.7	1.7	1.7
Fhv	0.95	0.99	0.96
PHF	0.95	0.95	0.95
PCPH	1081	702	2464

CHECKPOINT	VOLUME	LOS
**********	******	***
FREEWAY:	2464	B
DIVERGE:	1081	C

IDENTIFYING INFORMATION

FACILITY LOCATION.... US 50
TIME AND DATE........ PM MITIGATED ; 04-10-1995
OTHER INFORMATION.... WB LOOP OFF RAMP

APPENDIX C

Air Quality Data

PROJECT NAME: Carson Creek Specific Plan Date: 05-08-1996

Project Area: Sacramento

Analysis Year: 1997 Temperature (F): 75 Season: Summer

EMFAC Version: Emfac7f1.1(12/93)

Summary of Land Uses:

Unit Type	Trip Rate	Size	Tot Trips
Single-family Residential (Low)	9.6/Unit	689	6580
Single-family Residential (Med)	9.4/Unit	1548	14629
Multi-family Residential	6.3/Unit	310	1947
Elementary School	10.7/1000 Sqft	100	1072
Middle School	10.7/1000 Sqft	200	2144
Local Convenience Commercial	51.5/1000 Sqft	240	12360
Research and Development	7.7/1000 Sqft	843	6493
Park	3.0/Acre	31	94

Vehicle Assumptions:

Fleet Mix:

Vehicle Type	Percent Type	Non-Catalyst	Catalyst	Diesel
Light Duty Autos	72.3	2.0	97.4	0.5
Light Duty Trucks	16.3	1.0	98.3	0.7
Medium Duty Trucks	5.4	2.4	97.6	0.0
Heavy Duty Trucks	2.4	25.7	74.3	N/A
Heavy Duty Trucks	0.8	N/A	N/A	100.0
Motorcycles	2.8	100.0	N/A	N/A

Travel Conditions:

	Residential			Commercial	
	Home-Work	Home-Shop	Home-Other	Work	Non-Work
Trip Length	6.1	2.6	3.4	5.4	3.5
% Started Cold	88.4	40.3	58.6	77.6	27.4
Trip Speed	25	25	25	25	25
Percent Trip	27.3	21.2	51.5		

Project Emissions Report in Lb/Day:

Unit Type	TOG	CO	NOx
Single-family Residential (Low)	103.99	694.11	65.29
Single-family Residential (Med)	231.54	1543.14	145.15
Multi-family Residential	33.00	205.36	19.32
Elementary School	12.43	91.23	9.93
Middle School	24.86	182.46	19.86
Local Convenience Commercial	129.20	925.81	105.89
Research and Development	84.17	631.72	65.56
Park	1.00	7.17	0.81
TOTALS	620.20	4280.99	431.82

Project Emissions Report in Lb/Day (Continued)

Unit Type	FUEL (Gal.)	PM10	SOx
Single-family Residential (Low)	1225.7	6.35	3.97
Single-family Residential (Med)	2725.1	14.12	8.82
Multi-family Residential	362.7	1.88	1.17
Elementary School	195.3	1.01	0.63
Middle School	390.6	2.02	1.26
Local Convenience Commercial	2053.2	10.64	6.65
Research and Development	1307.5	6.77	4.23
Park	15.8	0.08	0.05
TOTALS	8275.9	42.87	26.80

REPORT FOR FILE : ccexist1

1. Site Variables

U=	1.0 M/S	ZO=	108.0 CM
BRG=	0.0 DEGREES	VD=	0.0 CM/S
CLASS=	F STABILITY	VS=	0.0 CM/S
MIXH=	700.0 M	AMB=	0.0 PPM
SIGTH=	5.0 DEGREES	TEMP=	10.0 DEGREE (C)

2. Link Description

LINK DESCRIPTION	LINK COORDINATES (M) X1	Y1	X2	Y2	TYPE	VPH	EF (G/MI)	H (M)	W (M)
A. LATROBE NB	5	-200	5	200	AG	647	15.6	0.0	9.3
B. LATROBE SB	-6	200	-6	-200	AG	315	15.6	0.0	12.6
C. WHITE RK WB1	200	5	5	5	AG	47	15.6	0.0	9.3
D. WHITE RK EB1	-200	-5	-6	-5	AG	266	15.6	0.0	9.3
E. WHITE RK WB2	-6	5	-200	5	AG	53	15.6	0.0	9.3
F. WHITE RK EB2	5	-5	200	-5	AG	55	15.6	0.0	9.3

LINK	MIXW L (M)	R (M)	STPL (M)	DCLT (SEC)	ACCT (SEC)	SPD (MPH)	NCYC	NDLA	VPHO	EFI (G/MIN)	IDT1 (SEC)	IDT2 (SEC)
A.	0	0	0	0.0	0.0	0	0	0	0	0.0	0.0	0.0
B.	0	0	0	0.0	0.0	0	0	0	0	0.0	0.0	0.0
C.	0	0	0	0.0	0.0	0	0	0	0	0.0	0.0	0.0
D.	0	0	0	0.0	0.0	0	0	0	0	0.0	0.0	0.0
E.	0	0	0	0.0	0.0	0	0	0	0	0.0	0.0	0.0
F.	0	0	0	0.0	0.0	0	0	0	0	0.0	0.0	0.0

3. Receptor Coordinates

	X	Y	Z
RECEPTOR 1	14	14	1.3
RECEPTOR 2	14	-14	1.3
RECEPTOR 3	-18	-14	1.3
RECEPTOR 4	-18	14	1.3
RECEPTOR 5	24	24	1.3
RECEPTOR 6	24	-24	1.3
RECEPTOR 7	-28	-24	1.3
RECEPTOR 8	-28	24	1.3

REPORT FOR FILE : CCEXIST2

1. Site Variables

U=	1.0 M/S	ZO=	108.0 CM
BRG=	0.0 DEGREES	VD=	0.0 CM/S
CLASS=	F STABILITY	VS=	0.0 CM/S
MIXH=	700.0 M	AMB=	0.0 PPM
SIGTH=	5.0 DEGREES	TEMP=	10.0 DEGREE (C)

2. Link Description

LINK DESCRIPTION	X1	Y1	X2	Y2	TYPE	VPH	EF (G/MI)	H (M)	W (M)
A. EDH NB	6	-200	6	200	IN	1319	15.6	0.0	12.6
B. EDH SB	-6	200	-6	-200	IN	590	15.6	0.0	12.6
C. WB OFFRAMP	200	0	6	0	FL	301	15.6	5.0	9.3
D. WB ONRAMP	-6	0	-200	0	FL	487	15.6	5.0	9.3

(LINK COORDINATES (M): X1, Y1, X2, Y2)

LINK	MIXW L (M)	MIXW R (M)	STPL (M)	DCLT (SEC)	ACCT (SEC)	SPD (MPH)	NCYC	NDLA	VPHO	EFI (G/MIN)	IDT1 (SEC)	IDT2 (SEC)
A.	0	0	195	7.6	10.6	35	11	4	1282	1.2	20.0	0.0
B.	0	0	195	7.6	10.6	35	4	1	441	1.2	20.0	0.0
C.	0	0	0	0.0	0.0	0	0	0	0	0.0	0.0	0.0
D.	0	0	0	0.0	0.0	0	0	0	0	0.0	0.0	0.0

3. Receptor Coordinates

	X	Y	Z
RECEPTOR 1	18	10	1.3
RECEPTOR 2	-18	10	1.3
RECEPTOR 3	28	20	1.3
RECEPTOR 4	-28	20	1.3

REPORT FOR FILE : ccexist3

1. Site Variables

U=	1.0 M/S	ZO=	108.0 CM
BRG=	0.0 DEGREES	VD=	0.0 CM/S
CLASS=	F STABILITY	VS=	0.0 CM/S
MIXH=	700.0 M	AMB=	0.0 PPM
SIGTH=	5.0 DEGREES	TEMP=	10.0 DEGREE (C)

2. Link Description

LINK DESCRIPTION	X1	Y1	X2	Y2	TYPE	VPH	EF (G/MI)	H (M)	W (M)
A. LATROBE NB	6	-200	6	0	AG	882	15.6	0.0	12.6
B. EDH SB	-6	200	-6	0	AG	441	15.6	0.0	12.6
C. EDH NB	6	0	6	200	AG	1319	15.6	0.0	12.6
D. LATROBE SB	-6	0	-6	-200	AG	315	15.6	0.0	12.6
E. EB ONRAMP	6	-5	200	-5	FL	529	15.6	5.0	9.3
F. EB OFFRAMP	200	5	6	5	FL	840	15.6	5.0	9.3

LINK	MIXW L (M)	MIXW R (M)	STPL (M)	DCLT (SEC)	ACCT (SEC)	SPD (MPH)	NCYC	NDLA	VPHO	EFI (G/MIN)	IDT1 (SEC)	IDT2 (SEC)
A.	0	0	0	0.0	0.0	0	0	0	0	0.0	0.0	0.0
B.	0	0	0	0.0	0.0	0	0	0	0	0.0	0.0	0.0
C.	0	0	0	0.0	0.0	0	0	0	0	0.0	0.0	0.0
D.	0	0	0	0.0	0.0	0	0	0	0	0.0	0.0	0.0
E.	0	0	0	0.0	0.0	0	0	0	0	0.0	0.0	0.0
F.	0	0	0	0.0	0.0	0	0	0	0	0.0	0.0	0.0

3. Receptor Coordinates

	X	Y	Z
RECEPTOR 1	18	-15	1.3
RECEPTOR 2	-18	-15	1.3
RECEPTOR 3	28	-25	1.3
RECEPTOR 4	-28	-25	1.3

REPORT FOR FILE : carson1

1. Site Variables

U=	1.0 M/S	ZO=	108.0 CM
BRG=	0.0 DEGREES	VD=	0.0 CM/S
CLASS=	F STABILITY	VS=	0.0 CM/S
MIXH=	700.0 M	AMB=	0.0 PPM
SIGTH=	5.0 DEGREES	TEMP=	10.0 DEGREE (C)

2. Link Description

LINK DESCRIPTION	X1	Y1	X2	Y2	TYPE	VPH	EF (G/MI)	H (M)	W (M)
A. LATROBE NB	5	-200	5	200	AG	1452	15.6	0.0	9.3
B. LATROBE SB	-6	200	-6	-200	AG	1732	15.6	0.0	12.6
C. WHITE RK WB1	200	5	5	5	AG	67	15.6	0.0	9.3
D. WHITE RK EB1	-200	-5	-6	-5	AG	882	15.6	0.0	9.3
E. WHITE RK WB2	-6	5	-200	5	AG	671	15.6	0.0	9.3
F. WHITE RK EB2	5	-5	200	-5	AG	74	15.6	0.0	9.3

LINK COORDINATES (M) apply to X1, Y1, X2, Y2.

LINK	MIXW L (M)	MIXW R (M)	STPL (M)	DCLT (SEC)	ACCT (SEC)	SPD (MPH)	NCYC	NDLA	VPHO	EFI (G/MIN)	IDT1 (SEC)	IDT2 (SEC)
A.	0	0	0	0.0	0.0	0	0	0	0	0.0	0.0	0.0
B.	0	0	0	0.0	0.0	0	0	0	0	0.0	0.0	0.0
C.	0	0	0	0.0	0.0	0	0	0	0	0.0	0.0	0.0
D.	0	0	0	0.0	0.0	0	0	0	0	0.0	0.0	0.0
E.	0	0	0	0.0	0.0	0	0	0	0	0.0	0.0	0.0
F.	0	0	0	0.0	0.0	0	0	0	0	0.0	0.0	0.0

3. Receptor Coordinates

	X	Y	Z
RECEPTOR 1	14	14	1.3
RECEPTOR 2	14	-14	1.3
RECEPTOR 3	-18	-14	1.3
RECEPTOR 4	-18	14	1.3
RECEPTOR 5	24	24	1.3
RECEPTOR 6	24	-24	1.3
RECEPTOR 7	-28	-24	1.3
RECEPTOR 8	-28	24	1.3

REPORT FOR FILE : CARSON2

1. Site Variables

U=	1.0 M/S	ZO=	108.0 CM
BRG=	0.0 DEGREES	VD=	0.0 CM/S
CLASS=	F STABILITY	VS=	0.0 CM/S
MIXH=	700.0 M	AMB=	0.0 PPM
SIGTH=	5.0 DEGREES	TEMP=	10.0 DEGREE (C)

2. Link Description

LINK DESCRIPTION	X1	Y1	X2	Y2	TYPE	VPH	EF (G/MI)	H (M)	W (M)
A. EDH NB	6	-200	6	200	IN	2137	15.6	0.0	12.6
B. EDH SB	-6	200	-6	-200	IN	1222	15.6	0.0	12.6
C. WB OFFRAMP	200	0	6	0	FL	894	15.6	5.0	9.3
D. WB ONRAMP	-6	0	-200	0	FL	682	15.6	5.0	9.3

LINK COORDINATES (M) apply to X1, Y1, X2, Y2.

LINK	MIXW L (M)	MIXW R (M)	STPL (M)	DCLT (SEC)	ACCT (SEC)	SPD (MPH)	NCYC	NDLA	VPHO	EFI (G/MIN)	IDT1 (SEC)	IDT2 (SEC)
A.	0	0	195	7.6	10.6	35	16	5	1905	1.2	20.0	0.0
B.	0	0	195	7.6	10.6	35	14	5	1666	1.2	20.0	0.0
C.	0	0	0	0.0	0.0	0	0	0	0	0.0	0.0	0.0
D.	0	0	0	0.0	0.0	0	0	0	0	0.0	0.0	0.0

3. Receptor Coordinates

	X	Y	Z
RECEPTOR 1	18	10	1.3
RECEPTOR 2	-18	10	1.3
RECEPTOR 3	28	20	1.3
RECEPTOR 4	-28	20	1.3

REPORT FOR FILE : carson3

1. Site Variables

U=	1.0 M/S	ZO=	108.0 CM
BRG=	0.0 DEGREES	VD=	0.0 CM/S
CLASS=	F STABILITY	VS=	0.0 CM/S
MIXH=	700.0 M	AMB=	0.0 PPM
SIGTH=	5.0 DEGREES	TEMP=	10.0 DEGREE (C)

2. Link Description

LINK DESCRIPTION	X1	Y1	X2	Y2	TYPE	VPH	EF (G/MI)	H (M)	W (M)
A. LATROBE NB	6	-200	6	0	AG	2286	15.6	0.0	12.6
B. EDH SB	-6	200	-6	0	AG	1666	15.6	0.0	12.6
C. EDH NB	6	0	6	200	AG	2137	15.6	0.0	12.6
D. LATROBE SB	-6	0	-6	-200	AG	1738	15.6	0.0	12.6
E. EB ONRAMP	6	-5	200	-5	FL	1115	15.6	5.0	9.3
F. EB OFFRAMP	200	5	6	5	FL	1038	15.6	5.0	9.3

(X1, Y1, X2, Y2 = LINK COORDINATES (M))

LINK	MIXW L (M)	MIXW R (M)	STPL (M)	DCLT (SEC)	ACCT (SEC)	SPD (MPH)	NCYC	NDLA	VPHO	EFI (G/MIN)	IDT1 (SEC)	IDT2 (SEC)
A.	0	0	195	7.6	10.6	35	16	5	1905	1.2	20.0	0.0
B.	0	0	195	7.6	10.6	35	14	5	1666	1.2	20.0	0.0
C.	0	0	0	0.0	0.0	0	0	0	0	0.0	0.0	0.0
D.	0	0	0	0.0	0.0	0	0	0	0	0.0	0.0	0.0
E.	0	0	0	0.0	0.0	0	0	0	0	0.0	0.0	0.0
F.	0	0	0	0.0	0.0	0	0	0	0	0.0	0.0	0.0

3. Receptor Coordinates

	X	Y	Z
RECEPTOR 1	18	-15	1.3
RECEPTOR 2	-18	-15	1.3
RECEPTOR 3	28	-25	1.3
RECEPTOR 4	-28	-25	1.3

REPORT FOR FILE : carson4

1. Site Variables

U=	1.0 M/S	ZO=	108.0 CM
BRG=	0.0 DEGREES	VD=	0.0 CM/S
CLASS=	F STABILITY	VS=	0.0 CM/S
MIXH=	700.0 M	AMB=	0.0 PPM
SIGTH=	5.0 DEGREES	TEMP=	10.0 DEGREE (C)

2. Link Description

LINK DESCRIPTION	X1	Y1	X2	Y2	TYPE	VPH	EF (G/MI)	H (M)	W (M)
A. PROJ ACC NB	5	-200	5	-5	AG	803	15.6	0.0	9.3
B. PROJ ACC SB	-5	-5	-5	-200	AG	813	15.6	0.0	9.3
C. WHITE RK WB	200	5	-200	5	IN	666	15.6	0.0	9.3
D. WHITE RK EB	-200	-5	200	-5	IN	450	15.6	0.0	9.3

LINK COORDINATES (M): X1, Y1, X2, Y2

LINK	MIXW L (M)	MIXW R (M)	STPL (M)	DCLT (SEC)	ACCT (SEC)	SPD (MPH)	NCYC	NDLA	VPHO	EFI (G/MIN)	IDT1 (SEC)	IDT2 (SEC)
A.	0	0	195	7.6	10.6	35	16	5	1905	1.2	20.0	0.0
B.	0	0	195	7.6	10.6	35	14	5	1666	1.2	20.0	0.0
C.	0	0	191	7.6	10.6	35	4	2	230	1.2	30.0	0.0
D.	0	0	191	7.6	10.6	35	15	7	876	1.2	30.0	0.0

3. Receptor Coordinates

	X	Y	Z
RECEPTOR 1	15	15	1.3
RECEPTOR 2	15	-15	1.3
RECEPTOR 3	-15	-15	1.3
RECEPTOR 4	-15	15	1.3
RECEPTOR 5	25	25	1.3
RECEPTOR 6	25	-25	1.3
RECEPTOR 7	-25	-25	1.3
RECEPTOR 8	-25	25	1.3

REPORT FOR FILE : cccum1

1. Site Variables

U=	1.0 M/S	ZO=	108.0 CM
BRG=	0.0 DEGREES	VD=	0.0 CM/S
CLASS=	F STABILITY	VS=	0.0 CM/S
MIXH=	700.0 M	AMB=	0.0 PPM
SIGTH=	5.0 DEGREES	TEMP=	10.0 DEGREE (C)

2. Link Description

LINK DESCRIPTION	X1	Y1	X2	Y2	TYPE	VPH	EF (G/MI)	H (M)	W (M)
A. LATROBE NB	8	-200	8	200	IN	1013	14.0	0.0	15.9
B. LATROBE SB	-8	200	-8	-200	IN	898	14.0	0.0	15.9
C. WHITE RK WB	200	8	-200	8	IN	3245	14.0	0.0	15.9
D. WHITE RK EB	-200	-8	200	-8	IN	2120	14.0	0.0	15.9

(LINK COORDINATES (M): X1, Y1, X2, Y2)

LINK	MIXW L (M)	MIXW R (M)	STPL (M)	DCLT (SEC)	ACCT (SEC)	SPD (MPH)	NCYC	NDLA	VPHO	EFI (G/MIN)	IDT1 (SEC)	IDT2 (SEC)
A.	0	0	184	7.6	10.6	35	9	5	1656	1.0	30.0	0.0
B.	0	0	184	7.6	10.6	35	28	14	5106	1.0	30.0	0.0
C.	0	0	184	7.6	10.6	35	1	1	226	1.0	30.0	0.0
D.	0	0	184	7.6	10.6	35	2	1	272	1.0	30.0	0.0

3. Receptor Coordinates

	X	Y	Z
RECEPTOR 1	21	21	1.3
RECEPTOR 2	21	-21	1.3
RECEPTOR 3	-21	-21	1.3
RECEPTOR 4	-21	21	1.3
RECEPTOR 5	31	31	1.3
RECEPTOR 6	31	-31	1.3
RECEPTOR 7	-31	-31	1.3
RECEPTOR 8	-31	31	1.3

MODEL RESULTS FOR FILE a:ccexist1

RECEPTOR	PRED CONC (PPM)	WIND BRG (DEG)	COCN/LINK (PPM) A	B	C	D	E	F
RECPT 1	1.0	188	0.7	0.2	0.0	0.0	0.0	0.0
RECPT 2	1.0	352	0.7	0.2	0.0	0.0	0.0	0.0
RECPT 3	0.8	10	0.3	0.3	0.0	0.1	0.0	0.0
RECPT 4	0.8	170	0.3	0.3	0.0	0.1	0.0	0.0
RECPT 5	0.6	191	0.4	0.2	0.0	0.0	0.0	0.0
RECPT 6	0.6	349	0.4	0.2	0.0	0.0	0.0	0.0
RECPT 7	0.6	13	0.3	0.2	0.0	0.1	0.0	0.0
RECPT 8	0.6	167	0.3	0.2	0.0	0.1	0.0	0.0

MODEL RESULTS FOR FILE a:ccexist2

RECEPTOR	PRED CONC (PPM)	WIND BRG (DEG)	COCN/LINK (PPM) A	B	C	D
RECPT 1	5.2	208	4.7	0.4	0.2	0.0
RECPT 2	4.0	135	2.8	0.9	0.0	0.2
RECPT 3	3.4	215	3.0	0.3	0.1	0.0
RECPT 4	3.0	135	2.2	0.7	0.0	0.1

MODEL RESULTS FOR FILE a:ccexist3

RECEPTOR	PRED CONC (PPM)	WIND BRG (DEG)	COCN/LINK (PPM) A	B	C	D	E	F
RECPT 1	2.0	350	0.0	0.3	1.2	0.0	0.3	0.3
RECPT 2	1.5	81	0.3	0.0	0.0	0.2	0.5	0.5
RECPT 3	1.3	348	0.0	0.2	0.7	0.0	0.2	0.2
RECPT 4	1.0	78	0.2	0.0	0.0	0.1	0.3	0.4

MODEL RESULTS FOR FILE carson1

RECEPTOR	PRED CONC (PPM)	WIND BRG (DEG)	COCN/LINK (PPM) A	B	C	D	E	F
RECPT 1	2.6	261	0.7	0.6	0.0	0.5	0.7	0.0
RECPT 2	2.7	278	0.7	0.6	0.0	0.9	0.4	0.0
RECPT 3	2.8	10	0.7	1.5	0.0	0.5	0.2	0.0
RECPT 4	2.8	170	0.7	1.5	0.0	0.3	0.4	0.0
RECPT 5	1.7	258	0.5	0.5	0.0	0.4	0.4	0.0
RECPT 6	1.8	281	0.5	0.5	0.0	0.5	0.3	0.0
RECPT 7	1.9	13	0.5	0.9	0.0	0.3	0.2	0.0
RECPT 8	1.9	167	0.5	0.9	0.0	0.2	0.2	0.0

MODEL RESULTS FOR FILE carson2

RECEPTOR	PRED CONC (PPM)	WIND BRG (DEG)	COCN/LINK (PPM) A	B	C	D
RECPT 1	7.9	208	5.8	1.5	0.5	0.0
RECPT 2	7.2	135	3.5	3.4	0.0	0.3
RECPT 3	5.3	215	3.6	1.3	0.3	0.0
RECPT 4	5.2	136	2.7	2.3	0.0	0.2

MODEL RESULTS FOR FILE carson3

RECEPTOR	PRED CONC (PPM)	WIND BRG (DEG)	COCN/LINK (PPM) A	B	C	D	E	F
RECPT 1	3.4	348	0.0	0.8	1.7	0.0	0.6	0.3
RECPT 2	3.1	81	0.7	0.0	0.0	0.8	1.0	0.6
RECPT 3	2.3	346	0.0	0.6	1.0	0.0	0.4	0.3
RECPT 4	2.2	78	0.5	0.0	0.0	0.6	0.6	0.4

MODEL RESULTS FOR FILE carson4

RECEPTOR	PRED CONC (PPM)	WIND BRG (DEG)	COCN/LINK (PPM) A	B	C	D
RECPT 1	6.1	196	0.6	0.4	4.0	1.0
RECPT 2	3.9	354	0.0	0.0	2.5	1.4
RECPT 3	5.3	57	0.0	0.4	2.4	2.4
RECPT 4	3.9	111	0.0	0.0	3.0	0.9
RECPT 5	4.1	210	0.3	0.3	2.7	0.9
RECPT 6	2.9	341	0.0	0.0	2.0	0.9
RECPT 7	3.5	52	0.0	0.3	1.8	1.4
RECPT 8	2.8	117	0.0	0.0	2.1	0.7

MODEL RESULTS FOR FILE a:cccum

RECEPTOR	PRED CONC (PPM)	WIND BRG (DEG)	COCN/LINK (PPM) A	B	C	D
RECPT 1	16.0	192	2.2	0.4	13.3	0.1
RECPT 2	7.7	11	0.0	0.0	7.5	0.2
RECPT 3	9.2	57	1.1	2.2	5.5	0.4
RECPT 4	8.4	109	0.8	1.8	5.8	0.1
RECPT 5	11.4	204	1.7	0.5	9.1	0.1
RECPT 6	6.7	348	0.4	0.1	6.1	0.1
RECPT 7	7.0	55	1.0	1.5	4.3	0.3
RECPT 8	6.3	114	0.7	0.8	4.7	0.1

MODEL RESULTS FOR FILE a:cccum1

RECEPTOR	PRED CONC (PPM)	WIND BRG (DEG)	COCN/LINK (PPM) A	B	C	D
RECPT 1	29.8	192	4.4	0.8	24.2	0.3
RECPT 2	14.1	358	0.6	0.0	13.1	0.4
RECPT 3	17.9	57	2.4	4.6	10.0	0.9
RECPT 4	16.1	109	1.7	3.7	10.6	0.2
RECPT 5	21.3	204	3.4	1.0	16.6	0.2
RECPT 6	12.5	345	1.3	0.5	10.5	0.3
RECPT 7	13.6	53	2.0	3.2	7.8	0.6
RECPT 8	11.8	114	1.5	1.6	8.6	0.1

EMFAC7PC EMISSION FACTORS
VERSION :EMFAC7D ...11/88

YEAR : 1995 TEMPERATURE : 50
PERCENT VMT COLD : 30.0 PERCENT VMT HOT : 10.0

PM10 Percent Exhaust : 99.1 Tire Wear : 40.0
Sulfur Content Leaded :450.0 ppm Unleaded :200.0 ppm
Sulfur Content Diesel :0.280 %

GRAMS PER MILE

Speed	TOG	CO	NOX
5 MPH	5.18	59.81	2.37
10 MPH	3.88	47.19	2.10
15 MPH	2.98	37.56	1.90
20 MPH	2.35	30.02	1.77
25 MPH	1.89	24.06	1.69
30 MPH	1.56	19.33	1.64
35 MPH	1.31	15.56	1.63
40 MPH	1.12	12.57	1.66
45 MPH	0.98	10.20	1.72
50 MPH	0.87	8.33	1.81
55 MPH	0.79	6.87	1.96

Idle Emission Factors

TOG	0.15	Gr/Min	Fuel Use	22.4	MPG
CO	1.21	Gr/Min	PM10	0.165	GR/MILE
NOx	0.16	Gr/Min	Sox	0.186	Gr/Mile

APPENDIX D

Noise Data

TABLE 1
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 6/27/95
ROADWAY SEGMENT: EL DORADO HILLS BLVD NORTH OF HWY 50
NOTES: EXISTING TRAFFIC

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 15760 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 18 SITE CHARACTERISTICS: HARD

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 68.41

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	144.8	454.8	1437.0

TABLE 2

FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 6/27/95
ROADWAY SEGMENT: LATROBE ROAD FROM HWY 50 TO WHITE ROCK ROAD
NOTES: EXISTING TRAFFIC

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 7780 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 18 SITE CHARACTERISTICS: HARD

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 65.34

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	73.2	225.0	709.6

TABLE 3
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 6/27/95
ROADWAY SEGMENT: LATROBE ROAD FROM WHITE ROCK ROAD TO GOLDEN FOOTHILL NORTH
NOTES: EXISTING TRAFFIC

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 6830   SPEED (MPH): 45   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6   SITE CHARACTERISTICS: HARD

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 65.50

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	62.7	197.4	624.0

TABLE 4
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 6/27/95
ROADWAY SEGMENT:
LATROBE ROAD FROM GOLDEN FOOTHILL NORTH TO GOLDEN FOOTHILL SOUTH
NOTES: EXISTING TRAFFIC

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 6250   SPEED (MPH): 45   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6   SITE CHARACTERISTICS: HARD

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 65.11

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	57.4	180.7	571.0

TABLE 5
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 6/27/95
ROADWAY SEGMENT: LATROBE ROAD SOUTH OF GOLDEN FOOTHILL SOUTH
NOTES: EXISTING TRAFFIC

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 1750 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 59.31

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	50.5	108.1

TABLE 6
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 6/27/95
ROADWAY SEGMENT: WHITE ROCK ROAD WEST OF PROJECT ACCESS
NOTES: EXISTING TRAFFIC

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 1740 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 59.29

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	107.7

TABLE 7
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 6/27/95
ROADWAY SEGMENT: WHITE ROCK ROAD FROM PROJECT ACCESS TO LATROBE ROAD
NOTES: EXISTING TRAFFIC

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 1850   SPEED (MPH): 45   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6   SITE CHARACTERISTICS: HARD

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 59.82

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	53.8	169.1

TABLE 8
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 6/27/95
ROADWAY SEGMENT: WHITE ROCK ROAD EAST OF LATROBE ROAD
NOTES: EXISTING TRAFFIC

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 1010   SPEED (MPH): 45   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 56.93

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	75.1

TABLE 9
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 6/27/95
ROADWAY SEGMENT: HIGHWAY 50 WEST OF EL DORADO HILLS BLVD
NOTES: EXISTING TRAFFIC

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 48500   SPEED (MPH): 55   GRADE: 2

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 30   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 74.06

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
141.5	299.3	642.2	1382.1

TABLE 10
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 6/27/95
ROADWAY SEGMENT: HIGHWAY 50 EAST OF EL DORADO HILLS BLVD
NOTES: EXISTING TRAFFIC

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 46000   SPEED (MPH): 55   GRADE: 2

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 30   SITE CHARACTERISTICS: SOFT

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* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 73.83

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
136.8	289.0	620.0	1334.2

TABLE 1B
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 5/8/96
ROADWAY SEGMENT: EL DORADO HILLS BLVD NORTH OF HWY 50
NOTES: EXISTING PLUS PROJECT TRAFFIC

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 28100   SPEED (MPH): 45   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 18   SITE CHARACTERISTICS: HARD

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 70.92

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
83.0	256.8	810.3	2561.7

TABLE 2B
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 5/8/96
ROADWAY SEGMENT: LATROBE ROAD FROM HWY 50 TO WHITE ROCK ROAD
NOTES: EXISTING PLUS PROJECT TRAFFIC

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 35500   SPEED (MPH): 45   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 18   SITE CHARACTERISTICS: HARD

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 71.94

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
103.9	324.2	1023.6	3236.3

TABLE 3B
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 5/8/96
ROADWAY SEGMENT: LATROBE ROAD FROM WHITE ROCK ROAD TO GOLDEN FOOTHILL NORTH
NOTES: EXISTING PLUS PROJECT TRAFFIC

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 23400 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: HARD

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 70.84

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
67.9	213.9	676.0	2137.3

TABLE 4B
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 5/8/96
ROADWAY SEGMENT:
LATROBE ROAD FROM GOLDEN FOOTHILL NORTH TO GOLDEN FOOTHILL SOUTH
NOTES: EXISTING PLUS PROJECT TRAFFIC

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 22800 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: HARD

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 70.73

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
66.1	208.4	658.6	2082.5

TABLE 5B
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 5/8/96
ROADWAY SEGMENT: LATROBE ROAD SOUTH OF GOLDEN FOOTHILL SOUTH
NOTES: EXISTING PLUS PROJECT TRAFFIC

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 7800   SPEED (MPH): 45   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 65.81

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	63.3	135.8	292.3

TABLE 6B
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 5/8/96
ROADWAY SEGMENT: WHITE ROCK ROAD WEST OF PROJECT ACCESS
NOTES: EXISTING PLUS PROJECT TRAFFIC

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 6400 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: SOFT

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 64.95

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	55.5	119.1	256.2

TABLE 7B
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 5/8/96
ROADWAY SEGMENT: WHITE ROCK ROAD FROM PROJECT ACCESS TO LATROBE ROAD
NOTES: EXISTING PLUS PROJECT TRAFFIC

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 13400 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6 SITE CHARACTERISTICS: HARD

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 68.42

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	122.6	387.2	1224.1

TABLE 8B
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 5/8/96
ROADWAY SEGMENT: WHITE ROCK ROAD EAST OF LATROBE ROAD
NOTES: EXISTING PLUS PROJECT TRAFFIC

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 1400   SPEED (MPH): 45   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 58.35

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	0.0	0.0	93.2

TABLE 9B
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 5/10/96
ROADWAY SEGMENT: HIGHWAY 50 WEST OF EL DORADO HILLS BLVD
NOTES: EXISTING PLUS PROJECT TRAFFIC

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 54700   SPEED (MPH): 55   GRADE: 2

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 30   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 74.58

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
152.8	324.1	695.7	1497.4

TABLE 10B
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 5/10/96
ROADWAY SEGMENT: HIGHWAY 50 EAST OF EL DORADO HILLS BLVD
NOTES: EXISTING PLUS PROJECT TRAFFIC

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 57600   SPEED (MPH): 55   GRADE: 2

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 30   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 74.81

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
157.9	335.3	720.0	1549.9

TABLE 1C
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 5/8/96
ROADWAY SEGMENT: EL DORADO HILLS BLVD NORTH OF HWY 50
NOTES: CUMULATIVE BASE

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 41900   SPEED (MPH): 45   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 30   SITE CHARACTERISTICS: HARD

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 72.11

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
124.3	382.6	1206.3	3813.3

TABLE 2C
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 5/8/96
ROADWAY SEGMENT: LATROBE ROAD FROM HWY 50 TO WHITE ROCK ROAD
NOTES: CUMULATIVE BASE

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 42600 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 30 SITE CHARACTERISTICS: HARD

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 72.19

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
126.2	388.9	1226.5	3877.0

TABLE 3C
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 5/8/96
ROADWAY SEGMENT: LATROBE ROAD FROM WHITE ROCK ROAD TO GOLDEN FOOTHILL NORTH
NOTES: CUMULATIVE BASE

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 18300 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 18 SITE CHARACTERISTICS: HARD

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 69.06

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
55.8	167.8	527.9	1668.4

TABLE 4C
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 5/8/96
ROADWAY SEGMENT:
LATROBE ROAD FROM GOLDEN FOOTHILL NORTH TO GOLDEN FOOTHILL SOUTH
NOTES: CUMULATIVE BASE

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 15500   SPEED (MPH): 45   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 18   SITE CHARACTERISTICS: HARD

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 68.34

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	142.5	447.3	1413.3

TABLE 5C
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 5/8/96
ROADWAY SEGMENT: LATROBE ROAD SOUTH OF GOLDEN FOOTHILL SOUTH
NOTES: CUMULATIVE BASE

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 8500   SPEED (MPH): 45   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6   SITE CHARACTERISTICS: HARD

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 66.45

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	77.9	245.6	776.5

TABLE 6C
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 5/8/96
ROADWAY SEGMENT: WHITE ROCK ROAD WEST OF PROJECT ACCESS
NOTES: CUMULATIVE BASE

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 20000   SPEED (MPH): 45   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 18   SITE CHARACTERISTICS: HARD

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 69.44

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
60.4	183.2	576.9	1823.3

TABLE 7C
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 5/8/96
ROADWAY SEGMENT: WHITE ROCK ROAD FROM PROJECT ACCESS TO LATROBE ROAD
NOTES: CUMULATIVE BASE

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 28700   SPEED (MPH): 45   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 18   SITE CHARACTERISTICS: HARD

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 71.01

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
84.7	262.3	827.6	2616.4

TABLE 8C
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 5/8/96
ROADWAY SEGMENT: WHITE ROCK ROAD EAST OF LATROBE ROAD
NOTES: CUMULATIVE BASE

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 30500 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 30 SITE CHARACTERISTICS: HARD

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 70.73

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
92.8	279.2	878.4	2775.9

TABLE 9C
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 5/8/96
ROADWAY SEGMENT: HIGHWAY 50 WEST OF EL DORADO HILLS BLVD
NOTES: CUMULATIVE BASE

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 107300 SPEED (MPH): 55 GRADE: 2

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 42 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 76.86

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
238.2	506.9	1088.8	2344.0

TABLE 10C
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 5/8/96
ROADWAY SEGMENT: HIGHWAY 50 EAST OF EL DORADO HILLS BLVD
NOTES: CUMULATIVE BASE

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 104600   SPEED (MPH): 55   GRADE: 2

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 42   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 76.75

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
234.3	498.4	1070.5	2304.5

TABLE 1D
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 5/8/96
ROADWAY SEGMENT: EL DORADO HILLS BLVD NORTH OF HWY 50
NOTES: CUMULATIVE PLUS PROJECT

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* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 44300   SPEED (MPH): 45   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 30   SITE CHARACTERISTICS: HARD

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 72.36

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
131.0	404.3	1275.4	4031.7

TABLE 2D
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 5/8/96
ROADWAY SEGMENT: LATROBE ROAD FROM HWY 50 TO WHITE ROCK ROAD
NOTES: CUMULATIVE PLUS PROJECT

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 48600   SPEED (MPH): 45   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 30   SITE CHARACTERISTICS: HARD

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 72.76

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
143.1	443.4	1399.1	4423.0

TABLE 3D
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 5/8/96
ROADWAY SEGMENT: LATROBE ROAD FROM WHITE ROCK ROAD TO GOLDEN FOOTHILL NORTH
NOTES: CUMULATIVE PLUS PROJECT

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 29700   SPEED (MPH): 45   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 18   SITE CHARACTERISTICS: HARD

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 71.16

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
87.5	271.4	856.4	2707.6

TABLE 4D
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 5/8/96
ROADWAY SEGMENT:
LATROBE ROAD FROM GOLDEN FOOTHILL NORTH TO GOLDEN FOOTHILL SOUTH
NOTES: CUMULATIVE PLUS PROJECT

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 26900   SPEED (MPH): 45   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 18   SITE CHARACTERISTICS: HARD

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 70.73

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
79.6	245.9	775.7	2452.3

TABLE 5D
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 5/8/96
ROADWAY SEGMENT: LATROBE ROAD SOUTH OF GOLDEN FOOTHILL SOUTH
NOTES: CUMULATIVE PLUS PROJECT

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 17000   SPEED (MPH): 45   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 6   SITE CHARACTERISTICS: HARD

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 69.46

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
0.0	155.4	491.2	1552.9

TABLE 6D
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 5/8/96
ROADWAY SEGMENT: WHITE ROCK ROAD WEST OF PROJECT ACCESS
NOTES: CUMULATIVE PLUS PROJECT

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 21090   SPEED (MPH): 45   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 18   SITE CHARACTERISTICS: HARD

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 69.67

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
63.4	193.1	608.3	1922.7

TABLE 7D
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 5/8/96
ROADWAY SEGMENT: WHITE ROCK ROAD FROM PROJECT ACCESS TO LATROBE ROAD
NOTES: CUMULATIVE PLUS PROJECT

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 36300   SPEED (MPH): 45   GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 18   SITE CHARACTERISTICS: HARD

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 72.03

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
106.2	331.5	1046.7	3309.2

TABLE 8D
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 5/8/96
ROADWAY SEGMENT: WHITE ROCK ROAD EAST OF LATROBE ROAD
NOTES: CUMULATIVE PLUS PROJECT

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 43500 SPEED (MPH): 45 GRADE: .5

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 30 SITE CHARACTERISTICS: HARD

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 72.28

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
128.8	397.1	1252.4	3958.9

TABLE 9D
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 5/8/96
ROADWAY SEGMENT: HIGHWAY 50 WEST OF EL DORADO HILLS BLVD
NOTES: CUMULATIVE PLUS PROJECT

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 109500 SPEED (MPH): 55 GRADE: 2

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 42 SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 76.95

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
241.4	513.7	1103.6	2375.9

TABLE 10D
FHWA ROADWAY NOISE LEVEL ANALYSIS

RUN DATE: 5/8/96
ROADWAY SEGMENT: HIGHWAY 50 EAST OF EL DORADO HILLS BLVD
NOTES: CUMULATIVE PLUS PROJECT

---

* * ASSUMPTIONS * *

AVERAGE DAILY TRAFFIC: 107900   SPEED (MPH): 55   GRADE: 2

TRAFFIC DISTRIBUTION PERCENTAGES

	DAY	EVENING	NIGHT
AUTOS	75.51	12.57	9.34
M-TRUCKS	1.56	0.09	0.19
H-TRUCKS	0.64	0.02	0.08

ACTIVE HALF-WIDTH (FT): 42   SITE CHARACTERISTICS: SOFT

---

* * CALCULATED NOISE LEVELS * *

CNEL AT 50 FT FROM NEAR TRAVEL LANE CENTERLINE (dB) = 76.88

DISTANCE (FEET) FROM ROADWAY CENTERLINE TO CNEL

70 CNEL	65 CNEL	60 CNEL	55 CNEL
239.1	508.7	1092.9	2352.7

NOISE MEASUREMENT SURVEY

Site Number: 1 Date: 1/31/95 Time: From 7:20 a.m To 7:35 a.m.

Site Location: WHITE ROCK ROAD & WHITE ROCK RD APPROX. 10 YDS W OF SPRINGFIELD MEADOWS SUBDIVISION ENTRANCE

Measurements (dBA)

L_{max}	
L_{10}	
L_{33}	
L_{50}	
L_{90}	
L_{eq}	52.6 dBA
L_{max}	88.3 "
L_{min}	46.5 "
L_{peak}	

Noise Sources

TRAFFIC, SONGBIRDS

Comments CARS ALONG WHITE ROCK ≈ 80-82 dBA. SCHOOL BUS 84-85 dBA, SONGBIRDS & AMBIENT ≈ 55 dBA, MULTIPLE (3) 4x4 VEHICLES @ 88 dBA

Equipment LDL 800B

Atmospheric Conditions: PARTLY CLOUDY

Wind Velocity 0-5 mph

Temperature 55°F Relative Humidity MODERATE

Test Personnel JESSE YANG

NOISE MEASUREMENT SURVEY

Site Number: 2 Date: 1/31/95 Time: From 7:55 am To 8.10

Site Location: GOLDEN FOOTHILLS PARKWAY @ CARSON CREEK (R(7) RESIDENTIAL AREA)

Measurements (dBA)

L_{max} ______

L_{10} ______

L_{33} ______

L_{50} ______

L_{90} ______

L_{eq} 45.9

L_{max} 75 dBA

L_{min} 40.8 dBA.

L_{peak} ______

Noise Sources

CREEK, OCCASIONAL TRAFFIC, SONGBIRDS

Comments SPORTSCAR 67 dBA, MALE SONGBIRD TRICOLOR BLACKBIRD 55 57 dBA, PICK-UP TRUCK 60 dBA, VAN 75 dBA

Equipment LDL 800B

Atmospheric Conditions: PARTLY CLOUDY

Wind Velocity 0-5 mph

Temperature 55-60 °F Relative Humidity MODERATE

Test Personnel JESSE YANG

Michael Brandman Associates

NOISE MEASUREMENT SURVEY

Site Number: 3 Date: 1/31/95 Time: From 8:15am To 8:30a.m.

Site Location: HILLSDALE ABUTTING RIPPEY CORPORATION PROPERTY (BLUE BLDG) @ RESIDENTIAL SITE R (10)

Measurements (dBA)

L_{max}	
L_{10}	
L_{33}	
L_{50}	
L_{90}	
Leq	47.4 dBA
Lmax	52.3 dBA
Lmin	39.1 "
Lpeak	

Noise Sources

DISTANT WATERFOWL ON CARSON CREEK

EMPLOYEE VEHICLES.

Comments SPORADIC EMPLOYEE PARKING. 45-50dBA RIPPEY SITE IS APPROX. 6-10 FT. HIGHER THAN CARSON CRK SITE AT BOUNDARY, VERY FEW NOISES.

Equipment LDL 800B

Atmospheric Conditions: PARTLY CLOUDY, W/ SUN

Wind Velocity 0-5mph

Temperature 60-65°F Relative Humidity MODERATE

Test Personnel J. YANG

NOISE MEASUREMENT SURVEY

Site Number: 4 Date: 1/31/95 Time: From 8:50 To 9:05

Site Location: R(3) PORTION BTWN EVER RESIDENCE AND SUNCAST DR. SPUR. NEAR PRECISION CONTACTS ON SUNCAST DR.

Measurements (dBA)

L_{max}	
L_{10}	
L_{33}	
L_{50}	
L_{90}	
L_{eq}	45.0
L_{max}	87.3
L_{min}	38.0
L_{peak}	

Noise Sources

BIRDS, TRAFFIC, DISTANT CATTLE, FARMERS ON ATVS, LEAF BLOWERS

Comments BIRD SINGING 50-58 dBA, 45-47 dBA FARMERS (2) ON A 4-WHEEL ATV CHECKING OUT CATTLE - ROUND-UP CATTLE 53 dBA. BACKGROUND NOISE = DISTANT - LEAF BLOWERS

Equipment LDL 800B

Atmospheric Conditions: PARTLY CLOUDY

Wind Velocity 0-5 mph

Temperature 55-60°F Relative Humidity MODERATE

Test Personnel J. YANG

NOISE MEASUREMENT SURVEY

Site Number: 5 Date: 1/31/95 Time: From 10:15 To 10:30

Site Location: R (17) NEAR CARSON CREEK TRIBUTARY CONVERGENCE @SPRR

Measurements (dBA)

L_{max}	
L_{10}	
L_{33}	
L_{50}	
L_{90}	
L_{eq}	48.0
L_{max}	90.5
L_{min}	40.0
L_{peak}	

Noise Sources

NEARBY CREEK, BIRDS

Comments DISTANT AIRCRAFT 49 dBA; SONGBIRD 53 dBA

Equipment LDL 800B

Atmospheric Conditions: OVERCAST

Wind Velocity 5 mph

Temperature 55-60°F Relative Humidity MODERATE

Test Personnel J. YANG

NOISE MEASUREMENT SURVEY

Site Number: 6 Date: 1/31/95 Time: From 10:40 To 10:55

Site Location: R(11) NEAREST TO W-O MILL, BY CREEK

Measurements (dBA)

L_{max}	
L_{10}	
L_{33}	
L_{50}	
L_{90}	
L_{eq}	38.3
L_{max}	89.8
L_{min}	35.3
L_{peak}	

Noise Sources

WETSEL-OVIATT MILL, TRUCKS @ MILL BACKING UP, BIRDS, LOGGING TRUCKS DECELERATING DOWN WETSEL-OVIATT ROAD, CREEK, BIRDS

Comments MAJOR BACKGROUND NOISE IS FROM MILL ≈45 dBA LOGGING TRUCK ≈ 46-50 dBA, IN ABSENCE OF MILL, AMBIENT FALLS TO AROUND 40 dBA, 53 dBA SONGBIRD

Equipment LDL 800B

Atmospheric Conditions: PARTLY CLOUDY

Wind Velocity 0-5 mph

Temperature 65°F Relative Humidity MODERATE

Test Personnel J. YANG

APPENDIX E

Wetland Preservation and Compensation Plan

CARSON CREEK

SECTION 404 REGULATORY COMPLIANCE

REGULATORY NUMBER 198900080

MOSHER LIMITED PARTNERSHIP
EL DORADO HILLS, CA

Prepared for:

U.S. Army Corps of Engineers
Sacramento District

Environmental Protection Agency
Region IX

U.S. Fish and Wildlife Service
Region 1

California Department of Fish and Game
Region 2

January 21, 1993

SUGNET & ASSOCIATES
ENVIRONMENTAL CONSULTANTS

CONTENTS

SECTION 404 REGULATORY COMPLIANCE
Regulatory Number 198900080
Carson Creek Ranch

SECTION 1.0 PROJECT SUMMARY

SECTION 1.0

PROJECT SUMMARY

APPLICANT:

Mosher Limited Partnership
7700 College Town Drive
Sacramento, CA 95826

PROJECT LOCATION:

The project is located approximately 1 mile south of U.S. Highway 50 in El Dorado Hills, El Dorado County, California. The project is bounded by the Sacramento/El Dorado County line on the west, Southern Pacific Railroad to the southwest, the Wetsel-Oviatt Lumber Company to the south and El Dorado Hills Business Park and rural range land to the north and east. T9N, R8E, Sections 23 and 26.

WATERBODY TO BE AFFECTED BY PROPOSED ACTION:

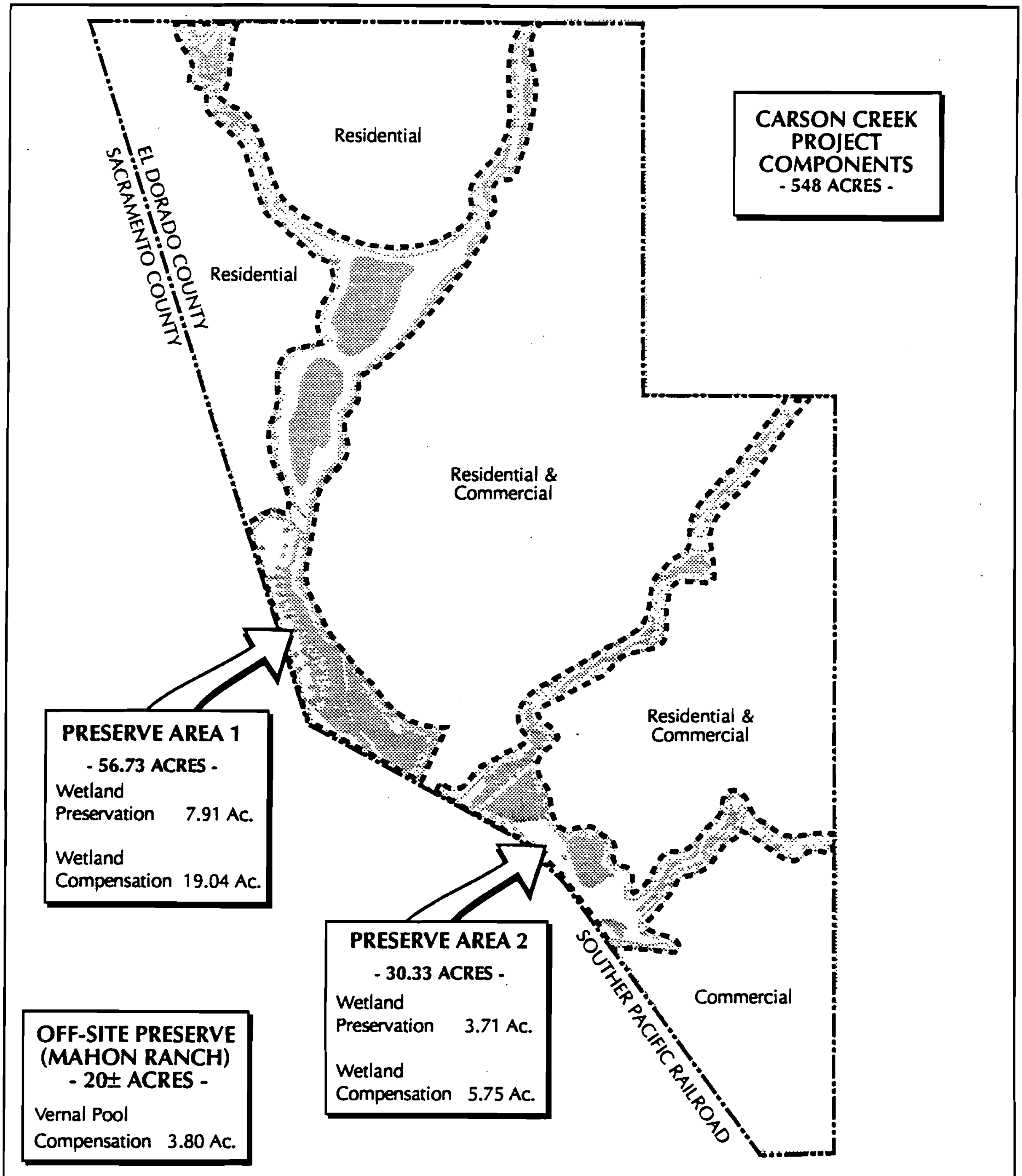
Unnamed seasonal wetlands and a groundwater discharge area within the watershed of Carson Creek.

Table 1-1: Acreage Summary[1]

Wetland Type	Existing Acreage	Preserve Acreage	Impact Acreage	Compensation Acreage	
				On-Site	Off-Site
Vernal Pool	3.05	0.13	2.92	--	3.80
Seasonal Wetland	7.66	0.66	7.00	6.74	--
Channel	11.77	10.28	1.49	--	--
Ground water Discharge Area	4.95	0.63	4.32	--	--
Perennial Marsh				4.41	
Seasonal Marsh	--	--	--	10.19	--
Riparian Woodland	--	--	--	2.75	--
Open Water	--	--	--	0.70	--
Total:	**27.43**	**11.70**[2]	**15.73**	**24.79**	**3.80**

[1] The project is planned as a mixed use project covering 548 acres including open space, park and wetland preserves. A total of 87.06 acres has been specifically set aside in perpetuity to protect 11.70 acres of intermittent and perennial drainage and seasonal wetland habitat. Compensation for loss of 12.81 acres of wetlands will be achieved by construction of 24.79 acres of wetland habitat within designated preserves. Compensation for loss of 2.92 acres of vernal pools will be achieved by construction of 3.80 acres of vernal pools at Mahon Ranch Preserve. The overall average compensation ratio is 1.82:1.

[2] On-site wetland preservation/compensation areas will have 50' buffers to other land uses. Acreages of existing wetlands that are to be preserved within the buffer have been calculated at 50%.



CARSON CREEK PROJECT COMPONENTS

FIGURE 1-1

N

SCALE IN FEET 0 475 950

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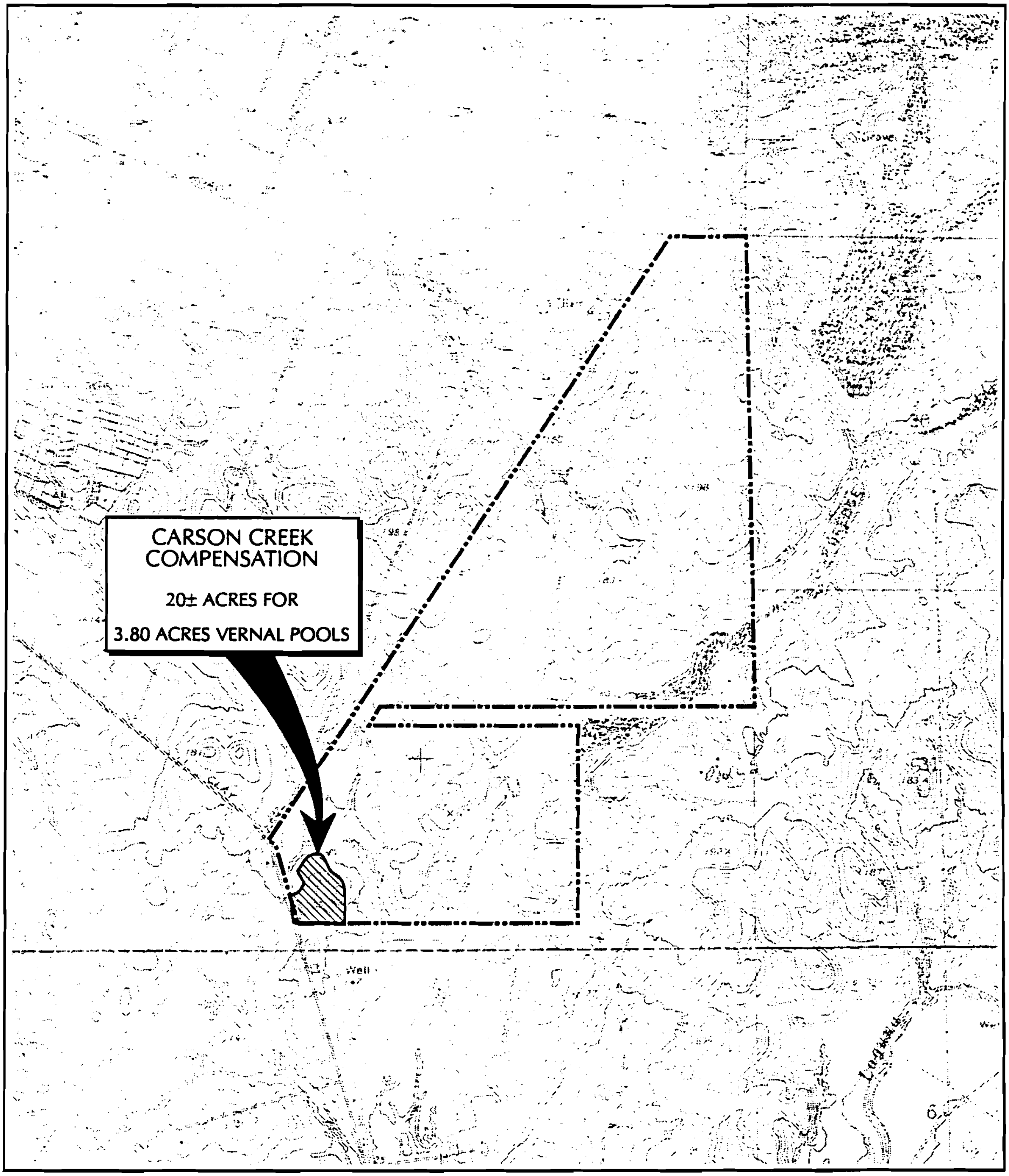
SECTION 404 REGULATORY COMPLIANCE
CARSON CREEK RANCH



OFF-SITE MITIGATION AREA COMPONENT
AT MAHON RANCH PRESERVE

FIGURE 1-2

N

SCALE IN FEET 0 1000 2000

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SECTION 404 REGULATORY COMPLIANCE
CARSON CREEK RANCH

"Sloughhouse Quadrangle"
USGS 7.5 topographic map.

Several alternatives have been considered for the project. Primary consideration in the early evaluation of alternatives were the avoidance of impacts on existing wetland resources and design and development limitations of the project site in an effort to maximize wetland preservation. Conceptual plans for the site were substantially revised during early review processes with project consultants in order to avoid wetland fill whenever feasible.

Existing aquatic resources in Carson Creek have been analyzed to develop design performance and success criteria to insure that compensation habitat will equal or exceed the values found on site prior to development and impacts.

SECTION 2.0 INTRODUCTION

SECTION 2.0

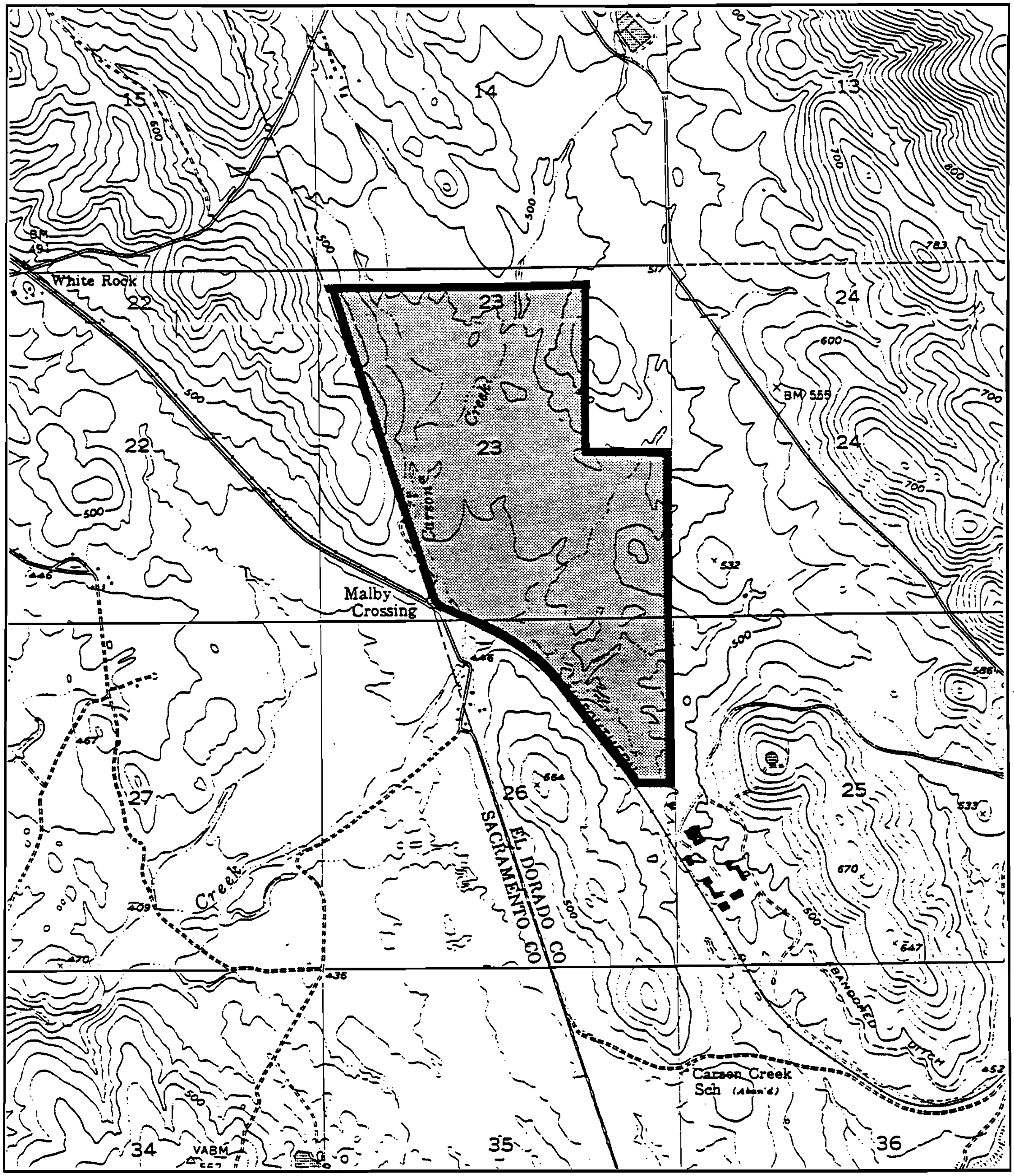
INTRODUCTION

PROJECT DESCRIPTION

A 548-acre, mixed-use, master-planned community called Carson Creek is proposed for development in west El Dorado County, California. The site is bounded by the Sacramento-El Dorado County border to the west, Southern Pacific Railroad tracks to the southwest, the Wetsel-Oviatt Lumber Company to the south and the El Dorado Hills Business Park to the north and east (Figure 2-1).

The purpose of the project is to provide affordable housing and amenities while preserving open space and seasonal wetlands in a region that has been undergoing rapid growth. The 548-acre development includes approximately 298 acres of residential uses, 65 acres of industrial, commercial and business uses, 8 acres of schools, a 2-acre church, approximately 41 acres of roadways and light rail parking, 40 acres of active parklands, a 15-acre regional park, and 87 acres of wetland preserves and open space.

An extensive assessment of wetlands and other sensitive biotic resources was conducted prior to the development of the current land-use plan. As a result, a comprehensive planning approach was used to integrate project components while minimizing impacts to wetland resources. The site development plan concept was based on the preservation and enhancement of the highest value wetlands on site. The Carson Creek drainage system is preserved within wide, open space corridors. Wetland habitat values are to be enhanced through extensive planting efforts and the elimination of cattle grazing. Wetlands proposed for fill are either low value intermittent drainages or scattered wetlands located in areas essential to an integrated, economically feasible project.



PROJECT SITE AND VICINITY

FIGURE 2-1

SCALE IN FEET 0 1000 2000

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©1992

SECTION 404 REGULATORY COMPLIANCE
CARSON CREEK RANCH

N

"Folsom SE Quadrangle"
USGS 7.5 topographic map.

A mitigation plan has been developed to preserve existing wetlands where practicable and compensate for unavoidable impacts to existing wetlands with the goal of no net loss of total wetland habitat. A five year monitoring plan is proposed to ensure successful implementation and function of new habitat.

The project area contains 27.43 acres of seasonal and perennial wetlands of which 11.70 acres will be avoided and preserved. Compensation for 12.81 acres of wetland impacts will be achieved by construction of 24.79 acres of wetland habitat within designated preserves. Compensation for loss of 2.92 acres of vernal pools will be achieved by construction of 3.80 acres of vernal pools at the Mahon Ranch preserve. The Mahon Ranch Preserve is located approximately 4 miles southeast of Sloughhouse, Sacramento County, California, directly east of Clay Station Road (Figure 2-2).

EXISTING CONDITIONS

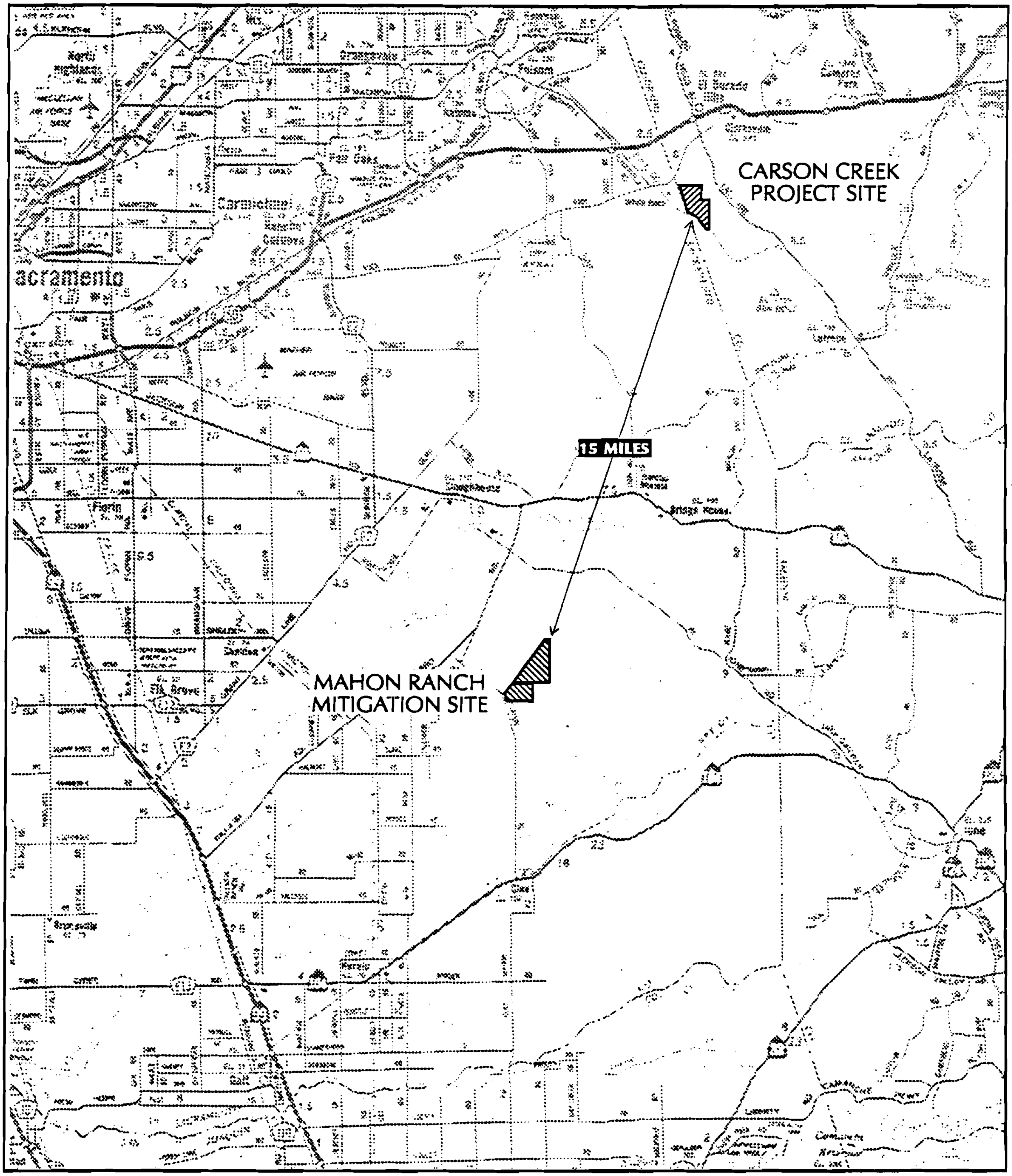
• SITE LOCATION AND TOPOGRAPHY

Carson Creek is located approximately one mile south of U.S. Highway 50 in El Dorado Hills, in El Dorado County, California. The site is bounded by the Sacramento/El Dorado County line on the west, Southern Pacific Railroad tracks on the southwest, the Wetsel-Oviatt Lumber Company to the south and rural rangeland and El Dorado Hills Business Park land to the north and east.

The project site is characterized by gently rolling topography with elevations ranging from approximately 440 feet mean sea level (MSL) at the southwest portion of the site to approximately 540 feet MSL at the northeast corner of the site.

• GEOLOGY AND SOILS

The project site is located in the eastern portion of the Great Valley Geomorphic Province in an area characterized by low alluvial plains and fan deposits composed of sediments derived from the Sierra Nevada (Sacramento Sheet, California Division of Mines and Geology, 1981).



OFF-SITE MITIGATION AREA AT MAHON RANCH

FIGURE 2-2

SCALE IN MILES 0 2 4

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SECTION 404 REGULATORY COMPLIANCE
CARSON CREEK RANCH

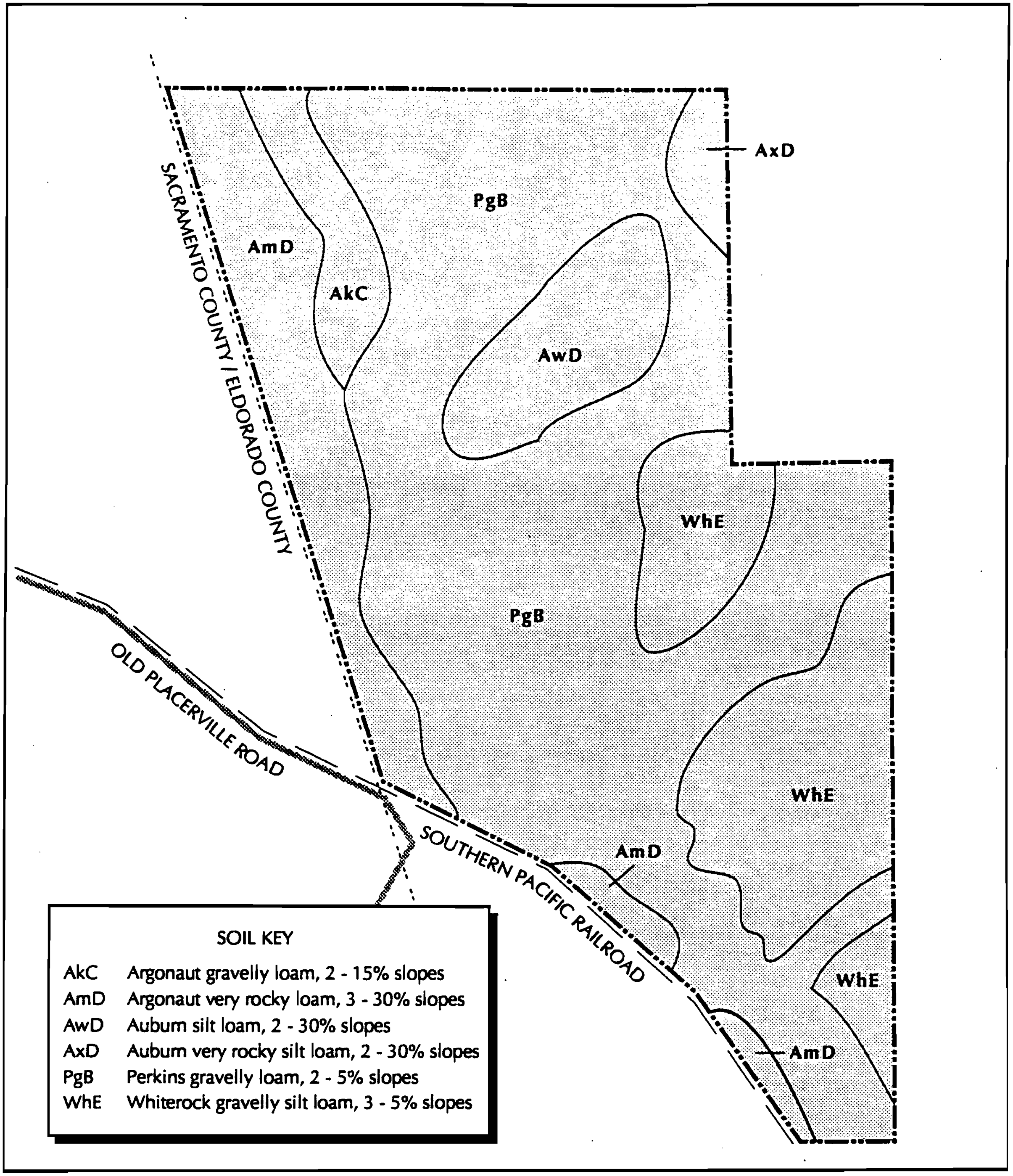
The Soil Survey of El Dorado County, California (USDA Soil Conservation Service, 1980) shows six soil types occurring on the property. Perkins gravelly loam is the dominant soil on the site, representing about 60% of the total area.

Other substantial components include Whiterock gravelly silt loam, Argonaut very rocky loam and Auburn silt loam. Distribution of these soils on-site is shown in Figure 2-3. Summary SCS descriptions for each soil type are provided below.

Argonaut gravelly loam, 2-15% slopes (AkC)
This soil is formed on metabasic or basic rocks and less than 5% of the surface is bedrock outcrops. Typically the surface layer is brown, gravelly loam and gravelly silt loam about 7 inches thick. The subsoil is yellowish-red, yellowish-brown, and brown silt loam, clay, and gravelly clay. Depth to weathered metavolcanic rock is approximately 30 inches. Permeability is very slow, available water capacity is 2.5 to 4 inches. Runoff is slow to medium. The hazard of erosion is slight to moderate.

Argonaut very rocky loam, 3-30% slopes (AmD)
This unit consists of well-drained soils underlain by metabasic or basic rocks at a depth of 20 to 40 inches. Five to 25 percent of the surface has outcrops of bedrock. Typically, the surface layer is brown gravelly loam to gravelly silt loam about 7 inches thick. The upper part of the subsoil is yellowish red silt loam about 3 inches thick. The next part is yellowish red clay about 25 inches thick. The lower part of the subsoil is brown gravelly clay to a depth of approximately 30 inches. Permeability is very slow and available water capacity is 2.5 to 4.0 inches. Runoff is slow to medium and the hazards of water erosion is slight to moderate.

Auburn very rocky silt loam, 2-30% slopes (AxD)
This soil is formed over hard metamorphic rocks at a depth of 12 to 26 inches found on gently sloping to moderately steep slopes. Outcrops of bedrock cover



SCS SOIL TYPES

FIGURE 2-3

SCALE IN FEET 0 500 1000

N

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SECTION 404 REGULATORY COMPLIANCE
CARSON CREEK RANCH

SCS SOIL SURVEY, EL DORADO COUNTY

5-25% of the surface. Typically the surface layer is brown to reddish-brown silt loam about 4 inches thick. The subsoil is reddish-yellow silt loam underlain by bedrock from 12 to 26 inches deep. Permeability is moderate, available water capacity is 2 to 4 inches. Runoff is slow to medium. The hazard of erosion is slight to moderate.

Perkins gravelly loam, moderately deep variant, 2-5% slopes (PgB)
This unit is moderately deep and moderately well drained. It formed in medium textured alluvium underlain by unrelated rock at a depth of 24 to 40 inches. These soils are nearly level to gently sloping on stream terraces. Typically, the surface layer is brown and reddish-brown gravelly loam about 17 inches thick. The upper part of the subsoil is reddish brown very gravelly sandy clay loam. At a depth of 33 inches the subsoil unrelated pale olive sandy clay. Depth to bedrock is about 37 inches. Permeability is moderately slow and available water capacity is 4 to 6 inches. Runoff is slow and the hazards of water erosion is slight.

Whiterock gravelly silt loam, 3-50% slopes (WhE)
This very shallow and shallow somewhat excessively drained soil is found on foothills formed in material weathered from vertically tilted metasedimentary rock. Typically the Whiterock soil is pale brown and very pale brown loam about 8 inches thick over highly fractured and nearly vertically tilted metasedimentary rock. In some areas the surface layer is silt loam, gravelly silt loam, or gravelly loam. Included in this unit are small areas of Argonaut and Auburn soils and Rock outcrop. Permeability is moderate. Available water capacity is very low. Depth to bedrock ranges from 4 to 14 inches. Runoff is medium to rapid and hazard of erosion is slight to moderate.

HYDROLOGY

The climate is typical of the Northern California Mediterranean regime with cool, wet winters and hot, dry summers. Precipitation in this portion of El Dorado County averages approximately 23 inches annually, with 90% occurring between October 15 and April 15.

The site is drained by Carson Creek, a largely perennial stream, crossing the site from the northeastern to the southwestern boundary. Intermittent tributaries drain the remainder of the project site through the central and southern portions, respectively. Temporary ponding occurs on-site in depressions and swales following winter storms due to poorly drained soils that restrict downward percolation of water. Where depressions have no outlets, vernal pools have formed.

Carson Creek has been subjected to flooding by 50- and 100-year storm events. Some areas adjacent to Carson Creek within the wetland corridor will be designed to provide compensation acreage for wetland impacts as well as stormwater detention and flood protection during 100-year storm events.

VEGETATION AND WILDLIFE

The primary vegetation type on the 548-acre site is annual grassland. Seasonal wetlands and vernal pools are interspersed within portions of the grassland mosaic. A few riparian plant species occur along small portions of the Carson Creek Channel. A groundwater discharge area is situated in the southern portion of the site due east of Carson Creek. Descriptions of general plant communities and associated wildlife located on the site follows.

- ANNUAL GRASSLAND

Annual grassland on-site is dominated by non-native grasses and herbs, primarily soft chess, wild oats, ripgut brome, medusa-head grass, tarweed and star thistle among others. The grassland on site has had a long history of cattle grazing. Historic grazing pressure and the introduction of hardier European grasses have led to the displacement of native species.

Grassland habitat on-site supports a low diversity of wildlife species, providing limited cover for small mammals such as California voles, black-tail jack rabbit, deer mice, and pocket gophers. These mammals attract various predators such as red-tailed hawks, American kestrels, gopher snakes, rattlesnakes, and coyotes. Other animals likely to inhabit annual grassland at the site include western fence lizard, western kingbirds, western meadowlarks, lark sparrows, killdeer, and goldfinches among others.

- VERNAL POOL

Vernal pools are poorly drained depressions in annual grassland landscapes which are usually small, but can exhibit a wide range of sizes (several hundred square feet to several acres) and depths (6" to 24"). They may occur as isolated pools or as depressions within ephemeral swales. Vernal pools often provide habitat for numerous endemic plant species and are known for colorful spring floral displays. In the Mediterranean climate of California's Central Valley, Fall rains initiate the 'wetting' stage during which seeds germinate and dormant perennials resprout. As soils saturate and standing water accumulates, the pool enters the 'aquatic' stage. Inundation may be periodic or continuous. This variability supports a diverse plant and animal community. As water levels recede, the 'drying' stage begins, during which time pool basins are partially filled. The final phase is the 'drought' stage which is characterized by dry soils and dead or dormant vegetation.

Vernal pools occur on the property in association with the annual grassland. Years of grazing and trampling by livestock have affected the original floral character of the pools. Common plant species found on the site include popcorn flower, coyote thistle, hairgrass, and woolly marbles. Predominant invertebrates occurring in vernal pools include various crustaceans and aquatic insects.

Shorebirds, and various waterfowl, often use vernal pools during winter and early spring months, but pools on-site are not considered favorable habitats for most waterbirds because the pools are small and offer little adjacent cover and a limited food base. The pools support limited amounts of invertebrate and plant foods during most of the wet season due to limited duration of ponded water.

- SEASONAL WETLAND

Seasonal wetlands occur within the annual grassland as swales and shallow depressions underlain by slowly permeable soils. Vegetation in swale areas is dominated by Italian ryegrass, Mediterranean barley, annual bluegrass, and bermuda grass. Some waterbird use is expected in winter and spring when swales are saturated or inundated. Habitat value is only marginally different from adjacent upland grassland.

- GROUNDWATER

A groundwater discharge area is located in the southern portion of the site, directly east of Carson Creek. This low lying area remains wetter than surrounding areas throughout the year. As a result, it has experienced heavy grazing pressure from cattle. Plant species within this area include bermuda grass, baltic rush, clover, canary grass and bull thistle. Several other plant species also occur within this area but were unidentifiable during field reconnaissance due to heavy grazing pressure. The wildlife value of the groundwater discharge area is slightly higher than that of the surrounding grassland since it remains moist year round.

- CHANNELS

Channels include Carson Creek and its associated intermittent drainages. Vegetation along these channels has historically been heavily grazed. Two small patches of riparian vegetation occur along Carson Creek, one at the southern border and one along the northern portion of the site. Intermittent drainages that contribute to Carson Creek's watershed are dominated by upland non-native grasses and some seasonal wetland vegetation.

Carson Creek and its intermittent tributaries provide low to moderate wildlife value since associated riparian vegetation is virtually absent. The portion of Carson Creek near the southwestern border of the site appears to be perennial. Wildlife species in this area include great blue herons, black phoebes, bullfrogs, and many others. This portion of the creek probably serves as a water source for many other wildlife species during dryer months.

SPECIAL STATUS SPECIES INVENTORY

- INTRODUCTION

Special status species inventories were conducted at the site between October 1988 and May 1992. Species considered were those that are: 1) listed or candidates for listing by the California Department of Fish and Game; 2) listed or candidates for listing by the U.S. Fish and Wildlife Service; 3) inventoried by the California Natural Diversity Data Base; or 4) inventoried by the California Native Plant Society (CNPS).

- METHODS

Background data searches were made to determine the potential for rare species in the region of the proposed project site. The California Department of Fish and Game's Natural Diversity Data Base (NDDB) was accessed to determine known occurrences for the U.S.G.S. Clarksville and Folsom SE 7.5 minute quadrangles (see Appendix).

Vegetation and wildlife resources were evaluated by PAR Associates in October of 1988. Harding Lawson Associates conducted a rare plant survey in April, May and July 1991, and a fairy shrimp survey in April and May 1991. Subsequent surveys for Bogg's Lake dodder, fairy and tadpole shrimp, tiger salamander and western spadefoot were conducted by Sugnet & Associates in the spring of 1992.

- RESULTS

Plants

During 1991 surveys, no special status plant or wildlife species were found to occur on site. Boggs Lake dodder (*Cuscuta howelliana*), a federal 3c species, was found to occur in several vernal pools on site during spring 1992 surveys by Sugnet & Associates. No other special status plant species were found during site surveys.

A fairy shrimp survey was conducted by Harding Lawson Associates during the spring of 1991. No fairy shrimp or tadpole shrimp were found during this survey or a subsequent 1992 winter/early spring survey conducted by Sugnet & Associates. Surveys for California tiger salamander and western spadefoot toad did not reveal the presence of either of these species.

SECTION 3.0 WETLAND ASSESSMENT

SECTION 3.0

WETLAND ASSESSMENT

INTRODUCTION

The U.S. Army Corps of Engineers (Corps) has regulatory responsibility for navigable waters as well as "all other waters such as ... streams (including intermittent streams) ... wetlands ... and natural ponds, the use, degradation or destruction of which could affect interstate or foreign commerce." (33 CRF 323.2) under Section 404 of the Clean Water Act.

A wetland delineation of the 548-acre site was conducted by Huffman & Associates and Harding Lawson Associates. The delineation was confirmed by subsequent field reconnaissances by Sugnet & Associates. The delineation was submitted to the Corps on January 29, 1992 and verified in a letter dated April 9, 1992 (see Appendix). The delineation included an assessment of all wetland types on site. The analysis included consideration of various physical characteristics and an evaluation of wetland functional values.

METHODS

- LITERATURE REVIEW

Baseline data from the following sources were reviewed: 1"=1000' scale false color infrared and 1"=200' scale color photography, 1:24,000 USGS 7.5 minute topographic maps, and Soil Conservation Service soil maps for El Dorado County. Methods described in The *Corps of Engineers Wetlands Delineation Manual* (Federal Interagency Committee, 1987) and Wetland Evaluation Technique (WET) (Adamus, et. al., 1987) were used to map wetlands and evaluate functional values.

- FIELD INVESTIGATION

Site reconnaissance to delineate and characterize wetlands was initiated during February and March, 1989 by Huffman & Associates, continued by Harding Lawson & Associates during April, 1991 and completed by Sugnet & Associates in September, 1991. Soil morphology, vegetation species dominance, and hydrology were evaluated, aerial photos were ground-truthed, and drainage patterns assessed. Biologists walked the entire site to locate areas with wetland characteristics. Multi-parameter data was collected at each sample site according to methods in *Corps of Engineers Wetlands Delineation Manual* (1987). Vernal pools and seasonal wetlands were characterized floristically. A data base was developed and acreage digitally computed to produce multi-layered base maps for project planning.

RESULTS

- WETLAND CLASSIFICATION AND ACREAGE

Four classifications of wetlands covering 27.43 acres occur on the project site. Wetland distribution is shown in Figure 3-1. Table 3-1 provides wetland acreage by type. Descriptions of each type follow:

Table 3-1. Existing Wetland Acreage On-Site

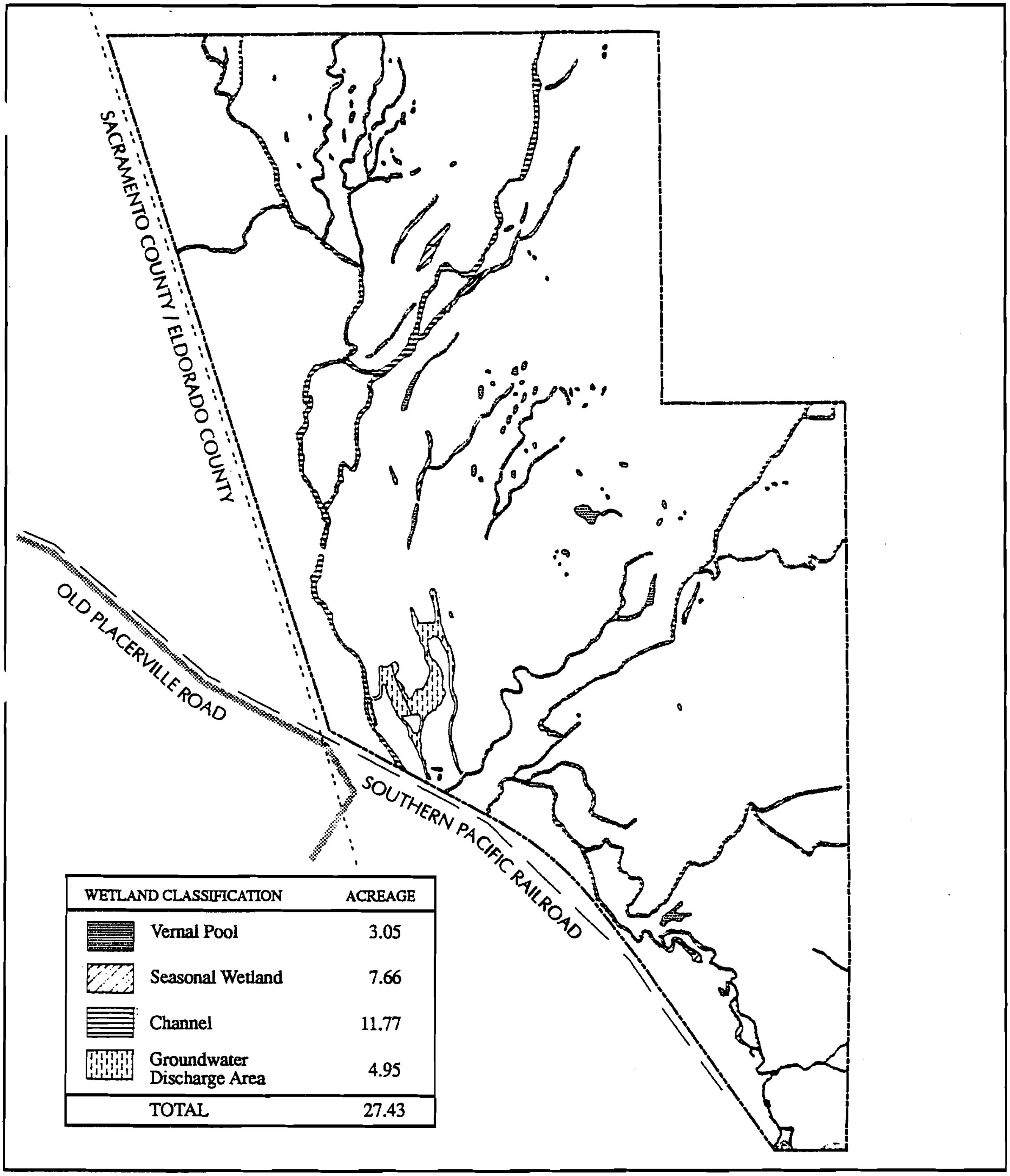
Wetland Type	Acreage on Site
Vernal Pool	3.05
Seasonal Wetland	7.66
Channel	11.77
Groundwater Discharge Area	4.95
Total Acreage:	**27.43**

Seasonal Wetland

Seasonally wet swales and shallow depressions that remain saturated or inundated during wet winter months are found scattered across several portions of the site. This classification includes swales that carry or hold storm runoff during wet season, but are dry for the remainder of the year. Dominant plant species include: Ryegrass (*Lolium multiflorum*), Annual bluegrass (*Poa annua*), and Mediterranean barley (*Hordeum geniculatum*), among others. Plant species diversity and wildlife habitat values are typically low.

Vernal Pool

Shallow, poorly drained depressions with no outlets occur scattered predominantly within the northern half of the site. Pool sizes range from



WETLAND CLASSIFICATION	ACREAGE
Vernal Pool	3.05
Seasonal Wetland	7.66
Channel	11.77
Groundwater Discharge Area	4.95
TOTAL	27.43

WETLAND DELINEATION

FIGURE 3-1

SCALE IN FEET 0 475 950

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SUGNET & ASSOCIATES
ENVIRONMENTAL CONSULTANTS

SECTION 404 REGULATORY COMPLIANCE
CARSON CREEK RANCH

approximately 100 to 15,000 square feet. Typical species include: Vasey's coyote-thistle (*Eryngium vaseyi*), Slender popcorn-flower (*Allocarya stipitatas*), Butter-cup (*Ranunculus bonariensis*) and Fremont's goldfields (*Lasthenia fremontii*). Plant and invertebrate species diversity and habitat values on site are typically moderate to low.

Channel

Channels on site include Carson Creek and its intermittent tributaries. These channels have defined banks and are sparsely vegetated due largely to cattle grazing. The vegetation adjacent to the channels is primarily herbaceous, though two small patches of riparian species i.e., (*Populus fremontii*) and smooth willow (*Salix laevigata*) occur along Carson Creek. Woody vegetation adjacent to Carson Creek would presumably be more abundant if cattle were removed from the property. Wildlife and aquatic diversity along Carson Creek is moderate. Well developed riparian growth is evident both to the north and to the south of the project site, where no grazing occurs.

All tributary channels to Carson Creek are intermittent, though the duration of flow in two of these channels in the eastern portion of the site has been artificially enhanced as a result of upstream urban discharges during the summer. Dense growths of cattails (*Typha domingensis*), baltic rush (*Juncus balticus*), bentgrass (*Agrostis avenacea*) and flatsedge (*Cyperus* sp.) occur in these areas. Intermittent drainages typically have low wildlife and aquatic species diversity.

Groundwater discharge area

A groundwater discharge area is located on a terrace directly east of Carson Creek in the southwestern portion of the property covering approximately 5 acres. The discharge area appears to remain saturated or inundated throughout most of the year. This is evidenced by review of historic spring and summer aerial photographs, and the presence of moist soil and substantial amounts of live vegetation during a September 1991 survey by Sugnet & Associates.

Vegetation within the discharge area contains a prevalence of hydrophtic vegetation. The predominant wetland plant is Baltic rush (*Juncus balticus*). Other wetland species include Buttercups (*Ranunculus muricatus*, *R. bonariensis* var. *trisepalus*, and *R. occidentalis*) (Huffman 1989) as well as Bermuda grass (*Cynodon dactylon*) Canary grass (*Phalaris* sp.), Bull thistle (*Cirsium vulgare*) and other species which were not identifiable due to both heavy grazing and timing of field visits.

- FUNCTIONAL VALUE ASSESSMENT

A level 2 Wetland Evaluation Technique (WET) (Adamus et. at., 1987) was applied to supplement comprehensive on-site analysis of wetland functions and values at the project site. Wetland functional values are the physical, chemical, and biological characteristics of a wetland. Wetland values are those characteristics considered to be beneficial to society. Values were rated as low, moderate, or high for the following functions: groundwater recharge, groundwater discharge, floodflow alteration, sediment stabilization, sediment toxicant retention, nutrient removal and transformation, production export, wildlife diversity and abundance for breeding, aquatic diversity and abundance for breeding, as well as uniqueness and heritage features, and recreational value.

WET evaluates functions and values by characterizing the wetland in terms of predictors. Predictors are simple or integrated variables that are believed to correlate with the physical, chemical, and biological characteristics of the wetland and its surroundings. Responses to questions concerning the predictors are analyzed in a series of interpretation keys that reflect the relationship between predictors and wetland functions or values as defined in the technical literature. Interpretation keys assign a qualitative probability rating to each function and value in terms of social significance, effectiveness, and opportunity.

Field visits as well as a comprehensive search of available site-specific literature were utilized to complete the WET evaluation for the project site. Wetlands values derived from the WET analysis are presented in Table 3-2.

Table 3-2 Wetland Function Values

WETLAND FUNCTION	WETLAND TYPES AND VALUES VP	SW	GWD	C_1	C_2
Ground Water Recharge	L	L	L	L	L
Ground Water Discharge	L	L	M	M	L
Floodflow Alteration	L	L-M	L	M	L-M
Sediment Stabilization	L	L-M	L-M	H	H
Sediment/Toxicant Retention	M	M	M	L-M	L
Nutrient Removal/Transformation	L-M	L-M	M	L-M	L
Production Export	L	L	L	M	M
Wildlife Diversity/Abundance	L	L	L-M	M	L
Aquatic Diversity/Abundance	M	L	L	M	L
Recreation	L	L	L	L	L
Uniqueness/Heritage	H	L	L-M	L-M	L

VP = vernal pool
SW = seasonal wetland
GWD = groundwater discharge area
C_1 = channel (Carson Creek)
C_2 = channel (intermittent drainages)

H = high
M = moderate
L = low

SECTION 4.0 ALTERNATIVE ANALYSIS

SECTION 4.0

ALTERNATIVES ANALYSIS

INTRODUCTION

Because development of the Carson Creek project site for residential and commercial uses could result in the filling of wetlands as defined in the federal Clean Water Act, alternatives which would reduce or avoid such fills have been evaluated and considered by the applicant. A number of off-site alternatives were considered as well as two on-site alternatives. Based on this evaluation and given the project purpose and public need, the project as proposed represents the least damaging, practicable alternative.

PROJECT PURPOSE

The Carson Creek project is a 548-acre mixed use project located in western El Dorado County. The project consists of about 2,941 residential dwelling units, 44.5 acres of business park, and 12 commercial uses, and 165 acres of school, park and open space areas necessary to support the planned community. The project is located adjacent to the 900-acre El Dorado Hills Business Park. The primary project purpose is to provide wide range of housing type and cost opportunities in an area that is largely dominated by large lot, low density, expensive single family homes. As detailed below, the flat, gently sloping terrain of Carson Creek permits a broad range of housing densities and types which are largely absent from the western El Dorado County area due to the predominately hilly terrain.

The broad range of housing types and costs as proposed in the Carson Creek plan is essential for the western slope of El Dorado County. While the current housing prices in the area ($300,000 median housing price) precludes most perspective residents, the employment base continues to grow. As a result, most employees in the area are forced to live great distances from their work. The El Dorado County General Plan housing element identifies this as a critical problem (see discussion below). The home ownership opportunities proposed as a part of the Carson Creek project (prices ranging from $130,000 to $220,000) as well as the 1,200 rental and senior citizen housing units in the project are consistent with county housing goals and policies designed to reduce this serious housing problem.

The relatively level terrain, proximity to public facilities, roads and employment centers enable the project to achieve higher residential densities resulting in lower per-unit costs.

PUBLIC NEED

The Carson Creek project, as described above, will help satisfy several important public needs in western El Dorado County. The project will provide housing stock to accommodate projected regional population growth. More importantly, the housing will be affordable and located in the proximity of employment growth area. The project will also satisfy several basic public policies regarding job/housing balance, transit air quality and open space consideration.

Population Growth:

The Sacramento metropolitan area is one of the fastest growing areas in California. Current population projections indicate that the Sacramento SMSA will increase by 30%, or over 500,000, people by the year 2010. The western El Dorado County/City of Folsom area is projected to increase by 95,000 people by 2000. These growth projections translate into a need for over 38,000 new housing units by 2010. New residential development will be needed throughout the region to accommodate this projected growth.

Housing Affordability:

The ability of current and future residents in the area to obtain adequate housing which they can afford has been dwindling rapidly. This is a well known, serious problem in virtually every urban area in the state. The project, as designed, is intended to provide a substantial number of affordable housing units in an area which currently provides only very expensive housing opportunities. Almost 1,200 units of multifamily units, with densities ranging from 12 to 25 units per acre are proposed. These units will be town homes, garden apartments, condominiums and senior housing. The public need for affordable housing for all income groups is great; the project is intended to assist in fulfilling that need.

Job/Housing Balance:
In addition to the serious need for affordable housing, there is a very significant need for that housing to be located in proximity to job opportunities. The absence of adequate housing choices near employment centers will force those who can least afford it to travel long distances to work. This circumstance also effects traffic congestion, air quality and quality of life. The proposed project is located adjacent to over 1,000 acres of business and industrial uses which currently include several businesses (including Cable Data). The closest housing opportunities which would be considered affordable to the majority of employees is 10 to 20 miles away in Placerville or Rancho Cordova. The project is intended to relieve some of this imbalance.

Public Policy:
Local governmental jurisdictions in the project area have adopted, or are in the process of adopting, urban growth policies directly related to the project. The following discussion summarizes those policies.

<u>El Dorado County 2010 General Plan Goals and Objective Statements</u>
The County of El Dorado has recently completed a revised draft Policy Framework for the El Dorado County 2010 General Plan (February, 1992). The Draft report presents principles, objectives, and policies for the updated General Plan as these relate to the various issues addressed by the General Plan. Since this Policy document is the most current indication of the County's land use planning guidance, the following discussion addresses the consistency of proposed project with the County's newly issued objectives and policies.

Natural Resources

"Objective D

Preserve and protect the county's important natural resources such as riparian corridors, sensitive wildlife habitat, and significant wetlands."

"D.1 Maintain and preserve streams, water ditches, ponds, lakes, and marshes."

"D.4 Migration routes and habitats shall be maintained through open space and conservation zoning."

The project plans specify the protection and enhancement of environmentally sensitive lands through a process of avoidance. For example, the project's primary natural drainage corridors will be preserved and enhanced. The project avoids areas with steep terrain, thereby preserving the natural topography and associated biotic resources.

New Community Development/Utilizing Existing Infrastructure

"Objective A

Provide for the development of new communities in areas that can be served by existing or appropriately extended infrastructure."

"A..2 Within identified urban areas, the expansion and improvement of public services shall be actively promoted."

Adequate infrastructure, including sewer and water mains, and roads are available at the edge of the project. Consequently, minimal off-site infrastructure will be needed to develop the proposed project.

High and Medium Density Residential Development

"Objective B

Limit new medium and high density residential development to areas that can be served with existing services, or that can be efficiently provided with services."

"B.1 Prerequisites to medium and high density development include: public water supply and/or public sewer; adequate septic disposal and potable water quantities; located within a structural fire district; and, adequate road system design and capacities."

"B.2 New medium density development shall be located in general proximity to the 'core' areas provided that the requisite infrastructure is available."

The development project is near the El Dorado Irrigation District, which provides public water and sewer services to the area surrounding the site. The property is also in the El Dorado Hills Fire District; the District will supply fire protection and emergency services to the site. Finally, the existing roads providing access to the property have been built to accommodate the future traffic volumes of this area.

"B.3 Commercial, High Density Residential and Multifamily residential development is desirable and compatible with the character of urban core areas."

The project plan is based on the goal of creating a balanced community with a full complement of land uses focused on a town center. Residents will have the opportunity to safely walk to schools, parks, grocery stores and work places.

Infill Accommodated with Existing Infrastructure

"Objective D

Promote the infill of vacant and under utilized properties that are currently provided with urban services."

"D.1 Promote, expand and improve public services (roads, water, sewer, schools, fire protection, law enforcement, education, and recreation) in identified urban areas."

The proposed development for Carson Creek follows the preliminary and current guidelines for the 2010 General Plan Update. This update of the General Plan has been underway for two years and is expected to be completed in May 1993. On July 8, 1992 a preferred land use map for the new General Plan was released. South of Highway 50, (the Carson Creek area), was designated for the highest intensity development for the entire County. Carson

Creek, as proposed, was accepted by the County and incorporated into the draft plan.

County of Sacramento General Plan

The County of Sacramento Draft General Plan (1990) provides goals, objectives and policies to guide development within the unincorporated areas of the County. The Land Use Element of the General Plan (September, 1990) includes an Urban Policy Boundary which defines the extent of the urban portion of the unincorporated area during the 20-year planning period. The Urban Policy Boundary will, in conjunction with land use policies, prevent urban development of remote sites, and is intended to lead to the infill and orderly development of a compact and efficient metropolitan form. In addition to designating an Urban Policy Boundary, the County has identified an Urban Service Boundary.

The following discussion addresses the need for residential development in Sacramento County within the context of the County's land use planning program. Sacramento County is required by California law to prepare and update a land use plan for lands under its jurisdiction. In formulating the various, required components of the General Plan, the County must prepare a land use element which "establishes the allocation and intensity of land for both public and private use." The County derives its mandate from Section 65302(a) of the California Government Code.

As part of the recent (August, 1990) update of the General Plan's Land Use Element, the County compiled an inventory of existing uses of lands under its jurisdiction. The County also developed forecasts of the market demand for these land uses. This information was then used in conjunction with the County's formulated goals and policies to generate a land use diagram which reflects existing uses and the distribution of uses envisioned for the County's future.

Need for Residential Development

Current Inventory of Residential Use

The County has prepared an inventory of residential lands and housing units by housing type for all of the unincorporated lands under its jurisdiction. Table 4-1 summarizes the amount of land designated for residential uses as of October, 1988 in each of the 22 unincorporated County community areas. The data are presented according to General Plan designation. The table shows that unincorporated Sacramento County contains 112,759 acres of vacant and developed land zoned for residential development. Approximately 55,433 acres are designated for low density residential use (4 to 12 units per acre) and 5,211 acres are zoned for medium residential development (13 to 40 units per acre).

Vacant, undeveloped residentially designated land in unincorporated Sacramento County totals about 23,800 acres. Not all of the vacant residential land is assumed to be developable. Of this total, approximately 4,900 acres are located within flood zones, constrained by airport noise contours, or within aggregate resource areas. About 18,900 acres of vacant residentially zoned land in unincorporated parts of Sacramento County are not constrained by these conditions. The County anticipates that further analysis of these vacant residential lands will reveal site-specific constraints, including restrictive parcel size and configuration, limited accessibility, lack of appropriate infrastructure, proximity to wetland habitat, and owner desire to develop.

The County considers it unlikely that the complete development of the inventoried vacant residential lands will occur during the planning period (through 2010). The County will manage its vacant land resource by supporting infill in areas that are served adequately by County services.

Table 4-1. **Inventory of Residential Lands by General Plan Land Use and Community Plan Area 1990**

Community Plan Area	Agricultural Residential	Low Density Residential	Medium Density Residential	Total Residential
Elk Grove	8,595	2,214	17	10,827
Consumnes	10,396	0	0	10,396
Arden Arcade	18	8,086	1,312	9,416
Citrus Heights	5	8,285	842	9,132
Rio Linda	7,355	1,434	46	8,835
Southeast	8,501	0	0	8,501
North Highlands	1,384	6,753	14	8,151
South Sacramento	1,192	5,418	508	7,118
Rancho Cordova	21	5,947	619	6,587
Orangevale	2,930	2,961	51	5,942
Carmichael	0	5,218	453	5,671
Vineyard	4,638	572	68	5,728
Fair Oaks	428	4,510	203	5,141
Franklin-Laguna	1,139	2,845	267	4,251
Rancho Murieta	2,742	731	19	3,492
Galt	2,277	0	0	2,277
North Natomas	30	134	774	938
Delta	297	324	18	639
South Natomas	167	0	0	167
Total Area	**52,115**	**55,433**	**5,211**	**112,759**
Vacant Acreage	**(15,512)**	**(7,116)**	**(1,159)**	**(23,789)**
Developed Acreage	**36,603**	**48,317**	**4,052**	**88,970**
Percent of Total Acreage (112,759 acres)	**46**	**49**	**5**	**100**

Source: County of Sacramento, 1990

Composition and Distribution of Housing Stock

Table 4-2 provides a summary of the existing housing stock distribution in each of the 22 unincorporated community plan areas of the County. The data are shown according to housing type: the categories include single-family dwellings, mobile homes, two- to four units (duplexes through fourplexes), and multi-family units (apartments, condominiums). The table shows that 149,368 units (68%) of the total 236,880 dwelling units in the unincorporated County are single family homes.

Multi-family units comprise about 21% of the housing types, duplexes through fourplexes constitute 12% of the housing stock, and mobile homes provide 4% of the total housing supply in the unincorporated County.

The housing stock within the Low Density, Agricultural-residential, and Agricultural zones comprise about 79% of the total existing housing units in the unincorporated County, totalling 187,016 dwellings. Medium density dwellings at 13 to 40 units per acre constitute the remaining 21% of total existing units. The County's analysis indicates that 81% of the unincorporated County's stock of 236,880 existing housing units are concentrated in six community plan areas: Arden Arcade, Citrus Heights, Rancho Cordova, North Highlands, South Sacramento, and Carmichael. The remaining 19% of the housing stock is distributed throughout the other 12 community plan areas.

The County's housing stock analysis indicates that development in the unincorporated area is characterized by low density suburban sprawl. This pattern of development has created difficulties in the provision of adequate infrastructure and services, and cumulative increases in traffic congestion and deteriorating air quality. The County' intends to remedy this situation through the "efficient use of the County's land resource."

Demand for Housing

The County of Sacramento prepared housing unit and land area demand projections as a part of the General Plan update process. Table 4-3 shows the County's projections for housing unit demand over the planning period. The forecasts indicate that approximately 94,000 additional housing units will be needed to accommodate the additional population projected to reside in the

Table 4-2. Inventory of Housing Units by Housing Type and Community Plan Area 1990

Community Plan Area	Total Units	Single Family	Mobile Homes	2-4 Units	5+ Units
Arden Arcade	42,991	21,790	423	5,021	15,757
Citrus Heights	37,785	23,093	2,005	4,826	7,861
Rancho Cordova	34,837	21,122	1,360	5,359	6,996
North Highlands	32,888	19,381	1,737	4,835	6,935
South Sacramento	23,637	15,247	2,164	2,543	3,683
Carmichael	19,175	12,276	16	2,545	4,338
Fair Oaks	11,957	8,638	14	1,141	2,164
Orangevale	9,982	7,673	477	528	1,304
Elk Grove	6,965	5,939	121	548	357
Rio Linda	5,844	5,460	220	100	64
Franklin-Laguna	2,220	2,060	130	30	0
Delta	1,885	1,489	256	106	34
Consumnes	1,804	1,329	458	13	4
Vineyard	1,332	1,238	93	1	0
Southeast	2,096	1,515	283	31	267
Rancho Murieta	875	689	29	135	22
North Natomas	404	251	7	68	78
South Natomas	203	178	19	6	0
Total Area	**236,880**	**149,368**	**9,812**	**27,836**	**49,864**
Percent of Total Units	**100**	**63**	**4**	**12**	**21**

Source: County of Sacramento, 1990

unincorporated portions of Sacramento County between 1990 and 2010. The County's analysis forecasts a need for 37,784 single family and mobile home units, 5,319 duplexes to fourplexes, and 50,852 additional multi-family units. The County states that this trend mirrors projections for nation-wide housing demand.

The County indicates that the past trend for the development of residentially designated land was an inefficient use of land resources. The County has prepared projections for the amount of residential land required if future housing demand were met through the efficient use of such lands. Using a 5 dwelling unit per acre rate for single family and mobile homes and 20 units per acre for multi-family development, the County projects that 10,441 acres will be needed for single family/mobile home housing. About 543 acres will be needed for duplexes, triplexes, and fourplexes. The total land required for residential use under these densities would be about 11,000 acres.

Comparison of Projected Market Demand and Supply of Residential Land

The County of Sacramento estimates that a continuation of the historic buildout trend for residential lands in the unincorporated parts of the County will result in the need for approximately 14,710 acres of residential land for single family and mobile home dwelling units, and 402 acres for duplexes, triplexes, and fourplexes. Alternatively, a more efficient (5 units per acre) development pattern for single family and mobile home housing will require about 7,709 acres of residential land; duplexes will require about 543 acres. The total demand will range from 15,112 acres under the historic development trend to 8,252 acres for a more efficient residential development pattern.

Table 4-3. Projected Market Demand and Market Share for New Housing by Structure Type in Unincorporated Sacramento County 1989

Period	Mobile & Single Family	% of Total	2-4 Units	%of Total	5+ Units	% of Total	Total
1990-1995	11,553	47	1,914	8	11,137	45	24,604
1995-2000	10,738	43	1,557	6	12,324	51	24,619
2000-2005	8,209	37	1,048	5	13,127	59	22,384
2005-2010	7,284	33	800	3	14,264	64	22,348
Total	**37,784**	**40**	**5,319**	**5**	**50,852**	**54**	**93,955**

Source: County of Sacramento, 1990

Table 4-4. Land Requirements for Future Housing Demand Based on Historic Buildout Rates for Unincorporated Sacramento County, 1989

Period	Single Family & Mobile Homes	2-4 Dwelling Units	5+Dwelling Units	Sub-Total
1990-1995	4,498	145	798	5,441
1995-2000	4,180	117	884	5,181
2000-2005	3,196	80	941	4,217
2005-2010	2,836	60	1,022	3,918
Total Acreage	**14,710**	**402**	**3,645**	**18,757**
Percentage of Total	**78**	**3**	**19**	**100**

Source: County of Sacramento, 1990

Table 4-5. Land for Future Housing Demand Based on Efficient Buildout Rates for Unincorporated Sacramento County, 1989

Period	Single Family & Mobile Homes	2-4 Dwelling Units	5+Dwelling Units	Sub-Total
1990-1995	2,357	195	599	3,151
1995-2000	2,191	159	662	3,012
2000-2005	1,674	107	705	2,487
2005-2010	1,486	82	766	2,334
Total Acreage	**7,709**	**543**	**2,732**	**10,984**
Percentage of Total	**70**	**5**	**25**	**100**

Source: County of Sacramento, 1990

The inventory of residentially designated land as shown in Table 4-5 indicates that about 7,709 acres are available for low density residential development. A comparison of the projected residential land requirements for low density (single family) development to the available residential lands shows that there will be a shortfall of 1,136 acres to 7,996 acres needed for low density residential development in Sacramento County.

As can be observed from this comparative analysis, unincorporated Sacramento County will require additional appropriately designated residential lands to meet anticipated housing demands during the County's identified planning horizon (year 2010). This condition is anticipated under both the historic and the efficient-use projections prepared by the County for future residential development.

The shortage of adequately designated residential lands will induce rezoning requests for properties designated for less intensive uses. The County's inventory of residential lands indicates that there are about 15,512 acres of agricultural-residential use. Some of these lands will most likely convert to more intensive residential uses.

The detailed analysis of growth policy and development issues in the adjacent Sacramento County area is relevant to the Carson Creek project in three ways. First, it is clear that substantial population growth and housing demand is expected in the region. This demand effects the entire region, local government boundary lines not withstanding. Experience shows that growth demand is not confined to individual cities and counties but instead effects the entire region. Second, the County Plan severely limits housing opportunities in the eastern third of the county. The Carson Creek project will offer one of the few housing choices in an area otherwise limited to rural uses. Third, the Carson Creek project reflects a region-wide trend toward providing higher density housing near employment centers resulting in increased efficiency in the use of land, decreased housing costs and reduced traffic congestion and air pollution.

ASSESSMENT OF AQUATIC HABITAT VALUES

A level 2 Wetland Evaluation Technique (WET) (Adamus et. at., 1987) was applied to supplement comprehensive on-site analysis of wetland functions and values at the project site. Wetland functions are the physical, chemical, and biological characteristics of a wetland. Wetland values are those characteristics considered to be beneficial to society. Values were rated as low, moderate, or high for the following functions: groundwater recharge, groundwater discharge, floodflow alteration, sediment stabilization, sediment toxicant retention, nutrient removal and transformation, production export, wildlife diversity and abundance for breeding, aquatic diversity and abundance for breeding, uniqueness and heritage features, and recreational value.

WET evaluates functions and values by characterizing the wetland in terms of predictors. Predictors are simple or integrated variables that are believed to correlate with the physical, chemical, and biological characteristics of the wetland and its surroundings. Responses to questions concerning the predictors are analyzed in a series of interpretation keys that reflect the relationship between predictors and wetland functions or values as defined in the technical literature. Interpretation keys assign a qualitative probability rating to each function and value in terms of social significance, effectiveness, and opportunity.

Field visits as well as a comprehensive search of available site-specific literature were utilized to complete the WET evaluation for the project site. Wetland functional values derived from the WET analysis are presented in Table 4-6.

The preservation and compensation plan avoids any fill of the highest value wetlands on site (Carson Creek). Those wetlands proposed for fill generally exhibit lower values. Compensation for proposed fills include the enhancement of the major channel which would result in increased aquatic habitat values. The proposed off-site vernal pool mitigation will be part of a large, permanent vernal pool mitigation bank site.

Table 4-6. Wetland Function Values

WETLAND FUNCTION	WETLAND TYPES AND VALUES				
	VP	SW	GWD	C_1	C_2
Ground Water Recharge	L	L	L	L	L
Ground Water Discharge	L	L	M	M	L
Floodflow Alteration	L	L-M	L	M	L-M
Sediment Stabilization	L	L-M	L-M	H	H
Sediment/Toxicant Retention	M	M	M	L-M	L
Nutrient Removal/Transformation	L-M	L-M	M	L-M	L
Production Export	L	L	L	M	M
Wildlife Diversity/Abundance	L	L	L-M	M	L
Aquatic Diversity/Abundance	M	L	L	M	L
Recreation	L	L	L	L	L
Uniqueness/Heritage	H	L	L-M	L-M	L

VP = vernal pool
SW = seasonal wetland
GWD = groundwater discharge area
C_1 = channel (Carson Creek)
C_2 = channel (intermittent drainages)

H = high
M = moderate
L = low

PRACTICABILITY ANALYSIS OF ON-SITE ALTERNATIVES

Two alternative site development plans were evaluated to determine whether an economically practicable alternative to the proposed project was available which would result in fewer wetland impacts. The evaluation included several assumptions/conditions essential to the proposed project:

- the project must be consistent with El Dorado County Land Use and zoning policies
- the project would provide a reasonable range of affordable housing opportunities for existing and future employees in the adjacent industrial park.
- the project could generate a sufficient economic base necessary to finance required on-site and off-site improvements

- the project is economically feasible

The first alternative evaluated was based on total avoidance of wetland fill. The second alternative evaluated was minimization of fill, which was assumed to be less than 5 acres.

Avoidance Alternative: Alternative One

The project site includes 27.43 acres of wetlands distributed randomly throughout the area. The wetlands include vernal pools, seasonal wetlands, perennial drainage channels and a groundwater discharge area. Complete avoidance of any wetland fill would require the creation of several preserves throughout the project site totalling about 275 acres (50% of the site) (see Figure 4-1). Development would be limited to approximately 275 acres (or 50% of the site) on the eastern portion of the Ranch. That area could accommodate approximately 1350 housing units and 60 acres of supporting commercial and industrial development.

This alternative is clearly not consistent with the project purpose public need or the assumptions stated above. Such limited development opportunities would fail to provide an adequate economic return to the applicant; in fact an economic loss would result. The bulk of the housing eliminated would be higher density, affordable housing. The affordable housing and job/housing balance objectives not be met, given the limited housing units to be built on site.

Minimization Alternative: Alternative Two

An alternative site development plan, which resulted in impacts to no more than 5 acres of wetlands, was prepared and evaluated (Figure 4-2). Wetland impacts would be reduced from 15.73 acres to 4.75 acres. A comparative summary of wetland impacts for the project and the alternatives is found in Table 4-7 below. Impacts to the wetland channels and ground water recharge area, would be completely avoided under this alternative. Vernal pool impacts would be limited to 1.75 acres. Seasonal wetland impacts would be approximately 3 acres. The resulting land use plan summary is as follows:

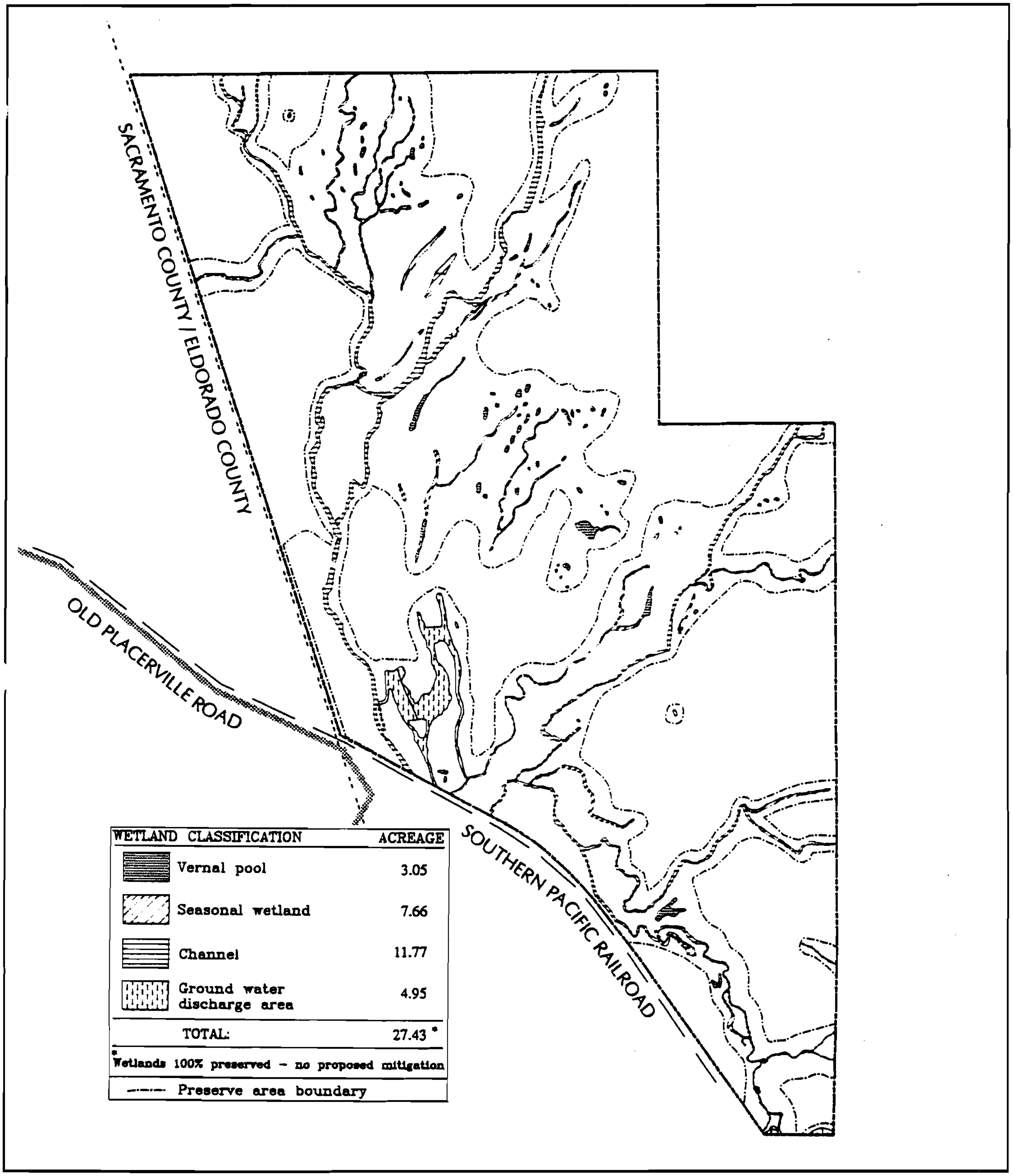

FIGURE 4-1

ALTERNATIVE ONE

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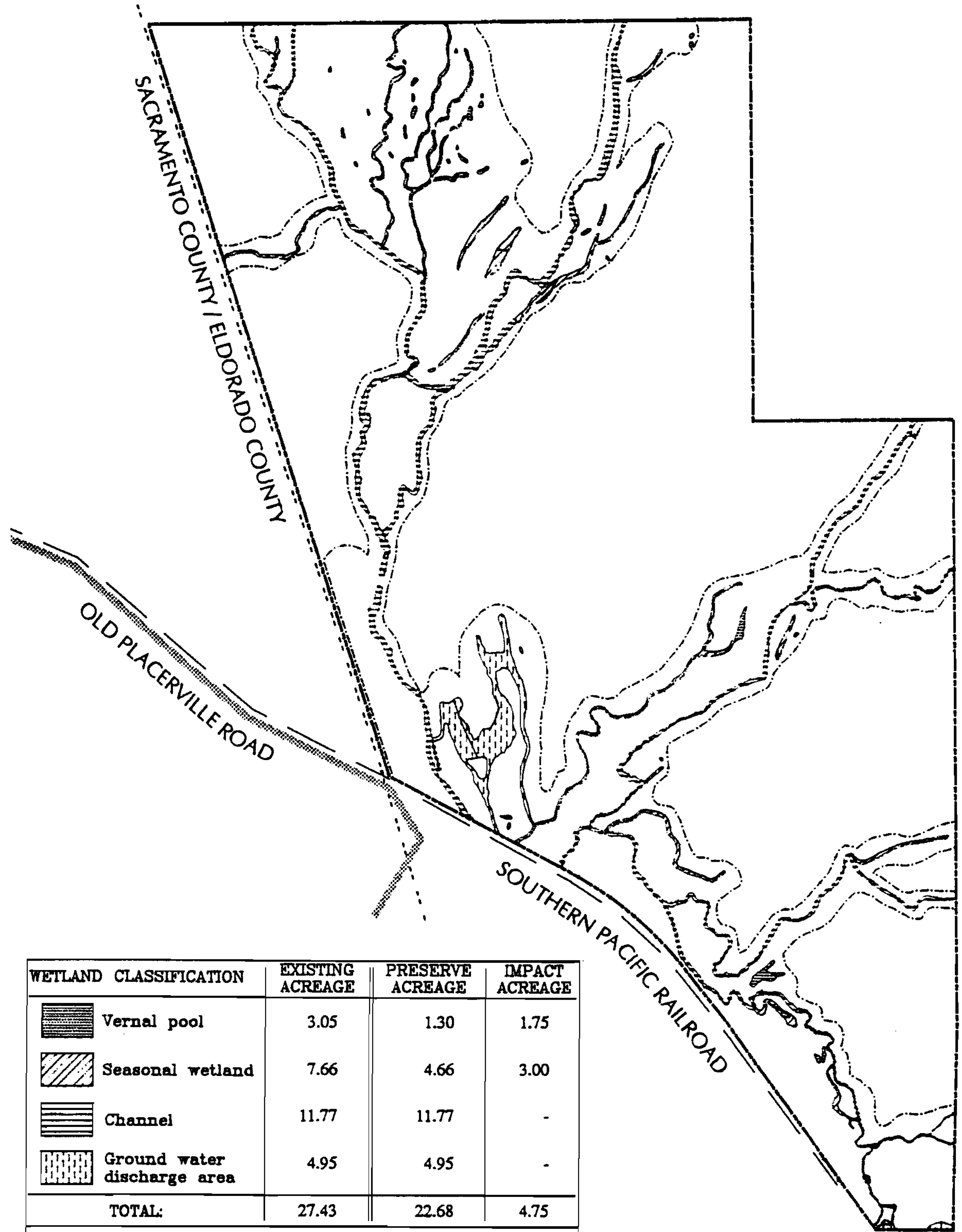

WETLAND CLASSIFICATION	EXISTING ACREAGE	PRESERVE ACREAGE	IMPACT ACREAGE
Vernal pool	3.05	1.30	1.75
Seasonal wetland	7.66	4.66	3.00
Channel	11.77	11.77	-
Ground water discharge area	4.95	4.95	-
TOTAL:	27.43	22.68	4.75

—·—·— Preserve area

ALTERNATIVE TWO

FIGURE 4-2

SCALE IN FEET 0 500 1000

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CARSON CREEK RANCH

Table 4-7. Existing Wetlands and Preserve/Impact Alternatives at Carson Creek

Existing Wetlands	(ac)	Proposed Project Preserve •	Impact	Avoidance Alt (Alt.1) Preserve •	Impact	Minimization Alt (Alt.2) Preserve •	Impact
Vernal Pool	3.05	0.13	2.92	3.05	0	1.30	1.75
Seasonal Wetland	7.66	0.66	7.00	7.66	0	4.66	3.00
Channel	11.77	10.28	1.49	11.77	0	11.77	0
Ground Water Discharge Area	4.95	0.63	4.32	4.95	0	4.95	0
Total:	**27.43**	**11.70**	**15.73**	**27.43**	**0**	**22.68**	**4.75**

Minimization Alternative (Alt.2)

Land Use	Acres	Units
Residential	205	1600
Park/Open space	260	
Commercial/Business Park/ Industrial	60	
Other	25	
Total:	550	1600

This alternative would result in the following changes from the project as proposed:

Residential dwelling Units	-	800 unit decrease
Open space	-	140 acre increase
Commercial/Business Park/ Industrial	-	20 acre decrease

The most significant change is a reduction of 800 dwelling units, predominately the higher density, affordable units due to the fact that the additional preserve areas are located on flat land areas most suitable for higher density development. Other preserve areas result in limited development potential due to fragmented parcelization. The loss of the high density residential units would largely eliminate the affordable housing component of the project. Furthermore, the loss of 25% of the developable area of the project would render the project economically infeasible. This alternative would not be consistent with the stated project purposes and stated assumptions.

PRACTICABILITY ANALYSIS OF OFF-SITE ALTERNATIVES

The purpose of the project is to provide an affordable range of housing opportunities in western El Dorado County. The market area for this project is thereby defined by the community's boundaries and nearby areas which could accommodate the proposed uses. The project would supply housing in support of local employment centers in western El Dorado County, the city of Folsom and northeastern Sacramento County.

A number of sites in this region were evaluated to determine whether practicable alternative locations for the project existed which would avoid or minimize wetland impacts. While development at some of those locations could potentially result in fewer wetland impacts, each was found to be impracticable due to one or more of several factors, including improper zoning, inadequate size, and poor location. The following discussion describes the findings of the off-site alternatives analysis.

- WESTERN EL DORADO COUNTY

The only site in western El Dorado County that could potentially provide housing for the same market area as the project is located south of project site area.

The site consists of about 2,500 acres in the Latrobe area of El Dorado County. The community of Latrobe is approximately six miles south of Highway 50, accessible by Latrobe Road. This prospective site is bounded by agricultural lands (used for grazing) on the north, east, and south. The site shares its eastern boundary with Sacramento County. An evaluation of this alternative site for residential development was performed for the properties using the parameters defined above. These criteria include suitability for residential development, availability, land use designations, and development constraints.

The principal constraints to the residential development of the alternative site are threefold. First and foremost are the infrastructure and services constraints. The goals and policies of the El Dorado Hills/Salmon Falls Area Plan and the draft 2010 General Plan specify that the "high levels of service provided in the past are perpetuated as the area grows." The level of residential development proposed by the project would require a major expansion of urban services into two areas which are rural in character. The most efficient application and uses of new services would entail the extension of existing facilities to areas which directly adjoin existing development. The extension of new services to outlying areas is both costly and growth inducing for these areas.

The second limitation is the introduction of a different land use into a rural area of the County. This type of development would not be consistent with the El Dorado Hills/Salmon Falls Area Plan's goals and policies which provide the following guidelines land use planning:

"E. Future development should consider the compatibility of land uses, scenic corridors and retention of basic natural and physical features of the community.

F. Future residential development should be compatible with existing concepts.

H. Residential, commercial and industrial land uses should be provided in a suitable area where existing developments are not adversely affected."

The development of the site would generate an intrusive land use in an area where existing residents which to maintain the rural and agricultural character. Furthermore, the Draft General Plan calls for 20-acre minimum lot sizes in this area.

The third consideration is the cost of providing the appropriate levels of urban services and facilities. The project applicant has entered into discussions and agreements with the affected service-providing agencies to assure that the proposed development would receive the same high levels of services as provided to existing residential uses. For example, the proposed project site has major water and sewer mains extended to the property as well as sufficient road right-of-ways to accommodate the planned residential development. Thus, required off-site improvements will be minimal. While the scale of the proposed project can support these infrastructure costs, the establishment of comparable services for the site would be prohibitive.

- CITY OF FOLSOM

There are 58 vacant properties in the City of Folsom that are approved, proposed, being planned for development, or under construction. These projects comprise all remaining undeveloped parcels within the Folsom city limits. This evaluation indicated that there is only one property within the City of Folsom which is of sufficient size to accommodate the level of development proposed by the project. The Russell Ranch site in the eastern part of the City could support the proposed residential uses. However, the candidate site is presently planned as a mixed-use community development with golf course, residential, commercial, and open space land uses. This potential site is not available as an alternative location for the project as the owner is already in the process of obtaining necessary local and federal permits for development.

- EASTERN SACRAMENTO COUNTY (SOUTH OF HIGHWAY 50)

Unincorporated areas of Sacramento County that could potentially provide housing uses for the same market area as the project are located directly south of the City of Folsom, and generally south of Highway 50 between Rancho Cordova (Sunrise Boulevard) on the west and the Sacramento/El Dorado County Line on the east. All but a small portion of this area (adjacent to Folsom Boulevard) is located outside the Urban Policy Area as defined in the Draft Sacramento County General Plan. As discussed previously the Urban Policy area establishes a limit to urbanization, and identifies where it is anticipated that public infrastructure and services will be provided during the 20-year planning period. The General Plan designates one small area south of Highway 50 for "Intensive Industrial"; the remainder is designated for agricultural or open space uses. Therefore, development of any of this area for residential, community commercial, or specialty commercial uses would require a General Plan amendment. It is unlikely that such a General Plan amendment for this area would be approved.

Of the remaining area immediately south of Highway 50, approximately one-half is located within the Urban Service Area. The Urban Service Boundary indicates the County's long-range plans (beyond the 20-year planning period). Therefore, public infrastructure and services would not be expected for at least 20 years. In addition, this area is designated for "Extensive Industrial Uses," and project uses would also be considered incompatible with planned uses for this area. As indicated by the County General Plan, one of the primary constraints to future development of this area will be the expansion of public infrastructure and services to this area. These service limitations constrain the feasibility of any future development on all properties within this part of the County regardless of location; consequently, the development potential of specific parcels was not addressed in the analysis for this area.

- CONCLUSION

The analysis of potential off-site alternative locations for this project involved two distinct stages in the evaluation process. The first phase required the definition of the project purpose. The project purpose is the provision of residential uses for the community of El Dorado Hills consistent with the County's land use planning instruments. The second stage entailed a review of the project consistent with the broad guidelines of section 404(b)(1) of the Clean Water Act. The review of off-site alternative locations examined the potential for developing residential uses in density ranges consistent with the specified purpose of the project.

The analysis examined the potential for alternative site development in the City of Folsom, western El Dorado and eastern Sacramento counties. While there is one available site in western El Dorado County for the type of residential uses proposed by the project, this site was rejected on the basis of land use conflicts, lack of appropriate community services and facilities, inadequate residential densities, and market feasibility considerations.

Presently there are tentative maps, development proposals, or planning efforts in process for all of the remaining undeveloped parcels in the City of Folsom. The proposed or planned development of the available lands within the community severely constrains the practicable off-site alternatives for the proposed project within the Folsom urban center. A review of 58 potential sites in Folsom indicated that there are no practicable alternative sites for the project except possibly the Russell Ranch property; further examination indicated that the site is already planned as a mixed-use community and not available as a potential alternative site for the proposed project.

COMPENSATION FOR UNAVOIDABLE WETLAND IMPACTS

Section 5.0 of this regulatory compliance document describes in detail the wetland preservation and compensation plan for the Carson Creek project. The plan designates 11.70 acres of the highest value wetlands for preservation (avoidance) and provides 28.59 acres of new wetlands as compensation for the fill of 15.73 acres of wetlands. Functional values of the compensation wetlands will equal or exceed those of the impacted wetlands. A detailed analysis of the compensation plan demonstrates that full compensation for unavoidable wetland impacts is provided.

CONCLUSION

Based on the stated project purpose and public need, the project as proposed represents the most feasible, practicable alternative. The other on-site and off-site alternatives all result in greater wetland impacts or economically impracticable projects. The proposed compensation plan provides substantial compensation for the proposed impacts.

SECTION 5.0 WETLAND PRESERVATION & COMPENSATION PLAN

SECTION 5.0

WETLAND PRESERVATION AND COMPENSATION PLAN

INTRODUCTION

An evaluation of all practicable alternatives (per EPA 404 (b)(1) Guidelines), determined that total wetland avoidance is not feasible. In accordance with federal and state wetland mitigation policies, three wetland preservation and compensation areas (Figures 5-1 and 5-2) have been set aside (two on-site and one off-site) to develop 28.59 acres of new wetlands to compensate for placement of fill into 15.73 acres of seasonal wetlands on the project site.

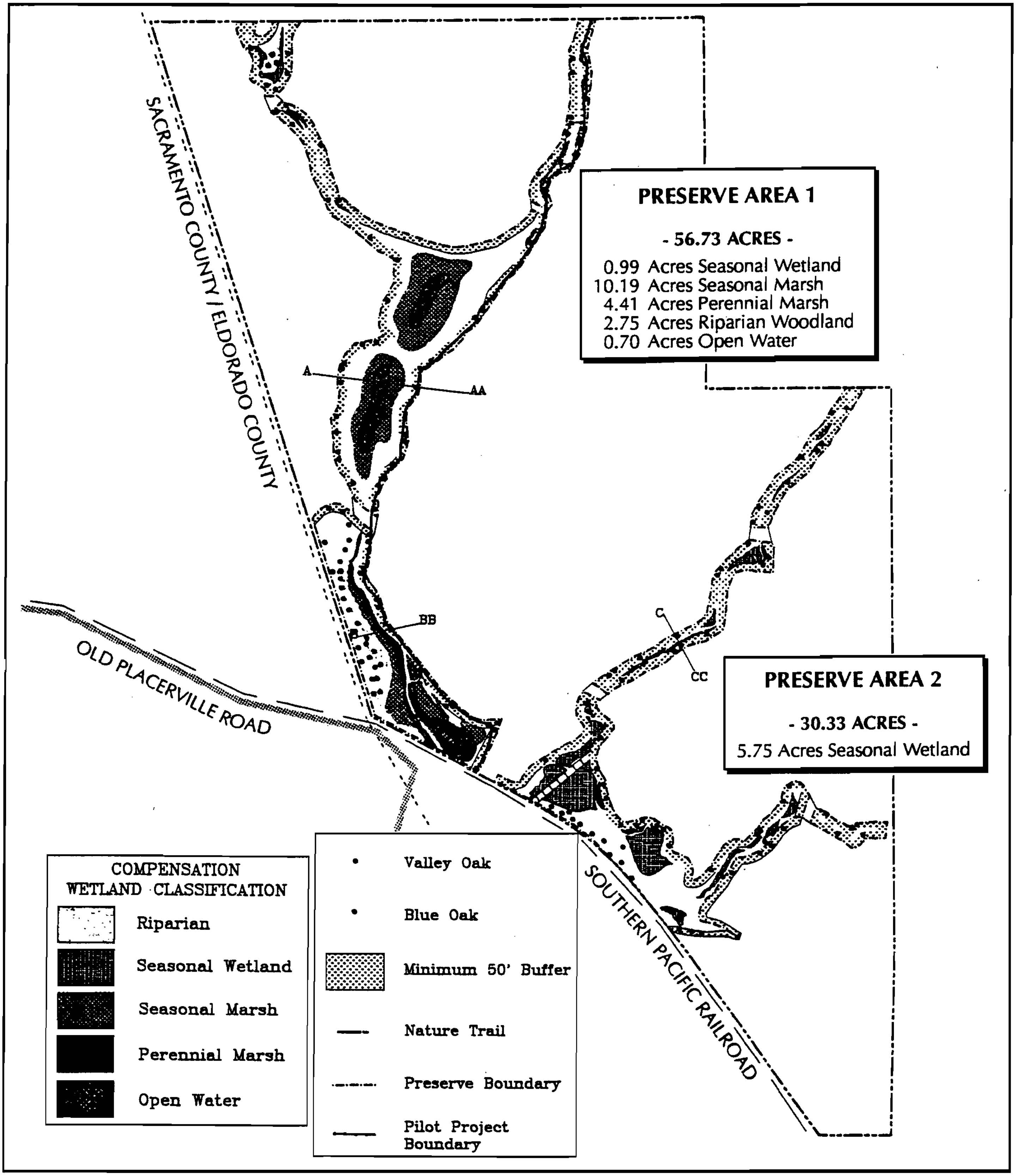
Compensation for wetlands filled will be accomplished on an "acre for acre", "value for value" basis to result in "no net loss of in-kind habitat value". The least damaging practicable alternative will result in preservation of 11.70 acres of wetlands and development of the mitigation plan will result in a net gain of 12.86 acres of wetland habitat (Table 5-1). The mitigation has been designed to maximize the diversity of habitat types and increase overall wildlife habitat values.

WETLAND PRESERVATION AND COMPENSATION AREAS

Two areas have been set aside for preservation and compensation within the Carson Creek project site boundaries. An additional compensation area will be established at Mahon Ranch. A total of 28.59 acres of compensation wetland habitat will be created. Establishment of riparian and oak woodland habitat are proposed to enhance habitat and habitat buffer values. A brief description of each of the three areas follows. Locations are indicated on Figures 5-1 and 5-2.

- PRESERVE AREA 1

Preserve Area 1 extends from north to south on the western portion of the project site. Carson Creek is included within this preserve area. Compensation wetland habitat types within this 56.73-acre preserve area include 0.99 acres of seasonal wetland, 10.19 acres of seasonal marsh, 4.41 acres of perennial marsh, 2.75 acres of riparian woodland, and 0.70 acres of open water. Two seasonal/ perennial



ON-SITE WETLAND COMPENSATION PLAN

* See Appendix for Wetland Preservation and Compensation Master Plan, 1"=300'.

FIGURE 5-1

SCALE IN FEET 0 475 950

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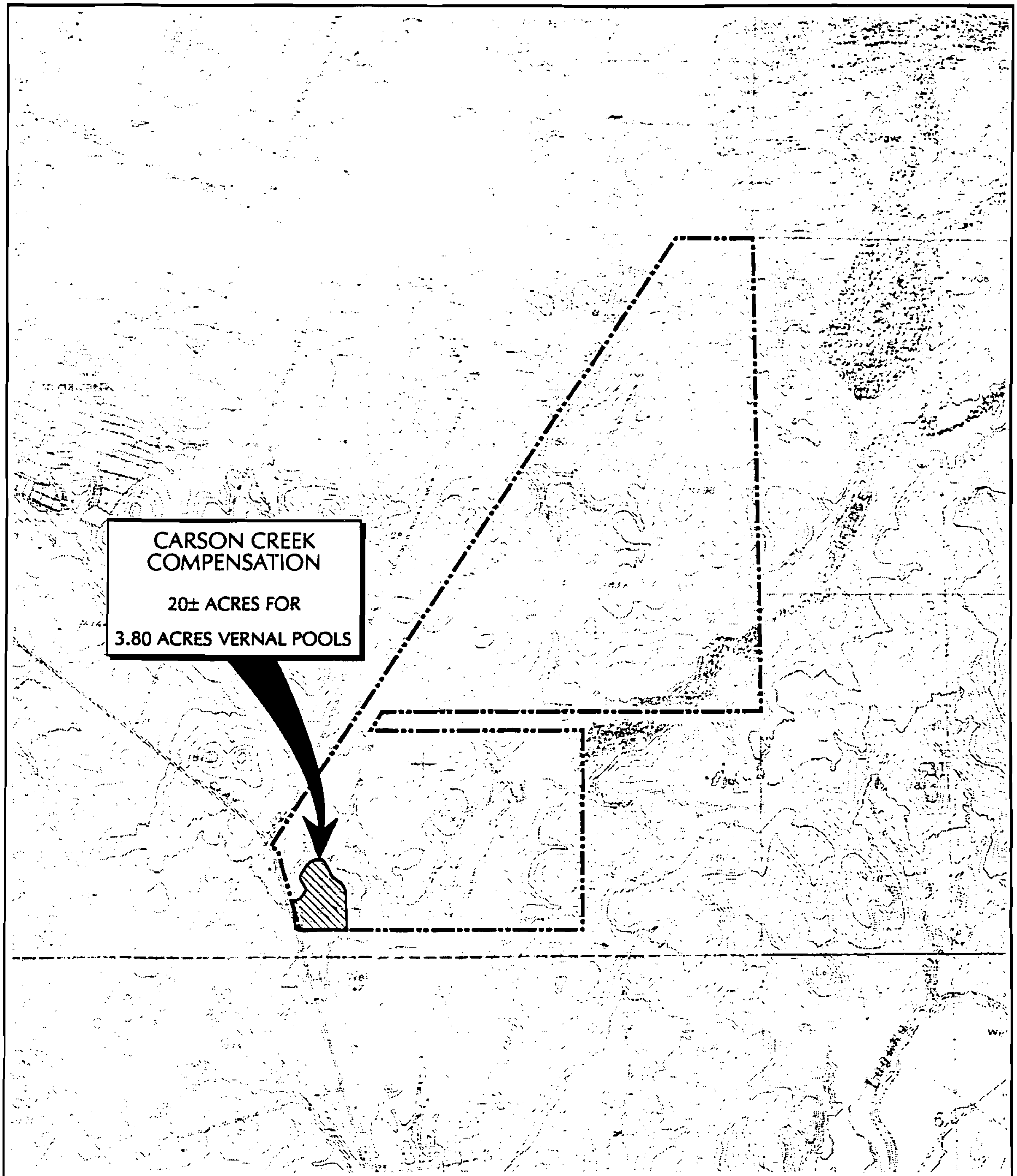

OFF-SITE MITIGATION AREA
AT MAHON RANCH

FIGURE 5-2a

SCALE IN FEET
0 1000 2000

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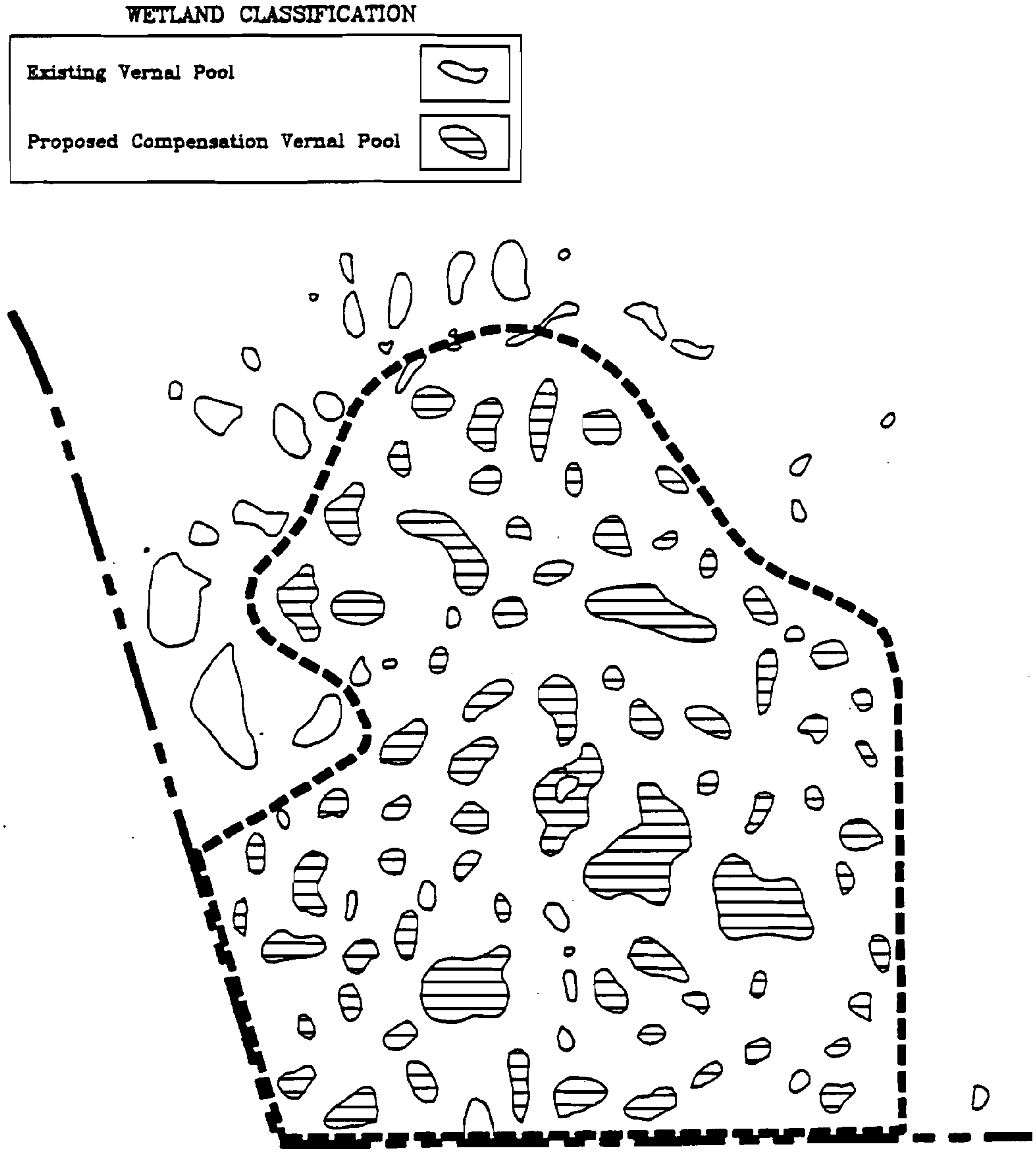
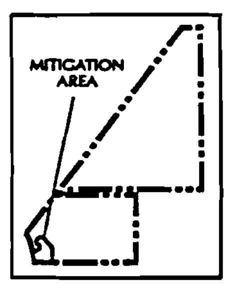
"Sloughhouse Quadrangle"
USGS 7.5 topographic map.



The size, configuration, and location of these vernal pools is for illustrative purposes only. Exact placement of individual pools will be determined by additional on-site surveys prior to construction.



CONCEPTUAL DETAIL OF COMPENSATION
AT MAHON RANCH

FIGURE 5-2b

SCALE IN FEET 0 175 250

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CARSON CREEK RANCH

wetland areas within this preserve are designed such that they serve as both wetland habitat as well as floodflow accommodations.

Table 5-1 Wetland Preservation, Impact, and Compensation Acreage [1]

Wetland Type	Existing Acreage	Preserve Acreage	Impact Acreage	Compensation On-Site	Compensation Off-Site
Vernal Pool	3.05	0.13	2.92	--	3.80
Seasonal Wetland	7.66	0.66	7.00	6.74	--
Channel	11.77	10.28	1.49	--	--
Ground water Discharge Area	4.95	0.63	4.32	--	--
Perennial Marsh				4.41	
Seasonal Marsh	--	--	--	10.19	--
Riparian Woodland	--	--	--	2.75	--
Open Water	--	--	--	0.70	--
Total:	**27.43**	**11.70**	**15.73**	**24.79**	**3.80**

- PRESERVE AREA 2

Preserve Area 2 crosses the project site from east to west in the southeast portion of the site and includes seasonal tributaries to the Carson Creek watercourse. A berm will be established to accommodate floodflow and to enhance seasonal wetland habitat. Approximately 5.75 acres of seasonal wetlands will be established and the existing seasonal tributaries (channels) preserved. Buffer zones (50 feet wide) will be enhanced through the establishment of both blue oak and valley oak.

- OFF-SITE PRESERVE AREA

A significant opportunity for a wetland habitat compensation area has been identified at Mahon Ranch. Mahon has been field surveyed and many wetland features, such as vernal pools, now exist, making the site conducive to vernal pool creation. Compensation for 2.92 acres of vernal pool impacts at Carson

[1]The project is planned as a mixed use project covering 548 acres including open space, park and wetland preserves. A total of 87.06 acres has been specifically set aside in perpetuity to protect 11.70 acres of ephemeral, intermittent and perennial drainage and seasonal wetland habitat. Compensation for loss of 12.81 acres of wetlands will be achieved by construction of 24.79 acres of wetland habitat within designated preserves. Compensation for loss of 2.92 acres of vernal pools will be achieved by construction of 3.80 acres of vernal pools at the Mahon Ranch Preserve. The overall compensation ratio average is 1:82 to 1.

Creek will be created at Mahon. A total of 3.80 acres will be constructed resulting in a net gain of 0.88 acres of vernal pool habitat.

FEDERAL AND STATE RESOURCE AGENCY WETLAND MITIGATION POLICIES
Mitigation objectives have been formulated in accordance with wetland mitigation policies developed by the Environmental Protection Agency (EPA), United States Fish and Wildlife Service (USFWS), and California Department of Fish and Game (DFG) as summarized below:

- ENVIRONMENTAL PROTECTION AGENCY/U.S. ARMY CORPS

Aquatic habitat development and restoration for project impacts are discussed specifically in EPA's Guidelines for Specification of Disposal Sites for Dredged or Fill Material under 40 CFR Part 230. According to the guidelines, "habitat development and restoration can contribute to the maintenance and enhancement of a viable aquatic ecosystem at the discharge site... and should be designed and managed to emulate a natural ecosystem". Adverse impacts can be compensated for by restoration and habitat development while also providing secondary benefits such as improved opportunities for outdoor recreation. New or enhanced habitat should be designed to blend with the existing environment. A model or standard upon which to measure success should be developed, based on characteristics of existing natural ecosystems in the vicinity of the proposed project. "Such use of a natural ecosystem ensures that the developed or restored area, once established, will be nourished and maintained physically, chemically, and biologically by natural processes".

A Memorandum of Agreement (MOA) between the EPA and Army Corps of Engineers (COE) was signed in February 1990. The purpose of the MOA is to provide general guidance to COE and EPA field offices on section 404(b)(1) guidelines and the required type and level of mitigation necessary to show compliance for standard permit applications. Mitigation measures are to be sequenced to form three steps: avoidance, minimization, and compensatory mitigation. "The Corps will strive to avoid adverse impacts and offset unavoidable adverse impacts to existing aquatic resources, and for wetlands, will strive to achieve a goal of no overall net loss of values and functions." The values and functions of the resources to be impacted will determine what level of mitigation is considered "appropriate". However, recognition that appropriate mitigation may not be practicable suggests that no net loss of wetland functions and values may not be achieved in every case. When determining what is appropriate and practicable to offset unavoidable impacts the terms are further defined as "such measures should be appropriate to the scope and degree of those impacts and practicable in terms of cost, existing technology, and logistics in light of overall project purposes".

Through the MOA, EPA and COE recognize that flexibility is required to address unique habitat regions such as Alaska's wetlands underlain by permafrost. The MOA also recognizes that mitigation banking may be an acceptable form of compensation for impacts. EPA and COE are currently developing additional guidance on the subject and until completed, mitigation banks will be considered on a case-by-case basis.

The MOA doesn't change responsibility for determining compliance: COE maintains responsibility for determination of guideline compliance. EPA will continue to respond to public notices and use the MOA to develop its position on projects.

- UNITED STATES FISH AND WILDLIFE SERVICE

Seasonal wetlands fall under USFWS Resource Category 2. Category 2 habitat is considered to be of "high value for evaluation species and is relatively scarce or becoming scarce on a national basis or in the ecoregion section". The goal in Category 2 is "no net loss of in-kind habitat value". General guidelines potentially relevant to the proposed project for compensation in the case of unavoidable impacts are as follows:

- Conduct wildlife management activities to increase habitat values of existing areas, with project lands and nearby public lands receiving priority.

- Conduct habitat construction activities to fully restore or rehabilitate previously altered habitat or modify existing habitat suited to evaluation species for the purpose of completely offsetting habitat value losses.
- Build fishery propagation facilities.
- Arrange legislative set-aside or protective designation for public lands.
- Provide buffer zones.
- Lease habitat.
- Acquire wildlife easements.
- Acquire water rights.
- Acquire land in fee title.

- CALIFORNIA DEPARTMENT OF FISH AND GAME

Compensation for loss of wetland habitat must be on an acre-for-acre basis. Mitigation for habitat values lost to the implementation of a project should be accomplished "in kind" and "on site" whenever possible, as described below.

The objective of "in kind, on site" mitigation is to duplicate the physical nature of the wetland area to be negatively impacted within or adjacent to a project site. This mitigation technique, if properly applied, will assure that habitat derived from wetland creation is essentially identical to that which is lost with development will concentrate on benefitting those fish and wildlife species and local populations adversely impacted by development and will provide a greater degree of certainty that the benefits provided by the impacted wetland to associated plant and animal communities in the project vicinity are retained.

WETLAND MITIGATION OBJECTIVES

The following objectives have been formulated in accordance with state and federal wetland mitigation policies:

- LONG-TERM PRESERVATION OF WETLANDS WHERE PRACTICABLE

Where practicable, existing, historic wetland habitat should be preserved. The Carson Creek plan identifies two areas, totalling 87.06 acres, for long-term preservation of 11.70 acres existing wetland habitat. These preserve areas include the highest value habitat of each type found on the site. When project impacts results in the need to develop compensation habitat, that compensation should be accomplished near or adjacent to existing, preserved wetland. Soil and hydrologic conditions similar to those found in existing wetland habitat on-site are considered most suitable for successful compensation habitat development. It is also desirable to locate compensation sites adjacent to or within designated preserves to create contiguous preserve areas that can be maintained in perpetuity, despite surrounding development.

- COMPENSATION FOR IMPACTS TO AQUATIC RESOURCES

The primary goal of compensation is to develop new wetland habitat acre for acre, and value for value, within the project site with no net loss of aquatic resources. This is accomplished by designing new wetland habitat equal to, or exceeding the functions of those wetlands lost with development to result in no net loss of wetland functional values.

Existing aquatic resources on the Carson Creek site have been analyzed using WET to develop design performance and success criteria to insure that compensation habitat closely mimics the values found on-site prior to development impacts. In some areas, habitat will be enhanced to provide increased value to aquatic habitat and wildlife.

- PUBLIC EDUCATION

The USFWS concluded that an effort to educate the public to the importance of seasonal wetlands should be a part of any preservation program. Bike trails and interpretive signage on planned walking trails along the borders of preserve areas will provide information in keeping with recommendations made by the USFWS (1987). Guided tours could be a part of the educational component. At all times of the year off-road vehicle use should be strictly prohibited. Some barrier fencing, as necessary, may be utilized to discourage human impacts.

PRESERVATION OF EXISTING WETLANDS

- PRESERVATION LOCATIONS

Preservation areas are located to protect perennial streams, vernal pools, seasonal wetlands, and ephemeral drainages where practicable. A total of 11.70 acres of wetland habitat are designated for preservation (Figure 5-1).

- LAND-USE COMPATIBILITY AND POTENTIAL FOR HABITAT COMPENSATION

Preserves are situated to accommodate construction of compensation habitats within their boundaries, as well as to preserve existing habitat. New wetland habitat is designed to enhance the quality of existing wetlands to result in viable, contiguous preserve areas. To this end, soil and hydrologic data are collected to assure that constructed wetlands are planned for areas consistent with success criteria.

Preserve/compensation areas must include a mechanism designed to form buffers or barriers and transition areas between uses. Specific requirement are detailed under "Special Conditions for Construction and Maintenance of Preserves" in this report.

COMPENSATION FOR IMPACTS

Table 5-2 summarizes habitat and functional values and respective acreages for wetlands to be filled.

- ESTABLISHMENT OF COMPENSATION HABITAT DESIGN CRITERIA AND PERFORMANCE STANDARDS

Compensation wetland habitats are designed to emulate existing systems on-site. Physical and biologic characteristics of wetlands were measured in the field to develop an acceptable range of design parameters for each wetland type to ensure successful and adequate compensation.

Performance standards were also developed for each wetland type from data collected on-site. Performance standards will be used as the measure of success during the project monitoring period. Design specifications and performance standards are presented in Tables 5-3 through 5-6.

A combination of careful micro-siting, closely supervised grading operations, and the use of local seed and cutting stock will ensure that floristic diversity is matched and genetic integrity of the local population is maintained in newly constructed wetlands within the compensation areas.

Table 5-2. Wetland Impact Assessment

Classification	Habitat/Functional Value Assessment	Impact Acreage
Seasonal Wetland	Seasonal wetlands on the site carry water on an ephemeral basis during and shortly after winter storm events. Seasonal wetlands on the site meet the criteria for Section 404 jurisdiction, but habitat value is only marginally different from adjacent upland grasslands. Functional values are typically low. The primary function of seasonal wetlands on the site is to carry storm water to Laguna Creek.	7.00
Vernal Pool	These are small, shallow, poorly drained depressions that pond water for variable periods during winter months. Generally, pools are recognized for a high diversity of endemic plant species relative to adjacent annual grasslands, and colorful spring floral displays. However, site pool habitat values were low. Functional values are low.	2.92
Groundwater Discharge	This low lying area remains moist throughout the year. Floristic diversity is low due to heavy grazing. Functional values are low to moderate.	4.32
Channels	Intermittent channels that carry storm water runoff during the wet season but are dry the remainder of the year. Channel widths are typically several feet from bank to bank (ordinary high water) and exhibit limited vegetation. Plant species diversity and wildlife habitat value are typically low. Wildlife habitat value for Carson Creek is moderate.	1.49

Table 5.3 Design Specifications and Performance Standards For Vernal Pools[2]

Design Specifications

Maximum Pool Depth	3.0" to 16"
Pool Surface Area	100 sq. ft to 4,500 sq. ft.
Depth to Restricting Layer	0.0" to 12.0"
Available Water Holding Capacity	0.5" to 5.0"
Inundation Period	Designed to mimic the performance range of existing pools at a similar watershed position. Monitor depth and volume fluctuations of existing and new pool pairs over time through wetting, inundation, and drying phases.

Performance Standards

Hydrology	To be inundated and saturated for periods of sufficient duration to support a dominance of vernal pool vegetation.
Floristic Diversity and Cover	1)The Vernal Pool Floristic Index (VPFI) of each compensation pool will equal or exceed 0.50[3]. 2)Vegetative cover in each compensation pool will equal or exceed 80% (see Table 5-2).
Invertebrate Composition	To be comparable to existing on-site pools based on random sampling.

[2]Pools are designed to meet specifications that fall within the natural range of physical, hydrologic, edaphic, and floristic/biologic conditions that are found in existing pools on-site.

[3]The VPFI is a similarity index designed to measure a vernal pool's similarity to an idealized list of wetland and vernal pool species. See Appendix for VPFI calculations and a list of vernal pool species.

Table 5-4. Design Specifications and Performance Standards For Seasonal Wetland[4]

<u>Design Specifications</u>	
Maximum Seasonal Wetland Depth	5.5" to 24.0"
Seasonal Wetland Surface Area	4,200 sq. ft to 92,790 sq. ft.
Soil Depth to Slowly Permeable Layer (bedrock)	0.0" to 8.0"
Available Water Holding Capacity	0.5" to 5.0"
Saturation Period	Designed to mimic the performance range of existing seasonal wetlands at similar watershed position. Monitor depth and volume fluctuations of existing and new seasonal wetland pairs over time through wetting, inundation, and drying phases.
<u>Performance Standards</u>	
Seed Source	Existing on-site seasonal wetlands.
Plant Species Richness	A minimum of 9 wetland species (Some target species are listed below) shall occur in each pool within 5 years of construction. Vegetation cover shall equal or exceed 85% within 5 years of construction.

Target Species

Cyprus eragrostis
Eleocharis spp.
Eryngium vaseyi
Hordeum brachyantherum
Hordeum geniculatum
Juncus spp.
Lolium multiflorum
Lythrum hyssopifolia
Poa annua
Polygonum spp.
Polypogon spp.

[4]Seasonal Wetlands are designed to meet specifications that fall within the natural range of physical, hydrologic, edaphic, and floristic/biologic conditions that are found in existing seasonal wetland on-site.

Table 5-5. Design Specifications and Performance Standards for Seasonal/Perennial Marsh.[5]

Design Specifications	
Design Depth	Approximately 36.0" to 80.0"
Surface Area	7,840 to 8,712 sq. ft.
Seed Source	Local collection or commercial
Performance Standards	
Hydrology: Perennial Marsh	To be within design depth year-round.
Seasonal Marsh	To be at or above design during winter months.
Floristic Diversity and Cover	Dominance of wetland and emergent marsh species. (Some target Species are listed below). Vegetative cover shall equal or exceed 80% of shallow benches and side slopes within 5 years of construction.

Target Species

Eleocharis spp.	*Sagittaria latifolia*
Juncus spp.	*Scirpus acutus*
Polygonum spp.	*Typha latifolia*

[5]Seasonal/Perennial Marsh habitat is designed as habitat that falls within the natural range of physical, hydrologic, edaphic, and floristic/biologic conditions that are found in existing seasonal/perennial marsh, habitat in the vicinity of the project site.

Table 5-6. Design Specifications and Performance Standards For Riparian Woodland[6]

Design Specification

Gradient	0 - 25%
Water Source	Drip irrigation will be provided for up to 5 years.
Planting Stock Source	Local collection or commercial stock.

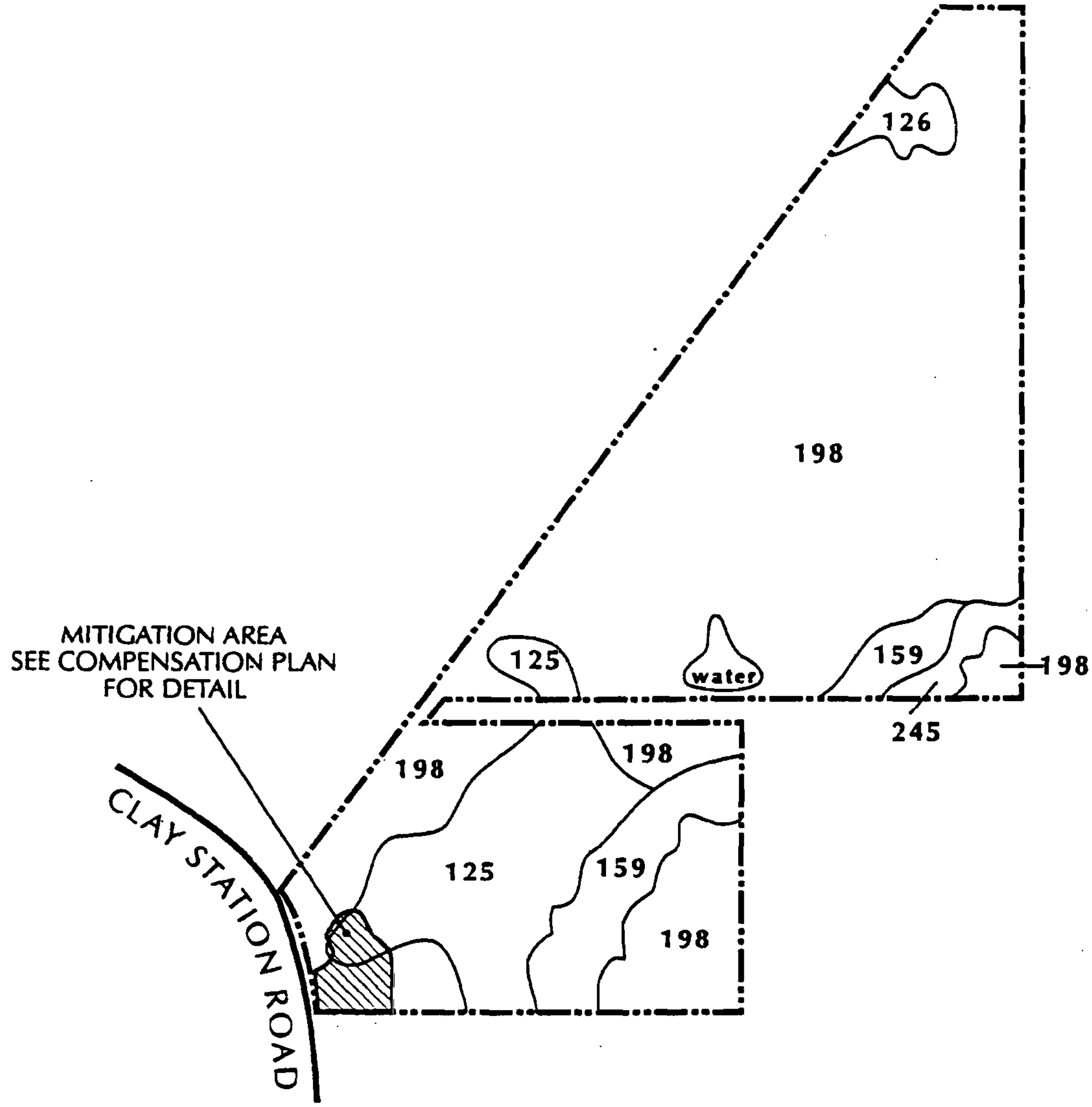
Riparian Revegetation Guidelines

Tree Species	Size	Type Plant	Approximate Auger Hole	Approximate Spacing	Source
Willow species	3'	rooted cuttings	4'	5'x5'	local collection
White Alder	2'-4'	1-gallon container	4'	10'x10'	commercial
California Buckeye	2'-4'	1-gallon	3'	15'x15'	commercial
Blue Oak Valley Oak	-	rooted acorn	3'	10'x10'	local collection
Coffee berry	2'-4'	1-gallon	3'	15'x15'	commercial
California wild rose	1'-2'	1-gallon	3'	10'x10'	commercial
California blackberry	1'-2'	cutting or 1-gallon	-	5'x5'	commercial or local collection
Elderberry	2'-4'	1-gallon	-	10'x10'	commercial

Performance Standards

Survival	Ten percent annual mortality will be allowed; mortality above this level will be replanted.
Growth	Plantings will be monitored for vigor, height, and canopy cover. Vigor will be based on qualitative comparisons to local conditions of leaf turgor, stem caliber, leaf color, and foliage density.

[6] Riparian woodland/habitat is designed to meet specifications that fall within the natural range of physical, hydrologic, edaphic, and floristic/biologic conditions that are found in the project vicinity.



SOIL KEY

125 Corning complex, 0 - 8% slopes
126 Corning-Redding complex, 8 - 30% slopes
159 Hicksville gravelly loam, 0 - 2% slopes
198 Redding gravelly loam, 0 - 8% slopes
245 Xerorthents, dredge tailings, 2 - 50% slopes

OFF-SITE MITIGATION AREA
SCS SOIL TYPES AT MAHON RANCH

FIGURE 5-3

SCALE IN FEET 0 1000 2000

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SECTION 404 REGULATORY COMPLIANCE
CARSON CREEK RANCH

SCS SOIL SURVEY, SACRAMENTO COUNTY

- SITING FEASIBILITY ANALYSIS

Site characteristics critical to mitigation success were evaluated prior to establishment of compensation areas and preserve boundaries. Potential on-site compensation areas were identified in locations contiguous to wetlands designated for preservation. Topographic lows were incorporated where feasible to reduce grading, thereby minimizing disturbance and reducing costs.

Soils

Six soil types are mapped for the project site. Refer to the section of this report entitled "Existing Conditions" for descriptions. Information on soil characteristics was used to determine depth to water restricting layers and water table. Soil profile data were used to evaluate grading feasibility and to develop grading specifications for wetland construction.

Soil types for the mitigation area at Mahon Ranch include Corning complex and Redding gravelly loam (Figure 5-3).

<u>Corning complex, 0 - 8% slopes</u>

This map unit is on dissected high terraces and terrace remnants with mound-intermound microrelief. This unit consists of 45% Corning well drained soils (on convex mounds) and 40% Coring moderately well drained soils (on concave intermounds). Included in this unit, about 15% of the total acreage, are small areas of Creviscreek, Hicksville, and Redding soils.

The Corning soil is very deep and formed in gravelly alluvium from mixed rocks. Typically, the surface layer for the well drained soil is strong brown gravelly clay loam and yellowish red loam about 28 inches thick. The subsoil is claypan consisting of yellowish red gravelly clay loam about 19 inches thick. The substratum to a depth of 62 inches is yellowish red stratified gravelly loamy coarse sand to gravely sandy clay loam. In some areas the subsoil and substratum are very gravelly while in other areas the subsoil is clay or clay loam.

Typically, the surface layer of the moderately well drained soil is brown gravelly fine sandy loam underlain by reddish brown, yellowish red, and light brown loam to a depth of 20 inches. The subsoil is a claypan consisting of yellowish red clay about 12 inches thick. The substratum to a depth of 60 inches is yellowish red stratified gravelly clay loam to gravelly loam.

Permeability is very slow and available water capacity is low. Water is perched above the claypan for short periods after heavy storms and when over irrigated. Runoff is very slow or slow and the hazards of water erosion is slight or moderate.

Redding loam, 2 - 8% slopes

This moderately deep, moderately well drained soil is on high terraces and terrace remnants. It formed in gravelly and cobbly alluvium from mixed rocks. Typically, the surface layer is strong brown gravelly loam about 7 inches thick. The upper subsoil is yellowish red loam and clay loam about 13 inches thick. The lower part of the subsoil is a claypan consisting of reddish brown and yellowish red clay about 8 inches thick over a strongly silica cemented hardpan at a depth of approximately 28 inches. Permeability is very slow and available water capacity is low. Water is perched above the claypan for short periods after heavy storms in winter and early spring. Effective rooting depth is 23 to 40 inches, but roots are restricted to cracks and ped faces in the claypan which occurs at a depth of 20 to 35 inches. Depth to hardpan ranges from 23 to 40 inches. Shrink-swell potential of the subsoil is high and runoff is slow to medium.

Hydrology

Vernal pools and seasonal wetlands are inundated seasonally from direct rainfall and runoff from adjoining upland areas. Runoff enters wetlands as overland flow during long or intense rainfall events, or as subsurface lateral flow across the upper surface of a claypan or hardpan. A hydrologic budget and runoff simulation conducted for the Highland Reserve project in North Central Roseville, northwest of the Carson Creek Ranch site (Balance Hydrologics 1989) concluded that minimal watersheds are needed to support vernal pools on claypan/hardpan soils. In an average year, approximately 8 inches of runoff are produced on these surfaces, an amount judged sufficient to support viable pools. Compensation pools will be situated to ensure a successful water balance.

HABITAT CONSTRUCTION

Seasonal wetland, seasonal/perennial marsh, and riparian woodland habitat construction is proposed on-site, and vernal pool habitat is proposed for Mahon Ranch. A combination of careful micro-siting, closely supervised grading operations and the use of local seed and cutting stock will ensure that floristic diversity is matched and genetic integrity of the local population is maintained on newly constructed wetlands in the compensation areas.

- CONSTRUCTION PERIOD

Development of compensation habitat will occur over a two-year period subsequent to issuance of Army Corps 404 permit.

- CONSTRUCTION METHODS

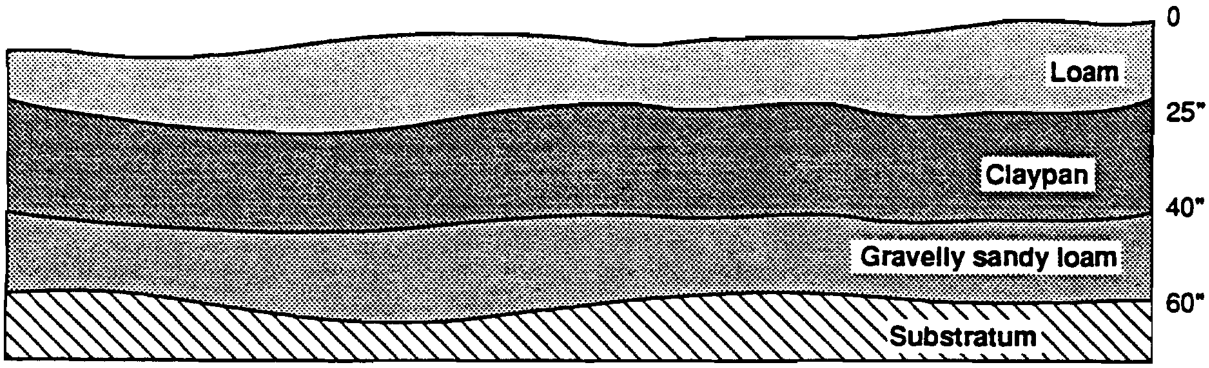
Vernal Pool

The objective in vernal pool design is to develop pool systems that mimic natural pools both hydrologically and floristically. Design specifications were developed to fall within the natural range of physical, hydrologic, edaphic, and floristic/biologic conditions that are found in existing pools located on site. Basins will be excavated per design specifications presented in Table 5-3. Seed material will be collected from donor wetlands and placed at specified depths in depressions as specified in the typical cross-section of a constructed vernal pool (Figure 5-4).

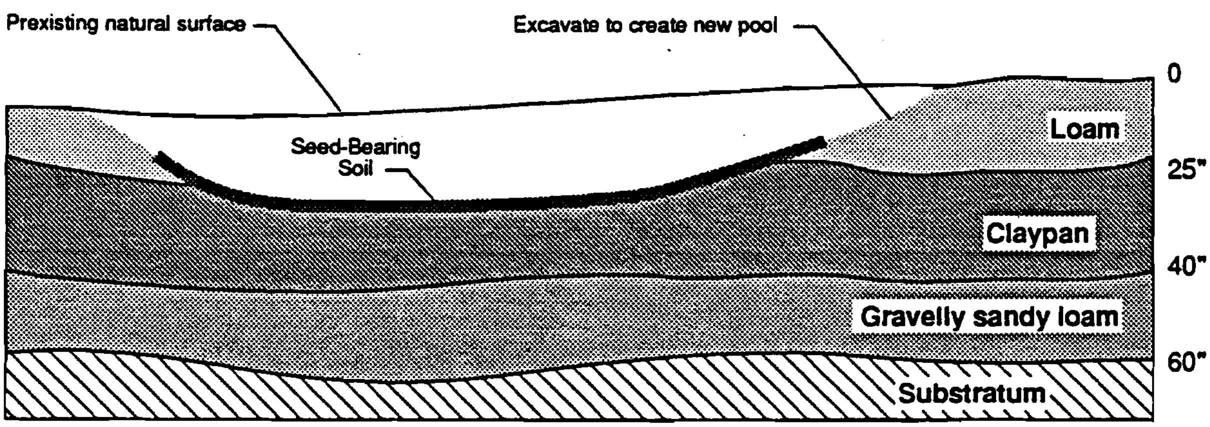
Seasonal Wetland

Increased availability of water within several preserve areas provides the opportunity to create enhanced functional habitats on-site with greater diversity of floristic and biotic species. Seasonal wetlands will be excavated per design specifications presented in Table 5-4. Non-wetland areas adjacent to some existing swale bottoms will be cut to widen swale corridors. Bottoms and side slopes will be modified to result in prolonged inundation periods and enhanced wetland values. Low berms will be built at specified locations to retain surface runoff. A typical cross-section of a constructed seasonal wetland is shown in Figure 5-5.

Typical Soil Profile
Cross Section

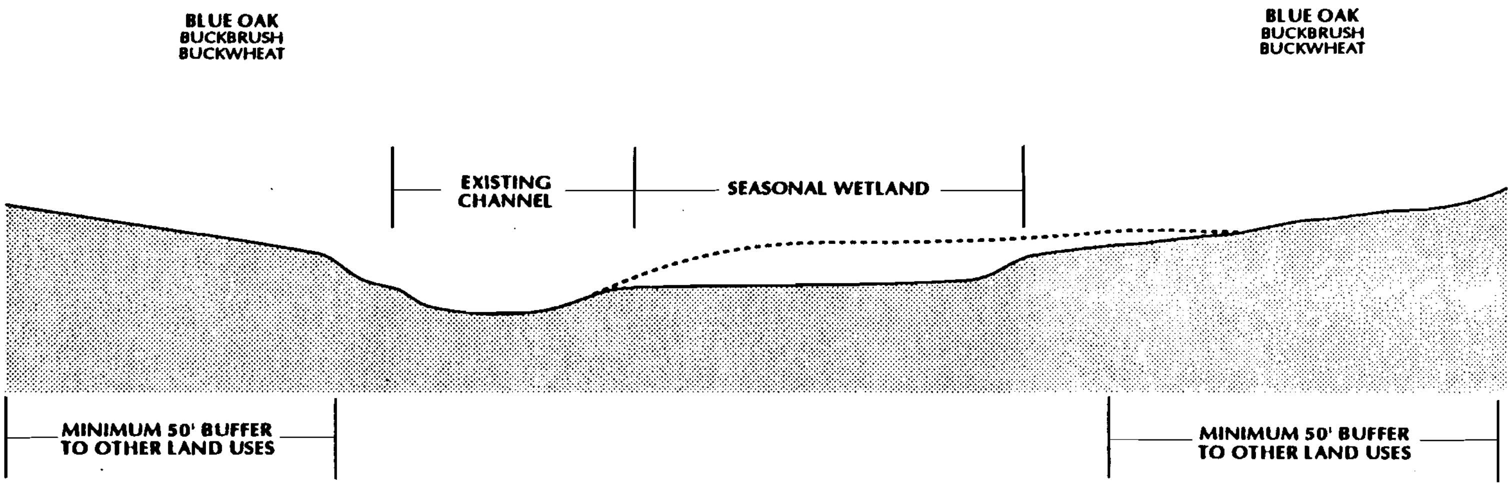


Typical Constructed Vernal Pool



NOTE: Do not excavate through clay. Soil boring should precede construction to ascertain depth and existence of clay layer.

CONCEPTUAL CROSS-SECTION OF CONSTRUCTED VERNAL POOL	**FIGURE 5-4**
SUGNET & ASSOCIATES ENVIRONMENTAL CONSULTANTS ©1992 — SECTION 404 REGULATORY COMPLIANCE *CARSON CREEK RANCH*	NO SCALE



TYPICAL PLANT SPECIES BY HABITAT

BUFFER ZONES	PERENNIAL MARSH	SEASONAL MARSH	RIPARIAN (lower)	SEASONAL WETLAND
Buckbrush	Bulrush	Spikerush	Cottonwood	Ryegrass
Buckwheat	Cattail	Rabbitsfoot	Willow	Mediterranean barley
Blue oak	Pondweed	Sedge		Coyote thistle
Valley oak	Buttonbrush	Nutgrass	**RIPARIAN (upper)**	Buttercup
Coyote bush	Smartweed	Smartweed	Valley oak	Rabbitsfoot grass
Buckeye	Rush			Fountain miner's lettuce
Elderberry	Nutgrass			
	Duckweed			

EXISTING GRADE

PROPOSED GRADE

SECTION NOT TO SCALE

TYPICAL CROSS SECTION OF SEASONAL WETLAND

FIGURE 5-5

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CARSON CREEK RANCH

Seasonal/Perennial Marsh

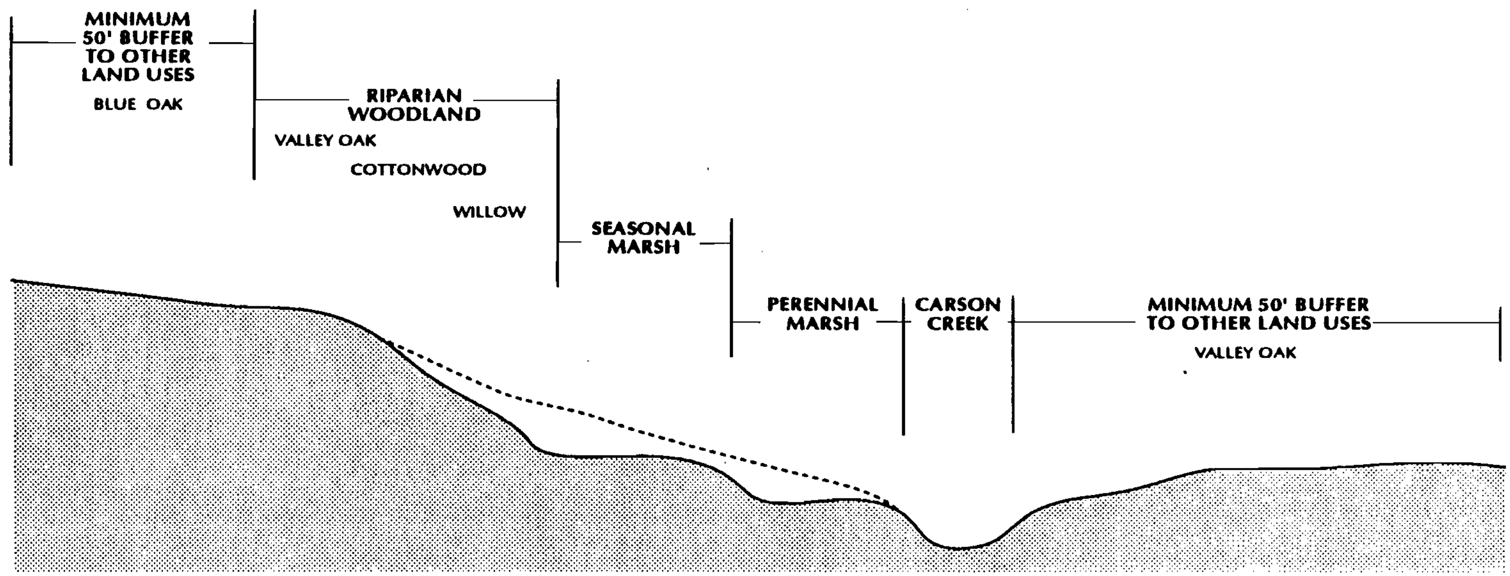
The development of seasonal/perennial marsh habitat is proposed for areas adjacent to Carson Creek, where a combination of grading and berm construction will be utilized. The berm construction will produce the desired inundation with minimal grading. The design for graded areas will aim at creating a variety of water depths ranging from moist soils to open water areas approximately four feet deep (Figure 5-6). This variety of depths will allow for the natural colonization of existing perennial species including tule, cattail, smartweed, rush, and watergrass among others in accordance with specifications included in Table 5-5. This process will be accelerated by planting cuttings, rhizomatous plugs, and sowing seeds collected from adjacent wetlands or purchased from commercial sources. Planting areas will be based on expected water regimes.

Riparian Woodland

Riparian woodland reforestation will occur primarily along the meandering watercourse of Carson Creek and along the intermittent drainage within the southeastern portion of the site. Planting will mimic stand diversity and cover typically found along similar watercourses within the region. To increase wildlife habitat value and diversity, areas will be reforested through integrated planting of cottonwood, willow, alder, and oak. Planting will occur during the winter dormant season. Alder, cottonwood, valley and interior live oak, and willow will be planted in auger holes at the appropriate elevation in the floodplain in accordance with specifications included in Table 5-5. The floodplain will be graded, as necessary, to improve hydrologic and water table conditions necessary for successful establishment. Plantings will be maintained for up to five years through weed control, drip irrigation, fertilization, or replanting as necessary. After this time established plants will survive without additional management. Seasonal and perennial marsh areas will be developed within these areas. In addition to wetland habitat, riparian woodland and clusters of native oaks will be planted to enhance wildlife habitat value and diversity for the project site.

Alder

Locally grown commercial white alders will be planted along the edge of Carson Creek within on-site Preserve Area 1 as indicated on the Preserve Master Plan.



TYPICAL PLANT SPECIES BY HABITAT

BUFFER ZONES	PERENNIAL MARSH	SEASONAL MARSH	RIPARIAN (lower)	SEASONAL WETLAND
Buckbrush	Bulrush	Spikerush	Cottonwood	Ryegrass
Buckwheat	Cattail	Rabbitsfoot	Willow	Mediterranean barley
Blue oak	Pondweed	Sedge	**RIPARIAN (upper)**	Coyote thistle
Valley oak	Buttonbrush	Nutgrass	Valley oak	Buttercup
Coyote bush	Smartweed	Smartweed		Rabbitsfoot grass
Buckeye	Rush			Fountain miner's lettuce
Elderberry	Nutgrass			
	Duckweed			

EXISTING GRADE

PROPOSED GRADE

SECTION NOT TO SCALE

FIGURE 5-6

TYPICAL CROSS SECTION OF SEASONAL/PERENNIAL MARSH AND RIPARIAN WOODLAND

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ENVIRONMENTAL CONSULTANTS
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SECTION 404 REGULATORY COMPLIANCE
CARSON CREEK RANCH

Site preparation will include augering holes to a depth of four feet to loosen soil and then backfilling the hole. Trees will be planted in four-foot deep backfilled auger holes, following a 10-foot spacing plan.

Willow

Willow cuttings will be planted over lower reaches of the riparian areas adjacent to perennial marshes/open water habitat as shown on the Preserve Master Plan. Site preparation will include augering holes to a depth of four feet to loosen soil and then backfilling the hole. The cuttings will be collected from the local vicinity, soaked to promote swelling and rooting, and planted in the backfilled holes. Willows will be spaced on approximately 25-foot centers, at a density of 750 cuttings per acre. Irrigation may be required for one or more years to assist the plants in rooting to the groundwater depth.

Cottonwood

Locally collected cuttings will be planted at mid-elevations within the riparian areas indicated on the Preserve Master Plan. Cuttings will be planted following the techniques described above for willow and alder. Cottonwood cuttings will be planted in irregularly spaced curved rows and watered with drip irrigation to ensure establishment. Herbicides, weed mats, and browse repellent will be used as necessary to control competitive weeds, animal browsing, and to maintain plant vigor.

Oak

Oaks will be planted on higher elevational gradients as shown on the Preserve Master Plan. Plantings will be made in an irregular, clustered pattern of three to four plantings per cluster.

Acorns will be collected from local trees and planted as rooted acorns during the period between November through February. Rooted acorns are preferable to container-grown oaks because they are less likely to have kinked root systems and are therefore better able to establish deep tap roots quickly. A minimum of three rooted acorns will be planted in each three foot deep backfilled auger hole and treated with slow release fertilizer. Acorns will be protected with plant herbivore protection kits (Figure 5-7). Weed mats will be used to reduce weed competition. Seedlings will be irrigated during the growing season with a drip irrigation system that will apply a minimum of 6-8 gallons of water at least once a week for a minimum of four years. Adequate root growth should occur by the end of this period, allowing the trees to survive and grow without supplemental water. The plants will be weeded as necessary to maintain vigor.

- EROSION CONTROL

All disturbed and created surfaces (such as berms) not specifically seeded will be hydroseeded with a native seed mix to minimize erosion during the first growing season.

MONITORING PROGRAM

- METHODS

Compensation wetlands will be monitored continually for five years to ensure successful mitigation. Monitoring is designed to ensure that compensation wetlands are functioning as expected.

Hydrology

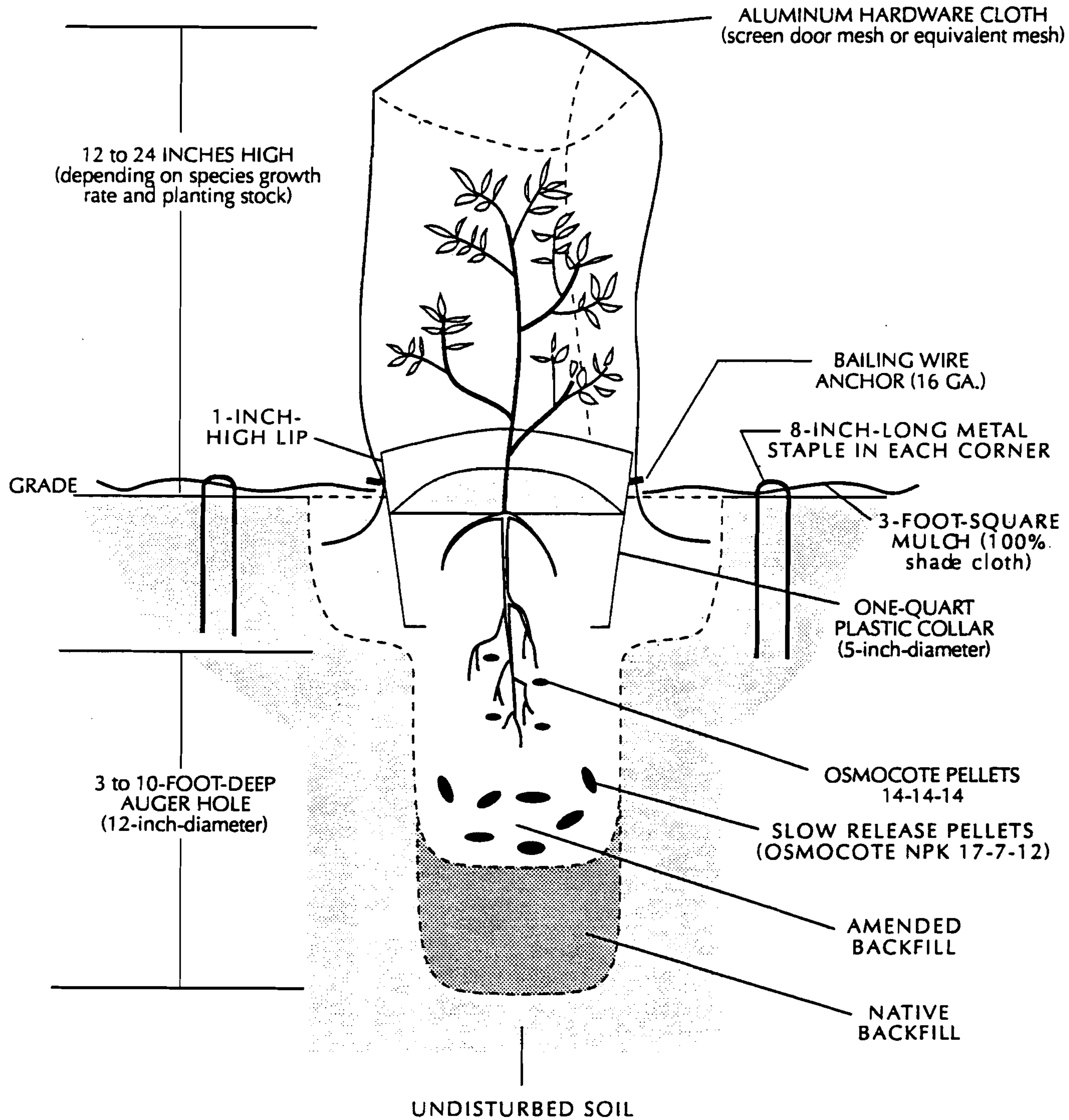
Hydrologic performance of newly developed seasonal wetlands will be assessed for a minimum of five growing seasons. Soil moisture, in the form of inundated or saturated soil, sufficient to support wetland vegetation is the required performance standard for seasonal marsh and vernal pools.

Vernal Pools

Pool elevation/water storage relationships of historic and compensation pools will be evaluated for the duration of one storm event until pools are dry. Hydrologic monitoring will focus on the first year following construction; subsequent years will have cursory inspections to ensure successful hydrologic performance is continued.

Seasonal Wetland/Emergent Marsh

Soil moisture will be monitored in seasonal wetlands. Wetland bottoms must be saturated a sufficient amount of time to support wetland vegetation.



CONCEPTUAL CROSS SECTION OF HERBIVORY PROTECTION	**FIGURE 5-7** NOT TO SCALE
SUGNET & ASSOCIATES ENVIRONMENTAL CONSULTANTS ©1991 — SECTION 404 REGULATORY COMPLIANCE *CARSON CREEK RANCH*	SOURCE DATA: CORNFLOWER FARMS

Perennial Marsh

Soil moisture and water levels will be monitored in this habitat. Wetland bottoms must be saturated for sufficient duration to support a dominance of hydrophytic vegetation. Botanical surveys will be used to document this. A staff gauge will be installed in open water areas to track seasonal changes in water levels.

Floristics

Vernal Pools

An inventory will be conducted each spring to monitor floristic success. A field survey will be conducted during the peak flowering period (typically mid-April), to determine species composition, vegetative cover, and overall pool quality. An early spring survey may be conducted to compile lists and cover for early-blooming species. All pools will be surveyed the first year following construction in subsequent years, 25% of the pools and any pools that were not meeting success criteria will be surveyed. In year five all pools will again be surveyed to determine successful mitigation.

Seasonal/Emergent Marsh

Monitoring within this habitat will follow the methods described above for vernal pools, although timing of the surveys may be different due to different flowering phenologies in the different habitats.

Riparian Woodland

Plantings will be monitored for vigor, height, cover, and mortality once each summer for 5 years following planting. Vigor will be based upon qualitative comparison to local riparian scrub/ woodland habitat conditions of leaf turgor and color, stem caliber, and foliage density.

Invertebrates

Existing and constructed pools will be monitored to compare invertebrate assemblages in each. Sites will be sampled 2-3 times each winter by pulling a dipnet along the bottom of the pools; species collected will be fixed in a suitable solution and then transferred to 70-80% Ethyl alcohol, for preservation prior to sorting, and identification. Invertebrate species lists and relative abundance will be evaluated.

COMPLETION OF MONITORING REQUIREMENTS

Mitigation monitoring will be a condition of a U.S. Army N26 permit, as well as a CEQA requirement. If the Corps District Engineer, in consultation with the U.S. Fish and Wildlife Service, the Environmental Protection Agency, and the California Department of Fish and Game, determines that wetland development is successful at the end of five growing seasons, no further monitoring will be required. Should monitoring indicate that performance standards are not met, plan modifications will be submitted for approval. Approved modifications shall be implemented and monitoring will continue until success criteria are met.

SPECIAL CONDITIONS FOR CONSTRUCTION AND MAINTENANCE OF PRESERVES

A Landscape Lighting District (LLD) or Home Owners Association (HOA) shall be formed to fund long-term maintenance of compensation and preservation areas to assure that wetlands are maintained in a nature state. The permittee shall record the LLD document. No livestock grazing, grading, planting of non-native vegetation, vegetation removal, structures, fences, dams, fills, ponds, or excavation shall occur within wetlands or open space buffer areas except for activities approved for preserve construction and maintenance.

Newly developed habitat areas shall be monitored for a minimum period of five consecutive growing seasons from the date that initial planting is complete or until success criteria have been met. Monitoring reports shall be prepared and submitted annually to the Corps of Engineers. Monitoring reports shall include complete plant and invertebrate species lists, hydrologic monitoring data success rating per success criteria assessment of data, and a report concerning any needed maintenance treatments.

The following standards shall apply and shall be incorporated as a condition of project approval for any project, including roadways or other infrastructure, adjacent to a wetland preserve:

- Temporary fencing shall be installed along the boundary of the wetland preserves prior to construction, grading, movement of material or machinery onto the site, approval of improvement plans, or the issuance of any permits. The fencing shall not be removed until construction activity is completed.

- The applicant shall design adequate drainage discharge points at the boundary of preserve areas to insure that development and construction activities do not adversely affect wetlands within the preservation area. Inspectors with expertise in wetland identification shall be on site during construction in these areas to insure that activities shall not adversely affect wetlands.

- No mowing or vegetation management will occur in the preserves. Fire breaks (where necessary) will be located outside of preserve boundaries.

- Irrigation and water quality systems within the golf course will be designed so as not to affect wetlands located within preserves. All drainage within the golf course will be designed to flow away from preserves when feasible. If this can not be accomplished, appropriate measures such as turf filter strips, spreading basins, etc...will be incorporated to maintain quality water standards. Performance of such systems will be monitored for compliance.

- Preserve areas will be signed where appropriate.

- Passive recreation facilities such as hiking or bicycle trails will be designed to avoid impacts to wetlands and will be approved by appropriate state and federal agencies prior to construction.

SECTION 6.0 404 REGULATORY COMPLIANCE

SECTION 6.0

404 REGULATORY COMPLIANCE

In the early 1980's the County of El Dorado identified Carson Creek as a potential site for residential development to accommodate the rapid population growth projected for the County. An EIR was prepared to evaluate the impacts of an amendment to the County General Plan and to rezone the site. Subsequent to further investigation, the DEIR identified the presence of seasonal swales and the potential for seasonal ponding on the site. The final EIR and zoning changes have since been approved.

A comprehensive Section 404 compliance effort was initiated by the applicant in 1988. A detailed wetland delineation of the site was conducted during the growing season of 1988. Due to the difficulty in the delineation of wetland/upland borders on many portions of the site, a quantitative analysis of herbaceous cover was undertaken. Consultations with the Army Corps of Sacramento District regulatory staff and permit review personnel from the U.S. Fish and Wildlife Service Region 0, and the Environmental Protection Agency Region IX were also initiated at that time. A rare plant study was conducted concurrent to the field delineation. No state or federal threatened or endangered plant species were found to occur on the project site.

An analysis of project alternatives, begun for the EIR was updated and expanded in scope in accordance with 404(b)(1) guidelines. An exhaustive study of off-site alternative was conducted during 1988-89, on-site alternatives were also studied to determine the practicability of several levels of wetland avoidance.

The least damaging practicable project alternative was determined in 1991. The selected alternative will result in the placement of fill into 11.70 acres of wetland habitat. Wetlands to be filled include vernal pools, and shallow seasonally flooded swales that support hydrophytic annuals and facultative transitional species. No perennial waters will be affected by the project. All wetland vegetation to be affected is herbaceous and annual in nature. Compensation will be accomplished by grading designated sites to specified elevations to alter seasonal hydrology and support wetland annual plants. Seedbearing soil will be collected from wetlands on the project site for transport to newly developed wetlands.

Construction of a seasonal wetland habitat development project is proposed. Approximately 24.79 acres of seasonal wetland habitat will result from excavation of upland sites, and placement of berms to impound water. On-site soil feasibility studies and hydrologic analysis were conducted prior to construction to formulate construction specifications and criteria for determination of habitat compensation success.

A total of acres compensation and preservation wetlands is proposed at Carson Creek Ranch and Mahon Ranch to compensate for impacts of both the development and road projects and to further preserve significant existing wetland acreage. A total of 28.59 acres of new wetland habitat will be developed, 24.79 acres in Carson Creek Ranch and 3.80 acres at Mahon Ranch. A net gain of 12.86 wetland acres will result from development of the project.

Hydrologic, floristic, and biologic monitoring will begin during the first growing season for each phase-area. Monitoring will continue for five successive growing seasons. If success criteria are met for all compensation sites within each phase area after five growing seasons, the project will be deemed successful and habitat compensation monitoring will cease. In the event that specified habitat has not been developed at particular sites, monitoring will continue until success criteria are met at those sites.

Preserve buffers will ensure that adjacent development does not result in degradation of existing habitat values. Additional monitoring will be conducted annually in compensation and preservation areas for five years following buildout to determine the effects of adjacent land uses on preserves. Annual reports will evaluate the adequacy of preserve maintenance and the success of public education programs.

Preserves will be managed in perpetuity in accordance with specified conditions and with objectives similar to those proposed.

SECTION 7.0 REFERENCES

REFERENCES

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SECTION 8.0 APPENDICES

SECTION 8.0

APPENDICES

Appendix A.	NDDB for Clarksville and Folsom SE
Appendix B.	Plant List - Huffman & Associates, Inc.
Appendix C.	Plant List - Harding Lawson Associates
	- Table 1. Plant Species Observed
	- Table 2. Plant Species Potentially Occurring
Appendix D.	Plant List - On-site Sugnet & Associates
Appendix E.	Vernal Pool Floristic Index
Appendix F.	Wildlife Species List Observed or Potentially Occurring
Appendix G.	U.S. Army Corps of Engineers Verification Letter
Appendix H.	Wetland Preservation and Compensation Master Plan

Appendix A. NDDB for Clarksville and Folsom SE

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** California Department of Fish and Game *****  Natural Diversity Data Base **
*                                                                             *
*  ARDEA HERODIAS                                                             *
*  Great Blue Heron                                                           *
*                                                                             *
*  ---------Status----------  NDDB Element Ranks --------Other Lists--------- *
*  Federal: None                  Global: G5                 CDFG:            *
*    State: None                   State: S2S3           Audubon:             *
*                                                      CNPS List:             *
*  ---Habitat Associations---                       CNPS RED Code:            *
*      General: COLONIAL NESTER IN TALL TREES, CLIFFSIDES, AND SEQUESTERED    *
*               SPOTS ON MARSHES.                                             *
* Microhabitat: ROOKERY SITES IN CLOSE PROXIMITY TO FORAGING AREAS: MARSHES,  *
*               LAKE MARGINS, TIDE-FLATS, RIVERS AND STREAMS, WET MEADOWS.    *
*** Element ID: ABNGA04010 ****************************************************

Occurrence Number: 30                                        --Dates Last Seen--
          Quality: Unknown                                   Element: 1989/06/05
             Type: Natural/Native occurrence                    Site: 1990/XX/XX
         Presence: Possibly Extirpated
            Trend: Unknown
 Main Info Source: JOHNSON, D. 1989 (F SURV)

Quad Summary: Clarksville
 County(ies): Sacramento

    Location: JUST SOUTH OF THE INTERSECTION OF BLUE RAVINE RD AND THE RD
              CONNECTING BLUE RAVINE AND GREEN VALLEY RDS, S OF FOLSOM LK.
              ROOKERY IS LOCATED IN SOME COTTONWOODS BORDERING DREDGER
              TAILINGS.

                Lat/Long: 38d 40m 45s / 121d  7m 19s      Township: 10N
                     UTM: Zone-10 N4282653 E663359           Range: 08E
       Mapping Precision: SPECIFIC      (80m Mile)         Section: 32
             Symbol Type: POINT                            Quarter: NE
            Group Number: 17072     More Information? N   Meridian: M
        Map Index Number: 17072      More Map Detail? N  Elevation: 350 ft

Threat Summary: No threats listed for this occurrence.

      Comments: General Comments: 14 ADULTS AND 2 JUVENILES OBSERVED IN 1989;
                NONE IN 1990. GREAT EGRETS ALSO NEST HERE. Owner/Manager: PVT
```

```
** California Department of Fish and Game *****  Natural Diversity Data Base **
*                                                                              *
*  CASMERODIUS ALBUS                                                           *
*  Great Egret                                                                 *
*                                                                              *
*  ---------Status----------  NDDB Element Ranks --------Other Lists---------  *
*  Federal: None                Global: G5              CDFG:                  *
*    State: None                 State: S2S3         Audubon:                  *
*                                                   CNPS List:                 *
*  ---Habitat Associations---                   CNPS RED Code:                 *
*      General: COLONIAL NESTER IN LARGE TREES.                                *
* Microhabitat: ROOKERY SITES LOCATED NEAR MARSHES, TIDE-FLATS, IRRIGATED      *
*               PASTURES, AND MARGINS OF RIVERS AND LAKES.                     *
*** Element ID: ABNGA05010 *****************************************************

Occurrence Number: 15                                     --Dates Last Seen--
          Quality: Fair                                   Element: 1989/05/09
             Type: Natural/Native occurrence                 Site: 1990/XX/XX
         Presence: Possibly Extirpated
            Trend: Unknown
 Main Info Source: JOHNSON, D. 1989 (F SURV)

Quad Summary: Clarksville
 County(ies): Sacramento

    Location: JUST SOUTH OF THE INTERSECTION OF BLUE RAVINE RD AND THE RD
              CONNECTING BLUE RAVINE AND GREEN VALLEY RDS, S OF FOLSOM LK.
              ROOKERY IS LOCATED IN SOME COTTONWOODS BORDERING DREDGER
              TAILINGS.

               Lat/Long: 38d 40m 45s / 121d  7m 19s      Township: 10N
                    UTM: Zone-10 N4282653 E663359           Range: 08E
      Mapping Precision: SPECIFIC     (80m Mile)          Section: 32
            Symbol Type: POINT                            Quarter: NE
           Group Number: 17072    More Information? N    Meridian: M
       Map Index Number: 17072     More Map Detail? N   Elevation: 350 ft

Threat Summary: No threats listed for this occurrence.

      Comments: General Comments: 4 ADULTS OBSERVED NESTING IN 1989; NONE IN
                1990. GREAT BLUE HERONS ALSO NEST AT THIS LOCATION.
                Owner/Manager: PVT
```

```
** California Department of Fish and Game *****  Natural Diversity Data Base **
*                                                                              *
*  BUTEO SWAINSONI                                                             *
*  Swainsons Hawk                                                              *
*                                                                              *
*  ---------Status----------  NDDB Element Ranks --------Other Lists--------- *
*  Federal: Category 3C         Global: G4              CDFG: Special Concern *
*    State: Threatened           State: S3           Audubon:                  *
*                                                   CNPS List:                 *
*  ---Habitat Associations---                     CNPS RED Code:               *
*      General: PREFER RIPARIAN AREAS ADJACENT TO OR NEAR ALFALFA, HAY, OR     *
*               WHEAT FIELDS SUPPORTING MICROTINE RODENT POPULATIONS.          *
* Microhabitat: NEST IN OPEN RIPARIAN AREAS CONTAINING NUMEROUS LARGE VALLEY   *
*               OAKS, AND OCCASIONAL COTTONWOODS OR SYCAMORES.                 *
*** Element ID: ABNKC19070 *****************************************************

Occurrence Number: 200                                       --Dates Last Seen--
          Quality: Unknown                                   Element: 1982/06/28
             Type: Natural/Native occurrence                    Site: 1982/06/28
         Presence: Presumed Extant
            Trend: Unknown
 Main Info Source: CDFG RAPTOR NEST FILES, 1984 (PERS)

Quad Summary: Folsom SE
 County(ies): Sacramento

    Location: INTERSECTION OF WHITE ROCK AND SCOTT RDS, ABOUT 1.5 MI S OF HWY
              50.

                   Lat/Long: 38d 37m 16s / 121d 06m 51s       Township: 09N
                        UTM: Zone-10 N4276242 E664150           Range: 08E
          Mapping Precision: NON-SPECIFIC (1/5 Mile)          Section: 20
                Symbol Type: POINT                            Quarter: NW
               Group Number: 12012     More Information? N   Meridian: H
           Map Index Number: 12012      More Map Detail? N  Elevation: 400 ft

Threat Summary: Unknown

      Comments: General Comments: TERRITORY NO. SA001. 1 ADULT OBS IN AREA BOTH
                1979 AND 1982. NO NESTS FOUND. Owner/Manager: PVT
```

```
** California Department of Fish and Game *****  Natural Diversity Data Base **
*                                                                            *
*  AGELAIUS TRICOLOR                                                         *
*  Tricolored Blackbird                                                      *
*                                                                            *
*  ---------Status----------  NDDB Element Ranks --------Other Lists--------- *
*  Federal: Category 2          Global: G3                 CDFG:              *
*    State: None                 State: S3             Audubon:              *
*                                                    CNPS List:              *
*  ---Habitat Associations---                    CNPS RED Code:              *
*      General: NOMADIC RESIDENT OF SACRAMENTO-SAN JOAQUIN VALLEYS AND LOW   *
*               FOOTHILLS OF SIERRA NEVADA; SEA LEVEL TO 3400 FT.            *
* Microhabitat: NESTS COLONIALLY IN VICINITY OF FRESH WATER, MARSHY AREAS.   *
*               COLONIES PREFER HEAVY GROWTHS OF CATTAILS AND TULES.         *
*** Element ID: ABPBXB0020 ***************************************************

Occurrence Number: 4                                      --Dates Last Seen--
          Quality: Unknown                                Element: 1987/05/31
             Type: Natural/Native occurrence                 Site: 1987/05/31
         Presence: Presumed Extant
            Trend: Increasing
 Main Info Source: HOSEA, R. C. 1986 (LIT)

Quad Summary: Folsom, Clarksville
 County(ies): Sacramento

    Location: ALONG PLACERVILLE (SCOTT) RD, APPROX 4 MI W OF CLARKSVILLE.
              COLONY OF 1330 BIRDS OBS BY HOSEA IN 5/82 NESTING IN
              BLACKBERRIES. 3 ADDITIONAL COLONIES ALSO LOCATED ALONG SCOTT RD,
              ALL NESTING IN BLACKBERRIES. HOSEA OBS ADULTS FLYING IN THE AREA
              ON 5/31/87.

                  Lat/Long: 38d 39m 20s / 121d 07m 38s       Township: 09N
                       UTM: Zone-10 N4280041 E662936            Range: 08E
         Mapping Precision: NON-SPECIFIC (1   Mile)           Section: 08
               Symbol Type: POINT                             Quarter: --
              Group Number: 11994    More Information? N     Meridian: M
          Map Index Number: 11994    More Map Detail? N     Elevation: 350 ft

Threat Summary: Unknown

      Comments: General Comments: EGGS COLL BY TED BEEDY IN 4-87 FOR SELENIUM
                COMPARISON STUDY (KESTERSON). Owner/Manager: PVT
```

```
** California Department of Fish and Game ***** Natural Diversity Data Base **
*                                                                            *
*  AGELAIUS TRICOLOR                                                         *
*  Tricolored Blackbird                                                      *
*                                                                            *
*  ---------Status----------  NDDB Element Ranks --------Other Lists--------- *
*  Federal: Category 2          Global: G3              CDFG:                *
*    State: None                 State: S3          Audubon:                 *
*                                                  CNPS List:                *
*  ---Habitat Associations---                  CNPS RED Code:                *
*      General: NOMADIC RESIDENT OF SACRAMENTO-SAN JOAQUIN VALLEYS AND LOW   *
*               FOOTHILLS OF SIERRA NEVADA; SEA LEVEL TO 3400 FT.            *
* Microhabitat: NESTS COLONIALLY IN VICINITY OF FRESH WATER, MARSHY AREAS.   *
*               COLONIES PREFER HEAVY GROWTHS OF CATTAILS AND TULES.         *
*** Element ID: ABPBXB0020 ***************************************************

Occurrence Number: 93                                   --Dates Last Seen--
          Quality: Unknown                             Element: 1987/05/31
             Type: Natural/Native occurrence              Site: 1987/05/31
         Presence: Presumed Extant
            Trend: Unknown
 Main Info Source: HOSEA, R. 1987 (PERS COM)

Quad Summary: Clarksville
 County(ies): El Dorado

    Location: CRAZY HORSE CAMPGROUND, 150 YDS S OF HWY 50, BETW BASS LAKE EXIT
              AND CAMERON PARK EXIT. COLONY OF APPROX 500 ADULTS OBS BY HOSEA
              NESTING IN CATTAILS ON A SMALL POND.

                 Lat/Long: 38d 39m 14s / 121d 00m 19s        Township: 09N
                      UTM: Zone-10 N4280080 E673576             Range: 09E
        Mapping Precision: NON-SPECIFIC (1/5 Mile)            Section: 08
              Symbol Type: POINT                              Quarter: NE
             Group Number: 12196    More Information? N      Meridian: M
         Map Index Number: 12196     More Map Detail? N     Elevation: 1200 ft

Threat Summary: Unknown

      Comments: General Comments: ADULTS CARRYING INSECTS TO YOUNG IN NESTS.
                Owner/Manager: PVT
```

```
** California Department of Fish and Game *****  Natural Diversity Data Base **
*                                                                             *
*  AGELAIUS TRICOLOR                                                          *
*  Tricolored Blackbird                                                       *
*                                                                             *
*  ---------Status----------  NDDB Element Ranks --------Other Lists--------- *
*  Federal: Category 2          Global: G3               CDFG:                *
*    State: None                 State: S3            Audubon:                *
*                                                    CNPS List:               *
*  ---Habitat Associations---                    CNPS RED Code:               *
*      General: NOMADIC RESIDENT OF SACRAMENTO-SAN JOAQUIN VALLEYS AND LOW    *
*               FOOTHILLS OF SIERRA NEVADA; SEA LEVEL TO 3400 FT.             *
* Microhabitat: NESTS COLONIALLY IN VICINITY OF FRESH WATER, MARSHY AREAS.    *
*               COLONIES PREFER HEAVY GROWTHS OF CATTAILS AND TULES.          *
*** Element ID: ABPBXB0020 ****************************************************
```

```
Occurrence Number: 180                                   --Dates Last Seen--
          Quality: Good                                 Element: 1989/06/10
             Type: Natural/Native occurrence               Site: 1989/05/27
         Presence: Presumed Extant
            Trend: Unknown
 Main Info Source: MOHR, B. 1990 (F SURV)

Quad Summary: Folsom SE
 County(ies): Sacramento

    Location: ALONG CREVIS CREEK, JUST N OF LATROBE ROAD, APPROXIMATELY ON E MI
              W OF SCOTT ROAD AND TWO MI N OF HWY 16, SACRAMENTO CO. A COLONY
              OF 300 TRICOLOREDS WAS LOCATED IN A BLACKBERRY PATCH ON THE NORTH
              SIDE OF THE CREEK. THE BLACKBERRY PATCH MEASURED ABOUT 180-FT X
              20-FT.

              Lat/Long: 38d 31m  6s / 121d  7m  5s       Township: 08N
                   UTM: Zone-10 N4264790 E664079            Range: 08E
     Mapping Precision: SPECIFIC      (80m Mile)          Section: 29
           Symbol Type: POINT                             Quarter: NE
          Group Number: 17305   More Information? N      Meridian: M
      Map Index Number: 17305    More Map Detail? N     Elevation: 150 ft

Threat Summary: No threats listed for this occurrence.

      Comments: Ecological Comments: SURROUNDING HABITAT IS GRAZED GRASSLAND.
                General Comments: THIS SITE WAS OBSERVED ON 22 APRIL, AND NO
                BIRDS WERE PRESENT; ON 20 MAY, VINES WERE ALIVE WITH ADULTS
                CARRYING FOOD AND YOUNG CALLING. BIRDS WERE STILL PRESENT ON 27
                MAY, BUT GONE ON 10 JUNE 1989. Owner/Manager: UNKNOWN
```

```
** California Department of Fish and Game *****  Natural Diversity Data Base **
*                                                                              *
*  SENECIO LAYNEAE                                                             *
*  Layne's Butterweed                                                          *
*                                                                              *
*  ---------Status----------  NDDB Element Ranks --------Other Lists--------- *
*  Federal: Category 2          Global: G2              CDFG:                  *
*    State: Rare                 State: S2.1         Audubon:                  *
*                                                   CNPS List: 1B              *
*  ---Habitat Associations---                   CNPS RED Code: 2-2-3           *
*      General: CHAPARRAL, CISMONTANE WOODLAND                                 *
* Microhabitat: ULTRAMAFIC SOIL, ALONG ROADS AND HIGHWAYS, AND OCCASIONALLY    *
*               ALONG STREAMS; 700-2900 FT.                                    *
*** Element ID: PDAST8H1V0 *****************************************************

Occurrence Number: 4                                       --Dates Last Seen--
          Quality: Unknown                                 Element: 1980/XX/XX
             Type: Natural/Native occurrence                  Site: 1980/XX/XX
         Presence: Presumed Extant
            Trend: Unknown
 Main Info Source: RAE, S. 1981 (MAP)

Quad Summary: Clarksville, Shingle Springs
 County(ies): El Dorado

    Location: (S OF WHITE OAK FLAT.).

                 Lat/Long: 38d 43m 49s / 120d 59m 46s       Township: 10N
                      UTM: Zone-10 N4288556 E674169            Range: 09E
        Mapping Precision: NON-SPECIFIC (1/5 Mile)           Section: 26
              Symbol Type: POINT                             Quarter: NW
             Group Number: 12217    More Information? N     Meridian: M
         Map Index Number: 12217     More Map Detail? N    Elevation: 1360 ft

Threat Summary: Unknown

      Comments: General Comments: NONE. Owner/Manager: PVT
```

```
** California Department of Fish and Game ***** Natural Diversity Data Base **
*                                                                            *
*  SENECIO LAYNEAE                                                           *
*  Layne's Butterweed                                                        *
*                                                                            *
*  ---------Status----------  NDDB Element Ranks --------Other Lists--------- *
*  Federal: Category 2          Global: G2               CDFG:               *
*    State: Rare                 State: S2.1          Audubon:               *
*                                                   CNPS List: 1B            *
*  ---Habitat Associations---                   CNPS RED Code: 2-2-3         *
*      General: CHAPARRAL, CISMONTANE WOODLAND                               *
* Microhabitat: ULTRAMAFIC SOIL, ALONG ROADS AND HIGHWAYS, AND OCCASIONALLY   *
*               ALONG STREAMS; 700-2900 FT.                                  *
*** Element ID: PDAST8H1V0 ***************************************************
```

```
Occurrence Number: 16                                       --Dates Last Seen--
          Quality: Unknown                                  Element: 1939/05/07
             Type: Natural/Native occurrence                   Site: 1939/05/07
         Presence: Presumed Extant
            Trend: Unknown
 Main Info Source: CONSTANCE, L. #2481 UC (HERB)

Quad Summary: Clarksville
 County(ies): El Dorado

    Location: ABOVE SANDBAR IN FORKS OF SWEETWATER CREEK, 2 MILES ABOVE ITS
              MOUTH, SIERRA FOOTHILLS.

                  Lat/Long: 38d 43m 51s / 121d 02m 12s       Township: 10N
                       UTM: Zone-10 N4288560 E670661             Range: 09E
         Mapping Precision: NON-SPECIFIC (1   Mile)            Section: 07
               Symbol Type: POINT                              Quarter: SW
              Group Number: 12131     More Information? N     Meridian: M
          Map Index Number: 12131      More Map Detail? N    Elevation: 880 ft

Threat Summary: Unknown

      Comments: Ecological Comments: IN DARK CLAY BANKS IN PINUS SABINIANA,
                QUERCUS DOUGLASII BELT. General Comments: THIS IS THE TYPE
                LOCALITY. Owner/Manager: UNKNOWN
```

```
** California Department of Fish and Game *****  Natural Diversity Data Base **
*                                                                              *
*  SENECIO LAYNEAE                                                             *
*  Layne's Butterweed                                                          *
*                                                                              *
*  ---------Status----------  NDDB Element Ranks --------Other Lists--------- *
*  Federal: Category 2          Global: G2                  CDFG:              *
*    State: Rare                 State: S2.1             Audubon:              *
*                                                      CNPS List: 1B           *
*  ---Habitat Associations---                      CNPS RED Code: 2-2-3        *
*      General: CHAPARRAL, CISMONTANE WOODLAND                                 *
* Microhabitat: ULTRAMAFIC SOIL, ALONG ROADS AND HIGHWAYS, AND OCCASIONALLY    *
*               ALONG STREAMS; 700-2900 FT.                                    *
*** Element ID: PDAST8H1V0 *****************************************************
```

```
Occurrence Number: 18                                       --Dates Last Seen--
          Quality: Unknown                                  Element: XXXX/XX/XX
             Type: Natural/Native occurrence                   Site: XXXX/XX/XX
         Presence: Presumed Extant
            Trend: Unknown
 Main Info Source: TYLER, Z. 1982 (OBS)

Quad Summary: Clarksville
 County(ies): El Dorado

    Location: ON BASS LAKE RD, W OF DEER CR.

                  Lat/Long: 38d 41m 45s / 121d 00m 23s      Township: 10N
                       UTM: Zone-10 N4284733 E673378           Range: 09E
         Mapping Precision: NON-SPECIFIC (1/5 Mile)          Section: 29
               Symbol Type: POINT                            Quarter: NE
              Group Number: 12197    More Information? N    Meridian: M
          Map Index Number: 12197     More Map Detail? N   Elevation: 1340 ft

Threat Summary: Unknown

      Comments: Ecological Comments: ON RESCUE HEAVILY ERODED SOIL ASSOCIATED
                WITH ARCTOSTAPHYLOS PATULA, TOYON, AND SALVIA SONOMENSIS.
                General Comments: POPULATION BURNED IN FALL OF 1982 AND
                RETURNED UNHARMED. Owner/Manager: UNKNOWN
```

```
** California Department of Fish and Game ***** Natural Diversity Data Base **
*                                                                            *
*  SENECIO LAYNEAE                                                           *
*  Layne's Butterweed                                                        *
*                                                                            *
*  ---------Status----------  NDDB Element Ranks --------Other Lists--------- *
*  Federal: Category 2           Global: G2               CDFG:              *
*    State: Rare                  State: S2.1          Audubon:              *
*                                                    CNPS List: 1B           *
*  ---Habitat Associations---                    CNPS RED Code: 2-2-3        *
*      General: CHAPARRAL, CISMONTANE WOODLAND                               *
* Microhabitat: ULTRAMAFIC SOIL, ALONG ROADS AND HIGHWAYS, AND OCCASIONALLY  *
*               ALONG STREAMS; 700-2900 FT.                                  *
*** Element ID: PDAST8H1V0 ***********************************************
```

```
Occurrence Number: 19                                   --Dates Last Seen--
          Quality: Unknown                              Element: XXXX/XX/XX
             Type: Natural/Native occurrence               Site: XXXX/XX/XX
         Presence: Presumed Extant
            Trend: Unknown
 Main Info Source: TYLER, Z. 1982 (OBS)

Quad Summary: Clarksville
 County(ies): El Dorado

    Location: E OF BASS LK, ON WOODLEIGH CT.

                   Lat/Long: 38d 40m 55s / 121d 00m 20s       Township: 10N
                        UTM: Zone-10 N4283162 E673485            Range: 09E
          Mapping Precision: NON-SPECIFIC (1/5 Mile)           Section: 32
                Symbol Type: POINT                             Quarter: NE
               Group Number: 12198    More Information? N     Meridian: M
           Map Index Number: 12198     More Map Detail? N    Elevation: 1360 ft

Threat Summary: Unknown

      Comments: Ecological Comments: ON RESCUE HEAVILY ERODED SOIL ASSOCIATED
                WITH ARCTOSTAPHYLOS PATULA, TOYON, AND SALVIA SONOMENSIS. SOME
                INDIVIDUALS UNDER MATURE CHAPARRAL NEAR ROAD. General Comments:
                PLANT NUMBERS INCREASING IN ERODED AREAS (TYLER, 1985).
                Owner/Manager: UNKNOWN
```

```
** California Department of Fish and Game *****  Natural Diversity Data Base **
*                                                                            *
*   SENECIO LAYNEAE                                                          *
*   Layne's Butterweed                                                       *
*                                                                            *
*   ---------Status----------  NDDB Element Ranks --------Other Lists--------- *
*   Federal: Category 2          Global: G2              CDFG:               *
*     State: Rare                 State: S2.1         Audubon:               *
*                                                    CNPS List: 1B           *
*   ---Habitat Associations---                    CNPS RED Code: 2-2-3       *
*       General: CHAPARRAL, CISMONTANE WOODLAND                              *
* Microhabitat: ULTRAMAFIC SOIL, ALONG ROADS AND HIGHWAYS, AND OCCASIONALLY  *
*               ALONG STREAMS; 700-2900 FT.                                  *
*** Element ID: PDAST8H1V0 ****************************************************
```

```
Occurrence Number: 20                                      --Dates Last Seen--
          Quality: Unknown                                 Element: 1982/03/18
             Type: Natural/Native occurrence                  Site: 1982/03/18
         Presence: Presumed Extant
            Trend: Unknown
 Main Info Source: TYLER, Z. 1982 (OBS)

Quad Summary: Clarksville
 County(ies): El Dorado

    Location: (ON BASS LK RD, APPROX 1 MI NE OF BASS LK).

                     Lat/Long: 38d 41m 19s / 121d 00m 23s      Township: 10N
                          UTM: Zone-10 N4283931 E673395           Range: 09E
            Mapping Precision: NON-SPECIFIC (1/5 Mile)          Section: 29
                  Symbol Type: POINT                            Quarter: SE
                 Group Number: 12194    More Information? N    Meridian: M
             Map Index Number: 12194     More Map Detail? N   Elevation: 1340 ft

Threat Summary: Unknown

      Comments: Ecological Comments: ON RESCUE HEAVILY ERODED SOIL, GRANITIC
                SUBSTRATE. ASSOCIATED WITH ARCTOSTAPHYLOS PATULA, TOYON, AND
                SALVIA SONOMENSIS. Owner/Manager: PVT
```

```
** California Department of Fish and Game *****  Natural Diversity Data Base **
*                                                                            *
*  SENECIO LAYNEAE                                                           *
*  Layne's Butterweed                                                        *
*                                                                            *
*  ---------Status----------  NDDB Element Ranks --------Other Lists--------- *
*  Federal: Category 2          Global: G2              CDFG:                 *
*    State: Rare                 State: S2.1         Audubon:                 *
*                                                  CNPS List: 1B              *
*  ---Habitat Associations---                   CNPS RED Code: 2-2-3          *
*      General: CHAPARRAL, CISMONTANE WOODLAND                                *
* Microhabitat: ULTRAMAFIC SOIL, ALONG ROADS AND HIGHWAYS, AND OCCASIONALLY   *
*               ALONG STREAMS; 700-2900 FT.                                   *
*** Element ID: PDAST8H1V0 ****************************************************
```

```
Occurrence Number: 21                                    --Dates Last Seen--
          Quality: Unknown                               Element: 1982/03/18
             Type: Natural/Native occurrence                Site: 1985/XX/XX
         Presence: Extirpated
            Trend: Unknown
 Main Info Source: TYLER, Z. 1982 (OBS)

Quad Summary: Clarksville, Shingle Springs
 County(ies): El Dorado

    Location: 1 AIRMILE DUE E OF BASS LAKE.

                     Lat/Long: 38d 40m 41s / 121d 00m 04s      Township: 10N
                          UTM: Zone-10 N4282739 E673881           Range: 09E
            Mapping Precision: NON-SPECIFIC (1/5 Mile)          Section: 33
                  Symbol Type: POINT                            Quarter: SE
                 Group Number: 12210    More Information? N    Meridian: M
             Map Index Number: 12210     More Map Detail? N   Elevation: 1420 ft

Threat Summary: Unknown

      Comments: Ecological Comments: ON RESCUE HEAVILY ERODED SOIL WITH
                ARCTOSTAPHYLOS PATULA, TOYON, AND SALVIA SONOMENSIS. General
                Comments: o Owner/Manager: UNKNOWN
```

```
** California Department of Fish and Game *****  Natural Diversity Data Base **
*                                                                             *
*  SENECIO LAYNEAE                                                            *
*  Layne's Butterweed                                                         *
*                                                                             *
*  ---------Status----------  NDDB Element Ranks --------Other Lists--------- *
*  Federal: Category 2          Global: G2             CDFG:                  *
*    State: Rare                 State: S2.1       Audubon:                   *
*                                                CNPS List: 1B                *
*  ---Habitat Associations---                CNPS RED Code: 2-2-3             *
*      General: CHAPARRAL, CISMONTANE WOODLAND                                *
* Microhabitat: ULTRAMAFIC SOIL, ALONG ROADS AND HIGHWAYS, AND OCCASIONALLY   *
*              ALONG STREAMS; 700-2900 FT.                                    *
*** Element ID: PDAST8H1V0 *****************************************************
```

```
Occurrence Number: 22                                      --Dates Last Seen--
          Quality: None                                    Element: 1982/03/18
             Type: Natural/Native occurrence                  Site: 1982/03/18
         Presence: Extirpated
            Trend: Unknown
 Main Info Source: TYLER, Z. 1982 (OBS)

Quad Summary: Clarksville, Shingle Springs
 County(ies): El Dorado

    Location: (SW OF DEER CR, 1 AIRMI ENE OF BASS LK).

                 Lat/Long: 38d 41m 11s / 121d 00m 03s      Township: 10N
                      UTM: Zone-10 N4283695 E673860           Range: 09E
        Mapping Precision: NON-SPECIFIC (1/5 Mile)          Section: 28
              Symbol Type: POINT                            Quarter: SW
             Group Number: 12211    More Information? N    Meridian: M
         Map Index Number: 12211     More Map Detail? N   Elevation: 1330 ft

Threat Summary: Unknown

      Comments: Owner/Manager: UNKNOWN
```

```
** California Department of Fish and Game ***** Natural Diversity Data Base **
*                                                                           *
*  WYETHIA RETICULATA                                                       *
*  El Dorado County Mule Ears                                               *
*                                                                           *
*  ---------Status----------  NDDB Element Ranks --------Other Lists--------- *
*  Federal: Category 2          Global: G2              CDFG:                *
*    State: None                 State: S2.2         Audubon:                *
*                                                   CNPS List: 1B            *
*  ---Habitat Associations---                    CNPS RED Code: 2-2-3        *
*      General: CHAPARRAL, CISMONTANE WOODLAND, LOWER MONTANE CONIFEROUS     *
*               FOREST                                                      *
* Microhabitat: STONY RED CLAY AND SERPENTINE SOILS; 1200-1500 FT.          *
*** Element ID: PDAST9X0D0 ***********************************************
```

```
Occurrence Number: 13                                      --Dates Last Seen--
          Quality: Unknown                                 Element: 1979/07/20
             Type: Natural/Native occurrence                  Site: 1979/07/20
         Presence: Presumed Extant
            Trend: Unknown
 Main Info Source: MARCUS, DIANE 1979 (PERS)

Quad Summary: Clarksville
 County(ies): El Dorado

    Location: ALONG MARTEL CREEK. ABOUT 1.5 MI OFF (W OF) DEER VALLEY RD.

                   Lat/Long: 38d 43m 19s / 121d 01m 35s       Township: 10N
                        UTM: Zone-10 N4287593 E671552            Range: 09E
          Mapping Precision: NON-SPECIFIC (1/5 Mile)           Section: 18
                Symbol Type: POINT                             Quarter: NE
               Group Number: 12153   More Information? N     Meridian: M
           Map Index Number: 12153    More Map Detail? Y    Elevation: 940 ft

Threat Summary: Unknown

      Comments: Ecological Comments: ON RESCUE STONY SANDY LOAM IN CHAPARRAL,
                MOIST AREAS NEAR CREEK. Owner/Manager: PVT
```

```
** California Department of Fish and Game *****  Natural Diversity Data Base **
*                                                                            *
*  HELIANTHEMUM SUFFRUTESCENS                                                *
*  Bisbee Peak Rush-rose                                                     *
*                                                                            *
*  ---------Status----------  NDDB Element Ranks --------Other Lists--------- *
*  Federal: Category 2          Global: G3               CDFG:               *
*    State: None                 State: S3.2          Audubon:               *
*                                                     CNPS List: 1B          *
*  ---Habitat Associations---                     CNPS RED Code: 2-2-3       *
*      General: CHAPARRAL                                                    *
* Microhabitat: OFTEN ON ULTRAMAFIC OR IONE FORMATION SOILS                  *
*** Element ID: PDCIS020F0 ***************************************************

Occurrence Number: 16                                    --Dates Last Seen--
          Quality: Unknown                               Element: 1966/06/29
             Type: Natural/Native occurrence                Site: 1966/06/29
         Presence: Presumed Extant
            Trend: Unknown
 Main Info Source: DEMPSTER & STEBBINS #4291 JEPS (HERB)

Quad Summary: Clarksville, Shingle Springs
 County(ies): El Dorado

    Location: PINE HILL, NEAR TOP, E OF LOOKOUT.

                  Lat/Long: 38d 43m 11s / 120d 59m 16s      Township: 10N
                       UTM: Zone-10 N4287420 E674938           Range: 09E
         Mapping Precision: NON-SPECIFIC (1   Mile)          Section: 16
               Symbol Type: POINT                            Quarter: SE
              Group Number: 12236     More Information? N   Meridian: M
          Map Index Number: 12236     More Map Detail? N   Elevation: 2000 ft

Threat Summary: Unknown

      Comments: Ecological Comments: ON SOUTH-FACING SLOPE. Owner/Manager: CDF
```

```
** California Department of Fish and Game *****  Natural Diversity Data Base **
*                                                                             *
*  FREMONTODENDRON DECUMBENS                                                  *
*  Pine Hill Flannelbush                                                      *
*                                                                             *
*  ---------Status----------  NDDB Element Ranks ---------Other Lists--------- *
*  Federal: Category 1          Global: G1Q              CDFG:                 *
*    State: Rare                 State: S1.2           Audubon:                *
*                                                    CNPS List: 1B             *
*  ---Habitat Associations---                    CNPS RED Code: 3-2-3          *
*      General: CHAPARRAL, CISMONTANE WOODLAND                                 *
* Microhabitat: GABBRO ENDEMIC (ALSO ON SERPENTINE?)                           *
*** Element ID: PDSTE03030 *****************************************************
```

```
Occurrence Number: 4                                        --Dates Last Seen--
          Quality: Unknown                                  Element: 1983/03/29
             Type: Natural/Native occurrence                   Site: 1983/03/29
         Presence: Presumed Extant
            Trend: Unknown
 Main Info Source: CLEMONS, S. 1983 (OBS)

Quad Summary: Clarksville, Shingle Springs
 County(ies): El Dorado

    Location: APPROX 0.5 AIRMILES NW OF PINE HILL.

                   Lat/Long: 38d 43m 49s / 120d 59m 46s        Township: 10N
                        UTM: Zone-10 N4288556 E674169             Range: 09E
          Mapping Precision: NON-SPECIFIC (1/5 Mile)            Section: 09
                Symbol Type: POINT                             Quarter: SW
               Group Number: G0025    More Information? N     Meridian: M
           Map Index Number: 17145     More Map Detail? Y    Elevation: 1600 ft

Threat Summary: Unknown

      Comments: Ecological Comments: ON ROCKY OUTCROP ON TOP OF RIDGE IN GABBRO
                SOIL. General Comments: 2 PLANTS SEEN IN 1983. Owner/Manager:
                PVT
```

```
** California Department of Fish and Game *****  Natural Diversity Data Base **
*                                                                            *
*  FREMONTODENDRON DECUMBENS                                                 *
*  Pine Hill Flannelbush                                                     *
*                                                                            *
*  ---------Status----------  NDDB Element Ranks --------Other Lists--------- *
*  Federal: Category 1          Global: G1Q             CDFG:                *
*    State: Rare                 State: S1.2         Audubon:                *
*                                                   CNPS List: 1B            *
*  ---Habitat Associations---                  CNPS RED Code: 3-2-3          *
*      General: CHAPARRAL, CISMONTANE WOODLAND                               *
* Microhabitat: GABBRO ENDEMIC (ALSO ON SERPENTINE?)                         *
*** Element ID: PDSTE03030 ****************************************************

Occurrence Number: 5                                       --Dates Last Seen--
          Quality: Unknown                                 Element: 1983/03/29
             Type: Natural/Native occurrence                  Site: 1983/03/29
         Presence: Presumed Extant
            Trend: Unknown
 Main Info Source: CLEMONS, S. 1983 (OBS)

Quad Summary: Clarksville
 County(ies): El Dorado

    Location: SE OF DEER VALLEY RD & W OF STARBUCK RD, W OF PINE HILL.

                     Lat/Long: 38d 43m 43s / 121d 00m 19s       Township: 10N
                          UTM: Zone-10 N4288372 E673371            Range: 09E
            Mapping Precision: NON-SPECIFIC (1/5 Mile)           Section: 17
                  Symbol Type: POINT                             Quarter: NE
                 Group Number: 12203    More Information? N     Meridian: M
             Map Index Number: 12203     More Map Detail? N    Elevation: 1500 ft

Threat Summary: Unknown

      Comments: Ecological Comments: IN GABBRO SOIL ON A ROCKY OUTCROP ON THE
                CREST OF A SMALL RIDGE. General Comments: 54 PLANTS SEEN.
                Owner/Manager: PVT
```

```
** California Department of Fish and Game *****  Natural Diversity Data Base **
*                                                                             *
*  FREMONTODENDRON DECUMBENS                                                  *
*  Pine Hill Flannelbush                                                      *
*                                                                             *
*  ---------Status----------  NDDB Element Ranks --------Other Lists--------- *
*  Federal: Category 1          Global: G1Q               CDFG:               *
*    State: Rare                 State: S1.2          Audubon:                *
*                                                  CNPS List: 1B              *
*  ---Habitat Associations---                 CNPS RED Code: 3-2-3            *
*      General: CHAPARRAL, CISMONTANE WOODLAND                                *
* Microhabitat: GABBRO ENDEMIC (ALSO ON SERPENTINE?)                          *
*** Element ID: PDSTE03030 ****************************************************

Occurrence Number: 6                                        --Dates Last Seen--
          Quality: Unknown                                  Element: 1983/03/29
             Type: Natural/Native occurrence                   Site: 1983/03/29
         Presence: Presumed Extant
            Trend: Unknown
 Main Info Source: CLEMONS, S. 1983 (OBS)

Quad Summary: Clarksville
 County(ies): El Dorado

    Location: (E OF DEER VALLEY RD & W OF STARBUCK RD, W OF PINE HILL).

                 Lat/Long: 38d 43m 22s / 121d 00m 15s      Township: 10N
                      UTM: Zone-10 N4287727 E673506           Range: 09E
        Mapping Precision: NON-SPECIFIC (1/5 Mile)          Section: 17
              Symbol Type: POINT                            Quarter: NE
             Group Number: 12207    More Information? N    Meridian: M
         Map Index Number: 12207     More Map Detail? N   Elevation: 1410 ft

Threat Summary: Unknown

      Comments: Ecological Comments: IN GABBRO SOIL ON A ROCKY OUTCROP ON THE
                CREST OF A SMALL RIDGE. General Comments: 13 PLANTS SEEN.
                Owner/Manager: PVT
```

Other Elements to Look for on FOLSOM SE Quad

WYETHIA RETICULATA PDAST9X0D0
EL DORADO COUNTY MULE EARS 1
Federal Staus: Category 2 Global Rank: G2
State Status.: None State Rank: S2.2
Habitat Associations-----------------
General.: CHAPARRAL, CISMONTANE WOODLAND, LOWER MONTANE CONIFEROUS FOREST
Micro...: STONY RED CLAY AND SERPENTINE SOILS; 1200-1500 FT.
Location..: SWEETWATER CREEK, SIMPSONS RANCH. (MAPPED AS PER CNPS).
Source....: CURRAN, K. #9062 SD, CAS (HERB)
Last Seen.: 1907-06-00

Appendix B. Plant List - Huffman & Associates, Inc.

HUFFMAN AND ASSOCIATES, INC.
Wetlands Regulatory Consultants
69 Aztec Street
San Francisco, California 94110
(415) 821-4159
Fax (415) 647-6335

Partial List of Plant Species Observed on the Site
February 1989

Latin Name	Common Name	Habitat[1]	Indicator Status[2]
Deschampsia danthonioides	annual hairgrass	VP	FACW
Eryngium vasevi	coyote thistle	VP,WS	FACW
Lolium perenne	italian ryegrass	WS	FAC
Plagiobothrys stipitata	popcorn flower	VP	OBL
Polypogon monspeliensis	rabbitsfoot grass	WS	FACW+
Erodium botrys	storksbill	U	UPL
Bromus mollis	soft chess	U	FACU+
Hordeum geniculatum	mediterranean barley	VP,WS	FAC
Taeniathrum caput-medusae	medusa head	U	UPL
Salix laevigata	smooth willow	R	FACW
Populus fremontii	Fremont cottonwood	R	OBL
Juncus balticus	baltic rush	D,C	OBL
Cynodon dactylon	Burmuda grass	D	FAC
Typha domingensis	cattail	WS,C	OBL
Ranunculus bonariensis var. trisepalus	Clark's buttercup	VP	OBL
Agrostis avenacea	bentgrass	C	FACW[3]
Poa annua	annual bluegrass	WS	OBL
Ranunculus muricatus	spiney-fruited crowfoot	D	FACW+
Ranunculus occidentalis	western dock	D	FACW
Lasthenia fremontii	goldfields	VP	OBL
Montia fontana	fountain miner's lettuce	WS	OBL

---

[1] VP = Vernal Pool; C = Channel; WS = Wetland Swale; D = Discharge area; U = Upland; R = Riparian

[2] Reed 1988. Region O List, California. Occurance in Wetlands - Obligate - 99%+, Facultative Wet = 66 - 99%, Facultative = 33 - 66%.

[3] Limited observations

Appendix C. **Plant List - Harding Lawson Associates**

- Table 1. Plant Species Observed

- Table 2. Plant Species Potentially Occurring

TABLE 1
Plant Species Observed on
Carson Creek Ranch
April, May, and July, 1991

Aira caryophylla
Allium sp.
Amaranthus retroflexus
Amsinckia intermedia
Anagallis arvensis
Asclepias fascicularis
Avena fatua
Blennosperma sp.
Briza minor
Brodiaea elegans
Brodiaea hyacinthina
Brodiaea multiflora
Bromus diandrus
Bromus mollis
Bromus rubens
Calindrinia sp.
Callitriche sp.
Carex sp.
Centaurea solstitialis
Cerastium viscosum
Chlorogalum pomeridianum
Cirsium vulgaris
Convolvulus arvensis
Cotula coronopifolia
Crassula erecta
Cuscuta sp.
Cynodon dactylon
Cynosurus sp.
Cyperus difformis
Danthonia sp.
Deschampsia danthonoides
Dichelostemma sp.
Distichlis spicata
Downingia cuspidata
Downingia ornatissima

TABLE 1 (Continued)

Eleocharis macrostachya
Elymus caput-medusae
Epilobium sp.
Eremocarpus setigerus
Erigeron philadelphicus
Eriogonum sp.
Erodium botrys
Erodium cicutarium
Eryngium vaseyi
Eschscholzia lobbii
Festuca dertonensis
Geranium molle
Gratiola ebracteata
Grindelia camporum
Hemizonia pungens
Hemizonia ramosissima
Holcus lanatus
Holocarpha virgata
Hordeum arizonicum
Hordeum geniculatum
Hordeum hystrix
Hordeum leporinum
Hypochoeris glabra
Hypochoeris radicata
Juncus bufonius
Lasthenia chrysostoma
Lasthenia fremontii
Lasthenia glaberrima
Layia fremontii
Lemna sp.
Lepidium nitidum
Limnanthes striata
Linum bienne
Lolium perenne
Lomatium sp.
Lotus sp.
Lythrum hyssopifolia
Matricaria matracariodes
Mentha pulegium
Mentha sp.

TABLE 1 (Continued)

Mimulus guttatus
Mimulus tricolor
Navarretia prostrata
Orthocarpus erianthus
Orthocarpus sp.
Oxalis corniculata
Phalaris lemmonii
Phalaris minor
Plagiobothrys glyptocarpus
Plagiobothrys stipitatus var. micranthus
Plantago lanceolata
Poa annua
Pogogyne ziziphoroides
Polygonum aviculare
Polypogon monspeliensis
Populus sp.
Potamogeton pectinatus
Psilocarphus brevissimus
Psilocarphus sp.
Ranunculus aquatilis var. hispidulus
Ranunculus bonariensis var. trisepalus
Ranunculus californicus
Ranunculus lobbii
Ranunculus muricatus
Raphanus sativus
Rorippa nasturtium-aquaticum
Rumex conglomeratus
Rumex crispus
Salix sp.
Sanicula bipinnatifida
Scirpus sp.
Senecio vulgaris
Silene gallica
Sonchus asper
Sonchus oleraceus
Stipa gratiola
Stipa pulchra
Silybum sp.
Taraxacum officinale
Trifolium depauperatum

TABLE 1 (Continued)

Trifolium dubium
Trifolium hirtum
Trifolium sp.
Trifolium variegatum
Typha sp.
Veronica anagallis-aquatica
Viola pedunculata
Vulpia megalura
Xanthium strumarium

Table 2

Sensitive Plant Species Potentially Occurring on the Carson Creek Ranch Project Site

Species	Status* Federal/State CNPS	Flowering Period	Preferred Habitat	Found on Project Site
Layne's butterweed (*Senecio layneae*)	C2/E 1B	May	chaparral, cismontane woodland	No
El Dorado County mule ears (*Wyethia reticulata*)	C2/1B	May-July	chaparral	No
Bisbee Peak rush-rose (*Heliathemum suffrutescens*)	C2/1B	April-May	chaparral	No
Pine Hill flannelbush (*Fremontodendron decumbens*)	C1/1B	May-June	chaparral	No
Red Hill soaproot (*Chlorogalum grandiflorum*)	C2/1B	May-June	serpentine rocks on brushy slopes or in foothill woodland	No
El Dorado bedstraw (*Galium californicum ssp. sierrae*)	C2/R 1B	March-July	hills and woods	No
Stebbins' morning glory (*Calystegia stebbinsii*)	C2/E 1B	May	chaparral	No
Hoover's spurge (*Chamaesyce hooveri*)	C1/1B	June-July	vernal pools below high water mark	No

Table 2 (Continued)

Boggslake hedge-hyssop (*Gratiola heterosepala*)	C2/E 2B	April-June	vernal pools, seasonally inundated margins of receding lakes and meadows	No
Green's legenere (*Legenere limosa*)	C2/1B	May-June	vernal pools, seasonally flooded lake margins, ditches	No
Slender orcutt grass (*Orcuttia tenius*)	C1/E 1B	May-July	volcanic-based vernal pools below high water mark	No
Sacramento orcutt grass (*Orcuttia viscida*)	C1/E 1B	May-July	large vernal pools below the high water mark	No
Green's tuctoria (*Tuctoria greenei*)	C1/R 1B	May-July	large vernal pools below the high water mark	No
Bogg's Lake Dodder (*Cuscuta howelliana*)	C3c/4	-	vernal pools	unknown**

* **Explanation**

Federal

FE = Federally Endangered

C1 = Category 1, candidate species. U.S. Fish and Wildlife Service (USFWS) has substantial information on file regarding the biological vulnerability of the species in order to support a proposal to give the taxa protection.

C2 = Category 2, candidate species. USFWS is considering for listing but data on the biological vulnerability and threat to the species are insufficient to support a proposal rule.

C3c = Category 3, non-candidate species. Plants previously considered candidates (or previously listed) but too widespread, or not threatened at this time.

Table 2 (Continued)

State

CE =	California Endangered	
CR =	California Rare	
CNPS =	California Native Plant Society	
	List 1A -	Plants presumed extinct in California
	List 1B -	Plants rare and endangered in California and elsewhere
	List 3 -	Plants about which we need more information (a review list)
	List 4 -	Plants of limited distribution (A watch list)

Note: Plants on CNPS lists 1B, 1A and 2 are considered rare under CEQA.

** Specimens will be targeted for identification to species in Spring, 1992.

Appendix D. Plant List - On-site Sugnet & Associates

Plants Found in Wetland Habitats on Carson Creek Ranch Project Site

Abbr.	Scientific Name	Common Name	Indicator Status
ACH MOL	*Achyrachaena mollis*	Blowwives	FAC
ALL spe.	*Allocarya* species	Popcorn-flower	FACW
BRI MIN	*Briza minor*	Little quaking grass	FACW-
BRO spe.	*Brodiaea* species	Brodiaea	N/L
BRO COR	*Bromus coronaria*	Brome	N/L
CUS HOW	*Cuscuta howelliania*	Vernal pool dodder	N/L
CYN DAC	*Cynodon dactylon*	Bermuda grass	FAC
DES DAN	*Deschampsia danthonioides*	Annual hairgrass	FACW
DOW BIC	*Downingia bicornuta*	Double-horn downingia	OBL
DOW CUS	*Downingia cuspidata*	Cuspidate downingia	OBL
DOW ORN	*Downingia ornatissima*	Solano downingia	OBL
ELE MAC	*Eleocharis macrostachya*	Creeping spikerush	OBL
ERY VAS	*Eryngium vaseyi*	Vasey's coyote-thistle	FACW
GRA EBR	*Gratiola ebracteata*	Bractless hedgehyssop	OBL
HOR HYS	*Hordeum hystrix*	Mediterranean Barley	NI
JUN BUF	*Juncus bufonius*	Toad rush	FACW+
LAS FRE	*Lasthenia fremontii*	Fremont's goldfields	OBL
LAS GLA	*Lasthenia glaberrima*	Smooth goldfields	OBL
LAY FRE	*Layia fremontii*	Freemont's tidy-tips	N/L
LIL SCI	*Lilaea scilloides*	Flowering quillwort	OBL
LOL PER	*Lolium perenne*	Perennial ryegrass	FAC
LYT HYS	*Lythrum hyssopifolia*	Hyssop loosestrife	FACW
MIM TRI	*Mimulus tricolor*	Tri-color monkey-flower	OBL
NAV LEU	*Navarretia leucocephala*	White-head navarretia	OBL
PIL AME	*Pilularia americana*	American pillwort	OBL
POG ZIZ	*Pogogyne zizyphoroides*	Sacramento mesamint	OBL
POL MON	*Polypogon monspeliensis*	Annual rabbit-foot grass	FACW+
PSI BRE	*Psilocarphus brevissimus*	Dwarf woolly-heads	OBL
RAN BON	*Ranunculus bonariensis*	Butter-cup	OBL
RAN MUR	*Ranunculus muricatus*	Spiny-fruit butter-cup	FACW+
RUM CRI	*Rumex crispus*	Curly dock	FACW-
RUM PUL	*Rumex pulcher*	Fiddle dock	FAC+
TRI DEP	*Trifolium depauperatum*	Dwarf sack clover	FAC-
TRI VAR	*Trifolium variegatum*	White-tip clover	FACW-
TRI HYA	*Triteleia hyacinthina*	Hyacinth brodiaea	FACW

Indicator Status Key

OBL = Obligate: occurs almost always under natural conditions in wetlands (99%).
FACW = Faculative Wetland: usually occurs in wetlands (67-99%) but occasionally found in nonwetlands.
FAC = Faculative: equally likely to occur in wetlands or nonwetlands (33-66%).
FACU = Faculative Upland: usually occurs in nonwetlands (67-99%) but occasionally found in wetlands.
NI = No indicator assigned.
N/L = Not listed in *National List of Plant Species that Occur in Wetlands: California (Region 0)*. Most species listed as N/L are Obligate Upland species.

Appendix E. Vernal Pool Floristic Index

Appendix: Calculating the Vernal Pool Floristic Index (VPFI):

$$VPFI = \frac{VPS}{VPS + NVPS}$$

Where:

VPFI	=	Vernal Pool Floristic Index
VPS	=	# of vernal pool species (from VPSL)
NVPS	=	# of non-vernal pool species

The Vernal Pool Species List (VPSL) is a list of species (see below) from the region that are considered to be typical vernal pool species or good vernal pool indicator species.

VERNAL POOL SPECIES LIST (SACRAMENTO REGION)

Allocarya greenei
Allocarya stipitata
Alopecurus saccatus
Boisduvalia cleistogama
Callitriche spp.
Crassula aquatica
Cuscuta howelliana
Deschampsia danthonoides
Downingia cuspidata
Downingia humilis
Downingia bicornuta
Downingia ornatissima
Eleocharis acicularis
Eleocharis macrostachya
Eryngia vaseyi
Gratiola ebracteata
Hordeum hystrix
Isoetes spp.
Juncus bufonius
Juncus uncialis
Lasthenia glabberima
Lasthenia fremontii
Lilaea scilloides
Lythrum hyssopifolia
Mimulus tricolor
Montia fontana
Myosurus miminus
Navarretia leucocephala
Orthocarpus campestris
Phalaris lemmonii
Pilularia americana
Plantago bigelovii
Pogogyne zizyphoroides
Psilocarphus brevissimus
Psilocarphus oreganus
Psilocarphus tenelus
Ranunculus bonariensis
Trifolium depauperatum
Veronica peregrina

Appendix F. Wildlife Species List Observed or Potentially Occurring

APPENDIX . Wildlife Species Observed or Potentially Occurring at Carson Creek Ranch, El Dorado County, California.

* Species that were observed during the field survey (October 5, 1988) are noted with an asterisk.

Common Name	Scientific Name
AMPHIBIANS:	
California tiger salamander	Ambystoma tigrinum
California newt	Taricha torosa
California slender salamander	Batrachoseps attenuatus
Pacific treefrog	Hyla regilla
Bullfrog	Rana catesbeiana *
Western toad	Bufo boreas
REPTILES:	
Western pond turtle	Clemmys marmorata
Western fence lizard	Sceloporus occidentalis
Southern alligator lizard	Gerrhonous multicarinatus
Gilbert's skink	Eumeces gilberti
Racer	Coluber constrictor
Gopher snake	Pituophis melanoleucus
Ringneck snake	Diadophis punctatus
Sharp-tailed snake	Contia tenuis
Common garter snake	Thamnophis sirtalis
Western terrestrial garter snake	T. elegans
Western aquatic garter snake	T. couchi
Common kingsnake	Lampropeltis getulus
Western rattlesnake	Crotalus viridis
BIRDS:	
Great blue heron	Ardea herodias
Green-backed heron	Butorides striatus
Great egret	Casmerodius albus
Snowy egret	Egretta thula
Wood duck	Aix sponsa
Mallard	Anas platyrhynchos
Common merganser	Mergus merganser
Cinnamon teal	A. cyanoptera
Turkey vulture	Cathartes aura
Black-shouldered kite	Elanus leucurus
Cooper's hawk	Accipiter cooperii
Sharp-skinned hawk	Accipiter striatus
Red-shouldered hawk	Buteo lineatus
Red-tailed hawk	B. jamaicensis *
Golden eagle	Aquila chrysaetos
Prairie falcon	Falco mexicanus
American kestrel	Falco sparverius *
Wild turkey	Meleagris gallopavo
California quail	Lophortyx californicus
American coot	Fulica americana
Killdeer	Charadrius vociferus

Long-billed curlew	Numenius americanus
Ring-billed gull	Larus delawarensis
California gull	L. californicus
Mourning dove	Zenaida macroura
Band-tailed pigeon	Columba fasciata
Common barn owl	Tyto alba
Screech owl	Otus asio
Great horned owl	Bubo virginianus *
White-throated swift	Aeronautes saxatalis
Anna's hummingbird	Calypte anna
Rufous hummingbird	Selasphorus rufus
Allen's hummingbird	S. sasin
Belted kingfisher	Megaceryle alcyon
Lewis' woodpecker	Melanerpes lewis
Northern flicker	Colaptes auratus *
Acorn woodpecker	Melanerpes formicivorous
Downy woodpecker	Picoides pubescens
Nuttall's woodpecker	P. nuttallii
Western kingbird	Tyranus verticalis
Ash-throated flycatcher	Myiarchus cinerascens
Black phoebe	Sayornis nigricans
Say's phoebe	S. saya *
Western flycatcher	Empidonax difficilis
Western wood pewee	Contopus sordidulus
Horned lark	Eremophila alpestris *
Violet-green swallow	Tachycineta thalassina
Tree swallow	Iridoprocne bicolor
Northern rough-winged swallow	Stelgidopteryx serripennis
Barn swallow	Hirundo rustica
Cliff swallow	Petrochelidon pyrrhonota
Scrub jay	Aphelocoma coerulescens
Yellow-billed magpie	Pica nuttalli
American crow	Corvus brachyrhynchos
Plain titmouse	Parus inornatus
Bushtit	Psaltriparus minimus
White-breasted nuthatch	Sitta carolinensis
Red-breasted nuthatch	S. canadensis
Brown creeper	Certhia familiaris
Wrentit	Chamaea fasciata
Rock Wren	Salpinctes obsoletus *
House wren	Troglodytes aedon
Bewick's wren	Thyromanes bewickii
Northern mockingbird	Mimus polyglottos
American robin	Turdus migratorius
Varied thrush	Ixoreus naevius
Western bluebird	Sialia mexicana
Blue-gray gnatcatcher	Polioptila caerulea
Golden-crowned kinglet	Regulus satrapa
Ruby-crowned kinglet	R. calendula
Water pipit	Anthus spinoletta
Cedar waxwing	Bombycilla cedrorum
Phainopepla	Phainopepla nitens
Loggerhead shrike	Lanius ludovicianus
European starling	Sturnus vulgaris *
Hutton's vireo	Vireo huttoni
Warbling vireo	V. gilvus
Orange-crowned warbler	Vermivora celata
Yellow-rumped warbler	Dendroica coronata

Black-throated gray warbler	D. nigrescens
House sparrow	Passer domesticus
Western meadowlark	Sturnella neglecta
Red-winged blackbird	Agelaius phoeniceus
Northern oriole	Icterus galbula
Brewer's blackbird	Euphagus cyanocephalus
Brown-headed cowbird	Molothrus ater
Western tanager	Piranga ludoviciana
Black-headed grosbeak	Pheucticus melanocephalus
Purple finch	Carpodacus purpureus
House finch	C. mexicanus *
American goldfinch	Carduelis tristis *
Lesser goldfinch	C. psaltria
Pine siskin	C. pinus
Rufous-sided towhee	Pipilo erythrophthalmus
Brown towhee	P. fuscus
Savannah sparrow	Passerculus sandwichensis *
Lark sparrow	Chondestes grammacus *
Dark-eyed junco	Junco hyemalis
White-crowned sparrow	Zonotrichia leucophrys
Golden-crowned sparrow	Z. atricapilla
Song sparrow	Melospiza melodia

MAMMALS:

Opossum	Didelphis virginiana
Ornate shrew	Sorex ornatus
Broad-footed mole	Scapanus latimanus
Yuma myotis	Myotis yumanensis
Small-footed myotis	M. leibii
California myotis	M. californicus
Hoary bat	Lasiurus cinereus
Red bat	L. borealis
Western pipstrelle	Pipistrellus hesperus
Big brown bat	Eptesicus fuscus
Townsend's big-eared bat	Plecotus townsendii
Pallid bat	Antrozous pallidus
Brazilian free-tailed bat	Tadarida brasiliensis
Black-tailed jackrabbit	Lepus californicus *
Brush rabbit	Sylvilagus bachmani
Desert cottontail	S. audubon
California ground squirrel	Spermophilus beecheyi
Western gray squirrel	Sciurus griseus
Botta's pocket gopher	Thomomys bottae
California pocket mouse	Perognathus californicus
western harvest mouse	Reithrodontomys megalotis
Deer mouse	Peromyscus maniculatus
Dusky-footed woodrat	Neotoma fuscipes
California vole	Microtus californicus
Coyote	Canis latrans
Gray fox	Urocyon cinereoargenteus
Raccoon	Procyon lotor
Long-tailed weasel	Mustela frenata
Western spotted skunk	Spilogale gracilis
Striped skunk	Mephitis mephitis
Bobcat	Felis rufus
Mule deer	Odocoileus hemionus

Long-tailed weasel	Mustela frenata
Western spotted skunk	Spilogale gracilis
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Appendix G. U.S. Army Corps of Engineers Verification Letter

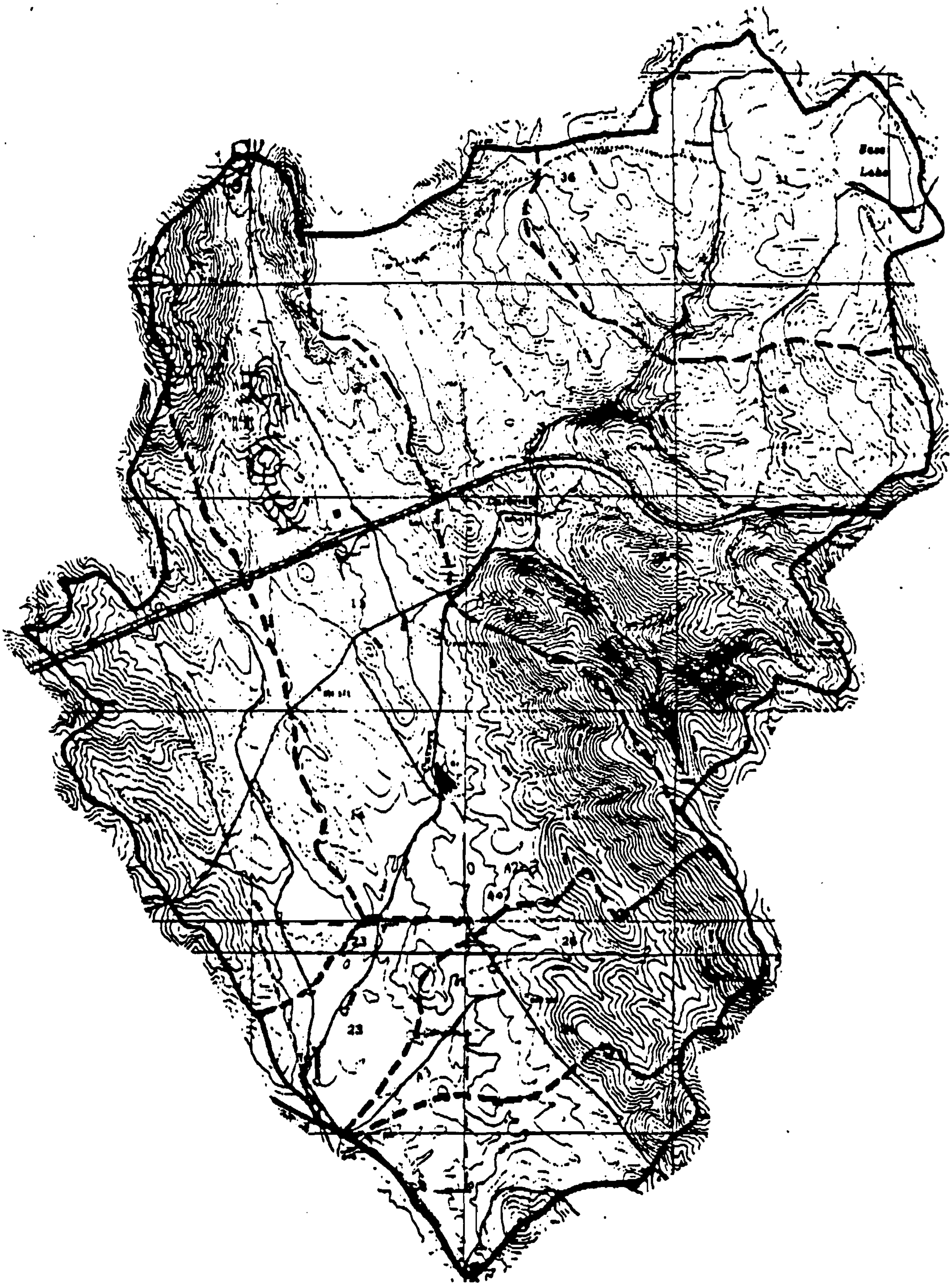


Figure 1. Carson Creek Watershed.

FILE COPY

DEPARTMENT OF THE ARMY
U.S. ARMY ENGINEER DISTRICT, SACRAMENTO
CORPS OF ENGINEERS
1325 J STREET
SACRAMENTO, CALIFORNIA 95814-2922

REPLY TO
ATTENTION OF

April 9, 1992

Regulatory Section (198900080) FJL

Mr. Mike McDougall
Palisades Development
4993 Golden Foothill Parkway, Suite 5
El Dorado Hills, California 95630

Dear Mr. McDougall:

This letter is in response to your request for a wetland delineation on the Carson Creek Ranch, located at Sections 23 and 26, Township 9 North, Range 8 East, in El Dorado County, California.

We have reviewed and verified the wetland delineation map of the Carson Creek Ranch that was submitted by Sugnet & Associates on February 26, 1992. This delineation was generated out of a previously submitted wetland delineation map and a site visit on February 21, 1992, with Mr. Jim Monroe of this office. We agree with your delineation that shows that the site contains 15.66 acres of wetlands and 11.77 acres of other waters of the United States for a total area of 27.43 acres of jurisdictional waters of the United States.

Our jurisdiction in this area is under Section 404 of the Clean Water Act. A Department of the Army Permit is required prior to discharging dredged or fill material into waters of the United States. Accordingly a permit will be required prior to filling any of the waters present on the Carson Creek Ranch as identified on the verified wetlands map. The type of permit processing required will depend upon the type and amount of waters which would be lost or substantially adversely modified by fill activities.

This verification is valid for three years from the date of this letter. I have assigned identification number 198900080 to this action. Please refer to this number in any correspondence regarding this action. If you have any questions, please write to Mr. Jim Monroe, Attn: Regulatory Section, at the letterhead address, or telephone (916) 557-5266.

Sincerely,

Tom Coe
Chief, Regulatory Unit 1

Appendix H. Wetland Preservation and Compensation Master Plan

APPENDIX F

Phase I Environmental Site Assessments

PHASE I SITE ASSESSMENT
OF
EUER RANCH
EL DORADO HILLS, CALIFORNIA

PHASE I SITE ASSESSMENT
OF
EUER RANCH
EL DORADO HILLS, CALIFORNIA

Prepared by:

George A. Wheeldon
Principal Geologist
RG #2881, REA #851

Jim Martin
Project Geologist

Keith A. Wright
Project Soil Scientist
RSS #2566

January 18, 1991

WHEELDON & ASSOCIATES
Consulting Geologists/Environmental Assessors
621 Placerville Drive
Placerville, CA 95667
(916) 622-9579

PRELIMINARY SITE ASSESSMENT OF EUER RANCH, EL DORADO HILLS, CALIFORNIA.

INTRODUCTION

A Phase I Site Assessment of approximately 160 acres of land located near the Sacramento/El Dorado County Line between White Rock Road and Latrobe Road, in El Dorado Hills, California, was performed pursuant to our agreement of January 8, 1991, with Mr. Mike McDougall of Palisades Development, Inc.

Work consisted of a site investigation and an agency review, in order to establish the potential for the existence of soil or groundwater contamination on the subject proporty, or on other properties in the vicinity which might impact the subject site.

The objective of the site investigation was to look for evidence of potential contamination. The site investigation included a review of past and present use and condition of the subject property, a review of aerial photographs of the subject property and surrounding areas, an inspection of the subject property, and of adjacent and nearby properties.

The objective of the agency review was to obtain available information on the subject property, and on nearby properties. Various agency lists and records were reviewed in order to assist in determining the environmental status of the property and surrounding properties in the vicinity.

PROPERTY DESCRIPTION

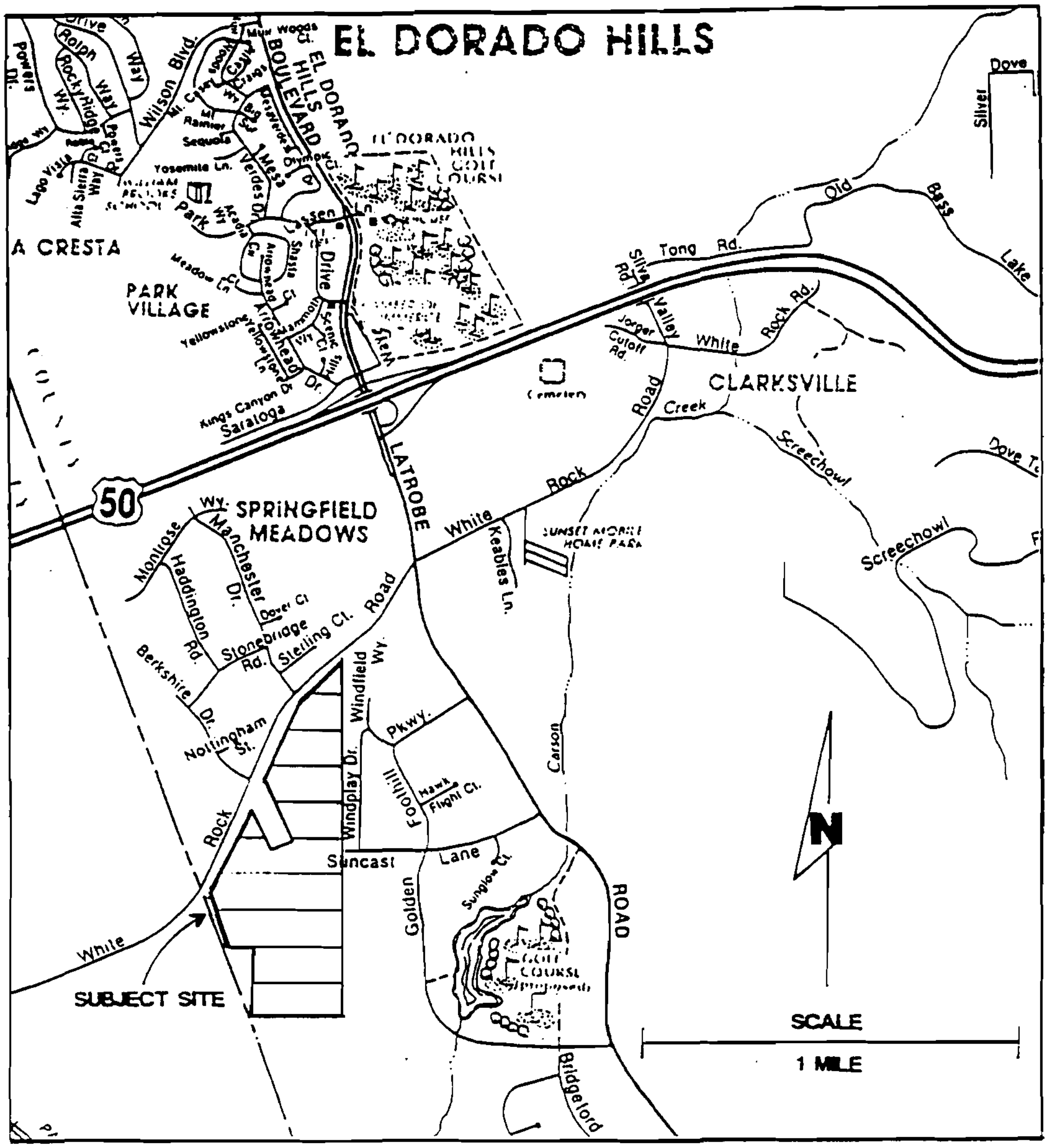
The subject property consists of approximately 160 acres bordered on the northwest by White Roack Road, on the southwest by the Sacramento/El Dorado County Line, and on the east by El Dorado Hills Business Park. It is located approximately 1/2 mile west of Latrobe Road, near El Dorado Hills, California (see Figure 1). The subject property is the site of an old cattle ranch consisting of fenced grazing areas. An approximately six-acre parcel, surrounded on the east, west and south by the subject property, contains the buildings and equipment which were formerly a part of the same ranch, but is not included as part of this study.

The property is owned by Robert B. Euer and John W. Euer. The subject site has been owned by the Euer family since the 1860s.

FIGURE 1

LOCATION MAP

EUER RANCH



SITE INVESTIGATION

The site investigation consisted of an interview with Mr. John W. Euer, an owner of the subject property, regarding past and present use of the subject site, a review of aerial photographs of the subject site and surrounding area, and an inspection of the subject site and adjacent and nearby properties.

Personal Interview

Mr. John W. Euer, an owner of the subject property, stated that the property has been owned by the Euer family since the 1860s and has been used for dry land grazing of cattle. He stated that, to his knowledge, no pesticides or herbicides were used on the ranch.

According to Mr. Euer, an old mine, the Jersey Blue Quartz Mine, and its associated mill site, were located in the western portion of the property, immediately southeast of White Rock Road. To his knowledge, the mine has not been in operation since the late Nineteenth Century. Mr. Euer indicated that two or three holes, approximately 30 feet deep, which were, he believed, part of the mine workings, were filled in as recently as five or six years ago.

Mr. Euer also indicated that two underground storage tanks (USTs) and a well are present on the six-acre parcel which contains the ranch buildings and equipment, but no USTs are located on the subject property. He stated that the USTs were installed recently and have never been used to store petroleum or any other product.

Mr. Euer also stated that a shallow (approximately 25 feet deep) hand dug well is present on the subject property west of the ranch buildings, and that another similar well is present on the western edge of the six-acre excluded parcel (see Figure 2).

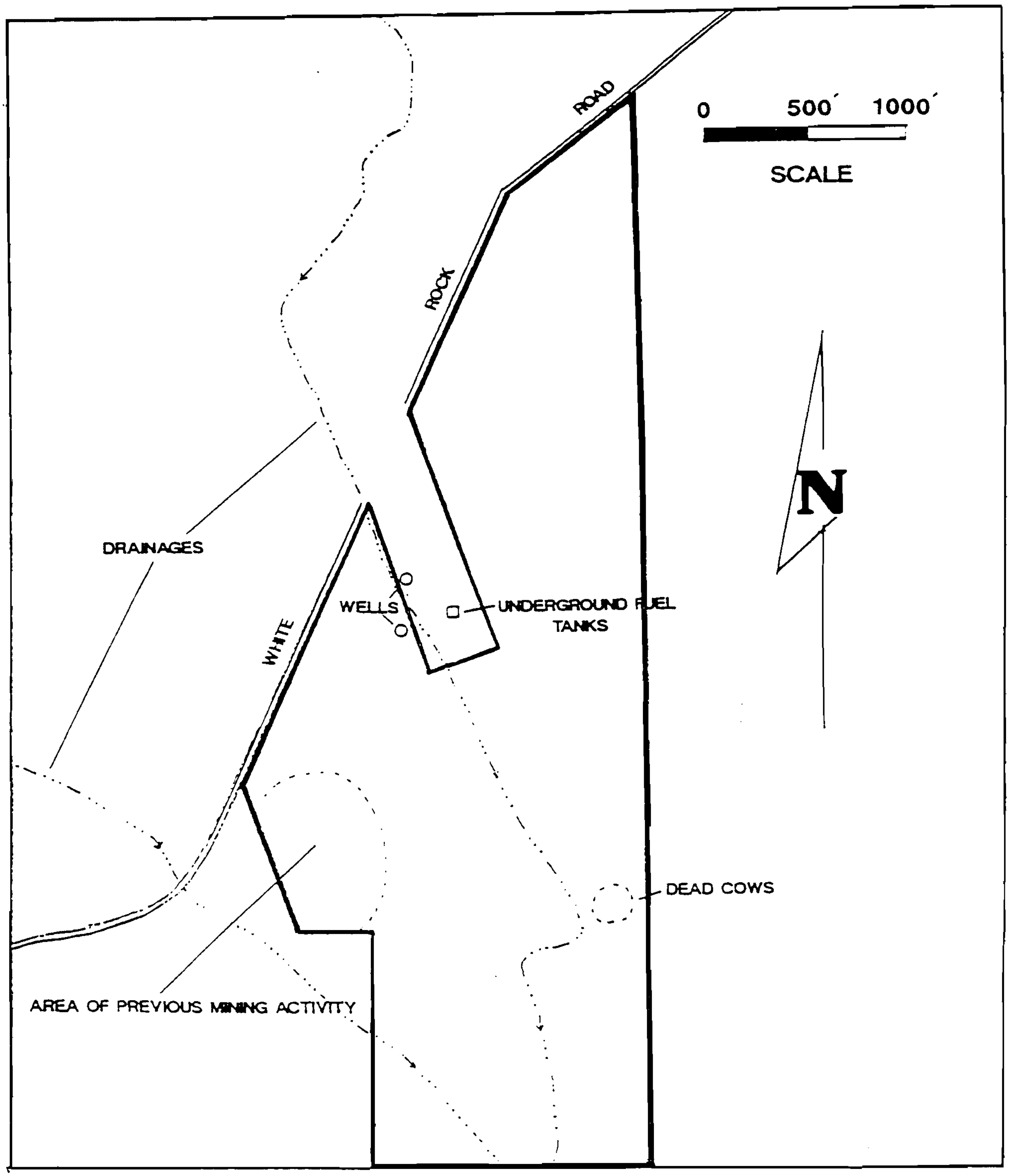
Aerial Photographs

United States Department of Agriculture, Soil Conservation Service (SCS) aerial photographs from 1978, and 1981, were examined. The 1978 SCS photograph appears to show no evidence of structures on the subject property, except for the ranch buildings located on the six acres excluded from the subject site. On the western edge of the subject property, there appeared to be a disturbed area where past mining activity had occurred, but no evidence of mines was visible on the photo. The 1981 SCS photograph appeared the same as the former with no significant visible changes on the subject site from 1978 to 1981. The areas around the subject site did not show any significant changes from 1978 to 1981.

FIGURE 2

SITE PLAN

EUER RANCH



Site Inspection

The subject property was inspected on January 15, 1991, by the staff of Wheeldon & Associates. In general, the subject site can be described as open grassland with a gently rolling topography. There are two drainages which run northwest/southeast across the property.

The well described by Mr. Euer, with an associated disconnected windmill, was found on the western side of the property, immediately west of the six-acre parcel containing the ranch buildings and equipment. The second well described by Mr. Euer, located on the excluded six-acre parcel, was also found.

The former site of the Jersey Blue Quartz Mine was found and investigated. The only visible evidence of the former mining operation is several small, shallow depressions, small piles of crushed rock, which are believed to be mill tailings, and quartz and other rock float scattered around the area. The shallow depressions are five to ten feet in diameter and less than one foot in depth, and may be remnants of prospect pits or backfilled mine workings. The largest pile of suspected mill tailings is approximately 15 feet by 10 feet by 4 feet high. The suspected mill tailings piles are located near the western edge of the property, and are at least partially located on the subject property. No evidence of the mine buildings, foundations, or mine timbers was found. The volume of suspected mill tailings, which appeared to be small, along with the associated evidence of mining/milling activity suggest that the mining/milling operation was not a major one.

Only minor amounts of debris were found on the property, most immediately adjacent to White Rock Road. No debris of a hazardous chemical nature was found.

The subject property is undeveloped and contains no structures. No soil staining or other visible signs of soil contamination were observed. No odors suggesting the presence of hazardous materials were detected. No vents or fill pipes, suggesting the presence of underground storage tanks (USTs), were observed.

Except for the above-described mining activity, there was no evidence observed that the subject property had been used for any purpose other than dry-crop cattle ranching. An old irrigation ditch was found on the site, but there was no sign of row or tree crops, or of grain or hay having been grown, and no indication of pesticide or herbicide use on the subject property.

Four cattle carcasses were found on the eastern portion of the property. Mr. Euer indicated that they had recently died of pneumonia and birthing complications.

Inspection of properties immediately adjacent to the subject site showed that the site is bordered on the north, south and west by open grazing land. Immediately adjacent to the subject property, to the east, is El Dorado Hills Business Park which, at this point, is only sparsely populated by light industrial, data processing, and warehouse-distribution businesses. The largest facility is Cable Data, which is a billing and data processing business. Approximately 3,000 feet east of the subject site is the El Dorado Irrigation District Sewage Treatment Plant.

AGENCY REVIEW

To determine if agency records indicate occurrences of chemical contamination, pertinent agencies and individuals were contacted, and records and reports were reviewed. The results of this review are described below. Wheeldon & Associates reviewed the following lists or files for information concerning potential contamination problems on the subject property, or the potential of environmental impact on the subject property by nearby sites.

- **California Department of Health Services (DHS): Rural County Survey, October 1989.**
- **California DHS: Bond Expenditure Plan Sites (Superfund List), January 1990.**
- **California DHS: Municipal Water Supply Well Program, AB 1803 and 1804, June 1990.**
- **California Waste Management Board (CWMB): Solid Waste Information System (SWIS), April 1989.**
- **California Water Resources Control Board (CWRCB): Solid Waste Assessment Test (SWAT) List, June 1989.**
- **Governor's Office of Planning and Research: Hazardous Waste and Substances Site List, pursuant to AB 3750, January 1989 (Cortese List).**
- **Regional Water Quality Control Board (RWQCB) Fuel Leaks List, El Dorado County, July 1989.**
- **RWQCB: Toxics and Groundwater Division, List of Known Polluted Wells, 1989.**
- **U.S. EPA Superfund Data Base: CERCLIS LIST 8.**
- **U.S. EPA Superfund Program: List 8 for NPL Sites in Region 9.**

No significant environmental health hazards were reported at the subject property, based on records and files obtained from the various agencies listed above.

In searching for problem sites in the vicinity which could negatively impact the subject property, only listed sites within a radius of one mile of the subject property were included for evaluation. Of all the above-noted lists, none contained sites within one mile of the subject property, except for the Regional Water Quality Control Board (RWQCB) Fuel Leaks List, El Dorado County, July, 1989, and the Governor's Office of Planning and Research Cortese List. Both lists referred to the Union Oil Station located at 1020 Saratoga Way, El Dorado Hills, California. There was a leaking fuel tank at this location, but no evidence of groundwater contamination was detected. Due to time constraints, we were unable to investigate the problem at that location further.

In addition to the above lists, the Underground Tank and Hazardous Spills Files at the El Dorado County Department of Environmental Management were examined, and Mr. Roy Butz, of the California Regional Water Quality Control Board, Mr. David Johnston, of the El Dorado County Hazardous Materials Division, and Alise Rothchild, of the Sacramento County Environmental Management Department, were interviewed to determine if any other evidence of the existence of hazardous materials in the environment on the subject property, or on properties nearby, which might impact the subject site, could be found.

El Dorado County Department of Environmental Management

The Underground Tank and Hazardous Spills Files of the El Dorado County Department of Environmental Management were inspected for evidence of potential contamination problems on the subject property, or within a one-mile radius of the property. No such evidence was found.

Mr. Roy Butz, Regional Water Quality Control Board

Mr. Roy Butz, of the Regional Water Quality Control Board, supplied information concerning the El Dorado Irrigation District Sewage Plant, located approximately 3,000 feet east of the subject property. The treatment plant has a National Pollution Discharge Emissions Standards (NPDES) permit. Mr. Butz was aware of no chemical problems with water released from the plant. He was aware of minor bacterial problems, but indicated that they were not serious and that the water from the plant is closely monitored. He suggested that the treatment plant poses little threat of contamination to surrounding property. In addition, surface drainage from the plant flows south and away from the subject site.

Mr. David Johnston, El Dorado County Hazardous Materials Division

Mr. David Johnston, of the El Dorado County Hazardous Materials Division, indicated that he was unaware of any hazardous material spills or problems in the area around the subject site. He pointed out two businesses located in the El Dorado Hills Business Park which store and use hazardous chemicals, Cable Data and Guided Wave, but indicated he was unaware of any spill or release problems at either business.

SUMMARY AND CONCLUSIONS

Except for evidence of previous mining activity on the northwest portion of the subject site, it appears the subject property has been used only for cattle grazing. There is no evidence of the use of herbicides or pesticides on the subject property. There is no evidence of any underground storage tanks on the property, or of petroleum hydrocarbons having been spilled or discharged in the soil or water on the site.

However, the reported previous mining activity poses the potential for both soil and surface water contamination. If the piles observed near the reported mine/mill site are mill tailings, the potential for heavy metal contamination exists both in the tailings themselves and in the soil immediately below the piles, as the metals in the ore could have been leached from the suspected tailings into the soil. Additionally, the possibility of mercury contamination also exists, as mill tailings were often passed over mercury, in order to extract the gold from the crushed ore.

The potential for the leaching of heavy metals and mercury from the suspected tailings piles into the drainage which flows immediately south of the area also exists.

In order to determine if soil or water contamination have resulted from the piles, sampling of the piles, the soil beneath the piles, and of the water in the drainage immediately south of the piles would be required.

The Union Oil Service Station, at 1020 Saratoga Way, El Dorado Hills, located approximately one mile northeast of the subject property, is the only site within a one-mile radius of the subject property reported to have had a hazardous material spill. The spill is reported to have resulted from a leaking underground fuel tank, and groundwater was reportedly not affected by the spill. Because of time constraints imposed by the client, additional information concerning the nature, extent, and potential cleanup of the site could not be gathered. Because groundwater was apparently not affected by the leak and because of the distance from the spill site (the subject property is almost one mile away), it appears unlikely that groundwater contamination beneath the subject property would have resulted from the leak.

The underlying approach in formulating the above conclusion was to reduce uncertainties regarding the subject property, to the degree possible; therefore, Wheeldon & Associates' conclusions do not consist of the listing of all observations, but rather are intended to identify items with significant potential for environmental compromise.

It should be noted that this Phase I Site Assessment did not include soil or groundwater sampling and analysis, detailed geologic and hydrogeologic site characterization, or radiation and radon gas studies.

The information obtained is considered reasonably complete and accurate. Priorities for obtaining and evaluating information were identified according to the level of availability and accessibility. It is assumed that agency responses and historical resources provided complete and accurate data; however, it should be noted that regulatory agency files and other historical data are often difficult to access and are often incomplete, particularly in regard to historical data. Therefore, the results of this Phase I Site Assessment should be viewed as a reasonably accurate estimate of the existing conditions of the subject property, given the project limitations discussed above.

It is Wheeldon & Associates' opinion that the results of this Phase I Site Assessment identified the condition of the subject property with a degree of confidence normally considered appropriate for a Phase I Site Assessment in accordance with generally accepted environmental science and engineering practices.

Thank you for this opportunity to assist you with this project. If you have any questions or comments, please call us at (916) 622-9579.

Sincerely,

George A. Wheeldon
Registered Geologist #2881
Registered Environmental Assessor #851
WHEELDON & ASSOCIATES

REGISTERED GEOLOGIST
GEORGE A. WHEELDON
2881
STATE OF CALIFORNIA

REGISTERED ENVIRONMENTAL ASSESSOR
GEORGE A. WHEELDON
NO 851
Expires 6-30-91
STATE OF CALIFORNIA

DISTRIBUTION

PHASE I SITE ASSESSMENT
of
EUER RANCH
EL DORADO HILLS, CALIFORNIA

COPY # 3

		Copy:
3 copies:	Mr. Mike McDougall Assistant Project Manager Palisades Development, Inc. 7700 College Town Drive Suite 212 Sacramento, CA 95826-2301	#1, #2, #3
1 Copy:	File	#4

Quality Assurance:

George A. Wheeldon
Principal Geologist
WHEELDON & ASSOCIATES

PRELIMINARY SITE ASSESSMENT
of
CARSON CREEK RANCH
EL DORADO HILLS, CALIFORNIA

WHEELDON
and ASSOCIATES

Consulting Geologists
Environmental Assessors

6517 COMMERCE WAY • SUITE C • DIAMOND SPRINGS • CALIFORNIA 95619
916-622-9579 • FAX 916-622-0277

PRELIMINARY SITE ASSESSMENT
of
CARSON CREEK RANCH
EL DORADO HILLS, CALIFORNIA

Prepared By:

George A. Wheeldon
Principal Geologist

Jim Martin
Project Geologist

September 10, 1990

WHEELDON & ASSOCIATES
6517 Commerce Way, Suite C
Diamond Springs, CA 95619
(916) 622-9579

WHEELDON
and ASSOCIATES

Consulting Geologists
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916-622-9579 • FAX 916-622-0277

September 11, 1990

Michael Mc Dougall
Assistant Project Manager
Palisades Development, Inc.
7700 College Town Drive, Suite 212
Sacramento, CA 95826-2301

**RESULTS OF PRELIMINARY SITE ASSESSMENT
OF CARSON CREEK RANCH
EL DORADO HILLS, CALIFORNIA**

Dear Michael:

The attached report presents the results of **Wheeldon & Associates'** Preliminary Site Assessment of the Carson Creek Ranch, El Dorado Hills, California, pursuant to our agreement of September 6, 1990. In general, the assessment consisted of inspection of the property, review of agency records, and interview of individuals familiar with past and present use of the site.

The attached will satisfy your requirements for a Preliminary Site Assessment. We have appreciated the opportunity to complete the work and will be pleased to continue to provide such services in the future. Should you have any questions regarding the information presented, please do not hesitate to call.

Sincerely yours,

George A. Wheeldon
Registered Geologist #2881
Registered Environmental Assessor #851

GAW/ljm

WHEELDON
and ASSOCIATES

Consulting Geologists
Environmental Assessors

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PRELIMINARY SITE ASSESSMENT OF CARSON CREEK RANCH, EL DORADO HILLS, CALIFORNIA

A Preliminary Site Assessment of approximately 500 acres of land located on the Sacramento/El Dorado County line between White Rock Road and Latrobe Road, California, was performed pursuant to our agreement of September 6, 1990, with Mike Mc Dougall of Palisades Development, Inc. Work consisted of: inspection of the property, review of agency records, and interview of individuals familiar with past and present use of, and environmental condition of, the site and the surrounding area.

The objective of the property inspection was to look for physical evidence of potential contamination. The site visit included a review of available property diagrams and records, a review of aerial photographs, an inspection of the property, and an inspection of adjacent and nearby properties. The objective of the agency record review was to obtain available information on the subject property, and on nearby properties. Agency records give an indication of the environmental status of the property and surrounding properties in the vicinity.

This site assessment did not include asbestos sampling, or detailed geologic and hydrogeologic site characterization. Because of time constraints determined by the client, present or past property owners could not be interviewed, and certain agency records could not be reviewed. It should also be noted that regulatory agency files are often incomplete and difficult to access, particularly in regard to historical data. Therefore, the results of the site assessment should be viewed as a reasonably accurate estimate of the existing conditions of the property, given the project limitations discussed above. Despite these limitations, however, it is our opinion that the site assessment provides an appropriate degree of confidence to preliminarily determine if significant chemical hazards exist on the property.

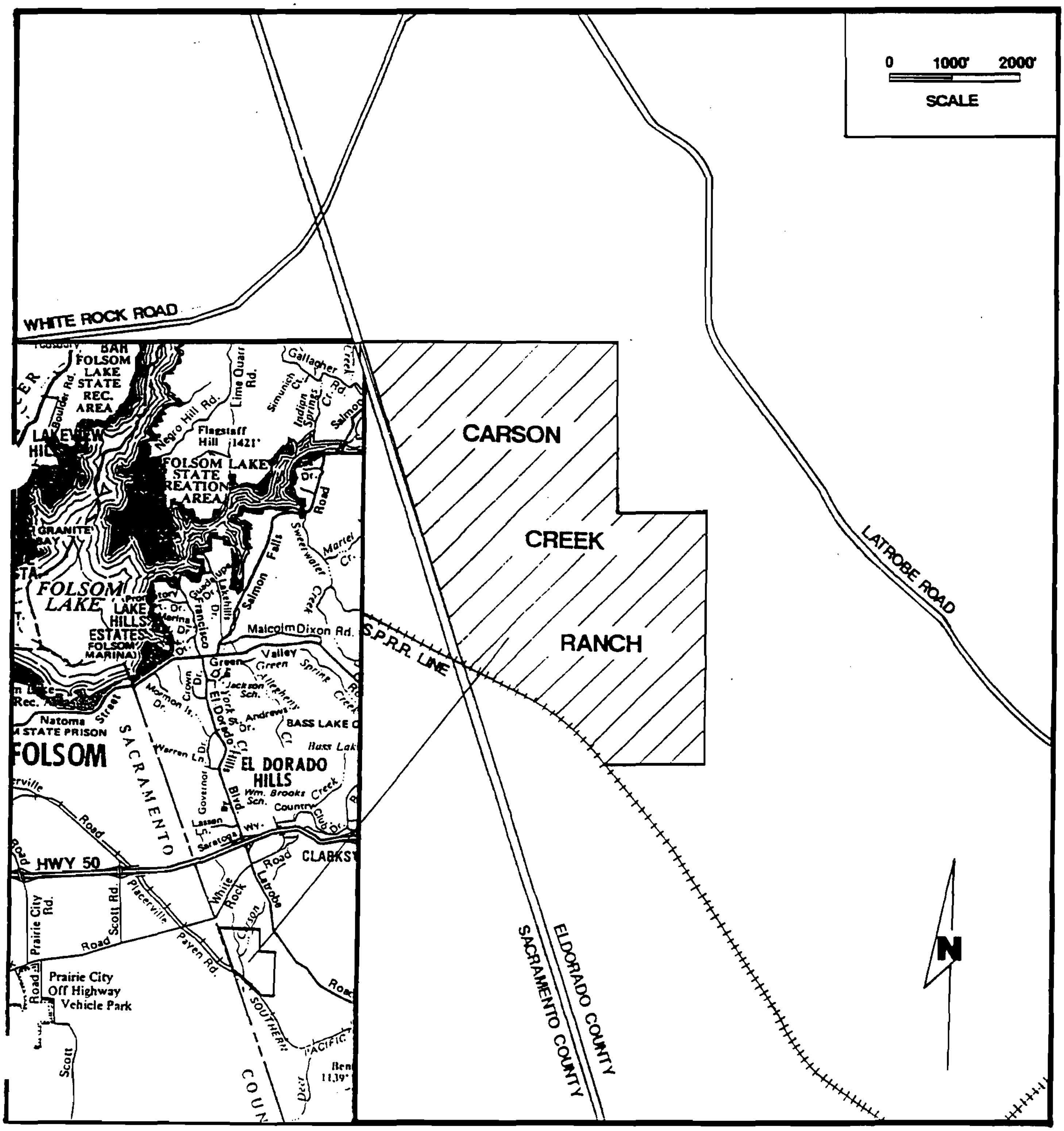
PROPERTY DESCRIPTION

The subject property consists of approximately 500 acres located 1500 feet southeast of White Rock Road, approximately 1500 feet west of Latrobe Road, adjoining and on the El Dorado County side of the Sacramento/El Dorado County line, and adjoining and north of the Southern Pacific Railroad line near El Dorado Hills, California, as shown in Figure 1. The property is the site of an old cattle ranch, consisting of an abandoned ranch house and

FIGURE 1

LOCATION MAP

CARSON CREEK RANCH



several out-buildings, and fenced grazing areas. The property is owned by Melba Mosher. Because of time constraints, the owner could not be reached for an interview. It is known that some mining activity did occur in the area, but none is believed to have occurred in the past 50 years.

An aerial photograph, from Cartwright Aerial Surveys Inc., taken in February, 1989, shows the ranch house and related out-buildings as the only structures or significant features on subject property. Another ranch house and associated buildings are seen immediately south of the subject property. The property appears to be surrounded on the north, south and west by open pasture land. Adjoining the property on the east can be seen El Dorado Business Park, which is still, to a large extent, undeveloped except for isolated businesses.

The property was inspected on September 8, 1990, by the staff of **Wheeldon & Associates**. A significant amount of debris was found along the drive entering the property in the southwest corner of the site, and around the house and out-buildings (Figure 2). Other than for minor exceptions, such as isolated car batteries, oil filters, four empty drums, and a 20-gallon propane tank, the debris consisted of wood, metal, plastic and paper, which appeared to be non-hazardous in nature. The house was inspected to ascertain the possible presence of asbestos-containing material. The house was found to contain vinyl floor tiles, dry wall and joint compound, and asphalt shingles and roofing felt, all of which could contain asbestos.

The sewer line from the house was found to empty from an open pipe into a cistern, located approximately forty feet northeast of the house. It is unknown if leach trenches are present.

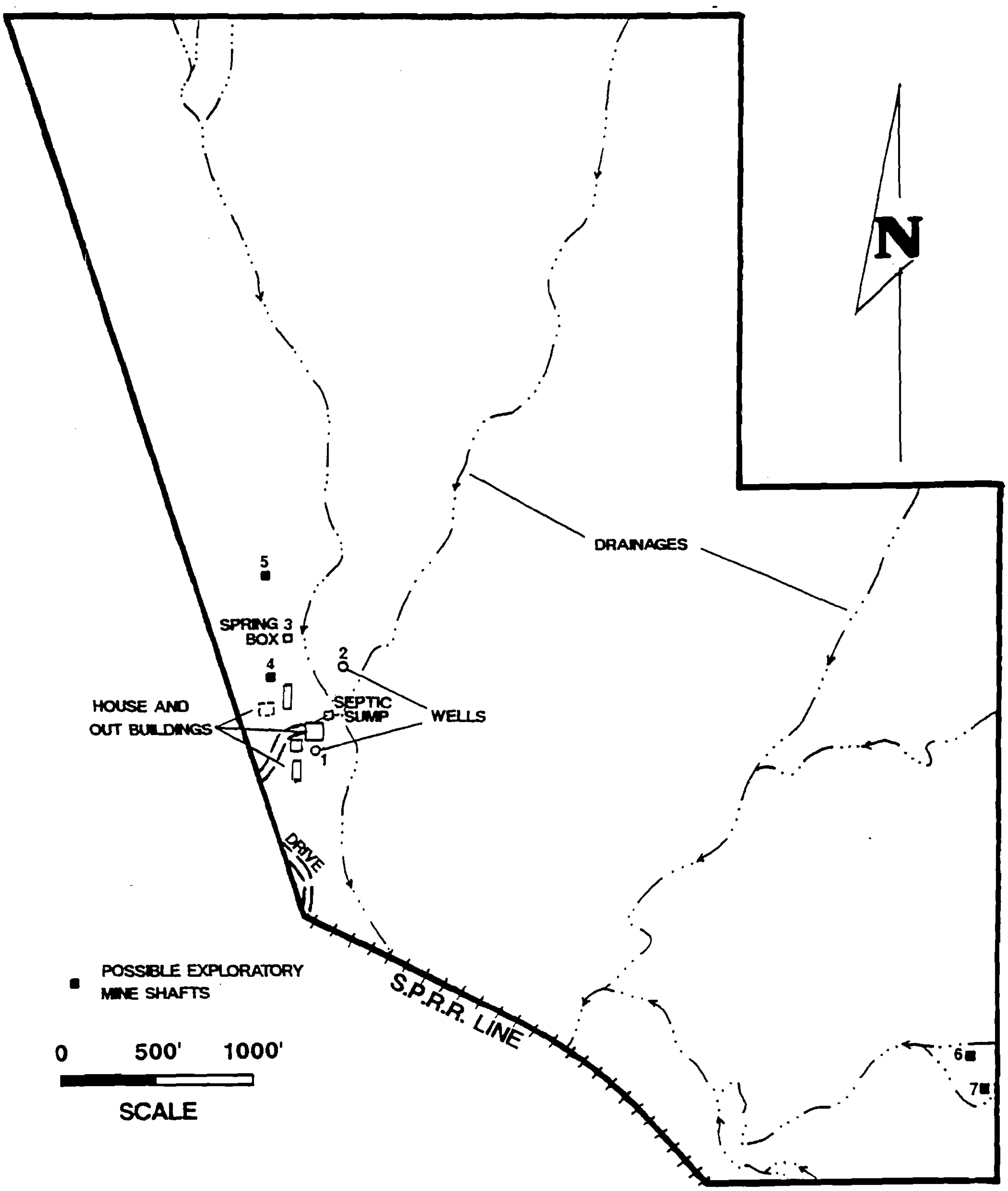
Two wells and a spring box were found on the subject property. All are shown on Figure 2, along with corresponding identification numbers.

1. A well with a hand pump was found at Site #1, located approximately 40 feet south of the ranch house. The well appeared to be hand dug, with a stone lining partially intact, extending approximately one foot above ground surface. Water was observed approximately six inches below ground surface.

FIGURE 2

SITE PLAN

CARSON CREEK RANCH



2. Site #2, located approximately 100 feet northeast of the ranch house, contained an abandoned windmill above a well, with a functioning electric water pump in the well. The well also appeared to be hand dug, with a stone lining which extended approximately two feet above ground surface. Water was observed approximately ten feet below ground surface.

3. Site #3 contained what appeared to be a large spring box covered with boards. The feature was dug into the ground and contained water at approximately five feet below ground surface.

In addition to the above, several features were observed which appeared to be either shallow hand dug wells or exploratory mine shafts. These are shown on Figure 2 and are numbered 4 - 7. All were filled in with dirt and rock to a depth of two to four feet below ground surface, and no water was observed in any except for Site #7, in which water was observed approximately five feet below ground surface. There was no evidence of mine or mill tailings, or of ore-processing activities around these sites, or elsewhere on the property. No mining activity is believed to have taken place in the vicinity within the past fifty years.

There was no evidence observed that the property had been used for any purpose other than cattle ranching, except for the above described possible mining activity. There was no sign of row crops, grain or hay having been planted, and no indication of pesticide or herbicide use was observed. Additionally, no evidence of underground fuel storage tanks was observed on the property.

Inspection of properties immediately adjacent to the subject site showed that the site is bordered on the north, south and west by open grazing land. Immediately adjacent to the property, to the east, is El Dorado Business Park which, at this point, is only sparsely populated by light industrial, data processing, and warehouse-distribution businesses. The largest facility is Cable Data, which is a billing and data processing business. Approximately 3,000 feet north of the subject site is the El Dorado Irrigation District Sewage Treatment Plant. Approximately 1500 feet southeast of the site is Wetsel-Oviatt Lumber Company Lumber Mill.

AGENCY RECORDS SEARCH AND INTERVIEWS

To determine if agency records indicate occurrences of chemical contamination, pertinent agencies and individuals were contacted and interviewed and records and reports were reviewed. The results of this review are described below. **Wheeldon & Associates** reviewed the following lists or files for information concerning potential contamination problems on the subject property or potential environmental impacts of nearby sites on the subject property:

USEPA Superfund Database: CERCLIS List 8

USEPA Superfund Program: List 8 for NPL Sites in Region 9

Regional Water Quality Control Board (RWQCB): Fuel Leaks List, El Dorado County, July 1989

RWQCB: Toxics and Groundwater Division, List of Known Polluted Wells, 1989

California Department of Health Service (DHS): Rural County Survey, October 1989

California DHS: Bond Expenditure Plan Sites (Superfund List), January 1990

California DHS: Municipal Water Supply Well Program - AB 1803 & 1804, June 1990

Governor's Office of Planning and Research: Hazardous Waste and Substances Sites Lists, pursuant to AB 3750, January 1989 (Cortese List)

California Waste Management Board (CWMB): Solid Waste Information System (SWIS), April 1989

California Water Resources Control Board (CWRCB): Solid Waste Assessment Test (SWAT) List, June 1989

In addition to examining the above lists, the Underground Tank and Hazardous Spills files at the El Dorado County Department of Environmental Management were examined, and Mr. Roy Butz, of the California Regional Water Quality Control Board, Mr. David Johnston, of the El Dorado County Hazardous Materials Division, and Mr. Paul Oswald , of Youngdahl and Associates, were interviewed in order to determine if any other evidence of the existence of hazardous materials in the environment is present on the subject property, or on properties nearby which could impact the subject site.

No significant environmental health hazards were reported at the subject property, based on records and files obtained from the various agencies listed above, and based on the above-mentioned interviews.

In searching for problem sites in the vicinity which could negatively impact the subject property, only listed sites within a radius of one mile of the subject property were included for evaluation. Of all the above-noted lists, none contained sites within one mile of the subject property, except for the California DHS: Rural County Survey List and the CWRCB: SWAT List. The DHS Rural County Survey List included the Wetsel-Oviatt Lumber Company site, located approximately 1500 feet southeast of the subject property, and the CWRCB SWAT List contained the El Dorado County, El Dorado Hills Disposal Site.

El Dorado County Department of Environmental Management

Examination of the Underground Tank and Hazardous Spills files of the El Dorado County Department of Environmental Management provided additional information concerning the Wetsel-Oviatt site. In March, 1989, a 12,000-gallon underground oil tank was removed and soil samples indicated 5800 parts per million (ppm) total recoverable hydrocarbons and 1400 ppm total petroleum hydrocarbons as diesel (TPH-D) were present at approximately three feet below the bottom of the tank, near the fill spout of the tank. In November, 1989, the tank excavation was enlarged on all sides by approximately two feet, and the bottom of the hole was excavated until bucket refusal was encountered. Two soil samples were taken from the bottom of the excavation. One showed no detectable hydrocarbons or benzene, toluene, xylene, and ethylbenzene (BTXE) compounds, while the other showed no TPH-D or BTXE compounds, but

50 ppm TPH, a level considered to not be significant enough to pursue further. The majority of the contaminated soil from the excavation was transported from the site. Approximately 30 cubic yards of contaminated soil was placed on plastic sheeting, mixed with fertilizer and sawdust, and vented with plastic pipes in order to bioremediate it on-site. The pit was covered with tarps to prevent leaching of contaminants from the soil.

An annual operating permit, dated June 30, 1989, indicated four underground tanks are licensed on the Wetsel-Oviatt site. Tank testing results from 1986, 1988, and 1989 were found in the file. The 1986 results indicate that all four tanks tested tight. The 1988 results indicate that all tanks tested tight except for a 12,000-gallon regular unleaded tank, which failed the tightness test. Only three tanks were tested in 1989. It is unclear which of the four tanks was not tested in 1989, so there is a possibility that one of the underground tanks is leaking fuel.

Mr. Roy Butz, Regional Water Quality Control Board

Mr. Roy Butz, of the RWQCB, offered additional information concerning the Wetsel-Oviatt site. The site has a National Pollution Discharge Emissions Standards (NPDES) Permit which is about to be renewed. This is for the discharge of water collected from the spraying of log decks on-site. Mr. Butz indicated that normally the water is recycled and never leaves the site. However, during abnormally heavy rains, which occur approximately every ten years, the collection pond may overflow. However, the discharge from the pond is to the south, away from the subject site.

Mr. Butz also indicated that until approximately two years ago, some wood on the Wetsel-Oviatt site was treated with pentachloro phenols (PCPs). Two sites were used for treating wood, one older site, and one used more recently. Soil around the old treatment area was tested for PCPs, and none were detected. PCPs were detected around the site of more recent wood treatment, but levels were below State clean-up levels. The wood drying area was never tested, but Mr. Butz indicated PCP levels found in wood drying areas are normally low.

Mr. Butz also supplied information concerning the El Dorado Irrigation District Sewage Plant, located approximately 3000 feet north of the subject property. The treatment plant also has an

NPDES permit. Mr. Butz was aware of no chemical problems with water released from the plant. He was aware of minor bacterial problems, but indicated that they were not serious and that the water from the plant is closely monitored. He suggested that the treatment plant poses little threat of contamination to surrounding property.

Mr. David Johnston, El Dorado County, Hazardous Materials Division

Mr. David Johnston, El Dorado County, Hazardous Materials Division, indicated he was unaware of any hazardous material spills or problems in the area around the subject site. He pointed out two businesses located in the El Dorado Hills Business Park which store and use hazardous chemicals, Cable Data and Guided Wave, but indicated he was unaware of any spill or release problems at either business.

Mr. Paul Oswald, Youngdahl and Associates

Mr. Paul Oswald, of Youngdahl and Associates, indicated a precursor to a SWAT study had been done on the abandoned El Dorado County, El Dorado Hills Disposal Site, located approximately 3000 feet east of the subject site. According to Mr. Oswald, the site had been used for approximately ten years as a site where waste material was burned. Exploration of the site by Youngdahl and Associates defined the lateral and vertical extent of the disposal site. Testing for heavy metals was performed on soil at the bottom of the old disposal material and results were no higher than background levels in the area. No testing for volatile or semi-volatile organics was performed at the site.

SUMMARY

Except for some questionable evidence of minor mining activity, it appears the subject property has been used only for grazing cattle. There is no evidence of the use of herbicides or pesticides on the property. There is no evidence of any underground storage tanks on the property, or of petroleum hydrocarbons or other hazardous materials having been spilled or discharged in the soil or water on the site.

Two hand-dug wells and an underground spring box, as well as an open septic cistern, are located near the ranch house. The wells have not been constructed to El Dorado County standards. The abandoned ranch house contains vinyl floor tile, dry wall and joint compound, and asphalt shingles and roofing felt, all of which could contain asbestos. Four sites were found which were either shallow hand-dug wells or exploratory mine shafts. No mining tailings or other evidence of milling or treating of mine ore was found near these four sites, or anywhere else on the property.

There are two sites in the vicinity which have had hazardous material spills or have the potential for contamination problems. The first, Wetsel-Oviatt Lumber Company, located approximately 1500 feet south of the subject property, had a 12,000-gallon underground gasoline tank which failed the tightness test in 1988. The El Dorado County Department of Environmental Management files are unclear as to whether the tank has been tested since 1988. If the tank is leaking, the potential for groundwater contamination reaching the subject site along geologic structures, which in this area generally trend N20°E, although small, does exist. The second site in the vicinity which could have a contamination problem is the abandoned El Dorado County, El Dorado Hills Disposal Site. The site was reportedly used for approximately ten years as a disposal site. Soils sampling and testing for heavy metals has been done at the site. However, no testing for volatile or semi-volatile organics has been performed. Because of the distance to the subject property, at least 3000 feet, and because the line between the subject property and the disposal site lies perpendicular to the trend of local geologic structures, the potential for surface water and/or groundwater contamination reaching the subject property from the disposal site, if it exists, is minimal.

RECOMMENDATIONS

1. Because the potential exists for the presence of asbestos-containing materials in the ranch house, an asbestos survey is recommended and all potentially asbestos-containing materials should be tested.

2. Because the potential for contamination of groundwater beneath the site from Wetsel-Oviatt Lumber Company, although small, does exist, we recommend that water in the well at Site #2, and in the

VHEELDON
..nd ASSOCIATES
..nsulting Geologists
..ronmental Assessors

hole at Site #7, be tested for volatile and semi-volatile organics. Site #7 is recommended because, for the purpose of obtaining a water sample on the subject site, it is the nearest accessible location to the Wetsel-Oviatt site. Site #2 is recommended because it is being pumped, may be deeper, and could have a cone of depression which may draw contaminates, if they exist, from a much greater distance.

3. It is recommended that, after all water sampling and analysis has been completed, and if it is found that a groundwater contamination problem on the site does not exist, all wells and the septic cistern be abandoned according to El Dorado County standards. In addition, it is recommended that those features suspected to be old mine shafts also be properly abandoned.

CONCLUSION

Although time constraints imposed by the client made it impossible to interview the owner of the property, we do believe this Site Assessment provides an appropriate degree of confidence to preliminarily determine if significant chemical hazards exist on the property.

George A. Wheeldon
Registered Geologist #2881
Registered Environmental Assessor #851

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STATE OF CALIFORNIA

APPENDIX G

Fiscal Analysis

ECONOMIC & PLANNING SYSTEMS

▪ *Land Economics* ▪ *Real Estate* ▪ *Public Finance*

Draft

Carson Creek Specific Plan Fiscal Impact Report

Prepared For:

El Dorado County

Prepared by:

Economic & Planning Systems, Inc.

March 20, 1995

EPS #4132

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I. INTRODUCTION AND SUMMARY

INTRODUCTION

The following draft analysis evaluates the fiscal impact of the Carson Creek Specific Plan development on the County of El Dorado. The objective of the analysis is to estimate whether the project will generate adequate revenues to meet the costs of providing County General Fund operation and maintenance services to the development. That is, whether the net effect would likely be a positive or negative one to the fiscal well-being of the County. The analysis also evaluates the fiscal impact of the Carson Creek Specific Plan on the El Dorado Hills Fire Department (hereafter "Fire District") and the El Dorado Hills Community Services District (hereafter "El Dorado CSD" or "CSD"). The study period for the analysis covers the assumed period of development.

REPORT ORGANIZATION

This report is organized into four chapters. This chapter discusses the importance of key assumptions made in the analysis regarding property tax sharing agreements, summarizes the major findings and conclusion of the fiscal impact analysis, and describes some potential fiscal mitigation measures.

Chapter II will discuss the methodology of the analysis and provide further detail of assumptions made regarding the Specific Plan Area land use development plan, demographics, land use, and projected absorption. **Chapter III** will discuss the revenue impacts of the Carson Creek Specific Plan Area on the County General Fund, County Road Fund, El Dorado Hills Fire Department, and the El Dorado Hills CSD. **Chapter IV** will discuss the expenditures that will be incurred by the same agencies.

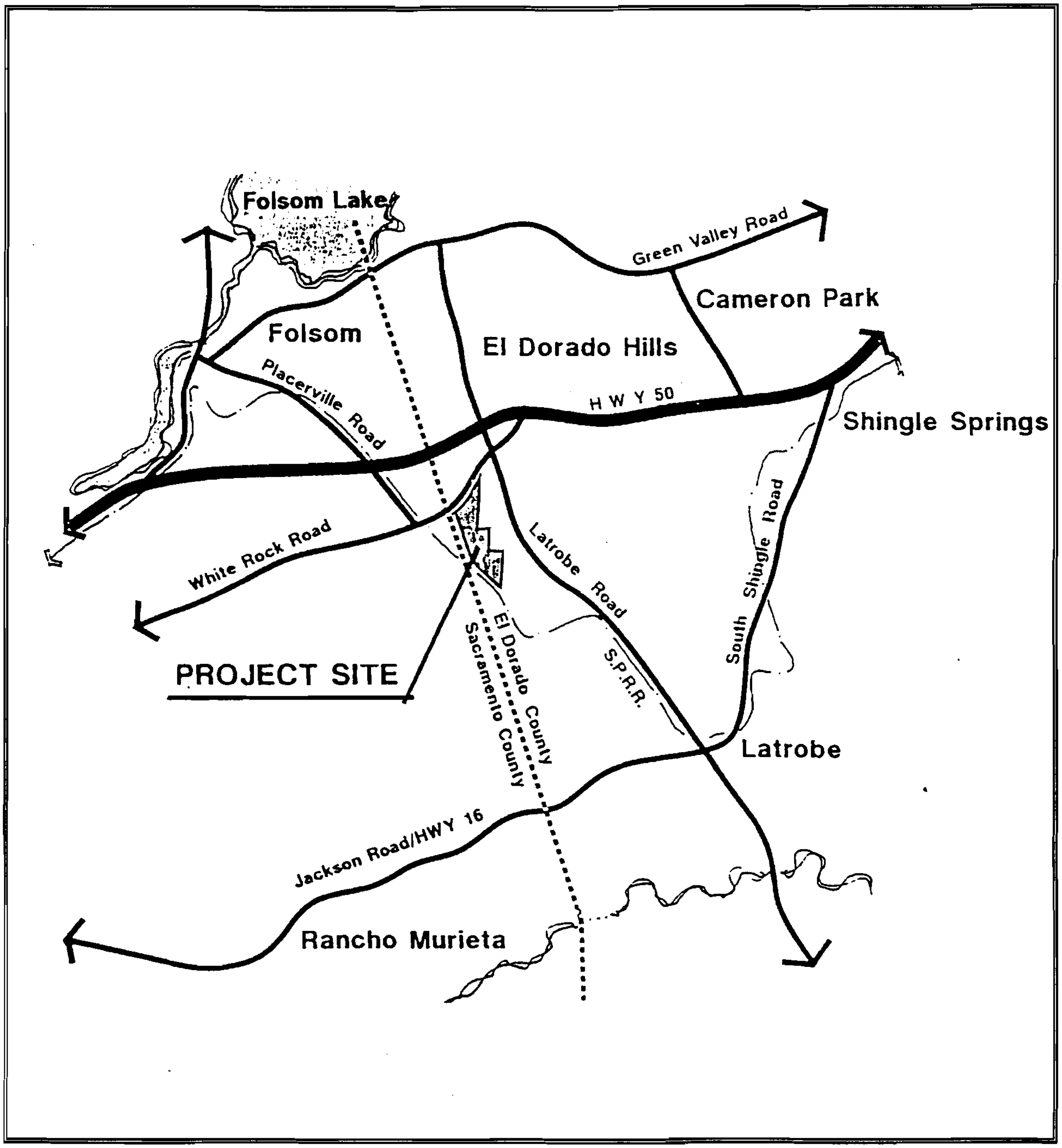
Appendix A and B of this report contains tables providing further information regarding assumptions utilized in the fiscal impact model.

PROJECT DESCRIPTION

The Carson Creek Specific Plan Area (hereafter "The Project" or "Plan Area") is located on approximately 710 acres in unincorporated El Dorado County. The project applicant(s) are seeking the adoption of the Carson Creek Specific Plan. The Project is located south of the Community of El Dorado Hills and U.S. Highway 50. The Plan Area is bounded by the El Dorado County/Sacramento County line on the west, the El Dorado Hills Business Park on the east and the Southern Pacific Railroad right-of-way to the south. **Figure 1** shows the general location of the project.

Figure 1

Regional Location Map



The Specific Plan proposal suggests the development of approximately 2,941 single-family homes, 552 multi-family units, 80,000 square feet of retail development, 218,000 square feet of service/commercial development, 720,000 square feet of office development, and 240,000 square feet of industrial development.

ANALYSIS ASSUMPTIONS

It is assumed that the project will be totally developed by the year 2012. The fiscal impacts have been evaluated at three points in time during the development process: the fourth year of development (Year 2000), the approximate mid-point of development (Year 2005) and at buildout (Year 2012). The results of the analysis will vary if development plans change from those upon which this analysis is based. With the exception of the non-residential land uses, the development program and absorption schedule were developed by the Project applicant(s). The non-residential land uses are assumed to develop when enough residential development has occurred to support commercial, retail, and other non-residential land uses.

The fiscal impact analysis responds to recent fiscal changes resulting from the State legislative process through June 1994. The analysis is based on the "Fiscal and Financial Feasibility Analysis of Draft General Plan –2015," prepared for the County of El Dorado by Economic & Planning Systems, Inc., current tax regulations and statutes, and general assumptions shown in the fiscal impact analysis.

The property tax split for the Plan Area will be determined based on negotiations between the affected agencies. The six parcels located within the Specific Plan Area require annexation into one or all of the following: the El Dorado Hills Fire Department, the El Dorado Irrigation District, and/or the El Dorado Hills Community Services District.

The various parcels within the Plan Area are located within three different Tax Rate Areas (TRAs). Because information regarding a proposed property tax split was not available at the time of this study, the tax split utilized in this study is based on the percentage allocations for each agency for other TRAs served by the same set of agencies. **Appendix B** of this report provides a detailed analysis of how the tax allocations for the various agencies were estimated. The tax split is only an estimate and the results of the analysis may change if the actual percentage allocations negotiated by the affected jurisdictions vary from those assumed in this analysis.

FISCAL IMPACT SUMMARY

The study evaluates the net fiscal impact of the Project on the County General Fund, the County Road Fund, the El Dorado Hills Fire Department, and the El Dorado Hills CSD. **Figure 2** summarizes the projected Project revenues and expenditures for each of these agencies for fiscal years ending 2000, 2005, and 2012. Fiscal year 2000 represents four years of the Project development. Fiscal year 2005 represents approximately 50% buildout for the Project and 2012 the last year of development. All figures in the fiscal study are in constant 1993-1994 dollars unless otherwise noted.

Figure 2
Summary of Incremental Fiscal Balances - All Funds--Proposed Project
All Years (Constant $ 1994)
Carson Creek Fiscal Impact Analysis

	Draft General Plan (Incremental Growth)		
Fund/Item	Year 2000	Year 2005	Year 2012
EL DORADO COUNTY GENERAL FUND			
Total Revenues	$573,627	$1,282,305	$1,648,133
Total Expenditures	$928,599	$2,152,549	$2,726,932
Net Fiscal Balance	($354,972)	($870,244)	($1,078,799)
EL DORADO HILLS FIRE DEPARTMENT			
Total Revenues	$251,299	$557,842	$738,990
Total Expenditures	$469,560	$469,560	$469,560
Net Fiscal Balance	($218,261)	$88,282	$269,430
COUNTY ROAD FUND (DOT)			
Total Revenues	$120,451	$268,681	$331,710
Total Expenditures	$48,446	$103,813	$138,417
Net Fiscal Balance	$72,005	$164,868	$193,293
EL DORADO HILLS CSD			
Total Revenues	$98,012	$217,570	$288,221
Total Expenditures	$433,279	$538,550	$576,357
Net Fiscal Balance	($335,267)	($320,980)	($288,136)

Source: Economic and Planning Systems, Inc.

EL DORADO COUNTY

The analysis estimates that the proposed Project will generate a significant net fiscal deficit to the County of El Dorado General Fund (i.e. project generated revenues will be insufficient to fund expenditures for this project). As shown on **Figure 2**, the project is estimated to generate annual fiscal deficits to the El Dorado County General Fund for each of the years analyzed, increasing each year to approximately $1,078,800 in 2012, which represents an annual deficit of approximately $367 per residential unit.

The Project will generate a net fiscal surplus to the County Road Fund. **Figure 2** shows that the Project will generate fiscal surpluses to the Road Fund in each of the years analyzed, increasing each year to approximately $193,300 in 2012, which represents an annual surplus of approximately $66 per residential unit.

These following table summarizes the County General Fund and Road Fund revenues and expenditures 2012:

Carson Creek Specific Plan Fiscal Impact
El Dorado County
Fiscal Year 2011-2012

Item	Amount	Dollars per Residential Unit
County General Fund:		
Annual Revenues	$1,648,100	$560
Annual Expenses	($2,726,900)	($927)
Operating Surplus (Deficit)	**($1,078,800)**	**($367)**
County Road Fund:		
Annual Revenues	$331,700	$113
Annual Expenses	($138,400)	($47)
Operating Surplus (Deficit)	**$193,300**	**$66**

EL DORADO HILLS FIRE DEPARTMENT

The Project is estimated to generate an overall net fiscal surplus to the El Dorado Hills Fire Department except in the initial years of development. **Figure 2** shows that the Project will generate a $218,300 net fiscal deficit in the year 2000, which represents the fourth year of development. The analysis shows that the net fiscal impact becomes positive in 2005 (approximately the mid-point of development), increasing to a net surplus to the Fire District of approximately $269,400 in year 2012. This equates to a surplus of approximately $91 per residential unit as summarized in the following table:

Carson Creek Specific Plan Fiscal Impact
El Dorado Hills Fire Department
Fiscal Year 2011-2012

Item	Amount	Dollars per Residential Unit
Fire Department:		
Annual Revenues	$739,000	$251
Annual Expenses	($469,600)	($160)
Operating Surplus (Deficit)	**$269,400**	**$91**

EL DORADO HILLS COMMUNITY SERVICES DISTRICT

The El Dorado Hills CSD will provide park and recreation services to the Specific Plan Area. **Figure 2** shows that the Project generates a net fiscal deficit to the CSD in each of the years analyzed. The net deficit to the CSD is approximately $335,300 in 2000, decreasing to an annual deficit of approximately $288,100 in 2012 as shown below:

Carson Creek Specific Plan Fiscal Impact
El Dorado Hills Community Services District
Fiscal Year 2011-2012

Item	Amount	Dollars per Residential Unit
El Dorado Hills CSD:		
Annual Revenues	$288,200	$98
Annual Expenses	($576,400)	($196)
Operating Surplus (Deficit)	**($288,200)**	**($98)**

DISCUSSION OF CONCLUSIONS

Development of the Carson Creek Specific Plan Area is expected to generate substantial net fiscal deficits to the County General Fund and to the El Dorado Hills CSD. The Project is expected to generate fiscal surpluses to the County Road Fund and the Fire Department.

FACTORS IMPACTING THE RESULTS OF THE ANALYSIS

The actual fiscal impacts of the Project may vary substantially from those presented here depending upon the property tax sharing agreements negotiated by the affected jurisdictions. It should be noted that the results of this analysis are dependent upon assumptions made regarding the allocation of the 1% property tax. As discussed earlier, the property tax allocations utilized in this study are estimates only. This analysis assumes a percentage allocation similar to other TRAs served by the same agencies. The net fiscal impact may vary significantly if the negotiated percentage of property tax for the various agencies differs from that assumed in this analysis.

REASONS FOR DEFICITS

County General Fund

There are several contributing reasons that explain why development of the Carson Creek Specific Plan Area is projected to generate significant negative deficits to the County of El Dorado.

County services will grow in proportion to the increase in population and employees resulting from development of the Carson Creek Specific Plan Area. The new residents and employees will need additional sheriff, general government, judicial, and health and sanitation services. While the additional population will also generate new revenues, such as property tax revenues and some sales taxes, these revenue sources are modest in proportion to the costs of providing services to the increased population.

A significant reason for the deficit to the County general fund is that this analysis assumes the County General Fund is allocated only 15% of the 1% property tax base after Educational Revenue Augmentation Fund (ERAF) deductions. As discussed earlier, this allocation may change based on the property tax sharing agreements actually negotiated. However, regardless of the actual allocation assigned to the County, the County will never be able to reap the full benefit of development within its jurisdiction because the County must share the property tax allocation with the El Dorado Hills Fire Department, the El Dorado Hills CSD, and other agencies.

One other major reason for the deficit is that the development plan for the Carson Creek Specific Plan Area is predominantly residential. There are revenue limits imposed on the County by statute, such as Proposition 13, State-mandated entitlement programs, and recent State actions regarding property taxes. The State Budget Act for Fiscal Years 1992-93 and 1993-94 shifts significant proportions of all California cities' and counties' share of property tax revenues to augment school funding. This factor alone almost assures that most proposed residential development will be unable to "pay its own way" with respect to local government services. Although the development plan for the Project includes approximately 1.3 million square feet of non-residential development, this development will not generate enough property and sales tax revenue to offset the cost of providing services to the Plan Area.

El Dorado Hills CSD

The reasons for the Specific Plan's negative impact on the El Dorado Hills CSD are much the same as those that apply to the negative on the County General Fund. The CSD will also incur increased costs to provide service to the Plan Area. Although the Plan Area will also generate new revenues, these again are modest compared to the costs of providing services to the increased population.

The assumed allocation of the 1% property tax base to the El Dorado Hills CSD is another significant reason for the deficit to the CSD. The analysis assumes that the El Dorado Hills CSD's share of the property tax, after ERAF, is approximately 5.7%. The CSD typically receives 9% of the 1% tax base in other TRAS. Again, this allocation may change based on the tax sharing agreement actually negotiated; however, the CSD will probably not be able to attain its typical share of the property tax allocation due to the fact that the school districts receive approximately 50% of the 1% property tax base in two out of the three Carson Creek TRAs and there are several agencies among which the remaining 50% must be divided.

PERSPECTIVE ON PROJECTED DEFICITS

The fiscal deficits projected for the Carson Creek Specific Plan Area are not unique to this area. It must be emphasized that the fiscal study looks only at the net new development proposed in the Plan Area, thereby measuring the marginal or incremental impact of new development on the County General Fund or the El Dorado Hills CSD. The boundaries of the Plan Area may artificially determine the outcome of the fiscal results. It is possible that a portion of the deficit from this project area may be partially offset by future non-residential development in other parts of the County or CSD, which may serve as a work place for some of the residents from this Project area and other residential areas in the County.

POTENTIAL FISCAL MITIGATION

County General Fund

Mitigation of the fiscal deficit from the Project area is needed to avoid a dilution in County services. There are several options available to the County which may mitigate the projected fiscal deficits.

The fiscal and financial outcome for the Carson Creek Specific Plan Area will depend ultimately on the successful resolution of annexation policies and tax sharing agreements. The County needs to make every effort to negotiate the maximum percentage of the 1% property tax possible under the strictures of the law. It will be important to develop a rational and balanced approach to annexation and to avoid creating major fiscal disincentives that will reduce the level of cooperation between the affected jurisdictions.

In addition, during the annexation and property tax sharing negotiations, the County should encourage the El Dorado Hills Fire Department and the El Dorado Hills CSD to seek activity based funding such as a Lighting and Landscaping District for parks maintenance or an assessment district to fund fire protection. This may allow the County to receive a higher percentage share of the 1% property tax base. The County itself could consider implementing user charges and fees for certain County services (such as for planning and public works) in order to shift the burden from the tax base to user fees.

The negative fiscal results indicated by this study for the Carson Creek area are in part due to the erosion of countywide revenue sources, the most significant of which are the recent reductions in property tax revenues. There are a limited number of potential revenue sources that may be used to cover operations and maintenance (General Fund revenues) and that the County also has the authority to impose.

The primary revenue augmentation options that are available to the County from the Carson Creek Specific Plan Area are: 1) a One-time Public Services Mitigation Fee, and 2) a Mello-Roos Community Facilities District to fund sheriff services.

A public services mitigation fee could be charged to new development to offset all or a portion of the deficit identified in the fiscal impact analysis. The fee revenue should be placed in a special fund and only a set amount should be transferred to the General Fund each year, so that the fee revenue collected will be sufficient to cover County General Fund expenses for a set number of years.

The Mello-Roos Community Facilities District Act of 1982 enables cities, counties, special district, and school districts to establish Community Facilities District (CFDs) and to levy special taxes to fund a wide variety of facilities and services. The Mello-Roos Act does allow for the funding of sheriff protection services and limited criminal justice services. However, a Mello-Roos can only be used to finance these services "to the extent that they are in addition to those provided in the territory of the district before the district was created." This reference raises the legal issue to what degree a Mello-Roos CFD can be utilized to fund sheriff services in the Carson Creek Specific Plan Area. This issue would require a legal review prior to a service Mello-Roos CFD being established.

Finally, the County must promote land uses that are fiscally positive in the Carson Creek Specific Plan Area and in the County as a whole. The County could actively pursue land uses that are more revenue generating, especially commercial uses that generate sales tax revenues such as outlet stores and mail order companies.

El Dorado Hills CSD

The El Dorado Hills CSD should consider forming a Landscaping and Lighting District to cover the cost of park maintenance in the Carson Creek Specific Plan Area. Landscaping and Lighting Districts are established through a protest proceeding and may fund park and landscape maintenance as well as capital improvements.

II. METHODOLOGY AND ASSUMPTIONS

METHODOLOGY

A fiscal model analyzing the fiscal impact of development of the Carson Creek Specific Plan Area was developed based on the "Fiscal and Financial Feasibility Analysis of Draft General Plan --2015," prepared for the County of El Dorado by Economic & Planning Systems, Inc.

Generally, the County's fiscal model identifies specific revenues and expenditures which would be affected by development in El Dorado County. Forecasting methodologies were developed that utilize an average or modified average cost approach to estimate County expenditures. For revenues, a marginal revenue approach was used augmented by average revenue estimates. Marginal revenue forecasts were used for items such as property tax and sales tax revenues when actual revenue generation plans could be simulated. Otherwise, an average revenue approach was used to project County revenues resulting from development of the Plan Area. The same methodology was utilized to estimate cost and revenues for the El Dorado Hills Fire Department and the El Dorado Hills Community Services District.

Revenue and cost estimates were derived from data collected from the County of El Dorado, the El Dorado Hills Fire Department, and the El Dorado Hills CSD. Revenue projections account for state-mandated revenue shifts from all three agencies to the Educational Revenue Augmentation Fund (ERAF) for school funding.

Each revenue item is estimated based on current State legislation and current County resolution or ordinance. Future changes by either State legislation or the County can affect the revenues estimated in this study. This fiscal study is tied to the current levels of revenue generation and service provision. To the extent revenues are increased or decreased in the future on a Countywide basis, the proposed Carson Creek Specific Plan Area will share in any corresponding service level change in the same manner as the remainder of the County.

SUMMARY AND ASSUMPTIONS

FISCAL IMPACT SUMMARY

Figure 3 summarizes the revenue and expense impacts from development of the proposed Carson Creek Specific Plan Area at buildout in the year 2012. All dollar figures are in constant 1994 dollars.

Figure 3
Summary of Incremental Revenues and Expenditures by Fund/District (constant $
Proposed Project-Year 2012
Carson Creek Fiscal Impact Analysis

Fund Item and Fiscal Balance	Incremental Net Fiscal Balance at Year 2012
El Dorado County General Fund Programs	
Property Tax	$769,059
Sales & use Tax	$332,194
Property Transfer Tax	$51,298
Hotel/Motel Occupancy Tax	$29,857
Licenses & Other Permits	$72,241
Franchises	$16,620
Fines and Forfeitures	$70,808
Vehicle In-lieu Fees	$306,056
Total General Fund Revenues	$1,648,133
General Fund Expenditures	
General Fund:	
General Government	$708,033
Judicial	$317,546
Sheriff Services	$706,441
Dentention/Protection	$488,819
Inspection, Fish/Game, Other	16,531
Health & Sanitation	$288,897
Public Assistance	$146,168
Education	$54,497
Total General Fund Expenditures	$2,726,932
General Fund NET SURPLUS (DEFICIT)	($1,078,799)
El Dorado Hills Fire Dept. (2)	
Revenues	$738,990
Expenditures	$469,560
Fire District Net Surplus (Deficit)	$269,430
County Road Fund (DOT)	
Revenues (1)	$331,710
Local Rd. Costs	133,225
Regional Rd. Costs	$5,192
Road Fund Net Surplus (Deficit)	$193,293
El Dorado Hills CSD (2)	
Revenues	$288,221
Expenditures	$576,357
CSD Net Surplus (Deficit)	($288,136)

(1) Includes property tax, franchise tax revenues, and gas tax revenues .
(2) Includes property tax revenues only; these districts could receive other supplemental revenues.

Source: Economic and Planning Systems, Inc.

El Dorado County

General Fund

The analysis shows a fiscal deficit on the County General Fund. The annual deficit at buildout in year 2012 is estimated at $1,078,800, which is approximately $367 per residential unit.

Road Fund

Figure 3 shows that the Project area will have a positive fiscal impact on the County Road Fund. The County Road Fund is estimated to incur costs of $138,400 at buildout of the project, compared to revenues of $331,700. This equates to an annual surplus of $193,300 at buildout in 2012, or $66 per residential unit.

El Dorado Hills Fire Department

Development of the Specific Plan Area is estimated to have a positive fiscal impact on the El Dorado Hills Fire Department. **Figure 3** shows that the Fire District is estimated to receive approximately $739,000 in revenues compared to $469,600 in expenditures. This equates to an annual surplus of $269,400 or $91 per residential unit.

El Dorado Hills Community Services District

The summary **Figure 3** also shows that the Project is projected to have a negative fiscal impact on the El Dorado Hills CSD. The CSD is estimated to receive revenues of approximately $288,200 compared with expenditures of $576,400, leaving an annual deficit of $288,200 or $98 per residential unit..

LAND USE DEVELOPMENT PLAN

The Carson Creek Specific Plan Area consists of approximately 710 gross acres. The land use plan used in this analysis assumes the development of approximately 2,941 residential units, 552 multi-family units, 80,000 square feet of retail development, 218,000 square feet of service/commercial development, 720,000 square feet of office development, and 240,000 square feet of industrial development as shown in **Figure 4.** The land use plan is based on the draft Carson Creek Specific Plan dated July 14, 1994.

GENERAL ASSUMPTIONS

Table 1 in Appendix A shows the fiscal study's general assumptions such as the estimated inflation rate and general County demographic assumptions.

Figure 4
Project Description by Land Use
Proposed Project-Year 2012
Carson Creek Fiscal Impact Analysis

Land Use	Unit of Measure	Incremental New Development by Year 2012
High Density-$200K	unit	245
High Density-$170K	unit	313
High Density-$150K	unit	1,180
High Density-$135K	unit	651
Multi-Family	unit	552
Retail	sqft	80,000
Service/Commercial	sqft	218,000
Office	sqft	720,000
Industrial	sqft	240,000
Parks	acre	29.0
Open Space	acre	12.4
Roadway-Local	lane mile	28.7
Roadway-Regional	lane mile	1.1
Summary of Land Uses		
Residential Units		2,941
Non-Residential Square Footage		1,258,000
Park and Open Space Acreage		41.5
Total Lane Miles		29.9

Note: Does not include space that would be occupied by governm
this space would not be subject to property tax.
Source: Economic and Planning Systems, Inc.

The County of El Dorado population and employment data used in this study is based on the "Population and Employment Forecast El Dorado County General Plan Update," (November 1993) prepared for El Dorado County by Economic & Planning Systems, Inc. Some revenues and expenses are impacted by both residents and employees. A daytime population methodology which accounts for both residents and employees is used to estimate the impact from some revenues and services which are impacted by both groups. Daytime Population is defined as the population plus half of the employees.

LAND USE ASSUMPTIONS

Figure 5 presents the land use assumptions used in the fiscal study for each of the different land use categories. The residential valuations were provided by the Project proponent(s) and represent the average valuation for each residential land use category. The persons per dwelling unit assumption is from the "Population and Employment Forecast." The non-residential valuations are based on the "Fiscal and Financial Feasibility Analysis of Draft General Plan – 2015." The floor area ratios (F.A.R.) and square feet per employee assumptions for non-residential development are also from this document.

PROJECTED ABSORPTION

Figure 6 shows the projected annual and cumulative absorption for the project. It is anticipated that the development of the Carson Creek Specific Plan Area will begin in Fiscal Year ending 1996 and extend through Fiscal Year 2012. The projected absorption schedule was provided by the project proponent(s) and EPS. However, market forces may result in a different absorption pattern than shown. The absorption pace will not significantly change any fiscal impacts following buildout.

Figure 7 shows the projected number of residents and employees projected for the Carson Creek Specific Plan Area. At buildout, it is projected that the area will have approximately population of 7,800 residents and 3,950 employees. The estimate of 7,800 residents is based on 2.8 persons per household and a 5% vacancy rate (effectively 2.7 persons per household).

Figure 5
Land Use Assumptions
Proposed Project
Carson Creek Fiscal Impact Analysis

Land Use	Descriptive Units	Assessed Value	Residential Turnover Rate Assumption	Persons per DU (1)	Employees per unit	
High Density-$200K	unit	$200,000	5.0%	2.8	NA	
High Density-$170K	unit	$170,000	5.0%	2.8	NA	
High Density-$150K	unit	$151,119	5.0%	2.8	NA	
High Density-$135K	unit	$135,000	5.0%	2.8	NA	
Multi-Family	unit	$65,000	0.0%	2.8	NA	
Retail	sqft	$100	0.0%	NA	400	sqft/employee
Service/Commercial	sqft	$80	0.0%	NA	400	sqft/employee
Office	sqft	$120	0.0%	NA	250	sqft/employee
Industrial	sqft	$65	0.0%	NA	725	sqft/employee
Parks	acre	$0	0.0%	NA	0	
Open Space	acre	$0	0.0%	NA	0	
Roadway-Local	lane mile	$0	0.0%	NA	0	
Roadway-Regional	lane mile	$0	0.0%	NA	0	

(1) See Table 1 for population estimates by analysis years.

Source: Economic and Planning Systems, Inc.

Figure 6
Carson Creek
Estimated Absorption Schedule

	Total	2000	2005	2012
Residential Units				
Residential Units	2,941	1,098	1,356	487
Cumulative Residential		1,098	2,454	2,941
Non-Residential Sq. Ft.				
Retail	80,000	25,000	25,000	30,000
Service/Commercial	218,000	21,800	87,200	109,000
Office	720,000	144,000	288,000	288,000
Industrial	240,000	0	72,000	168,000
Total Annual Non-Res.	1,258,000	190,800	472,200	595,000
Cumulative Non.Res				
Retail		25,000	50,000	80,000
Service/Commercial		21,800	109,000	218,000
Office		144,000	432,000	720,000
Industrial		0	72,000	240,000
Total Cumulative Non-Res.		190,800	663,000	1,258,000

Figure 7
Demographic Projections
Proposed Project-Year 2012
Carson Creek Fiscal Impact Analysis

Item/Land Use	Incremental Projected Demographics at Year 2012
Population (1)	
High Density-$200K	652
High Density-$170K	833
High Density-$150K	3,139
High Density-$135K	1,732
Multi-Family	1,468
Total New Population	7,823
Employment (2)	
Retail	200
Service/Commercial	545
Office	2,880
Industrial	331
Total New Employment	3,956

(1) See Table 2 for assumptions; includes 5% vacancy rate.
(2) See Table 2 for demographic assumptions.
(3) See Table 1. Government jobs are not assumed to occupy private non-residential space.
These employees would however, generate costs and and revenues to the County.
Source: Economic and Planning Systems, Inc.

III. REVENUE IMPACTS

REVENUE ESTIMATES

EL DORADO COUNTY

The County of El Dorado's Fiscal Year 1993-1994 Budget estimates the total General Fund revenues at approximately $99 million as shown in **Figure 8**. The largest source of discretionary revenue to the County General Fund is property tax. Motor Vehicle In-Lieu fees and sales taxes are the second and third largest discretionary revenues, respectively.

The County's revenues affected by the development of the Carson Creek Specific Plan Area include the property tax, sales and use tax, property transfer tax, licenses and other permits, and fines and forfeitures. Each of these revenue sources has been estimated as described in this chapter. Each revenue is estimated based on current State legislation and current County resolution or ordinance. Future changes by either State legislation or the County can affect the revenues estimated in this study.

Other revenues generated by departmental user fees, State and Federal program funding sources, and service charges are subtracted from specific departmental costs in estimating the net cost impacts and are, therefore, excluded from the revenue impacts discussed in this chapter.

The estimating procedure for each revenue source is presented in **Figure 8**. Property taxes and sales taxes were projected using the marginal revenue approach. All other revenues were estimated either on a per capita (hotel occupancy tax, franchises, State Motor in Lieu, County Road revenues), or per daytime population (Licenses and Other permits, Fines and Forfeitures) basis. Per daytime population is defined as resident population plus 50% of employees.

Figure 8 also presents the annual revenue estimate for each of the revenue sources for the proposed development in the Carson Creek Specific Plan Area at buildout. The County of El Dorado is projected to receive $1,979,800 in constant fiscal year 1993-1994 dollars, including General Fund and County Road Fund revenues.

Property taxes and sales taxes are the two largest revenue sources to the County from development in the Specific Plan Area, with property tax accounting for over 46% of total revenues and sales tax accounting for over 20% of total revenues at buildout. Motor vehicle in-lieu fees are the next largest revenue source accounting for over 18% of total revenues at buildout.

Figure 8
General Fund Annual Revenues (constant $1994)
Proposed Project-Year 2012
Carson Creek Fiscal Impact Analysis

ITEM	Total Adopted 1993-1994 Revenues	Percent of Total Revenue	Revenue Estimating Procedure	Budget Multipliers (1)	Projected Incremental Revenues at Year 2012	Percent of New Total General Fund Revenues
EL DORADO COUNTY GENERAL FUND						
Taxes:						
Property Tax	$21,602,958	21.8%	(see Figure 10- case study)		$769,059	46.7%
Sales & use Tax	4,121,455	4.2%	(see Figure 12- case study)		332,194	20.2%
Transportation Tax	392,994	0.4%	Not Forecasted	(2)		
Property Transfer Tax	554,978	0.6%	(see Figure 11- case study)		51,298	3.1%
Hotel/Motel Occupancy Tax	545,252	0.6%	1993/94 County Per Capita	$3.82	29,857	1.8%
Licenses & Other Permits	931,536	0.9%	10 yr. Avg. Co./Daytime Pop. (3)	$7.37	72,241	4.4%
Planning/Bldg. Permits (4)	1,527,764	1.5%	Offsets Costs			
Franchises	385,000	0.4%	7 yr. Avg. Uninc. Per Capita	$2.12	16,620	1.0%
Fines and Forfeitures	1,241,791	1.3%	10 yr. Avg. Co./Daytime Pop. (3)	$7.22	70,808	4.3%
Use of Money	609,312	0.6%	Not Evaluated			
Inter-Govermental Aid:						
Vehicle In-lieu Fees	5,251,089	5.3%	10 yr. Avg. Co. Per Capita	$39.12	306,056	18.6%
ERAF Realignment Rev.	4,130,602		Not Evaluated			
State Aid	28,984,060	29.3%	Offsets Costs			
Federal & Other Aid	15,142,689	15.3%	Offsets Costs			
Charges for Services	7,463,498	7.5%	Offsets Costs			
Misc. Revenues	4,198,566	4.2%	Offsets Costs			
Other Financing Sources	1,840,777	1.9%	Not Evaluated			
TOTAL GENERAL FUND	$98,924,321	100.0%			$1,648,133	100.0%

(1) Based on historic budget trends for fiscal years 1985/86 to 1993/94.
(2) TDA revenues are not available for discretionary purposes of the General Road Fund.
(3) Daytime population equals total population plus half of total employment.
(4) Includes construction, zoning, and environmental permit revenues.

Sources: County of El Dorado; Economic and Planning Systems, Inc.

Figure 8
Other Funds Annual Revenues (constant $1994)
Proposed Project-Year 2012
Carson Creek Fiscal Impact Analysis

ITEM	Adopted 1993/94 Discretionary Revenues	Estimating Procedure	Multiplier Based on Budget	Projected Revenues at Year 2012
OTHER FUNDS/DISTRICTS				
El Dorado Hills Fire Departme	NA	(see Figure 10- case study)		$738,990
ROAD MAINTENANCE				
County Road Fund	$1,108,400	(see Figure 10- case study)		$101,856
Roads Fund				
Franchise-Public Utility	432,600	Per Capita	$3.08	$24,107
Gas Tax Revenues	3,765,658	10 yr avg. Co. per capita	$26.30	$205,746
Total - Road Revenues (2)	$5,306,658			$331,710
El Dorado Hills CSD (1)	NA	(see Figure 10- case study)		$288,221

(1) Includes property tax revenue only.
(2) Currently franchise and gas tax revenues are used to fund road maintenance.
These revenues are both forecast, and applied to road maintenance costs. Any surplus revenues are assumed to be available to fund roadway capital improvements and are estimated in the Financial Burden Analysis.

Sources: County of El Dorado; Economic and Planning Systems, Inc.

PROPERTY TAX

The property taxes generated by the Carson Creek Specific Plan Area will contribute to many agencies, including the County's General Fund, the County Road Fund, the El Dorado Hills Fire Department, and the El Dorado Hills Community Services District. With the proposed project development schedule, the assessed valuation for Carson Creek at buildout in fiscal year 2012 is projected to be approximately $505 million in constant 1994 dollars as shown in **Figure 9**. This estimate assumes the property valuations shown in **Figure 5** and that the effects of Proposition 13 would reduce the total assessed value by 5%.

The estimate of property taxes received by the affected jurisdictions from development of the Plan Area is derived from the assessed value of the project and each agency's property tax allocation share of the 1% base property tax.

Figure 10 shows the estimated Tax Allocation Factors (TAFs) for the County General Fund, the County Road Fund, the El Dorado Hills Fire Department, the El Dorado Hills Community Services District, and the State and other agencies. The actual allocation factor for each agency will ultimately be determined based on the results of the negotiations between the affected agencies. The tax allocation factors used in this analysis are estimates only based on other Tax Rate Areas (TRAs) with similar structures. The results of this analysis may vary significantly depending on the actual tax allocation factors assigned to each agency. This analysis also assumes the current ERAF deductions will continue until buildout of the Project area. The results of the analysis would also be affected by any changes in the State budget process.

EL DORADO COUNTY

General Fund

Figure 10 shows the estimated property tax revenues projected for the Carson Creek Specific Plan Area at buildout in the year 2012. Based on an estimated tax allocation factor of 15.2%, the Project would generate approximately $770,000 in net property taxes for the County General Fund at buildout of the Project area, after accounting for deductions for property tax administration fees and deposit into the Educational Revenue Augmentation Fund (both State mandates).

County Road Fund

The County Road Fund is estimated to receive approximately 2% of the 1% base property tax. Based on this tax allocation factor, the Project area will generate approximately $102,000 in net property taxes for the County Road Fund at buildout of the Specific Plan Area after accounting for ERAF deductions.

Figure 9
New Assessed Valuation (constant $1994)
Proposed Project-Year 2012
Carson Creek Fiscal Impact Analysis

Land Use	Adjustment Factor	Estimated Incremental Assessed Value at Year 2012
High Density-$200K		$49,000,000
High Density-$170K		$53,210,000
High Density-$150K		$178,320,420
High Density-$135K		$87,885,000
Multi-Family		$35,880,000
Retail		$8,000,000
Service/Commercial		$17,440,000
Office		$86,400,000
Industrial		$15,600,000
Parks		$0
Open Space		$0
Roadway-Local		$0
Total Assessed Value		$531,735,420
Prop. 13 Adjusted AV (1)	5.0%	$505,148,649

Note: See Table 2 for per unit values and
Table 3 for project description.
(1) Assumes that the effects of Proposition 13 would reduce AV by 5%.
Source: Economic and Planning Systems, Inc.

Figure 10
Property Tax Revenue (constant $1994)
Proposed Project-Year 2012
Carson Creek Fiscal Impact Analysis

Item	Tax Allocation Factors (1) and Other Factors	Incremental Assessed Value and Property Tax Revenues at Year 2012
Assessed Value (Constant 1992 Dollars)		$505,148,649
Property Tax (@ 1% of Assessed Value)	1.0%	$5,051,486
Allocation of Tax Fund (Constant $'s) (2)		
County General Fund (ERAF Adjusted)	15.2%	$769,059
County Road District	2.0%	$101,856
El Dorado Hills Fire Department	14.6%	$738,990
El Dorado Hills CSD	5.7%	$288,221
State and Other Agencies (3)	62.4%	$3,153,360
Total	100.0%	$5,051,486
--		
Education Revenue Agumentation Fund Loss to Fire Districts (4)	0%	0
Adjusted Fire District Revenues		$738,990

(1) The Carson Creek project is located in three Tax Rate areas. Each area needs tbe annexed one or all of the following: El Dorado Hills CSD, El Dorado Hills Fire Department, and El Dorado Irrigat Irrigation District. The tax allocation represents the weighted average of the three TRAs based on (1) the number of acres in each TRA and 2) the average allocation for each agency from three simialar The allocation factors are only an estimate and may vary from the actual factors negotiated by the va
(2) State Budget Agreement Assumption: Senate Bill 844 reallocates property tax revenue currently received by counties and cities to the Education Revenue Augmentation Fund, based on certain formulas The combined impact of the shift has reduced the County TAF from a weighted average of 21% to 15% of property tax revenues.
(3) Includes Latrobe Elem, Buckeye Union, and El Dorado Hills UHS Districts, County School Services, and Los Rio Community College.
(4) The El Dorado Hills Fire Department did not lose any revenue under AB 844.
Sources: El Dorado County Administor's Office; State of California; Economic and Planning Systems, Inc.

El Dorado Fire Department

The El Dorado Fire Department is estimated to receive approximately $739,000 in net property taxes based on an estimated tax allocation factor of 14.6%.

El Dorado Community Services District

The El Dorado Community Services District is estimated to have a tax allocation factor of 5.7%. Based on this TAF, the El Dorado CSD would receive approximately $288,200 in net property taxes.

REAL PROPERTY TRANSFER TAX

Figure 11 shows the projected real property transfer taxes to the County of El Dorado from the proposed development. El Dorado County receives a real property transfer tax of $1.10 per $1,000 of transferred value levied on the sale of real property located in El Dorado County. All residential dwelling units are assumed to turnover once every 20 years on average. Multi-family units and non-residential property are not assumed to turn over during the analysis period.

SALES TAX

Carson Creek's taxable sales that generate sales tax revenues to the County of El Dorado could be derived from three main sources: sales in the County to residents of the Carson Creek Specific Plan Area and employees working within the Plan Area; additional sales from purchasers not located in the County of El Dorado; and businesses that increase the percent capture of taxable sales purchase from El Dorado County residents that currently leak out to other jurisdictions. However, because the Carson Creek project only contains convenience commercial (retail serving local residents) and is not situated to capture sales from areas outside of the County, no additional sales are anticipated to come from non-El Dorado County residents or businesses or by capturing a higher percent of taxable sales that currently leak out to other jurisdictions.

Figure 12 projects the estimated sales tax revenue to be collected by the County of El Dorado from the Carson Creek Specific Plan Area. After buildout, it is estimated that the Carson Creek project will generate approximately $332,200 additional sales tax revenues annually to the County of El Dorado based on the County sales tax rate of 1.05% of taxable sales.

The only anticipated source of net new sales tax revenue to the County from the Project is from the purchases made in the County by residents of the Carson Creek Specific Plan Area and employees working in the Plan Area. In order to estimate these sales tax revenues, the purchasing power of the proposed new households for retail expenditures was estimated based on projected household incomes and spending patterns of average households as shown by the U.S. Department of Labor, Bureau of

Figure 11
Real Property Transfer Tax (constant $1994)
Proposed Project-Year 2012

Item	Assumptions	Incremental Projections to Year 2012
Rate per $1,000 value	$1.10	
Turnover rate	5.0%	
Percent of Transaction in Cash (resold h	95.0%	
Total A.V. from New Single Family Units (1,2)		$368,415,420
A.V. of annual turnover of units		$16,806,664
New Assessed Value from Newly Sold Units		
High Density-$200K		7,000,000
High Density-$170K		7,601,429
High Density-$145-150K		0
High Density-$135K		12,555,000
Multi-Family		5,125,714
New SF Unit A.V. during Year 2012	(3)	$32,282,143
Tax from Sale of New Residential Units		$33,735
Tax from Turnover of Existing Residential Units		$17,563
Real Property Transfer Tax		$51,298

(1) High density units are assumed to be single-family and owner occupied; multi-family units and non-residential property are not assumed to turn over during the analysis period.
(2) Includes units built up to and including the analysis year.
(3) Based on absorption schedule provided by developer.

Figure 12
Sales and Use Tax (constant $1994)
Proposed Project-Year 2012

Item	Assumptions	Incremental Projections to Year 2012
Total Sales Tax Rate (1)	1.05%	
Market Support Method		
Per Household Income-1993 Estimate (3)	$45,766	
Total Expenditures (4)	$40,274	
Taxable Retail Expenditures per HH (4)	$17,157	
Capture Rate	50%	
Average Daily Sales per New Employee	$6.75	
Capture Rate	100%	
Work Days per year	240	
Cumulative New Households		2,941
Cumulative New Employees		3,956
Taxable Sales from New Population		$25,228,788
Taxable Sales to New Employees		$6,408,776
Total Taxable Sales Support		$31,637,564
Total Sales Tax Revenue from Market Support		$332,194
Support as a Percent of Retail Space Sales		198%

(1) Sales tax revenue is calculated based on a 1.05 percent tax rate to account for unallocated taxable sales.
(2) For this analysis, sales tax revenue from space is used; sales tax revenues from new population is shown for comparison purposes and to test the supportability of the new space.
(3) Income is based on 1990 U.S. Census, adjusted for inflation.
(4) Assumes total expenditures are 88% of total income and taxable retail expenditures are 42.6% of expenditures, based on Bureau of Labor Statistics Consumer Spending Survey.

Labor Statistics. The purchasing power for retail expenditures was multiplied by the "capture" rate within the County (i.e. the percent of goods a household in El Dorado County would purchase in the County rather than outside of the County) to derive the net new taxable sales within the County.

The taxable sales to new employees working in the Carson Creek Specific Plan Area was also estimated. It assumes the average employee spends on average $6.75 per work day on taxable goods and services 240 work days per year. The number of work days in a year has been discounted to account for employee days off due to holidays, vacation, and illness.

The actual amount of tax revenue to the County from the Project area may vary due to changes in future legislation. This analysis accounts for recent fiscal changes resulting from the past two year's State legislative process which has involved the shifting of revenues from cities and counties to school districts. However, future legislation may result in further revenue shifts from cities and county's to other entities.

IV. EXPENDITURE IMPACTS

EXPENDITURE ESTIMATE

EL DORADO COUNTY

The County of El Dorado Fiscal Year 1993-94 budget estimates total General Fund expenditures at approximately $46 million as shown in **Figure 13**. The largest cost item to the County is for the Public Protection which accounts for approximately 56% of the County's of the County's net expenditures after deducting offsetting departmental fees, grants, and service charges. The major components of the Public Protection budget are judicial services, sheriff protection services, and detention/probation. General Government services are the next largest cost category at approximately 27.6% of the total net costs, followed by health and sanitation representing 11.4% of the General Fund's net expenses.

The County of El Dorado's annual service costs, which are the operating and maintenance expenditures that recur every year as a result of providing services, affected by development of the Carson Creek Specific Plan Area include the cost of providing services such as sheriff protection, general government services, and health and sanitation services.

The procedure used to estimate expenditures for each of the affected County departments is presented in **Figure 13**. Costs were estimated using an average cost approach. A net cost of providing services for each County department was provided by the County's "Fiscal and Financial Feasibility Analysis of Draft General Plan – 2015" report.

Generally, the net costs provided in the report were calculated by taking the appropriate budgeted amount and subtracting off all departmental user fees, service charges, and State and Federal funds which can be charged to a specific department. A cost multiplier was derived for each County expenditure by taking the net cost for each department and dividing it by the relevant service category the cost is impacted by to obtain a per unit average expenditure level.

Existing County services were determined to be impacted either on a per capita basis or per daytime population basis (defined as population plus 50% of employees). A per daytime population measure is used to take into account that although businesses (and their employees) have a fiscal impact on many County services, it is, in general, lower than residential development's impact. In addition, some employees working in El Dorado County will be El Dorado County residents. Per daytime population was used to calculate the average cost for services such as public protection and general government. A per capita basis was used to measure the average unit costs for health

Figure 13
General Fund Expenditures for Services (constant $1994)
Proposed Project-Year 2012
Carson Creek Fiscal Impact Analysis

Fund/Department	1993-1994 Adopted Net County Costs	Percent of Total Net Costs	Expenditure Estimating Procedure Description	Net County Cost Multiplier	Projected Incremental Expenditures at Year 2012	Percent of Total Costs
El Dorado General Fund Programs						
General Government	$12,755,355	27.6%	75% 10-yr Avg. Uninc. CO per daytime P	$72.24	$708,033	26.0%
Public Protection						
Judicial	4,585,537	9.9%	5-yr. Avg. CO Per Daytime Pop.	$32.40	$317,546	11.6%
Sheriff Protection	7,850,544	17.0%	(see Note 5- case study)		$706,441	25.9%
Detention/Probation	12,116,204	26.2%	4-yr. Avg. CO Per Daytime Pop.	$49.87	488,819	17.9%
Inspection, Fish/Game and Other Functions	1,285,113	2.8%	10-yr. Avg. Uninc. CO Per Daytime Pop	$1.69	$16,531	0.6%
Health & Sanitation	5,275,871	11.4%	1993/94 County Per Capita	$36.93	$288,897	10.6%
Public Assistance	1,490,097	3.2%	10-yr. Avg. County Per Capita	$18.68	$146,168	5.4%
Education	913,135	2.0%	10-yr. Avg. County Per Capita	$6.97	$54,497	2.0%
Recreation & Cultural	0	0.0%	Not Evaluated			0.0%
Total General Fund	$46,271,856	100.0%			$2,726,932	100.0%

(1) General Government cost is based on Unincorporated daytime population.
General Government is assumed to cost 75% of the ten year historic per daytime population net cost, which assumes some economies of scale in providing these services.
Per daytime population equals total population and 50% of employment (see note 1).

Sources: County of El Dorado; Economic and Planning Systems, Inc.

Figure 13
Other Funds Expenditures for Services (constant $1994)
Proposed Project-Year 2012
Carson Creek Fiscal Impact Analysis

Fund/Department	1993-1994 Budgeted Costs	Estimating Procedure	Projected Incremental Expenditures at Year 2012
Other Funds/Districts			

El Dorado Hills Fire Departme	(1)	(see Figure 14- case study)	$469,560
County Road Fund (DOT)			
DOT Adm. Costs	$1,971,422		
Road Maintenance (2)	$8,482,251		
Capital Costs	$6,911,546	See Burden Model - Not Evaluated Here	
Total Road Fund	$17,365,219		
Future Local Maint. Costs		(see Note 7- case study)	$133,225
Future Regional Maint. Costs		(see Note 7- case study)	$5,192
			$138,417
El Dorado Hills CSD	(3)	(see Figure 15- case study)	$576,357

(1) Total costs are based on the El Dorado Hills Fire Department.
(2) This cost estimate includes $1.3 million of unfunded costs, which would enable the County to sustain a continual contract overlay program.
Road Fund costs equal total costs and not net county costs because all Road Fund revenues are forecasted.
Capital road costs are analyzed in the Financial Burden Analysis.
(3) Projected costs are for park and open space maintenance based on average levels of service for the El Dorado Hills Community Services District.

Sources: County of El Dorado; Economic and Planning Systems, Inc.

and sanitation, public assistance, and education. A case study approach was used to estimate the costs of providing sheriff services to the residents of the Carson Creek Specific Plan Area and the County Road Fund.

Figure 13 also shows the annual expenditure estimates for each of the cost sources based on the projected residents and employees at buildout of the Carson Creek Specific Plan Area. The total annual cost that will be incurred annually by the County of El Dorado general fund is estimated to be approximately $2.7 million in constant 1994 dollars. The cost estimated to be incurred by the County Road Fund is approximately $138,400.

Public protection costs are the largest cost item, accounting for approximately 56% of estimated El Dorado County expenditures at buildout of the Project Area. Public protection includes sheriff protection, judicial, detention/probation, and inspection services. The next largest cost is for General Government services, representing approximately 26% of County expenditures.

EL DORADO FIRE DEPARTMENT

A case study approach was utilized to estimate the costs that will be incurred annually to provide fire services to the Carson Creek Specific Plan Area. Although the Carson Creek Specific Plan Area will initially be served by an existing fire station, the Fire Department has determined that a new station will be needed South of Highway 50 once a substantial amount of development has occurred in that area. The Fire Department has therefore included a new station to serve the Carson Creek Specific Plan Area, the proposed Valley View Specific Plan, and the El Dorado Hills Business Park in its ten-year Master Plan.

This analysis assumes that the cost of operating the new station should be shared by the three project areas - the Carson Creek Specific Plan Area, the Valley View Specific Plan Area, and the El Dorado Hills Business Park. **Figure 14** summarizes the development plans for these project areas.

The Carson Creek Specific Plan Area is estimated to have a buildout of 2,941 residential units and 1.3 million non-residential square feet. The land use plan proposed for the Valley View Specific Plan Area consists of 4,100 residential units and an estimated 435,600 sq. ft. The El Dorado Hills Business Park currently has plans to build approximately 1,000,000 square feet of non-residential development. The Business Park can actually accommodate as many as 10,000,000 square feet of non-residential development depending on the type of development; however, the Fire Department anticipates that a fourth fire station would be necessary to support this level of development. The remaining 9,000,000 sq. ft. are therefore not included in this analysis.

Figure 14
Fire Services
Proposed Project - Year 2012

	Units		Sq. Ft. Per Fire DUE	Fire DUE
Carson Creek				
Residential	2,941	Units	n/a	2,941
Non-Residential	1,258,000	Sq. Ft.	1,800	699
Subtotal Carson Creek Fire DUEs				3,640
Valley View				
Residential	4,100	Units	n/a	4,100
Non-Residential	435,600	Sq. Ft.	1,800	242
Subtotal Valley View Fire DUEs				4,342
El Dorado Hills Business Park	1,000,000	Sq. Ft.	1,800	556
TOTAL FIRE DUES				8,537
Estimated Operating Cost for 1 Station (1) (assumes current level of service)				$1,100,000
OPERATING COST PER FIRE DUE				$129

(1) The El Dorado Hills Fire Department currently operates two stations on a total budget of $2.2 million. This analysis assumes that the operating budget for one station would be half that amount. The stations operate 24-hrs per day with full paid staff.

(2) Includes all overhead, maintenance, and equipment replacement and support staff per firefighter.

Figure 14
Fire Services (constant $1994)
Proposed Project-Year 2012

Item		Assumptions	Incremental Projections to Year 2012
Operating Cost Per Unit	(1)	$129	
Carson Creek Fire DUEs		3,640	
Estimated Annual Fire Services Costs			$469,560

(1) See Note 4A. Based on information provided by the El Dorado Hills Fire Department.

Sources: El Dorado Hills Fire Department; Economic and Planning Systems, Inc.

The fire department estimates Fire Dwelling Unit Equivalents (DUEs) by assuming one DUE per residential unit and one DUE per 1,800 square feet of non-residential development. Based on this formula, the analysis estimates the following fire DUES for each project:

Project Area	Fire DUEs
Carson Creek Specific Plan Area	3,640
Valley View Specific Plan Area	4,340
El Dorado Business Park	550
Total Fire DUES	**8,540**

The District currently operates two fire stations on a total operating budget of $2.2 million or $1.1 million each. The analysis therefore assumes that the cost of operating the new station would also be $1.1 million based on providing the same level of service. **Figure 14** also shows that, based on an operating budget of $1.1 million and 8,540 fire DUEs, the analysis estimates an operating cost of $129 per Fire DUE.

Assuming a cost of $129 per DUE and an estimate of 3,640 in the Carson Creek Specific Plan Area, **Figure 14A** shows that the total annual operating costs incurred by the Fire Department to provide services to the Specific Plan Area is estimated to be approximately $469,600.

EL DORADO COMMUNITY SERVICES DISTRICT

The El Dorado Community Services District will provide park and recreation services to the Carson Creek Specific Plan Area upon approval of annexation of the Project area to the CSD. **Figure 15** shows that the CSD will incur annual costs of approximately $576,400 to provide park and recreation services in the Plan Area.

This total cost amount assumes a park maintenance cost of $7,778 per acre and a park acreage requirement of 5 acres per one thousand population per the current CSD standard. The annual costs also assume an open space requirement of 1.5 acres per 1,000 population based on the County General Plan requirement. The CSD estimates the cost of maintaining open space to be approximately $180 per acre. The park costs also include a cost per unit for administration ($94.40), planning ($13.60), and recreation ($26.00), with an offsetting franchise fee revenue of $15.66 per unit. Cost and revenue estimates were provided by the El Dorado Hills CSD.

Figure 15
El Dorado Hills CSD - Park Maintenance (constant $1994)
Proposed Project-Year 2012

Item	Assumptions	Incremental Projections to Year 2012
Park Maintenance Costs		
Park Maintenance Cost/acre (1)	$7,788	
Park Acreage Required based on GP Standards		
Cumulative Population	7,823	
Local Parks per 1,000 pop. (ac)	5.0	29.0
Total Park Maintenance Costs		$226,067
New Open Space and Buffer		
General Plan Standard per 1,000 populati	1.5	
Cumulative New Population	7,823	
Required Open Space and Buffer		12.4
Open Space Maintenance Costs per Acre	$181	
Total Open Space Maintenance Costs		$2,252
Other Budget Items (3)	Per Unit	
Administration	$94.40	$277,630
Planning	$13.60	$39,998
Recreation (Net of User Fees)	$26.00	$76,466
Franchise Fees (revenue offset)	($15.66)	($46,056)
Estimated New Park Maintenance Costs (With Franchise Fee Revenue Offset)		$576,357

(1) Assumes a five year average of level of maintenance service per the El Dorado Hills CSD.
(3) Estimated from the El Dorado Hills Specific Plan Area Open Space Management Plan, February 1993.
(3) Budget multipliers from the El Dorado Hills CSD 10-Year Fiscal Impact Analysis.

APPENDIX A

Figure A-1

Table 1
General Assumptions and Existing Conditions
Proposed Project
Carson Creek Fiscal Impact Analysis

General	Item	Existing Conditions	Item	Source
Years of Analysis		Housing - 1993		
	2000	Dwelling Units	65,939	DOF, 1993
	2005	Households	51,458	DOF, 1993
	2012	Road Miles (center line)	1,040	El Dorado County DOT
		Population - 1994:		
First Year of Development	1996	Countywide Population	140,385	EPS Population and Employment Forecast (1993)
Inflation Rate	3.0%	Unincorporated Population	107,503	EPS Population and Employment Forecast (1993)
		Employment - 1994: (3)		
		Countywide Employment	39,345	EPS Population and Employment Forecast (1993)
		Unincorporated Employment	19,979	EPS Population and Employment Forecast (1993)

(1) From: "Population and Employment Forecast-El Dorado County General Plan Update" Final Report, by Economic and Planning Systems, Inc. (November 1993).

Sources: Department of Finance; California Economic Development Department; Economic and Planning Systems, Inc.

Figure A-2

Summary of Demographics
Proposed Project--All Years
Carson Creek Fiscal Impact Analysis

Alternative and Year of Analysis	Population	Employment
Proposed Project		
Year 2000	2,921	693
Year 2005	6,528	2,225
Year 2012	7,823	3,956

Source: Economic and Planning Systems, Inc.

Figure A-3
Daytime Population Calculations
Proposed Project-Year 2012

Item	Assumptions	Incremental Projections to Year 2012
Existing Countywide Population	140,385	
Existing Countywide Population	39,345	
Existing Countywide Population (1)	160,057	
Existing Unincorporated Population	107,503	
Existing Countywide Employment	39,345	
Existing Uninc. Countywide Daytime Pop.	127,176	
TOTAL NEW POPULATION		
New Cumulative Population		7,823
New Cumulative Employment		3,956
New Cumulative Daytime Population (1)		9,801

(1) Daytime population equals total population and one-half of employment.

Figure A-4

Sheriff Services (constant $1994)
Proposed Project-Year 2012

Item	Assumptions	Incremental Projections to Year 2012
Current County Sheriffs	142	
Current County Uninc. County Daytime Pop	127,176	
Current Sheriffs per 1000 Daytime Pop.	1.12	
Service Standards		
Personnel per 1,000 daytime pop	1.12	
Patrol Cars per Officer (Total 94)	0.66	
Total Police Protection Net Costs	$7,850,544	
Estimated Cost per Sworn Officer (1)	$55,286	
Annual Vehicle Replacement Cost (avg)	$14,000	
New Daytime Population		9,801
Costs for Existing Service Levels		
New Personnel	1.12	10.9
New Patrol & Unmarked Cars		7.2
Personnel Expenditures		$605,021
New Vehicle Costs		$101,421
Total Police Expenditures		$706,441

(1) Based on current net county costs, including overhead and administrative costs.

Figure A-5

Road Maintenance Costs (constant $1994)
Proposed Project-Year 2012

Item	Assumptions	Incremental Projections to Year 2012
Street Maintenance Expenditures (1)		
Existing Maintained Lane Miles	2,085	
DOT Administrative Costs (1)	$1,971,422	
Road Maintenance Budget (2)	$8,482,251	
Administration Cost per Lane Mile	$567	
Average Cost per Street Lane mile	$4,068	
Total Cost per Lane Mile (2)	$4,636	
Cumulative New Local Lane Miles		29
Cumulative New Regional Lane Miles		1
Local Roads Maintenance Costs		$133,225
Regional Roads Maintenance Costs		$5,192
New Road Maintenance Costs		$138,417

(1) Assumed to be funded with County Road District and Road Fund revenues.
About 60% of DOT adiministrative costs are related to maintenance activities.
This percentage is forecased for new incremental development.
(2) This figure is an average of the cost per lane mile, including administration costs and $1.3 million of unfunded maintenance costs.

Sources: El Dorado County Department of Transportation; Economic & Planning Systems, Inc.

APPENDIX B

Figure B-1
Carson Creek Specific Plan
Summary of Tax Allocation
After ERAF Adjustment

Agency	Percentage Allocation
County General Fund	15.2%
County Road District	2.0%
El Dorado Hills Fire Department	14.6%
El Dorado Hills CSD	5.7%
State and Other Agencies (Schools)	62.4%
Total Tax Allocation	**100.0%**

Appendix B-2
Carson Creek Fiscal Plan
El Dorado County
Estimated Tax Allocation for Carson Creek TRAs
Based on TRAs with Same Agency Structure
(After ERAF)

	Tax Rate Allocation		
Agency	Weighted Average	ERAF Adjustment	Adjusted Allocation
Share of Total Acreage			
Total Property Taxes			
County General Fund	21.18%	-28.10%	15.22%
County Road District	2.17%	-6.97%	2.02%
Accumlated Capital Outlay	0.45%	-24.61%	0.34%
El Dorado Hills Fire Department	14.63%	0.00%	14.63%
County Water Agency	0.72%	-9.42%	0.65%
El Dorado Irrigation District	4.87%	0.00%	4.87%
El Dorado Hills Community Services District	7.32%	-22.04%	5.71%
County Service Area #7	1.45%	-25.22%	1.08%
Subtotal	**52.79%**		**44.52%**
State and Other Agencies (Schools)	47.21%	17.50%	55.48%
TOTAL TAX ALLOCATION	**100.00%**		**100.00%**

Appendix B-3
Carson Creek Fiscal Plan
El Dorado County
Estimated Tax Allocation for Carson Creek TRAs
Based on TRAs with Same Agency Structure
(Prior to ERAF Adjustment)

Agency	Weighted Average	Carson Creek TRAS 076-018	076-001	054-000
Share of Total Acreage		*22.30%*	*77.14%*	*0.56%*
Total Property Taxes				
County General Fund	21.18%	0.25	0.20	0.20
County Road District	2.17%	0.03	0.02	0.02
Accumlated Capital Outlay	0.45%	0.01	0.00	0.00
El Dorado Hills Fire Department	14.63%	0.17	0.14	0.14
County Water Agency	0.72%	0.01	0.01	0.01
El Dorado Irrigation District	4.87%	0.06	0.05	0.05
El Dorado Hills Community Services District	7.32%	0.09	0.07	0.07
County Service Area #7	1.45%	0.02	0.01	0.01
Subtotal	**52.79%**	**0.62**	**0.50**	**0.49**
State and Other Agencies (Schools)	47.21%	0.38	0.50	0.51
TOTAL TAX ALLOCATION	**100.00%**	**1.00**	**1.00**	**1.00**

Appendix B-4
Carson Creek Fiscal Plan
El Dorado County
Original and Revised Allocations for Carson Creek TRAs

(Prior To ERAF Adjustment)

Original Allocation	Avg. % of Total from Existing TRAs	Carson Creek Original AB 8 Allocation Excluding Schools			Carson Creek TRA Revised Allocation			
		076-018	076-001	054-000	076-018	076-001	054-000	Weighted Average
Percent of Total Acreage					*22.30%*	*77.14%*	*0.56%*	100.00%
	A	B	C	D	E	F	G	H (Weighted Avg.
Total Property Taxes:					E = B * A	F = C * A	G = B * A	E, F, & G)
County General Fund	40.1%	29.11%	40.99%	40.49%	25.00%	20.08%	19.83%	21.18%
County Road District	4.1%	2.95%	4.11%	4.06%	2.56%	2.06%	2.03%	2.17%
Accumlated Capital Outlay	0.9%	0.61%	0.85%	0.84%	0.54%	0.43%	0.42%	0.45%
El Dorado Hills Fire Department	27.7%	20.16%			17.27%	13.87%	13.70%	14.63%
County Water Agency	1.4%	0.96%	1.34%	1.33%	0.85%	0.68%	0.67%	0.72%
El Dorado Irrigation District	9.2%	6.55%			5.75%	4.62%	4.56%	4.87%
El Dorado Hills Community Services District	13.9%	0.00%	0.00%	0.00%	8.64%	6.94%	6.86%	7.32%
County Service Area #7	2.7%	1.98%	2.76%	2.73%	1.71%	1.38%	1.36%	1.45%
Subtotal	**100.0%**	**62.32%**	**50.05%**	**49.44%**	**62.32%**	**50.05%**	**49.44%**	**52.79%**
State and Other Agencies (Schools)		37.68%	49.95%	50.56%	37.68%	49.95%	50.56%	47.21%
TOTAL TAX ALLOCATION		**100.00%**	**100.00%**	**100.00%**	**100.00%**	**100.00%**	**100.00%**	**100.00%**

Appendix B-5
Carson Creek Fiscal Plan
El Dorado County
Allocations for TRAs with Same Affected Jurisdictions

Agencies	Other 'Existing TRAs 100-006	054-105	054 -123	Average	Percent of Subtotal
				(excluding State and Other Agencies)	
Total Property Taxes:					
County General Fund	25.16%	26.75%	26.75%	26.22%	40.12%
County Road District	2.68%	2.68%	2.68%	2.68%	4.11%
Accumlated Capital Outlay	0.58%	0.55%	0.55%	0.56%	0.86%
El Dorado Hills Fire Department	17.60%	18.37%	18.37%	18.11%	27.71%
County Water Agency	0.91%	0.88%	0.88%	0.89%	1.36%
El Dorado Irrigation District	6.15%	5.97%	5.97%	6.03%	9.23%
El Dorado Hills Community Services District	8.00%	9.59%	9.59%	9.06%	13.86%
County Service Area #7	1.79%	1.80%	1.80%	1.80%	2.75%
Subtotal	**62.87%**	**66.60%**	**66.60%**	**65.36%**	**100.00%**
State and Other Agencies (Schools)	37.13%	33.40%	33.40%		
TOTAL TAX ALLOCATION	**100.00%**	**100.00%**	**100.00%**		