DRAFT

ENVIRONMENTAL IMPACT REPORT

EDENVALE REDEVELOPMENT PROJECT

VOLUME II: TECHNICAL APPENDICES

Prepared by the

CITY OF SAN JOSE

March 2000

APPENDIX A

AREA DEVELOPMENT POLICY

DRAFT
EDENVALE AREA DEVELOPMENT POLICY

Purpose

The City of San Jose is proposing to adopt an Area Development Policy for the Edenvale Redevelopment Area under the provisions of General Plan Level of Service Policy #5. The primary reason for adopting an Area Development Policy at this time is to manage the traffic congestion associated with near term development in the Edenvale Redevelopment Area, promote General Plan goals for economic development and encourage a reverse commute to jobs at southerly locations in San Jose. This Area Development Policy will allow ongoing industrial development in the Redevelopment Area by:

ensuring the construction of major gateway infrastructure facilities through a cooperation agreement between the City and the Redevelopment Agency;
allocating the development potential created by the proposed infrastructure improvements and connecting these allocations to milestone activities;
relaxing the requirement that mitigation necessary to meet the City's Level of Service Policy is constructed within one year of development.

It is acknowledged that interim congestion at intersections in the area will exceed LOS D, but that ultimately conditions on the transportation system will be returned to a level that is better than or equivalent to background conditions.

Applicability of this Policy

This Area Development Policy addresses only development anticipated in that portion of the Edenvale Redevelopment Area that is located east of U.S. 101 (New Edenvale). For the purposes of this discussion, New Edenvale is divided into three subareas, which are illustrated on Figure A. The total amount of development anticipated to occur in the near term (through 2009) and for which sufficient infrastructure has been identified is approximately 4.8 million square feet of industrial floor space. This includes a maximum floor area ratio (FAR) of 0.35 for Area 1, 0.40 for Area 3, and 0.40 for Area 4.

An infrastructure improvement plan has been formulated, based on specific levels of development on all of the properties in New Edenvale considered ready for development at this time. The 4.8 million square feet also includes provision for a small pool of transferable FAR that would be reserved to provide some flexibility for existing users or secured tenants. A secured tenant is defined as a business entity or individual that has signed a lease for building space.

Required Infrastructure

Three major regional transportation projects are necessary to improve access into New Edenvale. The Redevelopment Agency will fund the Silicon Valley Boulevard Bridge over Coyote Creek and improvements at the interchanges at U.S. 101/Hellyer Avenue and at U.S. 101/Blossom Hill/Silver Creek Valley Roads. An extension of Hellyer Avenue and related improvements in Area 3 will be financed by an improvement district formed by the property owners in Area 3.

Local improvements to the street system, as listed on the attachment, will be required to accommodate traffic from buildout of the 4.8 million square feet. Those improvements have been allocated to Areas 1, 3 and 4 according to the amount of development they are required to serve and their importance to the overall LOS in the area. The entire local improvement mitigation package must be constructed by private developers concurrent with the development of the first 2.2 million square feet of development.

Schedule for Implementation

This Policy is predicated on specific assumptions about what infrastructure is required to support the anticipated level of development, and how and when the infrastructure will be constructed. Based on consultation by City and Redevelopment Agency staff with property owners in the area, there are also certain assumptions about the amount and timing of development which will occur in New Edenvale. A preliminary schedule indicates that up to 2.2 million square feet of industrial development could occur through the year 2003, which is the earliest anticipated completion date for constructing all of the relevant transportation improvements.

This schedule would result in gradually increasing localized congestion, particularly on Blossom Hill Road, through the end of 2003. With the completion of all of the regional infrastructure, conditions on Blossom Hill Road would improve. Complete buildout of the 4.8 million square feet of development in New Edenvale will cause subsequent deterioration to a level of congestion similar to background conditions.

The improvements that would be necessary to support this level of development include infrastructure funded by the City and/or its Redevelopment Agency, local improvements paid for by private developers, and area improvements financed through improvement districts. While some of the improvements will be conditions of approval of specific developments and therefore must proceed with the developments themselves, major infrastructure components would be publicly financed and could be delayed through a number of causes. Building permits will only be issued for the cumulative amount of development indicated when specific actions are taken by public agencies, as shown:

Allowed Development (million square feet)	Required Action
0.0 to 0.8	City Council approval of this policy and the Redevelopment Agency's formal commitment to fund the Silicon Valley Boulevard Bridge and interchange improvements at Route 101/Hellyer Avenue and Route 101/Blossom Hill/Silver Creek Valley Road
0.8 to 1.2	Award of a construction contract for the Silicon Valley Boulevard Bridge (Phase II)
1.2 to 1.6	Completion of the PR/PSR process for the interchange improvements at Route 101/Hellyer Avenue and Route 101/Blossom Hill/Silver Creek Valley Road
1.6 to 2.4	Substantial completion of the Hellyer Avenue extension from Silver Creek Valley Road to Silicon Valley Boulevard
2.4 to 4.8	Substantial completion of both construction contracts for interchange improvements at Route 101. This is inclusive of any pool allocations
More than 4.8	With the completion of a new area-wide traffic study that analyzes intensification and full build out and the construction of all related gateway infrastructure, additional building permits may be issued to the extent that additional traffic capacity is created.

Conclusion

At a point in time when interest is high for development in the Edenvale Redevelopment Area, implementation of this Area Development Policy would allow development to occur in a reasonably expeditious fashion and at appropriate levels of intensity, while managing associated traffic congestion.

EDENVALE IMPROVEMENT SCHEDULE

Local / Minor Improvements -- Developer Conditioned

Funding Source	Improvement	
	Location	Description
Electroglas	Silver Creek & Piercy	Install signal Add an exclusive NB left turn lane
Electroglas	Silver Creek & Fontanoso	Install signal Construct south leg
Electroglas	Cottle & Route 85 (S)	Add third EB left
Candescent	Hellyer & Branham	Install signal
Improvement District	Hellyer & Silver Creek	Extend existing EB left Add second EB left Construct SB right as free right w/receiving lane
Improvement District	Hellyer & Silicon Valley	Install signal Add SB left, through, free right Add two EB lefts Add NB through Add WB left, WB right
Improvement District	Silver Creek & Fontanoso	Add third EB through lane Add third WB through lane
Improvement District	Monterey & Blossom Hill (S)	Add third NB through lane
Improvement District	Cottle & Route 85 (N)	Widen the West side of Cottle Rd. from Beswick to Route 85 to accommodate a second right turn lane. Widen the on-ramp for a receiving lane to meter (Exact design to be approved by Caltrans.)
Improvement District	Route 101 & Silicon Valley	Install signal Add EB left turn pocket
Area 4	Silicon Valley & Eden Park	Install signal Extend existing EB left turn
Area 4	Silicon Valley & Rue Ferrari	Extend existing EB left turn
Improvement District	Route 85 & Bernal	Extend existing SB left Extend existing SB left-through-right Extend existing WB left
Improvement District	Hellyer & Piercy	Install signal
Improvement District	Cottle & Poughkeepsie	Extend existing NB left Add second NB left

EDENVALE IMPROVEMENT SCHEDULE

Local / Minor Improvements – Funded by Future Development

Funding Source	Improvement	
	Location	Description
Area 1	Silver Creek & Fontanoso	Add SB free right lane Provide a receiving lane on WB Silver Creek Extend existing EB left Add a second EB left Add a second NB lane on Fontanoso to receive vehicles from second EB left
Area 1	Hellyer & Fontanoso	Install signal
Area 2	Blossom Hill & Poughkeepsie	Add WB double left on Blossom Hill at Poughkeepsie Add receiving lanes on Poughkeepsie Add EB right from Blossom Hill to Poughkeepsie and eliminate direct right from Beswick to Poughkeepsie
Area 2	Monterey & Bernal (N)	Extend existing SB left Add second SB left w/receiving lane Add second EB receiving lane to EB ramp to Extend existing WB pocket to Bernal
Area 2	Route 101 & Silicon Valley	Add shared NB left-thru-right
Area 2	Great Oaks & Route 85 (N)	Install signal Extend existing NB left
Area 2	Great Oaks & Route 85 (S)	Install signal Convert existing EB separate right to free right Restripe SB Great Oaks for only one through Close off median on Great Oaks at Las Colinas
Area 2	San Ignacio & Via Del Oro	Install signal
Area 2	San Ignacio & Great Oaks	Extend existing EB left Add second EB left of and restripe WB Extend existing SB left Add second SB left
Area 2	San Ignacio & Bernal	Extend existing SB lefts
Area 2	Via Del Oro & Bernal	Extend existing SB left Add second SB left Widen NB lane into median
Area 2	Via Del Oro & Great Oaks	Install signal Restripe each approach lane of Via Del Oro
Area 2	Monterey Road & Monterey Circle	Install signal
Area 2	Bernal Road & Realm Drive	Install signal

APPENDIX B

TRAFFIC REPORT

Edenvale Draft EIR

Final Traffic Analysis

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Executive Summary

This report presents the results of the traffic impact analysis conducted for the Edenvale Industrial Area in San Jose, California. The Edenvale Industrial Area currently has approximately 451 acres of land available for development as research and development (R&D) use. Based on an allowable floor area ratio (FAR) ranging between 0.35 and 0.40 for new development, the total new building area would be 7.88 million square feet (s.f.).

The potential impacts of the development were evaluated in accordance with the standards set forth by the City of San Jose and the Congestion Management Program (CMP) of Santa Clara County. The study included an analysis of AM and PM peak-hour traffic conditions for 25 existing signalized intersections, 17 currently unsignalized intersections, and seven freeway segments.

This report is also intended to address the need for Transportation Impact Analysis (TIA) required by the CMP.

Project Roadway and Intersection Improvements

The future roadway network under project conditions would consist of numerous roadway and intersection improvements designed to provide the additional traffic capacity needed to support buildout of 7.88 million s.f.of new development in the Edenvale Industrial Area. These include improvements to the US 101 interchange at Blossom Hill Road/Silver Creek Valley Road, to the US 101 interchange at Hellyer Avenue, to Silicon Valley Boulevard, and improvements to 23 local intersections including installation of 13 new traffic signals.

Project Trip Generation

The magnitude of traffic generated by the projected new development in the Edenvale Industrial Area was estimated by applying to the size of the development the applicable trip generation rates. On the basis of the trip generation rates determined by the City of San Jose, it is estimated that the project would generate 61,120 daily trips, with 9,779 trips occurring during the AM peak hour and 8,557 occurring

during the PM peak hour. The trip distribution patterns for the project were estimated based on the TRANPLAN traffic model and a zip code survey of existing Edenvale employees.

Project Impacts

City of San Jose Intersection Impacts

The results of the intersection level of service analysis show that, with the proposed improvements, none of the signalized study intersections would be impacted by the project according to City of San Jose level of service standards (see Table ES 1).

CMP Intersection Impacts

The results of the intersection level of service analysis for CMP intersections show that, with the proposed improvements, none of the CMP study intersections would be impacted by the project according to county CMP level of service impact criteria for signalized intersections (see Table ES 1). However, one CMP intersection – US 101 and Silver Creek Valley Road – is predicted to operate at LOS F under background and project conditions. Since the intersection currently operates at LOS D, a degradation to LOS F would be a violation of the CMP LOS standard. If and when such a degradation occurs in the field, a deficiency plan will need to be prepared. The potential still exists to build the Branham Lane overcrossing at US 101, which could alleviate congestion on Blossom Hill/Silver Creek Valley Road.

Freeway Impacts

The results of the CMP freeway level of service analysis show that one of the freeway segments analyzed would be impacted by the project according to county CMP level of service standards for freeways (see Table ES 2). The project would have a significant impact on the following freeway segment:

US 101 southbound from SR 85 to Coyote Creek Golf Drive

Neighborhood Impacts

Based on traffic counts at the Hellyer/101 interchange, the existing volume on Hellyer Avenue through the park is about 850 vehicles in each of the peak hours, or about 8,500 vehicles per day. This volume is already well above the limit of a typical residential street or residential collector. Thus, Hellyer Avenue is carrying the volume of an arterial under existing conditions.

The Edenvale industrial development project would add about 200 vehicles to Hellyer Avenue in each of the two peak hours, or about 2,000 vehicles per day. This volume would be noticeable to residents living on Hellyer Avenue.

Transit Impacts

The project will create demand for local and regional bus service that would not be fulfilled by existing bus service. The project will create demand for commuter rail service that would not be fulfilled by the existing transit system.

Table ES-1

Intersection Level of Service Summary

	Peak Hour	Count Date	Existing Avg. Delay	Existing LOS	Background Avg. Delay	Background LOS	Project Avg. Delay	Project LOS	Project Inc. in Crit. Delay	Project Inc. in Crit. V/C
Hellyer Ave. and Sliver Creek Valley Rd./a/	AM	3/23/99	11.6	B	49.7	E	38.3	D	-18.0	0.046
	PM	3/23/99	7.2	B	17.3	C	25.3	D	10.5	0.196
SR 85 and Bernal Road/a/*	AM	9/9/98	14.3	B	15.7	C	26.8	D	15.1	0.341
	PM	9/9/98	24.9	C	16.2	C	36.8	D	32.1	0.370
Cottle Road and SR 85 (N)*	AM	9/9/98	9.9	B	9.8	B	10.0	B	-2.5	-0.058
	PM	9/8/98	12.3	B	46.7	E	13.7	B	-56.8	-0.453
Cottle Road and SR 85 (S)/a/*	AM	9/8/98	20.7	C	20.5	C	22.1	C	1.5	0.131
	PM	9/8/98	23.5	C	25.0	D	23.9	C	-1.9	-0.015
US 101 and Bernal Road*	AM	9/10/98	10.9	B	12.9	B	27.7	D	28.8	0.141
	PM	9/10/98	8.3	B	7.5	B	8.4	B	1.7	0.169
US 101 and Silver Creek Valley Rd. /a/*	AM	10/28/97	34.0	D	144.8	F	97.4	F	-119.9	-0.154
	PM	11/17/98	27.9	D	126.9	F	123.8	F	-15.6	-0.012
US 101 and Blossom Hill Road (W)*	AM	9/10/98	17.7	C	17.1	C	27.3	D	11.7	0.097
	PM	9/10/98	14.1	B	13.6	B	16.4	C	2.2	0.152
Monterey Road and Bernal Road (E)*	AM	9/29/98	12.1	B	11.1	B	10.9	B	-0.2	0.275
	PM	9/29/98	13.8	B	13.2	B	15.2	C	2.0	0.279
Monterey Road and Bernal Road (N)*	AM	9/29/98	20.7	C	22.2	C	27.7	D	22.0	0.203
	PM	9/29/98	21.6	C	29.9	D	39.2	D	13.7	0.086
Monterey Road and Bernal Road (S)*	AM	9/29/98	5.6	B	5.3	B	6.2	B	1.8	0.084
	PM	9/29/98	3.2	A	3.1	A	3.2	A	0.0	0.005
Santa Teresa Boulevard and Bernal Road*	AM	7/13/99	21.8	C	24.5	C	27.0	D	8.2	0.046
	PM	9/29/98	27.4	D	25.8	D	36.6	D	18.8	0.193
Monterey Road and Blossom Hill Road (N)*	AM	9/29/98	4.6	A	5.1	B	5.8	B	0.9	0.097
	PM	9/29/98	11.5	B	11.6	B	12.6	B	1.7	0.091
Monterey Road and Blossom Hill Road (S)*	AM	9/29/98	21.7	C	45.3	E	23.6	C	-35.1	-0.162
	PM	9/29/98	18.7	C	28.3	D	19.3	C	-15.2	-0.161
Cottle Road and Santa Teresa Boulevard*	AM	9/29/98	28.9	D	28.2	D	28.8	D	0.7	0.120
	PM	9/29/98	27.9	D	31.7	D	35.5	D	4.8	0.120
San Ignacio Avenue and Bernal Road	AM	5/25/99	21.9	C	16.2	C	24.3	C	29.4	0.301
	PM	5/25/99	24.3	C	25.5	D	39.7	D	20.9	0.332
Beswick Drive and Blossom Hill Road	AM	5/25/99	14.1	B	13.9	B	14.4	B	0.6	0.084
	PM	5/25/99	15.5	C	14.3	B	15.3	C	2.1	0.176
Cottle Road and Beswick Drive/a/	AM	3/2/99	12.9	B	14.9	B	15.2	C	-1.0	-0.011
	PM	6/19/98	20.5	C	19.4	C	21.4	C	3.9	0.216
Poughkeepsie Rd. and Blossom Hill Rd.	AM	12/17/98	6.9	B	8.6	B	22.5	C	15.0	0.375
	PM	7/20/99	9.7	B	9.9	B	17.7	C	9.3	0.305
Cottle Road and Concord Drive/a/	AM	7/21/99	17.8	C	16.5	C	17.3	C	1.1	0.022
	PM	7/21/99	27.6	D	23.5	C	27.5	D	4.0	0.131
Cottle Road and Poughkeepsie Road	AM	7/20/99	15.5	C	15.2	C	19.2	C	4.8	0.272
	PM	7/20/99	24.4	C	24.1	C	25.0	D	2.6	0.095
Great Oaks Blvd. and San Ignacio Ave.	AM	5/12/99	18.9	C	19.7	C	33.3	D	17.4	0.442
	PM	5/12/99	24.1	C	25.2	D	23.6	C	-0.2	0.007
Santa Teresa Blvd. and Great Oaks Blvd.	AM	3/2/99	16.1	C	10.8	B	11.4	B	1.4	0.068
	PM	4/6/99	11.6	B	10.8	B	11.3	B	0.8	0.046
Santa Teresa Blvd. and San Ignacio Ave.	AM	3/2/99	22.9	C	15.3	C	16.7	C	15.6	0.262
	PM	4/29/99	13.6	B	10.9	B	20.7	C	14.5	0.291

Table ES-1

Intersection Level of Service Summary

			Existing		Background		Project			
	Peak Hour	Count Date	Avg. Delay	LOS	Avg. Delay	LOS	Avg. Delay	LOS	Inc. in Crit. Delay	Inc. in Crit. V/C
Santa Teresa Blvd. and Martinvale Ln.	AM	4/14/99	14.6	B	8.1	B	10.2	B	0.2	0.036
	PM	4/14/99	9.7	B	6.6	B	7.6	B	0.4	0.032
Via Del Oro and Bernal Road	AM	4/27/99	14.4	B	13.7	B	19.6	C	17.4	0.048
	PM	4/27/99	20.9	C	15.9	C	27.1	D	13.7	0.356
US 101 and Hellyer Avenue (W)	AM	2/10/98	–	–	–	–	18.3	C	–	–
	PM	2/10/98	–	–	–	–	12.9	B	–	–
US 101 and Hellyer Avenue (E)	AM	2/10/98	–	–	–	–	20.5	C	–	–
	PM	2/10/98	–	–	–	–	31.1	D	–	–
Hellyer Ave. and Branham Ln.	AM	3/11/97	–	–	–	–	12.3	B	–	–
	PM	3/11/98	–	–	–	–	16.0	C	–	–
Hellyer Ave. and Fontanoso Wy.	AM	3/13/97	–	–	–	–	14.5	B	–	–
	PM	3/13/97	–	–	–	–	11.3	B	–	–
Fontanoso Way and Silver Creek Valley Rd.	AM	3/30/99	–	–	–	–	17.2	C	–	–
	PM	3/30/99	–	–	–	–	16.7	C	–	–
Piercy Road and Silver Creek Valley Road	AM	3/23/99	–	–	–	–	10.6	B	–	–
	PM	3/23/99	–	–	–	–	13.5	B	–	–
NB 101 and Silicon Valley Blvd.	AM	3/24/99	–	–	–	–	19.3	C	–	–
	PM	3/24/99	–	–	–	–	7.7	B	–	–
Eden Park Place and Silicon Valley Blvd.	AM	3/25/99	–	–	–	–	25.0	D	–	–
	PM	3/25/99	–	–	–	–	22.8	C	–	–
Basking Ridge and Silicon Valley Blvd.	AM	3/31/99	–	–	–	–	39.8	D	–	–
	PM	3/31/99	–	–	–	–	20.7	C	–	–
Great Oaks Blvd. and SR 85 (N)	AM	12/9/97	–	–	–	–	4.2	A	–	–
	PM	12/9/97	–	–	–	–	36.2	D	–	–
Great Oaks Blvd. and SR 85 (S)	AM	12/9/97	–	–	–	–	9.9	B	–	–
	PM	12/9/97	–	–	–	–	2.7	A	–	–
Encinal Dr. and Santa Teresa Blvd.	AM	6/16/99	–	–	–	–	9.6	B	–	–
	PM	6/17/99	–	–	–	–	10.5	B	–	–
Realm Dr. and Bernal Rd.	AM	6/17/99	–	–	–	–	12.5	B	–	–
	PM	6/17/99	–	–	–	–	16.0	C	–	–
Monterey Road and Monterey Circle	AM	6/16/99	–	–	–	–	38.0	D	–	–
	PM	6/22/99	–	–	–	–	9.8	B	–	–
San Ignacio Av. and Via Del Oro	AM	5/11/99	–	–	–	–	29.8	D	–	–
	PM	5/11/99	–	–	–	–	26.4	D	–	–
Great Oaks Blvd. and Via Del Oro	AM	5/13/99	–	–	–	–	30.9	D	–	–
	PM	5/13/99	–	–	–	–	38.2	D	–	–
Hellyer Extension and Piercy Road	AM	–	–	–	–	–	19.6	C	–	–
	PM	–	–	–	–	–	18.6	C	–	–

/a/ Background and project conditions include planned improvements.
Shading indicates significant impact
* Denotes CMP intersection

Table ES-2
Freeway Segment Levels of Service - Project Conditions

				Existing Plus Project Trips											Project Trips				
				Mixed-Flow Lanes					HOV Lane Traffic Volume							Mixed-Flow		HOV Lane	
Freeway	Segment	Direction	Peak Hour	Ave. Speed/a/	# of Lanes	Volume/a/	Density	LOS	Ave. Speed/a/	# of Lanes	Volume/a/	Density	LOS	Total Volume	Volume	% Capacity	Volume	% Capacity
US 101	Yerba Buena to Hellyer	SB	AM	65	3	5,074	26.0	D	65	1	315	4.9	A	1629	1,534	22.2%	95	5.3%
			PM	60	3	5,038	28.0	D	65	1	228	3.5	A	176	168	2.4%	8	0.4%
US 101	Hellyer to Blossom Hill	SB	AM	65	3	4,105	21.1	C	65	1	192	2.9	A	1157	1,105	16.0%	52	2.9%
			PM	60	3	5,683	31.6	D	65	1	363	5.6	A	216	203	2.9%	13	0.7%
US 101	BlossomHill to Bernal	SB	AM	65	3	2,746	14.1	B	65	1	189	2.9	A	915	856	12.4%	59	3.3%
			PM	65	3	3,894	20.0	C	65	1	292	4.5	A	456	424	6.1%	32	1.8%
US 101	SR 85 to Coyote Crk. Golf Dr	SB	AM	60	2	2,834	23.6	C	N/A	N/A	N/A	N/A	N/A	294	294	8.7%	N/A	N/A
			PM	20	2	5,426	135.7	F	N/A	N/A	N/A	N/A	N/A	1186	1,186	27.0%	N/A	N/A
SR 85	SR 87 to Blossom Hill	SB	AM	60	2	4,662	38.8	D	65	1	787	12.1	B	1919	1,642	37.3%	277	15.4%
			PM	50	2	4,594	45.9	D	65	1	583	9.0	A	207	184	4.2%	23	1.3%
SR 85	Blossom Hill to Cottle	SB	AM	60	2	4,861	40.5	D	65	1	318	4.9	A	1919	1,801	40.9%	118	6.5%
			PM	60	2	2,966	24.7	D	65	1	531	8.2	A	207	176	4.0%	31	1.7%
SR 85	Cottle to Bernal	SB	AM	65	2	3,167	24.4	D	65	1	191	2.9	A	1428	1,347	30.6%	81	4.5%
			PM	65	2	2,437	18.7	C	65	1	351	5.4	A	168	147	3.3%	21	1.2%
SR 85	Bernal to Cottle	NB	AM	60	2	3,461	28.8	D	65	1	593	9.1	A	364	311	7.1%	53	3.0%
			PM	65	2	3,233	24.9	D	65	1	469	7.2	A	1412	1,233	28.0%	179	9.9%
SR 85	Cottle to Blossom Hill	NB	AM	60	2	3,420	28.5	D	65	1	711	10.9	B	471	390	8.9%	81	4.5%
			PM	60	2	4,899	40.8	D	65	1	611	9.4	A	1900	1,689	38.4%	211	11.7%
SR 85	Blossom Hill to SR 87	NB	AM	55	2	4,243	38.6	D	65	1	849	13.1	B	471	393	8.9%	78	4.4%
			PM	60	2	5,322	44.3	D	65	1	228	3.5	A	1900	1,822	41.4%	78	4.3%
US 101	Coyote Crk. Golf Dr. to SR 85	NB	AM	55	2	5,188	47.2	E	N/A	N/A	N/A	N/A	N/A	1198	1,198	27.2%	N/A	N/A
			PM	65	2	2,489	19.1	C	N/A	N/A	N/A	N/A	N/A	129	129	2.9%	N/A	N/A
US 101	Bernal to Blossom Hill	NB	AM	65	3	2,953	15.1	B	65	1	480	7.4	A	573	493	7.1%	80	4.5%
			PM	65	3	4,448	22.8	C	65	1	49	0.8	A	857	848	12.3%	9	0.5%
US 101	Blossom Hill to Hellyer	NB	AM	60	3	5,427	30.2	D	65	1	789	12.1	B	386	337	4.9%	49	2.7%
			PM	60	3	5,378	29.9	D	65	1	228	3.5	A	1186	1,138	16.5%	48	2.7%
US 101	Hellyer to Yerba Buena	NB	AM	60	3	5,980	33.2	D	65	1	310	4.8	A	400	380	5.5%	20	1.1%
			PM	60	3	5,488	30.5	D	65	1	195	3.0	A	1613	1,558	22.6%	55	3.1%

/a/ Source: Santa Clara Valley Transportation Authority Congestion Management Program Monitoring Study, 1998.
Note: Shading indicates significant impact.

1. Introduction

This report presents the results of the traffic impact analysis conducted for the Edenvale Industrial Area in San Jose, California. The Edenvale Industrial Area currently has approximately 451 acres of land available for development as research and development (R&D) use. Based on an allowable floor area ratio (FAR) ranging from 0.35 to 0.40 for new development, the total new building area would be 7.88 million square feet (s.f.).

This transportation analysis encompasses all of the Edenvale Industrial Area. There would therefore be no need to do additional studies unless safety issues or traffic operational issues arise.

The Edenvale Industrial Area, though evaluated as a whole, has been delineated into four separate subareas (see Figure 1). Historically, Areas 1, 3 and 4 have been known as *New* Edenvale, and Area 2 has been known as *Old* Edenvale. Area 1 comprises 101 developable acres and is bounded on the west by Coyote Creek, on the north and east by the foothills east of Hellyer Avenue, and on the south by Silver Creek Valley Road. Area 2 includes 177 developable acres and is bounded by Cottle Road on the west, Monterey Road on the north, Bernal Road on the east, and Santa Teresa Boulevard on the south. Area 3 consists of 163 developable acres bordered by Coyote Creek on the west, Silver Creek Valley Road on the north, Piercy Road on the east, and Silicon Valley Boulevard on the south. Area 4 includes 10 developable acres and is bounded on the west by US 101, on the north and east by Coyote Creek, and on the south by Silicon Valley Boulevard.

The potential impacts of the development were evaluated in accordance with the standards set forth by the City of San Jose and the Congestion Management Program (CMP) of Santa Clara County. The study included an analysis of AM and PM peak-hour traffic conditions for 25 signalized intersections (including 13 CMP intersections), 17 currently unsignalized intersections, and seven freeway segments.

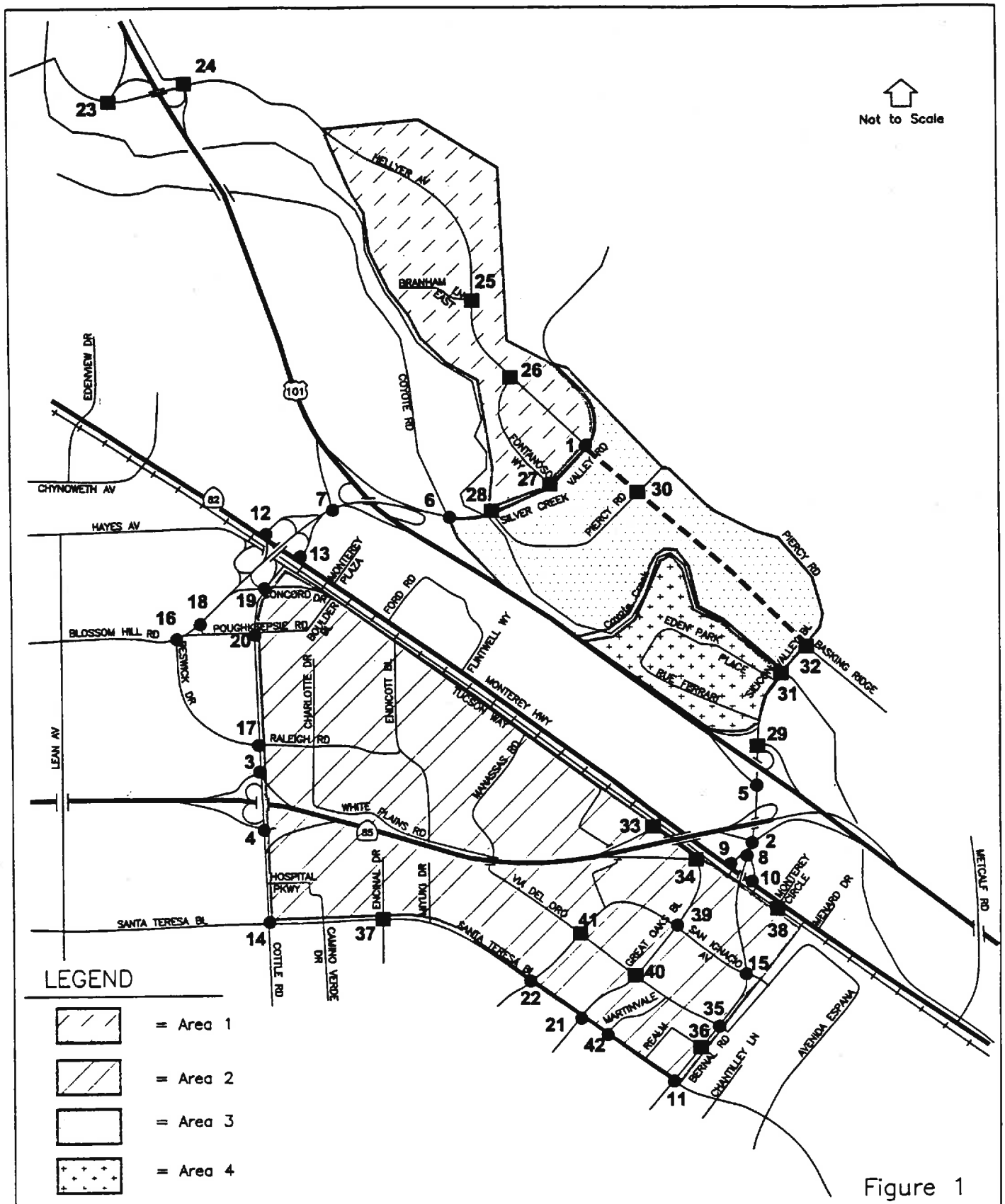


Figure 1

STUDY AREA AND STUDY INTERSECTIONS

Edenvale EIR

Scope of Study

This study was conducted for the purpose of identifying the potential traffic impacts related to the development of the Edenvale Industrial Area. The impacts of the project were evaluated following the standards and methodologies set forth by the City of San Jose and the Santa Clara Valley Transportation Authority (VTA). The VTA administers the county Congestion Management Program (CMP). The traffic analysis is based on peak-hour levels of service for signalized intersections and freeway segments. The study also includes a peak-hour vehicle queuing analysis to determine the adequacy of existing and planned storage capacity at intersections. The study intersections and freeway segments are identified below.

Study Intersections

Hellyer Avenue and Silver Creek Valley Road
SR 85 and Bernal Road*
Cottle Road and SR 85 (N)*
Cottle Road and SR 85 (S)*
US 101 and Bernal Road*
US 101 and Blossom Hill Road (E)*[1]
US 101 and Blossom Hill Road (W)*[1]
Monterey Road and Bernal Road (E)*
Monterey Road and Bernal Road (N)*
Monterey Road and Bernal Road (S)*
Santa Teresa Boulevard and Bernal Road*
Monterey Road and Blossom Hill Road (N)*
Monterey Road and Blossom Hill Road (S)*
Cottle Road and Santa Teresa Boulevard*
San Ignacio Avenue and Bernal Road
Beswick Drive and Blossom Hill Road
Cottle Road and Beswick Drive
Poughkeepsie Road and Blossom Hill Road
Cottle Road and Concord Drive
Cottle Road and Poughkeepsie Road
Great Oaks Boulevard and San Ignacio Avenue
Santa Teresa Boulevard and Great Oaks Boulevard
Santa Teresa Boulevard and San Ignacio Avenue
Via Del Oro and Bernal Road
Santa Teresa Boulevard and Martinvale Lane
US 101 and Hellyer Avenue (W) (currently unsignalized)[1]
US 101 and Hellyer Avenue (E) (currently unsignalized)[1]
Fontanoso Way and Silver Creek Valley Road (currently unsignalized)
Piercy Road and Silver Creek Valley Road (currently unsignalized)
Eden Park Place and Silicon Valley Boulevard (currently unsignalized)
Hellyer/Basking Ridge Avenue and Silicon Valley Boulevard (currently unsignalized)
Hellyer Avenue and Branham Lane (currently unsignalized)
Hellyer Avenue and Fontanoso Way (currently unsignalized)
US 101 and Silicon Valley Boulevard (currently unsignalized)
SR 85 and Great Oaks Boulevard (N) (currently unsignalized)
SR 85 and Great Oaks Boulevard (S) (currently unsignalized)

Santa Teresa Boulevard and Encinal Drive (currently unsignalized)
Bernal Road and Realm Drive (currently unsignalized)
Monterey Road and Monterey Circle (currently unsignalized)
San Ignacio Avenue and Via Del Oro (currently unsignalized)
Great Oaks Boulevard and Via Del Oro (currently unsignalized)
Hellyer Avenue and Piercy Road (future intersection)

CMP intersections are denoted with an asterisk (*)
(1) Area Development Policy gateway intersection.

Study Freeway Segments

US 101, Yerba Buena Road to Hellyer Avenue
US 101, Hellyer Avenue to Blossom Hill Road
US 101, Blossom Hill Road to Bernal Road
US 101, SR 85 to Coyote Creek Golf Drive
SR 85, SR 87 to Blossom Hill Road
SR 85, Blossom Hill Road to Cottle Road
SR 85, Cottle Road to Bernal Road

In summary, the study includes an analysis of 25 existing signalized intersections, 17 currently unsignalized intersections, and seven freeway segments in the vicinity of the project site. The 13 signalized CMP intersections were evaluated against the standards of both the City of San Jose and the County CMP.

Traffic conditions at the intersections and on the freeway segments were analyzed for the weekday AM and PM peak hours of traffic. The AM peak hour of traffic is generally between 7:00 and 9:00 AM, and the PM peak hour is typically between 4:00 and 6:00 PM. It is during these periods that the most congested traffic conditions occur on an average day.

Traffic conditions were evaluated for the following scenarios:

Scenario 1: *Existing Conditions.* Existing traffic volumes were obtained from recent traffic counts.

Scenario 2: *Background Conditions.* Background traffic volumes were estimated by adding to existing peak-hour volumes the projected volumes from approved but not yet completed developments. The latter component is contained in the City of San Jose Approved Trips Inventory (ATI). Also contained in the ATI are trips associated with the development of the Coyote Valley at 36,000 jobs. Background conditions also include the reassignment of existing traffic due to the development of the Coyote Valley area.

Scenario 3: *Project Conditions.* Project conditions include several planned roadway and intersection improvements. Future traffic volumes with the project were estimated by adding to background traffic volumes the additional traffic generated by the project. Project conditions include the aforementioned reassignment of existing traffic due to Coyote Valley, and a reassignment of background traffic due to the development of the Edenvale Industrial Area. Project conditions were evaluated relative to background conditions in order to determine potential project impacts.

Scenario 4: *Area Development Policy.* This scenario corresponds to the maximum development that could occur in Areas 1 and 3 before the gateway improvements (widening Blossom Hill

at US 101 and widening Hellyer at US 101) would be needed. Traffic volumes were estimated by adding to background traffic volumes the additional trips from 2.19 million square feet of development in Areas 1 and 3.

Methodology

This section presents the methods used to determine the traffic conditions for each scenario described above. It includes descriptions of the data requirements, the analysis methodologies, and the applicable level of service standards.

Data Requirements

The data required for the analysis were obtained from new traffic counts, previous traffic studies, the City of San Jose, and the CMP Annual Monitoring Report. The following data were collected from these sources:

- existing traffic volumes
- lane configurations
- signal timing and phasing (for currently signalized intersections only)
- average speed (for freeway segments only)

Analysis Methodologies and Level of Service Standards

Traffic conditions at the study intersections were evaluated using level of service (LOS). *Level of Service* is a qualitative description of operating conditions ranging from LOS A, or free-flow conditions with little or no delay, to LOS F, or jammed conditions with excessive delays. The various analysis methods are described below.

City of San Jose Signalized Intersections

All of the signalized study intersections are located in the City of San Jose and are therefore subject to the City of San Jose Level of Service standards. The City of San Jose level of service methodology is TRAFFIX, which is based on the *Highway Capacity Manual* (HCM) method for signalized intersections. TRAFFIX evaluates signalized intersection operations on the basis of average delay time for all vehicles at the intersection. Since TRAFFIX is also the CMP-designated intersection level of service methodology, the City of San Jose methodology employs the CMP default values for the analysis parameters. The City of San Jose level of service standard for signalized intersections is LOS D or better. The correlation between average delay and level of service is shown in Table 1.

Table 1
Intersection Level of Service Definitions Based on Delay

Level of Service	Description	Average Stopped Delay Per Vehicle (Sec.)
A	Operations with very low delay occurring with favorable progression and/or short cycle lengths.	Less than 5.0
B	Operations with low delay occurring with good progression and/or short cycle lengths.	5.1 to 15.0
C	Operations with average delays resulting from fair progression and/or longer cycle lengths. Individual cycle failures begin to appear.	15.1 to 25.0
D	Operations with longer delays due to a combination of unfavorable progression, long cycle lengths, or high V/C ratios. Many vehicles stop and individual cycle failures are noticeable.	25.1 to 40.0
E	Operations with high delay values indicating poor progression, long cycle lengths, and high V/C ratios. Individual cycle failures are frequent occurrences. This is considered to be the limit of acceptable delay.	40.1 to 60.0
F	Operation with delays unacceptable to most drivers occurring due to oversaturation, poor progression, or very long cycle lengths.	Greater than 60.0

Source: Transportation Research Board, Highway Capacity Manual, Special Report 209 (Washington, D.C., 1985), pp. 9-4, 5.

CMP Intersections

Since TRAFFIX is the designated level of service methodology for both the CMP and the City of San Jose, the CMP study intersections are not analyzed separately, but rather are among the City of San Jose signalized study intersections analyzed using TRAFFIX. The only difference between the San Jose and CMP analyses is that project impacts are determined on the basis of different level of service standards – the CMP level of service standard for signalized intersections is LOS E or better.

Freeway Segments

As prescribed in the CMP technical guidelines, the level of service for freeway segments is estimated based on vehicle density. Density is calculated by the following formula:

$$D = V / (N*S)$$

where:

D= density, in vehicles per mile per lane (vpmpl)
V= peak hour volume, in vehicles per hour (vph)
N= number of travel lanes
S= average travel speed, in miles per hour (mph)

The vehicle density on a segment is correlated to level of service as shown in Table 2. The CMP requires that mixed-flow lanes and auxiliary lanes be analyzed separately from HOV (carpool) lanes. The CMP

Table 2
Freeway Segment Level of Service Definitions Based on Density

Level of Service	Density (vehicles/mile/lane)
A	< 10.0
B	10.1 - 16.0
C	16.1 - 24.0
D	24.1 - 46.0
E	46.1 - 55.0
F	> 55

specifies that a capacity of 2,300 vehicles per hour per lane (vphpl) be used for segments six lanes or wider in both directions and a capacity of 2,200 vphpl be used for segments four lanes wide in both directions. The CMP defines an acceptable level of service for freeway segments as LOS E or better.

Intersection Operations

The operations analysis is based on vehicle queuing for high-demand turning movements at intersections. The basis of the analysis is as follows: (1) the TRAFFIX intersection analysis software is used to estimate the 95th percentile maximum number of queued vehicles per signal cycle for a particular movement; (2) the estimated maximum number of vehicles in the queue is translated into a queue length, assuming 20 feet per vehicle; and (3) the estimated maximum queue length is compared to the existing or planned available storage capacity for the movement. This analysis thus provides a basis for estimating future storage requirements at intersections.

Traffic Forecasting Methods

Most components of future traffic are estimated using some form of forecasting method. Output from the traffic model (TRANPLAN) can be used directly, or the model can be used to establish a macro trip distribution. For this study the model was used for the latter purpose.

TRANPLAN Model

The task of estimating traffic distribution or redistribution due to land use and/or network changes is exactly one of the purposes of a travel demand model. A model can best account for the complex dynamics and interdependency between different land uses and the most efficient, and therefore most probable, utilization of the transportation system. The City of San Jose Traffic Model, which employs the TRANPLAN forecasting software, was used in this study to assist in estimating the macro trip distribution.

Zip Code Survey

One of the best means for establishing a trip distribution is to determine the origins and destinations of similar existing trip-types within the study area. A zip code survey can offer just this kind of information. An employee zip code survey provides a breakdown of where employees live. Hexagon obtained zip code data for several employers in the Edenvale area. These data show the residential zip code for about 1,300 employees who currently work in the Edenvale area. The data were mapped and used to assist in estimating a trip distribution pattern.

The TRANPLAN model and the zip code survey were used together to establish reasonable macro trip distributions for the following traffic components: Coyote Valley approved trips, reassignment of background due to Coyote Valley, reassignment of background due to Edenvale, and Edenvale project trips. These are described further in a subsequent chapter.

Report Organization

The remainder of this report is divided into five chapters. Chapter 2 describes existing conditions in terms of the existing roadway network, transit service, and existing bicycle and pedestrian facilities. Chapter 3 presents the intersection operations under background conditions. Chapter 4 describes the method used to estimate project traffic and its impact on the transportation system and describes the recommended mitigation measures. Chapter 5 describes the traffic conditions that would occur with maximum development of Areas 1, 3, and 4 without the gateway improvements, and Chapter 6 presents the conclusions of the traffic impact analysis.

2.
Existing Conditions

This chapter describes the existing conditions for all of the major transportation facilities in the vicinity of the site, including the roadway network, transit service, and bicycle and pedestrian facilities.

Existing Roadway Network

Regional access to the project area is provided by US 101, State Route 85 (SR 85), and Monterey Road (SR 82). These facilities are described below.

US 101 is an eight-lane freeway (three mixed-flow lanes and one high-occupancy vehicle (HOV) lane in each direction). US 101 extends northward through San Francisco and southward through Morgan Hill. Access to the project area is provided via interchanges at Hellyer Avenue, Blossom Hill Road/Silver Creek Valley Road, and Bernal Road/Silicon Valley Boulevard. US 101 passes directly through the project area.

SR 85 is a predominantly north-south freeway that is oriented in an east-west direction in the vicinity of the project. It extends from Mountain View to south San Jose, terminating at US 101 within Edenvale. SR 85 is a six-lane freeway with four mixed-flow lanes and two HOV lanes. It connects to I-280, SR 17, SR 87, and US 101. SR 85 passes directly through the project area and provides access via interchanges at Cottle Road, Great Oaks Boulevard, and Bernal Road.

Monterey Road (SR 82) is a six-lane major arterial north of Blossom Hill Road and a four-lane major arterial south of Blossom Hill Road. Monterey Road extends from Market Street in downtown San Jose to US 101 south of the city of Gilroy. Monterey Road provides access to the project area via interchanges at Blossom Hill Road and Bernal Road. Between Blossom Hill Road and Bernal Road, Monterey Road forms the eastern boundary of Edenvale Area 2.

Local access to the project areas is provided by Hellyer Avenue, Blossom Hill Road, Silver Creek Valley Road, Cottle Road, Santa Teresa Boulevard, Bernal Road, Silicon Valley Boulevard and Piercy Road.

Hellyer Avenue is a four-lane divided arterial that connects US 101 to Silver Creek Valley Road. Hellyer Avenue is fully constructed north of Silver Creek Valley Road with turn-pockets, landscaped median, and sidewalks. With development of Edenvale Area 3, Hellyer Avenue will be extended southward through Area 3 to connect with Basking Ridge at Silicon Valley Boulevard. A full interchange is provided at Hellyer Avenue and US 101.

Blossom Hill Road/Silver Creek Valley Road. Blossom Hill Road is a divided four-to-six lane east-west arterial that extends from its interchange with US 101 west into Los Gatos. East of US 101 Blossom Hill Road becomes Silver Creek Valley Road. Blossom Hill Road/Silver Creek Valley Road has a full interchange at US 101 that provides access to the project area. Within the project area, Silver Creek Valley Road is four lanes wide with turn pockets, landscaped median, and sidewalks.

Cottle Road is a six-lane north-south arterial that connects Blossom Hill Road to SR 85 and Santa Teresa Boulevard. Cottle Road is provided with a full interchange at SR 85.

Santa Teresa Boulevard is a six-lane east-west arterial that extends from Blossom Hill Road south to the Coyote Valley region of San Jose. Between San Ignacio Avenue and Bernal Road, Santa Teresa Boulevard forms part of the southern boundary of Edenvale Area 2.

Bernal Road/Silicon Valley Boulevard. Bernal Road is a six-lane divided arterial extending from Santa Teresa Boulevard to US 101. To the east of US 101, Bernal Road becomes Silicon Valley Boulevard. Silicon Valley Boulevard is four lanes wide from US 101 to Eden Park Place and continues as a two-lane road across Coyote Creek and connects to Piercy Road via Tennant Avenue. Bernal Road forms the southern boundary of Edenvale Area 2. Silicon Valley Boulevard forms the southern boundary of Edenvale Area 3 and Area 4. Bernal Road has interchanges at both SR 85 and US 101 and Silicon Valley Boulevard has an interchange at US 101.

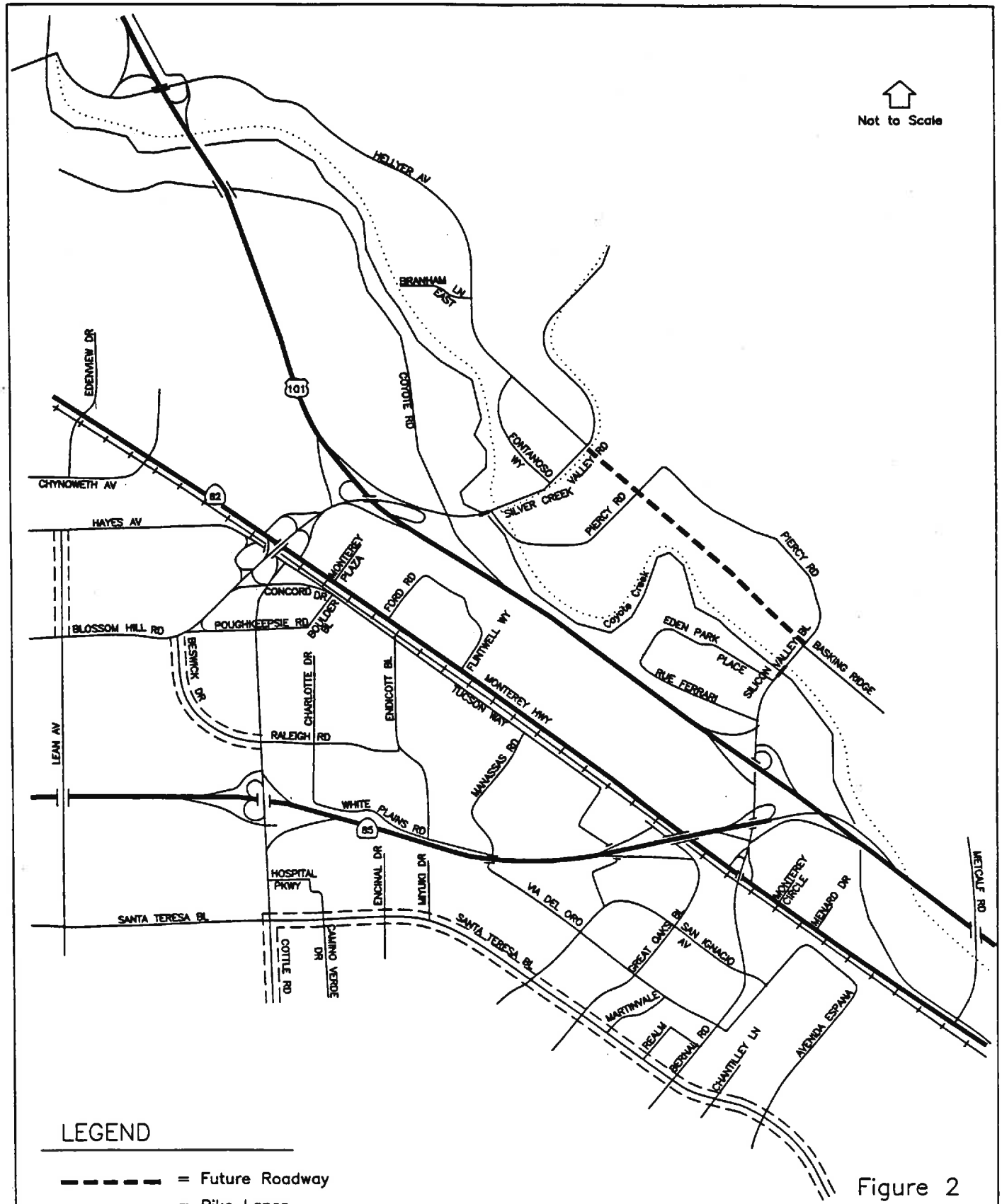
Piercy Road is a two-lane unimproved farm road that begins at Silver Creek Valley Road and meanders eastward, southward, and finally westward where it becomes Tennant Avenue and intersects Basking Ridge Avenue. West of Basking Ridge, the road becomes Silicon Valley Boulevard. Piercy forms a portion of the eastern boundary of Edenvale Area 3.

Existing Bicycle and Pedestrian Facilities

There are a number of county-designated bikeways within the vicinity of the project area. Bike lanes are provided on Cottle Road south of Santa Teresa Boulevard and on Santa Teresa Boulevard from Cottle Road to south of Bernal Road. There also are bike lanes on Beswick Drive between Cottle Road and Blossom Hill Road. These bike lanes are in the vicinity of Edenvale Area 2.

Bike paths are provided along Coyote Creek and along Silver Creek Valley Road east of Coyote Creek in Edenvale Area 1 and Area 4. These bike paths are also be available for use by pedestrians. Bike lockers and bike racks are provided at the Santa Teresa LRT station, the Cottle LRT station, and the Blossom Hill CalTrain station. The existing bicycle facilities within the study area are shown on Figure 2.

Pedestrian facilities in the project area consist primarily of the sidewalks along the streets in most residential and commercial areas, as well as the aforementioned bike/pedestrian paths. Sidewalks are found along virtually all previously-described local roadways in the study area and along the local residential streets and collectors in Edenvale Area 2. The streets in Edenvale Area 1 are already furnished with sidewalks; Edenvale Area 3 has an undeveloped infrastructure and, except for Silver Creek Valley Road



LEGEND

= Future Roadway

= Bike Lanes

= Bike Paths

Figure 2

EXISTING BICYCLE FACILITIES

Edenvale EIR

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and parts of Silicon Valley Boulevard, has no sidewalks.

Existing Transit Service

There is currently no transit service provided to Edenvale Area 1, Area 3 or Area 4. Transit service to Area 2 is provided by the VTA and by CalTrain. Transit service in the project area is shown on Figure 3.

VTA Transit Service

Bus Service

Edenvale Area 2 is served directly by two local buses. The 67 line provides service between the Blossom Hill CalTrain station and the Tamien LRT station via Monterey Road, Bernal Road, and Santa Teresa Boulevard with 30- to 45-minute headways during commute hours. The 68 line provides service between the San Jose Diridon CalTrain station and Gavilan College in Gilroy, via Cottle Road and Santa Teresa Boulevard, with 15-minute headways during commute hours. Both the 67 and the 68 lines access the VTA Park & Ride Lot on Santa Teresa Boulevard adjacent to Edenvale Area 2.

Several other local and express buses serve Edenvale Area 2. The 66 line provides service between the Santa Teresa Hospital and Milpitas, via Santa Teresa Boulevard, with 15-minute headways during the commute periods. The 27 line provides service between Santa Teresa Hospital and West Valley College, via Santa Teresa Boulevard, Cottle Road, and Blossom Hill Road, with 15- to 30-minute headways during commute hours. The 27 line also provides limited service to the IBM facility on Cottle Road.

The super express bus 501 operates on 35- to 40-minute headways during limited commute hours between Palo Alto and the IBM facility on Cottle Road. The express bus 304 provides limited-stop service with 15- to 30-minute headways during commute hours between the Santa Teresa LRT station and the Mountain View CalTrain station. The express bus 102 provides service between the Santa Teresa LRT station and Palo Alto, with 30- to 60-minute headways during commute hours. The express bus 122 provides service between the Santa Teresa LRT station and Lockheed/Moffett Park in Sunnyvale, with 30- to 60-minute headways during commute hours.

Light Rail Transit (LRT) Service

There are two LRT stations located in Edenvale Area 2. The Santa Teresa LRT station is the southern terminus of the Guadalupe Corridor LRT line and is located off of Santa Teresa Boulevard between San Ignacio Avenue and Miyuki Drive. The Santa Teresa LRT station Park & Ride lot is accessible from Santa Teresa Boulevard. Also located within Edenvale Area 2 is the Cottle LRT Station. The Cottle station is located within the median of SR 85 just east of Cottle Road. The Cottle LRT station Park & Ride lot is accessible from Cottle Road. The Guadalupe Corridor LRT provides service on 10-minute headways during commute and midday hours. It provides service between the project area and Great America in Santa Clara, via downtown San Jose.

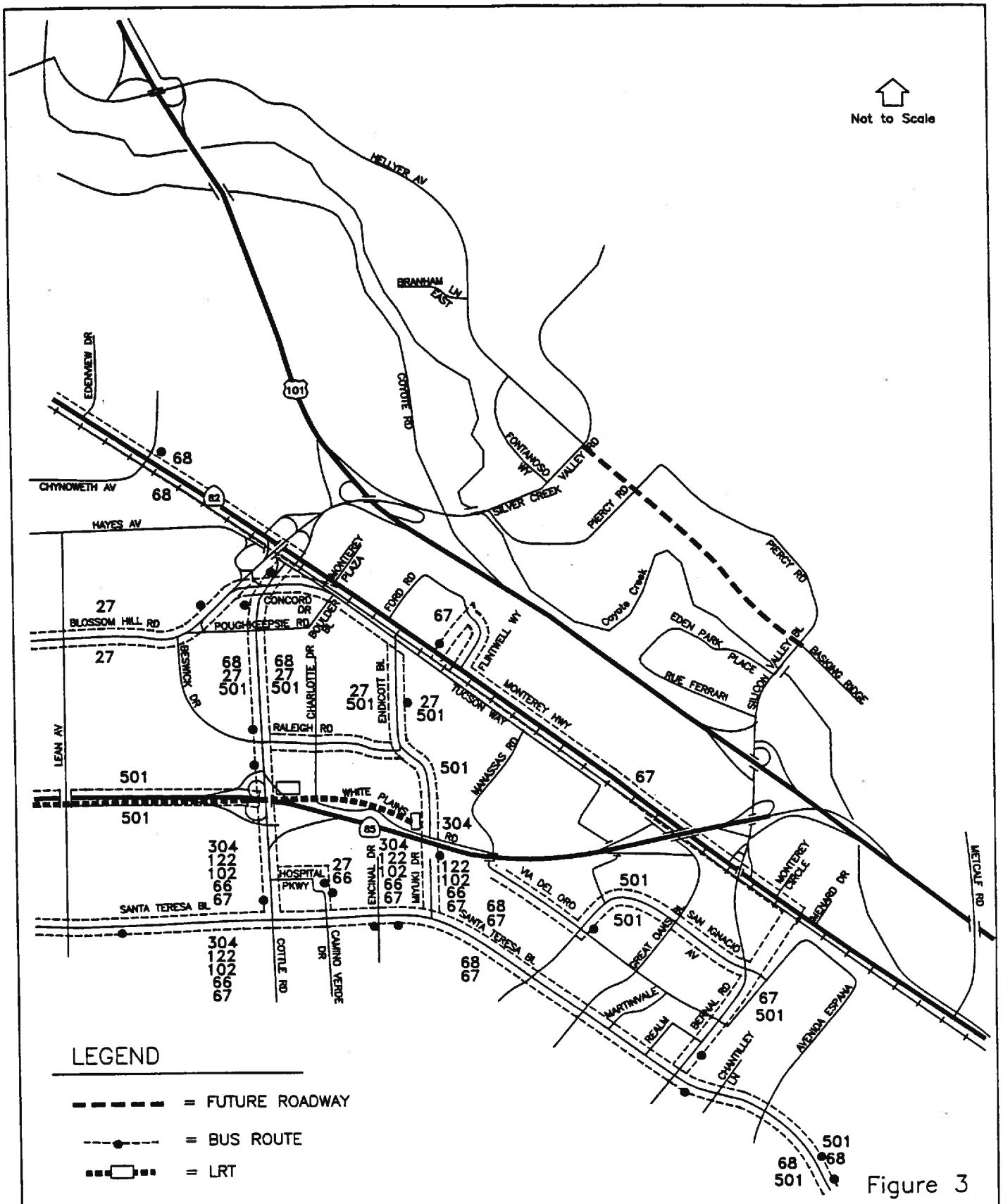

Figure 3

EXISTING TRANSIT SERVICE

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CalTrain

Commuter rail service between San Francisco and Gilroy is provided by CalTrain. There is one CalTrain station located within the study area—the Blossom Hill station—located along Monterey Road south of Blossom Hill Road. The Blossom Hill CalTrain station park-and-ride lot is accessible from Monterey Road in the vicinity of Ford Road. At the Blossom Hill station, CalTrain provides service with approximately 30- to 40-minute headways during commute hours.

Existing Intersection Lane Configurations

The existing lane configurations at the study intersections were provided by city staff and confirmed by observations in the field. The intersection lane geometrics are provided in Appendix D.

Existing Traffic Volumes

Existing peak-hour traffic volumes were obtained from the City of San Jose and supplemented with new manual turning-movement counts at intersections where counts were outdated. For the intersection of US 101 and Silver Creek Valley Road during the AM peak hour the 1997 CMP traffic count is used. This is because it has been determined that the 1998 CMP count is not representative of typical conditions. This determination was made by conducting a new AM peak-hour count in July 1999. The 1999 count was consistent with the 1997 CMP count although the 1997 count was higher. The traffic count data are included in Appendix A and the existing peak-hour intersection volumes are included in Appendix C.

Existing Intersection Levels of Service

City of San Jose Intersection Analysis

The results of the level of service analysis under existing conditions are summarized in Table 3. The results show that all of the signalized study intersections currently operate at an acceptable LOS D or better. The level of service calculation sheets are included in Appendix D.

CMP Intersection Analysis

The level of service results for the CMP intersections under existing conditions are summarized in Table 3. The results show that all of the signalized study intersections currently operate at an acceptable LOS D or better.

Table 3

Existing Intersection Levels of Service

Intersection	Peak Hour	Count Date	Avg. Delay	LOS
Hellyer Ave. and Sliver Creek Valley Rd./a/	AM	3/23/99	11.6	B
	PM	3/23/99	7.2	B
SR 85 and Bernal Road/a/*	AM	9/9/98	14.3	B
	PM	9/9/98	24.9	C
Cottle Road and SR 85 (N)*	AM	9/9/98	9.9	B
	PM	9/8/98	12.3	B
Cottle Road and SR 85 (S)/a/*	AM	9/8/98	20.7	C
	PM	9/8/98	23.5	C
US 101 and Bernal Road*	AM	9/10/98	10.9	B
	PM	9/10/98	8.3	B
US 101 and Silver Creek Valley Rd. /a/*	AM	10/28/97	34.0	D
	PM	11/17/98	27.9	D
US 101 and Blossom Hill Road (W)*	AM	9/10/98	17.7	C
	PM	9/10/98	14.1	B
Monterey Road and Bernal Road (E)*	AM	9/29/98	12.1	B
	PM	9/29/98	13.8	B
Monterey Road and Bernal Road (N)*	AM	9/29/98	20.7	C
	PM	9/29/98	21.6	C
Monterey Road and Bernal Road (S)*	AM	9/29/98	5.6	B
	PM	9/29/98	3.2	A
Santa Teresa Boulevard and Bernal Road*	AM	7/13/99	21.8	C
	PM	9/29/98	27.4	D
Monterey Road and Blossom Hill Road (N)*	AM	9/29/98	4.6	A
	PM	9/29/98	11.5	B
Monterey Road and Blossom Hill Road (S)*	AM	9/29/98	21.7	C
	PM	9/29/98	18.7	C
Cottle Road and Santa Teresa Boulevard*	AM	9/29/98	28.9	D
	PM	9/29/98	27.9	D
San Ignacio Avenue and Bernal Road	AM	5/25/99	21.9	C
	PM	5/25/99	24.3	C
Beswick Drive and Blossom Hill Road	AM	5/25/99	14.1	B
	PM	5/25/99	15.5	C
Cottle Road and Beswick Drive/a/	AM	3/2/99	12.9	B
	PM	6/19/98	20.5	C
Poughkeepsie Rd. and Blossom Hill Rd.	AM	12/17/98	6.9	B
	PM	7/20/99	9.7	B
Cottle Road and Concord Drive/a/	AM	7/21/99	17.8	C
	PM	7/21/99	27.6	D
Cottle Road and Poughkeepsie Road	AM	7/20/99	15.5	C
	PM	7/20/99	24.4	C
Great Oaks Blvd. and San Ignacio Ave.	AM	5/12/99	18.9	C
	PM	5/12/99	24.1	C
Santa Teresa Blvd. and Great Oaks Blvd.	AM	3/2/99	16.1	C
	PM	4/6/99	11.6	B
Santa Teresa Blvd. and San Ignacio Ave.	AM	3/2/99	22.9	C
	PM	4/29/99	13.6	B
Santa Teresa Blvd. and Martinvale Ln.	AM	4/14/99	14.6	B
	PM	4/14/99	9.7	B
Via Del Oro and Bernal Road	AM	4/27/99	14.4	B
	PM	4/27/99	20.9	C

* Denotes CMP intersection

Existing Freeway Levels of Service

Traffic volumes for the subject freeway segments were obtained from the CMP Annual Monitoring Report. The results of the analysis are summarized in Table 4. The results show that one of the directional freeway segments analyzed currently operates at an unacceptable LOS F during at least one of the peak hours:

US 101 southbound from SR 85 to Coyote Creek Golf Drive

All other analyzed freeway segments operate at LOS E or better during the AM and PM peak hours. Note that the LOS F conditions pertain to the mixed-flow lanes only; the HOV lanes operate at an acceptable LOS E or better on all freeway segments analyzed.

Observed Existing Traffic Conditions

Traffic conditions in the field were observed in order to identify existing operational deficiencies and to confirm the accuracy of calculated levels of service. The purpose of this effort was (1) to identify any existing traffic problems that may not be directly related to intersection level of service, and (2) to identify any locations where the level of service calculation does not accurately reflect level of service in the field.

US 101 and Blossom Hill Road (E) – Level of service calculations show the intersection to operate at LOS D during both peak hours. Observations of the intersection show no unusual traffic problems, and the field conditions indicate LOS C or better. All movements at the intersection are provided ample green time during the cycle to allow queued vehicles to proceed through the intersection. However, to be conservative, the TRAFFIX calculations are used as is, without adjustment.

Santa Teresa Boulevard and Bernal Road – Observations show that vehicle queues for left-turn movements from southbound Santa Teresa to eastbound Bernal Road and from westbound Bernal Road to southbound Santa Teresa extend out of the existing storage pocket during the PM peak hour.

The transportation system in the area was also observed in order to identify operational problems that would not be reflected in the level of service calculations. The observations showed some operational problems as follows:

Cottle Road Corridor – Cottle Road is a main arterial connecting SR 85 and the Blossom Hill Road/Monterey Road interchange. In the AM peak hour, the northbound right turn queue at Beswick Drive backs up nearly to the SR 85 northbound off ramp. The left-hand northbound through lane at Poughkeepsie Road backs up to Rochester Road in the PM peak hour. This is mainly due to the demand for the left-hand northbound through lane in order to make a northbound left-turn at the Cottle Road and Concord Drive intersection. In the PM peak hour, the northbound left-turn queue at Concord Drive backs up to Poughkeepsie Road. The northbound SR 85 on ramp at Cottle is also subject to operational problems during the AM peak hour. Due to freeway ramp metering, queues at the northbound SR 85 on-ramp spill back onto Cottle Road. Vehicles are queued in both the northbound left-turn lanes and the southbound right-turn lane to access the northbound on-ramp. Some northbound cars on Cottle were observed to make U-turns at Beswick to access the ramps as a right-turn.

Table 4
Freeway Segment Levels of Service - Existing Conditions

				Mixed-Flow Lanes					HOV Lane Traffic Volume				
Freeway	Segment	Direction	Peak Hour	Ave. Speed/a/	# of Lanes	Volume/a/	Density	LOS	Ave. Speed/a/	# of Lanes	Volume/a/	Density	LOS
US 101	Yerba Buena to Hellyer	SB	AM	65	3	3,540	18.2	C	65	1	220	3.4	A
			PM	60	3	4,870	27.1	D	65	1	220	3.4	A
US 101	Hellyer to Blossom Hill	SB	AM	65	3	3,000	15.4	B	65	1	140	2.2	A
			PM	60	3	5,480	30.4	D	65	1	350	5.4	A
US 101	Blossom Hill to Bernal	SB	AM	65	3	1,690	9.7	A	65	1	130	2.0	A
			PM	65	3	3,470	17.8	C	65	1	260	4.0	A
US 101	SR 85 to Coyote Crk. Golf Dr.	SB	AM	60	2	2,540	21.2	C	N/A	N/A	0	N/A	N/A
			PM	20	2	4,240	106.0	F	N/A	N/A	0	N/A	N/A
SR 85	SR 87 to Blossom Hill	SB	AM	60	2	3,020	25.2	D	65	1	510	7.8	A
			PM	50	2	4,410	44.1	D	65	1	560	8.6	A
SR 85	Blossom Hill to Cottle	SB	AM	60	2	3,060	25.5	D	65	1	200	3.1	A
			PM	60	2	2,790	23.3	C	65	1	500	7.7	A
SR 85	Cottle to Bernal	SB	AM	65	2	1,820	14.0	B	65	1	110	1.7	A
			PM	65	2	2,290	17.6	C	65	1	330	5.1	A
SR 85	Bernal to Cottle	NB	AM	60	2	3,150	26.3	D	65	1	540	8.3	A
			PM	65	2	2,000	15.4	B	65	1	290	4.5	A
SR 85	Cottle to Blossom Hill	NB	AM	60	2	3,030	25.3	D	65	1	630	9.7	A
			PM	60	2	3,210	26.8	D	65	1	400	6.2	A
SR 85	Blossom Hill to SR 87	NB	AM	55	2	3,850	35.0	D	65	1	770	11.8	B
			PM	60	2	3,500	29.2	D	65	1	150	2.3	A
US 101	Coyote Crk. Golf Dr. to SR 85	NB	AM	55	2	3,990	36.3	D	N/A	N/A	0	N/A	N/A
			PM	65	2	2,360	18.2	C	N/A	N/A	0	N/A	N/A
US 101	Bernal to Blossom Hill	NB	AM	65	3	2,460	12.6	B	65	1	400	6.2	A
			PM	65	3	3,600	18.5	C	65	1	40	0.6	A
US 101	Blossom Hill to Hellyer	NB	AM	60	3	5,090	28.3	D	65	1	740	11.4	B
			PM	60	3	4,240	23.6	C	65	1	180	2.8	A
US 101	Hellyer to Yerba Buena	NB	AM	60	3	5,600	31.1	D	65	1	290	4.5	A
			PM	60	3	3,930	21.8	C	65	1	140	2.2	A

/a/ Source: Santa Clara Valley Transportation Authority Congestion Management Program Monitoring Study, 1998.

US 101 and Blossom Hill Interchange – This interchange is subject to significant congestion in the AM peak hour due to cars seeking to access 101 northbound. The eastbound queue on Blossom Hill Road sometimes extends past Monterey Road, and vehicles from Monterey Road sometimes have difficulty merging into the queue. Furthermore, vehicles were observed to make U-turns at Coyote Road to use the diagonal on-ramp rather than the loop on-ramp. In the PM peak hour the southbound 101 off-ramp sometimes backs up to the freeway mainline. This is due to the lane imbalance for the double right at Blossom Hill Road. Most vehicles are in the right lane to be in position to access Monterey Road.

US 101 Ramps at Hellyer Avenue – The intersections of the US 101 on-/off-ramps and Hellyer Avenue are currently unsignalized. In the AM peak hour, the metering light on the US 101 NB on-ramp causes a traffic queue that extends back onto Hellyer Avenue past the US 101 SB off-ramp. This queue delays the eastbound through traffic on Hellyer Avenue because Hellyer is one lane in each direction west of the US 101 NB ramps. These intersections were not observed to have any operational problems in the PM peak hour.

US 101/SR 85/Bernal Road Area – Bernal Road serves as the primary arterial to US 101, SR 85, and Monterey Highway from the southern portion of Area 3. Under existing conditions the peak direction is northbound during the AM peak hour and southbound during the PM peak hour. During the AM peak hour, movements toward US 101 north and SR 85 north are heaviest. It was observed that during the AM peak hour a queue of vehicles develops on southbound Bernal, extending from the northbound SR 85 diagonal on-ramp to the US 101 southbound off-ramp. This back up is due to a metering light located on the northbound SR 85 on-ramp. Through traffic on Bernal Road flows unimpeded by this backup. Also it was observed that many cars traveling northbound on Bernal Road accessing northbound US 101 make U-turns at Rue Ferrari and use the diagonal on-ramp rather than the loop on-ramp.

Operational problems in this area during the PM peak hour occur due to congestion on southbound US 101 south of Bernal Road as it narrows from three to two lanes in the southbound direction. The congestion on US 101 causes southbound vehicles on US 101 and SR 85 to exit at Bernal Road to use Monterey Highway as an alternate southbound route. Since the intersection of Monterey Highway and Bernal Road (N), which serves as the only access point to southbound Monterey Highway, does not have the capacity to serve such a large volume of vehicles, large queues develop on the SR 85 southbound off-ramp, US 101 southbound off-ramp, and at the intersection of Monterey Highway and Bernal Road (N).

Monterey Highway and Bernal Road Intersections – Due to the problem described above the intersections which provide access to Monterey Highway from Bernal Road are oversaturated with vehicles. Extensive queues develop for the left-turn from Bernal Road to Monterey Highway and for the right-turn from Bernal Road to Monterey Highway at the intersection of Monterey Highway and Bernal Road (E). This oversaturation is propagated to the west approach at the intersection of Monterey Highway and Bernal Road (N).

The problems associated with the Bernal Road/SR 85/US 101 area described above would be alleviated with the widening of US 101 to at least three lanes in the southbound direction and with an increase in employment in south San Jose.

The remaining study intersections and transportation system were not observed to have any operational problems.

3.
Background Conditions

This chapter describes background traffic conditions. Background conditions are defined as conditions just prior to completion of the proposed development. Traffic volumes for background conditions comprise volumes from existing traffic counts plus traffic generated by other approved developments in the vicinity of the project area. This chapter describes the planned intersection and roadway improvements, the procedure used to determine background traffic volumes and the resulting traffic conditions.

Background Roadway Network

Several intersection improvements are planned under background conditions. The intersection improvements are either part of the City of San Jose Capital Improvement Program (CIP) or have been mandated by the city as a condition of future development to be funded by the developer. The improvements are described below.

Intersection Improvements

Cottle Road and Concord Drive. The improvement at this intersection consists of adding a second northbound left-turn lane. (Developer funded).

Cottle Road and Beswick Drive. The improvement at this intersection consists of adding a second northbound left-turn lane. (Developer funded).

Cottle Road and SR 85 (S). The improvement at this intersection consists of adding a second exclusive eastbound left-turn lane. The resulting eastbound lane geometry will be two left-turn lanes, one shared through-left-turn lane, and two right-turn lanes. (Developer funded).

SR 85 and Bernal Road. The improvements at this intersection consist of converting the shared through-right-turn lane to a shared left-through-right-turn lane and adding an exclusive right-turn lane on the SR 85

off-ramp. The resulting off-ramp lane geometry will be one left-turn lane, one shared left-through-right-turn lane, and one right-turn lane. (Developer funded).

Silver Creek Valley Road and Fontanoso Way. The improvements at this intersection include installing a signal, converting the outermost eastbound through lane to a shared through-right-turn lane, and adding a northbound shared left-through-right-turn lane. (Developer funded).

Piercy Road and Silver Creek Valley Road. The improvement at this intersection consists of installing a signal and adding an exclusive northbound left-turn lane. (Developer funded).

Hellyer Avenue and Branham Lane. The improvement at this intersection consists of installing a signal. (Developer funded).

Santa Teresa Boulevard and Encinal Drive (intersection). The improvement at this intersection consists of installing a signal. (CIP).

Background Bicycle and Pedestrian Facilities

Bicycle and pedestrian facilities under background conditions were assumed to remain unchanged from existing conditions.

Background Transit Service

Transit service under background conditions was assumed to remain unchanged from existing conditions.

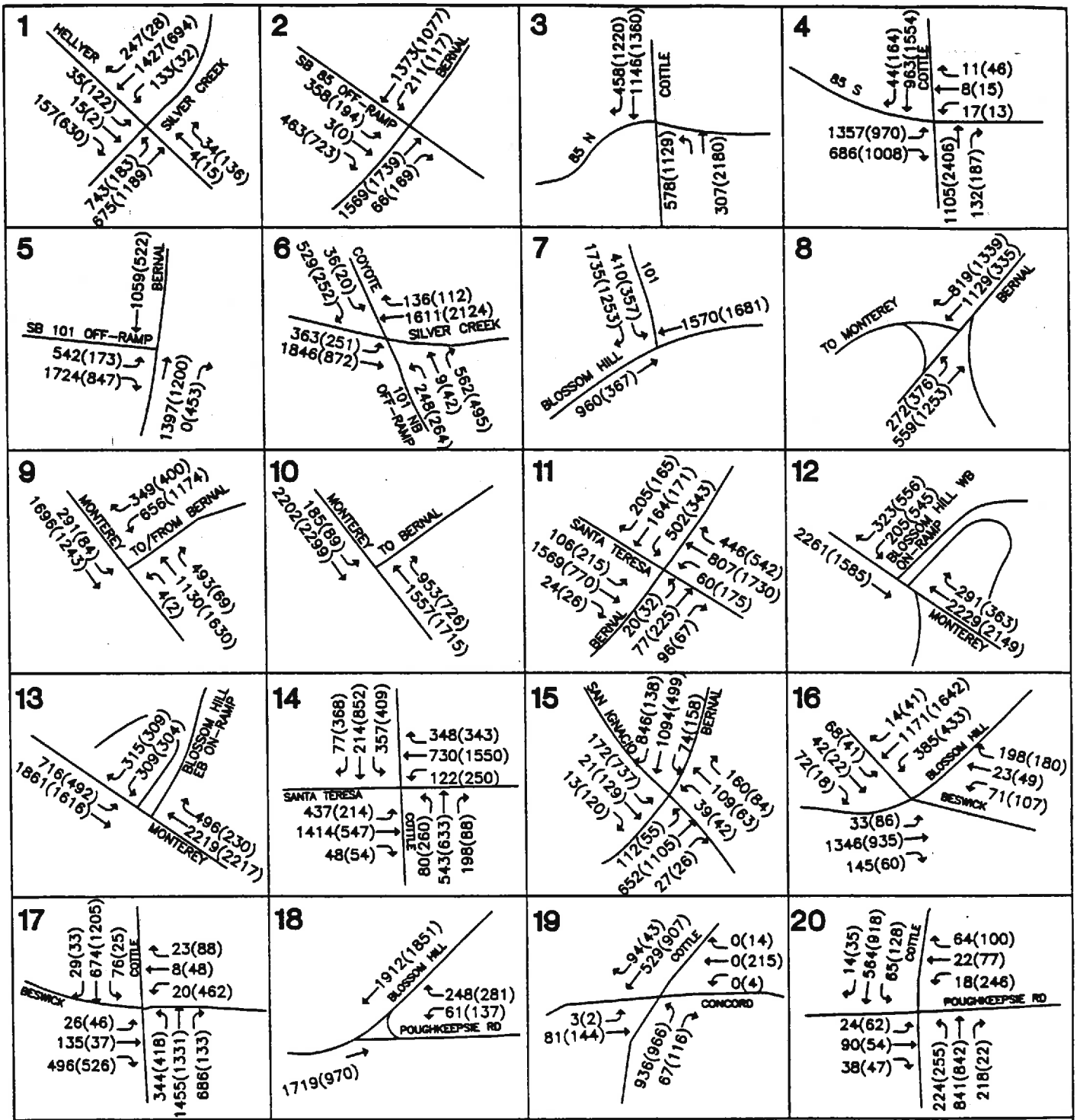
Background Traffic Volumes

Background peak-hour traffic volumes were established by adding to existing volumes the estimated traffic from approved but not yet constructed developments. Background traffic also contains reassigned traffic due to the development of the Coyote Valley area. The added traffic from approved but not yet constructed developments was provided by the city in the form of the Approved Trips Inventory (ATI). The trips associated with the development of Coyote Valley at 36,000 jobs are also contained in the ATI. Background traffic volumes are shown on Figure 4. The ATI are included in Appendix B.

Some of the land in Edenvale has been approved for development or has already been developed. It should be noted that these approved developments were not considered as part of the project for this study and therefore do not contribute to the project component of traffic. The traffic associated with the approved developments is contained in the ATI and is accounted for under background conditions.

Background Traffic Reassignment Due to Coyote Valley

Development of the Coyote Valley area would create a substantial increase in employment in south San Jose. The improved mix of land uses would alter existing traffic patterns. With more employment, it is expected that an increasing number of south San Jose residents will work in south San Jose. Consequently, many of the existing commute trips to the freeways will in the future remain local. In order to account for this in the traffic analysis, a portion of background traffic was reassigned. The terms *reassignment* and



LEGEND

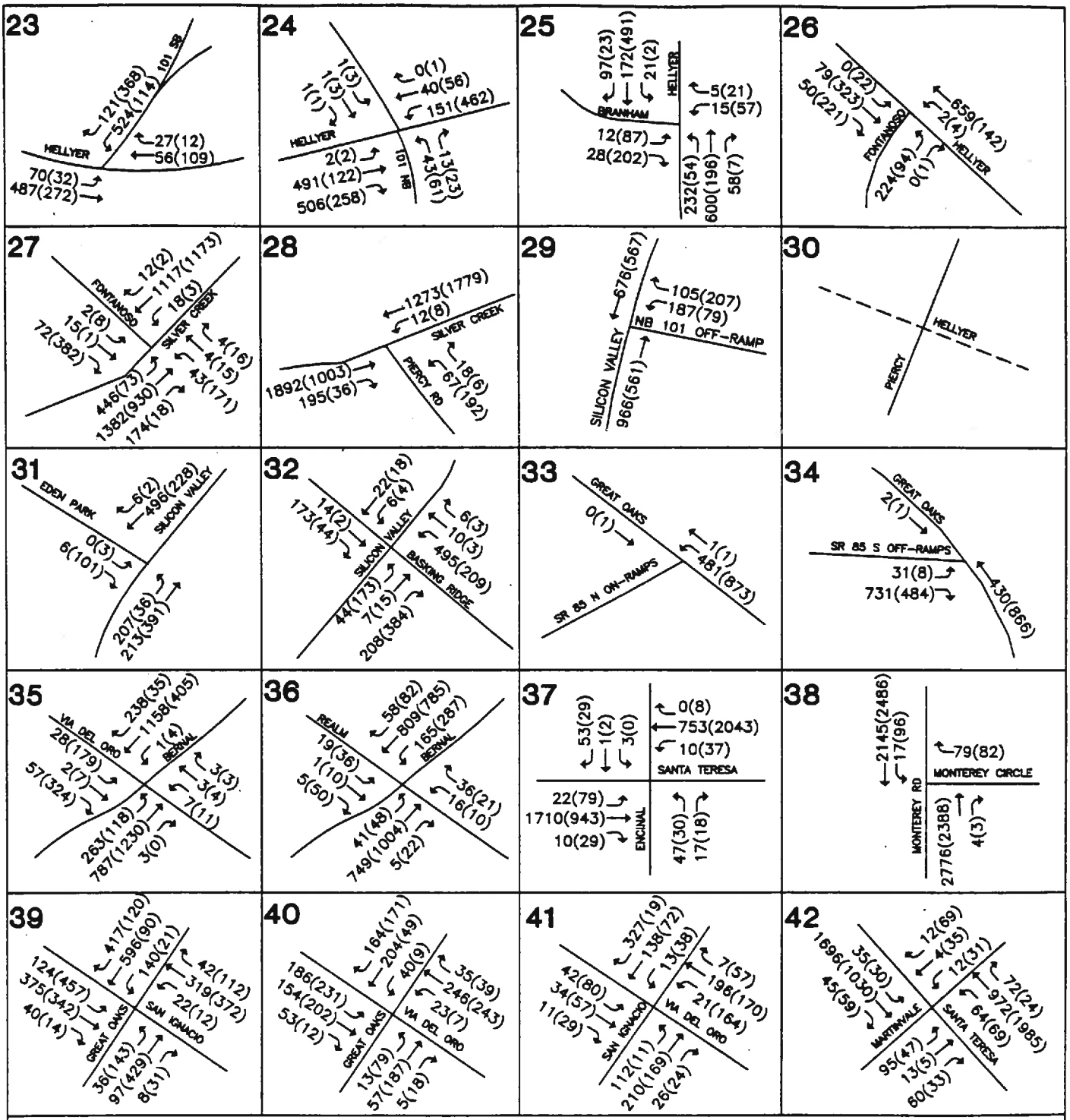
XX(XX) = AM(PM)

Figure 4

BACKGROUND TRAFFIC VOLUMES

Edenvale EIR

Hexagon
Transportation Consultants, Inc.



LEGEND

XX(XX) = AM(PM)

Figure 4

BACKGROUND TRAFFIC VOLUMES

Edenvale EIR

Hexagon
Transportation Consultants, Inc.

redistribution are used somewhat interchangeably; the former is basically a more detailed version of the latter.

The basic underlying assumption in the reassignment of traffic due to the development of Coyote Valley is this: a portion of existing traffic on the roadways going to places of work in other areas of San Jose would be reassigned to go to the Coyote Valley area. This reflects the change in commuting routes for those people who already work in other areas of San Jose that will change jobs to work in the Coyote Valley area.

Strategy for Reassignment

The reassignment of background traffic was based on the macro trip distribution derived from the TRANPLAN model and the zip code survey.

TRANPLAN

Hexagon first looked to the City's TRANPLAN model to perform the redistribution directly using forecasts. However, problems were encountered with this approach. The initial model forecasts, which were produced in March and April 1998, were too low on all roads in Edenvale. Several adjustments were made to the model: zones were added, dwelling units were added in Morgan Hill and Gilroy, the in-out splits were adjusted, and the project trip generation was set to equal the standard San Jose rate. Despite these adjustments, the model continues to forecast volumes that are lower than expected considering current economic factors and trends; the volumes are much lower than existing counts in the Route 85 corridor. The modeling effort, as a sole source of forecasts, was abandoned because forecasts lower than existing counts were deemed insupportable.

Zip Code Survey

The Edenvale employee zip code data indicate that 19 percent of Edenvale workers live within the zip codes roughly encompassing the Edenvale/Blossom Valley area (bordered by Capitol Expressway on the north, Almaden Expressway on the west, the foothills/Bernal on the south, and San Felipe Road on the east). This number provides a basis for estimating the magnitude of existing trips that would be subject to redistribution.

Method for Reassignment

Background (existing and approved) traffic was reassigned manually based on knowledge about existing travel patterns. The basis for the reassignment was the zip code survey. The reassignment procedure was implemented as follows:

1. Subdivide the study area into zones such that each zone would produce traffic with relatively uniform travel characteristics
2. Determine what percentage of project traffic will come from that zone (from zip code survey)
3. Translate the percentage into a number of trips
4. Estimate where those trips are going now (assign to SR 85 or US 101 north)
5. Subtract the trips from the turning movements they are now using
6. Check to make sure no movement is reduced by more than 25 percent
7. Add the same number of trips redirected toward the Coyote Valley industrial area

Following this procedure, the total amount of existing traffic that was reassigned (due to Coyote Valley) was 1,340 trips in the AM peak hour and 1,090 trips in the PM peak hour. The reassigned trips equal

approximately five percent of the total trips to and from the Edenvale industrial areas and Coyote Valley. There are about 56,000 households in the Edenvale area, which generate about 47,700 peak-hour trips. Therefore, the reassigned traffic equates to 2.5 percent of the total trips in the area.

Furthermore, a portion of the Approved Trips Inventory (ATI) volumes for two residential developments in the vicinity (Silver Creek Valley Planned Residential Community and Basking Ridge residential development, which were approved but not entirely built at the time of the original study) were also reassigned following a similar procedure.

Background Intersection Levels of Service

City of San Jose Intersection Analysis

The results of the intersection level of service analysis under background conditions are summarized in Table 5. The results show that four of the signalized study intersections would operate at an unacceptable LOS E or F under background conditions:

Hellyer Avenue and Silver Creek Valley Road
SR 85 and Cottle Road (N)
US 101 and Blossom Hill Road (E)
Monterey Road and Blossom Hill Road (S)

The level of service calculation sheets are included in Appendix D.

CMP Intersection Analysis

The level of service results for the CMP intersections under background conditions are summarized in Table 5. The results show that, measured against the CMP level of service standards, one of the CMP study intersections would operate at an unacceptable LOS F during both peak hours under background conditions.

US 101 and Blossom Hill Road (E)

Background Freeway Segment Levels of Service

The analysis of freeway segment level of service is not required for background conditions, per the City of San Jose and CMP requirements.

Table 5

Background Intersection Levels of Service

Intersection	Peak Hour	Count Date	Existing Avg. Delay	Existing LOS	Background Avg. Delay	Background LOS
Hellyer Ave. and Sliver Creek Valley Rd./a/	AM	3/23/99	11.6	B	49.7	E
	PM	3/23/99	7.2	B	17.3	C
SR 85 and Bernal Road/a/*	AM	9/9/98	14.3	B	15.7	C
	PM	9/9/98	24.9	C	16.2	C
Cottle Road and SR 85 (N)*	AM	9/9/98	9.9	B	9.8	B
	PM	9/8/98	12.3	B	46.7	E
Cottle Road and SR 85 (S)/a/*	AM	9/8/98	20.7	C	20.5	C
	PM	9/8/98	23.5	C	25.0	D
US 101 and Bernal Road*	AM	9/10/98	10.9	B	12.9	B
	PM	9/10/98	8.3	B	7.5	B
US 101 and Silver Creek Valley Rd. /a/*	AM	10/28/97	34.0	D	144.8	F
	PM	11/17/98	27.9	D	126.9	F
US 101 and Blossom Hill Road (W)*	AM	9/10/98	17.7	C	17.1	C
	PM	9/10/98	14.1	B	13.6	B
Monterey Road and Bernal Road (E)*	AM	9/29/98	12.1	B	11.1	B
	PM	9/29/98	13.8	B	13.2	B
Monterey Road and Bernal Road (N)*	AM	9/29/98	20.7	C	22.2	C
	PM	9/29/98	21.6	C	29.9	D
Monterey Road and Bernal Road (S)*	AM	9/29/98	5.6	B	5.3	B
	PM	9/29/98	3.2	A	3.1	A
Santa Teresa Boulevard and Bernal Road*	AM	7/13/99	21.8	C	24.5	C
	PM	9/29/98	27.4	D	25.8	D
Monterey Road and Blossom Hill Road (N)*	AM	9/29/98	4.6	A	5.1	B
	PM	9/29/98	11.5	B	11.6	B
Monterey Road and Blossom Hill Road (S)*	AM	9/29/98	21.7	C	45.3	E
	PM	9/29/98	18.7	C	28.3	D
Cottle Road and Santa Teresa Boulevard*	AM	9/29/98	28.9	D	28.2	D
	PM	9/29/98	27.9	D	31.7	D
San Ignacio Avenue and Bernal Road	AM	5/25/99	21.9	C	16.2	C
	PM	5/25/99	24.3	C	25.5	D
Beswick Drive and Blossom Hill Road	AM	5/25/99	14.1	B	13.9	B
	PM	5/25/99	15.5	C	14.3	B
Cottle Road and Beswick Drive/a/	AM	3/2/99	12.9	B	14.9	B
	PM	6/19/98	20.5	C	19.4	C
Poughkeepsie Rd. and Blossom Hill Rd	AM	12/17/98	6.9	B	8.6	B
	PM	7/20/99	9.7	B	9.9	B
Cottle Road and Concord Drive/a/	AM	7/21/99	17.8	C	16.5	C
	PM	7/21/99	27.6	D	23.5	C
Cottle Road and Poughkeepsie Road	AM	7/20/99	15.5	C	15.2	C
	PM	7/20/99	24.4	C	24.1	C
Great Oaks Blvd. and San Ignacio Ave.	AM	5/12/99	18.9	C	19.7	C
	PM	5/12/99	24.1	C	25.2	D
Santa Teresa Blvd. and Great Oaks Blvd.	AM	3/2/99	16.1	C	10.8	B
	PM	4/6/99	11.6	B	10.8	B
Santa Teresa Blvd. and San Ignacio Ave.	AM	3/2/99	22.9	C	15.3	C
	PM	4/29/99	13.6	B	10.9	B
Santa Teresa Blvd. and Martinvale Ln.	AM	4/14/99	14.6	B	8.1	B
	PM	4/14/99	9.7	B	6.6	B
Via Del Oro and Bernal Road	AM	4/27/99	14.4	B	13.7	B
	PM	4/27/99	20.9	C	15.9	C

/a/ Background conditions include planned improvements.

* Denotes CMP intersection

4.
Project Impacts and Mitigation Measures

This chapter describes project traffic conditions, significant project impacts, and measures that are recommended to mitigate project impacts. Included are descriptions of the significance criteria that define an impact, descriptions of planned roadway improvements, estimates of project-generated traffic, identification of the project impacts, and descriptions of the mitigation measures. Project conditions are represented by background traffic conditions with the addition of planned roadway improvements and traffic generated by the project.

Significant Impact Criteria

Significance criteria are used to establish what constitutes an impact. For this analysis there are three sets of relevant criteria for impacts on intersections and freeways. These are based on: (1) the City of San Jose (CSJ) Level of Service standards, and (2) the CMP Level of Service standards for intersections and freeways.

Project impacts on other transportation facilities, such as bicycle facilities and transit, were determined on the basis of engineering judgment.

City of San Jose Definition of Significant Intersection Impacts

The project is said to create a significant adverse impact on traffic conditions at a signalized intersection in the City of San Jose if for either peak hour:

1. The level of service at the intersection degrades from an acceptable LOS D or better under background conditions to an unacceptable LOS E or F under project conditions, or

2. The level of service at the intersection is an unacceptable LOS E or F under background conditions and the addition of project trips causes both the critical-movement delay at the intersection to

increase by four or more seconds and the demand-to-capacity ratio (V/C) to increase by .01 or more.

An exception to this rule applies when the addition of project traffic reduces the amount of average stopped delay for critical movements (i.e. the change in average stopped delay for critical movements is negative). In this case, the threshold of significance is an increase in the critical V/C value by .01 or more.

A significant impact by City of San Jose standards is said to be satisfactorily mitigated when measures are implemented that would restore intersection level of service to background conditions or better.

CMP Definition of Significant Intersection Impacts

The definition of a significant impact at a CMP intersection is the same as for the City of San Jose, except that the CMP standard for acceptable level of service at a CMP intersection is LOS E or better. A significant impact by CMP standards is said to be satisfactorily mitigated when measures are implemented that would restore intersection conditions to LOS E or better.

CMP Definition of Significant Freeway Segment Impacts

A project is said to create a significant adverse impact on traffic conditions on a CMP freeway segment if for either peak hour:

1. The level of service on the freeway segment is an unacceptable LOS F under project conditions, and

2. The number of project trips on that segment constitutes at least one percent of capacity on that segment.

A significant impact by CMP standards is said to be satisfactorily mitigated when measures are implemented that would restore freeway conditions to LOS E or better.

Future Roadway Network Under Project Conditions

The future roadway network under project conditions would consist of numerous roadway and intersection improvements designed to provide the additional traffic capacity needed to support buildout of the Edenvale Industrial Area.

Planned Roadway and Intersection Improvements

The planned roadway and intersection improvements have been categorized as *gateway* improvements and *local* improvements. The improvements are further categorized according to their identified source of funding. These are described below. More detailed descriptions are provided in Appendix E.

Gateway Improvements

The gateway improvements include improvements to the US 101 interchange at Blossom Hill Road/Silver Creek Valley Road, to the US 101 interchange at Hellyer Avenue, and to Silicon Valley Boulevard. These improvements are to be funded by the San Jose Redevelopment Agency.

US 101 and Blossom Hill/Silver Creek Valley Road Interchange. This improvement includes widening the overcrossing from four to seven lanes as follows: three lanes westbound between the northbound diagonal on-ramp to US 101 and the off-ramp to Monterey Road; four lanes eastbound between the southbound diagonal off-ramp from US 101 and the northbound loop on-ramp to US 101. This will entail widening each of the two existing structures across US 101. At the intersection with the southbound off-ramp, Blossom Hill Road will be widened from two to three lanes in each of the eastbound and westbound directions. At the intersection with the northbound off-ramp, Silver Creek Valley Road will be widened from two to three lanes in each of the eastbound and westbound directions, a second northbound right-turn pocket will be provided, and a second eastbound left-turn pocket will be provided. The last of these improvements will entail widening northbound Coyote Road north of Silver Creek Valley Road. This improvement could cause secondary impacts such as acquisition of additional right-of-way, relocation of utilities, or removal of trees.

US 101 and Hellyer Avenue Interchange. This improvement includes widening the overcrossing from two to four lanes (one lane westbound and three lanes eastbound) and installing traffic signals at each of the two off-ramp intersections. This will entail widening the existing structure. At the intersection with the southbound on- and off-ramps, Hellyer Avenue will be provided with a separate eastbound left-turn pocket, and the southbound off-ramp will be widened to provide two left-turn lanes. At the intersection with the northbound off-ramp, Hellyer Avenue will be widened from one to two lanes in the eastbound direction and the westbound left-turn pocket will be extended. This improvement could require acquisition of additional right-of-way, relocation of utilities, removal of trees, or other secondary impacts.

Silicon Valley Boulevard. This improvement includes widening Silicon Valley Boulevard from two lanes to four lanes between Eden Park Place and Hellyer Avenue/Basking Ridge Avenue. This will entail constructing, along the north side of the existing bridge, a new two-lane bridge over Coyote Creek. The new bridge would serve two westbound lanes, and the existing bridge would be restriped to serve two eastbound lanes. This improvement could require acquisition of additional right-of-way, relocation of utilities, removal of trees, or other secondary impacts.

Local Improvements

The need for various local street and intersection improvements necessary to support Edenvale development were identified by the traffic study. The local improvements include a roadway extension, a roadway upgrade, and several intersection improvements. The improvements are proposed to be funded by three sources. However, the exact funding sources have not been established and are therefore subject to change. The proposed funding sources are: (1) an Improvement District, (2) individual developments in Area 1 and Area 4, and (3) a Community Facilities District (CFD). The funding sources and associated improvements are described below.

Improvement District

The proposed improvement district corresponds geographically with the previously described Area 3. The district will fund improvements which are necessary to provide traffic capacity to support Area 3 development.

Hellyer Avenue Extension (roadway). Hellyer Avenue will be extended from its existing termination point, at Silver Creek Valley Road, southward to the intersection of Basking Ridge and Silicon Valley Boulevard. The Hellyer Avenue extension will be a four-lane divided arterial with landscaped median and turn-pockets. There will be sidewalks on both sides of Hellyer Avenue between Silver Creek Valley Road and Coyote Creek and along the east side between Coyote Creek and Silicon Valley Boulevard. This improvement could cause secondary impacts such as acquisition of additional right-of-way, relocation of utilities, or removal of trees.

Piercy Road Upgrade (roadway). Piercy Road currently is an undeveloped farm road; it will be rebuilt and widened to provide a 40-foot street (one lane in each direction) within a 60-foot right-of-way. Sidewalks will be constructed along Piercy Road, except on the east side of upper Piercy Road and along the south side of Tennant Avenue. This improvement could require acquisition of additional right-of-way, relocation of utilities, removal of trees, or other secondary impacts.

Hellyer Avenue and Silver Creek Valley Road [1] (intersection). The existing eastbound left-turn pocket will be extended and a second eastbound left-turn pocket will be added. These improvements could cause secondary impacts such as acquisition of additional right-of-way, relocation of utilities, or removal of trees.

Hellyer Avenue and Silver Creek Valley Road [2] (intersection). A free southbound right-turn lane will be provided. This will involve the addition of a third westbound lane (as described above) on Silver Creek Valley Road west of Hellyer Avenue. The third eastbound lane, which is the shoulder lane, will terminate at Hellyer Avenue as a right-turn lane to southbound Hellyer Avenue. This improvement could cause secondary impacts such as acquisition of additional right-of-way, relocation of utilities, or removal of trees.

Hellyer Avenue and Piercy Road (intersection). A traffic signal will be installed. The proposed lane configuration is: one southbound left-turn lane, one southbound through lane, and one southbound shared through/right-turn lane; one westbound left-turn lane and one westbound shared through/right-turn lane; one northbound left-turn lane, one northbound through lane, and one northbound shared through/right-turn lane; two eastbound left-turn lanes and one eastbound shared through/right-turn lane.

Silver Creek Valley Road (roadway). The section of Silver Creek Valley Road between Piercy Road and Hellyer Avenue will be widened into the median to provide six travel lanes instead of the existing four. This improvement could cause secondary impacts such as acquisition of additional right-of-way, relocation of utilities, or removal of trees.

Hellyer Avenue and Silicon Valley Boulevard (intersection). A traffic signal will be installed and a southbound left-turn pocket, through lane and free right-turn lane, a westbound left-turn pocket and right-turn pocket, a northbound through lane, and two eastbound left-turn lanes will be added. These improvements could require acquisition of additional right-of-way, relocation of utilities, removal of trees, or other secondary impacts.

Silver Creek Valley Road and Fontanoso Way [2] (intersection). Silver Creek Valley Road will be widened from two to three lanes in each of the eastbound and westbound directions (as described above). This improvement could require acquisition of additional right-of-way, relocation of utilities, removal of trees, or other secondary impacts.

Monterey Road and Blossom Hill Road (S) (intersection). A third northbound through lane will be added.

SR 85 and Cottle Road (N) (intersection). The west side of southbound Cottle Road will be widened from south of Beswick Drive to the SR 85 ramp in order to accommodate a second southbound right-turn lane, and the on-ramp will be widened to provide a receiving lane from Cottle Road to the ramp-metering light. The design details will be worked out with Caltrans. These improvements could cause secondary impacts such as relocation of utilities or removal of trees.

US 101 and Silicon Valley Boulevard [1] (intersection). A traffic signal will be installed and an eastbound left-turn movement will be provided as an alternate means of accessing northbound US 101. These improvements could require relocation of utilities, removal of trees, or other secondary impacts.

SR 85 and Bernal Road (intersection). The existing southbound left-turn pocket, the existing southbound shared left-through-right-turn lane, and the existing westbound left-turn pocket will be extended.

Cottle Road and Poughkeepsie Road (intersection). The existing northbound left-turn pocket will be extended and a second northbound left-turn pocket will be added.

Individual Developments in Area 1

The road improvements necessary for Area 1 will be installed directly by Area 1 developers as a requirement of the Area Development Policy (see chapter 5). The policy includes development thresholds that trigger the requirement for road improvements. Funded and constructed in this fashion will be the following improvements:

Silver Creek Valley Road and Fontanoso Way [3] (intersection). The existing eastbound left-turn pocket will be extended. This improvement could cause secondary impacts such relocation of utilities or removal of trees.

Silver Creek Valley Road and Fontanoso Way [4] (intersection). A second eastbound left-turn pocket will be added, a second northbound receiving lane will be provided on northbound Fontanoso Way north of Silver Creek Valley Road, a southbound free right-turn lane will be added, and a fourth westbound lane will be provided to receive the free southbound right-turn movement. These improvements could cause secondary impacts such as acquisition of additional right-of-way, relocation of utilities, or removal of trees.

Hellyer Avenue and Fontanoso Way (intersection). A traffic signal will be installed.

Individual Developments in Area 4

The road improvements necessary for Area 4 will be implemented directly by Area 4 developers as a requirement of the Area Development Policy (see chapter 5). The policy includes development thresholds that trigger the requirement for road improvements. Funded and constructed in this fashion will be the following improvements:

Silicon Valley Boulevard and Eden Park Place (intersection). A traffic signal will be installed and the existing eastbound left-turn pocket will be extended.

Silicon Valley Boulevard and Rue Ferrari (intersection). The existing eastbound left-turn pocket will be extended.

Community Facilities District

A Community Facilities District (CFD) is being pursued for Area 2 in order to fund the necessary roadway improvements. The following improvements are proposed to be funded by the CFD:

Monterey Road and Bernal Road (N) (intersection). The existing southbound left-turn pocket will be extended, a second southbound left-turn pocket will be added, a second eastbound receiving lane will be provided on the westbound ramp to Bernal Road, and the westbound left-turn pocket will be extended back to Bernal Road. These improvements could cause secondary impacts such as acquisition of additional right-of-way, relocation of utilities, or removal of trees.

Blossom Hill Road and Poughkeepsie Road (intersection). The projected traffic demand to travel between Blossom Hill Road and Cottle Road would be accommodated with implementation at the intersection of Blossom Hill Road and Poughkeepsie Road the following improvements: a westbound left-turn movement (two left-turn pockets) will be added, the direct movement from Blossom Hill Road to Poughkeepsie Road will be eliminated, an eastbound right turn lane from Blossom Hill Road to Poughkeepsie Road will be added, and three eastbound receiving lanes (two lanes to receive the new westbound double left turns and one lane to receive the new eastbound right turn) will be added on Poughkeepsie Road immediately south of the intersection. These improvements could require acquisition of additional right-of-way, relocation of utilities, removal of trees, or other secondary impacts.

US 101 and Silicon Valley Boulevard [2] (intersection). A northbound shared left-through-right turn lane will be added.

SR 85 and Great Oaks (N) (intersection). A traffic signal will be installed and the existing northbound left-turn pocket will be extended.

SR 85 and Great Oaks (S) (intersection). A traffic signal will be installed, the existing southbound shoulder lane will be eliminated (leaving one southbound through lane north of the intersection), the existing eastbound separate right-turn lane will be converted to a free right-turn lane, and the existing median break on Great Oaks Boulevard at Las Colinas will be closed off.

San Ignacio Avenue and Via Del Oro (intersection). A traffic signal will be installed.

San Ignacio Avenue and Great Oaks Boulevard (intersection). The existing eastbound (San Ignacio) left-turn pocket will be extended, a second eastbound left-turn pocket will be added, the existing southbound (Great Oaks) left-turn pocket will be extended, and a second southbound left-turn pocket will be added. These improvements could cause secondary impacts such as relocation of utilities or removal of trees.

San Ignacio Avenue and Bernal Road (intersection). The two existing southbound left-turn pockets will be extended. This improvement could cause secondary impacts such as relocation of utilities or removal of trees.

Via Del Oro and Bernal Road (intersection). The existing southbound left-turn pocket will be extended and a second southbound left-turn pocket will be added.

Via Del Oro and Great Oaks Boulevard (intersection). A traffic signal will be installed and Via Del Oro will be restriped.

Monterey Road and Monterey Circle (intersection). A traffic signal will be installed.

Bernal Road and Realm Drive (intersection). A traffic signal will be installed.

The need for installing traffic signals as indicated above was in part established by checking the Caltrans peak-hour volume signal warrant for the currently unsignalized intersections. The signal warrant analysis sheets are included in Appendix F.

Note that the design details for these improvements are not yet available. It is therefore not possible to provide a quantitative assessment of the impacts that would be caused by the project improvements. As previously indicated for those locations where applicable, some or all of the roadway and intersection improvements that are planned as part of the project could require acquisition of additional right-of-way, relocation of utilities, removal of trees, or other secondary impacts.

Bicycle and Pedestrian Facilities Under Project Conditions

Bicycle and pedestrian facilities under project conditions were assumed to remain unchanged from existing conditions with the exception of new sidewalks along the Hellyer Avenue extension and along the upgraded Piercy Road.

Transit Service Under Project Conditions

Transit service under project conditions was assumed to remain unchanged from existing conditions.

Project Trip Estimates

The magnitude of traffic produced by a new development and the locations where that traffic would appear are estimated using a three-step process: (1) trip generation, (2) trip distribution, and (3) trip assignment. In determining project trip generation, the magnitude of traffic entering and exiting the site is estimated for the AM and PM peak hours. As part of the project trip distribution, an estimate is made of the directions to and from which the project trips would travel. In the project trip assignment, the project trips are assigned to specific streets and intersections. These procedures are described further in the following sections.

Project Trip Generation

The trip generation for the Edenvale Industrial Area is based on 7.88 million s.f. of Research and Development space. This 7.88 million s.f. includes development of vacant land in the four project areas as follows: 1.78 million s.f. in Area 1; 3.08 million s.f. in Area 2; 2.85 million s.f. in Area 3; and 0.17 million s.f. in Area 4. Land in Edenvale that had been approved for development or that had already been developed and occupied prior to commencement of this study was not included in the project description. Traffic associated with approved developments and developments already built is contained in the ATI (under background conditions) and the existing traffic counts (under existing conditions), respectively. The vacant land in Edenvale available for research and development use totals 451 acres. The maximum allowable FAR is 0.35 for Area 1 and 0.40 for Areas 2, 3, and 4.

Through empirical research, data have been collected that correlate to common land uses their propensity for producing traffic. Thus, for the most common land uses there are standard trip generation rates that can be applied to help predict the future traffic increases that would result from new development.

The magnitude of traffic added to the roadway system by a particular development is estimated by multiplying the applicable trip generation rates to the size of the development. The trip generation rates specified in *Interim Guidelines for Traffic Impact Analysis of Land Use Developments*, 1994, were established from trip generation surveys conducted by the City of San Jose. Based on these rates, it is estimated that the project would generate 9,779 AM peak-hour trips and 8,557 PM peak-hour trips. The project trip generation estimates are presented in Table 6.

Project Trip Distribution

Due to the size of the project area, a separate trip distribution was derived for Area 1, Area 2, and Area 3 and 4. The trip distribution patterns were estimated based on forecasts from the TRANPLAN model and results from the zip code survey. The trip distribution patterns have been reviewed and approved by City of San Jose staff. The trip distribution patterns are shown graphically on Figures 5, 6, and 7.

Project Trip Assignment

The peak-hour trips generated by the proposed development were assigned to the roadway system in accordance with the trip distribution patterns discussed above. Figure 8 shows the project trip assignment.

Project Traffic Volumes

Project trips, as represented in the above project trip assignment, were added to *modified* future background traffic volumes to obtain background plus project traffic volumes (also called *project traffic volumes*). The *modified* future background traffic volumes differ from the future background traffic volumes described previously. The difference is that, whereas the aforementioned future background traffic volumes include a reassignment of background traffic due to *Coyote Valley approved* development, the *modified* future background traffic volumes also include a reassignment of background traffic due to development of the Edenvale Industrial Area. This reassignment is described in the following paragraph. The background plus project traffic volumes are shown graphically on Figure 9. Traffic volumes for all components of traffic are tabulated in Appendix C.

Background Traffic Reassignment due to Edenvale

Development of the Edenvale Industrial Area will create a significant increase in employment in south San Jose and will draw employees from other areas of San Jose. Because of this, a portion of the background traffic was reassigned to reflect traffic that will be drawn from other areas when Edenvale is developed. This process was consistent with the reassignment of traffic under background conditions due to the development of the Coyote Valley area, described in the previous chapter.

Table 6

Project Trip Generation Estimates

	Land Use	Developable Size[1]	Daily Rate	Daily Trips	AM Peak Hour Peak Hour Rate	AM Peak Hour In	AM Peak Hour Out	AM Peak Hour Total	PM Peak Hour Peak Hour Rate	PM Peak Hour In	PM Peak Hour Out	PM Peak Hour Total
Area 1[2]	Research and Development	1,538	8	12,304	1.28	1,575	394	1,969	1.12	172	1,550	1,723
Area 2	Research and Development	3,082	8	24,656	1.28	3,156	789	3,945	1.12	345	3,107	3,452
Area 3	Research and Development	2,850	8	22,800	1.28	2,918	730	3,648	1.12	319	2,873	3,192
Area 4	Research and Development	170	8	1,360	1.28	174	44	218	1.12	19	171	190
	Totals	**7,640**		**61,120**		**7,823**	**1,956**	**9,779**		**856**	**7,701**	**8,557**

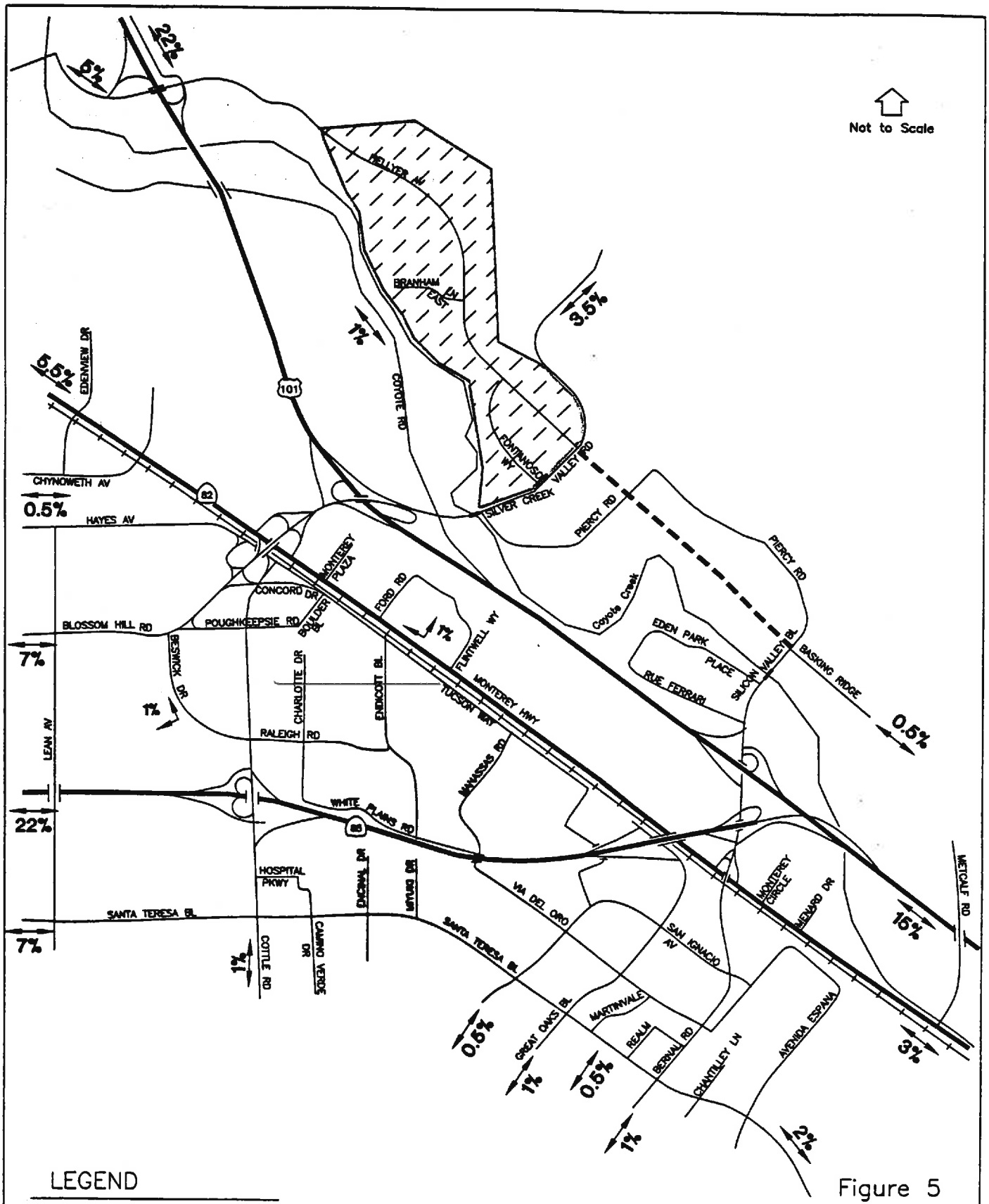
Notes:

Trip generation rates taken from City of San Jose Interim Guidelines for Traffic Impact Analysis for Land Developments, "Common Vehicular Trip Generation Rates for the San Jose Area," March 1994

Area 1 has an FAR of 0.35, the remaining three areas have FAR's of 0.40

(1) Developable size expressed in 1,000's of square feet (ksf).

(2) At the time that this study was being prepared, two projects -- Stellex (160 ksf) and Hellyer View (77 ksf) -- were in the process of being approved. The trips associated with these two projects were included as approved trips in the background.



LEGEND

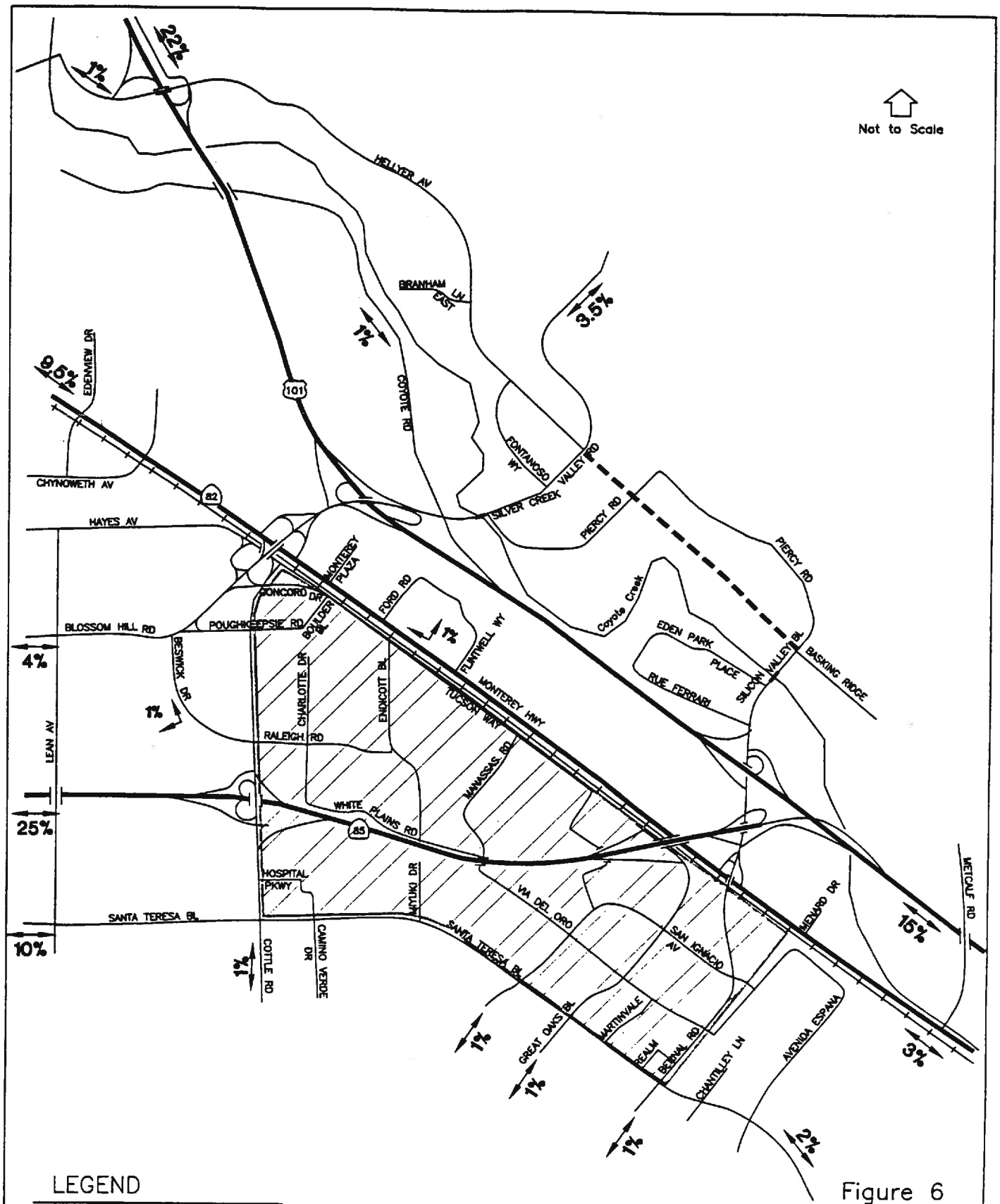
= Future Roadway

Hexagon
Transportation Consultants, Inc.

Figure 5

AREA 1 - PROJECT TRIP DISTRIBUTION

Edenvale EIR



LEGEND

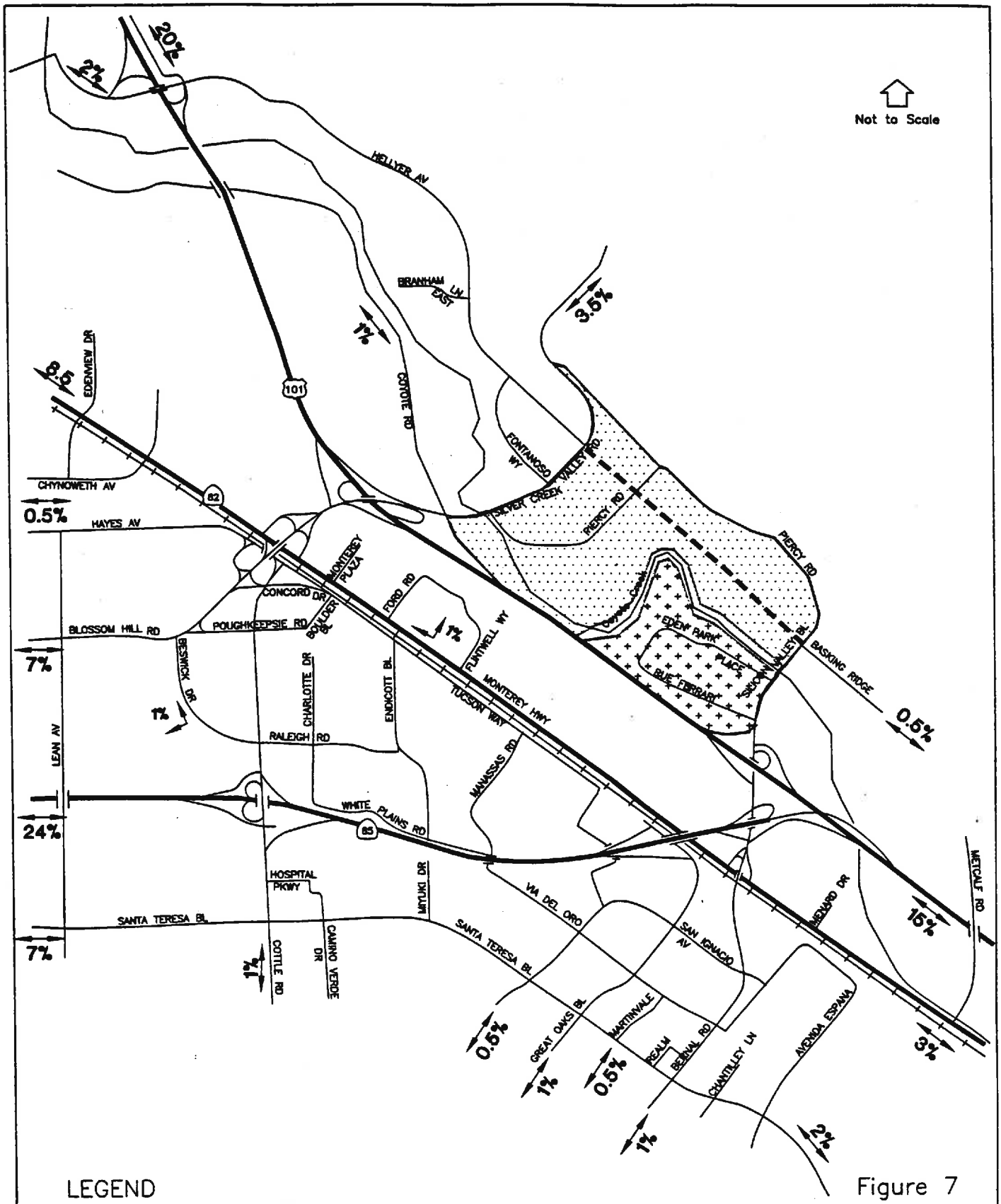
= Future Roadway

Figure 6

AREA 2 - PROJECT TRIP DISTRIBUTION

Edenvale EIR

Hexagon
Transportation Consultants, Inc.



LEGEND

= Future Roadway

Figure 7

AREA 3 AND 4 - PROJECT TRIP DISTRIBUTION

Edenvale EIR

Hexagon
Transportation Consultants, Inc.

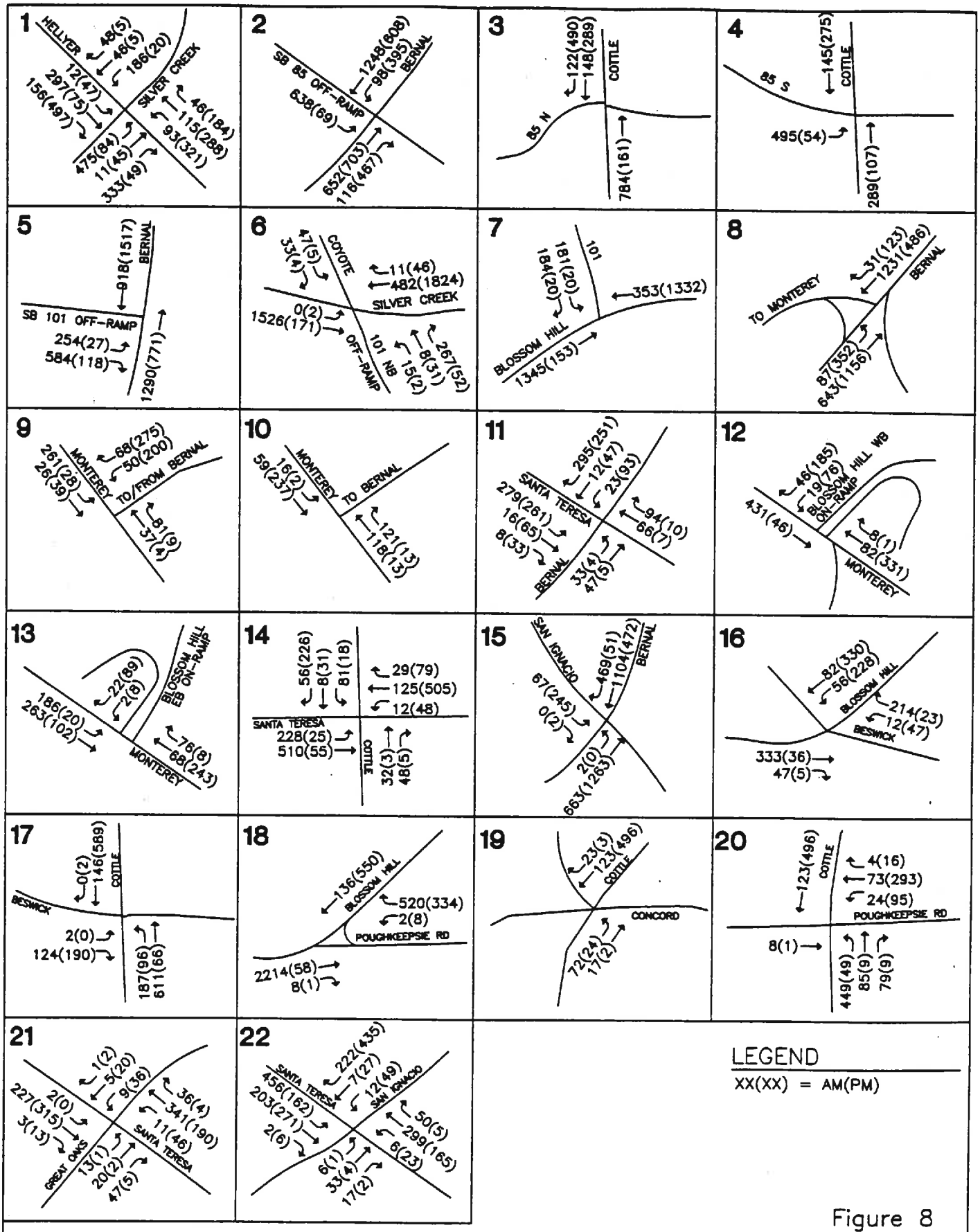
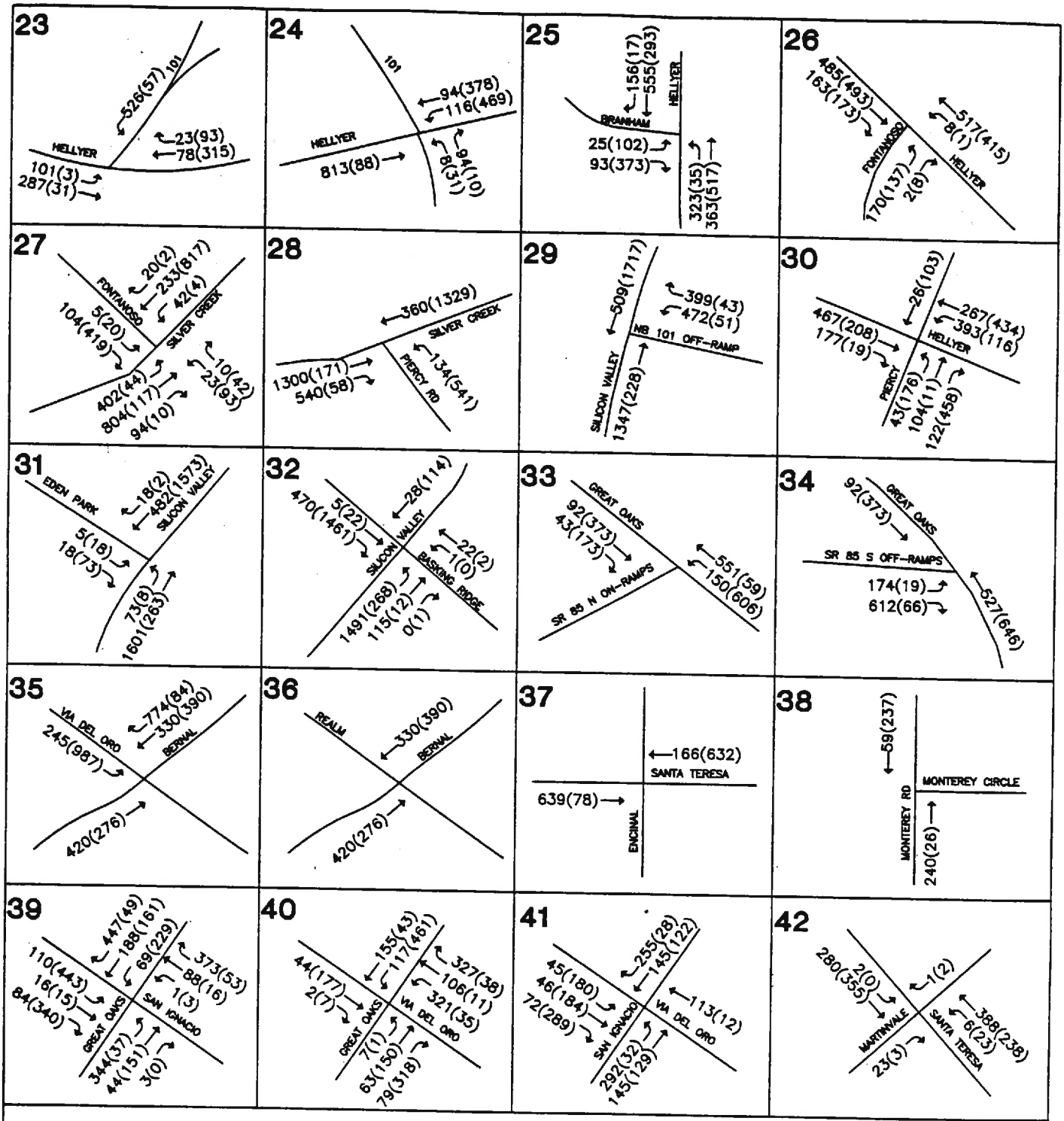


Figure 8

PROJECT TRIP ASSIGNMENT

Edenvale EIR

Hexagon
Transportation Consultants, Inc.



LEGEND

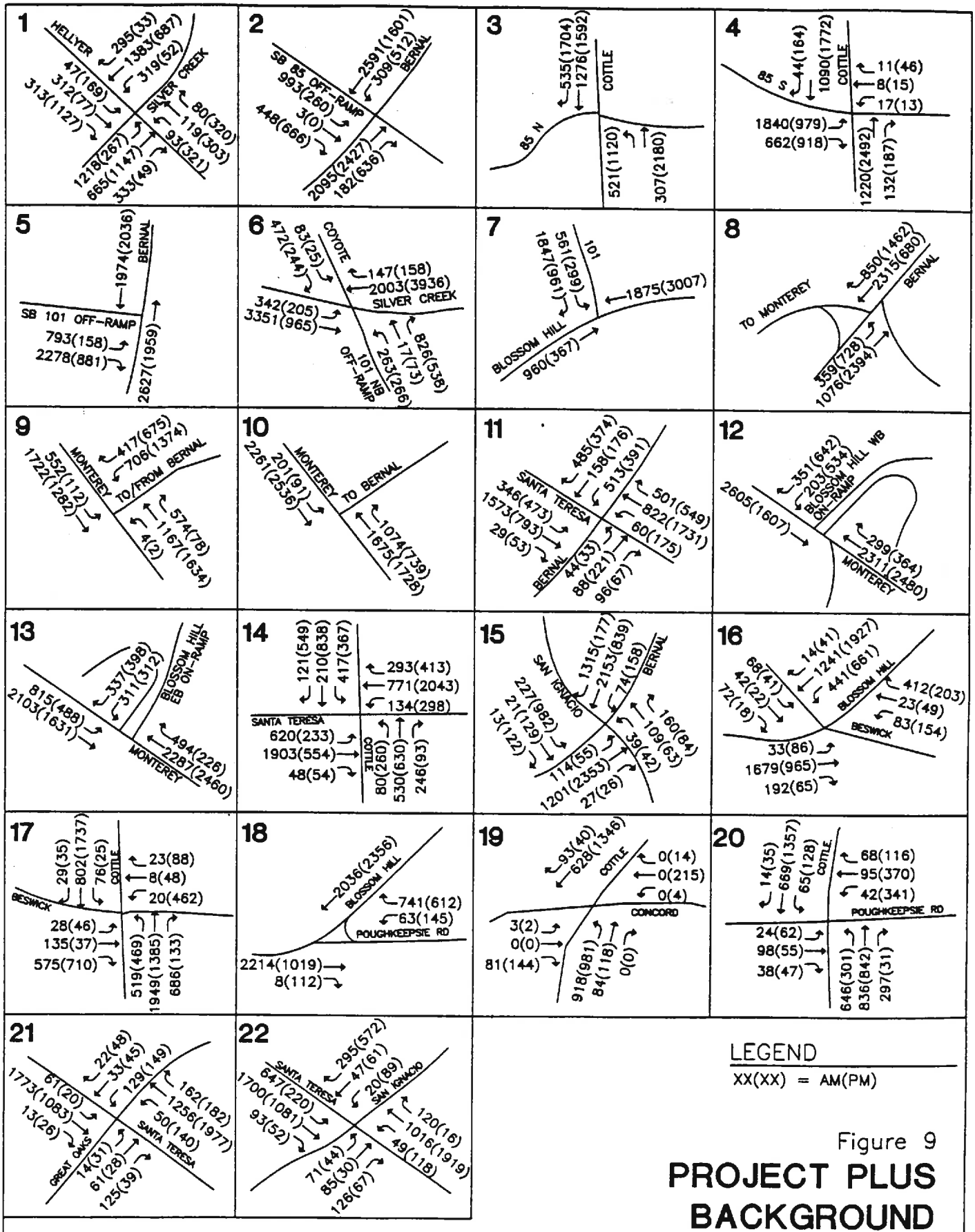
XX(XX) = AM(PM)

Figure 8

PROJECT TRIP ASSIGNMENT

Edenvale EIR

Hexagon
Transportation Consultants, Inc.



LEGEND

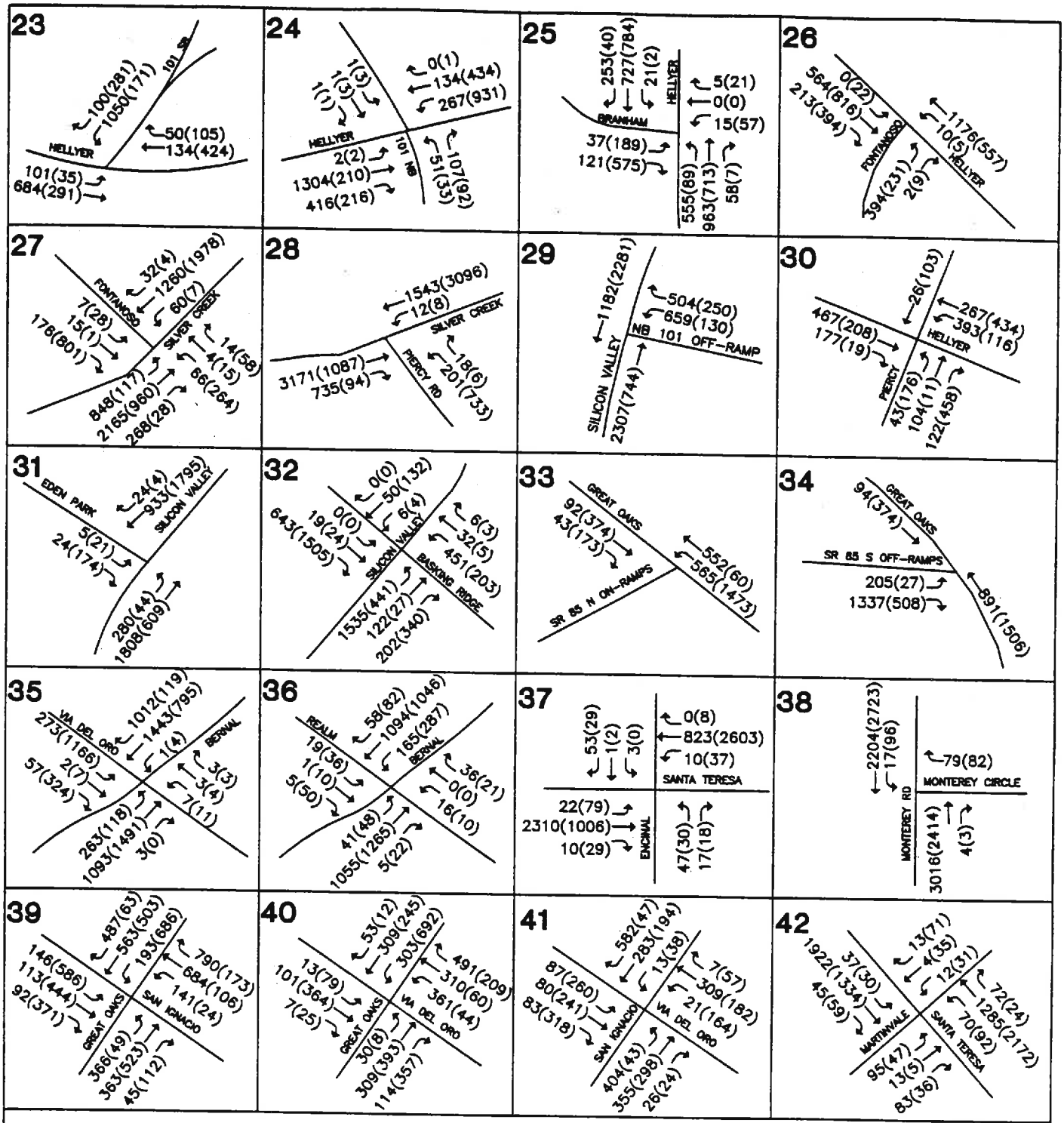
XX(XX) = AM(PM)

Figure 9

PROJECT PLUS BACKGROUND TRAFFIC VOLUMES

Edenvale EIR

Hexagon
Transportation Consultants, Inc.



LEGEND

XX(XX) = AM(PM)

Figure 9

PROJECT PLUS BACKGROUND TRAFFIC VOLUMES

Edenvale EIR

Hexagon
Transportation Consultants, Inc.

Following this procedure, the total amount of existing traffic that was reassigned (due to both Edenvale and Coyote Valley) was 2,600 trips in the AM peak hour and 2,140 trips in the PM peak hour. The reassigned trips equal approximately 10 percent of the total trips to and from the Edenvale Industrial Area and Coyote Valley. There are about 56,000 households in the Edenvale area, which generate about 47,700 peak-hour trips. Therefore, the reassigned traffic equates to about 5 percent of the total trips in the area. The reassigned traffic volumes at each intersection are shown in Appendix C.

Project Intersection Analysis

City of San Jose Level of Service Analysis

The results of the level of service analysis under project conditions are summarized in Table 7. The results show that the same intersection that will operate at LOS F under background conditions will continue to operate at LOS F under project conditions:

US 101 and Silver Creek Valley Road

However, the delay would be reduced under project conditions, so there is no significant impact. All other signalized study intersections would operate at an acceptable LOS D or better. The level of service calculation sheets are included in Appendix D.

CMP Level of Service Analysis

The level of service results for the CMP intersections under project conditions are summarized in Table 7. The results show that the intersection of US 101 and Silver Creek Valley Road would not meet the CMP level of service standard. However, the intersection would not be significantly impacted by the project according to the CMP definition of impacts because the average vehicle delay under project conditions would be better than background conditions. If and when conditions do degrade to LOS F, a deficiency plan will need to be prepared. The potential still exists to build the Branham Lane overcrossing at US 101, which could alleviate congestion on Blossom Hill/Silver Creek Valley Road.

Intersection Operations Analysis

The analysis of project intersection level of service was supplemented with an analysis of intersection *operations* for selected unsignalized and signalized intersections. The operations analysis is based on vehicle queuing for high-demand turning movements at intersections. The basis of the analysis is as follows: (1) the TRAFFIX intersection analysis software is used to estimate the 95th percentile maximum number of queued vehicles per signal cycle for a particular movement; (2) the estimated maximum number of vehicles in the queue is translated into a queue length, assuming 20 feet per vehicle; and (3) the estimated maximum queue length is compared to the existing or planned available storage capacity for the movement. This analysis thus provides a basis for estimating future storage requirements at intersections.

The analysis indicated that, with the planned intersection improvements, the vehicle storage capacity would adequately accommodate the estimated maximum vehicle queues under project conditions. The TRAFFIX queue estimates and a tabulated summary of the findings are provided in Appendix G.

Table 7

Project Intersection Levels of Service

Intersection	Peak Hour	Peak Hour	Background Avg. Delay	Background LOS	Project Avg. Delay	Project LOS	Project Inc. in Crit. Delay	Project Inc. in Crit. V/C
Hellyer Ave. and Sliver Creek Valley Rd./a/	AM	3/23/99	49.7	E	38.3	D	-18	0.046
	PM	3/23/99	17.3	C	25.3	D	10.5	0.196
SR 85 and Bernal Road/a/*	AM	9/9/98	15.7	C	26.8	D	15.1	0.341
	PM	9/9/98	16.2	C	36.8	D	32.1	0.37
Cottle Road and SR 85 (N)*	AM	9/9/98	9.8	B	10	B	-2.5	-0.058
	PM	9/8/98	46.7	E	13.7	B	-56.8	-0.453
Cottle Road and SR 85 (S)/a/*	AM	9/8/98	20.5	C	22.1	C	1.5	0.131
	PM	9/8/98	25.0	D	23.9	C	-1.9	-0.015
US 101 and Bernal Road*	AM	9/10/98	12.9	B	27.7	D	28.8	0.141
	PM	9/10/98	7.5	B	8.4	B	1.7	0.169
US 101 and Silver Creek Valley Rd. /a/*	AM	10/28/97	144.8	F	97.4	F	-119.9	-0.154
	PM	11/17/98	126.9	F	123.8	F	-15.6	-0.012
US 101 and Blossom Hill Road (W)*	AM	9/10/98	17.1	C	27.3	D	11.7	0.097
	PM	9/10/98	13.6	B	16.4	C	2.2	0.152
Monterey Road and Bernal Road (E)*	AM	9/29/98	11.1	B	10.9	B	-0.2	0.275
	PM	9/29/98	13.2	B	15.2	C	2	0.279
Monterey Road and Bernal Road (N)*	AM	9/29/98	22.2	C	27.7	D	22	0.203
	PM	9/29/98	29.9	D	39.2	D	13.7	0.086
Monterey Road and Bernal Road (S)*	AM	9/29/98	5.3	B	6.2	B	1.8	0.084
	PM	9/29/98	3.1	A	3.2	A	0	0.005
Santa Teresa Boulevard and Bernal Road*	AM	7/13/99	24.5	C	27	D	8.2	0.046
	PM	9/29/98	25.8	D	36.6	D	18.8	0.193
Monterey Road and Blossom Hill Road (N)*	AM	9/29/98	5.1	B	5.8	B	0.9	0.097
	PM	9/29/98	11.6	B	12.6	B	1.7	0.091
Monterey Road and Blossom Hill Road (S)*	AM	9/29/98	45.3	E	23.6	C	-35.1	-0.162
	PM	9/29/98	28.3	D	19.3	C	-15.2	-0.161
Cottle Road and Santa Teresa Boulevard*	AM	9/29/98	28.2	D	28.8	D	0.7	0.12
	PM	9/29/98	31.7	D	35.5	D	4.8	0.12
San Ignacio Avenue and Bernal Road	AM	5/25/99	16.2	C	24.3	C	29.4	0.301
	PM	5/25/99	25.5	D	39.7	D	20.9	0.332
Beswick Drive and Blossom Hill Road	AM	5/25/99	13.9	B	14.4	B	0.6	0.084
	PM	5/25/99	14.3	B	15.3	C	2.1	0.176
Cottle Road and Beswick Drive/a/	AM	3/2/99	14.9	B	15.2	C	-1	-0.011
	PM	6/19/98	19.4	C	21.4	C	3.9	0.216
Poughkeepsie Rd. and Blossom Hill Rd.	AM	12/17/98	8.6	B	22.5	C	15	0.375
	PM	7/20/99	9.9	B	17.7	C	9.3	0.305
Cottle Road and Concord Drive/a/	AM	7/21/99	16.5	C	17.3	C	1.1	0.022
	PM	7/21/99	23.5	C	27.5	D	4	0.131
Cottle Road and Poughkeepsie Road	AM	7/20/99	15.2	C	19.2	C	4.8	0.272
	PM	7/20/99	24.1	C	25	D	2.6	0.095
Great Oaks Blvd. and San Ignacio Ave.	AM	5/12/99	19.7	C	33.3	D	17.4	0.442
	PM	5/12/99	25.2	D	23.6	C	-0.2	0.007
Santa Teresa Blvd. and Great Oaks Blvd.	AM	3/2/99	10.8	B	11.4	B	1.4	0.068
	PM	4/6/99	10.8	B	11.3	B	0.8	0.046
Santa Teresa Blvd. and San Ignacio Ave.	AM	3/2/99	15.3	C	16.7	C	15.6	0.262
	PM	4/29/99	10.9	B	20.7	C	14.5	0.291

Table 7

Project Intersection Levels of Service

Intersection	Peak Hour	Peak Hour	Background Avg. Delay	Background LOS	Project Avg. Delay	Project LOS	Project Inc. in Crit. Delay	Project Inc. in Crit. V/C
Santa Teresa Blvd. and Martinvale Ln.	AM	4/14/99	8.1	B	10.2	B	0.2	0.036
	PM	4/14/99	6.6	B	7.6	B	0.4	0.032
Via Del Oro and Bernal Road	AM	4/27/99	13.7	B	19.6	C	17.4	0.048
	PM	4/27/99	15.9	C	27.1	D	13.7	0.356
US 101 and Hellyer Avenue (W)	AM	2/10/98	–	–	18.3	C	–	–
	PM	2/10/98	–	–	12.9	B	–	–
US 101 and Hellyer Avenue (E)	AM	2/10/98	–	–	20.5	C	–	–
	PM	2/10/98	–	–	31.1	D	–	–
Hellyer Ave. and Branham Ln.	AM	3/11/97	–	–	12.3	B	–	–
	PM	3/11/98	–	–	16	C	–	–
Hellyer Ave. and Fontanoso Wy.	AM	3/13/97	–	–	14.5	B	–	–
	PM	3/13/97	–	–	11.3	B	–	–
Fontanoso Way and Silver Creek Valley Rd.	AM	3/30/99	–	–	17.2	C	–	–
	PM	3/30/99	–	–	16.7	C	–	–
Piercy Road and Silver Creek Valley Road	AM	3/23/99	–	–	10.6	B	–	–
	PM	3/23/99	–	–	13.5	B	–	–
NB 101 and Silicon Valley Blvd.	AM	3/24/99	–	–	19.3	C	–	–
	PM	3/24/99	–	–	7.7	B	–	–
Eden Park Place and Silicon Valley Blvd.	AM	3/25/99	–	–	25	D	–	–
	PM	3/25/99	–	–	22.8	C	–	–
Basking Ridge and Silicon Valley Blvd.	AM	3/31/99	–	–	39.8	D	–	–
	PM	3/31/99	–	–	20.7	C	–	–
Great Oaks Blvd. and SR 85 (N)	AM	12/9/97	–	–	4.2	A	–	–
	PM	12/9/97	–	–	36.2	D	–	–
Great Oaks Blvd. and SR 85 (S)	AM	12/9/97	–	–	9.9	B	–	–
	PM	12/9/97	–	–	2.7	A	–	–
Encinal Dr. and Santa Teresa Blvd.	AM	6/16/99	–	–	9.6	B	–	–
	PM	6/17/99	–	–	10.5	B	–	–
Realm Dr. and Bernal Rd.	AM	6/17/99	–	–	12.5	B	–	–
	PM	6/17/99	–	–	16	C	–	–
Monterey Road and Monterey Circle	AM	6/16/99	–	–	38	D	–	–
	PM	6/22/99	–	–	9.8	B	–	–
San Ignacio Av. and Via Del Oro	AM	5/11/99	–	–	29.8	D	–	–
	PM	5/11/99	–	–	26.4	D	–	–
Great Oaks Blvd. and Via Del Oro	AM	5/13/99	–	–	30.9	D	–	–
	PM	5/13/99	–	–	38.2	D	–	–
Hellyer Extension and Piercy Road	AM	–	–	–	19.6	C	–	–
	PM	–	–	–	18.6	C	–	–

/a/ Background and project conditions include planned improvements.
Shading denotes significant impact
* Denotes CMP intersection

IBM Site Access and Circulation

To facilitate adequate traffic flow in Area 2, the site access and on-site circulation of the existing IBM site needs to be designed to encourage the use of Poughkeepsie Road and to diminish the use of Concord Avenue to access Cottle Road. As a condition for future development of the IBM site, traffic shall be redirected to the intersection of Cottle Road and Poughkeepise Road as IBM's main entrance, thereby reducing the current use of the intersection at Cottle Road and Concord Avenue.

Freeway Impacts

Project traffic volumes on freeway segments were calculated by adding to existing freeway volumes the estimated project trips on freeway segments. The percentage of HOVs in the traffic stream was assumed to remain unchanged from existing conditions. The results of the analysis are summarized in Table 8. The results show that one of the directional freeway segments analyzed would operate at an unacceptable LOS F during at least one of the peak hours under project conditions: US 101 southbound from SR 85 to Coyote Creek Golf Drive. Note that the LOS F conditions pertain to the mixed-flow lanes only; the HOV lanes would operate at an acceptable LOS E or better on all freeway segments analyzed.

Impact: The level of service under project conditions during the PM peak hour will be LOS F on US 101 southbound from SR 85 to Coyote Creek Golf Drive, and the number of project trips on the segment would constitute 27 percent of mixed-flow lane capacity. This constitutes a significant impact by CMP standards.

Bicycle and Pedestrian Impacts and Mitigation Measures

The infrastructure in Edenvale Area 1, Area 2, and Area 4 is already developed. The infrastructure in Edenvale Area 3, however, is currently undeveloped. The future infrastructure should be designed with sidewalks for pedestrians and with shoulder widths wide enough to safely accommodate bicyclists. The curb lanes on Piercy Road and the Hellyer Avenue extension should be at least 14-feet wide to safely accommodate bicyclists. Separate bike lanes are not required on these roads because there is a county designated bike path that follows Coyote Creek through this area.

Transit Service Impacts and Mitigation Measures

There is currently no transit service to Area 1 and Area 3 of the project. The Hellyer Avenue extension should be designed to accommodate bus stops. The future developments in the area should be designed to provide convenient and well-lighted pedestrian connections to the future bus stops. The VTA should either modify an existing bus route or provide a new route to serve this area. Connections should be provided to the nearest Caltrain and LRT stations.

Table 8
Freeway Segment Levels of Service - Project Conditions

				Existing Plus Project Trips										Project Trips				
				Mixed-Flow Lanes					HOV Lane Traffic Volume						Mixed-Flow		HOV Lane	
Freeway	Segment	Direction	Peak Hour	Ave. Speed/a/	# of Lanes	Volume/a/	Density	LOS	Ave. Speed/a/	# of Lanes	Volume/a/	Density	LOS	Total Volume	Volume	% Capacity	Volume	% Capacity
US 101	Yerba Buena to Hellyer	SB	AM	65	3	5,074	26.0	D	65	1	315	4.9	A	1629	1,534	22.2%	95	5.3%
			PM	60	3	5,038	28.0	D	65	1	228	3.5	A	176	168	2.4%	8	0.4%
US 101	Hellyer to Blossom Hill	SB	AM	65	3	4,105	21.1	C	65	1	192	2.9	A	1157	1,105	16.0%	52	2.9%
			PM	60	3	5,683	31.6	D	65	1	383	5.6	A	216	203	2.9%	13	0.7%
US 101	BlossomHill to Bernal	SB	AM	65	3	2,746	14.1	B	65	1	189	2.9	A	915	856	12.4%	59	3.3%
			PM	65	3	3,894	20.0	C	65	1	292	4.5	A	456	424	6.1%	32	1.8%
US 101	SR 85 to Coyote Crk. Golf Dr	SB	AM	60	2	2,834	23.6	C	N/A	N/A	N/A	N/A	N/A	294	294	6.7%	N/A	N/A
			PM	20	2	5,426	136.7	F	N/A	N/A	N/A	N/A	N/A	1186	1,186	27.0%	N/A	N/A
SR 85	SR 87 to Blossom Hill	SB	AM	60	2	4,662	38.8	D	65	1	787	12.1	B	1919	1,642	37.3%	277	15.4%
			PM	50	2	4,594	45.9	D	65	1	583	9.0	A	207	184	4.2%	23	1.3%
SR 85	Blossom Hill to Cottle	SB	AM	60	2	4,861	40.5	D	65	1	318	4.9	A	1919	1,801	40.9%	118	6.5%
			PM	60	2	2,966	24.7	D	65	1	531	8.2	A	207	176	4.0%	31	1.7%
SR 85	Cottle to Bernal	SB	AM	65	2	3,167	24.4	D	65	1	191	2.9	A	1428	1,347	30.6%	81	4.5%
			PM	65	2	2,437	18.7	C	65	1	351	5.4	A	168	147	3.3%	21	1.2%
SR 85	Bernal to Cottle	NB	AM	60	2	3,461	28.8	D	65	1	593	9.1	A	364	311	7.1%	53	3.0%
			PM	65	2	3,233	24.9	D	65	1	469	7.2	A	1412	1,233	28.0%	179	9.9%
SR 85	Cottle to Blossom Hill	NB	AM	60	2	3,420	28.5	D	65	1	711	10.9	B	471	390	8.9%	81	4.5%
			PM	60	2	4,899	40.8	D	65	1	611	9.4	A	1900	1,689	38.4%	211	11.7%
SR 85	Blossom Hill to SR 87	NB	AM	55	2	4,243	38.6	D	65	1	849	13.1	B	471	393	8.9%	79	4.4%
			PM	60	2	5,322	44.3	D	65	1	228	3.5	A	1900	1,822	41.4%	78	4.3%
US 101	Coyote Crk. Golf Dr. to SR 85	NB	AM	55	2	5,188	47.2	E	N/A	N/A	N/A	N/A	N/A	1198	1,198	27.2%	N/A	N/A
			PM	65	2	2,489	19.1	C	N/A	N/A	N/A	N/A	N/A	129	129	2.9%	N/A	N/A
US 101	Bernal to Blossom Hill	NB	AM	65	3	2,953	15.1	B	65	1	480	7.4	A	573	493	7.1%	80	4.5%
			PM	65	3	4,448	22.8	C	65	1	49	0.8	A	857	848	12.3%	9	0.5%
US 101	Blossom Hill to Hellyer	NB	AM	60	3	5,427	30.2	D	65	1	789	12.1	B	386	337	4.9%	49	2.7%
			PM	60	3	5,378	29.9	D	65	1	228	3.5	A	1186	1,138	16.5%	48	2.7%
US 101	Hellyer to Yerba Buena	NB	AM	60	3	5,980	33.2	D	65	1	310	4.8	A	400	380	5.5%	20	1.1%
			PM	60	3	5,488	30.5	D	65	1	195	3.0	A	1613	1,558	22.6%	55	3.1%

/a/ Source: Santa Clara Valley Transportation Authority Congestion Management Program Monitoring Study, 1998.
Note: Shading indicates significant impact.

VTA Bus Service

The project will create demand for local and regional bus service that would not be fulfilled by existing bus service. Bus service should be provided to Area 1 and Area 3 and additional bus service should be considered for Area 2. Planning and implementation of these improvements would be determined by the VTA. Bus stops and shelters should be provided in the project area. Location and design of the bus stops should be coordinated with the VTA.

VTA Light Rail and CalTrain Service

The project will create demand for commuter rail service that would not be fulfilled by the existing transit system. Shuttle service should be provided between the VTA light rail stations (Santa Teresa Station, Cottle Station), and all areas within the project area, as well as between the Blossom Hill CalTrain Station and the project areas.

Hellyer Avenue Neighborhood Traffic Impacts

The City of San Jose General Plan designates Hellyer Avenue as a major collector of width 60 to 90 feet. Development in the Edenvale Industrial Area will result in added traffic volumes to Hellyer Avenue in the Hellyer Avenue neighborhood. Hellyer Avenue is one of the few streets that crosses US 101 and thereby provides access from the neighborhoods west of US 101 to the industrial area. It is estimated based on the TRANPLAN model and the zip code survey that five percent of Area 1 traffic and two percent of Area 3 traffic would use Hellyer Avenue. To a certain extent the Hellyer trips would be traffic displaced from north San Jose, but there would still be an increase on Hellyer Avenue.

Based on traffic counts at the Hellyer/101 interchange, the existing volume on Hellyer Avenue through the park is about 850 vehicles in each of the peak hours, or about 8,500 vehicles per day. This volume is already well above the limit of a typical residential street or residential collector. Thus, Hellyer Avenue is carrying the volume of an arterial under existing conditions.

The Edenvale industrial development project would add about 200 vehicles to Hellyer Avenue in each of the two peak hours, or about 2,000 vehicles per day. This volume would be noticeable to residents living on Hellyer Avenue.

5.
Area Development Policy

The planned gateway improvements and local improvements are designed to provide the additional traffic capacity needed to support development of the Edenvale Industrial Area. Design and construction of the gateway improvements will, however, require a few years to complete. If development in Edenvale occurs as projected, it is likely that traffic conditions at some locations will, during this interim period, degrade to levels below the acceptable city standard. In order to allow development to occur in Areas 1, 3 and 4 during the near term, the Edenvale Area Development Policy has been established. The development policy applies to Areas 1, 3 and 4 only. Area 2, which is described in more detail below, generally does not require the gateway improvements. The Area Development Policy serves to exempt from the City's level of service policy specific intersections located within the Edenvale Industrial Area. This relaxation of the level of service standard would be in effect only for the interim period during which the gateway improvements are designed and constructed.

This chapter describes the traffic conditions that would occur without the gateway improvements but with additional development in Areas 1 and 3 as projected through the course of the interim period. This scenario is included as a check on the worst-case traffic conditions that would result under the Area Development Policy. The Area Development Policy would allow a combined total of 2.19 million s.f to be developed in Areas 1 and 3 before the gateway improvements are completed. This scenario assumes that all previously-described local improvements would be in place.

Intersection Analysis

City of San Jose Level of Service Analysis

The results of the Area Development Policy level of service analysis are summarized in Table 9. The results show that two intersections would operate at LOS F under Area Development Policy conditions:

US 101 and Silver Creek Valley Road
US 101 and Blossom Hill Road (W)

CMP Level of Service Analysis

The level of service results for the CMP intersections under Area Development Policy conditions are summarized in Table 9. The results show that two intersections would operate at LOS F under Area Development Policy conditions:

US 101 and Silver Creek Valley Road
US 101 and Blossom Hill Road (W)

Area 2 Analysis

A separate analysis was conducted for development of Area 2 to determine the resulting levels of service at study intersections with the buildout of Area 2. The results of the analysis showed that traffic conditions at the intersection of US 101 and Blossom Hill (W) would be an unacceptable LOS E with buildout of Area 2. Restoration of level of service to an acceptable LOS D or better would require installing the gateway improvement for the US 101/ Blossom Hill Road interchange. This substandard condition would be caused by the development of approximately 700,000 s.f. of vacant land on the IBM orchard property.

Thus, the Area Development Policy must state that further development of the IBM campus must await completion of the gateway improvements or must have no access to Cottle Road. Aside from IBM, the remainder of the planned development in Area 2 can be accommodated without the gateway improvements.

Table 9

Area Development Policy Intersection Levels of Service

	Peak Hour	Count Date	Existing Avg. Delay	Existing LOS	Background 1999 Avg. Delay	Background 1999 LOS	Project ADP/b/ Avg. Delay	Project ADP/b/ LOS
Hellyer Ave. and Sliver Creek Valley Rd.	AM	3/23/99	11.6	B	49.7	E	26.9	D
	PM	3/23/99	7.2	B	17.3	C	20.6	C
SR 85 and Bernal Road/a/*	AM	9/9/98	14.3	B	15.7	C	18.2	C
	PM	9/9/98	24.9	C	16.2	C	18.5	C
Cottle Road and SR 85 (N)*	AM	9/9/98	9.9	B	9.8	B	10.3	B
	PM	9/8/98	12.3	B	46.7	E	13.3	B
Cottle Road and SR 85 (S)/a/*	AM	9/8/98	20.7	C	20.5	C	20.7	C
	PM	9/8/98	23.5	C	25.0	D	23.3	C
US 101 and Bernal Road*	AM	9/10/98	10.9	B	12.9	B	9.7	B
	PM	9/10/98	8.3	B	7.5	B	7.1	B
US 101 and Silver Creek Valley Rd.*	AM	10/28/97	34.0	D	144.8	F	255.6	F
	PM	11/17/98	27.9	D	126.9	F	311.0	F
US 101 and Blossom Hill Road (W)*	AM	9/10/98	17.7	C	17.1	C	43.0	E
	PM	9/10/98	14.1	B	13.6	B	23.3	C
Monterey Road and Bernal Road (E)*	AM	9/29/98	12.1	B	11.1	B	11.1	B
	PM	9/29/98	13.8	B	13.2	B	13.6	B
Monterey Road and Bernal Road (N)*	AM	9/29/98	20.7	C	22.2	C	22.4	C
	PM	9/29/98	21.6	C	29.9	D	31.1	D
Monterey Road and Bernal Road (S)*	AM	9/29/98	5.6	B	5.3	B	5.4	B
	PM	9/29/98	3.2	A	3.1	A	3.1	A
Santa Teresa Boulevard and Bernal Road*	AM	7/13/99	21.8	C	24.5	C	25.5	D
	PM	9/29/98	27.4	D	25.8	D	25.8	D
Monterey Road and Blossom Hill Road (N)*	AM	9/29/98	4.6	A	5.1	B	5.0	A
	PM	9/29/98	11.5	B	11.6	B	10.6	B
Monterey Road and Blossom Hill Road (S)*	AM	9/29/98	21.7	C	45.3	E	21.7	C
	PM	9/29/98	18.7	C	28.3	D	18.6	C
Cottle Road and Santa Teresa Boulevard*	AM	9/29/98	28.9	D	28.2	D	27.6	D
	PM	9/29/98	27.9	D	31.7	D	31.5	D
San Ignacio Avenue and Bernal Road	AM	5/25/99	21.9	C	16.2	C	16.1	C
	PM	5/25/99	24.3	C	25.5	D	24.6	C
Beswick Drive and Blossom Hill Road	AM	5/25/99	14.1	B	13.9	B	14.0	B
	PM	5/25/99	15.5	C	14.3	B	14.3	B
Cottle Road and Beswick Drive/a/	AM	3/2/99	12.9	B	14.9	B	13.9	B
	PM	6/19/98	20.5	C	19.4	C	19.6	C
Poughkeepsie Rd. and Blossom Hill Rd.	AM	12/17/98	6.9	B	8.6	B	13.2	B
	PM	7/20/99	9.7	B	9.9	B	10.0	B
Cottle Road and Concord Drive/a/	AM	7/21/99	17.8	C	16.5	C	16.6	C
	PM	7/21/99	27.6	D	23.5	C	24.4	C
Cottle Road and Poughkeepsie Road	AM	7/20/99	15.5	C	15.2	C	17.3	C
	PM	7/20/99	24.4	C	24.1	C	24.6	C
Great Oaks Blvd. and San Ignacio Ave.	AM	5/12/99	18.9	C	19.7	C	19.7	C
	PM	5/12/99	24.1	C	25.2	D	23.4	C
Santa Teresa Blvd. and Great Oaks Blvd.	AM	3/2/99	16.1	C	10.8	B	9.9	B
	PM	4/6/99	11.6	B	10.8	B	10.0	B
Santa Teresa Blvd. and San Ignacio Ave.	AM	3/2/99	22.9	C	15.3	C	13.1	B
	PM	4/29/99	13.6	B	10.9	B	10.2	B
Santa Teresa Blvd. and Martinvale Ln.	AM	4/14/99	14.6	B	8.1	B	8.7	B
	PM	4/14/99	9.7	B	6.6	B	7.2	B

Table 9

Area Development Policy Intersection Levels of Service

			Existing		Background 1999		Project ADP/b/	
	Peak Hour	Count Date	Avg. Delay	LOS	Avg. Delay	LOS	Avg. Delay	LOS
Via Del Oro and Bernal Road	AM	4/27/99	14.4	B	13.7	B	14.0	B
	PM	4/27/99	20.9	C	15.9	C	21.5	C
US 101 and Hellyer Avenue (W)	AM	2/10/98	–	–	–	–	21.5	C
	PM	2/10/98	–	–	–	–	13.2	B
US 101 and Hellyer Avenue (E)	AM	2/10/98	–	–	–	–	21.5	C
	PM	2/10/98	–	–	–	–	21.5	C
Hellyer Ave. and Branham Ln.	AM	3/11/97	–	–	–	–	11.6	B
	PM	3/11/98	–	–	–	–	15.5	C
Hellyer Ave. and Fontanoso Wy.	AM	3/13/97	–	–	–	–	14.8	B
	PM	3/13/97	–	–	–	–	11.6	B
Fontanoso Way and Silver Creek Valley Rd.	AM	3/30/99	–	–	–	–	15.6	C
	PM	3/30/99	–	–	–	–	13.5	B
Piercy Road and Silver Creek Valley Road	AM	3/23/99	–	–	–	–	5.1	B
	PM	3/23/99	–	–	–	–	6.1	B
NB 101 and Silicon Valley Blvd.	AM	3/24/99	–	–	–	–	8.2	B
	PM	3/24/99	–	–	–	–	7.0	B
Eden Park Place and Silicon Valley Blvd.	AM	3/25/99	–	–	–	–	16.4	C
	PM	3/25/99	–	–	–	–	16.4	C
Basking Ridge and Silicon Valley Blvd.	AM	3/31/99	–	–	–	–	25.3	D
	PM	3/31/99	–	–	–	–	18.8	C
Great Oaks Blvd. and SR 85 (N)	AM	12/9/97	–	–	–	–	0.2	A
	PM	12/9/97	–	–	–	–	2.4	A
Great Oaks Blvd. and SR 85 (S)	AM	12/9/97	–	–	–	–	4.3	A
	PM	12/9/97	–	–	–	–	2.1	A
Encinal Dr. and Santa Teresa Blvd.	AM	6/16/99	–	–	–	–	9.4	B
	PM	6/17/99	–	–	–	–	10.3	B
Realm Dr. and Bernal Rd.	AM	6/17/99	–	–	–	–	13.2	B
	PM	6/17/99	–	–	–	–	16.2	C
Monterey Road and Monterey Circle	AM	6/16/99	–	–	–	–	21.2	C
	PM	6/22/99	–	–	–	–	8.9	B
San Ignacio Av. and Via Del Oro	AM	5/11/99	–	–	–	–	23.4	C
	PM	5/11/99	–	–	–	–	21.1	C
Great Oaks Blvd. and Via Del Oro	AM	5/13/99	–	–	–	–	26.0	D
	PM	5/13/99	–	–	–	–	29.1	D
Hellyer Extension and Piercy Road	AM	–	–	–	–	–	16.8	C
	PM	–	–	–	–	–	15.9	C

/a/ Background conditions include planned improvements.
/b/ Area Development Policy development level is 2.19 m.s.f.
Shading indicates unacceptable LOS
* Denotes CMP intersection

6. Conclusions

The potential impacts of the project were evaluated in accordance with the standards set forth by the City of San Jose and the Congestion Management Program (CMP) of Santa Clara County. The study included the analysis of AM and PM peak-hour traffic conditions for 25 existing signalized intersections, 17 currently unsignalized intersections, and 7 freeway segments.

The impacts of the project on intersections and freeways were identified on the basis of the following criteria: (1) the City of San Jose Level of Service standards, and (2) the CMP Level of Service standards for intersections and freeways.

Project impacts on other transportation facilities, such as bicycle facilities and transit, were determined on the basis of engineering judgment.

Project Impacts

Listed below are the transportation facilities that would be impacted by the project.

Freeway Segments

US 101 southbound, SR 85 to Coyote Creek Golf Drive

A COPY OF THE CALCULATIONS PREPARED FOR THE TRAFFIC REPORT ARE AVAILABLE FROM THE DEPARTMENT OF PLANNING, BUILDING AND CODE ENFORCEMENT, AT 801 N. FIRST STREET, SUITE 400, DURING REGULAR WORKING HOURS.

APPENDIX C

AIR QUALITY REPORT

AIR QUALITY IMPACT ANALYSIS FOR THE EDENVALE REDEVELOPMENT AREAS 1-4 PROJECT, SAN JOSE

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I. EXISTING CONDITIONS

Air Pollution Climatology

The amount of a given pollutant in the atmosphere is determined by the amount of pollutant released and the atmosphere's ability to transport and dilute the pollutant. The major determinants of transport and dilution are wind, atmospheric stability, terrain and, for photochemical pollutants, sunshine.

Northwest winds and northerly winds are most common in the project area, reflecting the orientation of the Bay and the San Francisco Peninsula. Winds from these directions carry pollutants released by autos and factories from upwind areas of the Peninsula toward San Jose, particularly during the summer months. Winds are lightest on the average in fall and winter. Every year in fall and winter there are periods of several days when winds are very light and local pollutants can build up.

Pollutants can be diluted by mixing in the atmosphere both vertically and horizontally. Vertical mixing and dilution of pollutants are often suppressed by inversion conditions, when a warm layer of air traps cooler air close to the surface. During the summer, inversions are generally elevated above ground level, but are present over 90 percent of the time in both the morning and afternoon. In winter, surface-based inversions dominate in the morning hours, but frequently dissipate by afternoon.

Topography can restrict horizontal dilution and mixing of pollutants by creating a barrier to air movement. The South Bay has significant terrain features that affect air quality. The Santa Cruz Mountains and Hayward Hills on either side of the South Bay restrict horizontal dilution, and this alignment of the terrain also channels winds from the north to south, carrying pollution from the northern Peninsula toward San Jose.

The combined effects of moderate ventilation, frequent inversions that restrict vertical dilution and terrain that restrict horizontal dilution give San Jose a relatively high atmospheric potential for pollution compared to other parts of the San Francisco Bay Air Basin and provide a high potential for transport of pollutants to the east and south.

The project is located at the southern end of the San Francisco Bay Air Basin and the Bay Area Air Quality Management District. It is near the northern boundary of the adjacent North Central Coast Air Basin (NCCAB) and Monterey Bay Unified Air Pollution Control District (MBUAPCD). The San Francisco Bay Air Basin has been identified as a transporter of ozone to the NCCAB, which has attained federal ozone standards but not the State ambient ozone standard. The NCCAB also has not attained the State PM_{10} standard, and transport of PM_{10} and/or PM_{10} precursors from the San Francisco Bay Air Basin adds to the PM_{10} problem in the NCCAB.

Table 1: Major Criteria Pollutants

Pollutant	Characteristics	Health Effects	Major Sources
Ozone	A highly reactive photochemical pollutant created by the action of sunshine on ozone precursors (primarily reactive hydrocarbons and oxides of nitrogen. Often called photochemical smog.	•Eye Irritation •Respiratory function impairment.	The major sources ozone precursors are combustion sources such as factories and automobiles, and evaporation of solvents and fuels.
Carbon Monoxide	Carbon monoxide is an odorless, colorless gas that is highly toxic. It is formed by the incomplete combustion of fuels.	•Impairment of oxygen transport in the bloodstream. •Aggravation of cardiovascular disease. •Fatigue, headache, confusion, dizziness. •Can be fatal in the case of very high concentrations.	Automobile exhaust, combustion of fuels, combustion of wood in woodstoves and fireplaces.
Nitrogen Dioxide	Reddish-brown gas that discolors the air, formed during combustion.	•Increased risk of acute and chronic respiratory disease.	Automobile and diesel truck exhaust, industrial processes, fossil-fueled power plants.
Sulfur Dioxide	Sulfur dioxide is a colorless gas with a pungent, irritating odor.	•Aggravation of chronic obstruction lung disease. •Increased risk of acute and chronic respiratory disease.	Diesel vehicle exhaust, oil-powered power plants, industrial processes.
Particulate Matter	Solid and liquid particles of dust, soot, aerosols and other matter which are small enough to remain suspended in the air for a long period of time.	•Aggravation of chronic disease and heart/lung disease symptoms.	Combustion, automobiles, field burning, factories and unpaved roads. Also a result of photochemical processes.

Ambient Air Quality Standards

Both the U. S. Environmental Protection Agency and the California Air Resources Board have established ambient air quality standards for common pollutants. These ambient air quality standards are levels of contaminants which represent safe levels that avoid specific adverse health effects associated with each pollutant. The ambient air quality standards cover what are called "criteria" pollutants because the health and other effects of each pollutant are described in criteria documents. Table 1 identifies the major criteria pollutants, characteristics, health effects and typical sources.

The federal and California state ambient air quality standards are summarized in Table 2 for important pollutants. The federal and state ambient standards were developed independently with differing purposes and methods, although both processes attempted to avoid health-related effects. As a result, the federal and state standards differ in some cases. In general, the California state standards are more stringent. This is particularly true for ozone and PM_{10}.

The U.S. Environmental Protection Agency established new national air quality standards for ground-level ozone and for fine Particulate Matter in 1997. Implementation of the new ozone and Particulate Matter standards was further complicated by a recent lawsuit. On May 14, 1999 the Court of Appeals for the District of Columbia Circuit issued a decision ruling that the Clean Air Act as applied in setting the new public health standards for ozone and particulate matter, was unconstitutional as an improper delegation of legislative authority to the Environmental Protection Agency. The decision has been appealed, but the legal status of the new standards will probably remain uncertain for some time.

Ambient Air Quality

The Bay Area Air Quality Management District (BAAQMD) monitors air quality at several locations within the San Francisco Bay Air Basin. The monitoring site closest to the project site is in downtown San Jose. Table 3 summarizes exceedances of State and Federal standards at the downtown San Jose monitoring site during the period 1996-1998. Table 3 shows that ozone and PM_{10} exceed the state standards in the project area. Violations of the carbon monoxide standards had been recorded at the downtown San Jose site prior to 1992.

Of the three pollutants known to at times exceed the state and federal standards in the project area, two are regional pollutants. Both ozone and PM_{10} are considered regional pollutants in that concentrations are not determined by proximity to individual sources, but show a relative uniformity over a region. Thus, the data shown in Table 3 for ozone and PM_{10} provide a good characterization of levels of these pollutants on the project site.

Carbon monoxide is a local pollutant, i.e., high concentrations are normally only found very

Table 2: Federal and State Ambient Air Quality Standards

Pollutant	Averaging Time	Federal Primary Standard	State Standard
Ozone	1-Hour 8-Hour	0.12 PPM 0.08 PPM	0.09 PPM --
Carbon Monoxide	8-Hour 1-Hour	9.0 PPM 35.0 PPM	9.0 PPM 20.0 PPM
Nitrogen Dioxide	Annual Average 1-Hour	0.05 PPM --	-- 0.25 PPM
Sulfur Dioxide	Annual Average 24-Hour 1-Hour	0.03 PPM 0.14 PPM --	-- 0.05 PPM 0.25 PPM
PM_{10}	Annual Average 24-Hour	50 $\mu g/m^3$ 150 $\mu g/m^3$	30 $\mu g/m^3$ 50 $\mu g/m^3$
$PM_{2.5}$	Annual 24-Hour	15 $\mu g/m^3$ 65 $\mu g/m^3$	-- --

PPM = Parts per Million
$\mu g/m^3$ = Micrograms per Cubic Meter

Table 3: Summary of Air Quality Data for Downtown San Jose[1]

Pollutant	Standard	Days Exceeding Standard in:		
		1996	1997	1998
Ozone	Federal 1-Hour	0	0	1
Ozone	State 1-Hour	5	0	4
Carbon Monoxide	State/Federal 8-Hour	0	0	0
PM_{10}	Federal 24-Hour	0	0	0
PM_{10}	State 24-Hour	2	3	3

[1] California Air Resources Board, California Air Quality Data, Annual Summaries, 1996-1997; Bay Area Air Quality Management District, Air Currents, July/August 1999..

near sources. The major source of carbon monoxide, a colorless, odorless, poisonous gas, is automobile traffic. Elevated concentrations, therefore, are usually only found near areas of high traffic volumes.

The data shown in Table 3 for carbon monoxide are not necessarily representative of concentrations that would be found near the proposed project site. For this reason, concentrations of carbon monoxide have been estimated using a computer simulation model that predicts concentrations based on information on roadway locations, traffic volumes and traffic conditions.

Attainment Status and Regional Air Quality Plans

The federal Clean Air Act and the California Clean Air Act of 1988 require that the State Air Resources Board, based on air quality monitoring data, designate portions of the state where the federal or state ambient air quality standards are not met as "non-attainment areas". Because of the differences between the national and state standards, the designation of non-attainment areas is different under the federal and state legislation.

The Bay Area currently had until recently attained all federal standards. In June of 1998 the U.S. Environmental Protection Agency reclassified the Bay Area from "maintenance area" to non-attainment for ozone based on violations of the federal standards at several locations in the air basin. This reversed the air basin's reclassification to "maintenance area" for ozone in 1995. Reclassification requires an update to the region's federal air quality plan.

Under the California Clean Air Act Santa Clara County is a non-attainment area for ozone and PM_{10}. The county is either attainment or unclassified for other pollutants.

The California Clean Air Act requires local air pollution control districts to prepare air quality attainment plans. These plans must provide for district-wide emission reductions of five percent per year averaged over consecutive three-year periods or if not, provide for adoption of "all feasible measures on an expeditious schedule".

Sensitive Receptors

The Bay Area Air Quality Management District defines sensitive receptors as facilities where sensitive receptor population groups (children, the elderly, the acutely ill and the chronically ill) are likely to located. These land uses include residences, schools playgrounds, child care centers, retirement homes, convalescent homes, hospitals and medical clinics. The New Edenvale Redevelopment Area contains scattered residences. The Old Edenvale Redevelopment Area contains residences and Santa Teresa Community Hospital.

Significance Criteria

BAAQMD CEQA Guidelines[2] provide the following definitions of a significant air quality impact:

- A project contributing to carbon monoxide (CO) concentrations exceeding the State Ambient Air Quality Standard of 9 parts per million (ppm) averaged over 8 hours or 20 ppm for 1 hour would be considered to have a significant impact.

- A project that generates criteria air pollutant emissions in excess of the BAAQMD annual or daily thresholds would be considered to have a significant air quality impact. The current thresholds are 15 tons/year or 80 pounds/day for Reactive Organic Gases (ROG), Nitrogen Oxides (NOx) or PM_{10}. Any proposed project that would individually have a significant air quality impact would also be considered to have a significant cumulative air quality impact.

- Any project with the potential to frequently expose members of the public to objectionable odors would be deemed to have a significant impact.

- Any project with the potential to expose sensitive receptors or the general public to substantial levels of toxic air contaminants would be deemed to have a significant impact.

The BAAQMD significance thresholds for construction dust impacts is based on the appropriateness of construction dust controls. The BAAQMD guidelines provide feasible control measures for construction emission of PM_{10}. If the appropriate construction controls are to be implemented, then air pollutant emissions for construction activities would be considered less-than-significant.

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[2] Bay Area Air Quality Management District, BAAQMD CEQA Guidelines, 1996.

II. IMPACTS

Construction-Related Impacts

The project would result in considerable construction activity over an extended period of time. Development of 7.8 million square feet of industrial uses would affect air quality at numerous sites within the project area. In addition, the project proposes the construction of numerous infrastructures improvements that would also have construction-related air quality effects.

Construction activities such as earthmoving, excavation and grading operations, construction vehicle traffic and wind blowing over exposed earth would generate exhaust emissions and fugitive particulate matter emissions that would affect local and regional air quality. Construction activities are also a source of organic gas emissions. Solvents in adhesives, non-waterbase paints, thinners, some insulating materials and caulking materials would evaporate into the atmosphere and would participate in the photochemical reaction that creates urban ozone. Asphalt used in paving is also a source of organic gases for a short time after its application.

Construction dust would affect local air quality during buildout of the project. The dry, windy climate of the area during the summer months creates a high potential for dust generation when and if underlying soils are exposed to the atmosphere.

The effects of construction activities would be increased dustfall and locally elevated levels of PM_{10} downwind of construction activity. Construction dust has the potential for creating a nuisance at nearby properties. This impact is considered potentially significant.

Local Impacts

On the local scale, the project would change traffic on the local street network, changing carbon monoxide levels along roadways used by project traffic. Carbon monoxide is an odorless, colorless poisonous gas whose primary source in the Bay Area is automobiles. Concentrations of this gas are highest near intersections of major roads.

The CALINE-4 computer simulation model was applied to eight signalized intersections with or near the project site. These intersections were selected as having a Level of Service (LOS) D or worse and would have a measurable increase in traffic due to the project. The model results were used to predict the maximum 1-and 8-hour concentrations, corresponding to the 1- and 8-hour averaging times specified in the state and federal ambient air quality standards for carbon monoxide. The CALINE-4 model and the assumptions made in its use for this project are described in Attachment 1.

Table 4 shows the results of the CALINE-4 analysis for the peak 1-hour and 8-hour traffic

periods in parts per million (PPM). The 1-hour values are to be compared to the federal 1-hour standard of 35 PPM and the state standard of 20 PPM. The 8-hour values in Table 4 are to be compared to the state and federal standard of 9 PPM.

Table 4 shows that existing predicted concentrations near the intersections meet the 1-hour and 8-hour standards.

Under background traffic conditions in the year 2010 reductions in concentrations are anticipated, despite increased traffic, due to gradually declining emission rates for the vehicle fleet as older, more polluting cars are replaced by newer, cleaner cars. No exceedances of either the 1-hour or 8-hour standards are predicted at the intersections modeled.

Project traffic would increase carbon monoxide concentrations by at most 1.5 PPM at any of the intersections studied. Since project traffic would not cause any new violations of the 8-hour standards for carbon monoxide, nor contribute substantially to an existing or projected violation, project impacts on local carbon monoxide concentrations are considered to be less-than-significant.

Permanent Regional Impacts

Vehicle trips generated by the project would result in air pollutant emissions affecting the entire San Francisco Bay Air Basin and portions of the adjacent North Central Coast Air Basin. Regional emissions associated with project vehicle use has been calculated using the URBEMIS7G emission model. The methodology used in estimating vehicular emissions is described in Attachment 2.

The incremental daily emission increase associated with the project is identified in Table 5 for reactive organic gases and oxides of nitrogen (two precursors of ozone) and PM_{10}. Emissions are shown for Phase 1 of the project (assumed complete by 2003) and for buildout of the entire project (assumed to occur by 2010).

The Bay Area Air Quality Management District has established thresholds of significance for ozone precursors and PM_{10} of 80 pounds per day. Proposed project emissions shown in Table 5 would exceed this criterion for all three pollutants for both Phase 1 and buildout, so the proposed project would have a significant effect on regional air quality. BAAQMD guidance states that any proposed project that would individually have a significant air quality impact (based on BAAQMD thresholds of significance) would also be considered to have a significant cumulative air quality impact.

The project's significant and cumulative effect on regional air quality would affect both the San Francisco Bay Air Basin and the northern portions of the adjacent North Central Coast Air Basin. This larger geographical extent of the project's impact would be due to the

Table 4: Worst Case Carbon Monoxide Concentrations Near Selected Intersections, in PPM

Intersection	Existing		Background (2010)		Background + Project (2010)	
	1-Hr	8-Hr	1-Hr	8-Hr	1-Hr	8-Hr
Cottle Road/ Santa Teresa Blvd.	10.4	6.9	6.7	4.4	7.0	4.7
Eden Park Place/ Silicon Valley	6.1	3.9	4.7	3.0	6.0	3.9
U.S. 101 NB Ramp/ Helyer Avenue	6.3	4.1	5.2	3.4	5.7	3.7
Great Oaks/ SR 85 Ramp	7.1	4.7	5.0	3.2	6.0	3.9
San Ignacio/ Bernal	9.4	6.3	6.3	4.2	6.8	4.5
Monterey Highway/ Bernal	9.1	6.0	7.7	5.1	8.0	5.4
101 Ramp/ Silver Creek Valley	7.4	4.8	7.1	4.7	8.6	5.7
SR 85 Off Ramp/ Bernal	11.0	7.4	6.8	4.5	7.9	5.2
Most Stringent Standard	20.0	9.0	20.0	9.0	20.0	9.0

Table 5: Project Regional Emissions in Pounds Per Day

	Reactive Organic Gases	**Nitrogen Oxides**	**PM-10**
Project Emissions: Phase 1 (2003) Buidout (2010)	 727.3 649.0	 1205.1 1347.4	 447.2 620.8
BAAQMD Significance Threshold	80.0	80.0	80.0

transport of pollutants from one air basin to the next by the wind and by the inducement of vehicle travel on roads within the adjacent NCCAB.

III. MITIGATION MEASURES

Construction Impacts

For all project-facilitated construction activity, require implementation of the following dust control measures by construction contractors during all construction phases:

- Water all active construction areas at least twice daily.
- Watering or covering of stockpiles of debris, soil, sand or other materials that can be blown by the wind.
- Cover all trucks hauling soil, sand, and other loose materials or require all trucks to maintain at least two feet of freeboard.
- Pave, apply water three times daily, or apply (non-toxic) soil stabilizers on all unpaved access roads, parking areas and staging areas at construction sites.
- Sweep daily (preferably with water sweepers) all paved access road, parking areas and staging areas at construction sites.
- Sweep streets daily (preferably with water sweepers) if visible soil material is carried onto adjacent public streets.
- Hydroseed or apply non-toxic soil stabilizers to inactive construction areas.
- Enclose, cover, water twice daily or apply non-toxic soil binders to exposed stockpiles (dirt, sand, etc.).
- Limit traffic speeds on unpaved roads to 15 mph.
- Install sandbags or other erosion control measures to prevent silt runoff to public roadways.
- Replant vegetation in disturbed areas as quickly as possible.

Implementation of the measures would reduce the impact of the project to a less than significant level.

Regional Air Quality Impacts

The following mitigation strategies should be applied to all industrial development with the

project:

- Provide physical improvements, such as sidewalk improvements, landscaping and bicycle parking that would act as incentives for pedestrian and bicycle modes of travel.

- Connect each site with regional bikeway/pedestrian trail system. Provide employee showers and changing areas.

- Implement feasible travel demand management (TDM) measures for a project of this type. This would include a ride-matching program, guaranteed ride home programs, coordination with regional ridesharing organizations and transit incentives program.

- Provide on-site services for employees, such as a cafeteria, ATM machine and postal services.

- Provide shuttle bus service to regional transit centers and food service establishments/commercial areas at midday.

- Provide on-site child-care.

- Provide preferential parking for carpool/vanpool vehicles.

- Implement parking cash-out program for employees (non-driving employees receive transportation allowance equivalent to the value of subsidized parking).

The adoption of the above measures would have the potential to reduce the regional impacts of the project by perhaps 5-15%. This reduction would not reduce the project's regional impacts to less-than-significant levels, so the project's impacts would remain significant after mitigation.

ATTACHMENT 1: NEW VEHICLE TRAVEL EMISSIONS

Estimates of regional emissions generated by project traffic were made using a program called URBEMIS-7G.[3] URBEMIS-7G is a program that estimates the emissions that result from various land use development projects. Land use project can include residential uses such as single-family dwelling units, apartments and condominiums, and nonresidential uses such as shopping centers, office buildings, and industrial parks. URBEMIS-7G contains default values for much of the information needed to calculate emissions. However, project-specific, user-supplied information can also be used when it is available.

Inputs to the URBEMIS-7G program include trip generation rates, vehicle mix, average trip length by trip type and average speed. Trip generation rates for project land uses were provided by the project transportation consultant. Average trip lengths and vehicle mixes for the Bay Area were used. Average speed for all types of trips was assumed to be 30 MPH.

The URBEMIS-7G runs assumed summertime conditions with an ambient temperature of 85 degrees F.

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[3] San Joaquin Valley Unified Air Pollution Control District, URBEMIS-7G User's Guide, May 1998.

ATTACHMENT 2: CALINE-4 MODELING

The CALINE-4 model is a fourth-generation line source air quality model that is based on the Gaussian diffusion equation and employs a mixing zone concept to characterize pollutant dispersion over the roadway. Given source strength, meteorology, site geometry and site characteristics, the model predicts pollutant concentrations for receptors located within 150 meters of the roadway. The CALINE-4 model allows roadways to be broken into multiple links that can vary in traffic volume, emission rates, height, width, etc..

The CALINE-4 model allows roadways to be broken into multiple links that can vary in traffic volume, emission rates, height, width, etc.. Each intersection was modeled as sixteen separate links with varying traffic volumes and emission rates. The identification of links and average speeds for each link (which determines the emission rate) were developed using the recent carbon monoxide modeling protocol developed for use in California for the California Department of Transportation and Federal Highway Administration.[4] Approach, departure and free-flow links were created for each direction of travel.

Wind direction was varied to identify the worst-case wind angle for each receptor. Emission factors were obtained from the Air Resources Board EMFAC7G computer model.

Receptors (locations where the model calculates concentrations) were located at distance of 20 feet from the roadway edge for all four corners of the intersection and at locations 30 feet in either direction, for a total of 12 receptors. Figure 1 is a schematic diagram showing the location of receptors.

The computation of carbon monoxide levels assumed the following worst-case meteorological conditions:

Windspeed: 1 mps
Stability: F Category
Mixing Height: 1000 meters
Surface Roughness: 100 cm
Standard Deviation of Wind Direction: 10 degrees

The CALINE-4 model calculates the local contribution of nearby roads to the total concentration. The other contribution is the background level attributed to more distant traffic. The 1-hour background level was calculated as 5.3 PPM in 2000 and 4.1 PPM in

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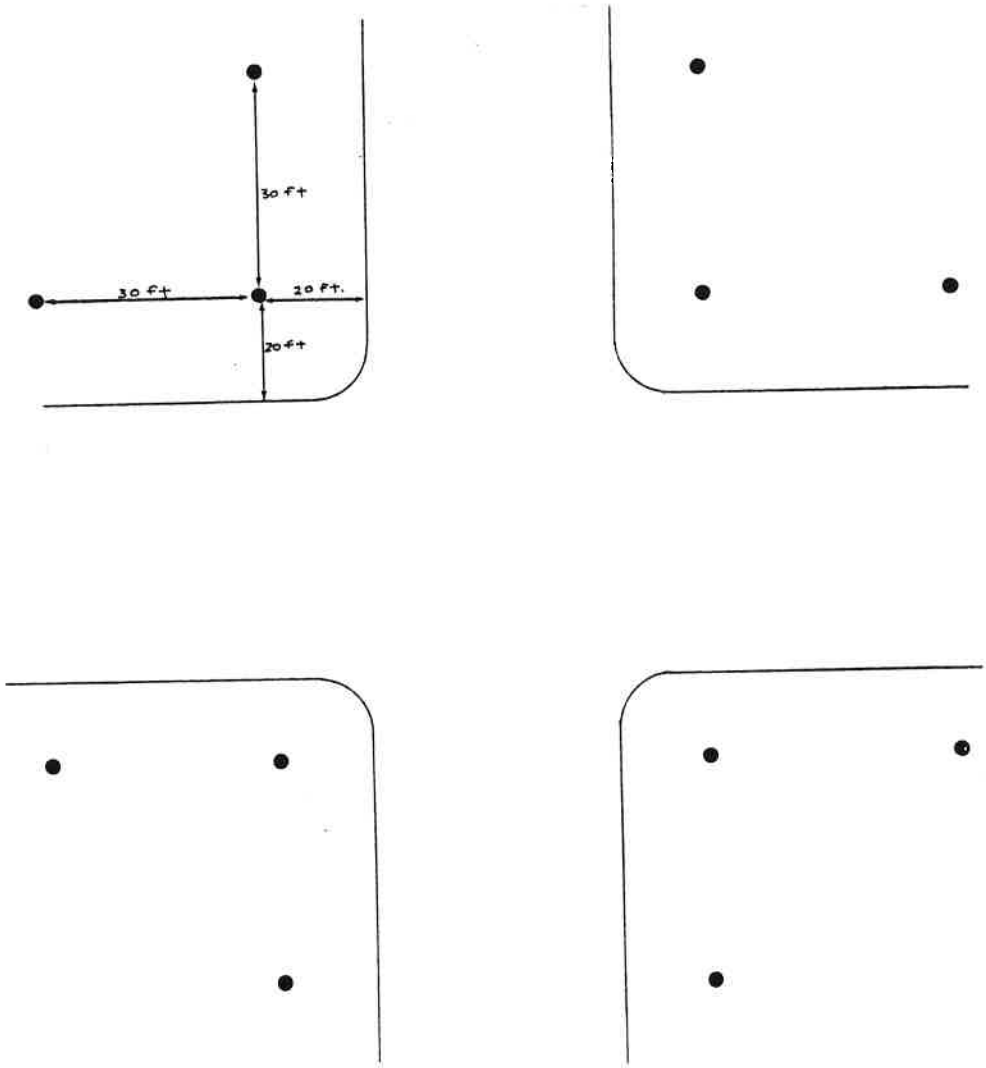
[4]Garza, Vincente J.; Peter Granly; Daniel Sperling, Transportation Project-Level Carbon Monoxide Protocol, Institute of Transportation Studies, University of California, Davis, Report UCD-ITS-RR-97-21, December 1997.

2010. The 8-hour background level was calculated as 3.4 PPM in 2000 and 2.6 PPM in 2010. These background concentrations were calculated using base year 1992 isopleths of carbon monoxide concentration and correction factors prepared by the Bay Area Air Quality Management District.

To calculate 8-hour concentrations from the 1-hour output of the CALINE-4 model, a persistence factor of 0.70 was employed.

Figure 1: Location of CALINE-4 Receptors



APPENDIX D

NOISE REPORT

EDENVALE REDEVELOPMENT PROJECT
EIR NOISE SECTION
SAN JOSE, CALIFORNIA

February 23, 2000

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NOISE

This section describes the existing noise environment within and around the Edenvale Redevelopment Area and the project's potential noise impacts. This analysis presents the fundamentals of environmental acoustics, applicable regulatory background, a description of the existing noise environment within and around the project area, and project impacts and mitigation measures.

Fundamental Concepts of Environmental Acoustics

Noise may be defined as unwanted sound. Noise is usually objectionable because it is disturbing or annoying. The objectionable nature of sound could be caused by its *pitch* or its loudness. *Pitch* is the height or depth of a tone or sound, depending on the relative rapidity (frequency) of the vibrations by which it is produced. Higher pitched signals sound louder to humans than sounds with a lower pitch. *Loudness* is intensity of sound waves combined with the reception characteristics of the ear. Intensity may be compared with the height of an ocean wave in that it is a measure of the amplitude of the sound wave.

In addition to the concepts of pitch and loudness, there are several noise measurement scales which are used to describe noise in a particular location. *A decibel (dB)* is a unit of measurement which indicates the relative amplitude of a sound. The zero on the decibel scale is based on the lowest sound level that the healthy, unimpaired human ear can detect. Sound levels in decibels are calculated on a logarithmic basis. An increase of 10 decibels represents a ten-fold increase in acoustic energy, while 20 decibels is 100 times more intense, 30 decibels is 1,000 times more intense, etc. There is a relationship between the subjective noisiness or loudness of a sound and its intensity. Each 10 decibel increase in sound level is perceived as approximately a doubling of loudness over a fairly wide range of intensities. Technical terms are defined in Table 1.

There are several methods of characterizing sound. The most common in California is the *A-weighted sound level or dBA*. This scale gives greater weight to the frequencies of sound to which the human ear is most sensitive. Representative outdoor and indoor noise levels in units of dBA are shown in Table 2. Because sound levels can vary markedly over a short period of time, a method for describing either the average character of the sound or the statistical behavior of the variations must be utilized. Most commonly, environmental sounds are described in terms of an average level that has the same acoustical energy as the summation of all the time-varying events. This energy-equivalent sound/noise descriptor is called L_{eq}. The most common averaging period is hourly, but L_{eq} can describe any series of noise events of arbitrary duration.

With regard to increases in A-weighted noise level, knowledge of the following relationships will be helpful in understanding this report.

TERM	DEFINITIONS
Decibel, dB	A unit describing the amplitude of sound, equal to 20 times the logarithm to the base 10 of the ratio of the pressure of the sound measured to the reference pressure, which is 20 micropascals (20 micronewtons per square meter).
Frequency, Hz	The number of complete pressure fluctuations per second above and below atmospheric pressure.
A-Weighted Sound Level, dBA	The sound pressure level in decibels as measured on a sound level meter using the A-weighting filter network. The A-weighting filter de-emphasizes the very low and very high frequency components of the sound in a manner similar to the frequency response of the human ear and correlates well with subjective reactions to noise. All sound levels in this report are A-weighted, unless reported otherwise.
L_{01}, L_{10}, L_{50}, L_{90}	The A-weighted noise levels that are exceeded 1%, 10%, 50%, and 90% of the time during the measurement period.
Equivalent Noise Level, L_{eq}	The average A-weighted noise level during the measurement period.
Community Noise Equivalent Level, CNEL	The average A-weighted noise level during a 24-hour day, obtained after addition of 5 decibels in the evening from 7:00 pm to 10:00 pm and after addition of 10 decibels to sound levels measured in the night between 10:00 pm and 7:00 am.
Day/Night Noise Level, L_{dn}, DNL	The average A-weighted noise level during a 24-hour day, obtained after addition of 10 decibels to levels measured in the night between 10:00 pm and 7:00 am.
L_{max}, L_{min}	The maximum and minimum A-weighted noise level during the measurement period.
Ambient Noise Level	The composite of noise from all sources near and far. The normal or existing level of environmental noise at a given location.
Intrusive	That noise which intrudes over and above the existing ambient noise at a given location. The relative intrusiveness of a sound depends upon its amplitude, duration, frequency, and time of occurrence and tonal or informational content as well as the prevailing ambient noise level.

Definitions Of Acoustical Terms | **Table 1**

ILLINGWORTH & RODKIN, INC./Acoustical Engineers

At a Given Distance From Noise Source	A-Weighted Sound Level in Decibels	Noise Environments	Subjective Impression
	140		
Civil Defense Siren (100')	130		
Jet Takeoff (200')	120		Pain Threshold
	110	Rock Music Concert	
Diesel Pile Driver (100')	100		Very Loud
	90	Boiler Room	
Freight Cars (50')		Printing Press Plant	
Pneumatic Drill (50')	80		
Freeway (100')		In Kitchen With Garbage	
Vacuum Cleaner (10')	70	Disposal Running	Moderately Loud
	60	Data Processing Center	
Light Traffic (100')	50	Department Store	
Large Transformer (200')			
	40	Private Business Office	Quiet
Soft Whisper (5')	30	Quiet Bedroom	
	20	Recording Studio	
	10		Threshold of Hearing
	0		

Typical Sound Levels Measured In The Environment And Industry | **Table 2**

ILLINGWORTH & RODKIN, INC./Acoustical Engineers

- Except in carefully controlled laboratory experiments, a change of 1 dB cannot be perceived.
- Outside of the laboratory, a 3 dB change is considered a just-perceivable difference. A change in level of at least 5 dB is required before any noticeable change in community response would be expected.
- A 10 dB change is subjectively heard as approximately a doubling in loudness, and would almost certainly cause an adverse change in community response.

The scientific instrument used to measure noise is the sound level meter. Sound level meters can accurately measure environmental noise levels to within about plus or minus 1 dBA. Various computer models are used to predict environmental noise levels from sources, such as roadways and airports. The accuracy of the predicted models depends upon the distance the receptor is from the noise source. Close to the noise source, the models are accurate to within about plus or minus 1 to 2 dBA.

Since the sensitivity to noise increases during the evening and at night -- because excessive noise interferes with the ability to sleep -- 24-hour descriptors have been developed that incorporate artificial noise penalties added to quiet-time noise events. The *Community Noise Equivalent Level, CNEL*, is a measure of the cumulative noise exposure in a community, with a 5 dB penalty added to evening (7:00 pm - 10:00 pm) and a 10 dB addition to nocturnal (10:00 pm - 7:00 am) noise levels. The *Day/Night Average Sound Level,* L_{dn}, is essentially the same as CNEL, with the exception that the evening time period is dropped and all occurrences during this three-hour period are grouped into the daytime period.

Effects of Noise

Hearing Loss

While physical damage to the ear from an intense noise impulse is rare, a degradation of auditory acuity can occur even within a community noise environment. Hearing loss occurs mainly due to chronic exposure to excessive noise, but may be due to a single event such as an explosion. Natural hearing loss associated with aging may also be accelerated from chronic exposure to loud noise.

The Occupational Safety and Health Administration (OSHA) has a noise exposure standard which is set at the noise threshold where hearing loss may occur from long-term exposures. The maximum allowable level is 85 dBA averaged over eight hours. If the noise is above 85 dBA, the allowable exposure time is correspondingly shorter.

Sleep and Speech Interference

The thresholds for speech interference indoors are about 45 dBA if the noise is steady and above 55 dBA if the noise is fluctuating. Outdoors the thresholds are about 15 dBA higher. Steady noise of sufficient intensity (above 35 dBA) and fluctuating noise levels above about 45 dBA have

been shown to affect sleep. Interior residential standards for multi-family dwellings are set by the State of California at 45 dBA L_{dn}. Typically, the highest steady traffic noise level during the daytime is about equal to the L_{dn} and nighttime levels are 10 dBA lower. The standard is designed for sleep and speech protection and most jurisdictions apply the same criterion for all residential uses. Typical structural attenuation is 12-17 dBA with open windows. With closed windows in good condition, the noise attenuation factor is around 20 dBA for an older structure and 25 dBA for a newer dwelling. Sleep and speech interference is therefore possible when exterior noise levels are about 57-62 dBA L_{dn} with open windows and 65-70 dBA L_{dn} if the windows are closed. Levels of 55-60 dBA are common along collector streets and secondary arterials, while 65-70 dBA is a typical value for a primary/major arterial. Levels of 75-80 dBA are normal noise levels at the first row of development outside a freeway right-of-way. In order to achieve an acceptable interior noise environment, bedrooms facing secondary roadways need to be able to have their windows closed, those facing major roadways and freeways typically need special glass windows.

Annoyance

Attitude surveys are used for measuring the annoyance felt in a community for noises intruding into homes or affecting outdoor activity areas. In these surveys, it was determined that the causes for annoyance include interference with speech, radio and television, house vibrations, and interference with sleep and rest. The L_{dn} as a measure of noise has been found to provide a valid correlation of noise level and the percentage of people annoyed. People have been asked to judge the annoyance caused by aircraft noise and ground transportation noise. There continues to be disagreement about the relative annoyance of these different sources. When measuring the percentage of the population highly annoyed, the threshold for ground vehicle noise is about 55 dBA L_{dn}. At an L_{dn} of about 60 dBA, approximately 2 percent of the population is highly annoyed. When the L_{dn} increases to 70 dBA, the percentage of the population highly annoyed increases to about 12 percent of the population. There is, therefore, an increase of about 1 percent per dBA between an L_{dn} of 60-70 dBA. Between an L_{dn} of 70-80 dBA, each decibel increase increases by about 2 percent the percentage of the population highly annoyed. People appear to respond more adversely to aircraft noise. When the L_{dn} is 60 dBA, approximately 10 percent of the population is believed to be highly annoyed. Each decibel increase to 70 dBA adds about 2 percentage points to the number of people highly annoyed. Above 70 dBA, each decibel increase results in about a 3 percent increase in the percentage of the population highly annoyed.

Regulatory Background

The State of California and the City of San Jose have established guidelines and policies which are applicable to the proposed project. The State of California has established the California Environmental Quality Act (CEQA) to assess the potential for significant noise impacts as a result of a project. The City of San Jose has established local guidelines and policies in the Horizon 2020 General Plan to protect citizens from excessive exposure to noise. The following are applicable to the proposed project:

State of California CEQA Guidelines

The California Environmental Quality Act (CEQA) asks the following questions regarding potential noise effects from a project. Would the project result in:

(a) exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

(b) exposure of persons to or generation of excessive ground-borne vibration or ground-borne noise levels?

(c) a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?

(d) a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?

(e) for a project located within an airport land use plan or where such a plan has not been adopted within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

(f) for a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?

CEQA does not define what noise level increase would be considered substantial. Typically, in high noise environments, if the DNL[1] due to the project would increase by more than 3 dBA at noise-sensitive receptors, the impact would be considered significant. Where the existing noise level is lower, a somewhat higher increase can be tolerated before significance occurs. For the proposed project, an increase in the DNL noise level resulting from the project at noise sensitive land uses of 3 dBA or greater would be considered a significant impact when projected noise levels would exceed those considered "satisfactory" for the affected land use.

City of San Jose Noise Element of the General Plan

The Noise Element of the City of San Jose's 2020 General Plan identifies noise and land use compatibility standards for various land uses. Industrial land uses proposed by the buildout of this project are considered "satisfactory" with an exterior DNL of up to 70 dBA. The guidelines state that where the exterior DNL is above the "satisfactory" limit, and the project

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1 DNL - The average A-weighted noise level during a 24-hour day, obtained after addition of 10 decibels to levels measured in the night between 10:00 pm and 7:00 am (Same as L_{dn}).

requires a full EIR, an acoustical analysis should be made indicating the amount of attenuation necessary to maintain an indoor level of a DNL less than or equal to 45 dBA. Onsite outdoor activity should be limited to acoustically protected areas. The following policies stated in the Noise Element are also applicable to the proposed project.

Policy 9. Construction operations should use available noise suppression devices and techniques.

Policy 11. When located adjacent to existing or planned noise sensitive residential and public/quasi-public land uses, non-residential land uses should mitigate noise generation to meet the 55 DNL guideline at the property line.

Policy 12. Noise studies should be required for land use proposals where known or suspected peak event noise sources occur which may impact adjacent existing or planned land uses.

Existing Noise Environment

The project is located in the Edenvale Redevelopment Area of southern San Jose (Figure 1). The project area includes parcels near Highway 101 and Highway 85. A noise survey was conducted on February 8th and February 9th, 2000 to describe the existing noise environments which are anticipated to be affected by increased traffic noise generated by the project. The noise environments at each site varied, therefore, several noise measurements were made to quantify the existing noise levels. Three 24-hour noise measurements and one short term noise measurement were conducted to complete the noise monitoring survey. Figure 1 shows the noise measurement locations with respect to the project area.

The first long-term noise measurement was conducted in a single-family residential neighborhood along Hellyer Avenue just west of the northern portion of the project area. The noise monitor was located approximately 65 feet from the centerline of Hellyer Avenue along Ambler Way. The majority of single-family residences along Hellyer Avenue are set back about 50 feet from the centerline of Hellyer Avenue. The dominant noise source at this noise monitoring location was vehicular traffic along Hellyer Avenue. Hourly average noise levels typically ranged from about 51 dBA to 64 dBA L_{eq}. The calculated DNL during the 24-hour noise monitoring period was about 64 dBA. This data is summarized in Figure 2.

A second 24-hour noise measurement was made approximately 35 feet from the centerline of Branham Lane, west of Highway 101. This noise measurement was conducted to quantify the existing noise levels within this residential area to determine the noise impacts associated with the possible construction of a highway interchange at Branham Lane. Traffic under this alternative would be routed through this area. Hourly average noise levels at this noise monitoring location ranged from about 47 dBA to 66 dBA L_{eq}, and the DNL was about 63 dBA. This data is summarized in Figure 3.

Edenvale Redevelopment Project
Noise Measurement Locations

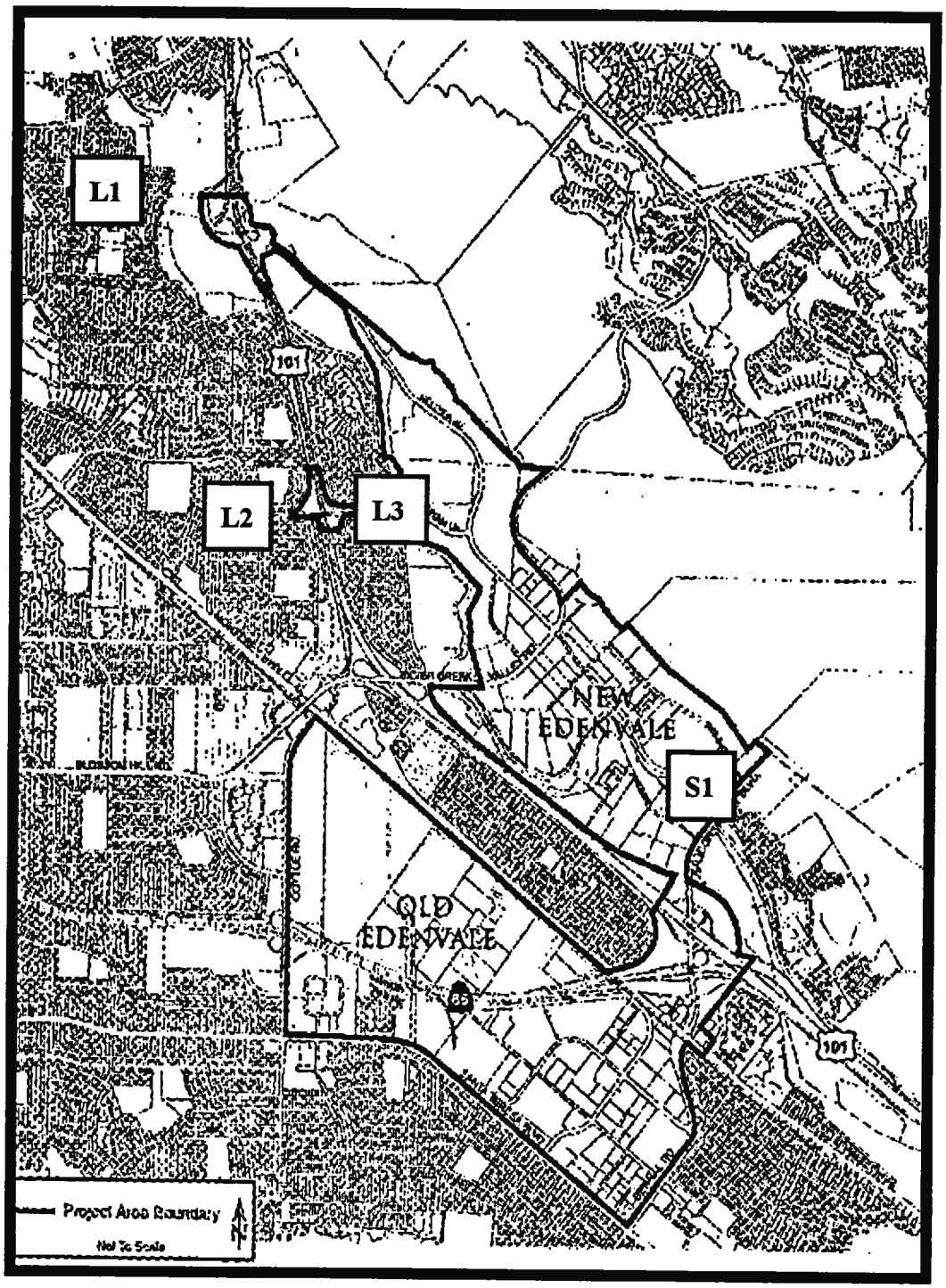

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Figure 1

Hourly Noise Levels at Site L1
65 feet from the Centerline of Hellyer Avenue
February 8-9, 2000

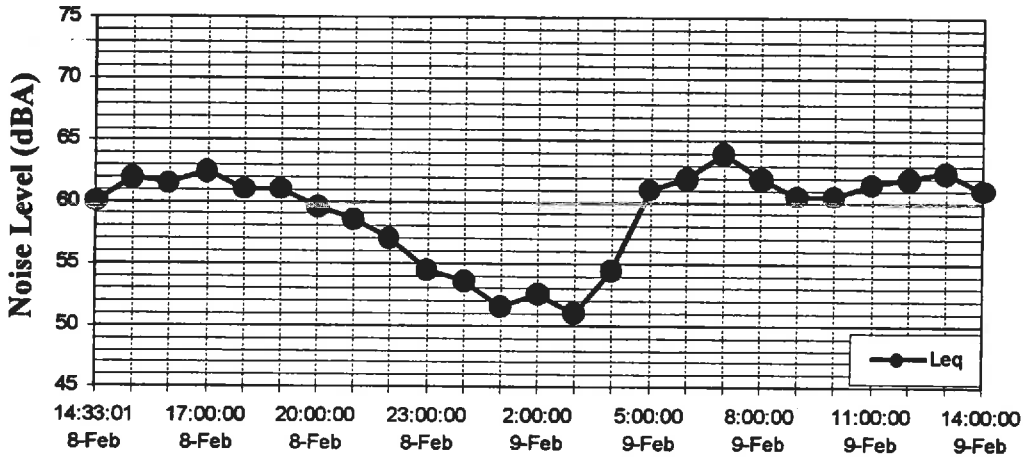

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Figure 2

Hourly Noise Levels at Site L2
35 feet from the Centerline of Branham Lane
February 8-9, 2000

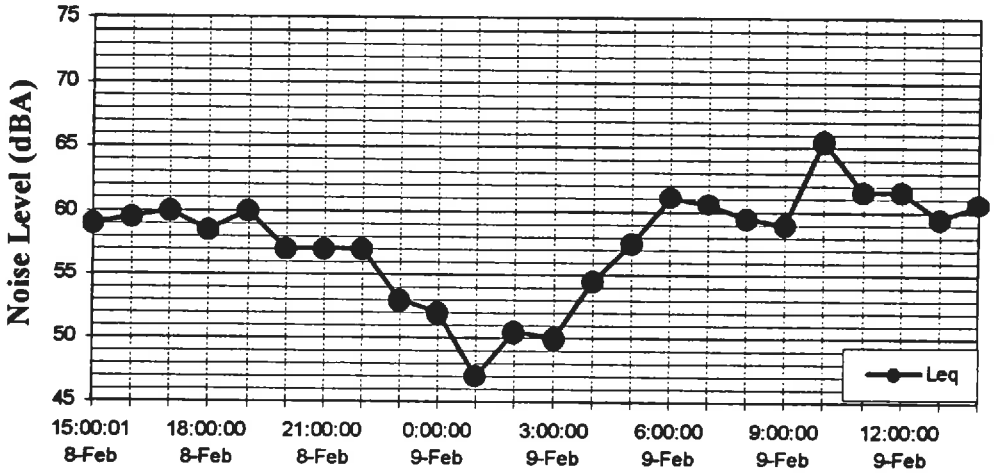

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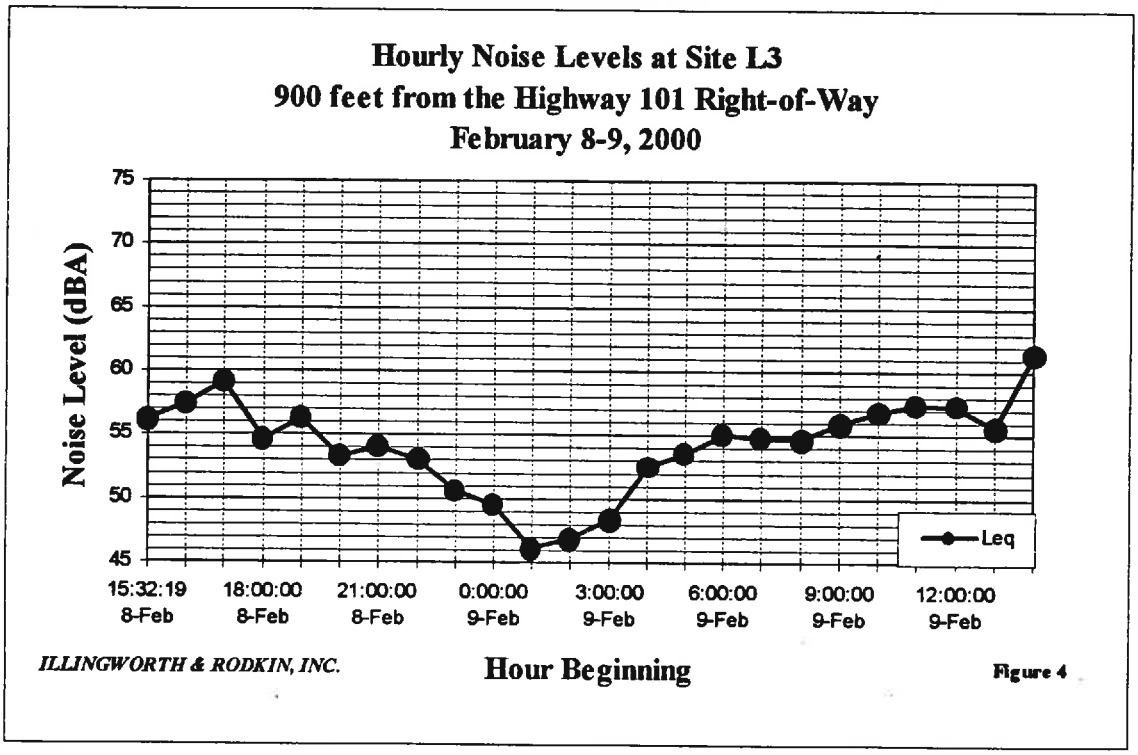
Figure 3

The third long-term noise monitoring site was located within the Branham Lane right-of-way on the east side of Highway 101. This right-of-way is bounded by single-family residential land uses to the north and south, Highway 101 to the west and Coyote Road to the east. The measurement was conducted approximately 900 feet east of Highway 101 and 300 feet west of the centerline of Coyote Road. At this site, hourly average noise levels ranged from about 46 dBA to 61 dBA L_{eq}, and the DNL was about 59 dBA. This data is summarized in Figure 4.



A short-term noise measurement was also conducted near the intersection of Silicon Valley Boulevard and Piercy Road to quantify the existing background noise levels at residences located along Piercy Road. The average noise level during the measurement period was about 50 dBA. Noise sources included distant traffic along Highway 101 and noise generated by aircraft.

Impact Significance Criteria

Noise impacts for this project would be considered significant if:

(a) Project-generated traffic noise levels would cause the DNL to increase by more than 3 dBA and cause the DNL to exceed the noise level that would be considered satisfactory for the affected land use per the Noise and Land Use Compatibility Standards in the Noise Element of the city of San Jose's 2020 General Plan;

(b) Noise generated by onsite activity would exceed the existing background noise level (L_{90}) during hours of operation by 5 dBA or more; and

(c) Construction noise levels would exceed an average level of 60 dBA at sensitive receptors for an extended period of time. For the purposes of this study, an extended period of time would be a period greater than six months.

Impact 1: Traffic generated by buildout of the Edenvale Redevelopment Project area would cause noise levels to increase on the streets serving the area. In some cases, noise levels would increase by 3 dBA or more and would cause noise levels at adjacent noise sensitive receptors to exceed the City's satisfactory noise level for residential areas of a DNL of 60 dB outdoors. This is a significant impact.

The traffic data contained in the Transportation section of this EIR was used to calculate changes in noise levels along the street system serving the Edenvale Redevelopment Plan Area. Where calculations indicated that noise levels would increase by 3 dBA or more, future noise levels for the traffic volume were calculated and compared with the existing background noise level to determine if the overall noise level would increase by 3 dBA or more and would exceed the City's goal for outdoor noise levels in residential areas not in excess of a DNL of 60 dB. The calculations show that there are four areas which would be impacted by traffic added by the buildout of the redevelopment areas. These areas are as follows:

Noise levels on Hellyer Avenue between Silver Creek Road and Highway 101 would increase by 3-4 dBA. On the other side of Highway 101, traffic noise levels along Hellyer Avenue would increase by about 1 dBA, which would not be significant. The nearest existing residential development to Hellyer Avenue is located just west of Coyote Creek. The closest homes are located about 380 feet from Hellyer Avenue. Based on the measurement made at Site L3 on the Branham Lane right-of-way at a distance of 900 feet from Highway 101, the existing day/night average noise level DNL at the homes closest to Hellyer Avenue (1500 feet from Highway 101) is about 55 dBA. When the projected noise level from traffic on Hellyer Avenue is added to the existing noise level, the total overall DNL will reach 60 dB, for a total increase of 5 dB over existing noise levels. Since the overall noise level would not exceed the City's goal for satisfactory outdoor noise levels in excess of 60 dB in residential areas, this area would not be considered impacted.

The second area where traffic noise increases are projected to exceed 3 dB or more is on Bernal Avenue between Via de Oro and San Ignacio. There is existing residential development on the east side of Bernal Avenue in this area. These homes are shielded from traffic noise on Bernal Avenue by an existing soundwall. Traffic volumes on Bernal Avenue are currently such that noise levels in the backyards of these homes would be expected to be about a DNL of 60 dB. An increase of 3 dBA would cause this threshold to be exceeded.

The third area would be along Silicon Valley Boulevard between Basking Ridge Road and Highway 101. There are no sensitive receptors located along this stretch of Silicon Valley Boulevard, so this noise increase would not be significant. North of Basking Ridge Road along Silicon Valley Boulevard between Basking Ridge Road and Piercy Road, noise levels are expected to increase by 6 decibels. There are existing homes located along the east side of Silicon Valley Boulevard in this area. These homes are shielded from noise emanating from Silicon Valley Boulevard by a wood property line fence, about 5 to 6 feet tall. Traffic on Silicon Valley Boulevard in the future would generate a DNL of 59 dBA. When the shielding provided by the existing fence is taken into account, the DNL in the backyards would be expected to be below 55 dBA, significantly below the City's threshold for noise and land use compatibility.

The final area where noise levels would be expected to increase by 3 dB or more would be along Piercy Road between Silver Creek Valley Road and Silicon Valley Boulevard. Noise levels are expected to increase by 5 decibels in this area. There are scattered existing farm homes and residences along this portion of Piercy Road. Future noise levels at a distance of 50 feet, typical of the closest homes to the road, would reach a DNL of about 67 dB, significant in excess of the City's threshold for satisfactory noise levels in residential areas. These residences in this area would be significantly impacted by increased traffic noise levels.

Mitigation 1: **In the two areas where traffic noise impacts are expected to be significant, i.e., along Bernal Avenue between Via de Oro and San Ignacio and along Piercy Road between Silver Creek Valley Road and Silicon Valley Boulevard, potential mitigation strategies depend upon several factors. Along Bernal, the key factor is the effectiveness of the existing soundwall. There is a possibility that the existing soundwall provides the necessary attenuation to keep future noise levels below a DNL of 60 dB. If not, measurements should be conducted to determine if it is possible to increase the height of the soundwall to mitigate these noise increases.**

Mitigating noise impacts along Piercy Road depends on the location of outdoor use areas for individual homes. Since this is not a traditional continuous development, it would not be feasible to construct a soundwall along the road to shield the existing homes. It would probably be more feasible to construct fences around backyards if these do not already exist to reduce noise levels to below 60 dB.

Impact 2: **Noise generated by new development in the designated areas could cause noise levels to increase at adjacent residences. This is a potentially significant impact.**

Although site plans have not been developed for the areas, it appears that particularly for the parcels located to the north of Coyote Creek there is the potential for incompatibility between the noise generated by industrial activities and the residential developments along Coyote Creek. In these areas, hourly background noise levels (L_{90}) are generally in the range of 48 to 53 dBA during the daytime hours. If activity in the redevelopment area generates noise levels in excess of about 55 dBA, noise levels would increase by a significant amount which could result in adverse community response. This is a potentially significant impact.

Mitigation 2: As development proceeds in this area, studies should be conducted to assure that noise levels in the residential area along Coyote Creek due to activity on the site do not exceed an average noise level during the daytime of 55 dBA. This would mitigate the potential noise impact generated by onsite activity to less than significant.

Impact 3: During construction on the site, again on the side east of Coyote Creek where most of the development would take place, there is a potential for short-term construction noise impacts on the residences adjacent to Coyote Creek and also on residences along Piercy Road and Silicon Valley Boulevard.

Depending on the proximity of a given residence to construction, noise levels could exceed 60 dBA for short periods of time. However, as construction proceeds throughout the site, most of the construction would be located quite far from existing residences and it is unlikely that any given residence would be exposed to continuous noise levels exceeding 60 dBA for a significant period of time, although there would be occasions when noise levels could exceed this criteria for shorter durations.

Mitigation 3: To minimize construction noise impacts, the following steps should be taken to mitigate construction noise:

(1) *Construction Scheduling.* Limit noise-generating construction activities, including truck traffic coming to and from the site for any purpose, to daytime, weekday, non-holiday hours (7:00 am to 6:00 pm).

(2) *Construction Equipment Mufflers and Maintenance.* Properly muffle and maintain all construction equipment powered by internal combustion engines.

(3) *Idling Prohibitions.* Prohibit unnecessary idling of internal combustion engines.

(4) *Equipment Location and Shielding.* Locate all stationary noise-generating construction equipment such as air compressors as far as practical from existing nearby residences and other noise-sensitive land uses. Acoustically shield such equipment.

(5) *Quiet Equipment Selection.* Select quiet construction equipment, particularly air compressors, whenever possible. (Fit motorized equipment with proper mufflers in good working order.)

(6) *Noise Disturbance Coordinator.* Designate a "noise disturbance coordinator" who would be responsible for responding to any local complaints about construction noise. The disturbance coordinator would determine the cause of the noise complaint (e.g., starting too early, bad muffler, etc.) and would require that reasonable measures warranted to correct the problem be implemented. Conspicuously post a telephone number for the disturbance coordinator at the construction site and include it in the notice sent to neighbors regarding the construction schedule. (The Agency should be responsible for designating a noise disturbance coordinator and the individual project sponsor should be responsible for posting the phone number and providing construction schedule notices.)

APPENDIX E

HYDROLOGY REPORT

EDENVALE REDEVELOPMENT AREA

HYDROLOGY STUDY

Prepared for:
San Jose Redevelopment Agency

February 2000

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Edenvale Redevelopment Area

Hydrology Study

Introduction

The objective of this hydrology study is to evaluate the potential impacts of the Edenvale Redevelopment Area on flood conditions in Coyote Creek. The Edenvale Redevelopment Area is a major industrial development project of the San Jose Redevelopment Agency in which major infrastructure will be funded by the agency. The study was prepared to evaluate the potential impacts of the proposed Phase 3 rezoning and assessment district. The study also includes analyses of previously approved development in the Redevelopment Area, which are currently zoned for development.

The study area watershed is shown in Figure 1. The study area extends from the Hellyer Avenue crossing on the north to Silicon Valley Boulevard on the south. The majority of watershed is on the east side of Coyote Creek. The potential development areas are shaded in Figure 1, and include approximately 600 acres. Figure 1 shows both the approved development area, which is currently zoned for development, and the proposed Phase 3 rezoning area.

The study area watershed is approximately 2.33 square miles (1500 acres), including the hillside areas that drain to the development areas. The 100-year flood plain for Coyote Creek from the current Federal Emergency Management Agency Flood Insurance Rate Maps is also shown in Figure 1.

Existing Flood Conditions

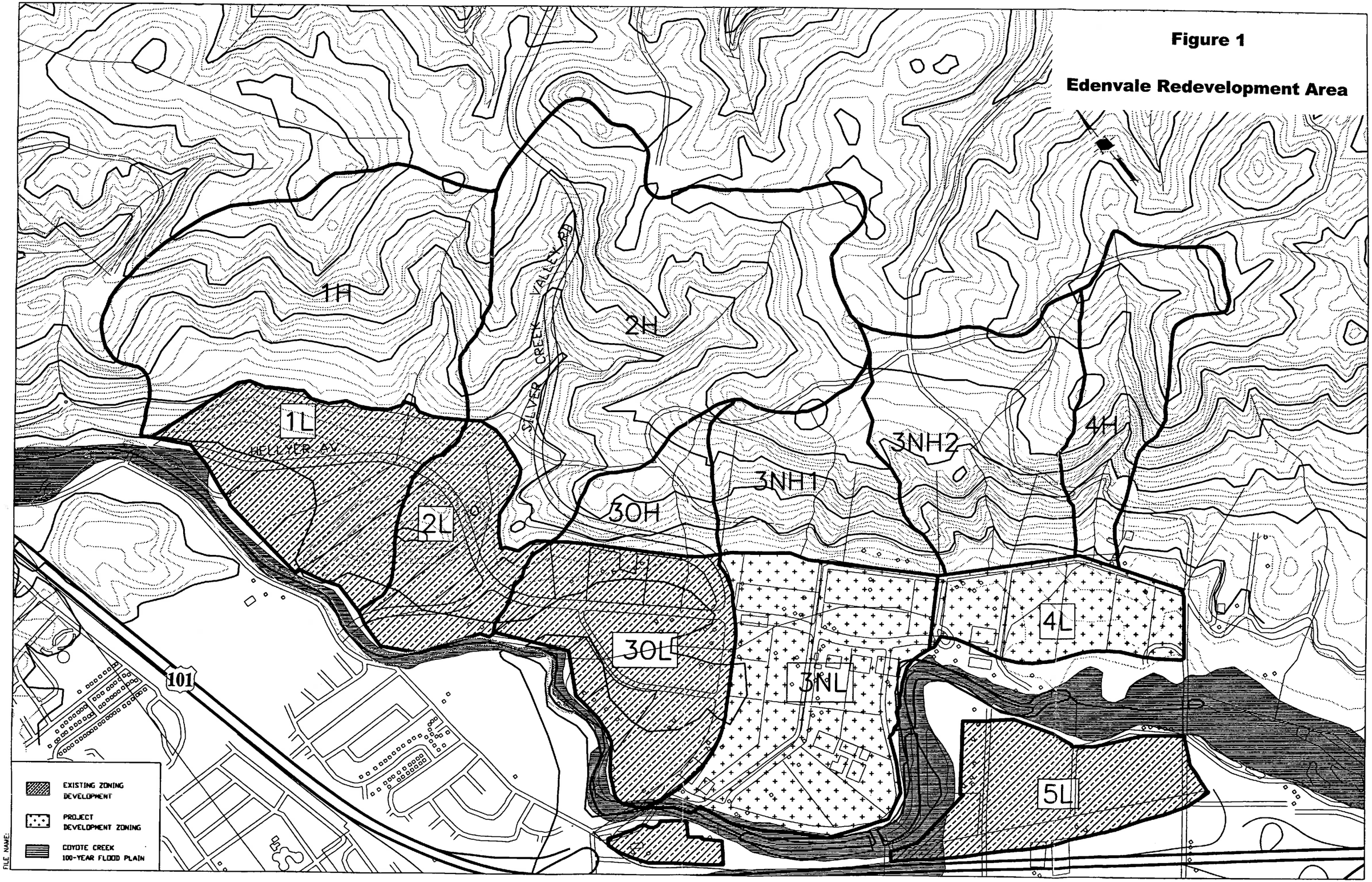
Coyote Creek drains from the western slopes of the Diablo Range in eastern Santa Clara County northwest to San Francisco Bay. The major tributaries of Coyote Creek are Fisher Creek, Silver Creek, Upper Penitencia Creek, and Lower Penitencia Creek. Coyote Creek and its tributaries drain a total of approximately 350 square miles.

Stream flows in Coyote Creek are regulated by Coyote and Anderson Reservoirs, constructed by the Santa Clara Valley Water District for water supply purposes. These reservoirs have a total storage capacity of approximately 115,000 acre-feet. The reservoirs are operated for water supply purposes, but do provide some incidental flood control benefits due to peak flow attenuation within the reservoirs.

Most of Coyote Creek downstream of Anderson Reservoir is a perched channel with channel banks higher than adjacent areas on one side or both sides of the stream channel. Therefore, overflows from the channel would tend to flow away from and parallel to the channel. North of Route 880 in north San Jose, the channel includes levees to increase the channel capacity.

Figure 1

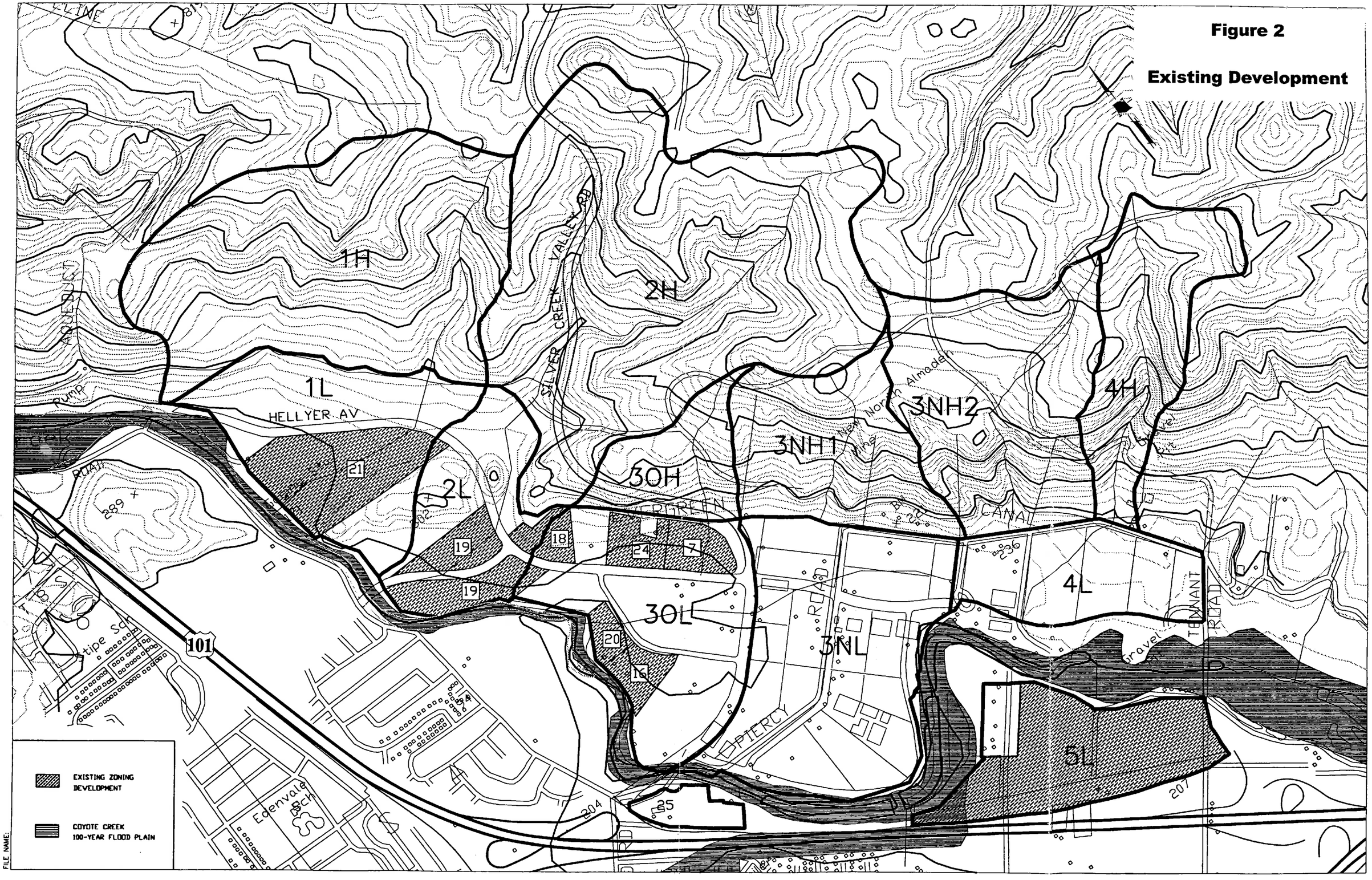
Edenvale Redevelopment Area



Schaaf & Wheeler

Figure 2

Existing Development



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Based on information from the Federal Emergency Management Agency Flood Insurance Study for the City of San Jose, there are limited areas of 100-year flood plain from Coyote Creek south of Route 880. The most serious of these is north of Route 280 near Williams Street. Overflows from the channel would flood the William Street area during a 100-year flood. The overflow would be forced back into Coyote Creek by the levees at Silver Creek. Flooding has also occurred several times in recent years upstream of Oakland Road. The most recent flooding at William Street occurred in 1997.

The Santa Clara Valley Water District (SCVWD) has constructed a flood control project for Coyote Creek from Montague Expressway north to San Francisco Bay. The flood control was designed to provide 100-year flood protection due to spills from Coyote Creek. Prior to the flood control project, overflows in north San Jose from Coyote Creek occurred in 1982 and 1983. There are residual 100-year flood plains in north San Jose and Alviso after the Coyote Creek project due to flooding from Guadalupe River, tidal flooding, and Penitencia Creek flooding.

Hydrology Methodology

Development in the study area will increase the amount of impervious area in the watershed and therefore increase the runoff from the area. The SCVWD has expressed concern that increased runoff from development in the Coyote Creek watershed may affect the existing flood conditions for flood plain areas downstream on Coyote Creek.

The existing and developed conditions runoff hydrographs for the project site were estimated using the U.S. Army Corps of Engineers HEC-1 computer program and the SCS Curve Number (CN) methodology. The CN methodology includes model parameters to consider soil types and ground cover complexes to estimate the watershed loss rates. The loss rate represents the portion of rainfall that is assumed to infiltrate into the soil and does not runoff as surface flow. For existing conditions, the development areas in the study area are generally flat open grasslands and croplands with deep clay-loam type soils. This means that the potential losses to infiltration would be higher than for other areas with shallow soils and more clay type soils. The local hillside areas are generally steep grasslands and oaks with clay type soils.

The study watershed was subdivided into five drainage basins that represent the major storm drain systems within the study area. These are shown as areas 1 through 5 in Figure 1. The drainage basins were subdivided into hillside areas with land slopes greater than 15 percent that would not be developed (e.g. sub-basin 1H) and lowland areas that would be developed (e.g. sub-basin 1L). Drainage area 3 was further subdivided into areas 3OL and 3NL. Sub-basin 3OL is the area north of Silver Creek Valley Boulevard which is within the Phase 1 assessment district, also called Old Edenvale. Sub-basin 3NL is the area south of Silver Creek Valley Boulevard which is within the Phase 3 assessment district, also called New Edenvale. The Phase 2 assessment district area is located west of Highway 101 in the Canoas Creek watershed, and is not in the study area.

There is an additional development site on the west side of Coyote Creek, south of Silver Creek Valley Road, which is part of the Phase 1 redevelopment area. This is the proposed Coyote Crossing project. To simplify the hydrologic model, the site was included in subarea 3OL, instead of as a separate subarea. The site is approximately 10 acres.

The SCVWD design storm for the Coyote Creek watershed was used as the basis for the rainfall-runoff model rainfall pattern. The SCVWD design storm is based on a 72-hour storm, with a time interval of one hour. To model the project site, the maximum 24-hours of the 72-hour storm was used with a time interval of 5 minutes. The 5-minute time interval for calculation was necessary to estimate the peak runoff from the small drainage basins within the study area. The estimated time of concentrations for the drainage basins ranged from 20 minutes to 55 minutes. Within the one hour interval of maximum rainfall, the rainfall was distributed to match the ratios of the 5 minute and 60 minute rainfall to the 24-hour rainfall from the San Jose Intensity-Duration-Frequency curve for a 100-year recurrence interval.

The time of concentration and Mannings "n" for the project site and the hillside were calculated using the SCVWD Draft Hydrology Manual. The time of concentration was estimated using the Kasey-Hathaway formula. Mannings "n" for pervious areas, for both existing and project conditions, were estimated to be 0.07 and 0.10 for the project site and the hillside respectively. Impervious areas, for both existing and project conditions, were estimated to have a Mannings "n" of 0.013.

For the CN procedure, impervious areas were assumed to have a CN of 98 (maximum runoff). The cropland open space areas were assumed to have a CN of 80 for Antecedent Moisture Condition II (AMC II). Lawn and open space areas after development were assumed to have a CN of 74 (AMC II). The modeled AMC values were AMC II for the 10-year flood event, and AMC II½ for the 100-year flood. AMC II½ is half way between AMC II and AMC III. Based on the CN procedure, AMC II implies 1.4 to 2.1 inches of rainfall in the previous 5 days. AMC III implies more than 2.1 inches of rainfall in the previous 5 days.

The calculated hydrographs from the upstream hillside sub-basins above the development areas were routed down to Coyote Creek using the Muskingum routing method, assuming overland flow for existing conditions, and storm drain flow for developed conditions.

For evaluation purposes, four levels of development were considered for the study area. The No Development condition included no development in the study area and no storm drain systems. The Existing condition included the existing development projects and projects under construction with the constructed storm drain systems in sub-basins 1L, 2L, 3OL, and 5L. The existing development project areas are shown in Figure 2. The Zoned condition included all proposed development in sub-basins 1L, 2L, 3OL, and 5L. This represents the currently zoned development planned for the Phase 1 redevelopment area. The Future condition included all proposed development in the study area. This represents the proposed development planned for the Phase 1 and Phase 3 redevelopment areas, including the Phase 3 area rezoning. The current development zoning area and proposed development rezoning areas are shown in Figure 1. The

Zoned condition was included at the request of city staff to evaluate the relative impacts of development in the Phase 1 versus Phase 3 assessment district areas.

The gross development areas for the four different development conditions are shown in Table 1. For the purposes of the hydrology model, the development areas were assumed to include 70 percent impervious area. This includes on-site improvements for buildings and paved areas, and off-site improvements for roadways. The No Development condition was assumed to have no impervious area, although there are or were existing roads and agricultural buildings prior to development. Therefore, the No Development condition flow rates may under estimate the pre-development conditions.

Table 1
Development Areas
Study Area Sub-Basins

Sub-Basin	No Development Condition (acres)	Existing Condition (acres)	Zoned Condition (acres)	Future Condition (acres)
1	0	47	110	110
2	0	39	72	72
3	0	60	130	283
4	0	0	0	64
5	0	70	78	78
Total	0	216	390	607

The estimated 10-year peak flow rates for the four development conditions are shown in Table 2. On a percentage basis, the estimated increases in peak flow rates vary due to the amount of development in each sub-basin, and the physical characteristics of the sub-basin. Sub-basin 1 would increase from 122 cfs to 205 cfs, an increase of 68 percent. This is due to both the impervious area from development, and the construction of the storm drain system, which allows the hillside runoff to reach Coyote Creek much faster with no attenuation due to overland flow in the lowland area.

The maximum increase due to development occurs in sub-basin 5. The 10-year peak flow rate would increase from 14 cfs with no development to 65 cfs with development, an increase of 360 percent. Sub-basin 5 has no upstream hillside area and includes the greatest percentage of

development. The increase is due to both the increase impervious area, and the construction of the drainage system that reduces attenuation due to overland flow.

For the entire study area, the 10-year peak flow rate would increase form 314 cfs to 557 cfs, an increase of 77 percent. The total peak flow for the study area was estimated by routing the individual sub-basin hydrographs to the downstream end of the study are at sub-basin 1. The sub-basin hydrographs were routed along Coyote Creek using the Muskingum routing procedure, assuming an average velocity based on the 10-year channel velocities from the City of San Jose Flood Insurance Study hydraulic model.

Table 2
10-Year Peak Flow Rates
Study Area Sub-Basins

Sub-Basin	No Development Condition Peak Flow (cfs)	Existing Condition Peak Flow (cfs)	Zoned Condition Peak Flow (cfs)	Future Condition Peak Flow (cfs)
1	122	152	205	205
2	117	143	155	155
3	153	214	261	325
4	58	58	58	102
5	14	60	64	64
Total	465	627	743	851

The estimated 100-year peak flow rates for the four development conditions are shown in Table 3. As with the 10-year estimates, the estimated increases in the 100-year peak flow rates vary due to the amount of development in each sub-basin, and the physical characteristics of the sub-basin. Sub-basin 1 would increase from 306 cfs to 382 cfs, an increase of 25 percent.

Again, the maximum increase due to development occurs in sub-basin 5. The 100-year peak flow rate would increase from 42 cfs with no development to 102 cfs with development, an increase of 143 percent.

For the entire study area, the 100-year peak flow rate would increase form 837 cfs to 1155 cfs, an increase of 38 percent. In general, the percentage increase in the 100-year peak flow rates is less

than for the 10-year flood because the rainfalls are greater, which tends to saturate the soils and reduces the loss late in the storm.

The 10-year and 100-year runoff hydrographs for the total study area watershed for the four development conditions are shown in Figures 3 and 4.

Table 3
100-Year Peak Flow Rates
Study Area Sub-Basins

Sub-Basin	No Development Condition Peak Flow (cfs)	Existing Condition Peak Flow (cfs)	Zoned Condition Peak Flow (cfs)	Future Condition Peak Flow (cfs)
1	306	357	397	397
2	298	348	346	346
3	426	514	552	577
4	146	146	146	188
5	42	95	101	101
Total	1192	1419	1449	1703

Coyote Creek Flow Rates

The SCVWD has expressed concern that increased runoff from the project site may affect the flood flows and flood elevations in the Coyote Creek. The area of particular concern is the area downstream of Highway 280 near William Street where the existing channel has a capacity of approximately 6000 cfs. The 1997 flood event for was approximately 6200 cfs measured downstream of Anderson Reservoir. The flood event caused over banking at William Street and several homes were flooded. The SCVWD later acquired several of the homes with the highest flood risk to prevent repeated events in the future.

Due to the reservoirs upstream in the Coyote Creek watershed, the flood hydrograph at Highway 280 generally has two peaks for large flood events. For small flood events, similar to the 10-year flood, Anderson Reservoir generally does not spill significant flows over the spillway. The average reservoir level during the winter is below the spillway, which allows storage for runoff from the upper watershed. For large flood events, the runoff from the upper watershed is large

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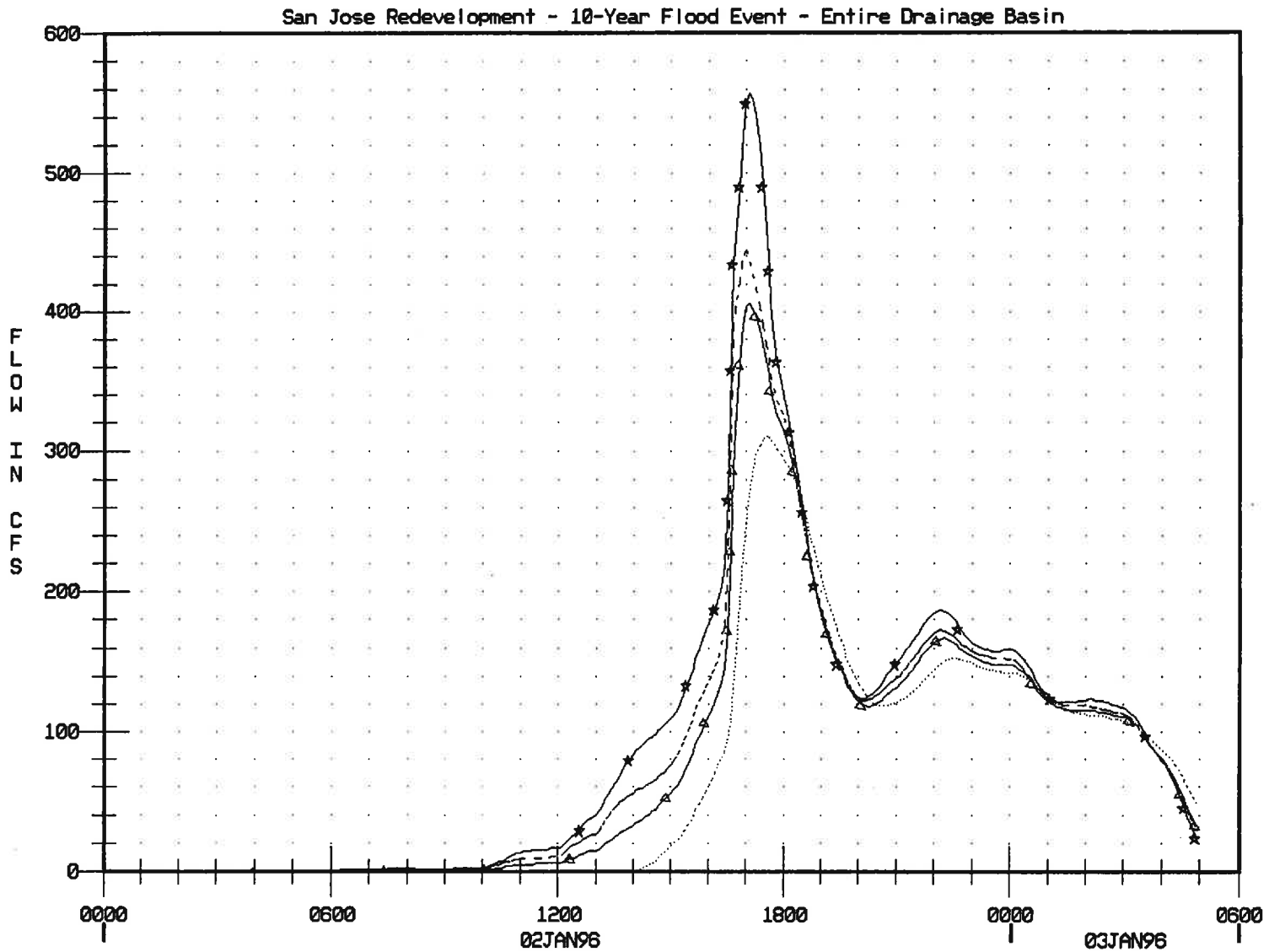
Figure 3



10-Year Flood Hydrographs - Study Area

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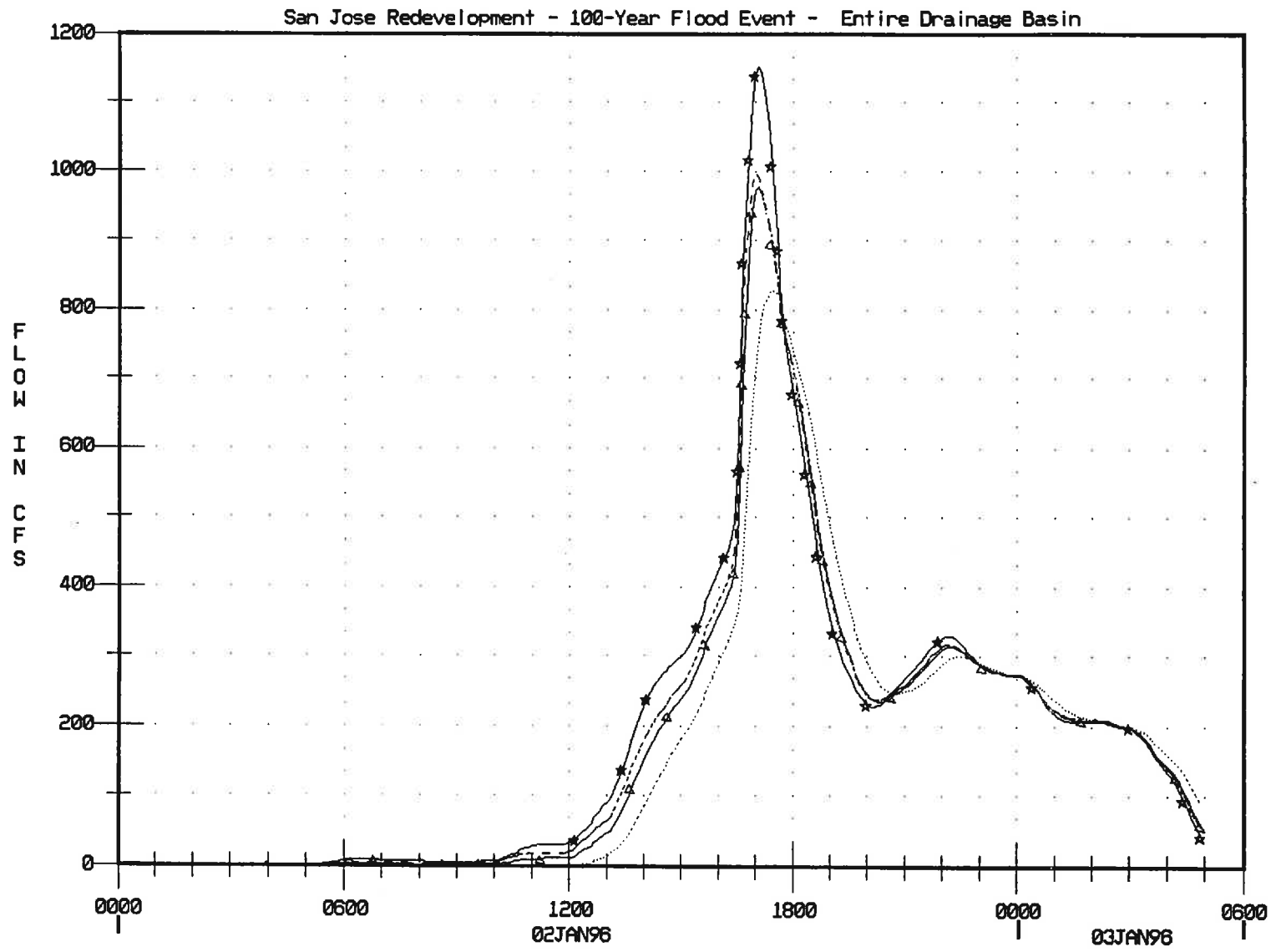
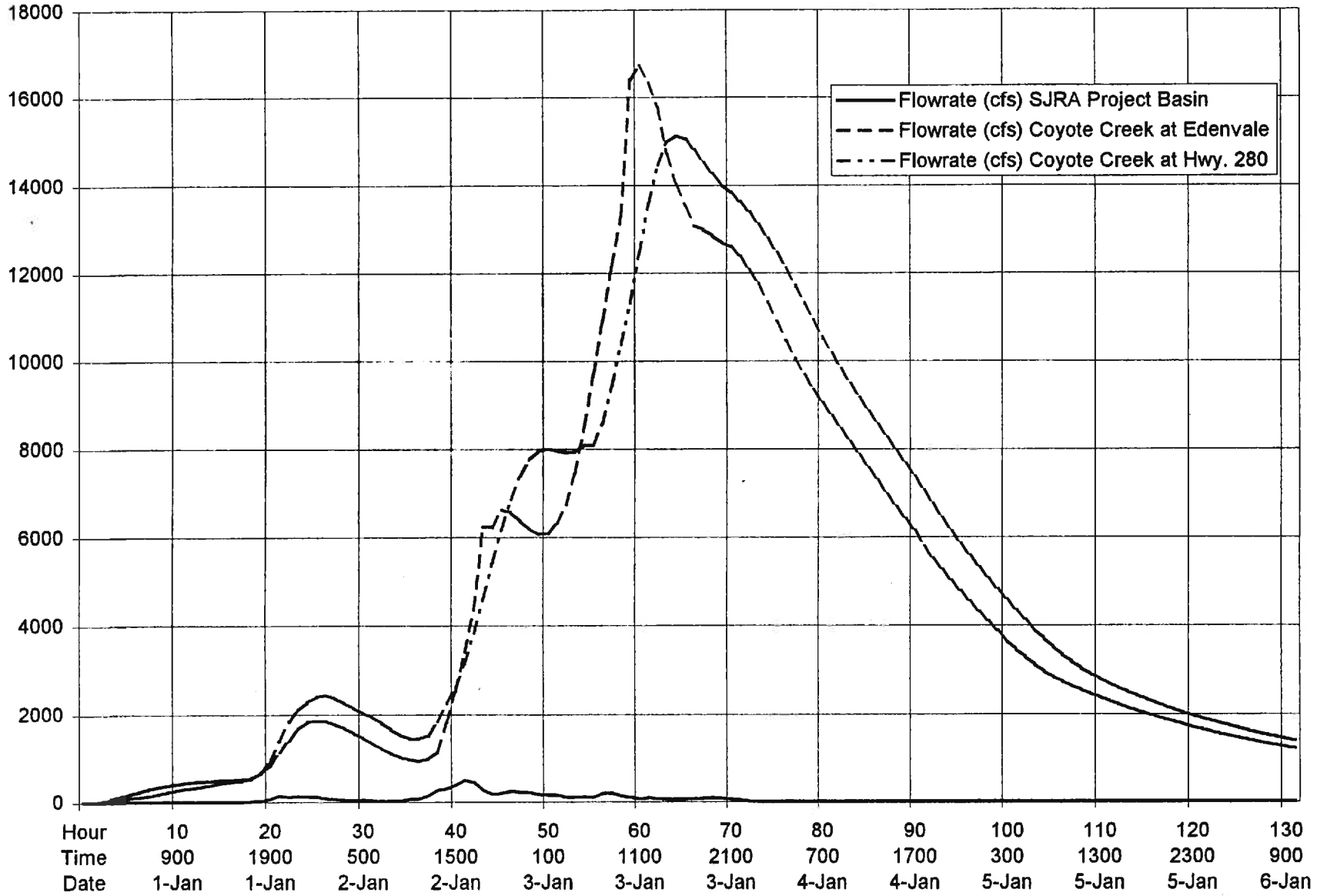
Figure 4



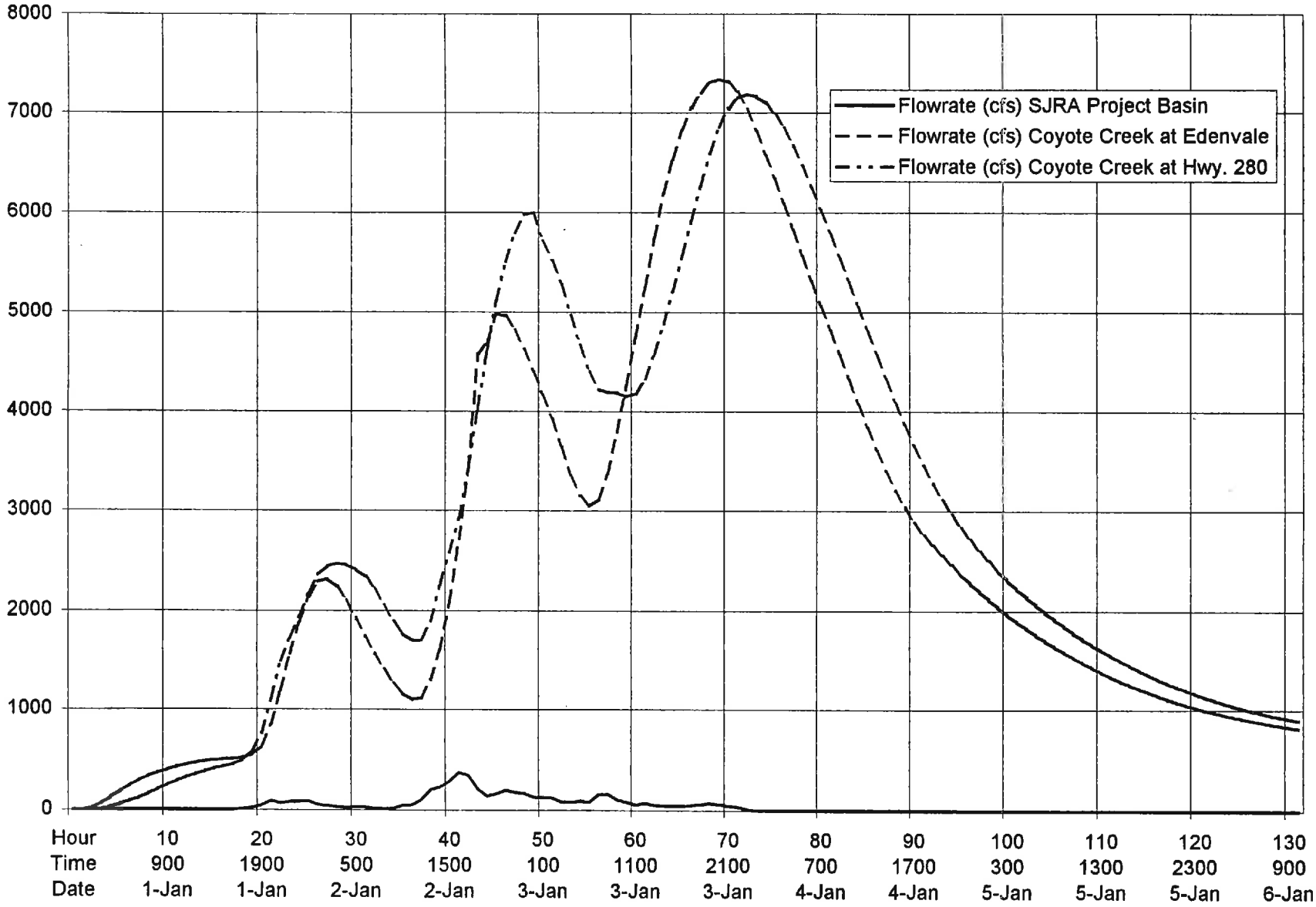
100-Year Flood Hydrographs - Study Area

Figure 5



100-Year Flood Hydrographs – Coyote Creek

Figure 6



35 -Year Flood Hydrographs – Coyote Creek

enough to fill the reservoir and contribute to Coyote Creek flows downstream. The reservoir was constructed for water supply purposes and available storage at the start of a flood event is incidental to the water supply operations.

Due to the attenuation in the reservoirs, the peak flows from the upper watershed are delayed in comparison to the direct runoff from the downstream areas of the watershed. Figure 5 shows the 100-year flood hydrographs for Coyote Creek at Edenvale and at Highway 280. The location at Edenvale is at the northern end of the study area shown in Figure 1. For the 100-year flood event at Edenvale, there is a first peak that occurs at approximately hour 45 of the storm. The first peak is due to the direct runoff from the areas upstream of Edenvale, but downstream of Anderson Reservoir. For the 100-year flood event at Edenvale, the first peak is approximately 6650 cfs. The second peak at Edenvale occurs at approximately hour 60 of the storm. The estimated second peak for the 100-year flood is approximately 16,700 cfs. The second peak is primarily due to the overflows from Anderson Reservoir, with some contribution from local runoff after the peak rainfall. The peak rainfall occurs near hour 41 of the storm.

It should be noted that the rainfall pattern is based on the SCVWD 72-hour design storm. An actual flood event may show different sequences of rainfall. However the timing between the peak rainfall and the hydrograph peaks in Coyote Creek should generally be consistent with the results for the design storm due to the effects of the watershed shape and the reservoir attenuation.

For the 100-year flood, at the hydrograph at Edenvale progresses downstream, the peaks are delayed in time. At Highway 280, the first peak occurs at approximately hour 50 and the second peak occurs at approximately hour 64 of the storm. In addition, the first peak increases between Edenvale and Highway 280 due to additional runoff from local areas along the stream, including Upper Silver Creek. The first peak increases from 6650 cfs at Edenvale to 8000 cfs at Highway 280. The second peak is also delayed in time, from hour 60 to hour 64. However, the second peak does not show a significant increase due to local runoff. The estimated 100-year peak flow of 16,700 cfs at Edenvale decreases to approximately 15,100 cfs at Highway 280 due to attenuation and storage effects in the Coyote Creek channel.

For the estimated 10-year flood event there is only one flood peak, due to the local area runoff downstream of Anderson Reservoir. The 10-year runoff from the upper watershed would be less than the available storage in the reservoirs, and there would not be a significant spillway flow from Anderson Reservoir. The estimated 10-year peak flow rate at Highway 280 is approximately 4400 cfs, which is less than the estimated capacity of the existing channel. Therefore, no significant flooding would be expected for the 10-year event.

Coyote Creek Model

The SCVWD 100-year design HEC-1 model was used as the basis for the hydrograph model for Coyote Creek. The existing and developed condition runoff hydrographs for the study area watershed were added to the Coyote Creek HEC-1 model. The area for the study area watershed

was removed from the local sub-basin in the Coyote Creek model. The study area and Coyote Creek models were based on the 72-hour storm, using a 15-minute rainfall interval. The 15-minute rainfall interval under estimates the instantaneous peak flow from the study area watershed. However, the contribution to the Coyote Creek flow is accurately modeled in terms of the runoff volume adding to the Coyote Creek hydrograph in each time interval.

Because the 10-year flood event is less than the estimated channel capacity for Coyote Creek at William Street, an intermediate flood event was evaluated, approximately midway between the 10-year and 100-year flood events. This corresponds to approximately a 35-year flood event. The intermediate flood event was selected to have a peak flow rate of approximately 6000 cfs for the first peak at Highway 280. This was considered the critical smallest storm that would impact the flood area at William Street. Even if there were no second peak due to spills from the reservoir, the local runoff would be sufficient to cause flooding. The estimated 35-year flood hydrographs are shown in Figure 6.

The estimated contributions from the study area watershed for the four development conditions and the estimated flow rates for Coyote Creek at Edenvale and Highway 280 are shown in Table 4 for the 100-year flood event. The potential increase in Coyote Creek flow rates is highlighted in the table, based on the difference between the Future condition flow and the Existing condition flow and the difference between the Future condition and the Zoned condition. The difference between the Future condition and Existing condition flow rates represents the potential increase due to all proposed development in the study area. The difference between the Future condition and Zoned condition represents the potential increase due to proposed development in the Phase 3 assessment district area.

For the first peak at Edenvale, the Future condition is 10 cfs greater than the Existing condition, and 6 cfs greater than the Zoned condition (hour 45). For the second peak at Edenvale, the Future condition is 3 cfs less than the Existing condition, and 3 cfs les than the Zoned condition (hour 60).

For the first peak at Highway 280, the Future condition is4 cfs greater than the Existing condition, and 2 cfs greater than the Zoned condition (hour 50). For the second peak at Edenvale, the Future condition is 1 cfs less than the Existing condition, and 1 cfs less than the Zoned condition (hour 64).

Table 5 shows the results for the 35-year flood event. For the first peak at Edenvale, the Future condition is 12 cfs greater than the Existing condition, and 8 cfs greater than the Zoned condition (hour 45). For the second peak at Edenvale, the Future condition is 0 cfs greater than the Existing condition, and 0 cfs greater than the Zoned condition (hour 69). The estimated increase is greater for the 35-year event than the 100-year event because the ground is less saturated by rainfall and losses are higher. Therefore, the effect of increased impervious are is greater for the 35-year event.

San Jose Redevelopment Agency

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Table 4

HEC-1 Output: 100-Year Flood Event

			Flowrate (cfs)															
			SJRA Project Basin				Coyote Creek at Edenvale						Coyote Creek at Hwy. 280					
Date	Time	Hour	None	Existing	Zoned	Future	None	Existing	Zoned	Future	F-E	F-Z	None	Existing	Zoned	Future	F-E	F-Z
2-Jan	0	25	97	109	116	126	1,855	1,867	1,874	1,884	17	10	2,344	2,363	2,374	2,390	27	16
2-Jan	100	26	78	72	73	73	1,838	1,832	1,833	1,833	1	0	2,385	2,401	2,411	2,425	24	14
2-Jan	200	27	56	55	58	61	1,764	1,764	1,766	1,769	5	3	2,321	2,334	2,342	2,354	20	12
2-Jan	300	28	44	42	44	45	1,687	1,685	1,687	1,688	3	1	2,224	2,233	2,239	2,249	16	10
2-Jan	400	29	31	29	30	30	1,576	1,573	1,574	1,574	1	0	2,117	2,123	2,129	2,136	13	7
2-Jan	500	30	33	38	41	45	1,462	1,467	1,470	1,474	7	4	2,011	2,015	2,020	2,025	10	5
2-Jan	600	31	32	32	33	33	1,345	1,344	1,345	1,345	1	0	1,922	1,925	1,928	1,933	8	5
2-Jan	700	32	23	22	22	22	1,223	1,222	1,222	1,222	0	0	1,801	1,803	1,806	1,809	6	3
2-Jan	800	33	17	16	17	17	1,111	1,111	1,111	1,111	0	0	1,654	1,656	1,658	1,661	5	3
2-Jan	900	34	16	17	18	19	1,016	1,017	1,018	1,019	2	1	1,520	1,521	1,523	1,525	4	2
2-Jan	1000	35	36	49	53	61	961	974	978	986	12	8	1,444	1,445	1,447	1,449	4	2
2-Jan	1100	36	57	64	67	72	936	943	946	951	8	5	1,438	1,441	1,442	1,445	4	3
2-Jan	1200	37	94	118	125	139	972	995	1,002	1,017	22	15	1,513	1,517	1,519	1,523	6	4
2-Jan	1300	38	185	230	243	269	1,144	1,189	1,202	1,228	39	26	1,807	1,816	1,819	1,825	9	6
2-Jan	1400	39	255	279	288	302	1,805	1,830	1,838	1,852	22	14	2,219	2,234	2,239	2,248	14	9
2-Jan	1500	40	313	346	357	378	2,504	2,537	2,548	2,568	31	20	2,557	2,577	2,583	2,595	18	12
2-Jan	1600	41	406	450	462	488	3,393	3,437	3,449	3,474	37	25	3,078	3,101	3,109	3,123	22	14
2-Jan	1700	42	433	436	440	444	4,364	4,366	4,370	4,374	8	4	3,779	3,805	3,814	3,829	24	15
2-Jan	1800	43	328	285	281	265	6,247	6,204	6,200	6,183	-21	-17	4,573	4,596	4,604	4,618	22	14
2-Jan	1900	44	212	185	184	177	6,235	6,208	6,207	6,200	-8	-7	5,389	5,403	5,409	5,418	15	9
2-Jan	2000	45	187	192	195	202	6,626	6,631	6,635	6,641	10	6	6,173	6,177	6,182	6,187	10	5
2-Jan	2100	46	217	233	237	246	**6,562**	**6,577**	**6,581**	**6,590**	**13**	**9**	6,851	6,851	6,855	6,858	7	3
2-Jan	2200	47	220	218	218	218	6,375	6,372	6,373	6,372	0	-1	7,385	7,386	7,389	7,392	6	3
2-Jan	2300	48	205	204	206	208	6,183	6,183	6,184	6,186	3	2	7,750	7,750	7,753	7,757	7	4
3-Jan	0	49	179	169	169	165	6,064	6,054	6,053	6,050	-4	-3	7,950	7,950	7,952	7,955	5	3
3-Jan	100	50	157	156	157	158	6,091	6,089	6,090	6,091	2	1	**7,997**	**7,996**	**7,998**	**8,000**	**4**	**2**
3-Jan	200	51	150	148	149	150	6,316	6,315	6,316	6,316	1	0	7,955	7,953	7,954	7,955	2	1
3-Jan	300	52	120	108	107	103	6,727	6,715	6,714	6,709	-6	-5	7,913	7,910	7,912	7,912	2	0
3-Jan	400	53	99	96	97	98	7,434	7,432	7,432	7,433	1	1	7,935	7,931	7,932	7,932	1	0
3-Jan	500	54	102	105	106	109	8,497	8,501	8,502	8,504	3	2	8,083	8,080	8,080	8,080	0	0
3-Jan	600	55	102	102	102	102	9,658	9,658	9,658	9,659	1	1	8,091	8,088	8,089	8,089	1	0
3-Jan	700	56	147	172	177	191	10,891	10,917	10,922	10,935	18	13	8,570	8,569	8,570	8,571	2	1
3-Jan	800	57	187	194	195	198	12,140	12,147	12,148	12,151	4	3	9,424	9,426	9,427	9,429	3	2
3-Jan	900	58	155	138	137	129	13,273	13,256	13,255	13,247	-9	-8	10,352	10,356	10,357	10,360	4	3
3-Jan	1000	59	111	100	99	97	16,400	16,390	16,389	16,386	-4	-3	11,308	11,310	11,311	11,313	3	2
3-Jan	1100	60	81	72	72	69	**16,705**	**16,696**	**16,696**	**16,693**	**-3**	**-3**	12,428	12,427	12,428	12,429	2	1
3-Jan	1200	61	78	82	83	86	16,322	16,327	16,328	16,331	4	3	13,561	13,559	13,559	13,559	0	0
3-Jan	1300	62	72	67	66	64	15,771	15,766	15,765	15,763	-3	-2	14,454	14,451	14,451	14,451	0	0

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Table 4

HEC-1 Output: 100-Year Flood Event

			Flowrate (cfs)															
			SJRA Project Basin				Coyote Creek at Edenvale						Coyote Creek at Hwy. 280					
Date	Time	Hour	None	Existing	Zoned	Future	None	Existing	Zoned	Future	F-E	F-Z	None	Existing	Zoned	Future	F-E	F-Z
3-Jan	1400	63	59	56	57	56	14,691	14,689	14,689	14,689	0	0	14,974	14,971	14,972	14,971	0	-1
3-Jan	1500	64	56	56	57	57	14,019	14,019	14,019	14,020	1	1	**15,136**	**15,134**	**15,134**	**15,133**	**-1**	**-1**
3-Jan	1600	65	56	56	57	57	13,517	13,518	13,518	13,519	1	1	15,043	15,041	15,041	15,041	0	0
3-Jan	1700	66	59	61	62	63	13,073	13,075	13,076	13,077	2	1	14,796	14,795	14,795	14,795	0	0
3-Jan	1800	67	69	73	74	76	12,992	12,996	12,997	12,999	3	2	14,500	14,499	14,500	14,500	1	0
3-Jan	1900	68	80	84	85	87	12,852	12,856	12,857	12,859	3	2	14,237	14,237	14,238	14,238	1	0
3-Jan	2000	69	77	75	75	74	12,704	12,701	12,701	12,700	-1	-1	14,019	14,020	14,020	14,021	1	1
3-Jan	2100	70	63	58	57	56	12,592	12,588	12,587	12,585	-3	-2	13,813	13,814	13,814	13,815	1	1
3-Jan	2200	71	49	46	46	45	12,364	12,361	12,361	12,360	-1	-1	13,606	13,606	13,606	13,606	0	0
3-Jan	2300	72	28	19	18	14	12,060	12,051	12,050	12,046	-5	-4	13,374	13,373	13,373	13,373	0	0
4-Jan	0	73	8	4	3	2	11,745	11,740	11,740	11,738	-2	-2	13,096	13,093	13,093	13,092	-1	-1
4-Jan	100	74	2	0	0	0	11,334	11,333	11,332	11,332	-1	0	12,786	12,782	12,782	12,781	-1	-1
4-Jan	200	75	0	0	0	0	10,899	10,899	10,899	10,899	0	0	12,452	12,449	12,448	12,447	-2	-1
4-Jan	300	76	0	0	0	0	10,448	10,448	10,448	10,448	0	0	12,090	12,087	12,087	12,086	-1	-1
4-Jan	400	77	0	0	0	0	10,035	10,035	10,035	10,035	0	0	11,706	11,704	11,704	11,703	-1	-1
4-Jan	500	78	0	0	0	0	9,665	9,665	9,665	9,665	0	0	11,310	11,309	11,309	11,308	-1	-1
4-Jan	600	79	0	0	0	0	9,327	9,327	9,327	9,327	0	0	10,915	10,914	10,913	10,913	-1	0
4-Jan	700	80	0	0	0	0	9,027	9,027	9,027	9,027	0	0	10,529	10,528	10,528	10,528	0	0
4-Jan	800	81	0	0	0	0	8,735	8,735	8,735	8,735	0	0	10,160	10,160	10,160	10,160	0	0
4-Jan	900	82	0	0	0	0	8,442	8,442	8,442	8,442	0	0	9,810	9,809	9,809	9,809	0	0
4-Jan	1000	83	0	0	0	0	8,146	8,146	8,146	8,146	0	0	9,475	9,475	9,475	9,475	0	0
4-Jan	1100	84	0	0	0	0	7,847	7,847	7,847	7,847	0	0	9,152	9,152	9,152	9,152	0	0
4-Jan	1200	85	0	0	0	0	7,545	7,545	7,545	7,545	0	0	8,840	8,840	8,840	8,840	0	0
4-Jan	1300	86	0	0	0	0	7,259	7,259	7,259	7,259	0	0	8,537	8,537	8,537	8,537	0	0
4-Jan	1400	87	0	0	0	0	6,959	6,959	6,959	6,959	0	0	8,239	8,239	8,239	8,239	0	0
4-Jan	1500	88	0	0	0	0	6,662	6,662	6,662	6,662	0	0	7,943	7,943	7,943	7,943	0	0
4-Jan	1600	89	0	0	0	0	6,395	6,395	6,395	6,395	0	0	7,648	7,648	7,648	7,648	0	0
4-Jan	1700	90	0	0	0	0	6,135	6,135	6,135	6,135	0	0	7,351	7,351	7,351	7,351	0	0
4-Jan	1800	91	0	0	0	0	5,783	5,783	5,783	5,783	0	0	7,045	7,045	7,045	7,045	0	0
4-Jan	1900	92	0	0	0	0	5,505	5,505	5,505	5,505	0	0	6,735	6,735	6,735	6,735	0	0
4-Jan	2000	93	0	0	0	0	5,244	5,244	5,244	5,244	0	0	6,426	6,426	6,426	6,426	0	0
4-Jan	2100	94	0	0	0	0	4,997	4,997	4,997	4,997	0	0	6,126	6,126	6,126	6,126	0	0
4-Jan	2200	95	0	0	0	0	4,759	4,759	4,759	4,759	0	0	5,838	5,838	5,838	5,838	0	0
4-Jan	2300	96	0	0	0	0	4,528	4,528	4,528	4,528	0	0	5,563	5,563	5,563	5,563	0	0

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Table 5

HEC-1 Output: 35-Year Flood Event

			Flowrate (cfs)																
			SJRA Project Basin				Coyote Creek at Edenvale						Coyote Creek at Hwy. 280						
Date	Time	Hour	None	Existing	Zoned	Future	None	Existing	Zoned	Future	F-E	F_Z	None	Existing	Approved	Future	Storage Routing	F-E	F-Z
2-Jan	0	25	49	63	71	83	2,138	2,151	2,159	2,172	21	13	2,138	2,154	2,165	2,179	2,175	25	14
2-Jan	100	26	42	42	44	47	2,287	2,287	2,289	2,292	5	3	2,317	2,332	2,342	2,356	2,353	24	14
2-Jan	200	27	31	33	37	41	2,313	2,316	2,319	2,323	7	4	2,404	2,418	2,426	2,439	2,438	21	13
2-Jan	300	28	25	26	27	30	2,240	2,240	2,242	2,245	5	3	2,440	2,450	2,457	2,468	2,468	18	11
2-Jan	400	29	18	18	19	20	2,096	2,095	2,097	2,098	3	1	2,432	2,440	2,446	2,454	2,456	14	8
2-Jan	500	30	19	24	27	31	1,923	1,928	1,931	1,935	7	4	2,388	2,394	2,398	2,405	2,407	11	7
2-Jan	600	31	19	20	21	23	1,741	1,742	1,743	1,745	3	2	2,320	2,325	2,329	2,334	2,337	9	5
2-Jan	700	32	14	14	14	15	1,562	1,562	1,563	1,564	2	1	2,200	2,203	2,207	2,211	2,213	8	4
2-Jan	800	33	10	10	11	12	1,398	1,398	1,399	1,400	2	1	2,042	2,045	2,047	2,051	2,053	6	4
2-Jan	900	34	10	11	12	13	1,256	1,257	1,258	1,260	3	2	1,883	1,885	1,887	1,890	1,892	5	3
2-Jan	1000	35	22	32	36	43	1,156	1,166	1,170	1,177	11	7	1,764	1,766	1,768	1,770	1,771	4	2
2-Jan	1100	36	35	42	45	50	1,097	1,104	1,107	1,113	9	6	1,697	1,700	1,702	1,705	1,706	5	3
2-Jan	1200	37	59	78	86	100	1,115	1,135	1,143	1,156	21	13	1,694	1,699	1,701	1,705	1,705	6	4
2-Jan	1300	38	119	156	170	195	1,295	1,333	1,347	1,372	39	25	1,875	1,883	1,887	1,893	1,890	10	6
2-Jan	1400	39	168	193	202	220	1,600	1,625	1,635	1,653	28	18	2,231	2,243	2,249	2,258	2,252	15	9
2-Jan	1500	40	213	245	258	281	2,074	2,106	2,119	2,142	36	23	2,544	2,561	2,568	2,580	2,571	19	12
2-Jan	1600	41	284	326	340	369	2,709	2,751	2,765	2,794	43	29	2,879	2,900	2,909	2,924	2,912	24	15
2-Jan	1700	42	310	321	327	338	3,423	3,433	3,440	3,451	18	11	3,377	3,401	3,410	3,428	3,411	27	18
2-Jan	1800	43	239	212	211	202	4,575	4,548	4,547	4,539	-9	-8	3,977	4,000	4,009	4,027	4,007	27	18
2-Jan	1900	44	157	139	139	136	4,684	4,666	4,667	4,664	-2	-3	4,570	4,586	4,594	4,608	4,589	22	14
2-Jan	2000	45	139	146	150	158	**4,978**	**4,984**	**4,988**	**4,996**	**12**	**8**	5,085	5,094	5,100	5,110	5,094	16	10
2-Jan	2100	46	162	177	182	193	4,954	4,969	4,973	4,984	15	11	5,487	5,492	5,497	5,505	5,493	13	8
2-Jan	2200	47	166	166	168	171	4,814	4,814	4,816	4,819	5	3	5,780	5,784	5,789	5,796	5,786	12	7
2-Jan	2300	48	155	157	160	163	4,624	4,626	4,628	4,632	6	4	5,961	5,966	5,970	5,976	5,968	10	6
3-Jan	0	49	136	130	131	130	4,403	4,397	4,397	4,397	0	0	5,983	5,987	5,990	5,996	5,989	**9**	**6**
3-Jan	100	50	120	120	122	125	4,163	4,164	4,165	4,168	4	3	5,702	5,705	5,708	5,712	5,707	7	4
3-Jan	200	51	115	115	116	119	3,917	3,918	3,919	3,922	4	3	5,509	5,510	5,512	5,516	5,513	6	4
3-Jan	300	52	92	84	84	81	3,637	3,629	3,628	3,626	-3	-2	5,268	5,268	5,270	5,274	5,272	6	4
3-Jan	400	53	76	75	76	78	3,354	3,353	3,354	3,356	3	2	4,960	4,959	4,961	4,963	4,964	4	2
3-Jan	500	54	78	82	84	87	3,146	3,149	3,151	3,154	5	3	4,659	4,658	4,660	4,662	4,664	4	2
3-Jan	600	55	79	79	80	81	3,047	3,048	3,049	3,050	2	1	4,391	4,390	4,392	4,393	4,397	3	1
3-Jan	700	56	114	135	140	153	3,108	3,131	3,136	3,148	17	12	4,214	4,215	4,216	4,218	4,222	3	2
3-Jan	800	57	145	152	154	158	3,377	3,387	3,389	3,393	6	4	4,183	4,187	4,188	4,192	4,195	5	4
3-Jan	900	58	120	109	108	103	3,786	3,777	3,776	3,772	-5	-4	4,173	4,178	4,180	4,183	4,186	5	3
3-Jan	1000	59	87	79	79	77	4,254	4,250	4,250	4,248	-2	-2	4,137	4,141	4,142	4,145	4,148	4	3
3-Jan	1100	60	63	57	57	55	4,736	4,733	4,733	4,732	-1	-1	4,169	4,171	4,172	4,174	4,178	3	2
3-Jan	1200	61	61	65	66	69	5,245	5,253	5,254	5,258	5	4	4,318	4,319	4,320	4,321	4,326	2	1
3-Jan	1300	62	56	53	52	51	5,744	5,745	5,745	5,743	-2	-2	4,572	4,573	4,574	4,575	4,581	2	1
3-Jan	1400	63	46	45	45	45	6,189	6,191	6,192	6,192	1	0	4,874	4,876	4,876	4,877	4,884	1	1
3-Jan	1500	64	44	44	45	46	6,533	6,537	6,537	6,539	2	2	5,207	5,209	5,209	5,210	5,218	1	1
3-Jan	1600	65	44	45	45	46	6,824	6,828	6,829	6,830	2	1	5,562	5,564	5,565	5,565	5,574	1	0
3-Jan	1700	66	46	48	49	51	7,049	7,053	7,054	7,056	3	2	5,914	5,916	5,917	5,917	5,926	1	0

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Table 5

HEC-1 Output: 35-Year Flood Event

			Flowrate (cfs)																
			SJRA Project Basin				Coyote Creek at Edenvale						Coyote Creek at Hwy. 280						
Date	Time	Hour	None	Existing	Zoned	Future	None	Existing	Zoned	Future	F-E	F_Z	None	Existing	Approved	Future	Storage Routing	F-E	F-Z
3-Jan	1800	67	54	58	59	61	7,202	7,208	7,209	7,211	3	2	6,256	6,259	6,260	6,260	6,268	1	0
3-Jan	1900	68	63	66	67	70	7,300	7,305	7,306	7,308	3	2	6,579	6,583	6,583	6,584	6,591	1	1
3-Jan	2000	69	61	59	59	59	**7,337**	**7,336**	**7,336**	**7,336**	**0**	**0**	6,850	6,854	6,855	6,856	6,861	2	1
3-Jan	2100	70	49	46	46	45	7,303	7,300	7,300	7,299	-1	-1	7,036	7,040	7,040	7,041	7,045	1	1
3-Jan	2200	71	39	36	36	36	7,203	7,200	7,200	7,199	-1	-1	7,143	7,145	7,145	7,146	7,149	1	1
3-Jan	2300	72	22	15	14	11	7,033	7,026	7,025	7,022	-4	-3	**7,183**	**7,184**	**7,184**	**7,184**	**7,186**	**0**	**0**
4-Jan	0	73	7	3	3	1	6,817	6,812	6,812	6,811	-1	-1	7,163	7,162	7,162	7,162	7,164	0	0
4-Jan	100	74	1	0	0	0	6,574	6,572	6,572	6,572	0	0	7,097	7,095	7,095	7,094	7,096	-1	-1
4-Jan	200	75	0	0	0	0	6,337	6,335	6,335	6,335	0	0	6,991	6,988	6,988	6,987	6,989	-1	-1
4-Jan	300	76	0	0	0	0	6,089	6,087	6,087	6,087	0	0	6,847	6,844	6,844	6,843	6,845	-1	-1
4-Jan	400	77	0	0	0	0	5,827	5,825	5,825	5,825	0	0	6,672	6,669	6,669	6,669	6,670	0	0
4-Jan	500	78	0	0	0	0	5,564	5,562	5,562	5,562	0	0	6,473	6,470	6,470	6,470	6,471	0	0
4-Jan	600	79	0	0	0	0	5,310	5,307	5,307	5,307	0	0	6,255	6,253	6,253	6,252	6,253	-1	-1
4-Jan	700	80	0	0	0	0	5,060	5,058	5,058	5,058	0	0	6,025	6,022	6,022	6,022	6,023	0	0
4-Jan	800	81	0	0	0	0	4,812	4,809	4,809	4,809	0	0	5,787	5,785	5,785	5,784	5,785	-1	-1
4-Jan	900	82	0	0	0	0	4,563	4,560	4,560	4,560	0	0	5,545	5,542	5,542	5,542	5,542	0	0
4-Jan	1000	83	0	0	0	0	4,316	4,313	4,313	4,313	0	0	5,300	5,298	5,298	5,297	5,298	-1	-1
4-Jan	1100	84	0	0	0	0	4,073	4,070	4,070	4,070	0	0	5,055	5,052	5,052	5,052	5,052	0	0
4-Jan	1200	85	0	0	0	0	3,837	3,834	3,834	3,834	0	0	4,809	4,806	4,806	4,806	4,806	0	0
4-Jan	1300	86	0	0	0	0	3,610	3,607	3,607	3,607	0	0	4,565	4,562	4,562	4,562	4,562	0	0
4-Jan	1400	87	0	0	0	0	3,399	3,396	3,396	3,396	0	0	4,325	4,322	4,322	4,322	4,322	0	0
4-Jan	1500	88	0	0	0	0	3,206	3,204	3,204	3,204	0	0	4,092	4,088	4,088	4,088	4,088	0	0
4-Jan	1600	89	0	0	0	0	3,033	3,031	3,031	3,031	0	0	3,867	3,864	3,864	3,864	3,864	0	0
4-Jan	1700	90	0	0	0	0	2,877	2,875	2,875	2,875	0	0	3,654	3,651	3,651	3,651	3,651	0	0
4-Jan	1800	91	0	0	0	0	2,752	2,751	2,751	2,751	0	0	3,455	3,453	3,453	3,453	3,453	0	0
4-Jan	1900	92	0	0	0	0	2,650	2,649	2,649	2,649	0	0	3,273	3,271	3,271	3,271	3,271	0	0
4-Jan	2000	93	0	0	0	0	2,552	2,551	2,551	2,551	0	0	3,110	3,107	3,107	3,107	3,107	0	0
4-Jan	2100	94	0	0	0	0	2,458	2,457	2,457	2,457	0	0	2,963	2,961	2,961	2,961	2,961	0	0
4-Jan	2200	95	0	0	0	0	2,368	2,367	2,367	2,367	0	0	2,831	2,829	2,829	2,829	2,829	0	0
4-Jan	2300	96	0	0	0	0	2,281	2,280	2,280	2,280	0	0	2,711	2,710	2,710	2,710	2,710	0	0

For the first peak at Highway 280, the 35-year Future condition is 9 cfs greater than the Existing condition, and 6 cfs greater than the Zoned condition (hour 49). For the second peak at Edenvale, the Future condition is 0 cfs greater than the Existing condition, and 0 cfs greater than the Zoned condition (hour 72).

Based on the model results, the estimated increased flows from the study area site would generally contribute to the first or local peak on Coyote Creek. The estimated increase in the contribution to the Coyote Creek flow is much less than the estimated increase in the peak runoff from the study area watershed because of the difference in timing between the study area watershed and the peak flows in Coyote Creek. In addition, potential increased runoff from the study area would only contribute to the second or upper watershed peak if there happened to be a local rainfall on the site at the time that the peak from the upper watershed reaches the site.

Based on the results of the Coyote Creek model, the development in the study area would have a no impact on the second hydrograph peak for the range of flood events considered. The estimated change in flow rate was 0 or –1 cfs for the 100-year and 35-year floods.

For the first hydrograph peak, the estimated increases due to development are greater, ranging from 6 to 12 cfs. Based on existing hydraulic models for Coyote Creek at Highway 280, an increase of approximately 10 cfs would increase the water surface by an estimated 0.01 cfs near William Street. The potential increase in the water surface elevation would not be considered a significant effect on the depth or extent of flooding. In addition, for the design 35-year and 100-year flood events the first peak would be followed by a larger second flood peak. The area of potential impact would be flooded to a greater depth by the second peak. The only times that the first peak would be the larger flood event would be if a major rainstorm occurred while the reservoirs were at an exceptionally low storage level, or if a storm did not include significant rainfall in the upper watershed above the dams.

However, the SCVWD has requested that the redevelopment project include detention storage to reduce the estimated potential increase in the first flood peak. The SCVWD is concerned that there may be potential cumulative effects due to the combined effects of other development in the Coyote Creek watershed.

Detention Storage Alternatives

As part of the hydrology study, detention storage alternatives were considered to reduce or eliminate the potential increases in the Coyote Creek flood flow rates. Three alternatives were developed which are described below. The detention storage alternatives were designed to reduce the potential impact to the first peak on Coyote Creek. These alternatives were not designed to reduce the peak runoff from the development area before the peak flow on Coyote Creek. The alternatives were considered at a feasibility level to identify suitable alternatives. The design details would require additional analysis and preliminary design.

Alternative 1

Alternative 1 considered on-site detention for new development in the study area. New development projects would be required to include detention storage to reduce the runoff from development areas. This alternative would include detention storage on each development site to reduce the potential increase runoff contribution to the Coyote Creek first peak. The results of the runoff with detention storage for the 35-year flood event are shown in Table 6.

The detention storage assumed in Alternative 1 would include detention storage sufficient to allow a maximum runoff rate of approximately 50 cfs per square mile from the development areas in sub-basins 3NL and 4L. This is less than 5 percent of the normal 10-year design runoff for storm drain design. The detention storage areas would be partially filled in most rainfall events. Alternative 1 would require approximately 0.1 acre feet of storage capacity for each acre of development. For shallow ponds, this would require approximately 5 percent of the development area, which could be accommodated in the open space or landscaping on each site.

In Table 6, the last column (S-Z) shows the difference between the Storage condition and the Zoned condition flow rates for Coyote Creek at Highway 280. At the highlighted portion at hour 50, the storage alternative shows no increase over the Zoned condition. Alternative 1 only included storage in the Phase 3 area. Therefore, the Alternative would reduce the potential increase in the first peak due to the development in the Phase 3 area (difference between the Future condition and Zoned conditions).

However, the small releases from the storage areas during the rainfall events means that the storage would be released from storage for a long period after the rainfall peak. For the 35-year event, flow from the storage areas would continue for approximately 19 hours. This would increase the flows later in the storm event and would increase the runoff during the second peak in Coyote Creek. For the 35-year event, the contribution to the second Coyote Creek would not increase with Alternative 1.

Table 7 shows the results for the 100-year flood event. Alternative 1 would reduce the contribution to the first peak in Coyote Creek by 6 cfs, but would increase the second peak by 6 cfs.

Due to the potential to increase the second peak in Coyote Creek, on-site detention would not be a suitable detention alternative. Regional detention storage located at the end of each storm drain system would have the same problem as the on-site storage, and was not considered in detail.

Alternative 2

Alternative 2 was developed as a variation of a regional detention storage system to reduce the potential storage releases late in the storm that may affect the second peak in Coyote Creek. Alternative 2 would include storage that would only be used only when flow rate in Coyote Creek are high. The storm drain outlet from the study area would be closed off from Coyote Creek when the creek water levels are high. This reduces the required storage and prevents the

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Table 6

HEC-1 Output: 35-Year Flood Event

Mitigation Alternative 1

Basin 4L storm drain outfall on Coyote Creek moved to location midway between Silicon Valley Blvd and Frontage Road

Storage routing in sub-basins 4L and 3NL through storm drain system

			Flowrate (cfs)																	
			SJRA Project Basin					Coyote Creek at Edenvale							Coyote Creek at Hwy. 280					
Date	Time	Hour	None	Existing	Zoned	Future	Storage	None	Existing	Zoned	Future	Storage	F-Z	S-Z	None	Existing	Zoned	Future	Storage	F-Z	S-Z
2-Jan	0	25	49	63	71	83	82	2,138	2,151	2,159	2,172	2,171	13	12	2,138	2,154	2,165	2,179	2,179	14	14
2-Jan	100	26	42	42	44	47	47	2,287	2,287	2,289	2,292	2,292	3	3	2,317	2,332	2,342	2,356	2,356	14	14
2-Jan	200	27	31	33	37	41	41	2,313	2,316	2,319	2,323	2,323	4	4	2,404	2,418	2,426	2,439	2,438	13	12
2-Jan	300	28	25	26	27	30	29	2,240	2,240	2,242	2,245	2,244	3	2	2,440	2,450	2,457	2,468	2,467	11	10
2-Jan	400	29	18	18	19	20	20	2,096	2,095	2,097	2,098	2,098	1	1	2,432	2,440	2,446	2,454	2,454	8	8
2-Jan	500	30	19	24	27	31	31	1,923	1,928	1,931	1,935	1,935	4	4	2,388	2,394	2,398	2,405	2,405	7	7
2-Jan	600	31	19	20	21	23	22	1,741	1,742	1,743	1,745	1,744	2	1	2,320	2,325	2,329	2,334	2,334	5	5
2-Jan	700	32	14	14	14	15	15	1,562	1,562	1,563	1,564	1,563	1	0	2,200	2,203	2,207	2,211	2,211	4	4
2-Jan	800	33	10	10	11	12	11	1,398	1,398	1,399	1,400	1,399	1	0	2,042	2,045	2,047	2,051	2,051	4	4
2-Jan	900	34	10	11	12	13	13	1,256	1,257	1,258	1,260	1,259	2	1	1,883	1,885	1,887	1,890	1,890	3	3
2-Jan	1000	35	22	32	36	43	43	1,156	1,166	1,170	1,177	1,176	7	6	1,764	1,766	1,768	1,770	1,770	2	2
2-Jan	1100	36	35	42	45	50	49	1,097	1,104	1,107	1,113	1,112	6	5	1,697	1,700	1,702	1,705	1,705	3	3
2-Jan	1200	37	59	78	86	100	98	1,115	1,135	1,143	1,156	1,155	13	12	1,694	1,699	1,701	1,705	1,705	4	4
2-Jan	1300	38	119	156	170	195	193	1,295	1,333	1,347	1,372	1,370	25	23	1,875	1,883	1,887	1,893	1,892	6	5
2-Jan	1400	39	168	193	202	220	218	1,600	1,625	1,635	1,653	1,651	18	16	2,231	2,243	2,249	2,258	2,257	9	8
2-Jan	1500	40	213	245	258	281	280	2,074	2,106	2,119	2,142	2,141	23	22	2,544	2,561	2,568	2,580	2,579	12	11
2-Jan	1600	41	284	326	340	369	366	2,709	2,751	2,765	2,794	2,792	29	27	2,879	2,900	2,909	2,924	2,922	15	13
2-Jan	1700	42	310	321	327	338	337	3,423	3,433	3,440	3,451	3,450	11	10	3,377	3,401	3,410	3,428	3,426	18	16
2-Jan	1800	43	239	212	211	202	200	4,575	4,548	4,547	4,539	4,537	-8	-10	3,977	4,000	4,009	4,027	4,025	18	16
2-Jan	1900	44	157	139	139	136	118	4,684	4,666	4,667	4,664	4,645	-3	-22	4,570	4,586	4,594	4,608	4,605	14	11
2-Jan	2000	45	139	146	150	158	139	4,978	4,984	4,988	4,996	4,977	8	-11	5,085	5,094	5,100	5,110	5,105	10	5
2-Jan	2100	46	162	177	182	193	172	4,954	4,969	4,973	4,984	4,963	11	-10	5,487	5,492	5,497	5,505	5,497	8	0
2-Jan	2200	47	166	166	168	171	168	4,814	4,814	4,816	4,819	4,816	3	0	5,780	5,784	5,789	5,796	5,786	7	-3
2-Jan	2300	48	155	157	160	163	163	4,624	4,626	4,628	4,632	4,632	4	4	5,961	5,966	5,970	5,976	5,966	6	-4
3-Jan	0	49	136	130	131	130	130	4,403	4,397	4,397	4,397	4,397	0	0	5,983	5,987	5,990	5,996	5,987	6	-3
3-Jan	100	50	120	120	122	125	125	4,163	4,164	4,165	4,168	4,168	3	3	5,702	5,705	5,708	5,712	5,705	4	-3
3-Jan	200	51	115	115	116	119	119	3,917	3,918	3,919	3,922	3,921	3	2	5,509	5,510	5,512	5,516	5,511	4	-1
3-Jan	300	52	92	84	84	81	81	3,637	3,629	3,628	3,626	3,626	-2	-2	5,268	5,268	5,270	5,274	5,270	4	0
3-Jan	400	53	76	75	76	78	78	3,354	3,353	3,354	3,356	3,356	2	2	4,960	4,959	4,961	4,963	4,961	2	0
3-Jan	500	54	78	82	84	87	86	3,146	3,149	3,151	3,154	3,154	3	3	4,659	4,658	4,660	4,662	4,660	2	0
3-Jan	600	55	79	79	80	81	81	3,047	3,048	3,049	3,050	3,049	1	0	4,391	4,390	4,392	4,393	4,392	1	0
3-Jan	700	56	114	135	140	153	151	3,108	3,131	3,136	3,148	3,147	12	11	4,214	4,215	4,216	4,218	4,217	2	1
3-Jan	800	57	145	152	154	158	156	3,377	3,387	3,389	3,393	3,391	4	2	4,183	4,187	4,188	4,192	4,191	4	3
3-Jan	900	58	120	109	108	103	103	3,786	3,777	3,776	3,772	3,772	-4	-4	4,173	4,178	4,180	4,183	4,182	3	2
3-Jan	1000	59	87	79	79	77	78	4,254	4,250	4,250	4,248	4,249	-2	-1	4,137	4,141	4,142	4,145	4,145	3	3
3-Jan	1100	60	63	57	57	55	55	4,736	4,733	4,733	4,732	4,732	-1	-1	4,169	4,171	4,172	4,174	4,174	2	2
3-Jan	1200	61	61	65	66	69	69	5,245	5,253	5,254	5,258	5,257	4	3	4,318	4,319	4,320	4,321	4,321	1	1
3-Jan	1300	62	56	53	52	51	50	5,744	5,745	5,745	5,743	5,743	-2	-2	4,572	4,573	4,574	4,575	4,575	1	1
3-Jan	1400	63	46	45	45	45	45	6,189	6,191	6,192	6,192	6,192	0	0	4,874	4,876	4,876	4,877	4,877	1	1
3-Jan	1500	64	44	44	45	46	46	6,533	6,537	6,537	6,539	6,538	2	1	5,207	5,209	5,209	5,210	5,210	1	1
3-Jan	1600	65	44	45	45	46	46	6,824	6,828	6,829	6,830	6,829	1	0	5,562	5,564	5,565	5,565	5,565	0	0
3-Jan	1700	66	46	48	49	51	50	7,049	7,053	7,054	7,056	7,055	2	1	5,914	5,916	5,917	5,917	5,917	0	0
3-Jan	1800	67	54	58	59	61	61	7,202	7,208	7,209	7,211	7,211	2	2	6,256	6,259	6,260	6,260	6,260	0	0
3-Jan	1900	68	63	66	67	70	69	7,300	7,305	7,306	7,308	7,307	2	1	6,579	6,583	6,583	6,584	6,584	1	1
3-Jan	2000	69	61	59	59	59	59	7,337	7,336	7,336	7,336	7,335	0	-1	6,850	6,854	6,855	6,856	6,856	1	1
3-Jan	2100	70	49	46	46	45	45	7,303	7,300	7,300	7,299	7,299	-1	-1	7,036	7,040	7,040	7,041	7,041	1	1

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Table 6

HEC-1 Output: 35-Year Flood Event

Mitigation Alternative 1

Basin 4L storm drain outfall on Coyote Creek moved to location midway between Silicon Valley Blvd and Frontage Road

Storage routing in sub-basins 4L and 3NL through storm drain system

			Flowrate (cfs)																	
			SJRA Project Basin					Coyote Creek at Edenvale							Coyote Creek at Hwy. 280					
Date	Time	Hour	None	Existing	Zoned	Future	Storage	None	Existing	Zoned	Future	Storage	F-Z	S-Z	None	Existing	Zoned	Future	Storage	F-Z	S-Z
3-Jan	2200	71	39	36	36	36	36	7,203	7,200	7,200	7,199	7,199	-1	-1	7,143	7,145	7,145	7,146	7,146	1	1
3-Jan	2300	72	22	15	14	11	11	7,033	7,026	7,025	7,022	7,022	-3	-3	7,183	7,184	7,184	7,184	7,184	0	0
4-Jan	0	73	7	3	3	1	1	6,817	6,812	6,812	6,811	6,811	-1	-1	7,163	7,162	7,162	7,162	7,162	0	0
4-Jan	100	74	1	0	0	0	0	6,574	6,572	6,572	6,572	6,572	0	0	7,097	7,095	7,095	7,094	7,094	-1	-1
4-Jan	200	75	0	0	0	0	0	6,337	6,335	6,335	6,335	6,335	0	0	6,991	6,988	6,988	6,987	6,987	-1	-1
4-Jan	300	76	0	0	0	0	0	6,089	6,087	6,087	6,087	6,087	0	0	6,847	6,844	6,844	6,843	6,843	-1	-1
4-Jan	400	77	0	0	0	0	0	5,827	5,825	5,825	5,825	5,825	0	0	6,672	6,669	6,669	6,669	6,669	0	0
4-Jan	500	78	0	0	0	0	0	5,564	5,562	5,562	5,562	5,562	0	0	6,473	6,470	6,470	6,470	6,470	0	0
4-Jan	600	79	0	0	0	0	0	5,310	5,307	5,307	5,307	5,307	0	0	6,255	6,253	6,253	6,252	6,252	-1	-1
4-Jan	700	80	0	0	0	0	0	5,060	5,058	5,058	5,058	5,058	0	0	6,025	6,022	6,022	6,022	6,022	0	0
4-Jan	800	81	0	0	0	0	0	4,812	4,809	4,809	4,809	4,809	0	0	5,787	5,785	5,785	5,784	5,784	-1	-1
4-Jan	900	82	0	0	0	0	0	4,563	4,560	4,560	4,560	4,560	0	0	5,545	5,542	5,542	5,542	5,542	0	0
4-Jan	1000	83	0	0	0	0	0	4,316	4,313	4,313	4,313	4,313	0	0	5,300	5,298	5,298	5,297	5,297	-1	-1
4-Jan	1100	84	0	0	0	0	0	4,073	4,070	4,070	4,070	4,070	0	0	5,055	5,052	5,052	5,052	5,052	0	0
4-Jan	1200	85	0	0	0	0	0	3,837	3,834	3,834	3,834	3,834	0	0	4,809	4,806	4,806	4,806	4,806	0	0
4-Jan	1300	86	0	0	0	0	0	3,610	3,607	3,607	3,607	3,607	0	0	4,565	4,562	4,562	4,562	4,562	0	0
4-Jan	1400	87	0	0	0	0	0	3,399	3,396	3,396	3,396	3,396	0	0	4,325	4,322	4,322	4,322	4,322	0	0
4-Jan	1500	88	0	0	0	0	0	3,206	3,204	3,204	3,204	3,204	0	0	4,092	4,088	4,088	4,088	4,088	0	0
4-Jan	1600	89	0	0	0	0	0	3,033	3,031	3,031	3,031	3,031	0	0	3,867	3,864	3,864	3,864	3,864	0	0
4-Jan	1700	90	0	0	0	0	0	2,877	2,875	2,875	2,875	2,875	0	0	3,654	3,651	3,651	3,651	3,651	0	0
4-Jan	1800	91	0	0	0	0	0	2,752	2,751	2,751	2,751	2,751	0	0	3,455	3,453	3,453	3,453	3,453	0	0
4-Jan	1900	92	0	0	0	0	0	2,650	2,649	2,649	2,649	2,649	0	0	3,273	3,271	3,271	3,271	3,271	0	0
4-Jan	2000	93	0	0	0	0	0	2,552	2,551	2,551	2,551	2,551	0	0	3,110	3,107	3,107	3,107	3,107	0	0
4-Jan	2100	94	0	0	0	0	0	2,458	2,457	2,457	2,457	2,457	0	0	2,963	2,961	2,961	2,961	2,961	0	0
4-Jan	2200	95	0	0	0	0	0	2,368	2,367	2,367	2,367	2,367	0	0	2,831	2,829	2,829	2,829	2,829	0	0
4-Jan	2300	96	0	0	0	0	0	2,281	2,280	2,280	2,280	2,280	0	0	2,711	2,710	2,710	2,710	2,710	0	0

San Jose Redevelopment Agency

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Table 7

HEC-1 Output: 100-Year Flood Event

Mitigation Alternative 1

Basin 4L storm drain outfall on Coyote Creek moved to location midway between Silicon Valley Blvd and Frontage Road

Storage routing through storm drain system in sub-basins 4L and 3NL

Initial Storage in Anderson Reservoir = 81,000 ac-ft

			Flowrate (cfs)																	
			SJRA Project Basin					Coyote Creek at Edenvale							Coyote Creek at Hwy. 280					
Date	Time	Hour	None	Existing	Zoned	Future	Storage	None	Existing	Zoned	Future	Storage	F-Z	S-Z	None	Existing	Zoned	Future	Storage	F-Z	S-Z
2-Jan	0	25	97	109	116	126	123	1,855	1,867	1,874	1,884	1,881	10	7	2,344	2,363	2,374	2,390	2,382	16	8
2-Jan	100	26	78	72	73	73	79	1,838	1,832	1,833	1,833	1,839	0	6	2,385	2,401	2,411	2,425	2,419	14	8
2-Jan	200	27	56	55	58	61	68	1,764	1,764	1,766	1,769	1,777	3	11	2,321	2,334	2,342	2,354	2,350	12	8
2-Jan	300	28	44	42	44	45	55	1,687	1,685	1,687	1,688	1,698	1	11	2,224	2,233	2,239	2,249	2,248	10	9
2-Jan	400	29	31	29	30	30	39	1,576	1,573	1,574	1,574	1,584	0	10	2,117	2,123	2,129	2,136	2,137	7	8
2-Jan	500	30	33	38	41	45	48	1,462	1,467	1,470	1,474	1,477	4	7	2,011	2,015	2,020	2,025	2,029	5	9
2-Jan	600	31	32	32	33	33	36	1,345	1,344	1,345	1,345	1,348	0	3	1,922	1,925	1,928	1,933	1,937	5	9
2-Jan	700	32	23	22	22	22	25	1,223	1,222	1,222	1,222	1,225	0	3	1,801	1,803	1,806	1,809	1,814	3	8
2-Jan	800	33	17	16	17	17	19	1,111	1,111	1,111	1,111	1,113	0	2	1,654	1,656	1,658	1,661	1,665	3	7
2-Jan	900	34	16	17	18	19	20	1,016	1,017	1,018	1,019	1,020	1	2	1,520	1,521	1,523	1,525	1,528	2	5
2-Jan	1000	35	36	49	53	61	55	961	974	978	986	981	8	3	1,444	1,445	1,447	1,449	1,451	2	4
2-Jan	1100	36	57	64	67	72	68	936	943	946	951	947	5	1	1,438	1,441	1,442	1,445	1,446	3	4
2-Jan	1200	37	94	118	125	139	128	972	995	1,002	1,017	1,006	15	4	1,513	1,517	1,519	1,523	1,523	4	4
2-Jan	1300	38	185	230	243	269	247	1,144	1,189	1,202	1,228	1,206	26	4	1,807	1,816	1,819	1,825	1,822	6	3
2-Jan	1400	39	255	279	288	302	279	1,805	1,830	1,838	1,852	1,830	14	-8	2,219	2,234	2,239	2,248	2,241	9	2
2-Jan	1500	40	313	346	357	378	345	2,504	2,537	2,548	2,568	2,536	20	-12	2,557	2,577	2,583	2,595	2,584	12	1
2-Jan	1600	41	406	450	462	488	443	3,393	3,437	3,449	3,474	3,430	25	-19	3,078	3,101	3,109	3,123	3,107	14	-2
2-Jan	1700	42	433	436	440	444	408	4,364	4,366	4,370	4,374	4,338	4	-32	3,779	3,805	3,814	3,829	3,808	15	-6
2-Jan	1800	43	328	285	281	265	251	6,247	6,204	6,200	6,183	6,170	-17	-30	4,573	4,596	4,604	4,618	4,593	14	-11
2-Jan	1900	44	212	185	184	177	173	6,235	6,208	6,207	6,200	6,196	-7	-11	5,389	5,403	5,409	5,418	5,393	9	-16
2-Jan	2000	45	187	192	195	202	195	6,626	6,631	6,635	6,641	6,634	6	-1	6,173	6,177	6,182	6,187	6,165	5	-17
2-Jan	2100	46	217	233	237	246	234	6,562	6,577	6,581	6,590	6,578	9	-3	6,851	6,851	6,855	6,858	6,840	3	-15
2-Jan	2200	47	220	218	218	218	210	6,375	6,372	6,373	6,372	6,364	-1	-9	7,385	7,386	7,389	7,392	7,377	3	-12
2-Jan	2300	48	205	204	206	208	200	6,183	6,183	6,184	6,186	6,179	2	-5	7,750	7,750	7,753	7,757	7,743	4	-10
3-Jan	0	49	179	169	169	165	164	6,064	6,054	6,053	6,050	6,049	-3	-4	7,950	7,950	7,952	7,955	7,943	3	-9
3-Jan	100	50	157	156	157	158	157	6,091	6,089	6,090	6,091	6,090	1	0	7,997	7,996	7,998	8,000	7,990	2	-8
3-Jan	200	51	150	148	149	150	150	6,316	6,315	6,316	6,316	6,317	0	1	7,955	7,953	7,954	7,955	7,948	1	-6
3-Jan	300	52	120	108	107	103	109	6,727	6,715	6,714	6,709	6,715	-5	1	7,913	7,910	7,912	7,912	7,907	0	-5
3-Jan	400	53	99	96	97	98	104	7,434	7,432	7,432	7,433	7,439	1	7	7,935	7,931	7,932	7,932	7,929	0	-3
3-Jan	500	54	102	105	106	109	114	8,497	8,501	8,502	8,504	8,509	2	7	8,083	8,080	8,080	8,080	8,079	0	-1
3-Jan	600	55	102	102	102	102	108	9,658	9,658	9,658	9,659	9,664	1	6	8,091	8,088	8,089	8,089	8,090	0	1
3-Jan	700	56	147	172	177	191	185	10,891	10,917	10,922	10,935	10,929	13	7	8,570	8,569	8,570	8,571	8,573	1	3
3-Jan	800	57	187	194	195	198	193	12,140	12,147	12,148	12,151	12,146	3	-2	9,424	9,426	9,427	9,429	9,431	2	4
3-Jan	900	58	155	138	137	129	132	13,273	13,256	13,255	13,247	13,250	-8	-5	10,352	10,356	10,357	10,360	10,360	3	3
3-Jan	1000	59	111	100	99	97	103	16,400	16,390	16,389	16,386	16,392	-3	3	11,308	11,310	11,311	11,313	11,314	2	3
3-Jan	1100	60	81	72	72	69	79	16,705	16,696	16,696	16,693	16,703	-3	7	12,428	12,427	12,428	12,429	12,430	1	2
3-Jan	1200	61	78	82	83	86	93	16,322	16,327	16,328	16,331	16,338	3	10	13,561	13,559	13,559	13,559	13,561	0	2
3-Jan	1300	62	72	67	66	64	74	15,771	15,766	15,765	15,763	15,773	-2	8	14,454	14,451	14,451	14,451	14,455	0	4
3-Jan	1400	63	59	56	57	56	67	14,691	14,689	14,689	14,689	14,699	0	10	14,974	14,971	14,972	14,971	14,977	-1	5
3-Jan	1500	64	56	56	57	57	68	14,019	14,019	14,019	14,020	14,031	1	12	15,136	15,134	15,134	15,133	15,140	-1	6
3-Jan	1600	65	56	56	57	57	68	13,517	13,518	13,518	13,519	13,529	1	11	15,043	15,041	15,041	15,041	15,049	0	8
3-Jan	1700	66	59	61	62	63	73	13,073	13,075	13,076	13,077	13,087	1	11	14,796	14,795	14,795	14,795	14,803	0	8
3-Jan	1800	67	69	73	74	76	84	12,992	12,996	12,997	12,999	13,008	2	11	14,500	14,499	14,500	14,500	14,509	0	9

San Jose Redevelopment Agency

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Table 7

HEC-1 Output: 100-Year Flood Event

Mitigation Alternative 1

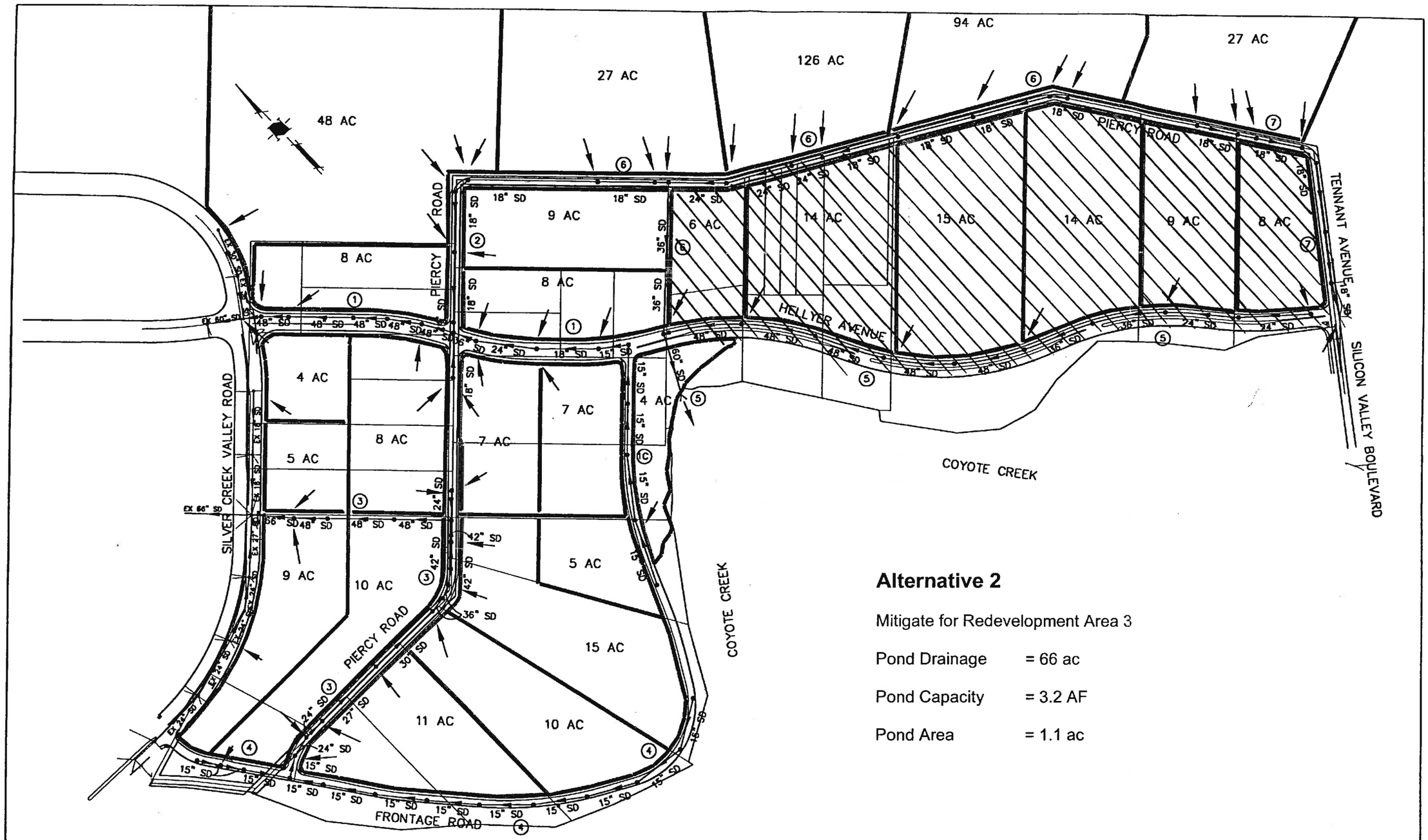
Basin 4L storm drain outfall on Coyote Creek moved to location midway between Silicon Valley Blvd and Frontage Road

Storage routing through storm drain system in sub-basins 4L and 3NL

Initial Storage in Anderson Reservoir = 81,000 ac-ft

			Flowrate (cfs)																		
			SJRA Project Basin					Coyote Creek at Edenvale							Coyote Creek at Hwy. 280						
Date	Time	Hour	None	Existing	Zoned	Future	Storage	None	Existing	Zoned	Future	Storage	F-Z	S-Z	None	Existing	Zoned	Future	Storage	F-Z	S-Z
3-Jan	1900	68	80	84	85	87	94	12,852	12,856	12,857	12,859	12,866	2	9	14,237	14,237	14,238	14,238	14,247	0	9
3-Jan	2000	69	77	75	75	74	82	12,704	12,701	12,701	12,700	12,708	-1	7	14,019	14,020	14,020	14,021	14,030	1	10
3-Jan	2100	70	63	58	57	56	66	12,592	12,588	12,587	12,585	12,596	-2	9	13,813	13,814	13,814	13,815	13,824	1	10
3-Jan	2200	71	49	46	46	45	57	12,364	12,361	12,361	12,360	12,372	-1	11	13,606	13,606	13,606	13,606	13,616	0	10
3-Jan	2300	72	28	19	18	14	29	12,060	12,051	12,050	12,046	12,061	-4	11	13,374	13,373	13,373	13,373	13,383	0	10
4-Jan	0	73	8	4	3	2	12	11,745	11,740	11,740	11,738	11,749	-2	9	13,096	13,093	13,093	13,092	13,103	-1	10
4-Jan	100	74	2	0	0	0	6	11,334	11,333	11,332	11,332	11,338	0	6	12,786	12,782	12,782	12,781	12,792	-1	10
4-Jan	200	75	0	0	0	0	3	10,899	10,899	10,899	10,899	10,902	0	3	12,452	12,449	12,448	12,447	12,457	-1	9
4-Jan	300	76	0	0	0	0	0	10,448	10,448	10,448	10,448	10,448	0	0	12,090	12,087	12,087	12,086	12,095	-1	8
4-Jan	400	77	0	0	0	0	0	10,035	10,035	10,035	10,035	10,035	0	0	11,706	11,704	11,704	11,703	11,710	-1	6
4-Jan	500	78	0	0	0	0	0	9,665	9,665	9,665	9,665	9,665	0	0	11,310	11,309	11,309	11,308	11,313	-1	4
4-Jan	600	79	0	0	0	0	0	9,327	9,327	9,327	9,327	9,327	0	0	10,915	10,914	10,913	10,913	10,917	0	4
4-Jan	700	80	0	0	0	0	0	9,027	9,027	9,027	9,027	9,027	0	0	10,529	10,528	10,528	10,528	10,531	0	3
4-Jan	800	81	0	0	0	0	0	8,735	8,735	8,735	8,735	8,735	0	0	10,160	10,160	10,160	10,160	10,161	0	1
4-Jan	900	82	0	0	0	0	0	8,442	8,442	8,442	8,442	8,442	0	0	9,810	9,809	9,809	9,809	9,810	0	1
4-Jan	1000	83	0	0	0	0	0	8,146	8,146	8,146	8,146	8,146	0	0	9,475	9,475	9,475	9,475	9,475	0	0
4-Jan	1100	84	0	0	0	0	0	7,847	7,847	7,847	7,847	7,847	0	0	9,152	9,152	9,152	9,152	9,152	0	0
4-Jan	1200	85	0	0	0	0	0	7,545	7,545	7,545	7,545	7,545	0	0	8,840	8,840	8,840	8,840	8,840	0	0
4-Jan	1300	86	0	0	0	0	0	7,259	7,259	7,259	7,259	7,259	0	0	8,537	8,537	8,537	8,537	8,537	0	0
4-Jan	1400	87	0	0	0	0	0	6,959	6,959	6,959	6,959	6,959	0	0	8,239	8,239	8,239	8,239	8,239	0	0
4-Jan	1500	88	0	0	0	0	0	6,662	6,662	6,662	6,662	6,662	0	0	7,943	7,943	7,943	7,943	7,943	0	0
4-Jan	1600	89	0	0	0	0	0	6,395	6,395	6,395	6,395	6,395	0	0	7,648	7,648	7,648	7,648	7,648	0	0
4-Jan	1700	90	0	0	0	0	0	6,135	6,135	6,135	6,135	6,135	0	0	7,351	7,351	7,351	7,351	7,351	0	0
4-Jan	1800	91	0	0	0	0	0	5,783	5,783	5,783	5,783	5,783	0	0	7,045	7,045	7,045	7,045	7,045	0	0
4-Jan	1900	92	0	0	0	0	0	5,505	5,505	5,505	5,505	5,505	0	0	6,735	6,735	6,735	6,735	6,735	0	0
4-Jan	2000	93	0	0	0	0	0	5,244	5,244	5,244	5,244	5,244	0	0	6,426	6,426	6,426	6,426	6,426	0	0
4-Jan	2100	94	0	0	0	0	0	4,997	4,997	4,997	4,997	4,997	0	0	6,126	6,126	6,126	6,126	6,126	0	0
4-Jan	2200	95	0	0	0	0	0	4,759	4,759	4,759	4,759	4,759	0	0	5,838	5,838	5,838	5,838	5,838	0	0
4-Jan	2300	96	0	0	0	0	0	4,528	4,528	4,528	4,528	4,528	0	0	5,563	5,563	5,563	5,563	5,563	0	0

Figure 7



Alternative 2

Mitigate for Redevelopment Area 3

Pond Drainage = 66 ac

Pond Capacity = 3.2 AF

Pond Area = 1.1 ac

Date:	3/11/99
Scale:	1"=200'
Designed:	LMG/RDA
Drawn:	BB
Checked:	LMG

HMH, Incorporated
Civil Engineers · Planners · Surveyors
1570 OAKLAND ROAD, SUITE 200

EDENVALE REDEVELOPMENT AREA
STORM DRAINAGE MASTER PLAN

Sheet 1
Of 1 Sheets

runoff in storage from releasing while the Coyote Creek flow rates are high during the second peak.

One method to close off the storm drain outlet would be to use a flapgate at the creek outfall. However, this would require that the storage area be at the same elevation as the water level in the creek. Otherwise, the higher water level in the storage area would still allow flow through the flapgate. Due to the depth of Coyote Creek, the storage area would need to be approximately 20 feet below existing grade. This was not considered practical or suitable for the limited available sites near the creek channel.

An alternative method would include an operable gate system that would close when the creek levels are high. This could be a slide gate within the storm drain system that would operate electrically, or based on a float system to sense the creek water levels.

The slide gate would close off the storm drain system completely. However, it would not be necessary to stop all runoff from the entire study area since some runoff occurs for the undeveloped condition. The system could close off part of the storm drain system and allow runoff from the remainder of the study area if the controlled area is sufficient to reduce the potential impact to Coyote Creek.

For Alternative 2 a portion of the development area was selected to reduce the first peak flows from only the Phase 3 area development in sub-basins 3NL and 4L. The area is approximately 220 acres of development. A potential drainage area for the storage area is shown in Figure 7. The actual drainage area could be adjusted based on the storage area location, development conditions, and the storm drain design. Based on the Coyote Creek hydrograph model, the storage area would need to prevent flow into Coyote Creek for approximately 3 hours during the first peak. The maximum storage would be approximately 2.2 acre feet for the 35-year event, and 3.2 acre feet for the 100-year event. After the storage is filled, the storage area could overflow into the creek. The water in storage would remain in storage until the water levels in the creek are low again. The estimated critical flow rate in the creek to control the storm drain flow is approximately 4000 cfs at Edenvale.

The results of the Coyote Creek model for Alternative 2 for the 35-year and 100-year flood events are shown in Tables 8 and 9. Alternative 2 would reduce the potential first peak flow rate increases due to the Phase 3 development, the difference between the Future condition and the Zoned condition. Alternative 2 would not affect increase flows from the previously zoned development in the Phase 1 redevelopment area.

Alternative 3

Alternative 3 is a variation on Alternative 2 that would reduce the potential first peak flow rate increases from new development in both the Phase 1 and Phase 3 redevelopment areas. This represents approximately 390 acres of development. Alternative 3 would reduce the estimated Coyote Creek flow rate for the Future condition to the estimated Existing condition value for the

San Jose Redevelopment Agency
SJRA.01.99

Table 8

HEC-1 Output: 35-Year Flood Event

Mitigation Alternative 2

Basin 4L storm drain outfall on Coyote Creek near intersection of Hellyer Avenue and Frontage Road

Stored 4.9 acre-feet in detention basin. Duration: 6.75 hours (02 Jan 1998 1745 through 03 Jan 1998 30)

For storage duration = 3 hours, storage volume = 2.2 acre-feet

			Flowrate (cfs)																	
			SJRA Project Basin					Coyote Creek at Edenvale							Coyote Creek at Hwy. 280					
Date	Time	Hour	None	Existing	Zoned	Future	Storage	None	Existing	Zoned	Future	Storage	F-Z	S-Z	None	Existing	Zoned	Future	Storage	F-Z	S-Z
2-Jan	0	25	49	63	71	83	82	2,138	2,151	2,159	2,172	2,171	13	12	2,138	2,154	2,165	2,179	2,178	14	13
2-Jan	100	26	42	42	44	47	47	2,287	2,287	2,289	2,292	2,292	3	3	2,317	2,332	2,342	2,356	2,355	14	13
2-Jan	200	27	31	33	37	41	41	2,313	2,316	2,319	2,323	2,323	4	4	2,404	2,418	2,426	2,439	2,438	13	12
2-Jan	300	28	25	26	27	30	29	2,240	2,240	2,242	2,245	2,244	3	2	2,440	2,450	2,457	2,468	2,467	11	10
2-Jan	400	29	18	18	19	20	20	2,096	2,095	2,097	2,098	2,098	1	1	2,432	2,440	2,446	2,454	2,454	8	8
2-Jan	500	30	19	24	27	31	31	1,923	1,928	1,931	1,935	1,935	4	4	2,388	2,394	2,398	2,405	2,405	7	7
2-Jan	600	31	19	20	21	23	22	1,741	1,742	1,743	1,745	1,744	2	1	2,320	2,325	2,329	2,334	2,334	5	5
2-Jan	700	32	14	14	14	15	15	1,562	1,562	1,563	1,564	1,563	1	0	2,200	2,203	2,207	2,211	2,211	4	4
2-Jan	800	33	10	10	11	12	11	1,398	1,398	1,399	1,400	1,399	1	0	2,042	2,045	2,047	2,051	2,051	4	4
2-Jan	900	34	10	11	12	13	13	1,256	1,257	1,258	1,260	1,259	2	1	1,883	1,885	1,887	1,890	1,890	3	3
2-Jan	1000	35	22	32	36	43	43	1,156	1,166	1,170	1,177	1,176	7	6	1,764	1,766	1,768	1,770	1,770	2	2
2-Jan	1100	36	35	42	45	50	49	1,097	1,104	1,107	1,113	1,112	6	5	1,697	1,700	1,702	1,705	1,704	3	2
2-Jan	1200	37	59	78	86	100	98	1,115	1,135	1,143	1,156	1,155	13	12	1,694	1,699	1,701	1,705	1,704	4	3
2-Jan	1300	38	119	156	170	195	193	1,295	1,333	1,347	1,372	1,370	25	23	1,875	1,883	1,887	1,893	1,892	6	5
2-Jan	1400	39	168	193	202	220	218	1,600	1,625	1,635	1,653	1,651	18	16	2,231	2,243	2,249	2,258	2,256	9	7
2-Jan	1500	40	213	245	258	281	280	2,074	2,106	2,119	2,142	2,141	23	22	2,544	2,561	2,568	2,580	2,578	12	10
2-Jan	1600	41	284	326	340	369	366	2,709	2,751	2,765	2,794	2,792	29	27	2,879	2,900	2,909	2,924	2,921	15	12
2-Jan	1700	42	310	321	327	338	337	3,423	3,433	3,440	3,451	3,450	11	10	3,377	3,401	3,410	3,428	3,420	18	10
2-Jan	1800	43	239	212	211	202	200	4,575	4,548	4,547	4,539	4,537	-8	-10	3,977	4,000	4,009	4,027	4,017	18	8
2-Jan	1900	44	157	139	139	136	118	4,684	4,666	4,667	4,664	4,645	-3	-22	4,570	4,586	4,594	4,608	4,598	14	4
2-Jan	2000	45	139	146	150	158	139	4,978	4,984	4,988	4,996	4,977	8	-11	5,085	5,094	5,100	5,110	5,101	10	1
2-Jan	2100	46	162	177	182	193	172	4,954	4,969	4,973	4,984	4,963	11	-10	5,487	5,492	5,497	5,505	5,497	8	0
2-Jan	2200	47	166	166	168	171	168	4,814	4,814	4,816	4,819	4,816	3	0	5,780	5,784	5,789	5,796	5,788	7	-1
2-Jan	2300	48	155	157	160	163	163	4,624	4,626	4,628	4,632	4,632	4	4	5,961	5,966	5,970	5,976	5,968	6	-2
3-Jan	0	49	136	130	131	130	130	4,403	4,397	4,397	4,397	4,397	0	0	5,983	5,987	5,990	5,996	5,989	6	-1
3-Jan	100	50	120	120	122	125	125	4,163	4,164	4,165	4,168	4,168	3	3	5,702	5,705	5,708	5,712	5,707	4	-1
3-Jan	200	51	115	115	116	119	119	3,917	3,918	3,919	3,922	3,921	3	2	5,509	5,510	5,512	5,516	5,512	4	0
3-Jan	300	52	92	84	84	81	81	3,637	3,629	3,628	3,626	3,626	-2	-2	5,268	5,268	5,270	5,274	5,269	4	-1
3-Jan	400	53	76	75	76	78	78	3,354	3,353	3,354	3,356	3,356	2	2	4,960	4,959	4,961	4,963	4,961	2	0
3-Jan	500	54	78	82	84	87	86	3,146	3,149	3,151	3,154	3,154	3	3	4,659	4,658	4,660	4,662	4,660	2	0
3-Jan	600	55	79	79	80	81	81	3,047	3,048	3,049	3,050	3,049	1	0	4,391	4,390	4,392	4,393	4,392	1	0
3-Jan	700	56	114	135	140	153	151	3,108	3,131	3,136	3,148	3,147	12	11	4,214	4,215	4,216	4,218	4,217	2	1
3-Jan	800	57	145	152	154	158	156	3,377	3,387	3,389	3,393	3,391	4	2	4,183	4,187	4,188	4,192	4,190	4	2
3-Jan	900	58	120	109	108	103	103	3,786	3,777	3,776	3,772	3,772	-4	-4	4,173	4,178	4,180	4,183	4,182	3	2
3-Jan	1000	59	87	79	79	77	78	4,254	4,250	4,250	4,248	4,249	-2	-1	4,137	4,141	4,142	4,145	4,145	3	3
3-Jan	1100	60	63	57	57	55	55	4,736	4,733	4,733	4,732	4,732	-1	-1	4,169	4,171	4,172	4,174	4,174	2	2
3-Jan	1200	61	61	65	66	69	69	5,245	5,253	5,254	5,258	5,257	4	3	4,318	4,319	4,320	4,321	4,321	1	1
3-Jan	1300	62	56	53	52	51	50	5,744	5,745	5,745	5,743	5,743	-2	-2	4,572	4,573	4,574	4,575	4,574	1	0
3-Jan	1400	63	46	45	45	45	45	6,189	6,191	6,192	6,192	6,192	0	0	4,874	4,876	4,876	4,877	4,877	1	1
3-Jan	1500	64	44	44	45	46	46	6,533	6,537	6,537	6,539	6,538	2	1	5,207	5,209	5,209	5,210	5,209	1	0
3-Jan	1600	65	44	45	45	46	46	6,824	6,828	6,829	6,830	6,829	1	0	5,562	5,564	5,565	5,565	5,565	0	0
3-Jan	1700	66	46	48	49	51	50	7,049	7,053	7,054	7,056	7,055	2	1	5,914	5,916	5,917	5,917	5,917	0	0
3-Jan	1800	67	54	58	59	61	61	7,202	7,208	7,209	7,211	7,211	2	2	6,256	6,259	6,260	6,260	6,260	0	0
3-Jan	1900	68	63	66	67	70	69	7,300	7,305	7,306	7,308	7,307	2	1	6,579	6,583	6,583	6,584	6,584	1	1
3-Jan	2000	69	61	59	59	59	59	7,337	7,336	7,336	7,336	7,335	0	-1	6,850	6,854	6,855	6,856	6,855	1	0
3-Jan	2100	70	49	46	46	45	45	7,303	7,300	7,300	7,299	7,299	-1	-1	7,036	7,040	7,040	7,041	7,041	1	1

San Jose Redevelopment Agency

SJRA.01.99

Table 8

HEC-1 Output: 35-Year Flood Event

Mitigation Alternative 2

Basin 4L storm drain outfall on Coyote Creek near intersection of Hellyer Avenue and Frontage Road

Stored 4.9 acre-feet in detention basin. Duration: 6.75 hours (02 Jan 1996 1745 through 03 Jan 1996 30)

For storage duration = 3 hours, storage volume = 2.2 acre-feet

			Flowrate (cfs)																		
			SJRA Project Basin					Coyote Creek at Edenvale							Coyote Creek at Hwy. 280						
Date	Time	Hour	None	Existing	Zoned	Future	Storage	None	Existing	Zoned	Future	Storage	F-Z	S-Z	None	Existing	Zoned	Future	Storage	F-Z	S-Z
3-Jan	2200	71	39	36	36	36	36	7,203	7,200	7,200	7,199	7,199	-1	-1	7,143	7,145	7,145	7,146	7,146	1	1
3-Jan	2300	72	22	15	14	11	11	7,033	7,026	7,025	7,022	7,022	-3	-3	7,183	7,184	7,184	7,184	7,184	0	0
4-Jan	0	73	7	3	3	1	1	6,817	6,812	6,812	6,811	6,811	-1	-1	7,163	7,162	7,162	7,162	7,162	0	0
4-Jan	100	74	1	0	0	0	0	6,574	6,572	6,572	6,572	6,572	0	0	7,097	7,095	7,095	7,094	7,094	-1	-1
4-Jan	200	75	0	0	0	0	0	6,337	6,335	6,335	6,335	6,335	0	0	6,991	6,988	6,988	6,987	6,987	-1	-1
4-Jan	300	76	0	0	0	0	0	6,089	6,087	6,087	6,087	6,087	0	0	6,847	6,844	6,844	6,843	6,843	-1	-1
4-Jan	400	77	0	0	0	0	0	5,827	5,825	5,825	5,825	5,825	0	0	6,672	6,669	6,669	6,669	6,669	0	0
4-Jan	500	78	0	0	0	0	0	5,564	5,562	5,562	5,562	5,562	0	0	6,473	6,470	6,470	6,470	6,470	0	0
4-Jan	600	79	0	0	0	0	0	5,310	5,307	5,307	5,307	5,307	0	0	6,255	6,253	6,253	6,252	6,252	-1	-1
4-Jan	700	80	0	0	0	0	0	5,060	5,058	5,058	5,058	5,058	0	0	6,025	6,022	6,022	6,022	6,022	0	0
4-Jan	800	81	0	0	0	0	0	4,812	4,809	4,809	4,809	4,809	0	0	5,787	5,785	5,785	5,784	5,784	-1	-1
4-Jan	900	82	0	0	0	0	0	4,563	4,560	4,560	4,560	4,560	0	0	5,545	5,542	5,542	5,542	5,542	0	0
4-Jan	1000	83	0	0	0	0	0	4,316	4,313	4,313	4,313	4,313	0	0	5,300	5,298	5,298	5,297	5,297	-1	-1
4-Jan	1100	84	0	0	0	0	0	4,073	4,070	4,070	4,070	4,070	0	0	5,055	5,052	5,052	5,052	5,052	0	0
4-Jan	1200	85	0	0	0	0	0	3,837	3,834	3,834	3,834	3,834	0	0	4,809	4,806	4,806	4,806	4,806	0	0
4-Jan	1300	86	0	0	0	0	0	3,610	3,607	3,607	3,607	3,607	0	0	4,565	4,562	4,562	4,562	4,562	0	0
4-Jan	1400	87	0	0	0	0	0	3,399	3,396	3,396	3,396	3,396	0	0	4,325	4,322	4,322	4,322	4,322	0	0
4-Jan	1500	88	0	0	0	0	0	3,206	3,204	3,204	3,204	3,204	0	0	4,092	4,088	4,088	4,088	4,088	0	0
4-Jan	1600	89	0	0	0	0	0	3,033	3,031	3,031	3,031	3,031	0	0	3,867	3,864	3,864	3,864	3,864	0	0
4-Jan	1700	90	0	0	0	0	0	2,877	2,875	2,875	2,875	2,875	0	0	3,654	3,651	3,651	3,651	3,651	0	0
4-Jan	1800	91	0	0	0	0	0	2,752	2,751	2,751	2,751	2,751	0	0	3,455	3,453	3,453	3,453	3,453	0	0
4-Jan	1900	92	0	0	0	0	0	2,650	2,649	2,649	2,649	2,649	0	0	3,273	3,271	3,271	3,271	3,271	0	0
4-Jan	2000	93	0	0	0	0	0	2,552	2,551	2,551	2,551	2,551	0	0	3,110	3,107	3,107	3,107	3,107	0	0
4-Jan	2100	94	0	0	0	0	0	2,458	2,457	2,457	2,457	2,457	0	0	2,963	2,961	2,961	2,961	2,961	0	0
4-Jan	2200	95	0	0	0	0	0	2,368	2,367	2,367	2,367	2,367	0	0	2,831	2,829	2,829	2,829	2,829	0	0
4-Jan	2300	96	0	0	0	0	0	2,281	2,280	2,280	2,280	2,280	0	0	2,711	2,710	2,710	2,710	2,710	0	0

San Jose Redevelopment Agency

SJRA.01.99

Table 9

HEC-1 Output: 100-Year Flood Event

Mitigation Alternative 2

Basin 4L storm drain outfall on Coyote Creek near intersection of Hellyer Avenue and Frontage Road

Stored 5.0 acre-feet in detention basin. Duration: 4.5 hours (02 Jan 1996 1645-2115)

For storage duration = 3 hours, storage volume = 3.3 acre-feet.

Initial Storage in Anderson Reservoir = 81,000 ac-ft

			Flowrate (cfs)																		
			SJRA Project Basin					Coyote Creek at Edenvale							Coyote Creek at Hwy. 280						
Date	Time	Hour	None	Existing	Zoned	Future	Storage	None	Existing	Zoned	Future	Storage	F-Z	S-Z	None	Existing	Zoned	Future	Storage	F-Z	S-Z
2-Jan	0	25	97	109	116	126	125	1,855	1,867	1,874	1,883	1,883	9	9	2,344	2,363	2,374	2,389	2,388	15	14
2-Jan	100	26	78	72	73	75	75	1,838	1,832	1,833	1,835	1,835	2	2	2,385	2,401	2,411	2,425	2,424	14	13
2-Jan	200	27	56	55	58	60	59	1,764	1,764	1,766	1,768	1,768	2	2	2,321	2,334	2,342	2,354	2,354	12	12
2-Jan	300	28	44	42	44	45	45	1,687	1,685	1,687	1,688	1,688	1	1	2,224	2,233	2,239	2,249	2,248	10	9
2-Jan	400	29	31	29	30	30	30	1,576	1,573	1,574	1,575	1,574	1	0	2,117	2,123	2,129	2,136	2,135	7	6
2-Jan	500	30	33	38	41	44	44	1,462	1,467	1,470	1,473	1,473	3	3	2,011	2,015	2,020	2,025	2,025	5	5
2-Jan	600	31	32	32	33	34	33	1,345	1,344	1,345	1,346	1,345	1	0	1,922	1,925	1,928	1,933	1,932	5	4
2-Jan	700	32	23	22	22	22	22	1,223	1,222	1,222	1,222	1,222	0	0	1,801	1,803	1,806	1,809	1,809	3	3
2-Jan	800	33	17	16	17	17	17	1,111	1,111	1,111	1,111	1,111	0	0	1,654	1,656	1,658	1,661	1,660	3	2
2-Jan	900	34	16	17	18	19	19	1,016	1,017	1,018	1,019	1,019	1	1	1,520	1,521	1,523	1,525	1,524	2	1
2-Jan	1000	35	36	49	53	59	58	961	974	978	984	983	6	5	1,444	1,445	1,447	1,449	1,448	2	1
2-Jan	1100	36	57	64	67	72	71	936	943	946	951	950	5	4	1,438	1,441	1,442	1,444	1,444	2	2
2-Jan	1200	37	94	118	125	136	135	972	995	1,002	1,013	1,012	11	10	1,513	1,517	1,519	1,522	1,522	3	3
2-Jan	1300	38	185	230	243	264	263	1,144	1,189	1,202	1,223	1,222	21	20	1,807	1,816	1,819	1,824	1,824	5	5
2-Jan	1400	39	255	279	288	302	301	1,805	1,830	1,838	1,852	1,852	14	14	2,219	2,234	2,239	2,246	2,246	7	7
2-Jan	1500	40	313	346	357	373	373	2,504	2,537	2,548	2,564	2,563	16	15	2,557	2,577	2,583	2,593	2,592	10	9
2-Jan	1600	41	406	450	462	483	483	3,393	3,437	3,449	3,470	3,469	21	20	3,078	3,101	3,109	3,121	3,120	12	11
2-Jan	1700	42	433	436	440	447	443	4,364	4,366	4,370	4,377	4,373	7	3	3,779	3,805	3,814	3,827	3,826	13	12
2-Jan	1800	43	328	285	281	270	254	6,247	6,204	6,200	6,189	6,172	-11	-28	4,573	4,596	4,604	4,616	4,615	12	11
2-Jan	1900	44	212	185	184	177	166	6,235	6,208	6,207	6,200	6,190	-7	-17	5,389	5,403	5,409	5,418	5,414	9	5
2-Jan	2000	45	187	192	195	200	189	6,626	6,631	6,635	6,639	6,628	4	-7	6,173	6,177	6,182	6,187	6,181	5	-1
2-Jan	2100	46	217	233	237	244	231	6,562	6,577	6,581	6,589	6,575	8	-6	6,851	6,851	6,855	6,859	6,851	4	-4
2-Jan	2200	47	220	218	218	219	214	6,375	6,372	6,373	6,374	6,368	1	-5	7,385	7,386	7,389	7,392	7,384	3	-5
2-Jan	2300	48	205	204	206	207	206	6,183	6,183	6,184	6,185	6,184	1	0	7,750	7,750	7,753	7,756	7,748	3	-5
3-Jan	0	49	179	169	169	167	166	6,064	6,054	6,053	6,052	6,051	-1	-2	7,950	7,950	7,952	7,955	7,948	3	-4
3-Jan	100	50	157	156	157	157	157	6,091	6,089	6,090	6,091	6,090	1	0	7,997	7,996	7,998	8,000	7,994	2	-4
3-Jan	200	51	150	148	149	150	150	6,316	6,315	6,316	6,317	6,316	1	0	7,955	7,953	7,954	7,956	7,951	2	-3
3-Jan	300	52	120	108	107	104	104	6,727	6,715	6,714	6,711	6,710	-3	-4	7,913	7,910	7,912	7,912	7,909	0	-3
3-Jan	400	53	99	96	97	97	97	7,434	7,432	7,432	7,432	7,432	0	0	7,935	7,931	7,932	7,933	7,930	1	-2
3-Jan	500	54	102	105	106	109	108	8,497	8,501	8,502	8,504	8,504	2	2	8,083	8,080	8,080	8,080	8,078	0	-2
3-Jan	600	55	102	102	102	103	102	9,658	9,658	9,658	9,659	9,659	1	1	8,091	8,088	8,089	8,089	8,087	0	-2
3-Jan	700	56	147	172	177	186	186	10,891	10,917	10,922	10,930	10,930	8	8	8,570	8,569	8,570	8,571	8,570	1	0
3-Jan	800	57	187	194	195	199	198	12,140	12,147	12,148	12,152	12,152	4	4	9,424	9,426	9,427	9,429	9,428	2	1
3-Jan	900	58	155	138	137	131	131	13,273	13,256	13,255	13,249	13,249	-6	-6	10,352	10,356	10,357	10,360	10,359	3	2
3-Jan	1000	59	111	100	99	97	96	16,400	16,390	16,389	16,386	16,386	-3	-3	11,308	11,310	11,311	11,313	11,312	2	1
3-Jan	1100	60	81	72	72	70	69	16,705	16,696	16,696	16,694	16,693	-2	-3	12,428	12,427	12,428	12,429	12,428	1	0
3-Jan	1200	61	78	82	83	85	85	16,322	16,327	16,328	16,330	16,329	2	1	13,561	13,559	13,559	13,559	13,558	0	-1
3-Jan	1300	62	72	67	66	65	65	15,771	15,766	15,765	15,764	15,764	-1	-1	14,454	14,451	14,451	14,451	14,450	0	-1
3-Jan	1400	63	59	56	57	56	55	14,691	14,689	14,689	14,688	14,688	-1	-1	14,974	14,971	14,972	14,971	14,971	-1	-1
3-Jan	1500	64	56	56	57	57	57	14,019	14,019	14,019	14,020	14,019	1	0	15,136	15,134	15,134	15,133	15,133	-1	-1
3-Jan	1600	65	56	56	57	57	57	13,517	13,518	13,518	13,519	13,518	1	0	15,043	15,041	15,041	15,041	15,040	0	-1
3-Jan	1700	66	59	61	62	63	62	13,073	13,075	13,076	13,076	13,076	0	0	14,796	14,795	14,795	14,795	14,794	0	-1

San Jose Redevelopment Agency

SJRA.01.99

Table 9

HEC-1 Output: 100-Year Flood Event

Mitigation Alternative 2

Basin 4L storm drain outfall on Coyote Creek near intersection of Hellyer Avenue and Frontage Road

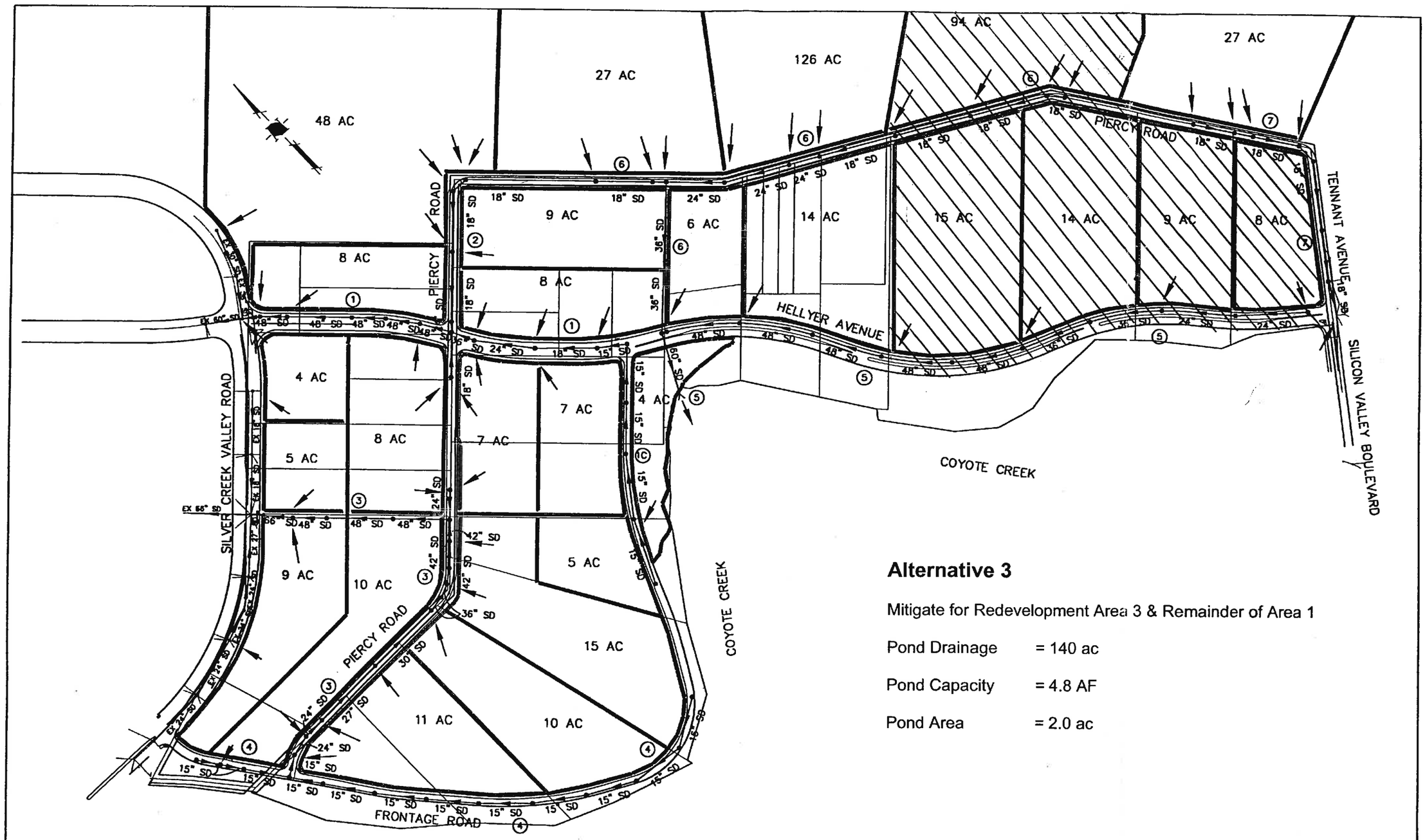
Stored 5.0 acre-feet in detention basin. Duration: 4.5 hours (02 Jan 1996 1645-2115)

For storage duration = 3 hours, storage volume = 3.3 acre-feet.

Initial Storage in Anderson Reservoir = 81,000 ac-ft

			Flowrate (cfs)																		
			SJRA Project Basin					Coyote Creek at Edenvale							Coyote Creek at Hwy. 280						
Date	Time	Hour	None	Existing	Zoned	Future	Storage	None	Existing	Zoned	Future	Storage	F-Z	S-Z	None	Existing	Zoned	Future	Storage	F-Z	S-Z
3-Jan	1800	67	69	73	74	76	75	12,992	12,996	12,997	12,999	12,998	2	1	14,500	14,499	14,500	14,500	14,499	0	-1
3-Jan	1900	68	80	84	85	86	86	12,852	12,856	12,857	12,858	12,858	1	1	14,237	14,237	14,238	14,238	14,238	0	0
3-Jan	2000	69	77	75	75	74	74	12,704	12,701	12,701	12,700	12,700	-1	-1	14,019	14,020	14,020	14,021	14,021	1	1
3-Jan	2100	70	63	58	57	56	55	12,592	12,588	12,587	12,586	12,585	-1	-2	13,813	13,814	13,814	13,815	13,815	1	1
3-Jan	2200	71	49	46	46	45	44	12,364	12,361	12,361	12,360	12,359	-1	-2	13,606	13,606	13,606	13,606	13,606	0	0
3-Jan	2300	72	28	19	18	15	15	12,060	12,051	12,050	12,047	12,047	-3	-3	13,374	13,373	13,373	13,373	13,373	0	0
4-Jan	0	73	8	4	3	2	2	11,745	11,740	11,740	11,738	11,738	-2	-2	13,096	13,093	13,093	13,092	13,092	-1	-1
4-Jan	100	74	2	0	0	0	0	11,334	11,333	11,332	11,332	11,332	0	0	12,786	12,782	12,782	12,781	12,781	-1	-1
4-Jan	200	75	0	0	0	0	0	10,899	10,899	10,899	10,899	10,899	0	0	12,452	12,449	12,448	12,448	12,447	0	-1
4-Jan	300	76	0	0	0	0	0	10,448	10,448	10,448	10,448	10,448	0	0	12,090	12,087	12,087	12,086	12,086	-1	-1
4-Jan	400	77	0	0	0	0	0	10,035	10,035	10,035	10,035	10,035	0	0	11,706	11,704	11,704	11,703	11,703	-1	-1
4-Jan	500	78	0	0	0	0	0	9,665	9,665	9,665	9,665	9,665	0	0	11,310	11,309	11,309	11,308	11,308	-1	-1
4-Jan	600	79	0	0	0	0	0	9,327	9,327	9,327	9,327	9,327	0	0	10,915	10,914	10,913	10,913	10,913	0	0
4-Jan	700	80	0	0	0	0	0	9,027	9,027	9,027	9,027	9,027	0	0	10,529	10,528	10,528	10,528	10,528	0	0
4-Jan	800	81	0	0	0	0	0	8,735	8,735	8,735	8,735	8,735	0	0	10,160	10,160	10,160	10,160	10,160	0	0
4-Jan	900	82	0	0	0	0	0	8,442	8,442	8,442	8,442	8,442	0	0	9,810	9,809	9,809	9,809	9,809	0	0
4-Jan	1000	83	0	0	0	0	0	8,146	8,146	8,146	8,146	8,146	0	0	9,475	9,475	9,475	9,475	9,475	0	0
4-Jan	1100	84	0	0	0	0	0	7,847	7,847	7,847	7,847	7,847	0	0	9,152	9,152	9,152	9,152	9,152	0	0
4-Jan	1200	85	0	0	0	0	0	7,545	7,545	7,545	7,545	7,545	0	0	8,840	8,840	8,840	8,840	8,840	0	0
4-Jan	1300	86	0	0	0	0	0	7,259	7,259	7,259	7,259	7,259	0	0	8,537	8,537	8,537	8,537	8,537	0	0
4-Jan	1400	87	0	0	0	0	0	6,959	6,959	6,959	6,959	6,959	0	0	8,239	8,239	8,239	8,239	8,239	0	0
4-Jan	1500	88	0	0	0	0	0	6,662	6,662	6,662	6,662	6,662	0	0	7,943	7,943	7,943	7,943	7,943	0	0
4-Jan	1600	89	0	0	0	0	0	6,395	6,395	6,395	6,395	6,395	0	0	7,648	7,648	7,648	7,648	7,648	0	0
4-Jan	1700	90	0	0	0	0	0	6,135	6,135	6,135	6,135	6,135	0	0	7,351	7,351	7,351	7,351	7,351	0	0
4-Jan	1800	91	0	0	0	0	0	5,783	5,783	5,783	5,783	5,783	0	0	7,045	7,045	7,045	7,045	7,045	0	0
4-Jan	1900	92	0	0	0	0	0	5,505	5,505	5,505	5,505	5,505	0	0	6,735	6,735	6,735	6,735	6,735	0	0
4-Jan	2000	93	0	0	0	0	0	5,244	5,244	5,244	5,244	5,244	0	0	6,426	6,426	6,426	6,426	6,426	0	0
4-Jan	2100	94	0	0	0	0	0	4,997	4,997	4,997	4,997	4,997	0	0	6,126	6,126	6,126	6,126	6,126	0	0
4-Jan	2200	95	0	0	0	0	0	4,759	4,759	4,759	4,759	4,759	0	0	5,838	5,838	5,838	5,838	5,838	0	0
4-Jan	2300	96	0	0	0	0	0	4,528	4,528	4,528	4,528	4,528	0	0	5,563	5,563	5,563	5,563	5,563	0	0

Figure 8



Alternative 3

Mitigate for Redevelopment Area 3 & Remainder of Area 1

Pond Drainage = 140 ac

Pond Capacity = 4.8 AF

Pond Area = 2.0 ac

Date:	3/11/99
Scale:	1"=200'
Designed:	LMG/RDA
Drawn:	BB
Checked:	LMG

HMH, Incorporated
Civil Engineers · Planners · Surveyors
1570 OAKLAND ROAD, SUITE 200

EDENVALE REDEVELOPMENT AREA
STORM DRAINAGE MASTER PLAN

Sheet 1 of 1 Sheets

first peak. Because the potential impact would be greater, the storage area would need to be larger and control the runoff from a larger drainage area. For Alternative 3, the storage area would require a capacity of approximately 4.8 acre-feet. The estimated drainage area to the storage area is 140 acres. The drainage area is shown in Figure 8. For Alternative 3, the drainage area includes both development areas in sub-basin 4L, and hillside area in sub-basin 4H.

The results of the Coyote Creek model for Alternative 3 for the 35-year and 100-year flood events are shown in Tables 10 and 11. Alternative 3 would reduce the potential increases due to the Phase 3 development, the difference between the Future condition and the Existing condition.

Storage Sites

Based on the land plan for the Phase 3 assessment district area, two potential sites for detention ponds were identified. Both are located in residual parcels between the proposed Hellyer Avenue and Coyote Creek. These areas are too narrow for development to meet the planning restrictions for the industrial area. Therefore, construction of the detention ponds would not reduce the extent of development. The detention pond sites are shown in Figure 9. The northern site (Berg Site) would be feasible for both Alternative 2 and Alternative 3. The southern site (Gardner Site) would only be feasible for Alternative 3.

The sites are located between the creek bank and Hellyer Avenue. Each site is approximately 2 acres, which would allow the construction of a shallow pond, with average depths of approximately three feet deep. The pond would only contain runoff in large flood events when Coyote Creek is high and could be landscaped and planted. Part of each pond site is within the 100-foot riparian setback from the existing creek bank.

Recommended Plan

The recommended plan was developed from the proposed alternatives based on comments for City of San Jose and SCVWD staff. The recommended plan is similar to Alternative 3. However, the drainage basin draining to the new outfall at the detention basin has been modified to address a water quality concern of the SCVWD. Due to changes in the roadway alignments, the Berg Site for the detention pond would not be available. The frontage road shown in Figure 9 was later removed from the project. Only the Gardner Site location was available.

The proposed storm drain outfall would discharge to Coyote Creek within an area that the SCVWD uses for groundwater recharge. Several low summer dams within the creek increase the percolation of surface water. The SCVWD releases water into Coyote Creek for groundwater recharge. The SCVWD requested that only undeveloped hillside runoff be discharged to the recharge area.

In order to maximize the hillside areas draining to the new Coyote Creek outfall, the recommended plan would have a separate drainage system to drain the southern portion of the hills east of the project. This would include subareas 4H and 3NH2 shown in Figure 1. There would be a closed drainage system from Piercy Road to Coyote Creek, although some road

San Jose Redevelopment Agency

SJRA.01.99

Table 10

HEC-1 Output: 35-Year Flood Event

Mitigation Alternative 3

Basin 4L storm drain outfall on Coyote Creek moved to location midway between Silicon Valley Blvd and Frontage Road

Stored 4.8 acre-feet in detention basin. Duration: 4 hours (02-Jan 1745-2145)

			Flowrate (cfs)																	
			SJRA Project Basin					Coyote Creek at Edenvale							Coyote Creek at Hwy. 280					
Date	Time	Hour	None	Existing	Zoned	Future	Storage	None	Existing	Zoned	Future	Storage	F-E	S-E	None	Existing	Zoned	Future	Storage	F-E	S-E
2-Jan	0	25	49	63	71	83	81	2,138	2,151	2,159	2,172	2,170	21	19	2,138	2,154	2,165	2,179	2,178	25	24
2-Jan	100	26	42	42	44	47	47	2,287	2,287	2,289	2,292	2,293	5	6	2,317	2,332	2,342	2,356	2,355	24	23
2-Jan	200	27	31	33	37	41	39	2,313	2,316	2,319	2,323	2,322	7	6	2,404	2,418	2,426	2,439	2,438	21	20
2-Jan	300	28	25	26	27	30	29	2,240	2,240	2,242	2,245	2,244	5	4	2,440	2,450	2,457	2,468	2,467	18	17
2-Jan	400	29	18	18	19	20	20	2,096	2,095	2,097	2,098	2,097	3	2	2,432	2,440	2,446	2,454	2,453	14	13
2-Jan	500	30	19	24	27	31	30	1,923	1,928	1,931	1,935	1,934	7	6	2,388	2,394	2,398	2,405	2,404	11	10
2-Jan	600	31	19	20	21	23	22	1,741	1,742	1,743	1,745	1,745	3	3	2,320	2,325	2,329	2,334	2,334	9	9
2-Jan	700	32	14	14	14	15	14	1,562	1,562	1,563	1,564	1,563	2	1	2,200	2,203	2,207	2,211	2,210	8	7
2-Jan	800	33	10	10	11	12	11	1,398	1,398	1,399	1,400	1,399	2	1	2,042	2,045	2,047	2,051	2,050	6	5
2-Jan	900	34	10	11	12	13	13	1,256	1,257	1,258	1,260	1,259	3	2	1,883	1,885	1,887	1,890	1,889	5	4
2-Jan	1000	35	22	32	36	43	42	1,156	1,166	1,170	1,177	1,175	11	9	1,764	1,766	1,768	1,770	1,769	4	3
2-Jan	1100	36	35	42	45	50	49	1,097	1,104	1,107	1,113	1,112	9	8	1,697	1,700	1,702	1,705	1,704	5	4
2-Jan	1200	37	59	78	86	100	97	1,115	1,135	1,143	1,156	1,153	21	18	1,694	1,699	1,701	1,705	1,704	6	5
2-Jan	1300	38	119	156	170	195	191	1,295	1,333	1,347	1,372	1,368	39	35	1,875	1,883	1,887	1,893	1,892	10	9
2-Jan	1400	39	168	193	202	220	216	1,600	1,625	1,635	1,653	1,651	28	26	2,231	2,243	2,249	2,258	2,256	15	13
2-Jan	1500	40	213	245	258	281	277	2,074	2,106	2,119	2,142	2,138	36	32	2,544	2,561	2,568	2,580	2,578	19	17
2-Jan	1600	41	284	326	340	369	364	2,709	2,751	2,765	2,794	2,789	43	38	2,879	2,900	2,909	2,924	2,921	24	21
2-Jan	1700	42	310	321	327	338	336	3,423	3,433	3,440	3,451	3,449	18	16	3,377	3,401	3,410	3,428	3,425	27	24
2-Jan	1800	43	239	212	211	202	199	4,575	4,548	4,547	4,539	4,536	-9	-12	3,977	4,000	4,009	4,027	4,023	27	23
2-Jan	1900	44	157	139	139	136	122	4,684	4,666	4,667	4,664	4,649	-2	-17	4,570	4,586	4,594	4,608	4,604	22	18
2-Jan	2000	45	139	146	150	158	142	4,978	4,984	4,988	4,996	4,981	12	-3	5,085	5,094	5,100	5,110	5,105	16	11
2-Jan	2100	46	162	177	182	193	174	4,954	4,969	4,973	4,984	4,965	15	-4	5,487	5,492	5,497	5,505	5,498	13	6
2-Jan	2200	47	166	166	168	171	154	4,814	4,814	4,816	4,819	4,802	5	-12	5,780	5,784	5,789	5,796	5,786	12	2
2-Jan	2300	48	155	157	160	163	159	4,624	4,626	4,628	4,632	4,628	6	2	5,961	5,966	5,970	5,976	5,965	10	-1
3-Jan	0	49	136	130	131	130	129	4,403	4,397	4,397	4,397	4,395	0	-2	5,983	5,987	5,990	5,996	5,985	9	-2
3-Jan	100	50	120	120	122	125	123	4,163	4,164	4,165	4,168	4,166	4	2	5,702	5,705	5,708	5,712	5,703	7	-2
3-Jan	200	51	115	115	116	119	117	3,917	3,918	3,919	3,922	3,920	4	2	5,509	5,510	5,512	5,516	5,508	6	-2
3-Jan	300	52	92	84	84	81	80	3,637	3,629	3,628	3,626	3,625	-3	-4	5,268	5,268	5,270	5,274	5,268	6	0
3-Jan	400	53	76	75	76	78	76	3,354	3,353	3,354	3,356	3,354	3	1	4,960	4,959	4,961	4,963	4,958	4	-1
3-Jan	500	54	78	82	84	87	85	3,146	3,149	3,151	3,154	3,153	5	4	4,659	4,658	4,660	4,662	4,658	4	0
3-Jan	600	55	79	79	80	81	80	3,047	3,048	3,049	3,050	3,049	2	1	4,391	4,390	4,392	4,393	4,390	3	0
3-Jan	700	56	114	135	140	153	149	3,108	3,131	3,136	3,148	3,145	17	14	4,214	4,215	4,216	4,218	4,215	3	0
3-Jan	800	57	145	152	154	158	157	3,377	3,387	3,389	3,393	3,392	6	5	4,183	4,187	4,188	4,192	4,189	5	2
3-Jan	900	58	120	109	108	103	102	3,786	3,777	3,776	3,772	3,771	-5	-6	4,173	4,178	4,180	4,183	4,181	5	3
3-Jan	1000	59	87	79	79	77	75	4,254	4,250	4,250	4,248	4,247	-2	-3	4,137	4,141	4,142	4,145	4,143	4	2
3-Jan	1100	60	63	57	57	55	54	4,736	4,733	4,733	4,732	4,731	-1	-2	4,169	4,171	4,172	4,174	4,172	3	1
3-Jan	1200	61	61	65	66	69	68	5,245	5,253	5,254	5,258	5,256	5	3	4,318	4,319	4,320	4,321	4,320	2	1
3-Jan	1300	62	56	53	52	51	51	5,744	5,745	5,745	5,743	5,743	-2	-2	4,572	4,573	4,574	4,575	4,573	2	0
3-Jan	1400	63	46	45	45	45	44	6,189	6,191	6,192	6,192	6,190	1	-1	4,874	4,876	4,876	4,877	4,876	1	0
3-Jan	1500	64	44	44	45	46	45	6,533	6,537	6,537	6,539	6,538	2	1	5,207	5,209	5,209	5,210	5,209	1	0
3-Jan	1600	65	44	45	45	46	45	6,824	6,828	6,829	6,830	6,829	2	1	5,562	5,564	5,565	5,565	5,564	1	0
3-Jan	1700	66	46	48	49	51	50	7,049	7,053	7,054	7,056	7,055	3	2	5,914	5,916	5,917	5,917	5,916	1	0
3-Jan	1800	67	54	58	59	61	60	7,202	7,208	7,209	7,211	7,210	3	2	6,256	6,259	6,260	6,260	6,259	1	0
3-Jan	1900	68	63	66	67	70	69	7,300	7,305	7,306	7,308	7,307	3	2	6,579	6,583	6,583	6,584	6,583	1	0
3-Jan	2000	69	61	59	59	59	58	7,337	7,336	7,336	7,336	7,335	0	-1	6,850	6,854	6,855	6,856	6,855	2	1

San Jose Redevelopment Agency

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Table 10

HEC-1 Output: 35-Year Flood Event

Mitigation Alternative 3

Basin 4L storm drain outfall on Coyote Creek moved to location midway between Silicon Valley Blvd and Frontage Road

Stored 4.8 acre-feet in detention basin. Duration: 4 hours (02-Jan 1745-2145)

			Flowrate (cfs)																	
			SJRA Project Basin					Coyote Creek at Edenvale							Coyote Creek at Hwy. 280					
Date	Time	Hour	None	Existing	Zoned	Future	Storage	None	Existing	Zoned	Future	Storage	F-E	S-E	None	Existing	Zoned	Future	Storage	F-E	S-E
3-Jan	2100	70	49	46	46	45	44	7,303	7,300	7,300	7,299	7,298	-1	-2	7,036	7,040	7,040	7,041	7,040	1	0
3-Jan	2200	71	39	36	36	36	35	7,203	7,200	7,200	7,199	7,198	-1	-2	7,143	7,145	7,145	7,146	7,145	1	0
3-Jan	2300	72	22	15	14	11	11	7,033	7,026	7,025	7,022	7,022	-4	-4	7,183	7,184	7,184	7,184	7,183	0	-1
4-Jan	0	73	7	3	3	1	1	6,817	6,812	6,812	6,811	6,810	-1	-2	7,163	7,162	7,162	7,162	7,161	0	-1
4-Jan	100	74	1	0	0	0	0	6,574	6,572	6,572	6,572	6,572	0	0	7,097	7,095	7,095	7,094	7,094	-1	-1
4-Jan	200	75	0	0	0	0	0	6,337	6,335	6,335	6,335	6,335	0	0	6,991	6,988	6,988	6,987	6,987	-1	-1
4-Jan	300	76	0	0	0	0	0	6,089	6,087	6,087	6,087	6,087	0	0	6,847	6,844	6,844	6,843	6,843	-1	-1
4-Jan	400	77	0	0	0	0	0	5,827	5,825	5,825	5,825	5,825	0	0	6,672	6,669	6,669	6,669	6,669	0	0
4-Jan	500	78	0	0	0	0	0	5,564	5,562	5,562	5,562	5,562	0	0	6,473	6,470	6,470	6,470	6,470	0	0
4-Jan	600	79	0	0	0	0	0	5,310	5,307	5,307	5,307	5,307	0	0	6,255	6,253	6,253	6,252	6,252	-1	-1
4-Jan	700	80	0	0	0	0	0	5,060	5,058	5,058	5,058	5,058	0	0	6,025	6,022	6,022	6,022	6,022	0	0
4-Jan	800	81	0	0	0	0	0	4,812	4,809	4,809	4,809	4,809	0	0	5,787	5,785	5,785	5,784	5,784	-1	-1
4-Jan	900	82	0	0	0	0	0	4,563	4,560	4,560	4,560	4,560	0	0	5,545	5,542	5,542	5,542	5,542	0	0
4-Jan	1000	83	0	0	0	0	0	4,316	4,313	4,313	4,313	4,313	0	0	5,300	5,298	5,298	5,297	5,297	-1	-1
4-Jan	1100	84	0	0	0	0	0	4,073	4,070	4,070	4,070	4,070	0	0	5,055	5,052	5,052	5,052	5,052	0	0
4-Jan	1200	85	0	0	0	0	0	3,837	3,834	3,834	3,834	3,834	0	0	4,809	4,806	4,806	4,806	4,806	0	0
4-Jan	1300	86	0	0	0	0	0	3,610	3,607	3,607	3,607	3,607	0	0	4,565	4,562	4,562	4,562	4,562	0	0
4-Jan	1400	87	0	0	0	0	0	3,399	3,396	3,396	3,396	3,396	0	0	4,325	4,322	4,322	4,322	4,322	0	0
4-Jan	1500	88	0	0	0	0	0	3,206	3,204	3,204	3,204	3,204	0	0	4,092	4,088	4,088	4,088	4,088	0	0
4-Jan	1600	89	0	0	0	0	0	3,033	3,031	3,031	3,031	3,031	0	0	3,867	3,864	3,864	3,864	3,864	0	0
4-Jan	1700	90	0	0	0	0	0	2,877	2,875	2,875	2,875	2,875	0	0	3,654	3,651	3,651	3,651	3,651	0	0
4-Jan	1800	91	0	0	0	0	0	2,752	2,751	2,751	2,751	2,751	0	0	3,455	3,453	3,453	3,453	3,453	0	0
4-Jan	1900	92	0	0	0	0	0	2,650	2,649	2,649	2,649	2,649	0	0	3,273	3,271	3,271	3,271	3,271	0	0
4-Jan	2000	93	0	0	0	0	0	2,552	2,551	2,551	2,551	2,551	0	0	3,110	3,107	3,107	3,107	3,107	0	0
4-Jan	2100	94	0	0	0	0	0	2,458	2,457	2,457	2,457	2,457	0	0	2,963	2,961	2,961	2,961	2,961	0	0
4-Jan	2200	95	0	0	0	0	0	2,368	2,367	2,367	2,367	2,367	0	0	2,831	2,829	2,829	2,829	2,829	0	0
4-Jan	2300	96	0	0	0	0	0	2,281	2,280	2,280	2,280	2,280	0	0	2,711	2,710	2,710	2,710	2,710	0	0

San Jose Redevelopment Agency

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Table 11

HEC-1 Output: 100-Year Flood Event

Mitigation Alternative 3

Basin 4L storm drain outfall on Coyote Creek moved to location midway between Silicon Valley Blvd and Frontage Road

Stored 4.8 acre-feet in detention basin. Duration: 2.5 hours (02-Jan 1645-1915)

Initial Storage in Anderson Reservoir = 81,000 ac-ft

			Flowrate (cfs)																		
			SJRA Project Basin					Coyote Creek at Edenvale							Coyote Creek at Hwy. 280						
Date	Time	Hour	None	Existing	Zoned	Future	Storage	None	Existing	Zoned	Future	Storage	F-E	S-E	None	Existing	Zoned	Future	Storage	F-E	S-E
2-Jan	0	25	97	109	116	126	124	1,855	1,867	1,874	1,884	1,882	17	15	2,344	2,363	2,374	2,390	2,388	27	25
2-Jan	100	26	78	72	73	73	72	1,838	1,832	1,833	1,833	1,833	1	1	2,385	2,401	2,411	2,425	2,424	24	23
2-Jan	200	27	56	55	58	61	59	1,764	1,764	1,766	1,769	1,767	5	3	2,321	2,334	2,342	2,354	2,353	20	19
2-Jan	300	28	44	42	44	45	44	1,687	1,685	1,687	1,688	1,687	3	2	2,224	2,233	2,239	2,249	2,247	16	14
2-Jan	400	29	31	29	30	30	29	1,576	1,573	1,574	1,574	1,574	1	1	2,117	2,123	2,129	2,136	2,134	13	11
2-Jan	500	30	33	38	41	45	44	1,462	1,467	1,470	1,474	1,473	7	6	2,011	2,015	2,020	2,025	2,024	10	9
2-Jan	600	31	32	32	33	33	33	1,345	1,344	1,345	1,345	1,345	1	1	1,922	1,925	1,928	1,933	1,931	8	6
2-Jan	700	32	23	22	22	22	21	1,223	1,222	1,222	1,222	1,221	0	-1	1,801	1,803	1,806	1,809	1,808	6	5
2-Jan	800	33	17	16	17	17	16	1,111	1,111	1,111	1,111	1,111	0	0	1,654	1,656	1,658	1,661	1,660	5	4
2-Jan	900	34	16	17	18	19	18	1,016	1,017	1,018	1,019	1,019	2	2	1,520	1,521	1,523	1,525	1,524	4	3
2-Jan	1000	35	36	49	53	61	59	961	974	978	986	984	12	10	1,444	1,445	1,447	1,449	1,448	4	3
2-Jan	1100	36	57	64	67	72	71	936	943	946	951	950	8	7	1,438	1,441	1,442	1,445	1,444	4	3
2-Jan	1200	37	94	118	125	139	136	972	995	1,002	1,017	1,013	22	18	1,513	1,517	1,519	1,523	1,522	6	5
2-Jan	1300	38	185	230	243	269	265	1,144	1,189	1,202	1,228	1,223	39	34	1,807	1,816	1,819	1,825	1,824	9	8
2-Jan	1400	39	255	279	288	302	299	1,805	1,830	1,838	1,852	1,849	22	19	2,219	2,234	2,239	2,248	2,246	14	12
2-Jan	1500	40	313	346	357	378	372	2,504	2,537	2,548	2,568	2,562	31	25	2,557	2,577	2,583	2,595	2,592	18	15
2-Jan	1600	41	406	450	462	488	481	3,393	3,437	3,449	3,474	3,468	37	31	3,078	3,101	3,109	3,123	3,120	22	19
2-Jan	1700	42	433	436	440	444	436	4,364	4,366	4,370	4,374	4,366	8	0	3,779	3,805	3,814	3,829	3,825	24	20
2-Jan	1800	43	328	285	281	265	234	6,247	6,204	6,200	6,183	6,153	-21	-51	4,573	4,596	4,604	4,618	4,612	22	16
2-Jan	1900	44	212	185	184	177	155	6,235	6,208	6,207	6,200	6,179	-8	-29	5,389	5,403	5,409	5,418	5,409	15	6
2-Jan	2000	45	187	192	195	202	192	6,626	6,631	6,635	6,641	6,632	10	1	6,173	6,177	6,182	6,187	6,175	10	-2
2-Jan	2100	46	217	233	237	246	243	6,562	6,577	6,581	6,590	6,587	13	10	6,851	6,851	6,855	6,858	6,845	7	-6
2-Jan	2200	47	220	218	218	218	216	6,375	6,372	6,373	6,372	6,370	0	-2	7,385	7,386	7,389	7,392	7,381	6	-5
2-Jan	2300	48	205	204	206	208	204	6,183	6,183	6,184	6,186	6,182	3	-1	7,750	7,750	7,753	7,757	7,747	7	-3
3-Jan	0	49	179	169	169	165	164	6,064	6,054	6,053	6,050	6,048	-4	-6	7,950	7,950	7,952	7,955	7,947	5	-3
3-Jan	100	50	157	156	157	158	155	6,091	6,089	6,090	6,091	6,088	2	-1	7,997	7,996	7,998	8,000	7,993	4	-3
3-Jan	200	51	150	148	149	150	148	6,316	6,315	6,316	6,316	6,314	1	-1	7,955	7,953	7,954	7,955	7,950	2	-3
3-Jan	300	52	120	108	107	103	101	6,727	6,715	6,714	6,709	6,708	-6	-7	7,913	7,910	7,912	7,912	7,908	2	-2
3-Jan	400	53	99	96	97	98	96	7,434	7,432	7,432	7,433	7,431	1	-1	7,935	7,931	7,932	7,932	7,929	1	-2
3-Jan	500	54	102	105	106	109	108	8,497	8,501	8,502	8,504	8,503	3	2	8,083	8,080	8,080	8,080	8,077	0	-3
3-Jan	600	55	102	102	102	102	101	9,658	9,658	9,658	9,659	9,657	1	-1	8,091	8,088	8,089	8,089	8,086	1	-2
3-Jan	700	56	147	172	177	191	187	10,891	10,917	10,922	10,935	10,931	18	14	8,570	8,569	8,570	8,571	8,569	2	0
3-Jan	800	57	187	194	195	198	196	12,140	12,147	12,148	12,151	12,149	4	2	9,424	9,426	9,427	9,429	9,427	3	1
3-Jan	900	58	155	138	137	129	128	13,273	13,256	13,255	13,247	13,246	-9	-10	10,352	10,356	10,357	10,360	10,358	4	2
3-Jan	1000	59	111	100	99	97	95	16,400	16,390	16,389	16,386	16,384	-4	-6	11,308	11,310	11,311	11,313	11,311	3	1
3-Jan	1100	60	81	72	72	69	68	16,705	16,696	16,696	16,693	16,692	-3	-4	12,428	12,427	12,428	12,429	12,427	2	0
3-Jan	1200	61	78	82	83	86	84	16,322	16,327	16,328	16,331	16,329	4	2	13,561	13,559	13,559	13,559	13,557	0	-2
3-Jan	1300	62	72	67	66	64	63	15,771	15,766	15,765	15,763	15,762	-3	-4	14,454	14,451	14,451	14,451	14,449	0	-2
3-Jan	1400	63	59	56	57	56	55	14,691	14,689	14,689	14,689	14,687	0	-2	14,974	14,971	14,972	14,971	14,969	0	-2
3-Jan	1500	64	56	56	57	57	56	14,019	14,019	14,019	14,020	14,019	1	0	15,136	15,134	15,134	15,133	15,132	-1	-2
3-Jan	1600	65	56	56	57	57	56	13,517	13,518	13,518	13,519	13,518	1	0	15,043	15,041	15,041	15,041	15,039	0	-2
3-Jan	1700	66	59	61	62	63	62	13,073	13,075	13,076	13,077	13,075	2	0	14,796	14,795	14,795	14,795	14,793	0	-2
3-Jan	1800	67	69	73	74	76	75	12,992	12,996	12,997	12,999	12,998	3	2	14,500	14,499	14,500	14,500	14,499	1	0

San Jose Redevelopment Agency

SJRA.01.99

Table 11

HEC-1 Output: 100-Year Flood Event

Mitigation Alternative 3

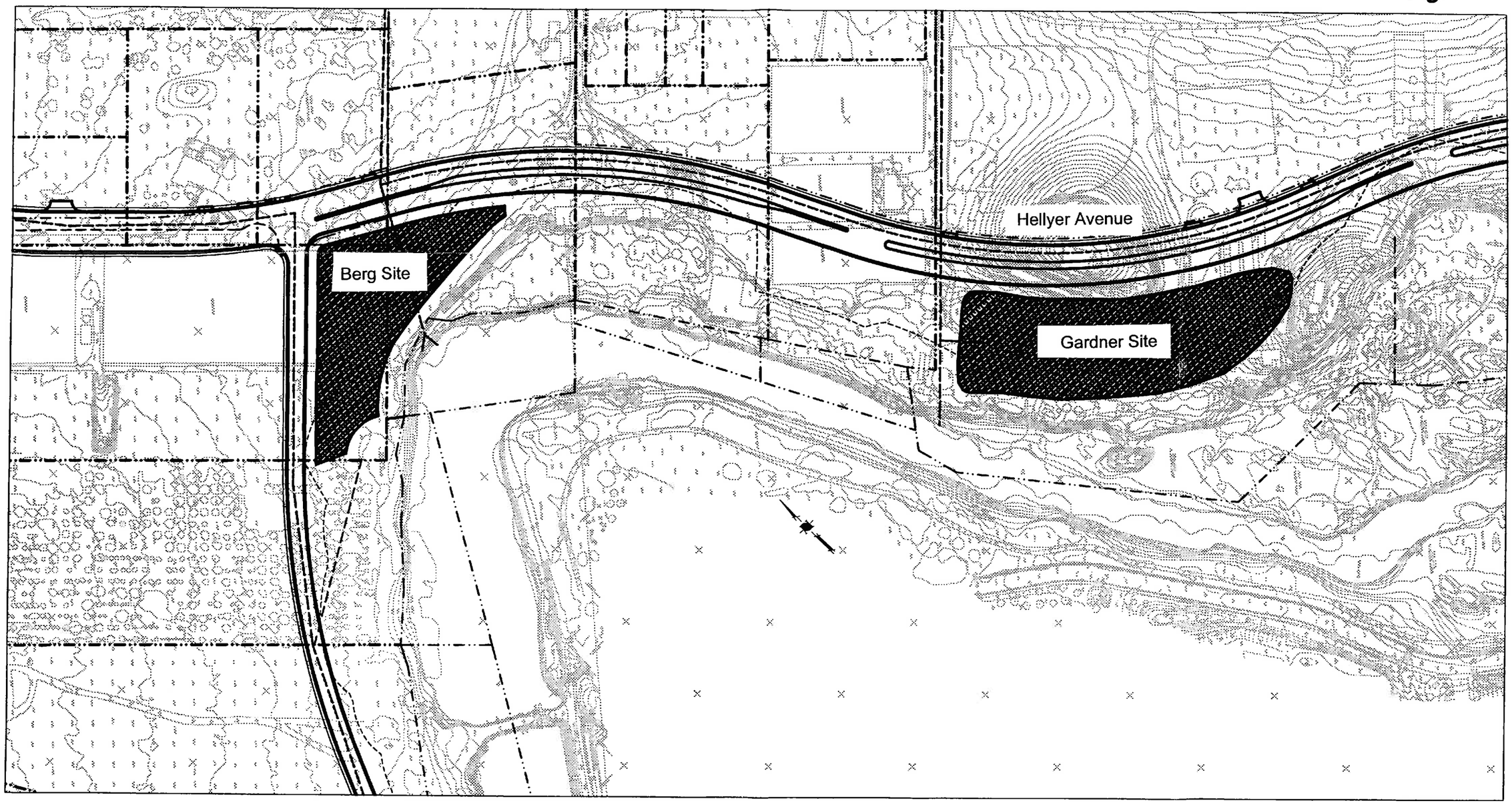
Basin 4L storm drain outfall on Coyote Creek moved to location midway between Silicon Valley Blvd and Frontage Road

Stored 4.8 acre-feet in detention basin. Duration: 2.5 hours (02-Jan 1645-1915)

Initial Storage in Anderson Reservoir = 81,000 ac-ft

			Flowrate (cfs)																	
			SJRA Project Basin					Coyote Creek at Edenvale							Coyote Creek at Hwy. 280					
Date	Time	Hour	None	Existing	Zoned	Future	Storage	None	Existing	Zoned	Future	Storage	F-E	S-E	None	Existing	Zoned	Future	Storage	F-E	S-E
3-Jan	1900	68	80	84	85	87	85	12,852	12,856	12,857	12,859	12,857	3	1	14,237	14,237	14,238	14,238	14,237	1	0
3-Jan	2000	69	77	75	75	74	72	12,704	12,701	12,701	12,700	12,699	-1	-2	14,019	14,020	14,020	14,021	14,020	1	0
3-Jan	2100	70	63	58	57	56	55	12,592	12,588	12,587	12,585	12,584	-3	-4	13,813	13,814	13,814	13,815	13,814	1	0
3-Jan	2200	71	49	46	46	45	44	12,364	12,361	12,361	12,360	12,359	-1	-2	13,606	13,606	13,606	13,606	13,605	0	-1
3-Jan	2300	72	28	19	18	14	14	12,060	12,051	12,050	12,046	12,046	-5	-5	13,374	13,373	13,373	13,373	13,372	0	-1
4-Jan	0	73	8	4	3	2	1	11,745	11,740	11,740	11,738	11,738	-2	-2	13,096	13,093	13,093	13,092	13,091	-1	-2
4-Jan	100	74	2	0	0	0	0	11,334	11,333	11,332	11,332	11,332	-1	-1	12,786	12,782	12,782	12,781	12,780	-1	-2
4-Jan	200	75	0	0	0	0	0	10,899	10,899	10,899	10,899	10,899	0	0	12,452	12,449	12,448	12,447	12,447	-2	-2
4-Jan	300	76	0	0	0	0	0	10,448	10,448	10,448	10,448	10,448	0	0	12,090	12,087	12,087	12,086	12,086	-1	-1
4-Jan	400	77	0	0	0	0	0	10,035	10,035	10,035	10,035	10,035	0	0	11,706	11,704	11,704	11,703	11,703	-1	-1
4-Jan	500	78	0	0	0	0	0	9,665	9,665	9,665	9,665	9,665	0	0	11,310	11,309	11,309	11,308	11,308	-1	-1
4-Jan	600	79	0	0	0	0	0	9,327	9,327	9,327	9,327	9,327	0	0	10,915	10,914	10,913	10,913	10,913	-1	-1
4-Jan	700	80	0	0	0	0	0	9,027	9,027	9,027	9,027	9,027	0	0	10,529	10,528	10,528	10,528	10,528	0	0
4-Jan	800	81	0	0	0	0	0	8,735	8,735	8,735	8,735	8,735	0	0	10,160	10,160	10,160	10,160	10,160	0	0
4-Jan	900	82	0	0	0	0	0	8,442	8,442	8,442	8,442	8,442	0	0	9,810	9,809	9,809	9,809	9,809	0	0
4-Jan	1000	83	0	0	0	0	0	8,146	8,146	8,146	8,146	8,146	0	0	9,475	9,475	9,475	9,475	9,475	0	0
4-Jan	1100	84	0	0	0	0	0	7,847	7,847	7,847	7,847	7,847	0	0	9,152	9,152	9,152	9,152	9,152	0	0
4-Jan	1200	85	0	0	0	0	0	7,545	7,545	7,545	7,545	7,545	0	0	8,840	8,840	8,840	8,840	8,840	0	0
4-Jan	1300	86	0	0	0	0	0	7,259	7,259	7,259	7,259	7,259	0	0	8,537	8,537	8,537	8,537	8,537	0	0
4-Jan	1400	87	0	0	0	0	0	6,959	6,959	6,959	6,959	6,959	0	0	8,239	8,239	8,239	8,239	8,239	0	0
4-Jan	1500	88	0	0	0	0	0	6,662	6,662	6,662	6,662	6,662	0	0	7,943	7,943	7,943	7,943	7,943	0	0
4-Jan	1600	89	0	0	0	0	0	6,395	6,395	6,395	6,395	6,395	0	0	7,648	7,648	7,648	7,648	7,648	0	0
4-Jan	1700	90	0	0	0	0	0	6,135	6,135	6,135	6,135	6,135	0	0	7,351	7,351	7,351	7,351	7,351	0	0
4-Jan	1800	91	0	0	0	0	0	5,783	5,783	5,783	5,783	5,783	0	0	7,045	7,045	7,045	7,045	7,045	0	0
4-Jan	1900	92	0	0	0	0	0	5,505	5,505	5,505	5,505	5,505	0	0	6,735	6,735	6,735	6,735	6,735	0	0
4-Jan	2000	93	0	0	0	0	0	5,244	5,244	5,244	5,244	5,244	0	0	6,426	6,426	6,426	6,426	6,426	0	0
4-Jan	2100	94	0	0	0	0	0	4,997	4,997	4,997	4,997	4,997	0	0	6,126	6,126	6,126	6,126	6,126	0	0
4-Jan	2200	95	0	0	0	0	0	4,759	4,759	4,759	4,759	4,759	0	0	5,838	5,838	5,838	5,838	5,838	0	0
4-Jan	2300	96	0	0	0	0	0	4,528	4,528	4,528	4,528	4,528	0	0	5,563	5,563	5,563	5,563	5,563	0	0

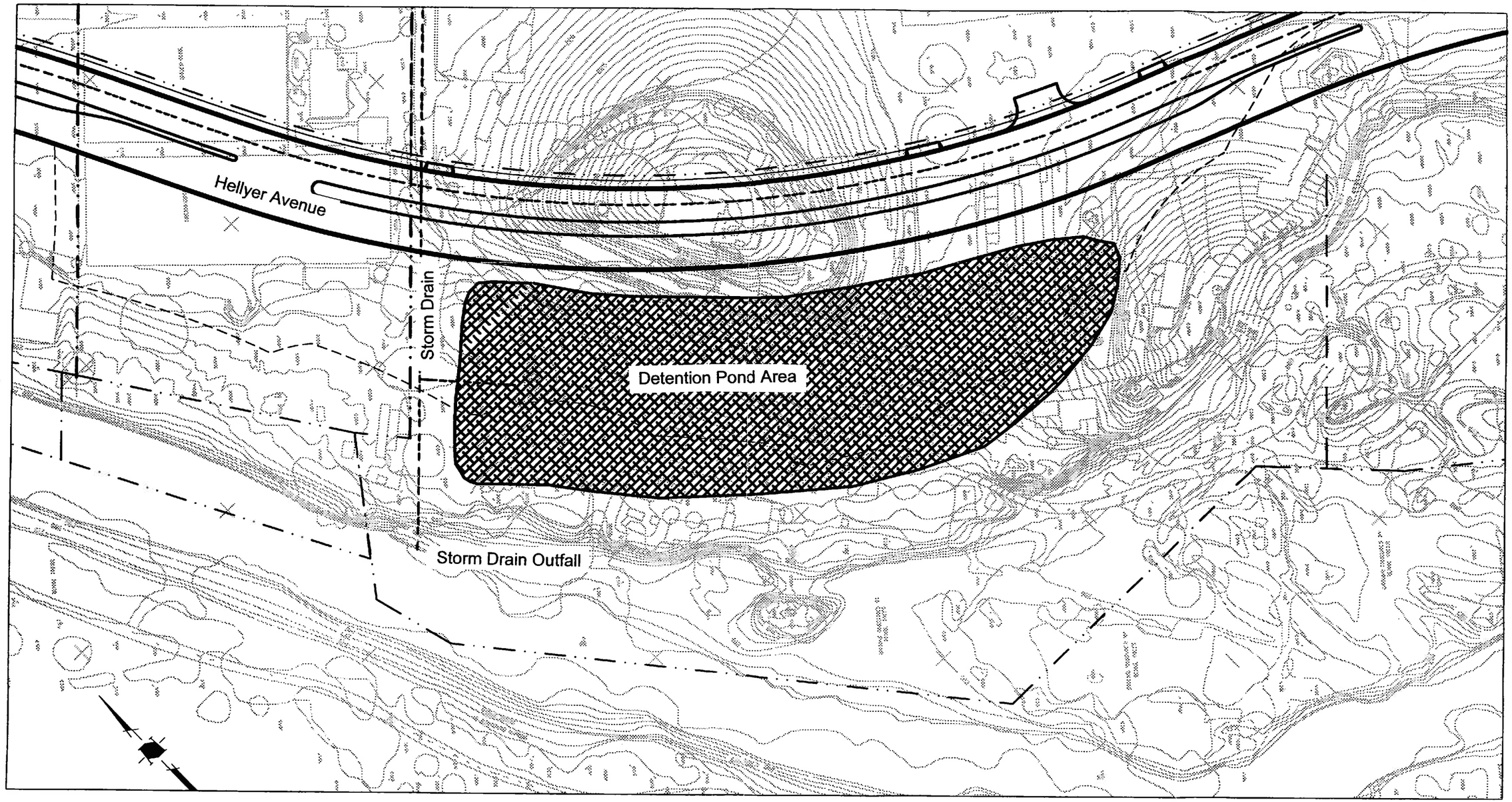
Figure 9



Schaaf & Wheeler CONSULTING CIVIL ENGINEERS 100 N. WINCHESTER BLVD, STE. 200 SANTA CLARA, CA 95050 (408) 246-4848		**Edenvale Area 3** **Detention Pond Sites**	06/03/99 SCALE: 1"=200' DESIGN: DRAWN: CHECKED:	**SHEET** 1 OF 1

FILE NAME:

Figure 10



Schaaf & Wheeler
CONSULTING CIVIL ENGINEERS
100 N. WINCHESTER BLVD, STE. 200
SANTA CLARA, CA 95050
(408) 246-4848

Edenvale Area 3
2 Acre Detention Pond
Gardner Site

06/03/99
SCALE: 1"=100'
DESIGN:
DRAWN:
CHECKED:

SHEET
1
OF
1

FILE NAME:

drainage from Piercy Road would be included. The runoff from the development areas in subareas 2NL and 4L would drain to a storm drain in Hellyer Avenue which would flow north to connect to the existing storm drain system north of Silver Creek Valley Road. The existing system outfalls to Coyote Creek downstream of the SCVWD groundwater recharge area.

The proposed detention pond area would be at the Gardner Site, and is shown in Figure 10. The pond area is approximately 2 acres. Based on the hydrology model, the volume required to reduce the estimated increase in the first hydrograph peak at Highway 280 is estimated to be 5.4 acre feet. This would require an average pond depth of approximately 2.6 feet. The actual volume would depend on the final site constraints and grading. The concept is to utilize shallow slopes and landscaping with natural riparian vegetaion to minimize the visual impact of the pond. The pond area would not require extensive maintenance, and could be planted with trees and bushes to blend with the upstream and downstream areas of the riparian corridor. Part of the pond site is within the setback area established by the riparian corridor policy.

The pond would include a single inlet/outlet structure. The pond is located within the existing 100-year flood plain for Coyote Creek. However, the 100-year flood elevation for the second hydrograph peak in Coyote Creek is approximately one foot above the maximum elevation of the pond. Inflows which may exceed the capacity of the pond would overflow to the creek either overland or through a spillway outlet back to the storm drain outfall.

The recommended plan would reduce the estimated increase due to the project development for the Coyote Creek first hydrograph peak at Highway 280 for both the 35-year and 100-year flood events. The Storage condition would not exceed the Existing condition. The model results are shown in Tables 12 and 13 and summarized below.

Table 14
Coyote Creek Peak Flow Rates
At Highway 280

Event	Existing Condition Peak Flow (cfs)	Zoned Condition Peak Flow (cfs)	Future Condition Peak Flow (cfs)	Storage Condition Peak Flow (cfs)
35-Year 1st Peak	5987	5990	5996	5987
35-Year 2nd Peak	7184	7184	7184	7184
100-Year 1st Peak	7996	7998	8000	7996
100-Year 2nd Peak	15134	15134	15134	15134

San Jose Redevelopment Agency

SJRA.01.99

Table 12

HEC-1 Output: 35-Year Flood Event

Recommended Plan

Basin 4L storm drain outfall on Coyote Creek per 11/18/99 HMH design

Stored 5.4 acre-feet in detention basin. Duration: 2.75 hours (02-Jan 1745-2015)

			Flowrate (cfs)																	
			SJRA Project Basin					Coyote Creek at Edenvale							Coyote Creek at Hwy. 280					
Date	Time	Hour	None	Existing	Zoned	Future	Storage	None	Existing	Zoned	Future	Storage	F-E	S-E	None	Existing	Zoned	Future	Storage	F-E	S-E
2-Jan	0	25	49	63	71	83	82	2,138	2,151	2,159	2,172	2,171	21	20	2,138	2,154	2,165	2,179	2,179	25	25
2-Jan	100	26	42	42	44	47	47	2,287	2,287	2,289	2,292	2,292	5	5	2,317	2,332	2,342	2,356	2,356	24	24
2-Jan	200	27	31	33	37	41	41	2,313	2,316	2,319	2,323	2,323	7	7	2,404	2,418	2,426	2,439	2,438	21	20
2-Jan	300	28	25	26	27	30	29	2,240	2,240	2,242	2,245	2,244	5	4	2,440	2,450	2,457	2,468	2,467	18	17
2-Jan	400	29	18	18	19	20	20	2,096	2,095	2,097	2,098	2,098	3	3	2,432	2,440	2,446	2,454	2,454	14	14
2-Jan	500	30	19	24	27	31	31	1,923	1,928	1,931	1,935	1,935	7	7	2,388	2,394	2,398	2,405	2,405	11	11
2-Jan	600	31	19	20	21	23	22	1,741	1,742	1,743	1,745	1,744	3	2	2,320	2,325	2,329	2,334	2,334	9	9
2-Jan	700	32	14	14	14	15	15	1,562	1,562	1,563	1,564	1,563	2	1	2,200	2,203	2,207	2,211	2,211	8	8
2-Jan	800	33	10	10	11	12	11	1,398	1,398	1,399	1,400	1,399	2	1	2,042	2,045	2,047	2,051	2,051	6	6
2-Jan	900	34	10	11	12	13	13	1,256	1,257	1,258	1,260	1,259	3	2	1,883	1,885	1,887	1,890	1,890	5	5
2-Jan	1000	35	22	32	36	43	43	1,156	1,166	1,170	1,177	1,176	11	10	1,764	1,766	1,768	1,770	1,770	4	4
2-Jan	1100	36	35	42	45	50	49	1,097	1,104	1,107	1,113	1,112	9	8	1,697	1,700	1,702	1,705	1,705	5	5
2-Jan	1200	37	59	78	86	100	98	1,115	1,135	1,143	1,156	1,155	21	20	1,694	1,699	1,701	1,705	1,705	6	6
2-Jan	1300	38	119	156	170	195	193	1,295	1,333	1,347	1,372	1,370	39	37	1,875	1,883	1,887	1,893	1,892	10	9
2-Jan	1400	39	168	193	202	220	218	1,600	1,625	1,635	1,653	1,651	28	26	2,231	2,243	2,249	2,258	2,257	15	14
2-Jan	1500	40	213	245	258	281	280	2,074	2,106	2,119	2,142	2,141	36	35	2,544	2,561	2,568	2,580	2,579	19	18
2-Jan	1600	41	284	326	340	369	366	2,709	2,751	2,765	2,794	2,792	43	41	2,879	2,900	2,909	2,924	2,922	24	22
2-Jan	1700	42	310	321	327	338	337	3,423	3,433	3,440	3,451	3,450	18	17	3,377	3,401	3,410	3,428	3,426	27	25
2-Jan	1800	43	239	212	211	202	200	4,575	4,548	4,547	4,539	4,537	-9	-11	3,977	4,000	4,009	4,027	4,025	27	25
2-Jan	1900	44	157	139	139	136	118	4,684	4,666	4,667	4,664	4,645	-2	-21	4,570	4,586	4,594	4,608	4,605	22	19
2-Jan	2000	45	139	146	150	158	139	4,978	4,984	4,988	4,996	4,977	12	-7	5,085	5,094	5,100	5,110	5,105	16	11
2-Jan	2100	46	162	177	182	193	172	4,954	4,969	4,973	4,984	4,963	15	-6	5,487	5,492	5,497	5,505	5,497	13	5
2-Jan	2200	47	166	166	168	171	168	4,814	4,814	4,816	4,819	4,816	5	2	5,780	5,784	5,789	5,796	5,786	12	2
2-Jan	2300	48	155	157	160	163	163	4,624	4,626	4,628	4,632	4,632	6	6	5,961	5,966	5,970	5,976	5,966	10	0
3-Jan	0	49	136	130	131	130	130	4,403	4,397	4,397	4,397	4,397	0	0	5,983	5,987	5,990	5,996	5,987	9	0
3-Jan	100	50	120	120	122	125	125	4,163	4,164	4,165	4,168	4,168	4	4	5,702	5,705	5,708	5,712	5,705	7	0
3-Jan	200	51	115	115	116	119	119	3,917	3,918	3,919	3,922	3,921	4	3	5,509	5,510	5,512	5,516	5,511	6	1
3-Jan	300	52	92	84	84	81	81	3,637	3,629	3,628	3,626	3,626	-3	-3	5,268	5,268	5,270	5,274	5,270	6	2
3-Jan	400	53	76	75	76	78	78	3,354	3,353	3,354	3,356	3,356	3	3	4,960	4,959	4,961	4,963	4,961	4	2
3-Jan	500	54	78	82	84	87	86	3,146	3,149	3,151	3,154	3,154	5	5	4,659	4,658	4,660	4,662	4,660	4	2
3-Jan	600	55	79	79	80	81	81	3,047	3,048	3,049	3,050	3,049	2	1	4,391	4,390	4,392	4,393	4,392	3	2
3-Jan	700	56	114	135	140	153	151	3,108	3,131	3,136	3,148	3,147	17	16	4,214	4,215	4,216	4,218	4,217	3	2
3-Jan	800	57	145	152	154	158	156	3,377	3,387	3,389	3,393	3,391	6	4	4,183	4,187	4,188	4,192	4,191	5	4
3-Jan	900	58	120	109	108	103	103	3,786	3,777	3,776	3,772	3,772	-5	-5	4,173	4,178	4,180	4,183	4,182	5	4
3-Jan	1000	59	87	79	79	77	78	4,254	4,250	4,250	4,248	4,249	-2	-1	4,137	4,141	4,142	4,145	4,145	4	4
3-Jan	1100	60	63	57	57	55	55	4,736	4,733	4,733	4,732	4,732	-1	-1	4,169	4,171	4,172	4,174	4,174	3	3
3-Jan	1200	61	61	65	66	69	69	5,245	5,253	5,254	5,258	5,257	5	4	4,318	4,319	4,320	4,321	4,321	2	2
3-Jan	1300	62	56	53	52	51	50	5,744	5,745	5,745	5,743	5,743	-2	-2	4,572	4,573	4,574	4,575	4,575	2	2
3-Jan	1400	63	46	45	45	45	45	6,189	6,191	6,192	6,192	6,192	1	1	4,874	4,876	4,876	4,877	4,877	1	1
3-Jan	1500	64	44	44	45	46	46	6,533	6,537	6,537	6,539	6,538	2	1	5,207	5,209	5,209	5,210	5,210	1	1
3-Jan	1600	65	44	45	45	46	46	6,824	6,828	6,829	6,830	6,829	2	1	5,562	5,564	5,565	5,565	5,565	1	1
3-Jan	1700	66	46	48	49	51	50	7,049	7,053	7,054	7,056	7,055	3	2	5,914	5,916	5,917	5,917	5,917	1	1
3-Jan	1800	67	54	58	59	61	61	7,202	7,208	7,209	7,211	7,211	3	3	6,256	6,259	6,260	6,260	6,260	1	1
3-Jan	1900	68	63	66	67	70	69	7,300	7,305	7,306	7,308	7,307	3	2	6,579	6,583	6,583	6,584	6,584	1	1
3-Jan	2000	69	61	59	59	59	59	7,337	7,336	7,336	7,336	7,335	0	-1	6,850	6,854	6,855	6,856	6,856	2	2

San Jose Redevelopment Agency

SJRA.01.99

Table 12

HEC-1 Output: 35-Year Flood Event

Recommended Plan

Basin 4L storm drain outfall on Coyote Creek per 11/18/99 HMH design

Stored 5.4 acre-feet in detention basin. Duration: 2.75 hours (02-Jan 1745-2015)

			Flowrate (cfs)																		
			SJRA Project Basin					Coyote Creek at Edenvale							Coyote Creek at Hwy. 280						
Date	Time	Hour	None	Existing	Zoned	Future	Storage	None	Existing	Zoned	Future	Storage	F-E	S-E	None	Existing	Zoned	Future	Storage	F-E	S-E
3-Jan	2100	70	49	46	46	45	45	7,303	7,300	7,300	7,299	7,299	-1	-1	7,036	7,040	7,040	7,041	7,041	1	1
3-Jan	2200	71	39	36	36	36	36	7,203	7,200	7,200	7,199	7,199	-1	-1	7,143	7,145	7,145	7,146	7,146	1	1
3-Jan	2300	72	22	15	14	11	11	7,033	7,026	7,025	7,022	7,022	-4	-4	7,183	7,184	7,184	7,184	7,184	0	0
4-Jan	0	73	7	3	3	1	1	6,817	6,812	6,812	6,811	6,811	-1	-1	7,163	7,162	7,162	7,162	7,162	0	0
4-Jan	100	74	1	0	0	0	0	6,574	6,572	6,572	6,572	6,572	0	0	7,097	7,095	7,095	7,094	7,094	-1	-1
4-Jan	200	75	0	0	0	0	0	6,337	6,335	6,335	6,335	6,335	0	0	6,991	6,988	6,988	6,987	6,987	-1	-1
4-Jan	300	76	0	0	0	0	0	6,089	6,087	6,087	6,087	6,087	0	0	6,847	6,844	6,844	6,843	6,843	-1	-1
4-Jan	400	77	0	0	0	0	0	5,827	5,825	5,825	5,825	5,825	0	0	6,672	6,669	6,669	6,669	6,669	0	0
4-Jan	500	78	0	0	0	0	0	5,564	5,562	5,562	5,562	5,562	0	0	6,473	6,470	6,470	6,470	6,470	0	0
4-Jan	600	79	0	0	0	0	0	5,310	5,307	5,307	5,307	5,307	0	0	6,255	6,253	6,253	6,252	6,252	-1	-1
4-Jan	700	80	0	0	0	0	0	5,060	5,058	5,058	5,058	5,058	0	0	6,025	6,022	6,022	6,022	6,022	0	0
4-Jan	800	81	0	0	0	0	0	4,812	4,809	4,809	4,809	4,809	0	0	5,787	5,785	5,785	5,784	5,784	-1	-1
4-Jan	900	82	0	0	0	0	0	4,563	4,560	4,560	4,560	4,560	0	0	5,545	5,542	5,542	5,542	5,542	0	0
4-Jan	1000	83	0	0	0	0	0	4,316	4,313	4,313	4,313	4,313	0	0	5,300	5,298	5,298	5,297	5,297	-1	-1
4-Jan	1100	84	0	0	0	0	0	4,073	4,070	4,070	4,070	4,070	0	0	5,055	5,052	5,052	5,052	5,052	0	0
4-Jan	1200	85	0	0	0	0	0	3,837	3,834	3,834	3,834	3,834	0	0	4,809	4,806	4,806	4,806	4,806	0	0
4-Jan	1300	86	0	0	0	0	0	3,610	3,607	3,607	3,607	3,607	0	0	4,565	4,562	4,562	4,562	4,562	0	0
4-Jan	1400	87	0	0	0	0	0	3,399	3,396	3,396	3,396	3,396	0	0	4,325	4,322	4,322	4,322	4,322	0	0
4-Jan	1500	88	0	0	0	0	0	3,206	3,204	3,204	3,204	3,204	0	0	4,092	4,088	4,088	4,088	4,088	0	0
4-Jan	1600	89	0	0	0	0	0	3,033	3,031	3,031	3,031	3,031	0	0	3,867	3,864	3,864	3,864	3,864	0	0
4-Jan	1700	90	0	0	0	0	0	2,877	2,875	2,875	2,875	2,875	0	0	3,654	3,651	3,651	3,651	3,651	0	0
4-Jan	1800	91	0	0	0	0	0	2,752	2,751	2,751	2,751	2,751	0	0	3,455	3,453	3,453	3,453	3,453	0	0
4-Jan	1900	92	0	0	0	0	0	2,650	2,649	2,649	2,649	2,649	0	0	3,273	3,271	3,271	3,271	3,271	0	0
4-Jan	2000	93	0	0	0	0	0	2,552	2,551	2,551	2,551	2,551	0	0	3,110	3,107	3,107	3,107	3,107	0	0
4-Jan	2100	94	0	0	0	0	0	2,458	2,457	2,457	2,457	2,457	0	0	2,963	2,961	2,961	2,961	2,961	0	0
4-Jan	2200	95	0	0	0	0	0	2,368	2,367	2,367	2,367	2,367	0	0	2,831	2,829	2,829	2,829	2,829	0	0
4-Jan	2300	96	0	0	0	0	0	2,281	2,280	2,280	2,280	2,280	0	0	2,711	2,710	2,710	2,710	2,710	0	0

San Jose Redevelopment Agency

SJRA.01.99

Table 13

HEC-1 Output: 100-Year Flood Event

Recommended Plan

Basin 4L storm drain outfall on Coyote Creek per 11/18/99 HMH design

Stored 5.4 acre-feet in detention basin. Duration: 1.75 hours (02-Jan 1700-1845)

Initial Storage in Anderson Reservoir = 81,000 ac-ft

			Flowrate (cfs)																		
			SJRA Project Basin					Coyote Creek at Edenvale							Coyote Creek at Hwy. 280						
Date	Time	Hour	None	Existing	Zoned	Future	Storage	None	Existing	Zoned	Future	Storage	F-E	S-E	None	Existing	Zoned	Future	Storage	F-E	S-E
2-Jan	0	25	97	109	116	126	126	1,855	1,867	1,874	1,884	1,884	17	17	2,344	2,363	2,374	2,390	2,389	27	26
2-Jan	100	26	78	72	73	73	73	1,838	1,832	1,833	1,834	1,833	2	1	2,385	2,401	2,411	2,425	2,425	24	24
2-Jan	200	27	56	55	58	60	60	1,764	1,764	1,766	1,769	1,768	5	4	2,321	2,334	2,342	2,354	2,354	20	20
2-Jan	300	28	44	42	44	45	44	1,687	1,685	1,687	1,688	1,687	3	2	2,224	2,233	2,239	2,249	2,248	16	15
2-Jan	400	29	31	29	30	30	30	1,576	1,573	1,574	1,574	1,574	1	1	2,117	2,123	2,129	2,136	2,135	13	12
2-Jan	500	30	33	38	41	45	44	1,462	1,467	1,470	1,474	1,473	7	6	2,011	2,015	2,020	2,025	2,025	10	10
2-Jan	600	31	32	32	33	33	33	1,345	1,344	1,345	1,345	1,345	1	1	1,922	1,925	1,928	1,933	1,932	8	7
2-Jan	700	32	23	22	22	22	22	1,223	1,222	1,222	1,222	1,222	0	0	1,801	1,803	1,806	1,809	1,809	6	6
2-Jan	800	33	17	16	17	17	17	1,111	1,111	1,111	1,111	1,111	0	0	1,654	1,656	1,658	1,661	1,660	5	4
2-Jan	900	34	16	17	18	19	19	1,016	1,017	1,018	1,019	1,019	2	2	1,520	1,521	1,523	1,525	1,524	4	3
2-Jan	1000	35	36	49	53	60	60	961	974	978	986	985	12	11	1,444	1,445	1,447	1,449	1,448	4	3
2-Jan	1100	36	57	64	67	72	71	936	943	946	951	950	8	7	1,438	1,441	1,442	1,445	1,444	4	3
2-Jan	1200	37	94	118	125	138	138	972	995	1,002	1,016	1,015	21	20	1,513	1,517	1,519	1,523	1,522	6	5
2-Jan	1300	38	185	230	243	268	267	1,144	1,189	1,202	1,227	1,226	38	37	1,807	1,816	1,819	1,825	1,825	9	9
2-Jan	1400	39	255	279	288	302	301	1,805	1,830	1,838	1,852	1,851	22	21	2,219	2,234	2,239	2,248	2,247	14	13
2-Jan	1500	40	313	346	357	377	376	2,504	2,537	2,548	2,567	2,567	30	30	2,557	2,577	2,583	2,594	2,594	17	17
2-Jan	1600	41	406	450	462	487	486	3,393	3,437	3,449	3,473	3,473	36	36	3,078	3,101	3,109	3,122	3,122	21	21
2-Jan	1700	42	433	436	440	445	443	4,364	4,366	4,370	4,375	4,373	9	7	3,779	3,805	3,814	3,829	3,828	24	23
2-Jan	1800	43	328	285	281	266	227	6,247	6,204	6,200	6,185	6,145	-19	-59	4,573	4,596	4,604	4,618	4,616	22	20
2-Jan	1900	44	212	185	184	177	155	6,235	6,208	6,207	6,200	6,179	-8	-29	5,389	5,403	5,409	5,418	5,412	15	9
2-Jan	2000	45	187	192	195	202	200	6,626	6,631	6,635	6,641	6,639	10	8	6,173	6,177	6,182	6,187	6,177	10	0
2-Jan	2100	46	217	233	237	246	245	6,562	6,577	6,581	6,590	6,590	13	13	6,851	6,851	6,855	6,859	6,847	8	-4
2-Jan	2200	47	220	218	218	218	218	6,375	6,372	6,373	6,373	6,372	1	0	7,385	7,386	7,389	7,393	7,383	7	-3
2-Jan	2300	48	205	204	206	208	207	6,183	6,183	6,184	6,186	6,185	3	2	7,750	7,750	7,753	7,757	7,749	7	-1
3-Jan	0	49	179	169	169	166	165	6,064	6,054	6,053	6,051	6,050	-3	-4	7,950	7,950	7,952	7,955	7,949	5	-1
3-Jan	100	50	157	156	157	158	157	6,091	6,089	6,090	6,091	6,091	2	2	7,997	7,996	7,998	8,000	7,996	4	0
3-Jan	200	51	150	148	149	150	149	6,316	6,315	6,316	6,317	6,316	2	1	7,955	7,953	7,954	7,956	7,953	3	0
3-Jan	300	52	120	108	107	103	102	6,727	6,715	6,714	6,710	6,709	-5	-6	7,913	7,910	7,912	7,912	7,910	2	0
3-Jan	400	53	99	96	97	98	97	7,434	7,432	7,432	7,433	7,433	1	1	7,935	7,931	7,932	7,932	7,931	1	0
3-Jan	500	54	102	105	106	109	108	8,497	8,501	8,502	8,504	8,504	3	3	8,083	8,080	8,080	8,080	8,079	0	-1
3-Jan	600	55	102	102	102	102	102	9,658	9,658	9,658	9,659	9,658	1	0	8,091	8,088	8,089	8,089	8,088	1	0
3-Jan	700	56	147	172	177	190	189	10,891	10,917	10,922	10,934	10,933	17	16	8,570	8,569	8,570	8,571	8,570	2	1
3-Jan	800	57	187	194	195	198	197	12,140	12,147	12,148	12,151	12,151	4	4	9,424	9,426	9,427	9,429	9,429	3	3
3-Jan	900	58	155	138	137	130	129	13,273	13,256	13,255	13,248	13,247	-8	-9	10,352	10,356	10,357	10,360	10,359	4	3
3-Jan	1000	59	111	100	99	97	96	16,400	16,390	16,389	16,386	16,386	-4	-4	11,308	11,310	11,311	11,313	11,313	3	3
3-Jan	1100	60	81	72	72	69	69	16,705	16,696	16,696	16,693	16,692	-3	-4	12,428	12,427	12,428	12,429	12,428	2	1
3-Jan	1200	61	78	82	83	86	85	16,322	16,327	16,328	16,331	16,330	4	3	13,561	13,559	13,559	13,559	13,558	0	-1

San Jose Redevelopment Agency
SJRA.01.99

Table 13

HEC-1 Output: 100-Year Flood Event
Recommended Plan
Basin 4L storm drain outfall on Coyote Creek per 11/18/99 HMH design
Stored 5.4 acre-feet in detention basin. Duration: 1.75 hours (02-Jan 1700-1845)
Initial Storage in Anderson Reservoir = 81,000 ac-ft

			Flowrate (cfs)																		
			SJRA Project Basin					Coyote Creek at Edenvale							Coyote Creek at Hwy. 280						
Date	Time	Hour	None	Existing	Zoned	Future	Storage	None	Existing	Zoned	Future	Storage	F-E	S-E	None	Existing	Zoned	Future	Storage	F-E	S-E
3-Jan	1300	62	72	67	66	64	63	15,771	15,766	15,765	15,763	15,763	-3	-3	14,454	14,451	14,451	14,451	14,450	0	-1
3-Jan	1400	63	59	56	57	56	56	14,691	14,689	14,689	14,689	14,688	0	-1	14,974	14,971	14,972	14,971	14,971	0	0
3-Jan	1500	64	56	56	57	57	57	14,019	14,019	14,019	14,020	14,020	1	1	15,136	15,134	15,134	15,133	15,133	-1	-1
3-Jan	1600	65	56	56	57	57	57	13,517	13,518	13,518	13,519	13,519	1	1	15,043	15,041	15,041	15,041	15,040	0	-1
3-Jan	1700	66	59	61	62	63	63	13,073	13,075	13,076	13,077	13,076	2	1	14,796	14,795	14,795	14,795	14,794	0	-1
3-Jan	1800	67	69	73	74	76	76	12,992	12,996	12,997	12,999	12,999	3	3	14,500	14,499	14,500	14,500	14,499	1	0
3-Jan	1900	68	80	84	85	87	86	12,852	12,856	12,857	12,858	12,858	2	2	14,237	14,237	14,238	14,238	14,238	1	1
3-Jan	2000	69	77	75	75	74	73	12,704	12,701	12,701	12,700	12,699	-1	-2	14,019	14,020	14,020	14,021	14,021	1	1
3-Jan	2100	70	63	58	57	56	55	12,592	12,588	12,587	12,586	12,585	-2	-3	13,813	13,814	13,814	13,815	13,815	1	1
3-Jan	2200	71	49	46	46	45	44	12,364	12,361	12,361	12,360	12,359	-1	-2	13,606	13,606	13,606	13,606	13,606	0	0
3-Jan	2300	72	28	19	18	15	14	12,060	12,051	12,050	12,047	12,046	-4	-5	13,374	13,373	13,373	13,373	13,373	0	0
4-Jan	0	73	8	4	3	2	2	11,745	11,740	11,740	11,738	11,738	-2	-2	13,096	13,093	13,093	13,092	13,092	-1	-1
4-Jan	100	74	2	0	0	0	0	11,334	11,333	11,332	11,332	11,332	-1	-1	12,786	12,782	12,782	12,781	12,781	-1	-1
4-Jan	200	75	0	0	0	0	0	10,899	10,899	10,899	10,899	10,899	0	0	12,452	12,449	12,448	12,447	12,447	-2	-2
4-Jan	300	76	0	0	0	0	0	10,448	10,448	10,448	10,448	10,448	0	0	12,090	12,087	12,087	12,086	12,086	-1	-1
4-Jan	400	77	0	0	0	0	0	10,035	10,035	10,035	10,035	10,035	0	0	11,706	11,704	11,704	11,703	11,703	-1	-1
4-Jan	500	78	0	0	0	0	0	9,665	9,665	9,665	9,665	9,665	0	0	11,310	11,309	11,309	11,308	11,308	-1	-1
4-Jan	600	79	0	0	0	0	0	9,327	9,327	9,327	9,327	9,327	0	0	10,915	10,914	10,913	10,913	10,913	-1	-1
4-Jan	700	80	0	0	0	0	0	9,027	9,027	9,027	9,027	9,027	0	0	10,529	10,528	10,528	10,528	10,528	0	0
4-Jan	800	81	0	0	0	0	0	8,735	8,735	8,735	8,735	8,735	0	0	10,160	10,160	10,160	10,160	10,160	0	0
4-Jan	900	82	0	0	0	0	0	8,442	8,442	8,442	8,442	8,442	0	0	9,810	9,809	9,809	9,809	9,809	0	0
4-Jan	1000	83	0	0	0	0	0	8,146	8,146	8,146	8,146	8,146	0	0	9,475	9,475	9,475	9,475	9,475	0	0
4-Jan	1100	84	0	0	0	0	0	7,847	7,847	7,847	7,847	7,847	0	0	9,152	9,152	9,152	9,152	9,152	0	0
4-Jan	1200	85	0	0	0	0	0	7,545	7,545	7,545	7,545	7,545	0	0	8,840	8,840	8,840	8,840	8,840	0	0
4-Jan	1300	86	0	0	0	0	0	7,259	7,259	7,259	7,259	7,259	0	0	8,537	8,537	8,537	8,537	8,537	0	0
4-Jan	1400	87	0	0	0	0	0	6,959	6,959	6,959	6,959	6,959	0	0	8,239	8,239	8,239	8,239	8,239	0	0
4-Jan	1500	88	0	0	0	0	0	6,662	6,662	6,662	6,662	6,662	0	0	7,943	7,943	7,943	7,943	7,943	0	0
4-Jan	1600	89	0	0	0	0	0	6,395	6,395	6,395	6,395	6,395	0	0	7,648	7,648	7,648	7,648	7,648	0	0
4-Jan	1700	90	0	0	0	0	0	6,135	6,135	6,135	6,135	6,135	0	0	7,351	7,351	7,351	7,351	7,351	0	0
4-Jan	1800	91	0	0	0	0	0	5,783	5,783	5,783	5,783	5,783	0	0	7,045	7,045	7,045	7,045	7,045	0	0
4-Jan	1900	92	0	0	0	0	0	5,505	5,505	5,505	5,505	5,505	0	0	6,735	6,735	6,735	6,735	6,735	0	0
4-Jan	2000	93	0	0	0	0	0	5,244	5,244	5,244	5,244	5,244	0	0	6,426	6,426	6,426	6,426	6,426	0	0
4-Jan	2100	94	0	0	0	0	0	4,997	4,997	4,997	4,997	4,997	0	0	6,126	6,126	6,126	6,126	6,126	0	0
4-Jan	2200	95	0	0	0	0	0	4,759	4,759	4,759	4,759	4,759	0	0	5,838	5,838	5,838	5,838	5,838	0	0
4-Jan	2300	96	0	0	0	0	0	4,528	4,528	4,528	4,528	4,528	0	0	5,563	5,563	5,563	5,563	5,563	0	0

The proposed storage concept is based on detaining all of the runoff from a portion of the watershed at the time of the high flows in Coyote Creek. This allows high runoff flows to release to the creek while the water levels in the creek are low. The extent that the detention pond may reduce the potential increase in Coyote Creek peak flows depends on the size of the local drainage area which can be captured at the detention pond. Based on the study area topography, the hillside subareas which drain to the detention pond are the maximum possible. The only other significant area which could drain to the pond would be the development area in subarea 4L.

APPENDIX F

BIOLOGY REPORT

H. T. HARVEY & ASSOCIATES
ECOLOGICAL CONSULTANTS

EDENVALE REDEVELOPMENT AREA
BIOLOGICAL ASSESSMENT
SANTA CLARA COUNTY, CALIFORNIA

By

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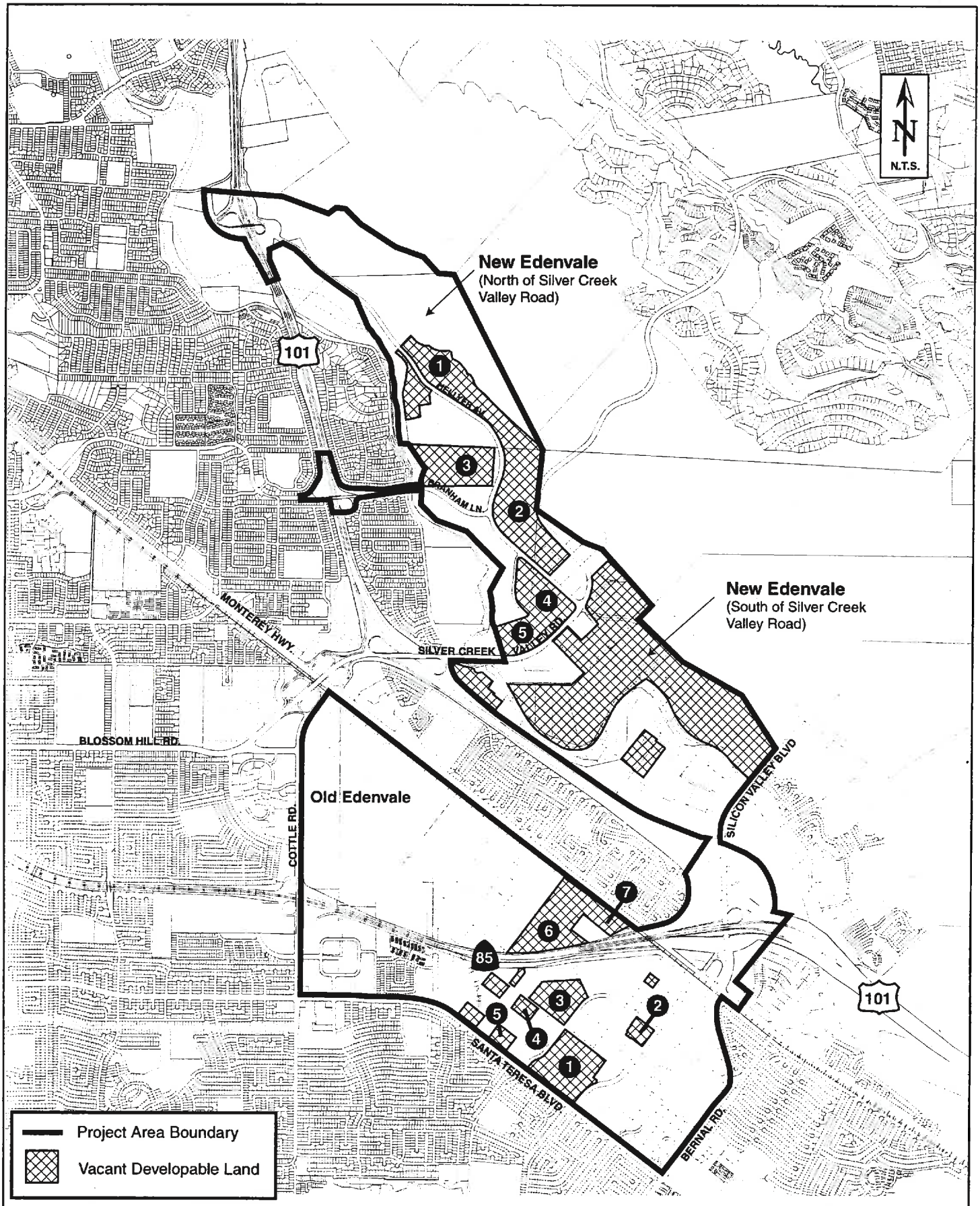
INTRODUCTION

The Edenvale Redevelopment Area (consisting of Old Edenvale located west of Highway 101 and New Edenvale located east of Highway 101), the subject of this report, is located approximately 8 miles south of downtown San Jose (Figure 1) in Santa Clara County, California.

The project proposes new roadway alignments and future development on vacant parcels in the Edenvale Redevelopment Area. In the New Edenvale area south of Silver Creek Valley Road the proposed project consists of: 1) surface improvements along the entire length of Piercy Road and Tennant Avenue; 2) the extension of Hellyer Avenue from Silver Creek Valley Road to Tennant Avenue; 3) installation of a storm drain from Piercy Road to Coyote Creek; and, 4) future development of parcels adjacent to the road improvements. In the New Edenvale area north of Silver Creek Valley Road the proposed project consists of future development on five vacant parcels. Most of the Old Edenvale area is developed; seven vacant parcels remain and development will be proposed for these parcels.

The biological services conducted at the Edenvale Redevelopment Area include a survey of the riparian corridor of Coyote Creek adjacent to the project site, a reconnaissance level survey of the trees to be impacted by the proposed project, a special status plant species survey, and reconnaissance level wildlife surveys. These surveys include recommendations for avoidance of impacts, or mitigation where necessary.



VACANT DEVELOPABLE LAND

FIGURE 1

2.0 OLD EDENVALE

2.1 Introduction

Reconnaissance level surveys for habitats that could potentially support special status plant species, City of San Jose ordinance trees and special status animal species were conducted in the vacant parcels of Old Edenvale.

2.2 Methods

On February 3 2000 H. T. Harvey & Associates' biologists Brian Cleary, M.S., Steve Rottenborn, Ph.D., and John Bourgeois, M.S. surveyed the Old Edenvale parcels. Reconnaissance level surveys were conducted by hiking the parcels, identifying habitats on site, identifying trees to species and size class (except for landscape trees) and reviewing background information on potential special status species in the project vicinity.

2.3 Results

Special Status Plant Species Survey. Reconnaissance level special-status plant surveys within Old Edenvale did not identify habitat capable of supporting any special-status plant species. All of the 7 parcels located within Old Edenvale consisted of level, highly disturbed, and regularly cultivated ruderal habitat. These parcels appear to be disked often and are annually planted with a non-native soil stabilizing grass. The parcels are also situated within an urban development setting, and are largely a part of the IBM complex. Because these parcels receive cultivation on an annual basis, and because of their location with respect to urban development, no further special-status plant surveys are warranted.

Tree Survey. At the seven Old Edenvale parcels, there are 33 ordinance trees. With the exception of one redwood (*Sequoia sempervirens*) on the corner of Parcel #2, the remaining ordinance trees are on Parcels 1 and 6 (Table 1). Among the larger trees observed, the most prevalent are valley oak (*Quercus lobata*), coast live oak (*Quercus agrifolia*), peppertree (*Schinus molle*), and black walnut (*Juglans californica*). On Parcel 1, the trees were located throughout the parcel periphery. On Parcel 6, the trees were all clustered in one area. The remaining parcels were all flat, grassy areas with landscaping trees along some of their borders.

Table 1. Number of trees, by size class, located on the Old Edenvale parcels.

Old Edenvale	1-12" dbh (Non-ordinance)	12-18" dbh (Non-ordinance)	18-24" dbh (Ordinance)	24-36" dbh (Ordinance)	>36" dbh (Ordinance)
Parcel 1	11	1	1	6	13
Parcel 2			1		
Parcel 3					
Parcel 4					
Parcel 5					
Parcel 6	3	7	4	4	4
Parcel 7					
Total	**14**	**8**	**6**	**10**	**17**

Wildlife Survey. All parcels were cultivated agricultural fields except for Parcel 2, which was dominated by short herbaceous, ruderal habitat and did not appear to be cultivated. Trees were restricted to the periphery of (or were absent altogether from) all parcels except for Parcels 1 and 6; these parcels contained several large trees within its interior. No aquatic or wetland habitats suitable for use by special-status amphibians such as the California red-legged frog (*Rana aurora draytonii*) or California tiger salamander (*Ambystoma californiense*) were present on or adjacent to any of these parcels.

The only special-status wildlife species that could potentially breed on or close to these parcels are the Loggerhead Shrike (*Lanius ludovicianus*) and raptors, including the Burrowing Owl (*Athene cunicularia*). The Loggerhead Shrike could potentially breed in trees on or immediately adjacent to all of the Old Edenvale parcels. However, because of the regional abundance of this species and its habitat, impacts to this species from development of these parcels would be less-than-significant.

Suitable nesting and/or foraging habitat for Burrowing Owls is present on all parcels. California ground squirrel (*Spermophilus beecheyi*) burrows suitable for use by nesting or roosting Burrowing Owls were observed on all of these parcels except for two. Parcel 4, had no ground squirrels, although because this site is located in close proximity to other sites supporting ground squirrels, it is possible that ground squirrels (and subsequently Burrowing Owls) could invade this site prior to development. However, Parcel 3, which has no ground squirrels, is completely surrounded by development, making it improbable that squirrels will invade this site.

In addition to the Burrowing Owl, raptors such as the Cooper's Hawk (*Accipiter cooperii*), White-tailed Kite (*Elanus caeruleus*), Red-shouldered Hawk (*Buteo lineatus*), Red-tailed Hawk (*Buteo jamaicensis*), American Kestrel (*Falco sparverius*), Barn Owl (*Tyto alba*), and Great Horned Owl (*Bubo virginianus*), are known to occur in the project vicinity and may breed either on these parcels or close enough that nests may be potentially disturbed by project-related disturbance. On most of the parcels in the Old

Edenvale area, potential nesting habitat is limited to trees at the immediate periphery of each site or on lands adjacent to the site. However, the trees in the interior of Parcel 1 provide potential nest sites for all the aforementioned raptor species.

3.0 NEW EDENVALE NORTH OF SILVER CREEK VALLEY ROAD

3.1 Introduction

Reconnaissance level surveys for habitats that could potentially support special status plant species, City of San Jose ordinance trees and special status wildlife species were conducted in the vacant parcels of New Edenvale north of Silver Creek Valley Road.

3.2 Methods

On 3 February 2000 H. T. Harvey & Associates' biologists Brian Cleary, M.S., Steve Rottenborn, Ph.D., and John Bourgeois, M.S. surveyed the New Edenvale parcels north of Silver Creek Valley Road. Reconnaissance level surveys were conducted by hiking the parcels, identifying habitats on site, identifying trees to species and size class (except for landscape trees) and reviewing background information on potential special status species in the project vicinity.

3.3. Results

Special Status Plant Species Survey. Habitat types occurring on-site include non-native annual grassland (serpentine substrate) and cultivated annual grassland habitat. Of the 64 taxa of special status plant species known to occur in Santa Clara County considered, only 16 special-status plant species have the potential to occur in New Edenvale, within serpentine substrate. None of the special-status plant species of concern are known to occur in areas lacking serpentine substrate. The potentially occurring special-status plant species of concern and their legal status are as follows:

- Tiburon Paint Brush (*Castilleja affinus* ssp. *neglecta*). Federal listing status: Endangered; State listing status: Threatened; CNPS list: 1B.

- Santa Clara Valley Dudleya (*Dudleya setchellii*). Federal listing status: Endangered; State listing status: None; CNPS 1B.

- Metcalf Canyon Jewelflower (*Streptanthus albidus* ssp. *albidus*). Federal listing status: Endangered; State listing status: None; CNPS 1B.).

- Showy Indian Clover (*Trifolium amoenum*). Federal listing status: Endangered; State listing status: None; CNPS 1B.

- Big-scale Balsamroot (*Balsamorhiza macrolepis* ssp. *macrolepis*). Federal listing status: None; State listing status: None; CNPS 1B.

- Oakland Star-tulip (*Calochortus umbellatus*). Federal listing status: None; State listing status: None; CNPS 4.

- Mount Hamilton Thistle (*Cirsium fontinale* var. *campylon*). Federal listing status: None; State listing status: None; CNPS 1B

- Tiburon Buckwheat (*Eriogonum luteolum* var. *caninum*). Federal listing status: None; State listing status: None; CNPS 3.

- Fragrant Fritillary (*Fritillaria liliacea*). Federal listing status: None; State listing status: None; CNPS 1B.

- Woolly-headed Lessingia (*Lessingia hololeuca*). Federal listing status: None; State listing status: None; CNPS 3.

- Most Beautiful Jewelflower (*Streptanthus albidus* ssp. *peramoenus*). Federal Listing Status: None; State Listing Status: None; CNPS List: 1B.

- Serpentine Linanthus (*Linanthus ambiguus*). Federal listing status: None; State listing status: None; CNPS 4.

- Large-flower Linanthus (*Linanthus grandiflorus*). Federal listing status: None; State listing status: None; CNPS 4.

- Jepson's Woolly Sunflower (*Eriophyllum jepsonii*). Federal listing status: None; State listing status: None; CNPS 4.

- San Francisco Wallflower (*Erysimum franciscanum*). Federal listing status: None; State listing status: None; CNPS 4.

- San Francisco Bay Spineflower (*Chorizanthe cuspidata* var. *cuspidata*). Federal listing status: None; State listing status: None; CNPS 4.

Reconnaissance level special-status plant surveys in Parcel 1 of New Edenvale north of Silver Creek Valley Road documented the presence of marginally suitable habitat for some of the special-status serpentine plant species of concern listed above. Parcel 1 is located directly adjacent to the east side of Hellyer Avenue less than one-half mile to the north of Parcel 2 (Figure 1). Only about 10 acres of this larger parcel is available for future development. The habitat occurring within Parcel 1 consists of non-native annual grassland (serpentine substrate) dominated by wild oat (*Avena barbata*) and ripgut brome (*Bromus diandrus*). Other non-native annual forbs identified within this habitat include wild radish (*Raphanus sativus*), storksbill (*Erodium cicutarium*), and cheeseweed (*Malva parviflora*). Although Parcel 1 does not contain any serpentine rock outcrop, additional surveys during the appropriate flowering period for some of the special-status plant species of concern listed above are warranted. Special-status plant surveys are recommended in this parcel because of its close proximity to Parcel 2 (see below), and because of the relatively undisturbed nature of the non-native annual grassland (serpentine substrate) habitat located within the parcel.

Reconnaissance level special-status plant surveys in Parcel 2 documented the presence of approximately 50-100 individuals of the federally endangered special-status plant Santa Clara Valley dudleya (Figure 1). This population is not currently documented within the California Department of Fish and Game CNDDB 2000. The dudleya located within Parcel 2 occupies serpentine rock outcrop associated with the upper elevational areas of the parcel. Construction development is occurring less than 200 feet north of the dudleya. No other populations of dudleya or other special-status plant species were identified in this parcel however, suitable habitat does occur for some of the other special-status serpentine plant species of concern. Therefore, additional surveys during the appropriate flowering period (February through May and September through October) for those special-status plants are warranted.

None of the other three remaining parcels (Parcels 3-5) within New Edenvale north of Silver Creek Valley Road contained habitat capable of supporting any of the potential special-status plant species listed above. These parcels consisted entirely of highly disturbed ruderal habitat dominated by non-native annual grasses and forbs listed above. The parcels apparently receive cultivation on an annual or semi-annual basis. Because these parcels receive cultivation on an annual basis, and because of their location with respect to urban development, no further special-status plant surveys are warranted.

Tree Survey. At the five New Edenvale parcels, there are 6 ordinance trees (Table 2). The four ordinance trees on Parcel 4 were all black walnut. A large valley oak was present along the boundary of Parcel 1, and the final ordinance tree is a large black locust (*Robinia pseudoacacia*) in the middle of Parcel 5.

Table 2. Number of trees, by size class, located on the New Edenvale parcels.

New Edenvale	1-12" dbh (Non-ordinance)	12-18" dbh (Non-ordinance)	18-24" dbh (Ordinance)	24-36" dbh (Ordinance)	>36" dbh (Ordinance)
Parcel 1	1				1
Parcel 2					
Parcel 3					
Parcel 4				4	
Parcel 5	7				1
Total	**8**	**0**	**0**	**4**	**2**

Wildlife Survey. All parcels were dominated by either ruderal or non-native grassland habitat, with only a few trees present. With the possible exception of one parcel (discussed below), no aquatic or wetland habitats suitable for use by special-status amphibians such as the California red-legged frog or California tiger salamander were present on or adjacent to any of these parcels. Two of the parcels were adjoining the riparian corridor along Coyote Creek.

The only special-status wildlife species that could potentially breed on or close to these parcels are the Loggerhead Shrike and raptors, including the Burrowing Owl. The

Loggerhead Shrike could potentially breed in trees on or immediately adjacent to all of the New Edenvale North parcels. However, because of the regional abundance of this species and its habitat, impacts to this species from development of these parcels would be less-than-significant.

Suitable nesting and/or foraging habitat for Burrowing Owls is present on all parcels, and Burrowing Owls have been recorded in the immediate vicinity of these sites in the past (albeit during the nonbreeding season). California ground squirrel burrows suitable for use by nesting or roosting Burrowing Owls were observed on all these parcels.

In addition to the Burrowing Owl (discussed separately below), the Cooper's Hawk, White-tailed Kite, Red-shouldered Hawk, Red-tailed Hawk, American Kestrel, Barn Owl, Great Horned Owl, and Western Screech-Owl (*Otus kennicottii*) are known to occur in the project vicinity and may breed either on these parcels or close enough that nests may be potentially disturbed by project-related disturbance. On Parcel 3, potential nesting habitat is limited to trees at the immediate periphery of or adjacent to the site. However, the remaining parcels have at least one tree that could provide a potential nest site for raptors, and electrical transmission towers within or immediately adjacent to the northernmost parcel on the east side of Hellyer Avenue have been used by nesting Red-tailed Hawks in recent years.

The only potential wetland habitat that could possibly support special-status amphibians was present in the extreme lower part of the drainage between Hellyer Avenue and Silver Creek Valley Road, just northeast of the intersection of Hellyer Avenue and Branham Lane (Parcel 2). Here, a narrow channel with a few cottonwoods and willows suggests possible aquatic or wetland habitat that should be surveyed for potential habitat for California red-legged frogs. It is unlikely that red-legged frogs are present here due to the apparent lack of suitable breeding habitat on-site or in adjacent areas. Also, the portion of the New Edenvale North area closest to (just downslope from) this drainage is currently being developed. Therefore, even if red-legged frogs were present in the upper portions of this drainage, the current ongoing development would likely impede dispersal of red-legged frogs to other parcels within the New Edenvale North area. Nevertheless, a more thorough survey of the site and its vicinity should be conducted to determine whether suitable habitat for this species is absent from the plan area.

Serpentine outcrops are present on Parcel 2. It is unlikely that the bay checkerspot butterfly (*Euphydryas editha bayensis*) is present on the site, as this species is usually found at higher elevations with more topographic diversity and broader expanses of serpentine grassland than are present on or immediately adjacent to the site. Nevertheless, the bay checkerspot butterfly is present at higher elevations in the Silver Creek Hills to the east, and therefore a more detailed survey of the serpentine-dominated portions of the project area should be conducted to determine whether or not potentially suitable habitat for this species is present.

4.0 NEW EDENVALE SOUTH OF SILVER CREEK VALLEY ROAD

4.1 Introduction

The proposed project in New Edenvale south of Silver Creek Valley Road consists of: 1) surface improvements along the entire length of Piercy Road and Tennant Avenue; 2) the extension of Hellyer Avenue from Silver Creek Valley Road to Tennant Avenue; 3) installation of a storm drain from Piercy Road to Coyote Creek; and, 4) future development of parcels adjacent to road improvements. Reconnaisance level surveys of the riparian corridor of Coyote Creek adjacent to the project site and trees to be impacted by the proposed project were conducted. Additionally wildlife surveys include a Burrowing Owl survey and a survey of potential California tiger salamander, California red-legged frog, western pond turtle (*Clemmys marmorata*), chinook salmon (*Oncorhynchus tshawytscha*) and steelhead (*Oncorhynchus mykiss*) habitat.

4.2 Methods

Riparian Survey. Eric Webb, Ph.D. of H. T. Harvey & Associates performed the riparian survey on 11 December 1997. The limit of the riparian corridor was evaluated along the east bank of Coyote Creek adjacent to the project area (Figures 2 and 3) and the quality of the riparian habitat was assessed. The upland limit of the riparian corridor was defined as the top-of-bank or the drip-line of riparian vegetation where the riparian vegetation extended beyond the top-of-bank. The edge of the riparian corridor was mapped, staked and each stake surveyed. The location of the surveyed line on the site plan (Edenvale Redevelopment Area, 2 September 1998) was checked against the mapped edge of the riparian corridor for accuracy.

The extent of indirect and direct impacts to the riparian corridor was evaluated by overlaying the conceptual site plan onto the map of the riparian corridor and riparian setback area. A Planix digital planimeter was used to determine the impact acreage. Direct impacts were defined as aspects of the proposed plan that would result in the loss of riparian trees or shrubs. Indirect impacts were defined as areas where roads would be constructed within the riparian setback area.

Tree Survey. H. T. Harvey & Associates' plant ecologists, Brian Cleary, M.S. and Mary Bacca, M.S. conducted a tree survey at the Edenvale Redevelopment Area on 12 and 13 October 1998. The entire project site (all proposed roadway alignments and the storm drain) was hiked in order to observe all trees within the impact area. Trees that were evaluated during the survey had a diameter at breast height (DBH) greater than or equal to 12 inches and were non-orchard species. A single combined diameter for multi-stemmed trees was calculated by adding the largest trunk diameter to half the diameters of the remaining trunks. This additive approach reflects the cross-sectional area of the combined trunks more accurately than adding the trunks together equally.

Each tree was tagged in the field and mapped onto a 1-inch = 40-feet site plan (please note that although data was recorded for tree numbers 230 and 252, these trees were not tagged). The species, DBH and health and vigor were also recorded.

Each tree was assigned a health and vigor rating based on the following scale:

0	=	Dead
1	=	Very Low Vigor
2	=	Low Vigor
3	=	Moderate Vigor
4	=	High Vigor
5	=	Very High Vigor

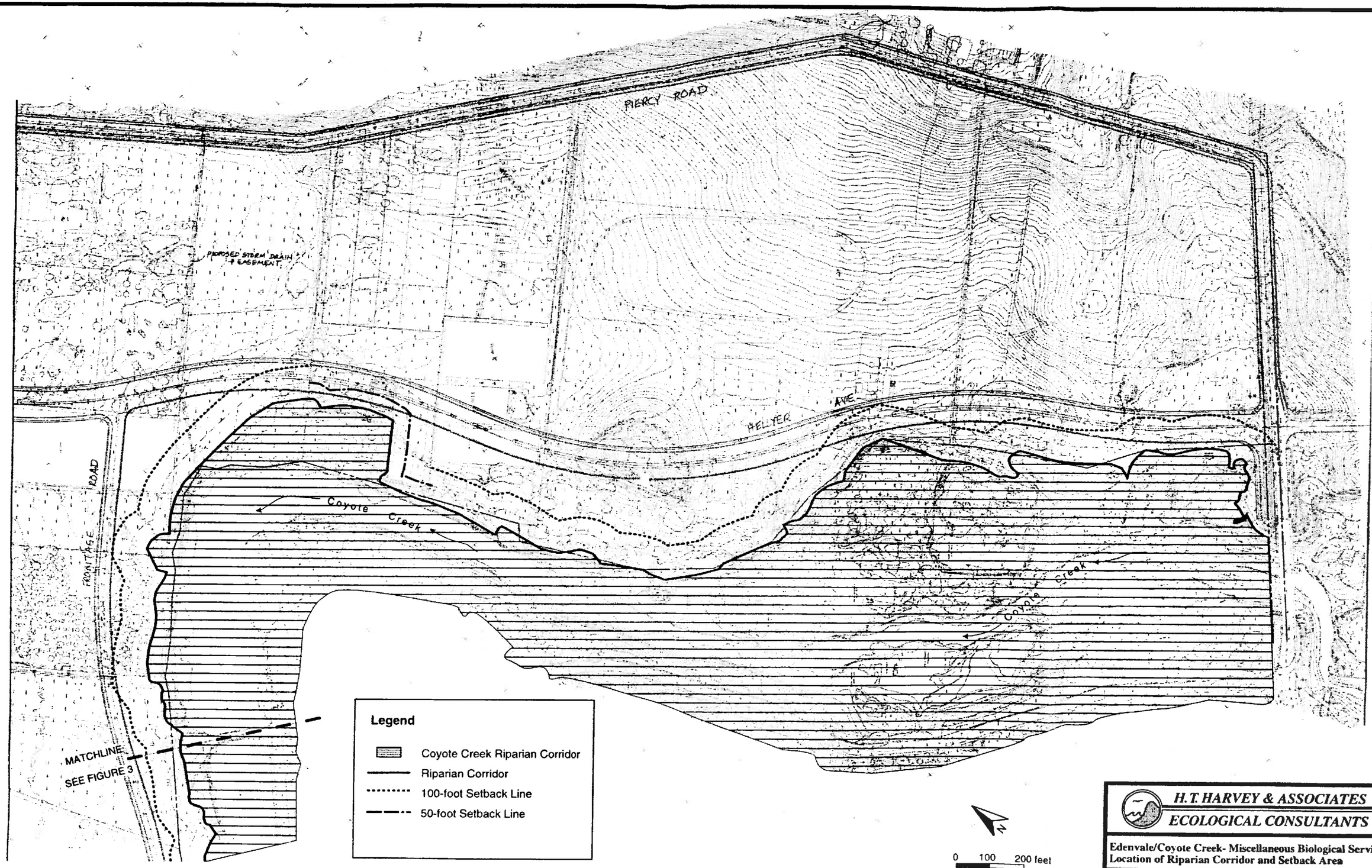
Burrowing Owl Survey. H. T. Harvey & Associate's raptor ecologist, Colleen Lenihan, initially surveyed the New Edenvale area south of Silver Creek Valley Road on 28 and 29 September 1998. The survey was conducted by walking the road alignments, which included 250 feet on either side of the proposed roadways and potential habitat within the development areas were surveyed by walking transacts at 15 meter (approximately 45 foot) intervals while looking for evidence of wildlife use of the parcel. California ground squirrels were located throughout the site and were especially prevalent near the riparian corridor of Coyote Creek. Protocol-level surveys (two in the evening and two in the morning) were conducted on 29 September, and 7, 14, and 21 October 1998 to determine with acceptable certainty whether Burrowing Owls currently occupy the site.

Additional Special Status Species Surveys. Mark Jennings, Ph.D. of H. T. Harvey & Associates surveyed New Edenvale area south of Silver Creek Valley Road on October 17, 1998. The site was evaluated for the potential to support habitat for special status fishes, amphibians and reptiles.

4.3 Results

Riparian Survey. Coyote Creek is a natural, higher order channel located in southeast San Jose, California. The riparian corridor of Coyote Creek fronts the western border of the project site. The location of the riparian corridor and the quality of the riparian habitat were evaluated during a site visit.

Riparian habitat quality was high along the upstream portion of the project site but was between moderate and high quality downstream of the westward bend in the creek (Figures 2 and 3). Riparian trees and shrubs typically provide food, shelter, and an appropriate microclimate for wildlife that inhabits riparian ecosystems. The majority of the vegetation within the riparian corridor is mature and comprises primarily native species. Woody plant species within the riparian corridor include coast live oak, Mexican elderberry (*Sambucus mexicana*), California sycamore (*Platanus racemosa*), California black walnut, California buckeye (*Aesculus californica*), red willow (*Salix laevigata*), arroyo willow (*Salix lasiolepis*), Fremont cottonwood (*Populus fremontii*),



H.T. HARVEY & ASSOCIATES
ECOLOGICAL CONSULTANTS

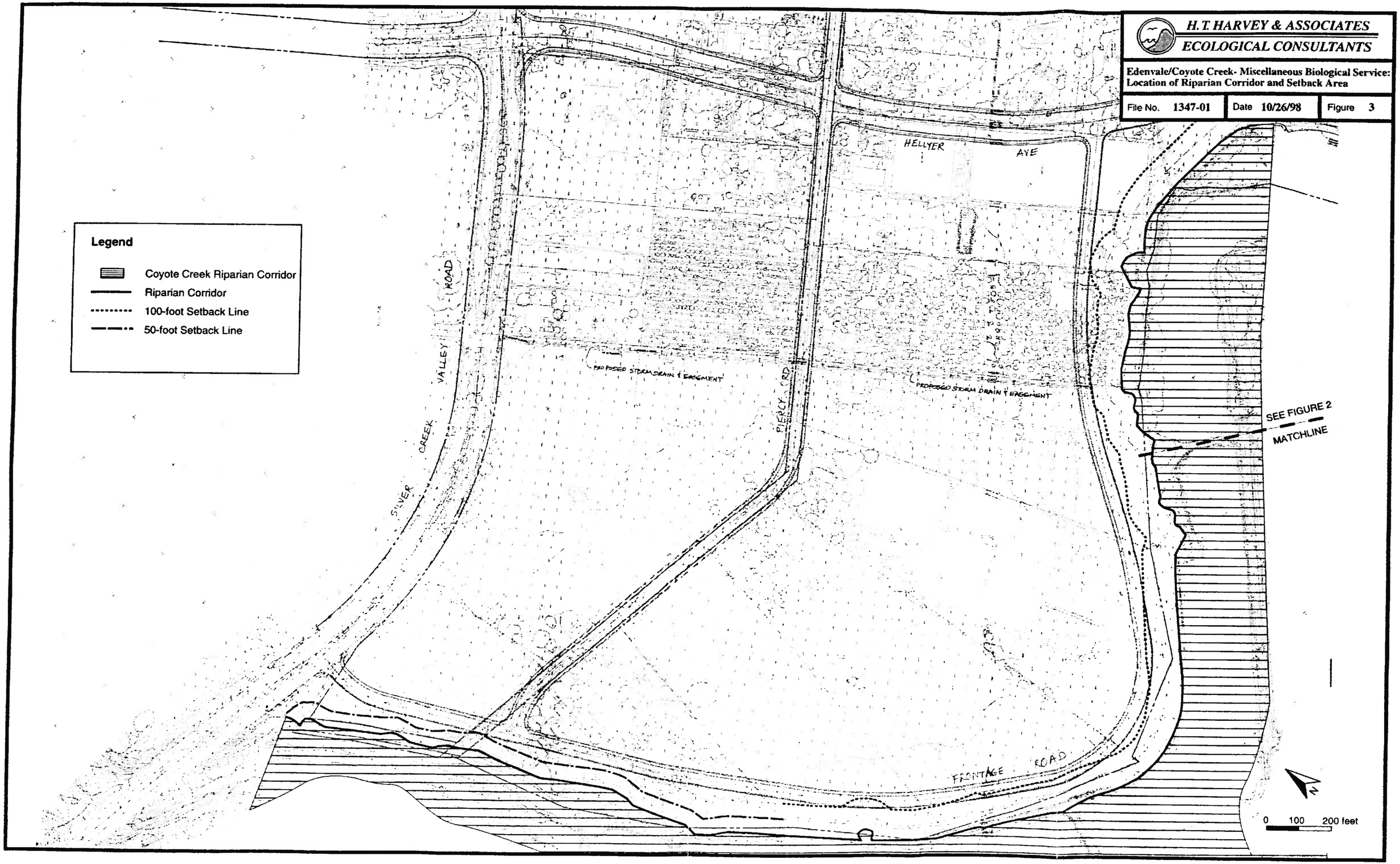
Edenvale/Coyote Creek- Miscellaneous Biological Service: Location of Riparian Corridor and Setback Area

File No. 1347-01	Date 10/26/98	Figure 2

H.T. HARVEY & ASSOCIATES
ECOLOGICAL CONSULTANTS

Edenvale/Coyote Creek- Miscellaneous Biological Service: Location of Riparian Corridor and Setback Area

File No. 1347-01	Date 10/26/98	Figure 3



valley oak, blue gum (*Eucalyptus globulus*), pepper tree and cherry (*Prunus* sp.). Other plant species located within the riparian corridor are poison oak (*Toxicodendron diversilobum*), coyote brush (*Baccharis pilularis*), sweet fennel (*Foeniculum vulgare*), giant reed (*Arundo donax*) and ruderal grasses.

The riparian corridor of Coyote Creek immediately downstream of Silicon Valley Boulevard is extraordinarily broad and comprises mostly mature trees and shrubs. Although this portion of the creek is heavily impacted by the dumping of garbage and debris and has significant stands of the invasive, non-native giant reed, the functions of the habitat along this portion of the creek is high. Since riparian habitats support a greater number of plants and animals than other types of habitat in the western United States (Smith 1977), and are important in maintaining biodiversity in arid systems, broad, densely vegetated riparian corridors such as this portion of Coyote Creek provide valuable habitat for native flora and fauna (Rottenborn 1997).

A certified Environmental Impact Report (EIR) for the Edenvale Redevelopment Plan (City of San Jose 1996) has specific setback recommendations for this parcel. The EIR recommends a 50-foot setback for the parcel from Silver Creek Valley Road upstream for approximately 1600 feet as well as for approximately 400 feet along the center of the reach (Figures 2 and 3). A 100-foot setback is recommended for the remainder of the riparian corridor between Silver Creek Valley Road and Tennant Avenue (Figures 2 and 3).

The roadway and storm drain alignment proposed for this parcel (Edenvale Redevelopment Area, 2 September 1998) have direct and indirect impacts to the riparian corridor of Coyote Creek. The direct impacts (the removal of riparian vegetation) to the riparian corridor (from the storm drain) total 0.01 acres (Figure 2). All encroachment impacts are from the proposed alignment of Hellyer Avenue and the Frontage Road adjacent to the Coyote Creek riparian corridor (Figures 2 and 3). The encroachment impacts within the first 25 feet (measured from the outward limit of the setback area) of the riparian setback area total 1.10 acres. The encroachment impacts beyond the outer 25 feet of the setback area total 0.81 acres.

Tree Survey. A total of 82 trees were surveyed within the project site. Table 3 provides a summary of the survey results. The majority of these trees were non-native, ornamental species. Native species included 7-coast live oak (*Quercus agrifolia*), 2-valley oak (*Quercus lobata*), and 1 western sycamore (*Platanus racemosa*). Please note that tree numbers 274, 275, and 276 are oaks of exceptional size.

All trees large enough to fall under the jurisdiction of the City of San Jose's Tree Ordinance are identified with an asterisk in Table 3. No trees on the City of San Jose's Heritage Tree List occur on site.

Table 3. Summary of Tree Survey Results for the New Edenvale south of Silver Creek Valley Road, San Jose, CA.

Tree Tag Number*	Common Name	Scientific Name	DBH (inches)	Health and Vigor
201	coast live oak	*Quercus agrifolia*	13, 11, 10, 9, 6, 6	3
202*	redwood	*Sequoia sempervirens*	50	2
203*	pine	*Pinus* sp.	31	2
204*	pine	*Pinus* sp.	26	2
205*	pine	*Pinus* sp.	26	1
206*	deodar cedar	*Cedrus deodara*	40	3
207	pepper tree	*Schinus molle*	16, 8, 6	3
208	golden wattle	*Acacia longifolia*	12	3
209*	pepper tree	*Schinus molle*	55	3
210	pepper tree	*Schinus molle*	12, 11, 9, 8, 6	3
211	pepper tree	*Schinus molle*	12	2
212*	pepper tree	*Schinus molle*	23, 16, 16	3
213	California black walnut	*Juglans hindsii*	16, 6	3
214*	California black walnut	*Juglans hindsii*	47	3
216*	pepper tree	*Schinus molle*	39	4
217*	valley oak	*Quercus lobata*	38	3
218	tree of heaven	*Ailanthus altissima*	14, 7	4
219*	fan palm	*Washingtonia* sp.	26	3
220*	pepper tree	*Schinus molle*	41	4
221*	pine	*Pinus* sp.	25, 8, 6	2
222*	pine	*Pinus* sp.	21	2
223	pine	*Pinus* sp.	16, 10, 4	2
224	pine	*Pinus* sp.	15	3
225	California black walnut	*Juglans hindsii*	16	3
226*	California black walnut	*Juglans hindsii*	20	4
227	coast live oak	*Quercus agrifolia*	12	3
228	coast live oak	*Quercus agrifolia*	13, 11, 8	4
229*	pine	*Pinus* sp.	20, 12, 7, 4	3
230*	fan palm	*Washingtonia* sp.	21	3
231*	fan palm	*Washingtonia* sp.	20	3
232*	fan palm	*Washingtonia* sp.	22	3
233	pine	*Pinus* sp.	12	3
234*	pine	*Pinus* sp.	19	3
235	pine	*Pinus* sp.	15, 6, 3, 3	3
236	pine	*Pinus* sp.	12	3
237	pine	*Pinus* sp.	14, 8, 6, 6, 6, 6, 4	4
238	blue gum	*Eucalyptus globulus*	12	3
239	blue gum	*Eucalyptus globulus*	12	3
240	blue gum	*Eucalyptus globulus*	12	2
241	blue gum	*Eucalyptus globulus*	12	3
242	blue gum	*Eucalyptus globulus*	12	3

[1] Please note that tree tag numbers 215 and 278 are not listed. *City of San Jose Ordinance Trees

Table 3. Continued.

Tree Tag Number*	Common Name	Scientific Name	DBH (inches)	Health and Vigor
243	blue gum	*Eucalyptus globulus*	13, 12, 7, 6, 5, 4	3
244	pine	*Pinus* sp.	15	2
245	pine	*Pinus* sp.	12	2
246*	pine	*Pinus* sp.	18	2
247	pine	*Pinus* sp.	12, 11, 11	2
248*	pine	*Pinus* sp.	25	3
249	pine	*Pinus* sp.	17	2
250*	pine	*Pinus* sp.	18	2
251*	pine	*Pinus* sp.	29	3
252	mulberry	*Morus alba.*	16	4
253	pine	*Pinus* sp.	16, 12	3
254	pine	*Pinus* sp.	14, 3	3
255	pine	*Pinus* sp.	17, 3	2
256	pine	*Pinus* sp.	14, 3, 3, 3, 2	3
257	pine	*Pinus* sp.	17	3
258	pine	*Pinus* sp.	12, 9, 8	3
259	pine	*Pinus* sp.	13, 12, 3, 2, 2	3
260	pine	*Pinus* sp.	16	3
261	pine	*Pinus* sp.	14, 13, 7, 2	3
262*	pine	*Pinus* sp.	20	3
263	pine	*Pinus* sp.	12, 5, 2	2
264	pine	*Pinus* sp.	14, 4, 3, 3, 2, 2, 2	3
265	pine	*Pinus* sp.	13	3
266	coast live oak	*Quercus agrifolia*	12	3
267*	pine	*Pinus* sp.	31	3
268*	coast live oak	*Quercus agrifolia*	24	3
269*	Canary Island date palm	*Phoenix canariensis*	32	3
270*	Canary Island date palm	*Phoenix canariensis*	36	3
271	ash	*Fraxinus* sp.	15	3
272	pine	*Pinus* sp.	13	3
273	western sycamore	*Platanus racemosa*	13,12,10,10,8,8, 7	3
274*	coast live oak	*Quercus agrifolia*	252, 96	4
275*	coast live oak	*Quercus agrifolia*	216	4
276*	valley oak	*Quercus lobata*	120	4
277*	deodar cedar	*Cedrus deodara*	228	4
279	pepper tree	*Schinus molle*	17	3
280*	pepper tree	*Schinus molle*	22	3
281*	pepper tree	*Schinus molle*	76, 36	4
282*	pepper tree	*Schinus molle*	86, 31, 12, 5	3

[1] Please note that tree tag numbers 215 and 278 are not listed. *City of San Jose Ordinance Trees

Burrowing Owl Survey. The site consists of a mosaic of habitat types and land uses; there is riparian habitat along Coyote Creek, open grassland habitat utilized as pasture, disked, fallow fields, maintained and degraded orchards, as well as houses, barns, greenhouses and outbuildings. Only the open grassland pasture provides potential habitat for Burrowing Owls (Figure 8). Additionally, the site supports California ground squirrels providing burrows for potential nesting and wintering burrowing owls. Although there is potential habitat on-site, neither Burrowing Owls nor secondary evidence of their presence was observed.

Additional Special Status Species Surveys. Suitable breeding habitat for California tiger salamanders is lacking in the general area (the habitat is either urbanized, in agriculture, or in dry pasture without any stock ponds). The nearest known California tiger salamander population is upstream (approximate 5 miles) in the valley at Coyote Golf Course (per our own studies). Therefore no impacts to California tiger salamander populations or habitat are anticipated from the proposed project.

Steelhead and western pond turtles populations occur within the Coyote Creek drainage. Fall run chinook salmon occur in the nearby Guadalupe River, therefore it is presumed possible for them to occur in the portion of Coyote Creek affected by this proposed project. However, avoidance techniques or mitigation that pertain to steelhead would also cover chinook salmon.

Known populations of California red-legged frogs occur just upstream in Coyote Creek at Tennant Marsh as well as in Metcalf Canyon (which drains into Coyote Creek just south of the site). Therefore, California red-legged frogs could be periodically washed into the Coyote Creek riparian corridor at the project site.

As long as the project impacts occur outside of the Coyote Creek riparian corridor, negative effects to the above sensitive and listed species will be limited. However, proposed storm drains that flow into the creek will increase the possibility of urban runoff and non-point source pollution that could affect fishes, frogs and turtles. The removal of riparian vegetation will affect shading along the creek and will have to be mitigated to provide shading for anadromous fishes and possibly frogs. Urbanization of the area will increase the number of raccoons (*Procyon lotor*) and opossums (*Didelphis virginiana*) which will have a negative affect on amphibians and western pond turtles (through predation on juveniles and adults of both species and eating the eggs of the latter). Urbanization of the area will increase human encounters with all species resulting in potential increased take. Increased noise and construction activities will have a negative effect on western pond turtles (which could lead to increased nest failure) but since the relative encroachment into the riparian setback area and riparian corridor is small and suitable turtle nesting sites are available upstream, this project will have a less-than-significant impact on western pond turtles.

5.0 IMPACTS AND MITIGATION

5.1 Riparian Habitat

It is recommended that all direct impacts to the riparian corridor of Coyote Creek in the Edenvale Redevelopment area be mitigated at a 3:1 (mitigation:encroachment) ratio. Mitigation of 0.03 acres would be required for the direct impacts associated with the proposed storm drain.

For the 1.10 acres of encroachment impacts within the outer 25 feet of the riparian setback we recommend a 1:1 mitigation ratio. For the 0.81 acres of encroachment impacts in the first 0 – 75 feet of the setback (measured outwards from the edge of the riparian corridor) we recommend a 2:1 (mitigation:encroachment) ratio. A higher mitigation ratio for the latter encroachment impacts is recommended since the disturbance to wildlife within the riparian corridor will be higher as development encroaches closer to the corridor's edge. Therefore, the total recommended mitigation for the encroachment impacts from the proposed project total 2.72 acres.

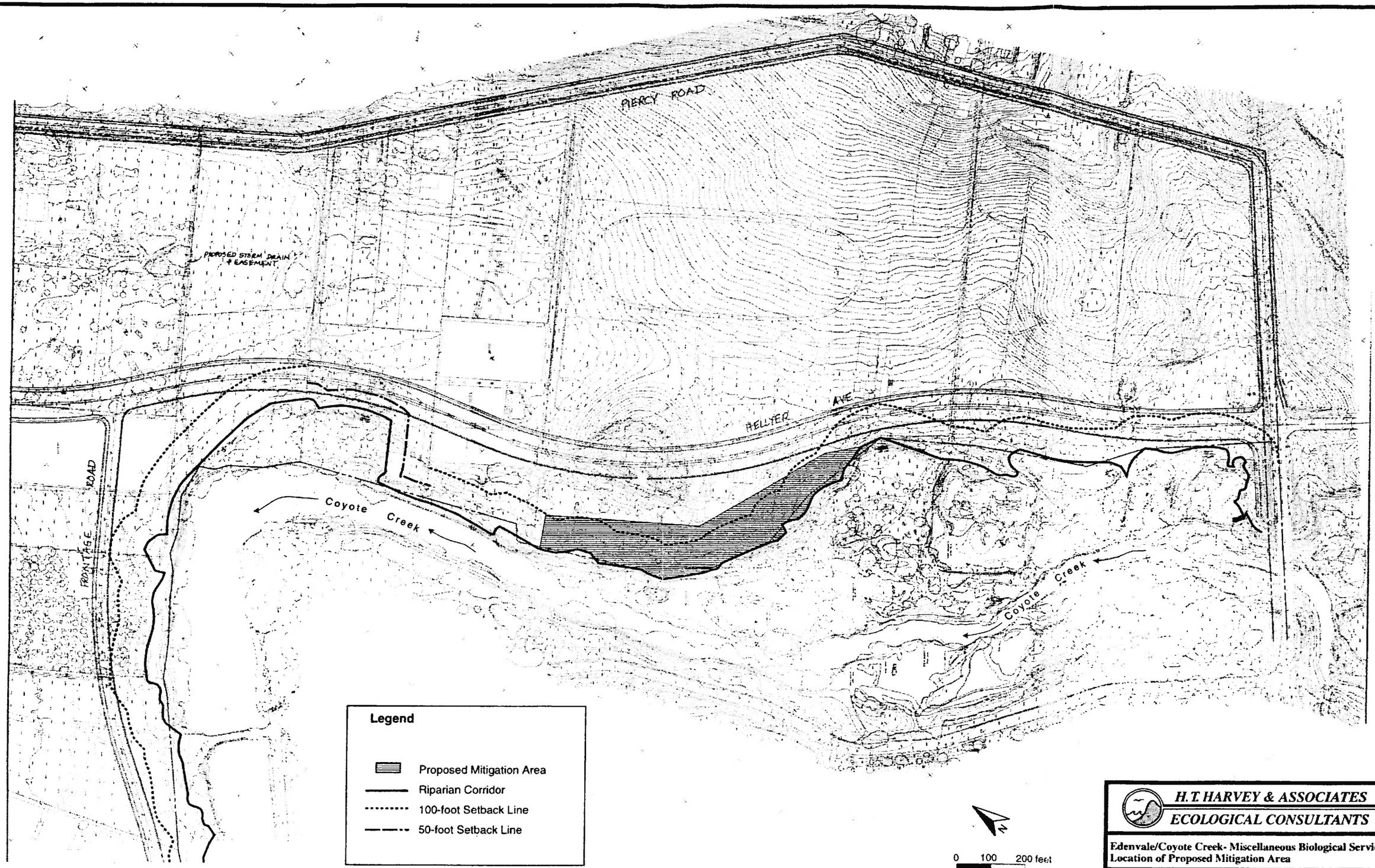
In order to mitigate for all impacts from the proposed development a 2.75-acre area adjacent to the Coyote Creek riparian corridor (Figure 4) will be planted with native riparian trees, shrubs and ground cover. The proposed location of the mitigation site would further expand the broad, high quality riparian habitat located near Silicon Valley Boulevard. This mitigation would provide additional habitat adjacent to the broad, high quality, extant riparian habitat. Plantings within the setback area should include dense riparian vegetation following an approved revegetation plan. The revegetation plan should include the appropriate mixture of native vegetation, maintenance schedule and monitoring of the planted vegetation to ensure success of the project. This plan will be developed with assistance from a qualified restoration ecologist.

5.2 Special Status Plant Species

Additional surveys during the appropriate flowering period for special-status plant species that could potentially occur in the New Edenvale area (see section 3.0) are warranted.

5.3 Ordinance Trees

All City of San Jose Ordinance trees that are to be removed or lost due to root severing, etc., will be replaced following the City of San Jose's Tree Ordinance policy. The replacement trees should be installed in an environment suitable for their establishment and growth. These trees should be irrigated and maintained for a period of not less than three years.



H.T HARVEY & ASSOCIATES
ECOLOGICAL CONSULTANTS

Edenvale/Coyote Creek- Miscellaneous Biological Service: Location of Proposed Mitigation Area

File No. 1347-01	Date 10/26/98	Figure 4

5.4 Wildlife

Below, impacts to nesting raptors, Burrowing Owls, steelhead rainbow trout and chinook salmon and special status bat species and mitigation measures required to reduce these impacts to less-than-significant levels, are discussed. If further surveys find that red-legged frogs and/or bay checkerspot butterflies are present on the site, additional mitigation would be necessary, and consultation with the U.S. Fish and Wildlife service would be required.

Potential Impacts to Nesting Raptors. Raptors (e.g., eagles, hawks, and owls) and their nests are protected under both federal and state laws and regulations. The federal Migratory Bird Treaty Act (16 U.S.C. § 703, Supp. I, 1989) prohibits killing, possessing, or trading in migratory birds except in accordance with regulations prescribed by the Secretary of the Interior. This act encompasses whole birds, parts of birds, and bird nests and eggs. Birds of prey are protected in California under Fish and Game Code section 3503.5. Section 3503.5 states that it is "unlawful to take, possess, or destroy any birds in the order Falconiformes or Strigiformes (birds of prey) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto." Construction disturbance during the breeding season could result in the incidental loss of fertile eggs or nestlings, or otherwise lead to nest abandonment. Disturbance that causes nest abandonment and/or loss of reproductive effort is considered a "taking" by the CDFG. Any loss of fertile raptor eggs or nesting raptors, or any activities resulting in raptor nest abandonment, would constitute a significant impact. Construction activities such as tree removal, site grading, etc., that disturb a nesting raptor on-site or immediately adjacent to the construction zone would constitute a significant impact.

In addition to the Burrowing Owl (discussed separately below), the Cooper's Hawk, White-tailed Kite, Red-shouldered Hawk, Red-tailed Hawk, American Kestrel, Barn Owl, Great Horned Owl, and Western Screech-Owl are known to occur in the project vicinity and may breed either on these parcels or close enough that nests may be potentially disturbed by project-related disturbance. Therefore, the mitigation measures described below should be implemented to reduce the adverse environmental effects of development on any raptors nesting within or immediately adjacent to these parcels. Implementation of Mitigation 1 or 2 is expected to reduce the potential project-related environmental effects on nesting raptors to a less-than-significant level.

Mitigation 1. Nesting season avoidance. Construction should be scheduled to avoid the nesting season to the extent possible. In the south San Francisco Bay area, most raptors breed from February through August. However, some White-tailed Kites may begin nest-building as early as January, and kites may have young in the nest through September. If construction can be scheduled to occur between October and December, the nesting season would be avoided, and no impacts to nesting raptors would be expected.

Mitigation 2. Preconstruction/predisturbance surveys. If it is not possible to schedule construction between October and December, preconstruction surveys for nesting raptors should be conducted by a qualified ornithologist in order to ensure that no active raptor nests will be disturbed during project implementation. Preconstruction surveys should be conducted no more than 14 days prior to the initiation of construction activities during the early part of the breeding season (January through April) and no more than 30 days prior to the initiation of these activities during the late part of the breeding season (May through August). During this survey, the ornithologist would inspect all trees in and immediately adjacent to the impact areas for raptor nests. If an active raptor nest is found close enough to the construction area to be disturbed by these activities, the ornithologist, in consultation with CDFG, would determine the extent of a construction-free buffer zone (typically 250 feet) to be established around the nest.

Potential Impacts to Burrowing Owls. If Burrowing Owls are present on-site at the time of construction, construction disturbance during the breeding season could result in the incidental loss of fertile eggs or nestlings or otherwise lead to nest abandonment. Disturbance that causes nest abandonment and/or loss of reproductive effort is considered a "taking" by the CDFG. Furthermore, the destruction of occupied Burrowing Owl burrows is also considered a taking. Any loss of Burrowing Owls or fertile eggs, any activities resulting in nest abandonment, or the destruction of occupied Burrowing Owl burrows would constitute a significant impact. Construction activities such as tree removal, site grading, etc., which disturb a nesting Burrowing Owl on-site or immediately adjacent to the site (to the construction zone only) or destroy occupied burrows would constitute a significant impact. The loss of occupied habitat would also constitute a significant impact.

To mitigate potential impacts to Burrowing Owls to less-than-significant levels, the following mitigation measures should be implemented. In addition to implementing the mitigation prescribed below, protocol-level Burrowing Owl nesting surveys should be conducted to determine the extent of Burrowing Owl site use during the nesting season. These surveys should be conducted according the California Department of Fish and Game protocols during the peak nesting season, April 15 through July 15. These surveys would not substitute for preconstruction/predisturbance surveys described in Mitigation 1, as Burrowing Owls could move on to or adjacent to the site between survey periods. If Burrowing Owls are found to be present in impact areas during any surveys, off-site habitat should be set aside at a ratio of 6.5 acres per pair (or per owl if only a single individual is present) present during the breeding season and managed in perpetuity for use by owls.

Mitigation 1. Preconstruction surveys and buffer zones. In conformance with federal and state regulations protecting raptors against direct "take," pre-construction surveys for Burrowing Owls should be conducted by a qualified ornithologist prior to any soil-altering activity or economic development occurring within the project area. The preconstruction surveys should be conducted per CDFG guidelines (currently no more than 30 days prior to the start of site grading), regardless of the time of year in which grading occurs. If no Burrowing Owls are found, then no further mitigation would be

warranted. If breeding owls are located on or immediately adjacent to the site, a construction-free buffer zone around the active burrow must be established as determined by the ornithologist in consultation with CDFG. No activities, including grading or other construction work or evictions of owls, should proceed that may disturb breeding owls.

Mitigation 2. Eviction and off-site compensation. If preconstruction surveys determine that Burrowing Owls occupy the site, and avoiding development of occupied areas is not feasible, then the owls may be evicted with the authorization of the CDFG. CDFG typically allows eviction of owls only during the nonbreeding season (1 September-31 January). Such authorization generally requires habitat compensation on off-site mitigation lands.

Potential Impacts to Steelhead Rainbow Trout and Chinook Salmon. Steelhead rainbow trout and chinook salmon are known to be present in Coyote Creek. Potentially suitable spawning habitat is present in the reaches of this creek that include the location of the outfall structure. In summary, adult and immature steelhead rainbow trout are expected to occur immediately adjacent to the site during movements between downstream areas and upstream spawning sites, immatures may use these reaches of the creek as rearing habitat (possibly year-round), and it is possible that some spawning could occur within the reaches of the creek immediately adjacent to the proposed location for the outfall structure.

Mitigation 1. Replace impacted instream spawning habitat. Only a very small amount of instream spawning habitat would be indirectly, or perhaps directly, impacted by the outfall structure proposed for this project. This impact will be mitigated by the creation of spawning habitat at an off-site location. Creation or enhancement of spawning habitat by altering the substrate of a stream is undesirable; the introduction of materials such as gravel into a reach of a stream currently lacking such habitat is discouraged by the National Marine Fisheries Service (NMFS; Brian Mulvey, pers. comm.). Therefore, suitable spawning habitat will be created by the planting of riparian habitat in an area currently lacking shading riparian vegetation but providing a channel substrate potentially suitable for use by spawning steelhead rainbow trout and chinook salmon (see Mitigation 2 below). This impact will be mitigated at a 3:1 ratio on a square foot basis. The planting of sufficient riparian vegetation to shade currently unshaded stream channel at a 3:1 ratio in an area providing suitable spawning conditions will mitigate this impact to a less-than-significant level.

Mitigation 2. Replace impacted Shaded Riverine Aquatic (SRA) habitat. For each linear foot of streambank from which riparian vegetation (within 15 feet of the low flow channel edge) will be removed, three linear feet of riparian corridor will be planted. These plantings must occur along a reach of a creek that is currently unvegetated and that provides suitable conditions for salmonids. This mitigation ratio may be reduced slightly if the vegetation impact is a very narrow (e.g. 5 – 7 foot) strip. The SRA mitigation site will be planted in a 15 to 30-foot wide strip to ensure adequate shading of the creek while providing benefits to other riparian species as well. The resulting mitigation replaces

SRA habitat functions at a ratio of 3:1 (mitigation:impact), reducing this impact to a less-than-significant level.

Mitigation 3. Avoid construction within or immediately adjacent to the channel during the wet season. Construction within the channel should be restricted to the dry season (June 1 – 30 September), the period during which there is minimal water in the channel and during which the use of the channel by these species is expected to be minimal. Because spawning chinook salmon are not expected to occur within the channel until October in most years, and spawning adult steelhead are not expected until even later in fall or early winter, restricting construction to the period June 1 – 30 September will minimize impacts to spawning salmonids.

Mitigation 4. Conduct preconstruction surveys for spawning salmonids and redds prior to the initiation of work within or immediately adjacent to the channel. Although implementation of Mitigation 3 will minimize impacts to salmonids, some chinook salmon may occur in Coyote Creek in September and, on rare occasions, even earlier. Because these fish may attempt to spawn prior to October, surveys for spawning chinook salmon and their redds should be conducted within seven days prior to the initiation of work within or immediately adjacent to the channel, regardless of when such work is initiated. Such surveys should be conducted by a qualified biologist in the immediate impact areas and in areas downstream from the site that, in the opinion of the biologist, could be impacted significantly by a reduction in water quality (e.g., from sedimentation). Work within or immediately adjacent to the creek channel should not commence if these surveys find spawning steelhead or chinook salmon, or their redds, in areas where water quality could be significantly impaired by project activities.

Mitigation 5. Minimize impacts to water quality. Measures should be implemented to prevent or minimize a reduction in water quality during construction work within and immediately adjacent to the creek. Because salmonids may be present in and downstream from work areas any time of year, the mitigation measures listed above under *Degradation of Water Quality During Construction* should be strictly implemented regardless of the time of year in which construction occurs. If these measures are implemented, and if preconstruction surveys find that no salmonids are spawning within or immediately downstream from the project site, water quality-related impacts to steelhead and chinook salmon should be reduced to less-than-significant levels.

Mitigation 6. Maintain connectivity of the stream channel during construction. Because it is possible that salmonids may be present in Coyote Creek during any time of year, including the dry season, measures should be taken to ensure that movement of these species is not prevented by any water diversion structures used during construction, regardless of when construction occurs. Water should be diverted through the site by way of an open ditch (rather than a pipe) connecting the portions of Coyote Creek immediately upstream and downstream from the site. This ditch should be lined with cobble-sized stones to deter predation by making the fish less conspicuous as they pass through the channel. Water within this ditch should be at least 12 inches deep, and no impediments to movement, such as high drop structures, should be present.

Implementation of this measure is expected to mitigate impacts to salmonid movement through the site to less-than-significant levels.

Potential Impacts on Maternity Colony Roosting Habitat or Hibernacula for Townsend's Big-eared and Pallid Bats.

Pallid bats (*Antrozous pallidus pacificus*) are pale to light brown in color, and, at about 24 grams, the Pacific race is one of the state's largest bats. Coastal colonies commonly roost in deep crevices in rocky outcroppings, in buildings, under bridges, and in hollow trees. Colonies can range from a few individuals to over a hundred and are non-migratory (Barbour and Davis 1969). Some female/young colonies (typically the coastal subspecies) use day roosts for nurseries as well as hibernacula, while other colonies (typically those in the desert) migrate locally on a seasonal basis (Johnston 1997). Although crevices are important for day roosts, night roosts often include open buildings, porches, garages, highway bridges, and mines. Potential roosting habitat exists on site among the older barns and sheds and off site in exposed rocky outcroppings in the hills to the east of the site.

The Townsend's Big-eared Bat (*Plecotus townsendii*), once common, is now considered uncommon in the state. This species may occur in rural buildings (especially in coastal areas), in woodlands, or in xeric environments. Townsend's big-eared bats are particularly sensitive to human disturbance and will abandon a traditional summer or nursery roost if disturbed (Barbour and Davis 1969). This species may occur in abandoned buildings, as some of the attics of these old buildings may provide suitable roosting sites.

Fenton (1998) suggested one of the single most important aspects for the conservation of bat populations is roosting habitat. Since it may be difficult to determine, in the late spring or early summer, if roosting bats have developed a maternity colony without risking disturbance of that colony, summer roosting habitat (from March 15 through July 31) and maternity colony habitat shall be considered synonymous. Cavernous roosts (i.e., roosts suitable for day roosting and maternity roosts) for Townsend's big-eared bats are rare, and the elimination of such roosting habitat for this species may result in a significant impact. If pallid bats have an established roost during the maternity season, or during hibernation, and alternative roosts are not available to the colony, the elimination of such roosting habitats may also be a significant impact.

Mitigation for the Loss of or Degradation of a Female or Breeding Colony of Bats

Mitigation 1. Surveys. A bat survey should be conducted by a qualified wildlife biologist (as determined by a Memorandum of Understanding with CDFG) prior to the approval of any project involving demolition of buildings, or the removal of heritage-sized oak trees. If a colony of these bats are found roosting on site, the project should be redesigned to accommodate appropriate buffer zones with specific restrictions around roost sites, as determined necessary to avoid disturbance. If no roosts are found, no further action is warranted for planning, but predisturbance surveys for roosting bats

should be implemented 30 days prior to building demolition or large oak tree removal, to prevent the destruction of any new colonies developed after the initial surveys for planning. CDFG should also be notified of any active nurseries within the construction zone.

Mitigation 2. Avoidance. If a female or maternity colony of bats is found on the project site, and the project can be constructed without disturbance to the roosting colony (e.g., if the colony roosts in a large oak tree not planned for removal), a bat biologist should determine what buffer zones (both physical and temporal) should be employed to ensure the continued success of a colony. Buffer zones, determined by the bat biologist, may include a 200 foot buffer zone from the roost and/or timing of the construction activities outside the maternity roost season (after July 31, when young are volant and before March 1, when the formation of a maternity roosts could begin).

Mitigation 3. Exclude bats prior to construction near roost. If an active nursery roost is known to occur on site and the project cannot be conducted outside of the maternity roosting season, bats can be excluded after July 31 and before March 1 to prevent the formation of maternity colonies. Such non-breeding bats can be safely evicted, under the direction of a bat biologist, by sealing up crevices and providing the bats with one-way exclusion doors. Such a device should be employed in all entrance points during dark hours as a temporary device to prevent the formation of a maternity colony. This action should allow bats to leave during dark hours, thus increasing their chance of finding new, or established, roosts with a minimum of potential predation during daylight. In order not to exclude all potential maternity roosting habitat simultaneously, alternative roosting habitat, as determined by the bat biologist, should be in place at least one summer season prior to the exclusion. Early placement of such alternative roosts will increase the chance of acceptance of the new roost by bats. Bat roosts should be monitored at a level to be determined by a qualified bat biologist, and the removal of, or the displacement of, bats should be performed in consultation with CDFG.

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APPENDIX G

HISTORIC RESOURCES REPORT

HISTORIC EVALUATION REPORT

HELLYER AVENUE EXTENSION PROJECT
484 AND 550 PIERCY ROAD
CITY OF SAN JOSE, SANTA CLARA COUNTY, CALIFORNIA

FOR

BASIN RESEARCH AND ASSOCIATES
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WRITTEN BY

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FEBRUARY 1999

TABLE OF CONTENTS

INTRODUCTION

The architectural and historical research and evaluation for the properties at 484 and 550 Piercy Road (APN 678-08-007 and -018) was conducted in November 1998 by Glory Anne Laffey, principal of Archives and Architecture at the request of Basin Research Associates on behalf of David Powers & Associates. This work was undertaken for the proposed Hellyer Avenue Extension south of Silver Creek Valley Road in the Edenvale Redevelopment Area, City of San Jose, Santa Clara County, California.

Previous studies which included the subject property were conducted by The Gavilan Foundation (Breschini et al.) in 1978 and by Theodoratus Cultural Research in 1979. Both of these studies identified two early twentieth century farm complexes composed of a residence and tank house (#27-Uyeda and #29-Ogier) within/adjacent to the project. Neither of the properties are listed in the National Register of Historic Places, the California Register of Historic Resources or in the San Jose Historic Resources Inventory.

LOCATION AND DESCRIPTION

The project, sponsored by the City of San Jose Redevelopment Agency, proposes to extend Hellyer Avenue from its present terminus at Silver Creek Valley Road 5,400 feet south to Tennant Avenue in the Edenvale Area, City of San Jose. The subject properties at 484 and 550 Piercy Road (APN 678-08-007 and -018) are located on the west side of the eastern leg of Piercy Road. The buildings at 484 Piercy Road are adjacent to the proposed road alignment and 550 Piercy Road is in the center of the alignment (T. 8S, R 2E, United States Geological Survey [hereafter USGS], San Jose East, Calif[ornia], 1980, 7.5' quadrangle topographic map, 1980 Unsectioned) [See Figs. 1-3]. Each site is a small rural complex consisting of a residence, tank house, and various outbuildings.

RESEARCH METHODS

The research for this report was conducted by Glory Anne Laffey, M.A., Historian.[1] Mr. Ward Hill, M.A., Architectural Historian,[2] wrote the building descriptions and evaluations using material provided by Mrs. Laffey. Archival research was conducted in local repositories of historical records including the Office of the County Surveyor, the Office of the County Recorder, the History Museums of San Jose archives, and the California Room of the Martin Luther King, Jr. Public Library. In addition to these public collections, local historical materials were also consulted in the personal library of Mrs. Laffey.

The following report is presented in four sections: a description of the property, a historical background, an evaluation of the historical significance of the property, and a discussion of the impacts of the proposed project with recommendations for mitigation, if appropriate.

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1. Mrs. Laffey has been conducting cultural resource evaluations in Santa Clara County since 1978. She has a M.A. in Social Science, San Jose State University, and has been professionally certified by the California Committee for the Promotion of History (#531).

2. Mr. Hill (M.A. Architectural History, University of Virginia, 1983) has worked as an architectural historian and in the historic preservation field for 18 years. He has completed numerous reports evaluating historic buildings under both CEQA and Section 106 of the National Historic Preservation Act.

HISTORICAL BACKGROUND

During the Mexican Period, the project area was part of the 24,342-acre *Rancho Yerba Buena y Socayre* granted to Antonio Chaboya in 1833. The rancho boundaries extended from Coyote Creek to the Evergreen hills, and from the present Tully Road south to Metcalf Road. By 1835, Chaboya had about 3,000 head of cattle, and 100 mares and broken horses, which in subsequent years grew to untold numbers (Breschini et al. 1978; Arbuckle 1985).

In 1846, the United States declared war on Mexico, sent troops to California, and acquired the Mexican province in 1848 after the signing of the Treaty of Guadalupe Hidalgo. After the discovery of gold, the population of California exploded as immigrants arrived from all points on the globe. After statehood was achieved in 1850, the United States government created the California Land Claims Commission to validate the Mexican titles by determining legal ownership and establishing fixed boundaries for Mexican-claimed property. By the time the Commission issued a patent to Chaboya, so many squatters had settled on the rancho that eviction notices ignited what became known as the Settler's War of 1861. Eventually, Chaboya, his lawyers, and the squatters came to a compromise whereby the settlers were able to purchase their lands at a reasonable price (Theodoratus 1979; Payne 1987).

Large scale commercial agriculture did not begin in the Santa Clara Valley until after the Gold Rush in 1848. The Gold Rush, which brought a sudden influx of population, created a new demand for food and other products needed by the newcomers. Many who became discouraged with mining turned to farming for their livelihood, recognizing more money could be made selling food and other items to California's increasing number of citizens.

The Santa Clara Valley was initially a major producer of wheat in the 1850s and 1860s. Requiring little initial investment and providing high returns, early agriculture focused on wheat production given that it was a staple food for California's growing population. Also as a result of a worldwide shortage (which kept prices high), California exported large quantities of wheat. As world wheat production increased by the 1870s and prices decreased, the economic incentive to grow wheat in California declined. The cultivation of wheat was usually combined with raising cattle and sheep. The 1870 agricultural census indicates that the main products in the Edenvale area (which includes the project area) were hay, grains and livestock (Theodoratus 1979:127).

The first division of *Rancho Yerba Buena* into small farms occurred in the 1850s. The project area was included in 3,000 acres on the western part of *Rancho Yerba Buena* that was first conveyed to Mariano Guadalupe Vallejo who subsequently sold it to Estevan Castro of Monterey in 1857. Castro sold the property for $5,000 to John C. Piercy in 1859 for $5,000 (Santa Clara County Recorder 1859:Deeds M:468, 470-471). During the 50 or so years of Piercy family ownership, the hilly portions of the ranch were primarily used for cattle grazing, while they grew hay, grain, and barley on the flat bottom land.

In 1860, Piercy sold 200 of the 3,000 acres to Jacob A. Morenhout for $ 1,000. The remaining 2,800 acres of Piercy's land was used primarily for cattle grazing. John Piercy, his wife Mary, and their four sons (Samuel, Edward, Andrew and David) had moved to California in 1849, and lived in San Francisco during the 1850s. They lived on their Santa Clara County ranch from 1860 to 1866, then returned to San Francisco. John Piercy is listed in the San Francisco Directories variously as a farmer, real estate broker and capitalist.

After John Piercy died in an accident at his San Francisco home in 1885, his heirs became embroiled in five years of legal conflict over the his estate, including his Santa Clara County ranch. The courts eventually divided the Piercy Ranch into four parcels of equal value for each of the litigants. Edward Piercy received Tract #2 of the Piercy Ranch subdivision. In 1896, a section of Andrew Piercy's Tract #1 was sold to James Bean who divided it into the Fontanoso

Tract of fourteen 20 to 30 acre lots, the first subdivision of the original Piercy Ranch into smaller lots. The project area, adjacent to the Fontanoso Tract, was part of the 699 32/100-acre Lot 1 of the partition of Piercy lands, surveyed by A.T. Herrmann between October 1889 and February 1890 (Herrmann 1890). This portion of Lot 1 became the E. M. Piercy Subdivision which was divided into seventeen 8 to 11 acre parcels (Santa Clara County Recorder 1906:Recorded Map L:51; see also Theodoratus 1979:134, Appendix C, Map 15). Edward Piercy sold the first lot in his subdivision in December, 1906. The other lots were subsequently sold over the next 10 to 15 year period. 484 Piercy Road is located on Lot 10 and 550 Piercy Road is located on Lot 12 of the original subdivision.

The subdivision of the Andrew and Edward Piercy tracts into small farms heralded a new era of agricultural land use in the area. In the early 20th century, these smaller parcels became fruit orchards operated as family farms. Apparently, even some of the larger parcels in Edenvale were now planted with apricots and prunes. A 1929 aerial indicates that all of the Fontanoso and Piercy subdivisions were cultivated with fruit orchards (Theodoratus 1979:137). By 1922, the Santa Clara Valley had become one the most important fruit producing regions in the state (Sawyer 1922:135).

The predominant crop in the project area continued to be fruit until the 1960s when agricultural increasing moved to the Central Valley. Many orchards in the Edenvale area attacked by an oak fungus were also removed. Most of the original orchards in the Piercy subdivision have been removed, or the trees are not attended. To a limited extent, flower raising in greenhouses replaced fruit raising as an economic livelihood. In the 1970s, the project area became a redevelopment area. In recent years, light industrial development has increasingly replaced what remains of the early 20th century small farms and ranches in the project area.

484 Piercy Road (Lot 10)

Sometime shortly after his arrival in Santa Clara County in 1906 at age 22, Lot 10 was acquired by Emilio Pezzolo, a native of Italy. Emilio married Mary Ferretti and the couple had three sons and three daughters. Emilio was listed alternatively as a farmer or rancher in public records and at least part of the property was an orchard. Emilio lived on Piercy Road until his death in 1949 (*San Jose Mercury* 8/8/1949).

By 1954, the property had been sold to Frank W. and Eva Coupland who lived there until 1960. Coupland was the grandson of James Shermantine, who settled in the Almaden Valley in 1857.

550 Piercy Road (Lot 12)

The earliest development on Lot 12 was by John David Guerraz who acquired the property in 1905 [sic]. Guerraz was the son of John D. Guerraz, Sr., a native of Switzerland who was the overseer of a plantation in Louisiana where John Jr. was a born in 1845. Guerraz Sr. decided to immigrate to Oregon in 1848, but upon hearing of the discovery of gold joined a wagon train to California. After two years in Placerville, the family moved to the Santa Clara Valley settling on a ranch on Los Gatos Creek. He sold this property to Hugh A. Leigh in 1870 and brought a league of land on *Rancho Canada de Pala*, above Alum Rock Park. He divided this property between his three sons, John D. Jr., Henry , and Will, in 1881 (Ogier 1957).

John D. Guerraz Jr. married Sophronia Breakfield in 1873 and they had three children: George, Maude and Mabel, who was born in 1879. Guerraz was an orchardist in the Union District during the 1890s; also engaging in general farming, and stock raising. After 1906, he was a rancher living on Piercy Road (Great Registers 1890, 1892; City Directory 1905-06).

The construction date of the residence home on the knoll overlooking Coyote Creek on Lots 12, 13, 14, and 15 (approximately 40-acres) of the Piercy subdivision was not determined. It could have been built in 1906 by John Guerraz; however, it would have been a early example of this style. John Jr. was living at this location until the time of his death in 1932 at the age of 87. He left a widow, his second wife Alice L. Guerray, Sophronia having passed away previously. His daughter Mabel and her husband John B. Ogier, who had married in 1907, had also taken up residence at this location by this time (Ogier 1957; *San Jose Mercury* 12/21/1932; 12/5/1966).

John Branham Ogier was the oldest son of James H. Ogier and Margaret Branham. A native of Baltimore, Maryland, James H. Ogier settled in Santa Clara County in 1851 and had a 300-acre ranch on N. First Street. Engaging at first in general farming, he set out one of the first orchards in this district and also engaged in stock farming and dairy farming. Margaret Branham Ogier was the daughter of pioneer Isaac Branham. The Branhams came overland in the same wagon train as the Donners; however, they were in that portion of the party that did not take fateful "shortcut" taken by the Donner Party. Branham settled in San Jose in 1847 and was one of its leading citizens after California was ceded to the United States. Just five years old on the overland trip, Margaret was one of the first students of the Sisters of Notre Dame. She married James Ogier in 1866. Upon her husband's death in 1883, Margaret superintended the management of the ranch with the help of her sons. John Branham Ogier took over the management of the family's orchards (Foote 1888; Guinn 1904).

Having acquired title to the property by 1933, John and Mabel Ogier continued to reside on the project parcel. If the house was constructed by the Ogiers in 1933 to replace an older home, it would be a late example of the Craftsman style. It is also possible that a new home, perhaps larger, was built at some point earlier when the Ogiers moved onto the property with John Guerray Jr. A retired orchardist, John Ogier died at the age of 80 in 1949 (*San Jose Mercury Herald* 12/9/1949). His widow lived at the Piercy Road home until 1957 and when she moved to San Jose. She died at the age of 87 in 1966 (*San Jose Mercury* 12/5/1966). The Ogiers did not have any children. The orchard on the property was removed in the 1970s.

HISTORIC EVALUATION

All the buildings that have an age exceeding 50 years were evaluated according to the criteria for the California Register of Historical Resources and the City of San Jose's criteria for historical significance. California State Historic Resource Inventory forms (DPR 523) and City evaluation forms were completed for each property (see Attachments).

California Register of Historical Resources

The California Environmental Quality Act (CEQA) defines "a project that may cause a substantial adverse change in the significance of an historic resource is a project that may have a significant effect on the environment." A historic resource is defined as a resource listed in, or determined eligible for listing in, the California Register of Historical Resources.[5] Consequently, a historic resource eligible for the California Register would by definition be an historic resource for purposes of CEQA compliance. The Final Guidelines for nominating resources to the California Register were published January 1, 1998. Under the regulations, a

5. California State Assembly, Assembly Bill 2881, Frazee, 1992. An Act to Amend Sections 5020.1, 5020.4, 5020.5, 5024.6 and 21084 of, and to add Sections 5020.7, 5024.1, and 21084.1 to, the Public Resources Code, relating to historic resources.

number of historic resources are automatically eligible for the California Register if they have been listed under various state, national or local historic resource criteria.[6]

The use of the phrase ". . . appears potentially eligible or not eligible" for the California Register is standard practice in an evaluation discussion. Only the State Office of Historic Preservation can make an actual determination of eligibility for the California Register. In order for a resource to be eligible for the California Register, it must satisfy all of the following three criteria:

1. A property must be significant at the local, state or national level, under one or more of the following four criteria of significance (these are essentially the same as National Register criteria with more emphasis on California history):

   a. the resource is associated with events or patterns of events that have made a significant contribution to the broad patterns of local or regional history and cultural heritage of California or the United States.
   b. the resource is associated with the lives of persons important to the nation or to California's past.
   c. the resource embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of a master, or possesses high artistic values.
   d. the resource has the potential to yield information important to the prehistory or history of the state or the nation (this criteria applies primarily to archaeological sites).

2. the resource retains historic integrity (defined below); and,

3. it is 50 years old or older (except for rare cases of structures of exceptional significance).

The California Register regulations define "integrity" as ". . . the authenticity of a property's physical identity, evidenced by the survival of characteristics that existed during the property's period of significance," that is, it must retain enough of its historic character or appearance to be recognizable as an historical resource. Following the National Register integrity criteria, California Register regulations specify that integrity is a quality that applies to historic resources in seven ways: location, design, setting, materials, workmanship, feeling and association.[7] A property must retain most of these qualities to possess integrity.

<u>484 Piercy Road</u>

The historic integrity of the Pezzolo farm house has been fairly compromised by a major later addition and remodeling. Even if it retained a higher level of integrity, the house is a typical example of its type in this area of Santa Clara Valley. Many better examples of this type of ranch/farm house survive in this area. The other outbuildings, the tank house and equipment shed, are also typical examples of their type. The integrity of the equipment shed has been

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6. This aspect of the California Register criteria is not relevant to the buildings since they have not been previously listed under any historic resource designations.

7. The definition of integrity under the California Register follows National Register of Historic Places criteria. Detailed definitions of the qualities of historic integrity are in National Register Bulletin 15, *How to Apply National Register Criteria for Evaluation*, published by the National Park Service.

compromised by many later alterations. The deteriorated conditions of the outbuildings on the property has also compromised their historic integrity. The Pezzolo farm does not appear to be significant in the history of ranching and agriculture in this area. The members of the Pezzolo family also do not appear to have been significant figures in local history. In conclusion, the Pezzolo house and related outbuildings do not appear to be eligible for the California Register because they lack historic integrity and they do not appear to be significant under Criteria A, B and C.

550 Piercy Road

The historic integrity of the Guerraz/Ogier farm house may have been compromised by later additions and remodeling. The house is, nevertheless, a particularly large example of a Craftsman Style house in this area of Santa Clara Valley. However, the house does not appear to be a sufficiently unique example of ranch/farm house in this style to be eligible for the California Register under Criterion C. More distinguished examples of houses in this style survive in south San Jose. The tank house is also a typical example of its type and its condition is fairly deteriorated. The loss of other outbuildings undoubtedly originally on this property has also compromised its overall historic integrity. Although James H. Ogier was an early pioneer in San Jose, it does not appear as though his son, John, was of any particular historic significance in the San Jose area. The Guerraz/Ogier farm on Piercy Road does not appear to be significant in the history of ranching and agriculture in this area. The members of the Guerraz family also do not appear to have been significant figures in local history. In conclusion, the Guerraz/Ogier house and tank house do not appear to be eligible for the California Register because they lack historic integrity and they do not appear to be significant under Criteria A, B and C.

City of San Jose Historic Resources Inventory

The City of San Jose's Historic Preservation Ordinance defines structures of historical value based on the following factors:

1. Identification or association with persons, eras or events that have contributed to local, regional, state and national history, heritage or culture in a distinctive, significant or important way;

2. Identification as, or association with:

   a. a distinctive, significant or important work or vestige:
   b. an architectural style, design or method of construction;
   c. a master architect, builder, artist or craftsman;
   d. high artistic merit;
   e. the totality of which comprises a distinctive, significant or important work or vestige whose component parts may lack the same attributes;
   f. . . . has yielded or is substantially likely to yield information of value about history, architecture, engineering, culture or aesthetics, or that provides for existing and future generations an example of the physical surroundings in which past generations lived or worked; or
   g. the construction materials or engineering methods used in the proposed landmark are unusual or significant or uniquely effective.

3. The factor of age alone does not necessarily confer a special historical architectural, cultural aesthetic or engineering significance, value or interest upon a structure or site, but it may have such effect if a more distinctive, significant or important example thereof no longer exists.

The San Jose Historical Landmarks Commission has established a process by which historical resources are evaluated for significance. A numerical evaluation system has been devised establishing the following categories of significance:

67-134	Candidate City Landmark
33-66	Structure of Merit
33-66	Contributing Structure to an Historic District
0-32	Non-significant

484 Piercy Road

The house at 484 Piercy Road received a score of 16.88 points (see Attachments, Record Form). This score does not qualify the building for listing in the City of San Jose Historic Resources Inventory.

550 Piercy Road

The Craftsman Style house at 550 Piercy Road received a score of 38.45 points. The score qualifies the building for listing as a "Structure of Merit" in the City of San Jose Historic Resources Inventory.

IMPACTS ON THE HISTORIC RESOURCE FROM THE PROPOSED PROJECT

CEQA Guidelines define a "significant effect" as a project that will " . . . eliminate important examples of the major periods of California history or prehistory" or "disrupt or adversely affect a prehistoric or historic archeological site or a property of historic or cultural significance to a community or ethnic or social group." Generally, any project that leads to a "substantial adverse change" such as " . . . demolition, destruction, relocation, or alteration that would impair the significance of the historic resource" is the equivalent of a significant environmental effect.

The *San Jose General Plan* (Horizon 2000 General Plan 1990, 1996) goal and policies for Historic, Archaeological and Cultural Resources recognizes the irreplaceable nature of cultural properties and requires that preservation should be a key consideration in the development review process.

For purposes of this project, a significant effect would occur if the project would have an effect on one or more properties listed on, or potentially eligible for inclusion on the California Register of Historical Resources (CRHR), as a California Historical Landmark (CHL), as a California Point of Historical Interest (CPHI) or, at the local level, the City of San Jose Historic Resources Inventory. Such an effect could occur through demolition of or other substantial adverse change to an individually listed or eligible property, those properties contributory to a district or through the implementation of other adverse effects as a whole in a manner such that the district's integrity could be compromised or its eligibility diminished.

Impact 1.1-1: Under the proposed project, the buildings at 485 and 550 Piercy Road will be demolished.

IMPACTS EVALUATION

484 Piercy Road

The complex of buildings at 484 Piercy Road does not appear to be eligible for the California Register of Historical Resources. The complex also does not appear to qualify for listing on the City of San Jose Historic Resources Inventory using the evaluation scoring criteria developed by

the San Jose Historical Landmarks Commission. Consequently, the proposed demolition will not affect any listed, or potentially eligible California Register of Historical Resources properties. Under CEQA guidelines, no further management is necessary and no mitigation measures are recommended.

550 Piercy Road

The complex of buildings at 550 Piercy Road does not appear to be eligible for the California Register of Historical Resources. The complex appears to qualify for listing as a "Structure of Merit" on the City of San Jose Historic Resources Inventory using the evaluation scoring criteria developed by the San Jose Historical Landmarks Commission. The proposed demolition will not affect any listed, or potentially eligible California Register of Historical Resources properties. Under CEQA guidelines, no further management is necessary and no mitigation measures are recommended. In regard to the City of San Jose, no mitigation measures beyond recordation are expected for a "Structure of Merit". However, consistent with the goal and policies of the San Jose General Plan in regard to historic properties to be affected by development, it is appropriate that the following measure be considered to mitigate the removal of the buildings.

Documentation Recommended

Provide copies of the evaluation report and evaluation form(s) for 484 and 550 Piercy Road to a historical archive or history collection accessible to the general public (e.g, California Room, City of San Jose Martin Luther King, Jr. Library; History Museums of San Jose archives, etc.).

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ATTACHMENTS

FIGURES

Figure 1	General Project Location
Figure 2	Project Location (USGS San Jose East, Calif. 1980 and Santa Teresa Hills, Calif. 1980)
Figures 3	Proposed Hellyer Avenue Extension (San Jose Department of Public Works 1998:P-1)

FORMS

Form 1	484 Piercy Road - Primary Record/Building, Structure and Object Record & City Of San Jose Historic Evaluation Scoring Sheet
Form 2	550 Piercy Road - Primary Record/Building, Structure and Object Record & City Of San Jose Historic Evaluation Scoring Sheet

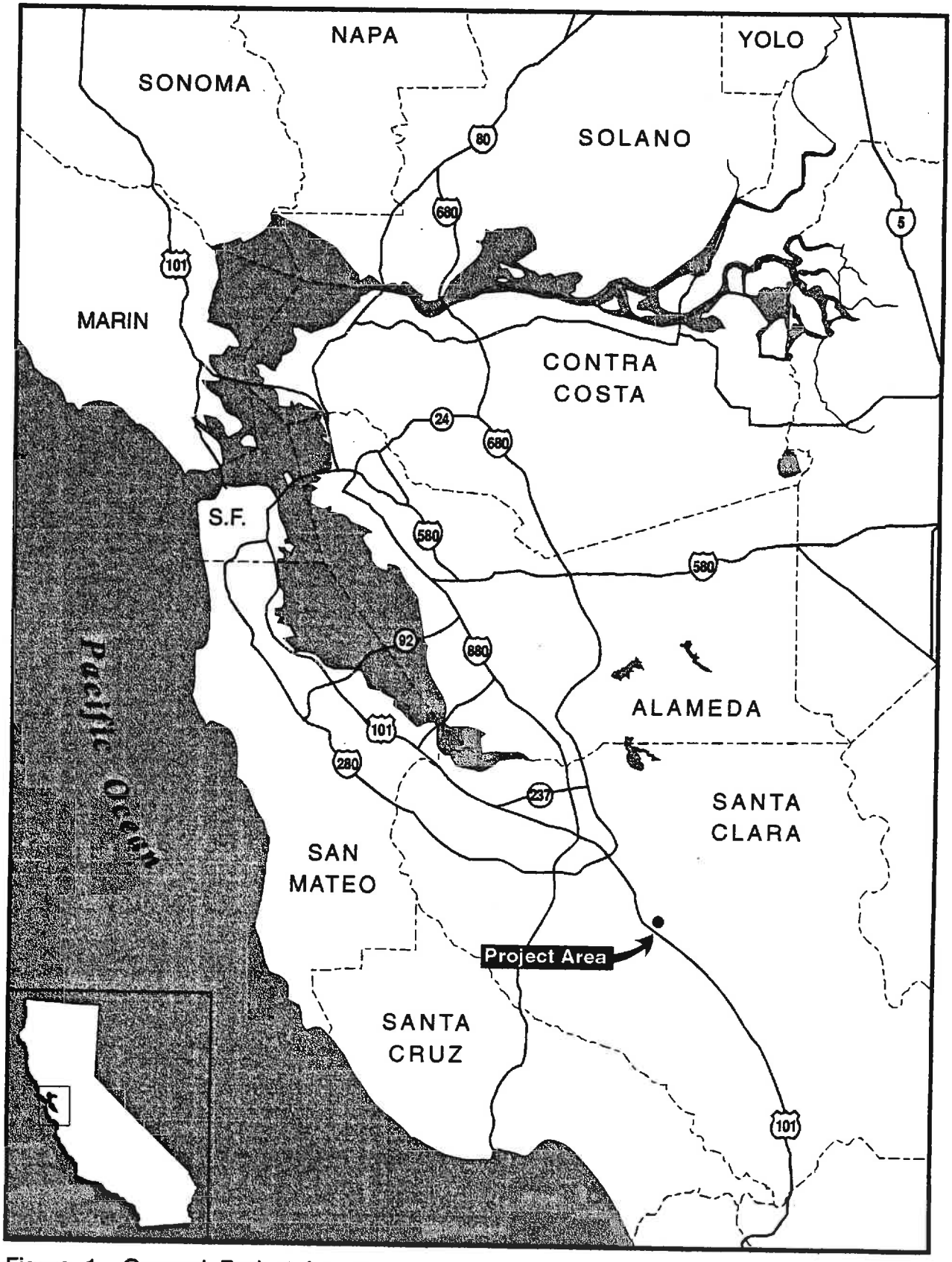


Figure 1: General Project Location

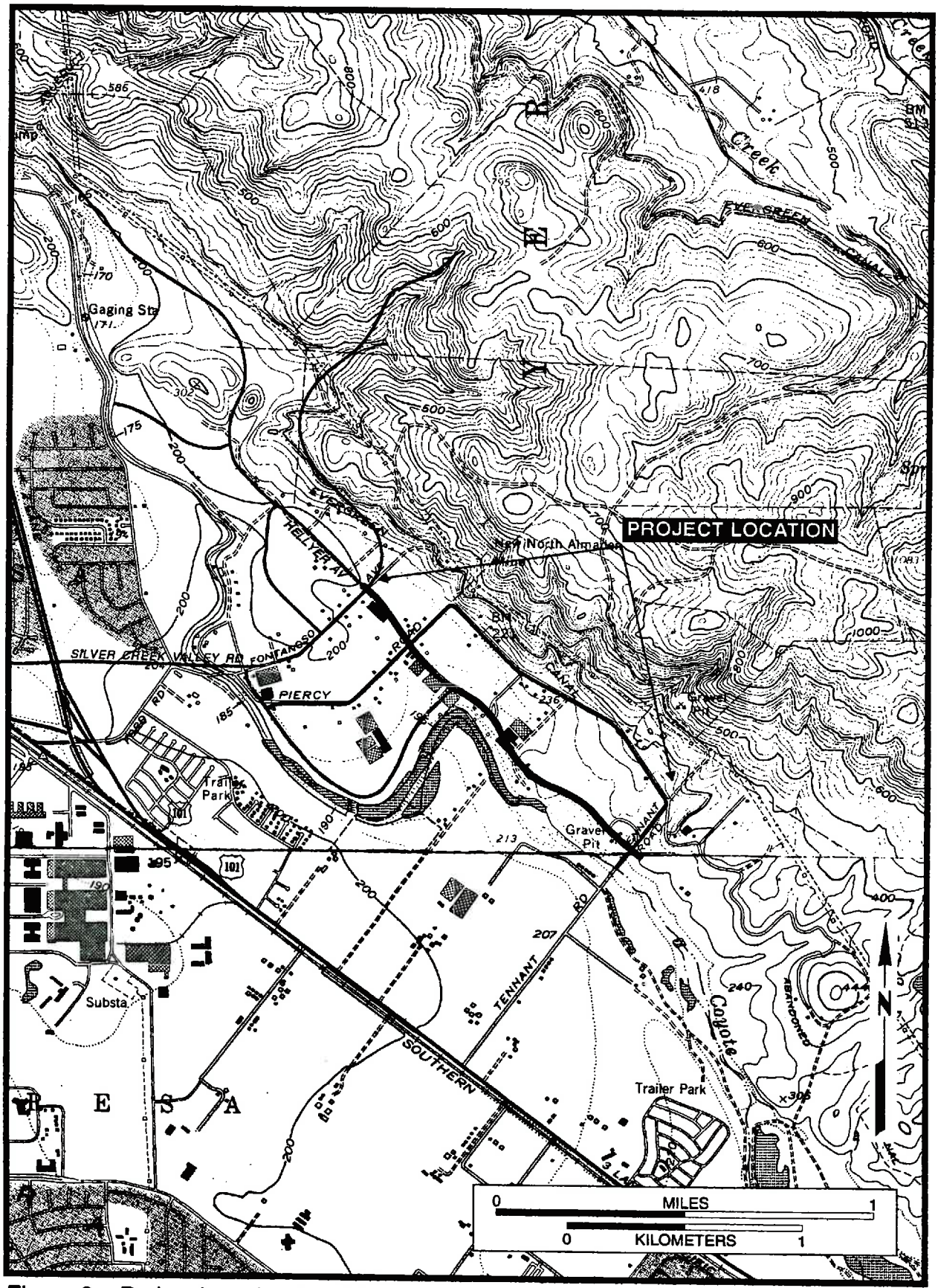


Figure 2: Project Location (USGS San Jose East, Calif. 1980 and Santa Teresa Hills, Calif. 1980)

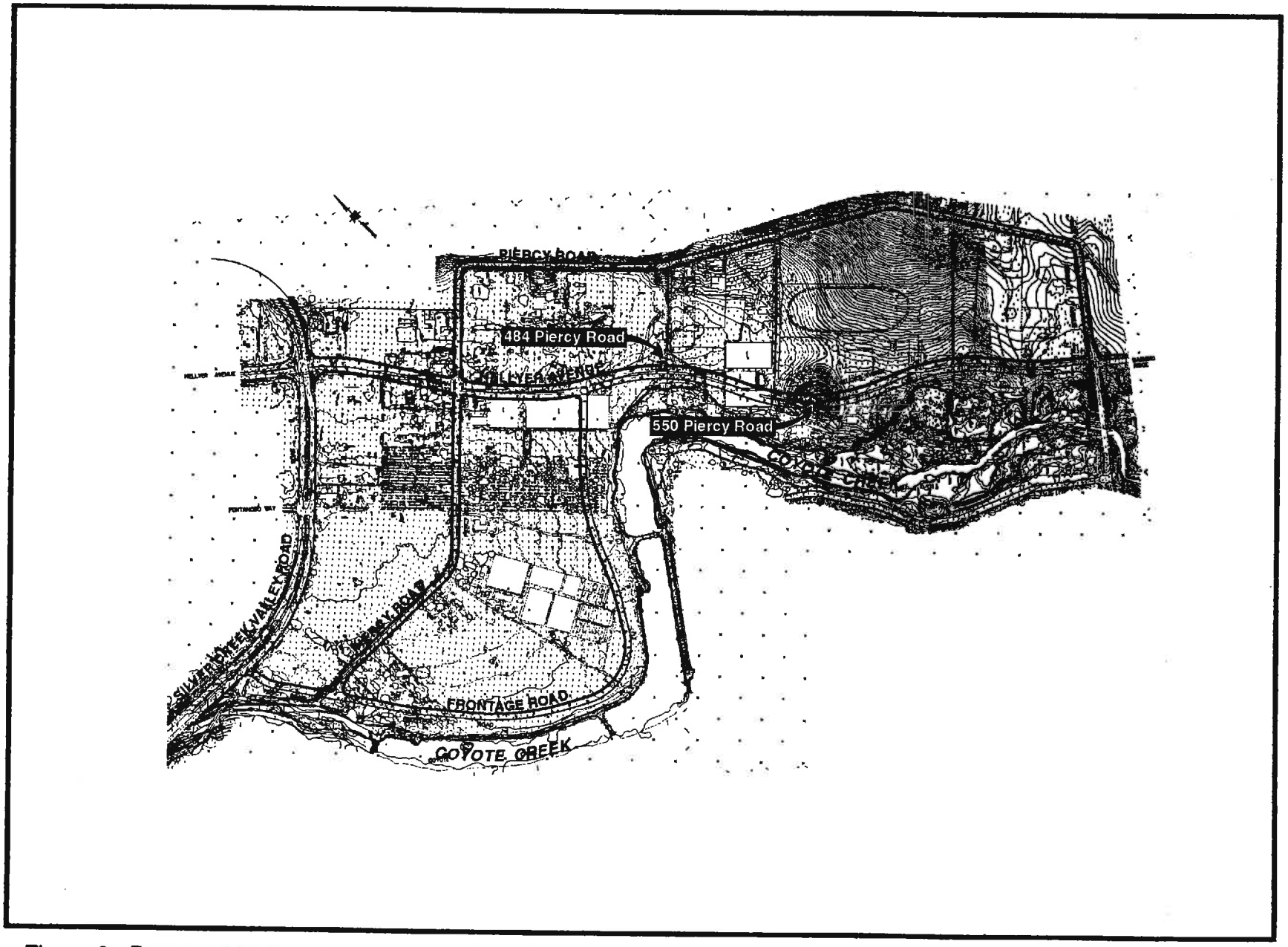


Figure 3: Proposed Hellyer Avenue Extension (San Jose Department of Public Works 1998:P-1)

State of California – The Resource s Agency
DEPARTMENT OF PARKS AND RECREATION

PRIMARY RECORD

Primary #_____
HRI #_____
Trinomial_____
NRHP Status Code_____

Other Listings
Review Code _____Reviewer _____Date_____

Page 1 of 9 *Resource Name or #: 484 Piercy Road

P1. Other Identifier: NA

*P2. Location: Not for Publication Unrestricted X *a. County Santa Clara

and (P2b and P2c or P2d. Attach a Location Map as necessary)

b. USGS 7.5' Quad San Jose East Date 1980 T8S ; R 2E ; Unsectioned ; B.M.

c. Address 484 Piercy Road City San Jose Zip 95138

d. UTM: Zone ; mE/ mN

e. Other Location Data: (e.g. parcel #, directions to resource, elevation, etc. as appropriate)
The three houses and barn on the parcel are arranged near a dirt road cul-de-sac. This parcel is the western half of the original 10-acre Lot 10 in the 1906 E.M Piercy subdivision of 17 lots.

*P3a. Description (Describe the resource and its major elements. Include design, materials, condition, alterations, size, setting & boundaries):

This complex of three buildings includes a house, a tank house and a storage shed. The generally flat site has several small trees and shrubs in the vicinity of the buildings. The single-story, rectangular plan, Bungalow style house has a front gable roof with a rear hipped section and a off-center, front, projecting gabled porch. The rear-hipped section appears to be a later addition (see continuation sheet).

*P3b. Resource Attributes: HP2, HP33

*P4. Resources present: X Building ____Structure____ Object ___ Site __District__ Element of District___ Other

P5a. Photo or Drawing

SEE CONTINUATION SHEET

P5b. Description of Photo:

*P6. Date Constructed/Age and Sources: X Historic ____Prehistoric _____Both ___c.1906___

*P7. Owner and Address

*P8. Recorded by: (Name, affiliation, and address) Glory Ann Laffey, Archives & Architecture, San Jose, CA 95123

*P9. Date Recorded February, 1999

*P10. Survey Type: (Describe)
Intensive

*P11. Report Citation (Cite survey report and other sources, or enter none)

Historic Evaluation Report Hellyer Avenue Extension, 484 and 550 Piercy Road, City of San Jose, Santa Clara County, California (February 1999)

Attachments: ____NONE X Location Map X Sketch Map X Continuation Sheet X Building, Structure and Object Record X Archaeological Record __ District Record____ Linear Feature Record____ Milling Station Record _____Rock Art Record _____ Artifact Record _____ Photograph Record _____ Other (List)

State of California – The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

Primary #_____
HRI #_____

BUILDING, STRUCTURE AND OBJECT RECORD

*NRHP Status Code 6x

Page 2 of 9 *Resource Name or # (assigned by recorder) 484 Piercy Road

B1. Historic Name: NA
B2. Common Name: NA
B3. Original Use: Farm B4. Present Use Residential
*B5. **Architectural Style:** Bungalow
*B6. **Construction History:** (Construction date, alterations, and date of alterations)
484 Piercy Road dates from c. 1906. The rear, hipped roof section appears to be a later addition. The garage/equipment shed has modern front and rear additions.
*B7. **Moved?** X No __ Yes __ Unknown **Date:** NA **Original Location:** NA

*B8. **Related Features:** trees

B9a. Architect NA b. Builder: NA

*B10. **Significance: Theme** Agriculture **Area** Santa Clara Valley
Period of Significance 1906-1940 **Property Type** Farm **Applicable Criteria** A
(Discuss importance in terms of historical or architectural context as defined by theme, period and geographic scope. Also address integrity.)

(see continuation sheet)

B11. Additional Resource Attributes: (List attributes and codes) HP2 - House; HP 33 -Farm

*B12. **References:**

Breschini, G.S. R. Edwards, T. Haversat et. al. *Hellyer Avenue South - An Intensive Cultural Resource Reconnaissance*, 1978. Report prepared for the Gavilan Foundation.
Obituary of Emilio Pezzolo, *San Jose Mercury* 8/8/1949
Official Historical Atlas of Santa Clara County, 1878, Thompson & West.
Official Maps of Santa Clara County: 1890 ; 1903; 1914, 1929.
San Jose City Directories, 1910-1935.
Theodoratus Cultural Research, *Cultural Resources Evaluation: Edenvale Redevelopment Project Area Expansions.* 1979.

B13. Remarks:
*B14. **Evaluator** Glory Ann Laffey, Historian & Ward Hill

*Date of Evaluation: February, 1999

(This space reserved for official comments)

Sketch map with north arrow required

* Required information

Item P3a. continued:

The house has a perimeter concrete foundation and stud-wall construction. The exterior walls are covered with channel rustic siding. The roof, covered with asphalt shingles, has shallow eaves with exposed rafters. The windows are wood-sash, one over one, double-hung. A number of the windows on the side facades have been partially filled in and replaced with smaller, aluminum frame sliders. The front entrance porch has dentils around the roof perimeter, chamfered columns and turned balusters that appear to have been recycled from an earlier house. A small, back porch is below an extension of the rear roof.

Adjacent to the rear of the house is the wood-frame, square plan tank house with a flat roof. The battered exterior walls are covered with rustic siding and corner boards. The tank house has wooden doors on the east and west facades. The north facade has first and second level double-hung windows. The wood-frame garage and equipment shed is a rectangular plan, single story building covered with horizontal wood siding. The side gable roof is covered with corrugated metal. The building has two, sliding wooden doors on the front facade. A wood-frame, gabled addition covered with plywood extends from the front facade. A shed roof rear addition is covered with corrugated metal.

Item B10. continued:

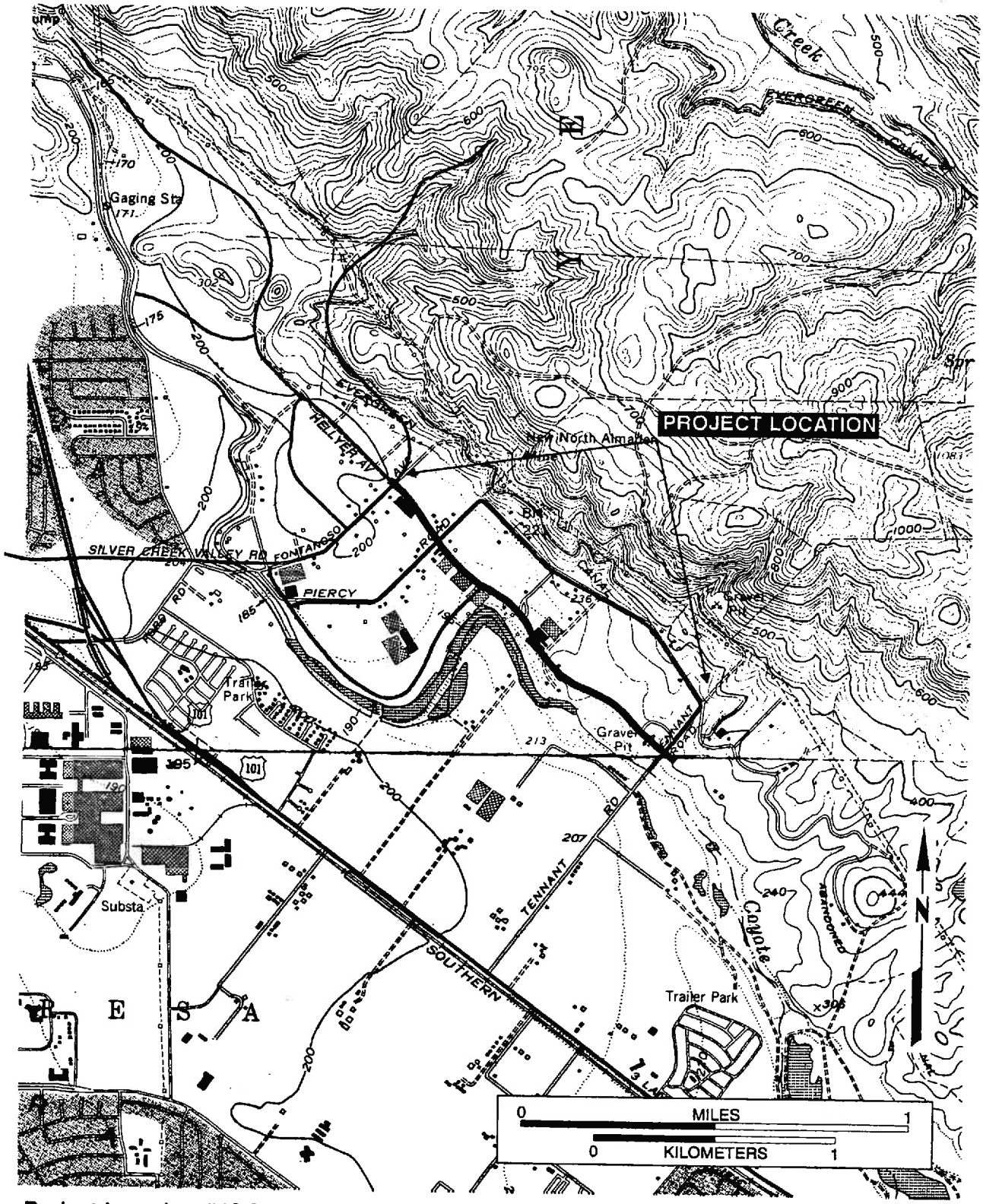
Sometime shortly after his arrival in Santa Clara County in 1906 at age 22, Lot 10 was acquired by Emilio Pezzolo, a native of Italy. Emilio married Mary Ferretti and the couple had three sons and three daughters. Emilio was listed alternatively as a farmer or rancher in public records and at least part of the property was an orchard. Emilio lived on Piercy Road until his death in 1949 (*San Jose Mercury* 8/8/1949). By 1954, the property had been sold to Frank W. and Eva Coupland who lived there until 1960. Coupland was the grandson of James Shermantine, who settled in the Almaden Valley in 1857.

The historic integrity of the Pezzolo farmhouse has been fairly compromised by a major later addition and remodeling. Even if it retained a higher level of integrity, the house is a typical example of its type in this area of Santa Clara Valley. Many better examples of this type of ranch/farm house survive in this area. The other outbuildings are also typical examples of their type. The integrity of the equipment shed has been compromised by many later alterations. The deteriorated conditions of the outbuildings on the property has also compromised their historic integrity. The Pezzolo farm does not appear to be significant in the history of ranching and agriculture in this area. The members of the Pezzelo family also do not appear to have been significant figures in local history. In conclusion, the Pezzolo house and related outbuildings do not appear to be eligible for the California or National Register because they lack historic integrity and they do not appear to be significant under Criteria A, B and C.

State of California – The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary #
HRI #
Trinomial

*Resource Name or # (Assigned by recorder) 484 Piercy Road
*Recorded by:
*Date: February 1999 X Continuation Update



Project Location (USGS San Jose East, Calif. 1980 and Santa Teresa Hills,Calif. 1980)

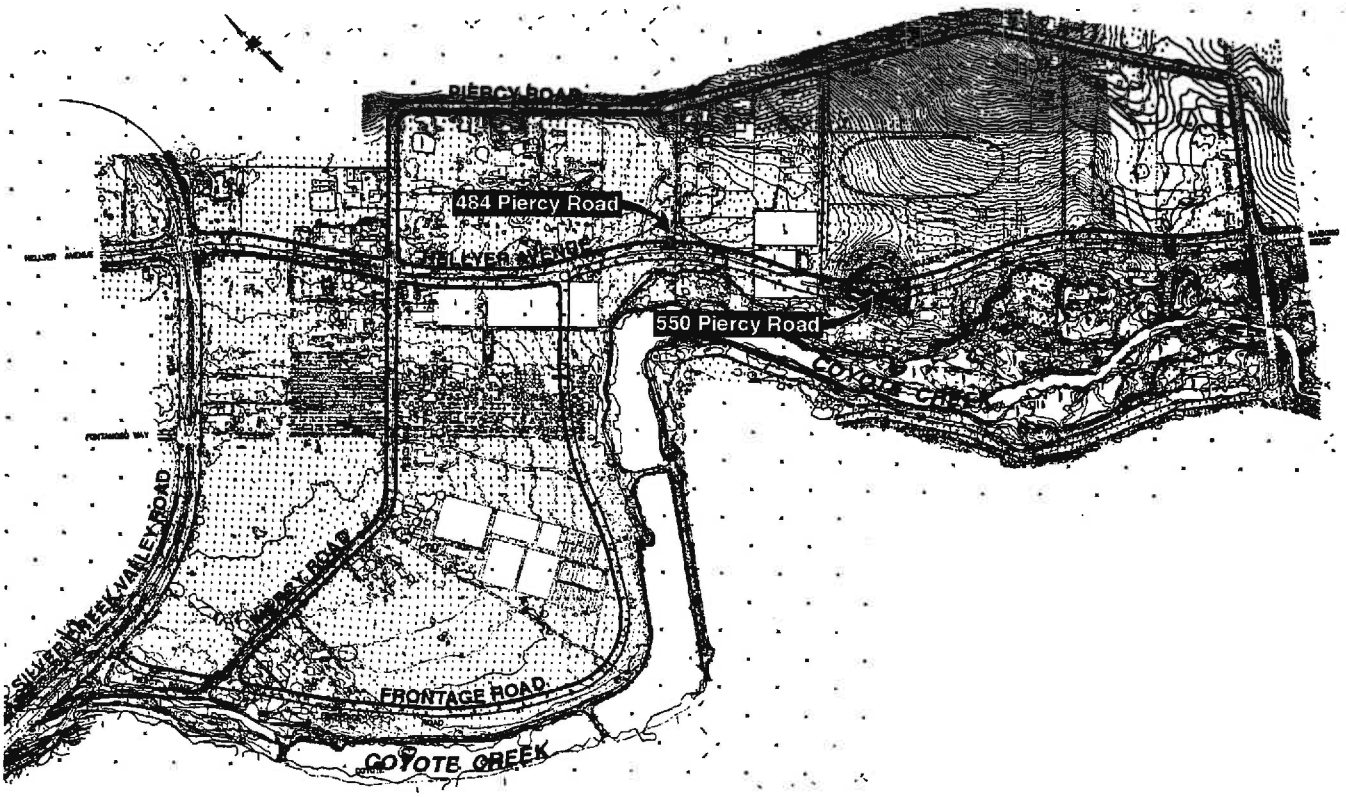
NOTE: Include bar scale and north arrow

* Required information

State of California – The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
SKETCH MAP

Primary #
HRI #
Trinomial

*Resource Name or # (Assigned by recorder) 484 Piercy Road
*Recorded by:
*Date: February 1999 X Continuation Update



Proposed Hellyer Avenue Extension (San Jose Department of Public Works 1998:P-1)

NOTE: Include bar scale and north arrow

* Required information

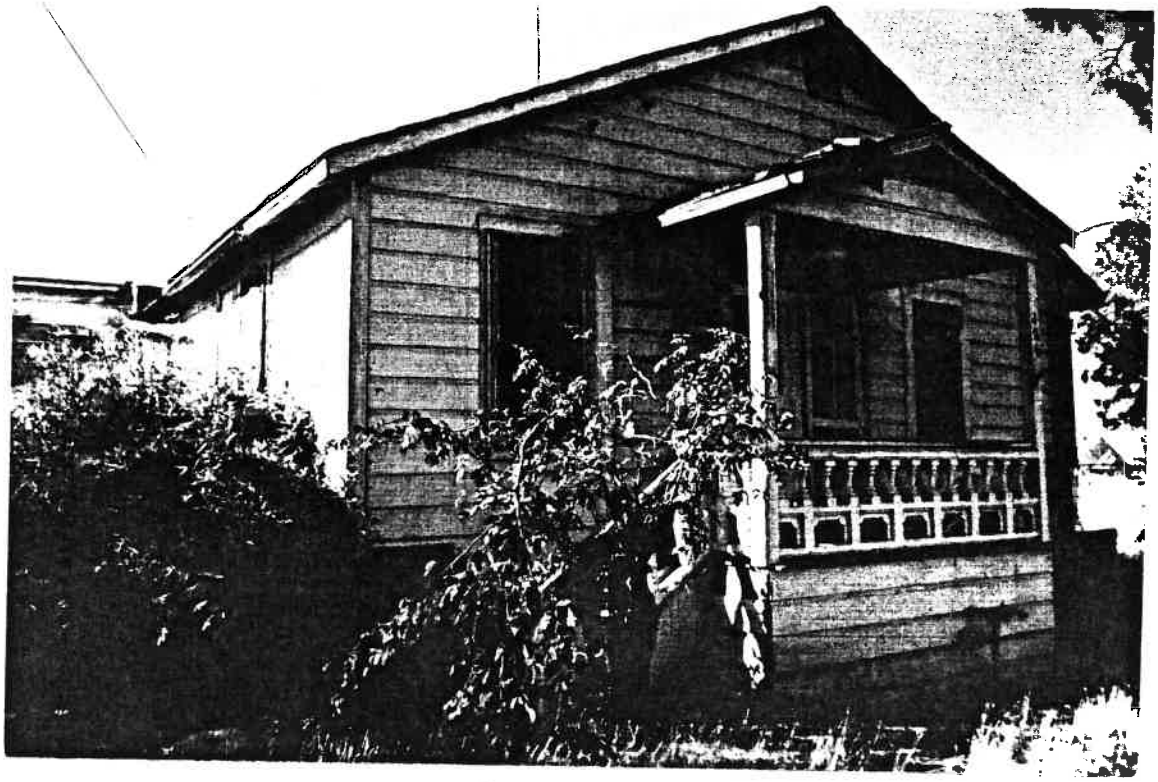


Photo 1: House - 484 Piercy Road

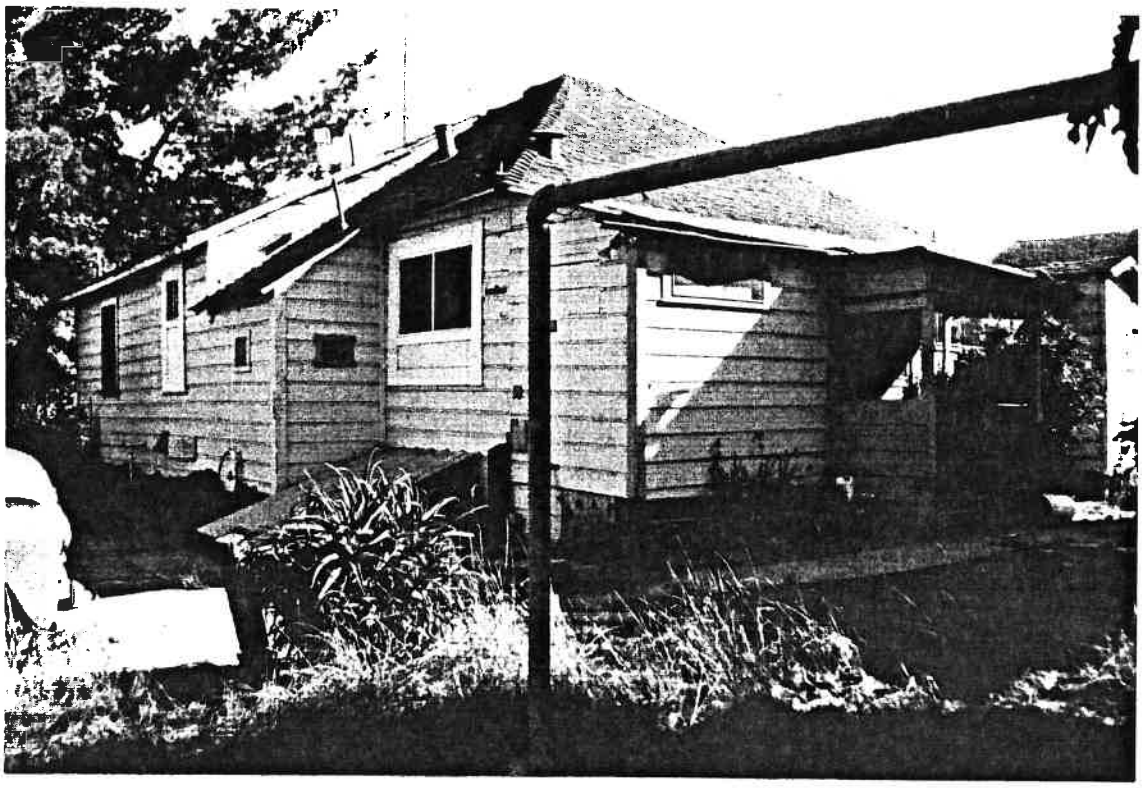


Photo 2: House - 484 Piercy Road
(view from side and back facades)

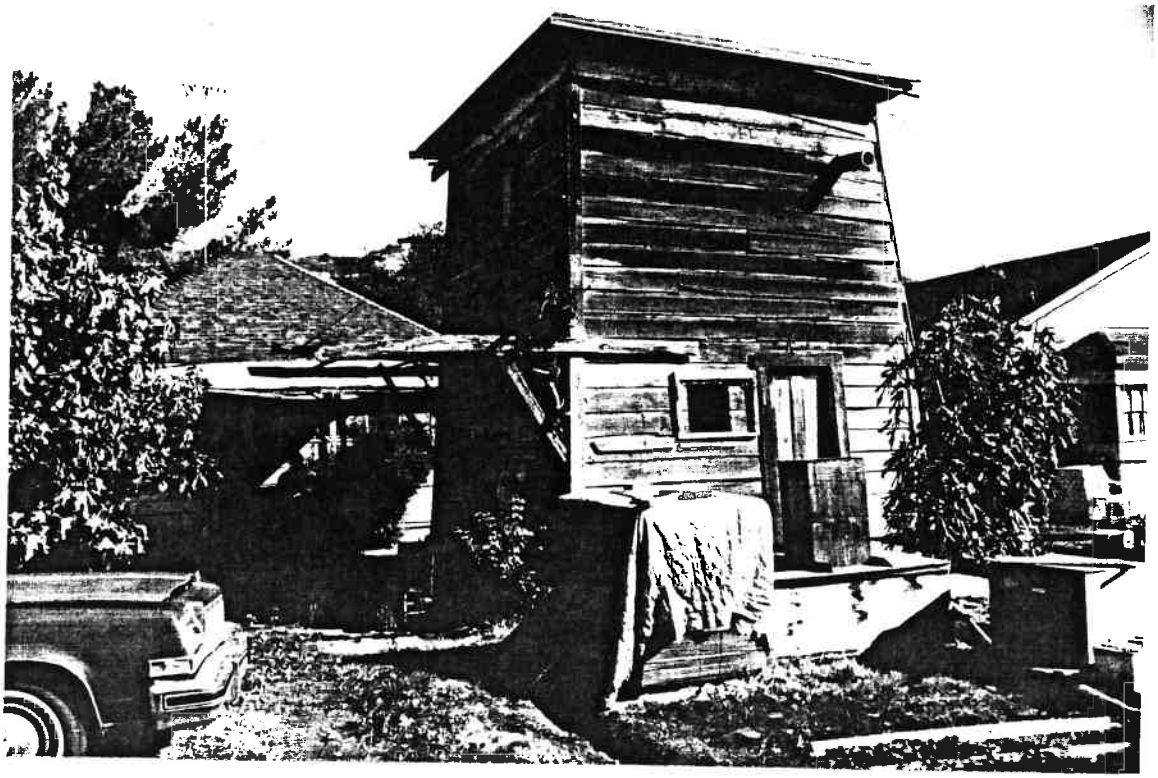


Photo 3: Tank House - 484 Piercy Road

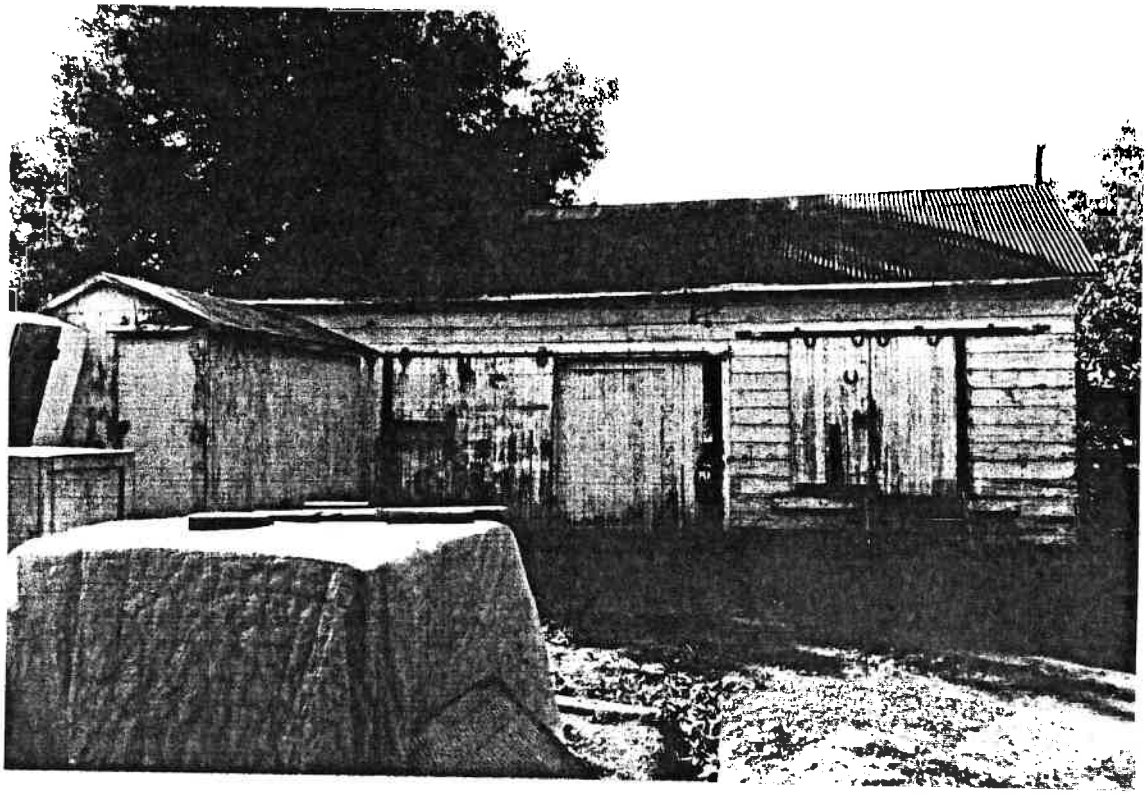


Photo 4: Garage/Equipment Shed - 484 Piercy Road

HISTORIC EVALUATION SHEET

HISTORIC RESOURCE NAME: 484 Piercy Road

A.	**VISUAL QUALITY/DESIGN**					
1.	EXTERIOR typical, modest	E	VG	G	(FP)	
2.	STYLE Bungalow	E	VG	G	(FP)	
3.	DESIGNER not known	E	VG	G	(FP)	
4.	CONSTRUCTION wood frame	E	VG	G	(FP)	
5.	SUPPORTIVE ELEMENTS tank house, shed	E	VG	(G)	FP	
B.	**HISTORY/ASSOCIATION**					
6.	PERSON/ORGANIZATION Pezzolo	E	VG	G	(FP)	
7.	EVENT	E	VG	G	(FP)	
8.	PATTERNS Agriculture	E	VG	(G)	FP	
9.	AGE after 1906	E	VG	(G)	FP	
C.	**ENVIRONMENTAL/CONTEXT**					
10.	CONTINUITY Small farms	E	VG	(G)	FP	
11.	SETTING	E	VG	(G)	FP	
12.	FAMILIARITY	E	VG	G	(FP)	
D.	**INTEGRITY**					
13.	CONDITION	E	(VG)	G	FP	
14.	EXTERIOR ALTERATIONS major rear addition	E	(VG)	G	FP	
15.	STRUCTURAL REMOVALS	(E)	VG	G	FP	
16.	SITE	(E)	VG	G	FP	
E.	**REVERSIBILITY**					
17.	EXTERIOR rear addition changes overall form	E	VG	(G)	FP	
F.	**ADDITIONAL CONSIDERATIONS/BONUS POINTS**					
18.	INTERIOR/VISUAL not accessible	E	VG	G	(FP)	
19.	INTERIOR/HISTORY "	E	VG	G	(FP)	
20.	INTERIOR ALTERATIONS "	E	VG	G	(FP)	
21.	REVERSIBILITY/INTERIOR "	E	VG	G	(FP)	

REVIEWED BY: Ward Hill DATE: 2/16/99

EVALUATION TALLY SHEET
Part I

			VALUE			
A.	VISUAL QUALITY/DESIGN	E	VG	G	FP	
1.	EXTERIOR	16	12	6	0	0
2.	STYLE	10	8	4	0	0
3.	DESIGNER	6	4	2	0	0
4.	CONSTRUCTION	10	8	4	0	0
5.	SUPPORTIVE ELEMENTS	8	6	3	0	3
			SUBTOTAL:			3
B.	HISTORY/ASSOCIATION	E	VG	G	FP	
6.	PERSON/ORGANIZATION	20	15	7	0	0
7.	EVENT	20	15	7	0	0
8.	PATTERNS	12	9	5	0	5
9.	AGE	8	6	3	0	3
			SUBTOTAL:			8
C.	ENVIRONMENTAL/CONTEXT	E	VG	G	FP	
10.	CONTINUITY	8	6	3	0	3
11.	SETTING	6	4	2	0	2
12.	FAMILIARITY	10	8	4	0	0
			SUBTOTAL:			5
	"A" & "C" SUBTOTAL:					8
	"B" SUBTOTAL:					8
	PRELIMINARY TOTAL: (Sum of A,B, and C)					16

EVALUATION TALLY SHEET
Part II

D. INTEGRITY	E	VALUE VG	G	FP	
13. ALTERATIONS	--	(.03)	.05	.10	.03 x * = .48
14. EXTERIOR ALTERATIONS	--	(.05)	.10	.20	.05 x * = .40
	--	(.03)	.05	.10	.03 x * = .24
15. STRUCTURAL REMOVALS	(--)	.20	.30	.40	.0 x * = 0
	(--)	.10	.20	.40	.0 x * = 0
16. SITE	(--)	.10	.20	.40	.0 x * = 0

*from A, B, C Subtotals

*from A and C Subtotals

*from B Subtotal

*from A and C Subtotals

*from B Subtotal

*from B Subtotal

INTEGRITY DEDUCTIONS SUBTOTAL: 1.12

ADJUSTED SUBTOTAL: 16 - 1.12 = 14.88
(Preliminary Total minus Integrity Deductions)

E. REVERSIBILITY	E	VALUE VG	G	FP	
17. EXTERIOR	3	3	(2)	2	2

TOTAL: 2

F. ADDITIONAL CONSIDERATIONS/ BONUS POINTS	E	VALUE VG	G	FP	
18. HISTORY/ASSOCIATION OF INTERIOR	3	3	1	0	0
19. INTERIOR VISUAL QUALITY	3	3	1	0	0
20. INTERIOR ALTERATIONS	4	4	2	0	0
21. REVERSIBILITY/INTERIOR	4	4	2	0	0

BONUS POINTS SUBTOTAL: 2

ADJUSTED TOTAL (Plus Bonus Points): 16.88

484 Piercy Rd.

State of California – The Resource s Agency
DEPARTMENT OF PARKS AND RECREATION

PRIMARY RECORD

Primary #_____
HRI #_____
Trinomial_____
NRHP Status Code_____

Other Listings
Review Code _____Reviewer _____Date_____

Page 1 of 10 *Resource Name or #: 550 Piercy Road

P1. Other Identifier: NA
*P2. Location: Not for Publication Unrestricted X *a. County Santa Clara
and (P2b and P2c or P2d. Attach a Location Map as necessary)
b. USGS 7.5' Quad San Jose East Date 1980 T8S ; R 2E ; Unsectioned ; B.M.
c. Address 550 Piercy Road City San Jose Zip 95138
d. UTM: Zone ; mE/ mN
e. Other Location Data: (e.g. parcel #, directions to resource, elevation, etc. as appropriate)
Located on the west side of the eastern leg of Piercy Road. 550 Piercy Road is in center of the proposed alignment. The parcel is on Lot 12 in the 1906 E.M. Piercy subdivision of 17 lots.

*P3a. Description (Describe the resource and its major elements. Include design, materials, condition, alterations, size, setting & boundaries):

The buildings on this property include a house and a tank house. The generally level site has several shrubs and large trees in the vicinity of the buildings, including an old oak tree near the south side. The rectangular plan, single story, single-family house has a side gable roof with a cross gable. A projecting gabled porch intersects the cross gable at the house's southeast corner. The house is stud-wall, wood-frame construction on a perimeter concrete foundation. The exterior walls are covered with rustic siding and the roof is covered with asphalt shingles. The roof has broad eaves with side-exposed rafters and large brackets at the end gables. The house has tripartite, double-hung windows on the east and south facades; the top sash of these windows is divided into diamond shaped lights. The windows on the west and north facades are one over one, double-hung. A low wall and screens now enclose the originally open rear porch. A recessed porch at the northeast corner of the house has also been similarly enclosed. The main, open entrance porch projects from and wraps around the southeast corner of the house. The gabled porch roof has wide eaves with exposed rafters. The roof is supported by Tuscan columns set on a concrete slab (see continuation sheet).

*P3b. Resource Attributes: HP2, HP33
*P4. Resources present: X Building ____Structure____ Object ___ Site __District__ Element of District___ Other

P5a. Photo or Drawing

SEE CONTINUATION SHEET

P5b. Description of Photo:

*P6. Date Constructed/Age and Sources: X Historic ____Prehistoric _____Both c.1910; expanded in 1930s

*P7. Owner and Address

*P8. Recorded by: (Name, affiliation, and address) Glory Ann Laffey, Archives & Architecture, San Jose, CA 95123

*P9. Date Recorded February, 1999

*P10. Survey Type: (Describe)
Intensive

*P11. Report Citation (Cite survey report and other sources, or enter none)
Historic Evaluation Report Hellyer Avenue Extension, 484 and of 550 Piercy Road, City of San Jose, Santa Clara County, California (February 1999)

Attachments: ____NONE X Location Map X Sketch Map X Continuation Sheet X Building, Structure and Object Record X Archaeological Record __ District Record____ Linear Feature Record____ Milling Station Record _____Rock Art Record _____ Artifact Record _____ Photograph Record _____ Other (List)

State of California – The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

Primary #_____
HRI #_____

BUILDING, STRUCTURE AND OBJECT RECORD

*NRHP Status Code 6x

Page 2 of 10 *Resource Name or # (assigned by recorder) 550 Piercy Road

B1. Historic Name: NA
B2. Common Name: NA
B3. Original Use: Farm B4. Present Use Residential
*B5. **Architectural Style:** Craftsman Style

*B6. **Construction History:** (Construction date, alterations, and date of alterations)
550 Piercy Road dates from c. 1910. The house may have been expanded in the 1930s; other later alterations include filling in the back and side porches.

*B7. **Moved?** X No __ Yes __ Unknown **Date:** NA **Original Location:** NA

*B8. **Related Features:** barn & trees

B9a. Architect NA b. Builder: NA

*B10. **Significance: Theme** Agriculture **Area** Santa Clara Valley
Period of Significance 1910-1940 **Property Type** Farm **Applicable Criteria** A
(Discuss importance in terms of historical or architectural context as defined by theme, period and geographic scope. Also address integrity.) (see continuation sheet)

B11. Additional Resource Attributes: (List attributes and codes) HP2 - House; HP 33 -Farm

*B12. **References:**

Breschini, G.S. R. Edwards, T. Haversat et. al. *Hellyer Avenue South - An Intensive Cultural Resource Reconnaissance,* 1978. Report prepared for the Gavilan Foundation.
Foote, H. S. *Pen Pictures from the Garden of the World.* 1888, Chicago: Lewis Publishing Co.
Guinn, J. M. History of the State of California and Biographical Record of the Coast Counties, California. 1904, Chicago: The Chapman Publishing Company.
Official Historical Atlas of Santa Clara County, 1878, Thompson & West.
Official Map of Santa Clara County: 1890, 1903, 1914, 1929.
Ogier, M. "John David Guerray, " Builders of our Valley, A City of Small Farms. Volume I. 1957, Written and compiled by Bertha Rice, San Jose.
San Jose City Directories, 1905-1935.
San Jose Great Register: 1890, 1892
San Jose Mercury, Rites Today for John D. Guerraz (December 21, 1932); Mabel Ogier (December 5, 1966)
San Jose Mercury Herald, Last Rites Today for John Ogier, Branham Kin. December 9, 1949.
Theodoratus Cultural Research, *Cultural Resources Evaluation: Edenvale Redevelopment Project Area Expansions.* 1979.

B13. Remarks:

*B14. **Evaluator** Glory Ann Laffey, Archives & Architecture & Ward Hill

*Date of Evaluation: February, 1999

(This space reserved for official comments)

Sketch map with north arrow required

* Required information

Item P3a. continued:

Adjacent to the house is the wood-frame, square plan tank house with a flat roof which still retains its water tank. The battered exterior walls, covered with horizontal wood siding and corner boards, are on a concrete foundation. The tank house has wooden door on the north facade. The opening for one window on the east facade has been covered with plywood.

Item B10. continued:

The earliest development on Lot 12 was by John David Guerraz, Jr. who acquired the property in 1905. Guerraz was the son of John D. Guerraz, Sr., a native of Switzerland who was the overseer of a plantation in Louisiana where John Jr. was a born in 1845. Guerraz Sr. decided to immigrate to Oregon in 1848, but upon hearing of the discovery of gold joined a wagon train to California. After two years in Placerville, the family moved to the Santa Clara Valley settling on a ranch on Los Gatos Creek. He sold this property to Hugh A. Leigh in 1870 and brought a league of land on Rancho Canada de Pala, above Alum Rock Park. He divided this property between his three sons, John D. Jr., Henry , and Will, in 1881 (Ogier 1957).

John D. Guerraz Jr. married Sophronia Breakfield in 1873 and they had three children: George, Maude and Mabel, who was born in 1879. Guerraz was an orchardist in the Union District during the 1890s; also engaging in general farming, and stock raising. After 1906, he was a rancher living on Piercy Road (Great Registers 1890, 1892; City Directory 1905-06).

The construction date of the residence home on the knoll overlooking Coyote Creek on Lots 12, 13, 14, and 15 (approximately 40 acres) of the Piercy subdivision was not determined. It could have been built in 1906 by John Guerraz; however, it would have been a early example of this style. John Jr. was living at this location until the time of his death in 1932 at the age of 87. He left a widow, his second wife, Alice L. Guerraz, his first wife, Sophronia, having passed away previously. His daughter Mabel and her husband, John B. Ogier, who had married in 1907, had also taken up residence at this location by this time (Ogier 1957; *San Jose Mercury* 12/21/1932; 12/5/1966).

John Branham Ogier was the oldest son of James H. Ogier and Margaret Branham. A native of Baltimore, Maryland, James H. Ogier settled in Santa Clara County in 1851and had a 300-acre ranch on N. First Street. Engaging at first in general farming, he set out one of the first orchards in this district and also engaged in stock farming and dairy farming. Margaret Branham Ogier was the daughter of pioneer Isaac Branham. The Branhams came overland in the same wagon train as the Donners; however, they were in that portion of the party that did not take the fateful "shortcut" taken by the Donner Party. Branham settled in San Jose in 1847 and was one of its leading citizens after California was ceded to the United States. Just five years old on the overland trip, Margaret was one of the first students of the Sisters of Notre Dame. She married James Ogier in 1866. Upon her husband's death in 1883, Margaret superintended the management of the ranch with the help of her sons. John Branham Ogier took over the management of the family's orchards (Foote 1888; Guinn 1904).

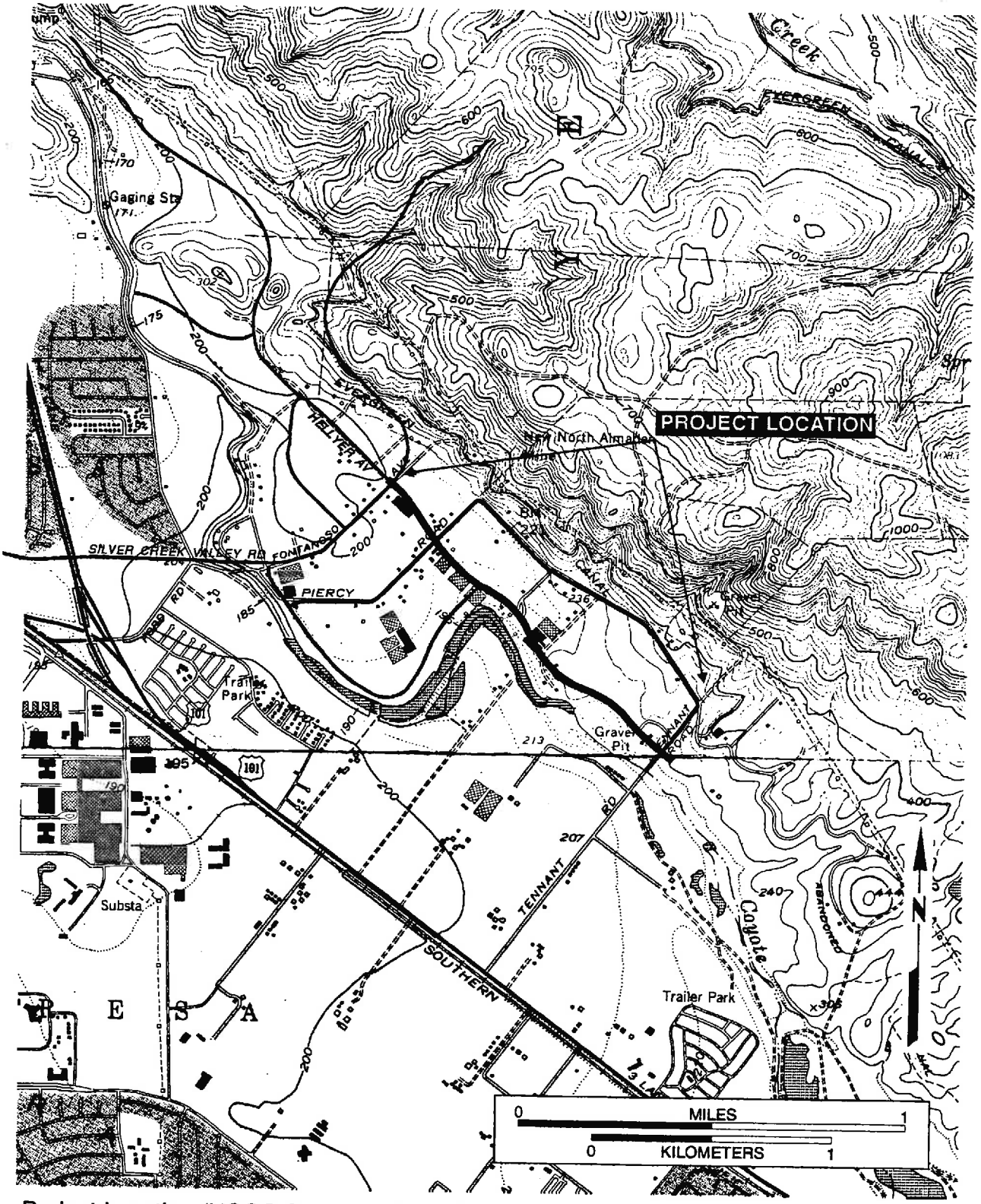
Having acquired title to the Piercy Road property by 1933, John and Mabel Ogier continued to reside in the subject area. If the house was constructed by the Ogiers in 1933 to replace an older home, it would be a late example of the Craftsman style. It is also possible that a new home, perhaps larger, was built at some point earlier when the Ogiers moved onto the property with John Guerraz Jr. A retired orchardist, John Ogier died at the age of 80 in 1949 (*San Jose Mercury Herald* 12/9/1949). His widow lived at the Piercy Road home until 1957 when she moved to San Jose. She died at the age of 87 in 1966 (*San Jose Mercury* 12/5/1966). The Ogiers did not have any children. The orchard on the property was pulled out in the 1970s.

The historic integrity of the Guerraz farmhouse may have been compromised by later additions and remodeling. The house is, nevertheless, a particularly large example of a Craftsman Style house in this area of Santa Clara Valley. The house has an unusual side projecting main entrance porch. The house does not appear to be a sufficiently unique example of ranch/farm house in this style to be eligible for the California Register under Criterion C. More distinguished examples of houses in this style survive in south San Jose. The tank house is also a typical example of its type and its condition is fairly deteriorated. The loss of other outbuildings undoubtedly originally on this property has also compromised its overall historic integrity. Although James H. Ogier was an early pioneer in San Jose, it does not appear as though his son, John, was of any particular historic significance in the San Jose area. The Guerraz/Ogier farm on Piercy Road does not appear to be significant in the history of ranching and agriculture in this area. The members of the Guerraz family also do not appear to have been significant figures in local history. In conclusion, the Guerraz/Ogier house and tank house do not appear to be eligible for the California or National Register because they lack historic integrity and they do not appear to be significant under Criteria A, B and C.

State of California – The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
LOCATION MAP

Primary #
HRI #
Trinomial

*Resource Name or # (Assigned by recorder) 550 Piercy Road
*Recorded by:
*Date: February 1999 X Continuation __Update



Project Location (USGS San Jose East, Calif. 1980 and Santa Teresa Hills,Calif. 1980)

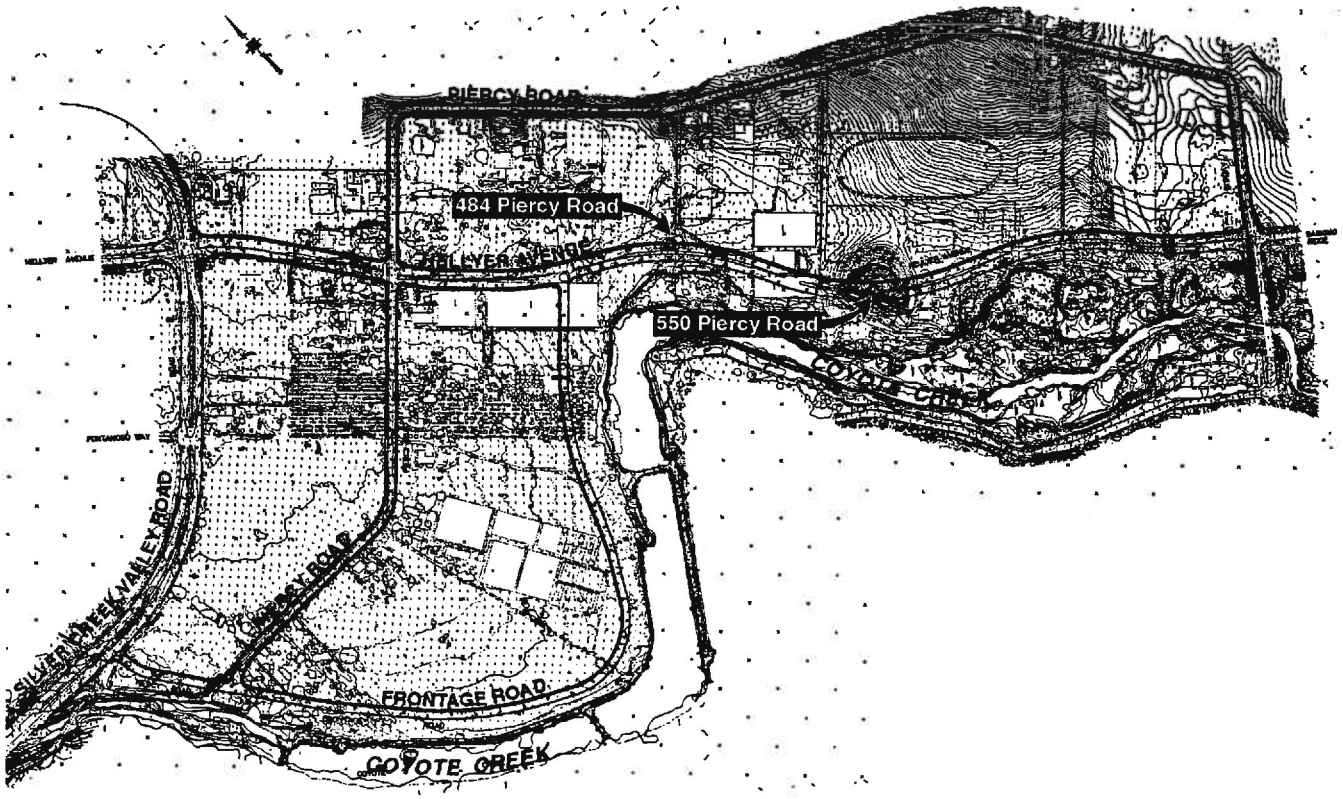
NOTE: Include bar scale and north arrow

* Required information

State of California – The Resources Agency DEPARTMENT OF PARKS AND RECREATION **SKETCH MAP**	Primary # HRI # Trinomial

Page 5 of 10 *Resource Name or # (Assigned by recorder) 550 Piercy Road

*Recorded by: *Date: February 1999 X Continuation Update



Proposed Hellyer Avenue Extension (San Jose Department of Public Works 1998:P-1)

NOTE: Include bar scale and north arrow

Photo 1: House - 550 Piercy Road
(view from east)

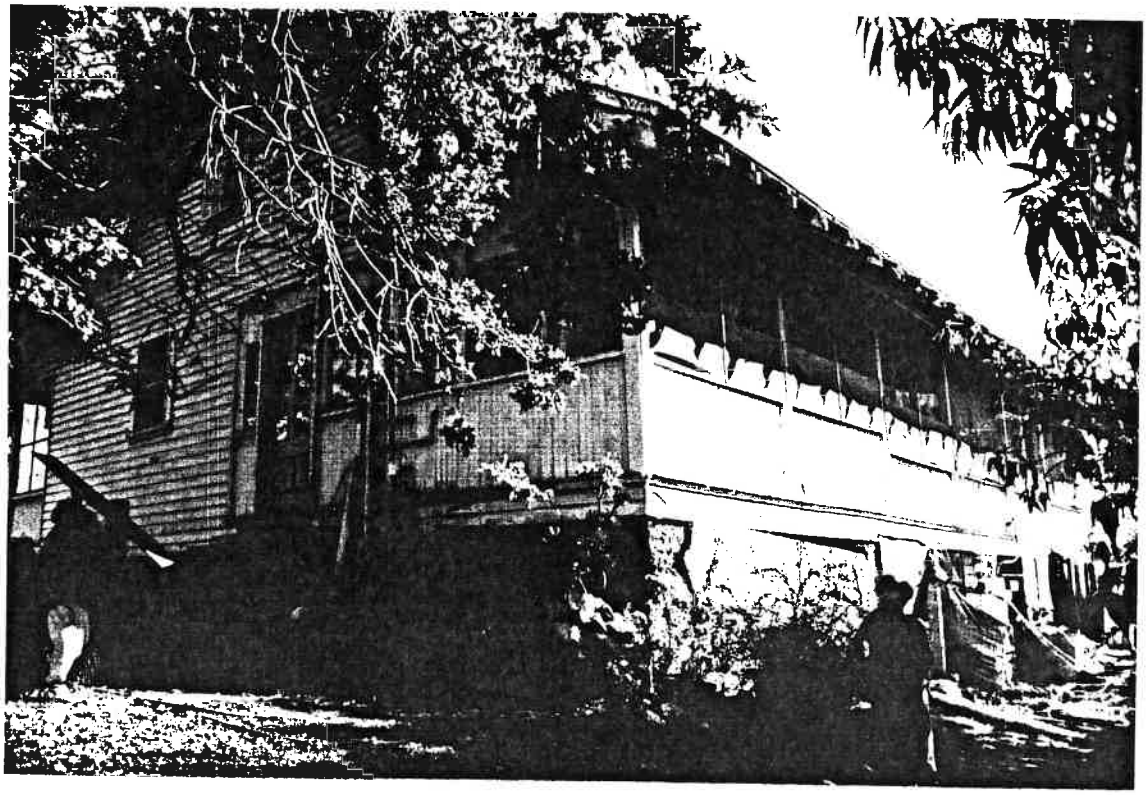


Photo 2: House - 550 Piercy Road
(view from northwest)

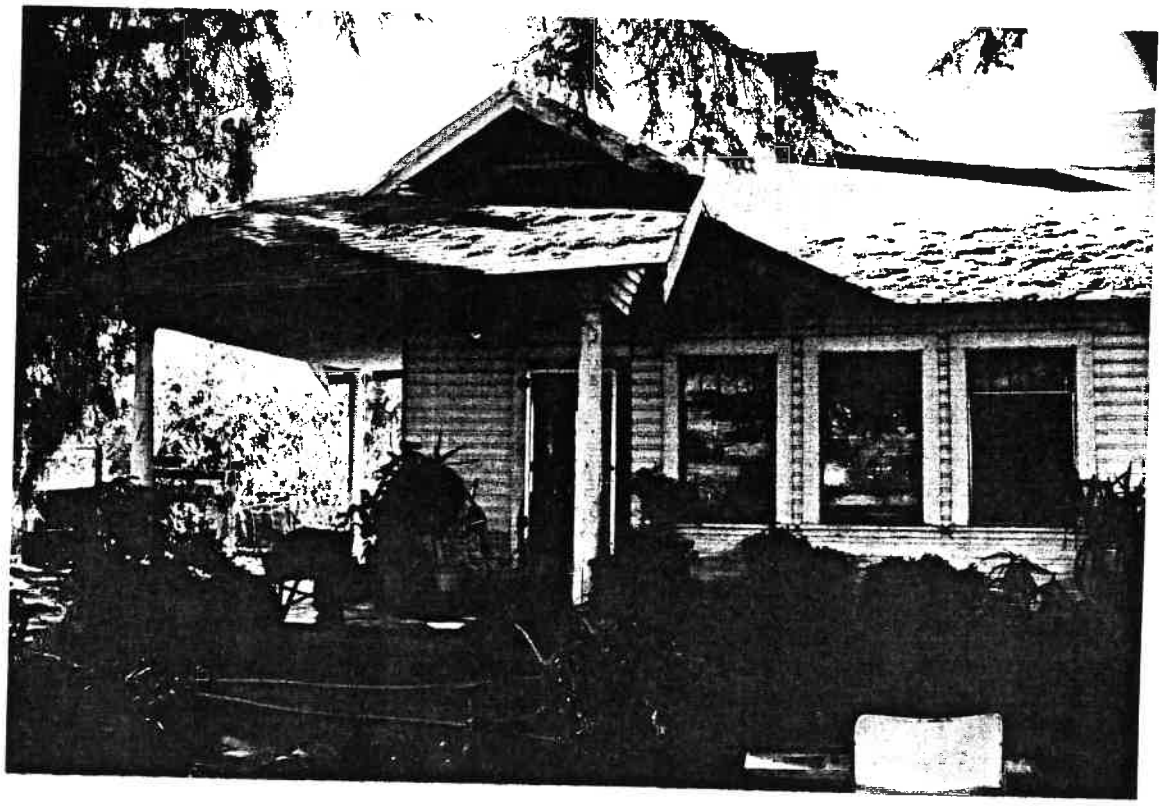


Photo 3: House - 550 Piercy Road
(view of entrance porch)

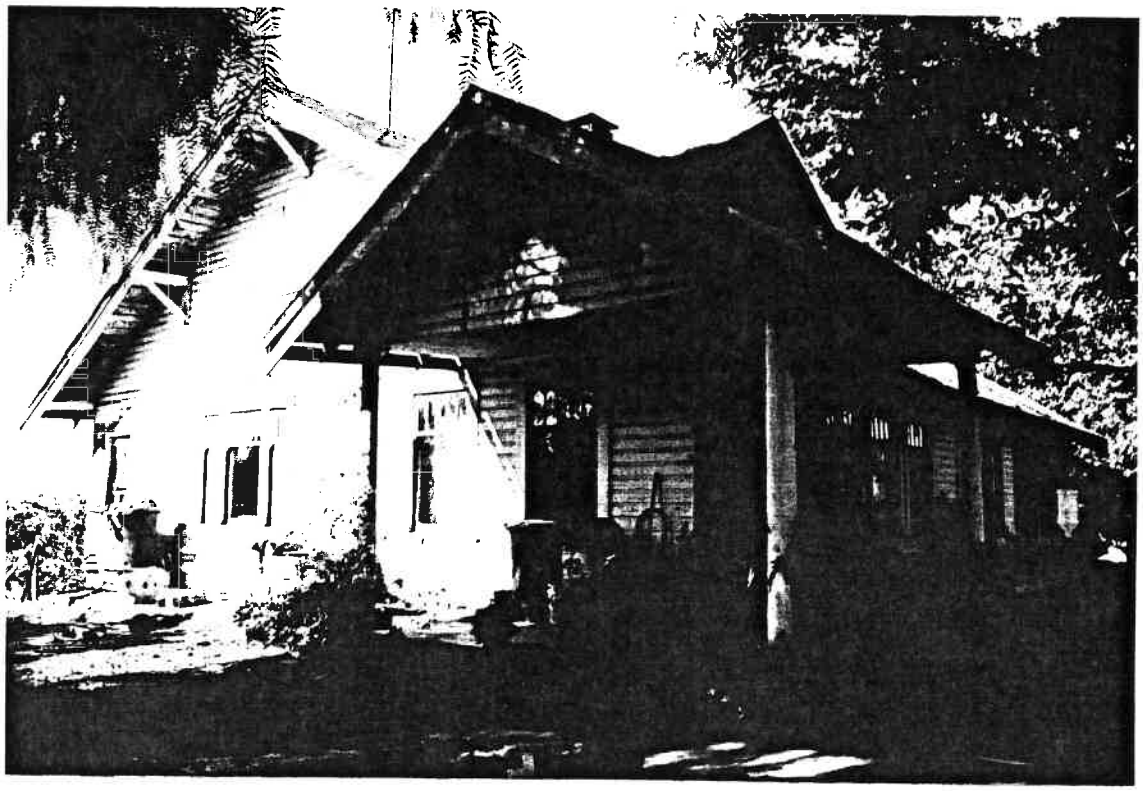


Photo 4: House - 550 Piercy Road
(view from southeast)

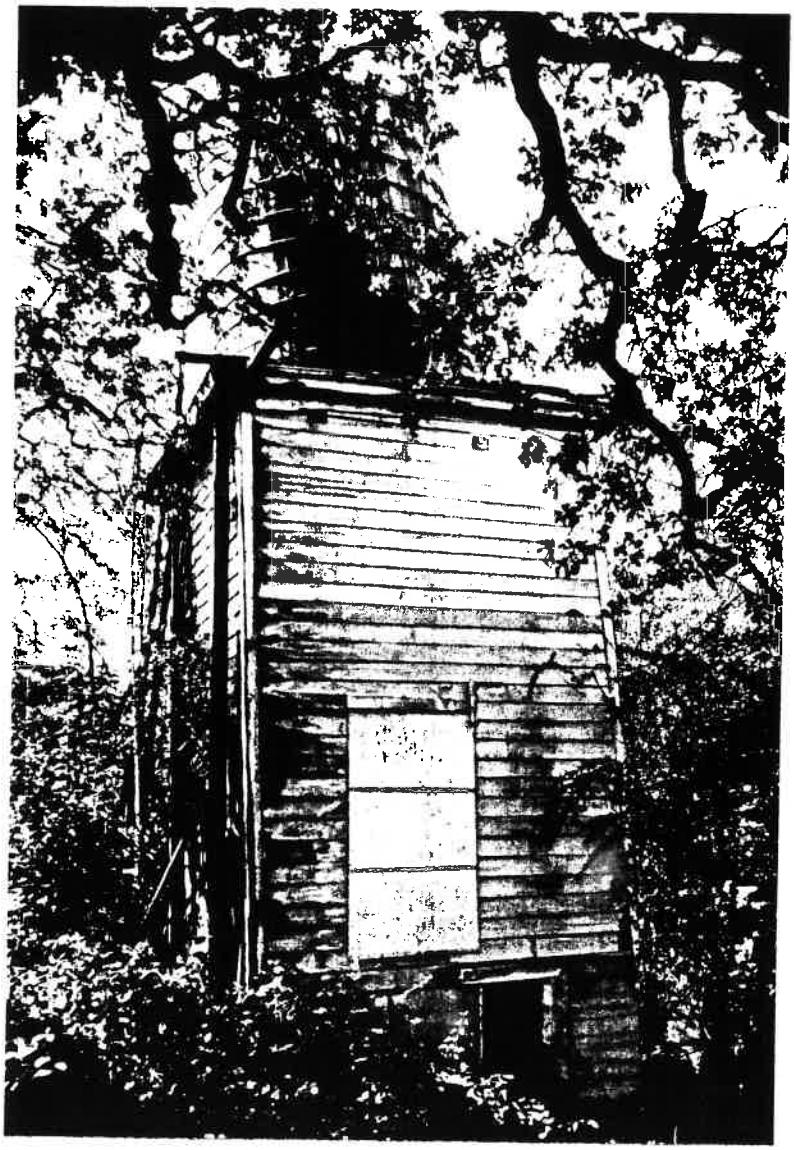


Photo 5: Tank House
(view from northeast)

DESCRIPTION OF THE HISTORIC RESOURCE (see attached forms for photos)

484 Piercy Road (APN 678-08-007)[3]

This complex of three buildings includes a house, a tank house and a storage shed. The generally level site has several small trees and shrubs in the vicinity of the buildings. The single-story, rectangular plan, Bungalow style house has a front gable roof with a rear hipped section and an off-center, front, projecting gabled porch. The rear hipped section appears to be a later addition.

The house has a perimeter concrete foundation and stud-wall construction. The exterior walls are covered with channel rustic siding. The roof, covered with asphalt shingles, has shallow eaves with exposed rafters. The windows are wood-sash, one over one, double-hung. A number of the windows on the side facades have been partially filled in and replaced with smaller, aluminum frame sliders. The front entrance porch has dentils around the roof perimeter, chamfered columns and turned balusters that appear to have been recycled from an earlier house. A small, back porch is below an extension of the rear roof.

Adjacent to the rear of the house is the wood-frame, square plan tank house with a flat roof. The battered exterior walls are covered with rustic siding and corner boards. The tank house has wooden doors on the east and west facades. The north facade has first and second level double-hung windows. The wood-frame garage and equipment shed is a rectangular plan, single story building covered with horizontal wood siding. The side gable roof is covered with corrugated metal. The building has two, sliding wooden doors on the front facade. A wood-frame, gabled addition covered with plywood extends from the front facade. A shed roof rear addition is covered with corrugated metal.

550 Piercy Road (APN 678-08-018)[4]

The buildings on this property include a house and a tank house. The generally level site has several shrubs and large trees in the vicinity of the buildings, including an old oak tree near the south side. The rectangular plan, single-story, single-family Craftsman style house has a side gable roof with a cross gable. A projecting gabled porch intersects the cross gable at the house's southeast corner. The house is stud-wall, wood-frame construction on a perimeter concrete foundation. The exterior walls are covered with rustic siding and the roof is covered with asphalt shingles. The roof has broad eaves with side exposed rafters and large brackets at the end gables. The house has tripartite, double-hung windows on the east and south facades; the top sash of these windows are divided into diamond shaped lights. The windows on the west and north facades are one over one, double-hung. A low wall and screens now enclose the originally open rear porch. A recessed porch at the northeast corner of the house has also been similarly enclosed. The main open entrance porch projects from and wraps around the southeast corner of the house. The gabled porch roof has wide eaves with exposed rafters. The roof is supported by Tuscan columns set on a concrete slab.

A square plan wood-frame, tank house with a flat roof which still retains its water tank is adjacent to the house. The battered exterior walls, covered with horizontal wood siding and corner boards, are on a concrete foundation. The tank house has wooden door on the north facade. The opening for one window on the east facade has been covered with plywood.

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3. #27-Uyeda (after Breschini et al. 1978; Theodoratus 1979).

4. #29-Ogier (op cit.).

HISTORIC EVALUATION SHEET

HISTORIC RESOURCE NAME: 550 Piercy Road

A.	**VISUAL QUALITY/DESIGN**					
1.	EXTERIOR Craftsman bungalow - unusual details	E	VG	(G)	FP	
2.	STYLE Craftsman	E	VG	(G)	FP	
3.	DESIGNER not known	E	VG	G	(FP)	
4.	CONSTRUCTION wood frame	E	VG	G	(FP)	
5.	SUPPORTIVE ELEMENTS tank house	E	VG	(G)	FP	
B.	**HISTORY/ASSOCIATION**					
6.	PERSON/ORGANIZATION Guerraz / Ogier	E	VG	(G)	FP	
7.	EVENT no events	E	VG	G	(FP)	
8.	PATTERNS Agriculture	E	VG	(G)	FP	
9.	AGE c. 1910	E	VG	(G)	FP	
C.	**ENVIRONMENTAL/CONTEXT**					
10.	CONTINUITY Small farms	E	VG	(G)	FP	
11.	SETTING	E	VG	(G)	FP	
12.	FAMILIARITY larger house than usual in this area	E	VG	(G)	FP	
D.	**INTEGRITY**					
13.	CONDITION	(E)	VG	G	FP	
14.	EXTERIOR ALTERATIONS may have expanded house	E	(VG)	G	FP	
15.	STRUCTURAL REMOVALS	(E)	VG	G	FP	
16.	SITE	(E)	VG	G	FP	
E.	**REVERSIBILITY**					
17.	EXTERIOR	E	(VG)	G	FP	
F.	**ADDITIONAL CONSIDERATIONS/BONUS POINTS**					
18.	INTERIOR/VISUAL interior not accessible	E	VG	G	(FP)	
19.	INTERIOR/HISTORY "	E	VG	G	(FP)	
20.	INTERIOR ALTERATIONS "	E	VG	G	(FP)	
21.	REVERSIBILITY/INTERIOR "	E	VG	G	(FP)	

REVIEWED BY: Ward Hill DATE: 2/16/99

EVALUATION TALLY SHEET
Part I

		VALUE				
A.	VISUAL QUALITY/DESIGN	E	VG	G	FP	
1.	EXTERIOR	16	12	(6)	0	6
2.	STYLE	10	8	(4)	0	4
3.	DESIGNER	6	4	2	(0)	0
4.	CONSTRUCTION	10	8	4	(0)	0
5.	SUPPORTIVE ELEMENTS	8	6	(3)	0	3
				SUBTOTAL:		13
B.	HISTORY/ASSOCIATION	E	VG	G	FP	
6.	PERSON/ORGANIZATION	20	15	(7)	0	7
7.	EVENT	20	15	7	(0)	0
8.	PATTERNS	12	9	(5)	0	5
9.	AGE	8	6	(3)	0	3
				SUBTOTAL:		15
C.	ENVIRONMENTAL/CONTEXT	E	VG	G	FP	
10.	CONTINUITY	8	6	(3)	0	3
11.	SETTING	6	4	(2)	0	2
12.	FAMILIARITY	10	8	(4)	0	4
				SUBTOTAL:		9
				"A" & "C" SUBTOTAL:		22
				"B" SUBTOTAL:		15
				PRELIMINARY TOTAL: (Sum of A,B, and C)		37

550 Piercy Rd.