

Source: DMJM HARRIS | AECOM, July 2007.

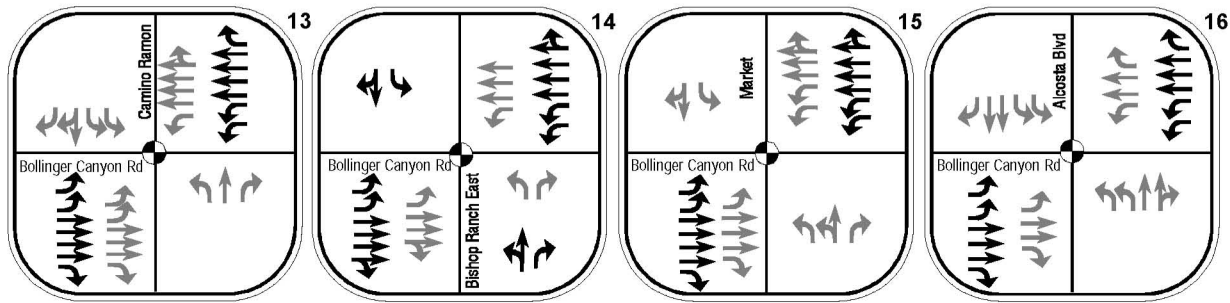
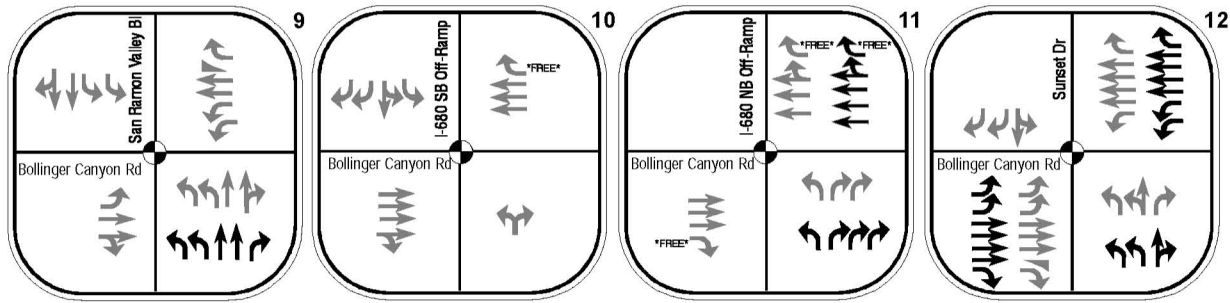
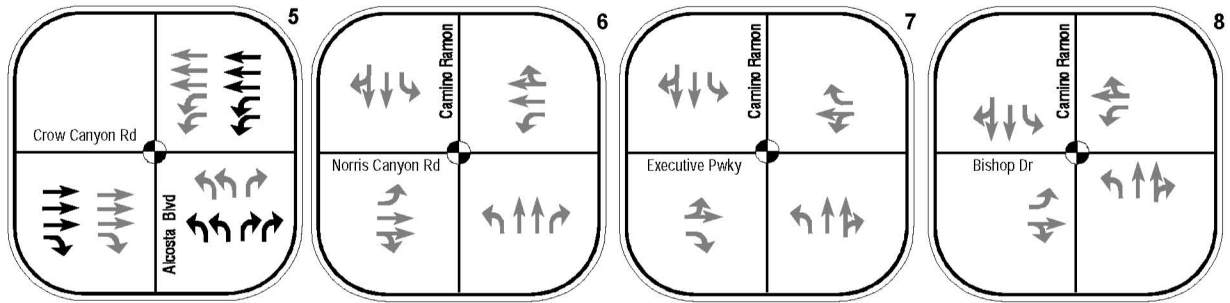
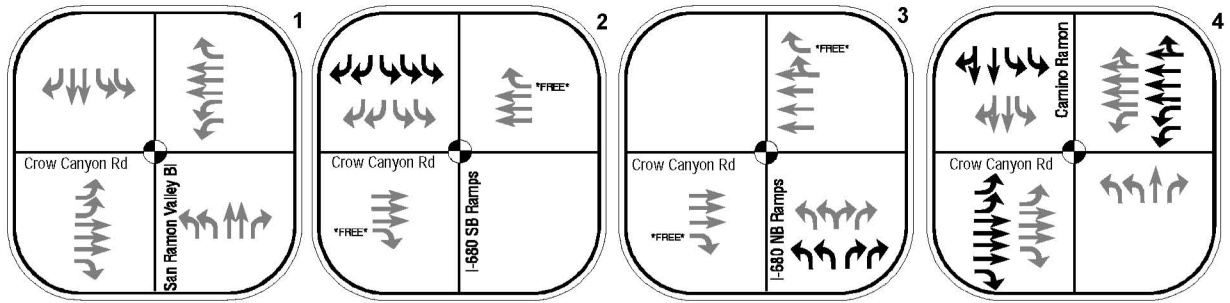


Not to Scale

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Exhibit 4.12-12b Year 2020 Without Project Traffic Volumes



● Traffic Signal ▬ Stop Sign

Source: DMJM HARRIS | AECOM, July 2007.



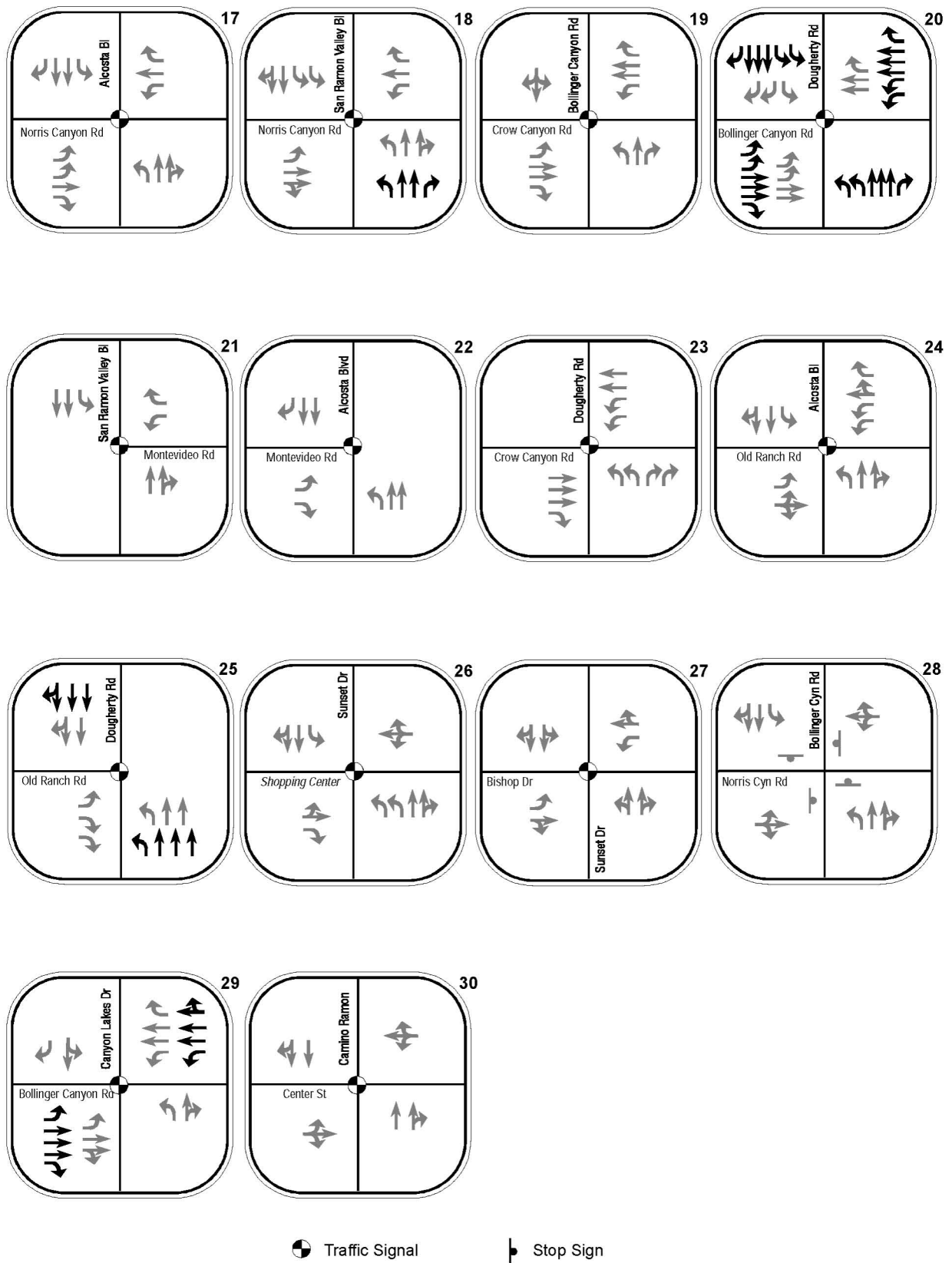
Not to Scale

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24910007 • 07/2007 | 4.12-13a_2020_intersection_geom.cdr

Exhibit 4.12-13a Year 2020 Intersection Geometry

CITY OF SAN RAMON • SAN RAMON CITY CENTER PROJECT
DRAFT SUBSEQUENT ENVIRONMENTAL IMPACT REPORT



Source: DMJM HARRIS | AECOM, July 2007.



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24910007 • 07/2007 | 4.12-13b_2020_intersection_geom.cdr

Exhibit 4.12-13b Year 2020 Intersection Geometry

CITY OF SAN RAMON • SAN RAMON CITY CENTER PROJECT
DRAFT SUBSEQUENT ENVIRONMENTAL IMPACT REPORT

identified in the City of San Ramon’s Capital Improvement Program. Most of the improvements are along Crow Canyon Road and Bollinger Canyon Road.

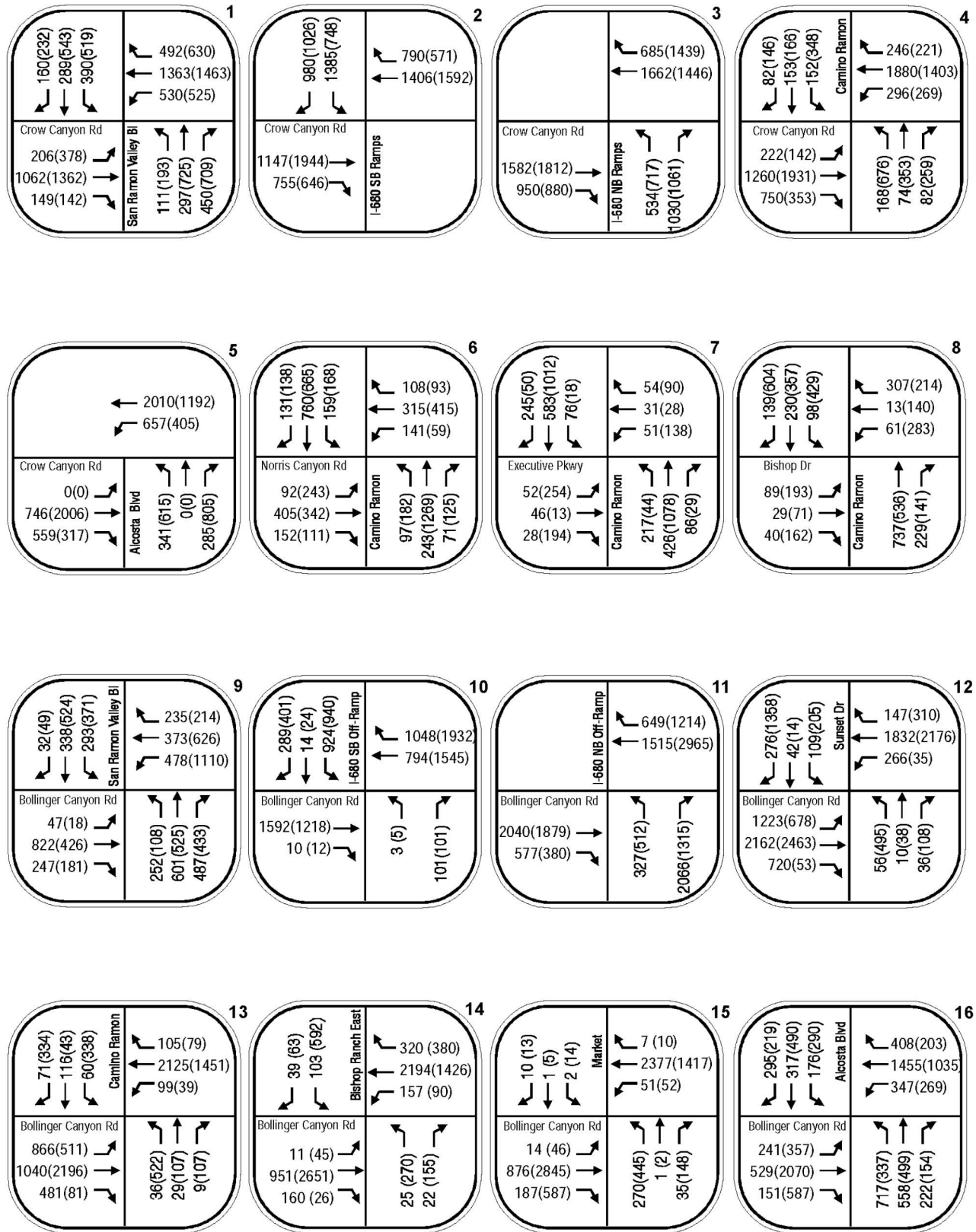
The trip generation for the proposed project was added to the surrounding roadway network according to the trip distribution patterns. These new trips were then added to the Year 2020 background traffic volumes to arrive at Year 2020 with project traffic volumes. Table 4.12-17 summarizes intersection operations for the without and with project scenarios under Year 2020 conditions. Exhibits 4.12-14a and 4.12-14b show the Year 2020 peak-hour traffic volumes. Exhibits 4.12-15a and 4.12-15b show the Year 2020 daily traffic volumes.

Table 4.12-17: Year 2020 Intersection Operations

Intersection	Without Project				With Project				V/C Ratio Difference	
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM	PM
	V/C Ratio	LOS	V/C Ratio	LOS	V/C Ratio	LOS	V/C Ratio	LOS		
1. Crow Canyon Road/San Ramon Valley Boulevard	0.61	B	0.87	D	0.62	B	0.88	D	0.01	0.01
2. Crow Canyon Road/I-680 Southbound Ramps	0.56	A	0.66	B	0.56	A	0.67	B	0.00	0.01
3. Crow Canyon Road/I-680 Northbound Ramps	0.60	B	0.64	B	0.61	B	0.66	B	0.01	0.02
4. Crow Canyon Road/Camino Ramon	0.59	A	0.68	B	0.62	B	0.71	C	0.03	0.03
5. Crow Canyon Road/Alcosta Boulevard	0.53	A	0.69	B	0.54	A	0.72	C	0.01	0.03
6. Camino Ramon/Norris Canyon Road	0.56	A	0.73	C	0.58	A	0.79	C	0.02	0.06
7. Camino Ramon/Executive Parkway	0.43	A	0.52	A	0.45	A	0.58	A	0.02	0.06
8. Camino Ramon/Bishop Drive	0.43	A	0.54	A	0.53	A	0.62	B	0.10	0.08
9. Bollinger Canyon Road/San Ramon Valley Boulevard	0.75	C	0.81	D	0.76	C	0.84	D	0.01	0.03
10. Bollinger Canyon Road/I-680 Southbound Ramps	0.56	A	0.62	B	0.59	A	0.67	B	0.03	0.05
11. Bollinger Canyon Road/I-680 Northbound Ramps	0.77	C	0.70	C	0.82	D	0.75	C	0.05	0.05
12. Bollinger Canyon Road/Sunset Drive/Chevron Park	0.80	D	0.85	D	0.80	D	1.05	F	0.0	0.20
13. Bollinger Canyon Road/Camino Ramon	0.62	B	0.68	B	0.69	B	0.66	B	0.07	-0.02

Table 4.12-17 (Cont.): Year 2020 Intersection Operations

Intersection	Without Project				With Project				V/C Ratio Difference	
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM	PM
	V/C Ratio	LOS	V/C Ratio	LOS	V/C Ratio	LOS	V/C Ratio	LOS		
14. Bollinger Canyon Road/ Bishop Ranch 1 East	0.36	A	0.53	A	0.39	A	0.80	C	0.03	0.27
15. Bollinger Canyon Road/Market Place	0.43	A	0.53	A	0.46	A	0.61	B	0.03	0.08
16. Bollinger Canyon Road/Alcosta Boulevard	0.67	B	0.75	C	0.71	C	0.80	D	0.04	0.05
17. Alcosta Boulevard/Norris Canyon Road	0.48	A	0.52	A	0.49	A	0.53	A	0.01	0.01
18. San Ramon Valley Boulevard/Norris Canyon Road	0.60	A	0.66	B	0.60	B	0.68	B	0.00	0.02
19. Bollinger Canyon Road/ Crow Canyon Road	0.55	A	0.55	A	0.57	A	0.59	A	0.02	0.04
20. Bollinger Canyon Road/ Dougherty Valley Road	0.61	B	0.63	B	0.63	B	0.64	B	0.02	0.01
21. San Ramon Valley Boulevard/Montevideo Drive	0.69	B	0.88	D	0.70	B	0.89	D	0.01	0.01
22. Alcosta Boulevard/ Montevideo Drive	0.33	A	0.35	A	0.36	A	0.41	A	0.03	0.06
23. Crow Canyon Road/ Dougherty Valley Road	0.50	A	0.55	A	0.50	A	0.56	A	0.00	0.01
24. Alcosta Boulevard/ Old Ranch Road	0.37	A	0.31	A	0.38	A	0.35	A	0.01	0.04
25. Old Ranch Road/ Dougherty Road	0.58	A	0.37	A	0.59	A	0.39	A	0.01	0.02
26. Sunset Drive/Shops at Bishop Ranch	0.28	A	0.41	A	0.23	A	0.55	A	-0.05	0.14
27. Bishop Drive/ Sunset Drive	0.39	A	0.51	A	0.44	A	0.66	B	0.05	0.15
28. Bollinger Canyon Road/Norris Canyon Road	1.13*	E*	0.49*	B*	1.17*	E*	0.57*	B*	0.04	0.08
29. Bollinger Canyon Road/Canyon Lakes Drive	0.59	A	0.50	A	0.61	B	0.56	A	0.02	0.06
30. Camino Ramon/Center Street^	—	—	—	—	0.31	A	0.24	A	N/A	N/A



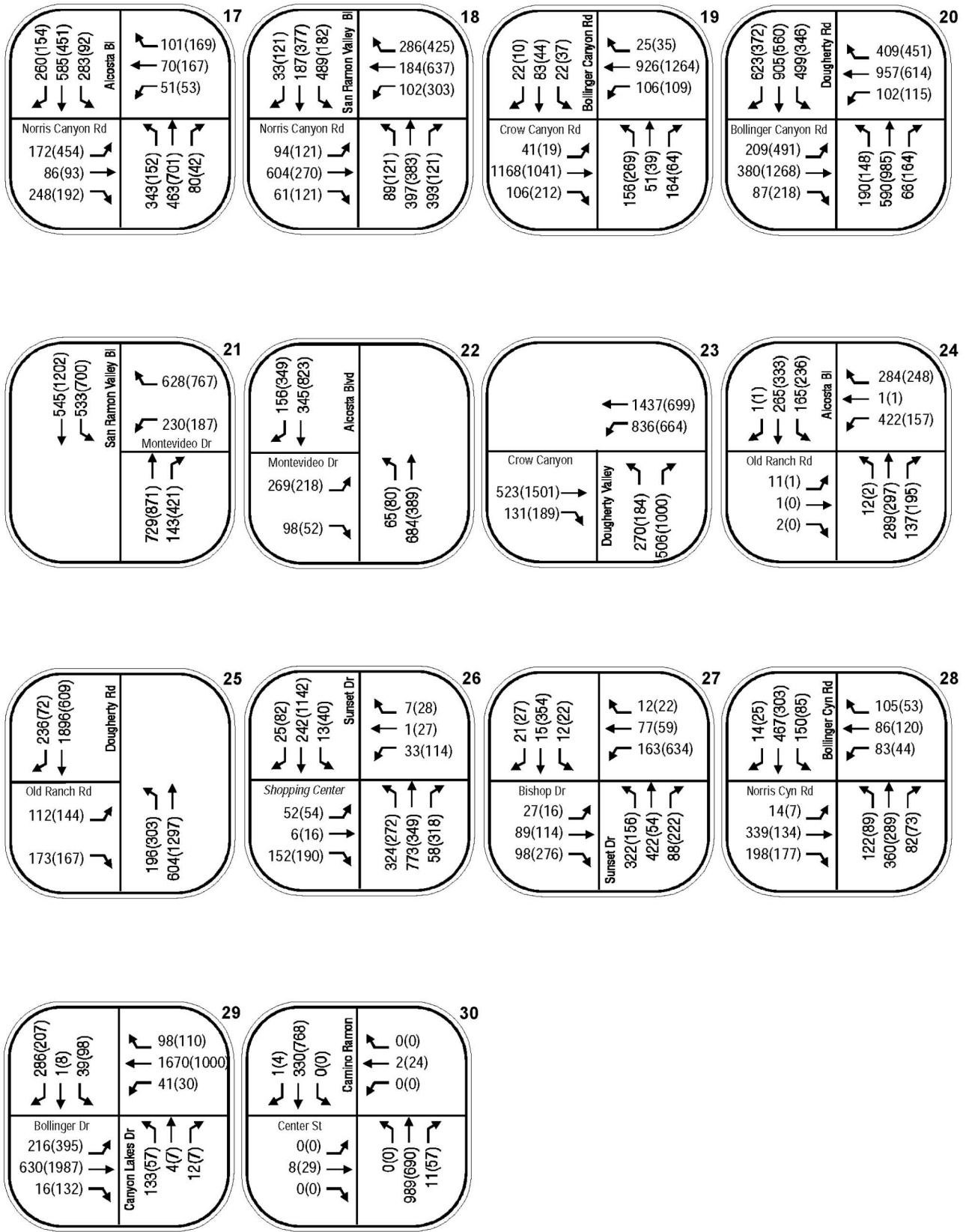
Source: DMJM HARRIS | AECOM, July 2007.



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Exhibit 4.12-14a Year 2020 With Project Traffic Volumes AM (PM) Peak Hour



Source: DMJM HARRIS | AECOM, July 2007.

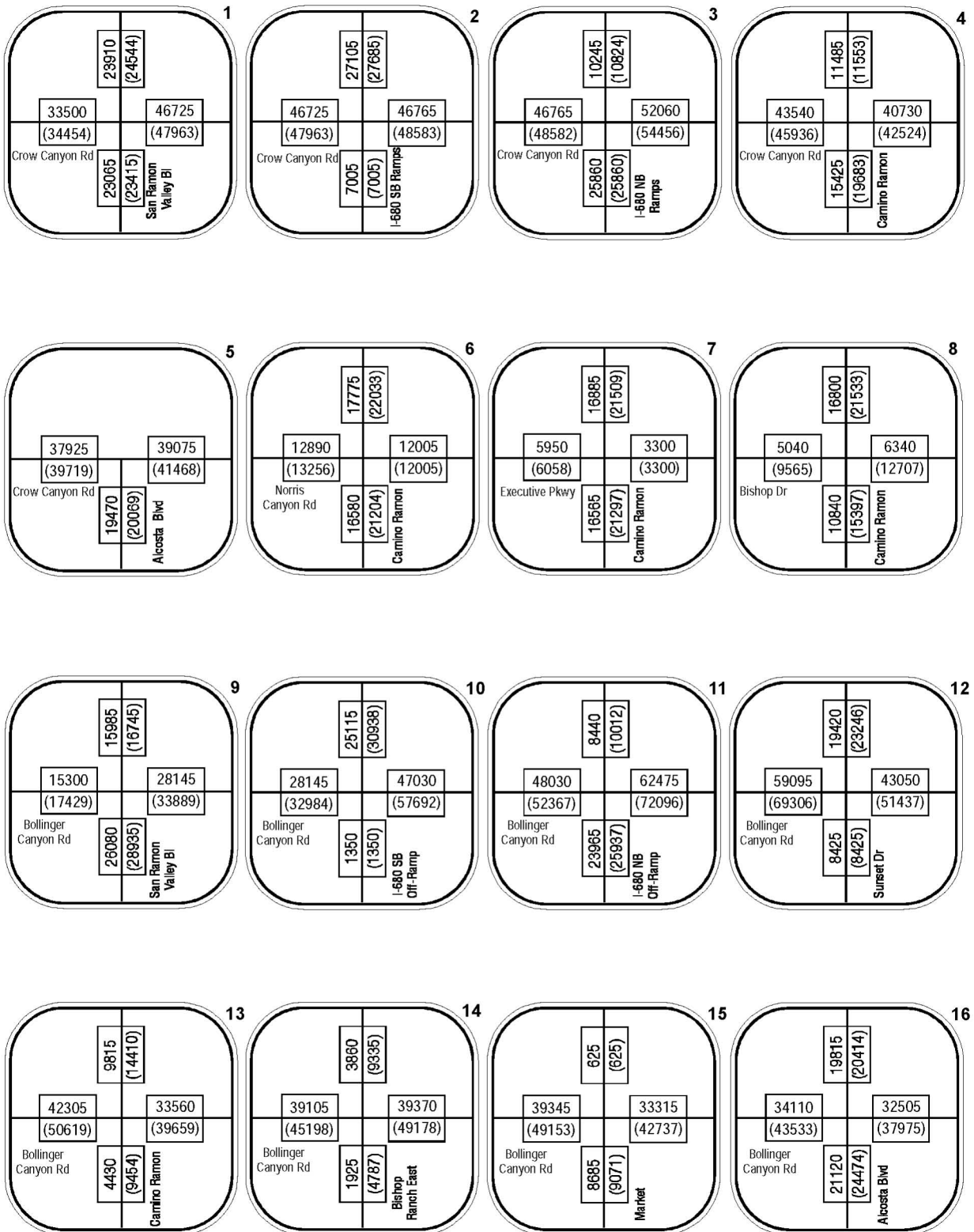


Not to Scale

Michael Brandman Associates

24910007 • 07/2007 | 4.12-14b_2020_proj_traf_vol.cdr

Exhibit 4.12-14b Year 2020 With Project Traffic Volumes AM (PM) Peak Hour



KEY

XXXX = Total 2020 Daily Traffic
 (XXXX) = (Total 2020 + Project Daily Traffic)

Source: DMJM HARRIS | AECOM, July 2007.

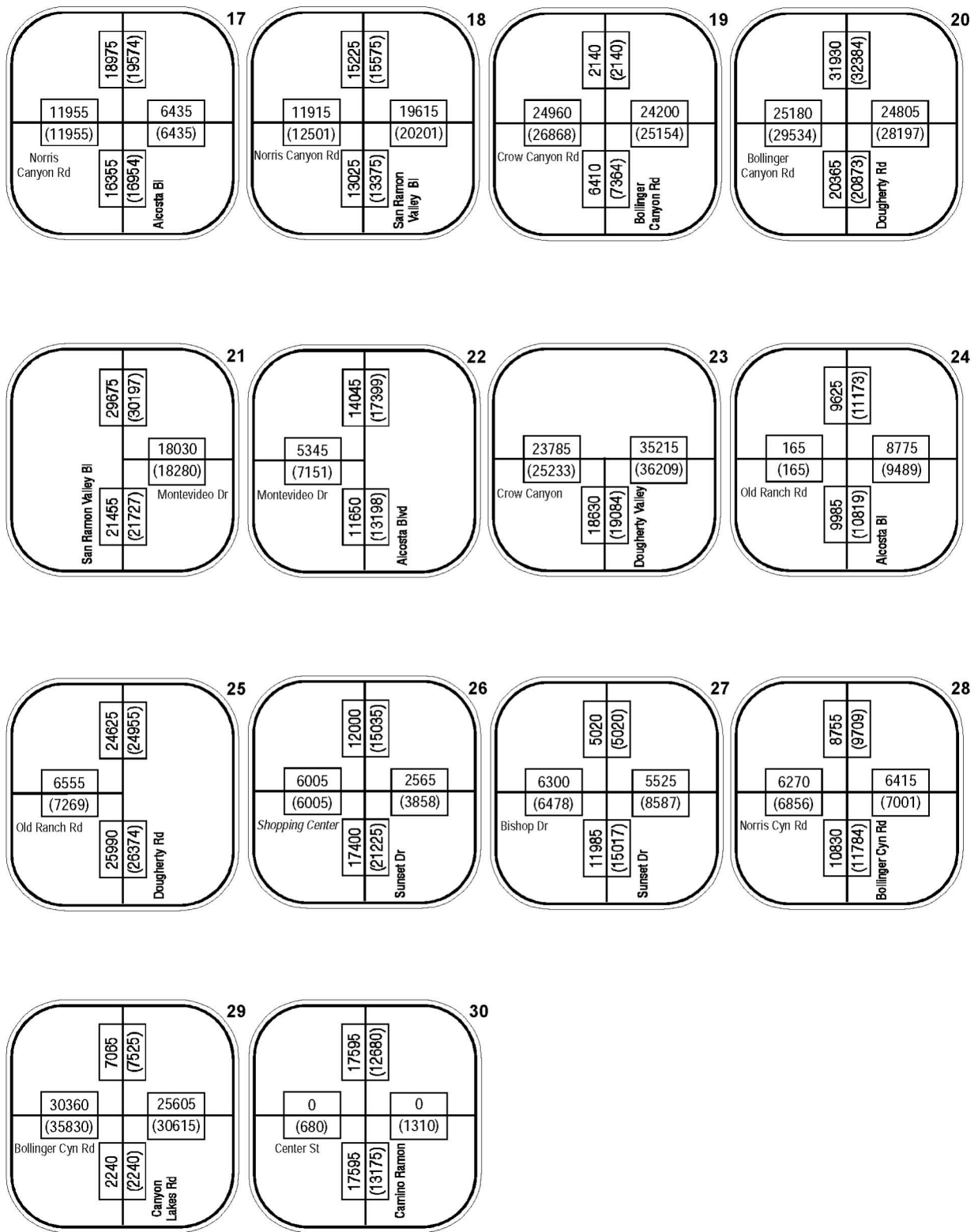


Not to Scale

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24910007 • 07/2007 | 4.12-15a_2020_proj_daily_traf_vol.cdr

Exhibit 4.12-15a Year 2020 With Project Daily Traffic Volumes



KEY

$$\frac{\text{XXXX}}{(\text{XXXX})} = \frac{\text{Total 2020 Daily Traffic}}{(\text{Total 2020} + \text{Project Daily Traffic})}$$

Source: DMJM HARRIS | AECOM, July 2007.



Not to Scale

Michael Brandman Associates

Exhibit 4.12-15b Year 2020 With Project Daily Traffic Volumes

Table 4.12-17 (Cont.): Year 2020 Intersection Operations

Intersection	Without Project				With Project				V/C Ratio Difference	
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM	PM
	V/C Ratio	LOS	V/C Ratio	LOS	V/C Ratio	LOS	V/C Ratio	LOS		
<p>Bold denotes deficient intersection operation. * HCM unsignalized intersection analysis. ^ Future intersection associated with project. Source: DMJM Harris, 2007.</p>										

In the 2020 horizon, three intersections were assessed qualitatively. Crow Canyon Road/Crow Canyon Place would be expected to operate at the same level or better as Crow Canyon Road/Camino Ramon. Crow Canyon Road/Twin Creeks Drive would be expected to operate at the same level or better as Crow Canyon Road/San Ramon Valley Boulevard. The new HOV off-ramp intersection with Norris Canyon Road would be expected to operate at the same level or better as San Ramon Valley Boulevard/Norris Canyon Road.

Operations at one intersection would degrade to unacceptable LOS F as a result of project-generated trips:

- **Bollinger Canyon Road/Sunset Drive/Chevron Park:** The Year 2020 without project PM peak-hour LOS D would degrade to LOS F under Year 2020 with project conditions.

Operations at one intersection would remain unacceptable LOS E as a result of project-generated trips:

- **Bollinger Canyon Road/Norris Canyon Road:** The Year 2020 without project unacceptable, PM peak-hour LOS E would worsen slightly under Year 2020 with project conditions.

Mitigation is proposed that would implement intersection improvements at both intersections. Note that the previously identified Mitigation Measure TRANS-1b would sufficiently mitigate for the impact at the Bollinger Canyon Road/Sunset Drive/Chevron Park intersection. Table 4.12-18 provides a comparison of the unmitigated Year 2020 with project condition to the mitigated Year 2020 with project condition. As shown in the table, both intersections would operate at an acceptable LOS after the implementation of mitigation. Year 2020 intersection operation impacts would be less than significant.

Table 4.12-18: Year 2020 Mitigated Intersection Operations

Intersection	With Project, Unmitigated				With Project, Mitigated				V/C Ratio Difference	
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour			
	V/C Ratio	LOS	V/C Ratio	LOS	V/C Ratio	LOS	V/C Ratio	LOS	AM	PM
12. Bollinger Canyon Road/Sunset/Chevron Park West	0.80	D	1.05	F	0.80	D	0.87	D	0.0	0.20
28. Bollinger Canyon Road/Norris Canyon Road	1.17	E	0.57	B	0.72	C	0.49	A	N/A	N/A

Source: DMJM Harris, 2007.

Level of Significance Before Mitigation

Potentially significant impact.

Mitigation Measures

MM TRANS-2 When the improvements are warranted by the City’s annual monitoring program, the project applicant shall provide pro-rata share payments to the City for the signalization of the intersection of Bollinger Canyon Road and Norris Canyon Road. The proposed intersection improvements are part of the City Capital Improvement Program.

Level of Significance After Mitigation

Less than significant impact.

Freeway Operations

Impact TRANS-3: The proposed project would contribute to deficient freeway ramp operations.

Impact Analysis

This impact includes both Existing Plus Project and Year 2020 conditions.

Existing Plus Project Conditions

Mainline Segments

Table 4.12-19 shows the freeway mainline analysis for Existing Plus Project conditions. While there is a slight increase in density and decrease in speed under the with project scenario, the only change in LOS occurs for northbound I-680 south of Bollinger Canyon Road in the AM peak hour and southbound I-680 north of Bollinger Canyon Road in the PM peak hour.

Table 4.12-19: Existing Plus Project Freeway Section Level of Service

Interstate 680		Peak Hour	Without Project			With Project		
Direction	Segment		LOS	Density (pc/mi/ln)	Average Speed	LOS	Density (pc/mi/ln)	Average Speed
Northbound	South of Bollinger Canyon Road	AM	E	44.7	52.4	F	*	*
		PM	E	36.0	59.0	E	38.9	56.8
Southbound	South of Bollinger Canyon Road	AM	F	*	*	F	*	*
		PM	F	*	*	F	*	*
Northbound	North of Bollinger Canyon Road	AM	C	23.1	65.0	C	23.3	65.0
		PM	C	23.7	65.0	C	24.4	64.9
Southbound	North of Bollinger Canyon Road	AM	D	30.5	62.7	D	31.2	62.3
		PM	D	34.1	60.4	E	35.0	59.7

Notes:
pc/mi/hr = passenger cars per mile per hour
*Density and average speed are not determined for LOS F.
Source: DMJM Harris, 2007.

Ramps

Table 4.12-20 shows the ramp analysis for the without and with project scenarios under Existing Plus Project conditions. While there is a slight increase in density, there is no change in LOS under the with project condition.

Table 4.12-20: Existing Plus Project Ramp LOS Analysis Results

I-680 Bollinger Canyon Road Interchange	Without Project				With Project			
	AM		PM		AM		PM	
	LOS	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)
Northbound Off-Ramp	F	*	C	20.40	F	*	C	22.90
Southbound Off-Ramp	F	*	F	*	F	*	F	*
Southbound On-Ramp	F	*	F	*	F	*	F	*
Southbound On-Ramp (loop)	F	*	F	*	F	*	F	*
Northbound On-Ramp (loop)	F	27.90	C	26.30	C	27.90	C	26.30
Northbound On-Ramp**	A	v/c = 0.26	B	v/c = 0.45	A	v/c = 0.28	B	v/c = 0.53

Notes:
pc/mi/hr = passenger cars per mile per hour
* Density not determined for LOS F.
** Only the volume capacity ratio of the ramp is provided due to the auxiliary lane configuration.
Source: DMJM Harris, 2007.

Year 2020 Conditions

Mainline Segments

Table 4.12-21 shows the freeway mainline analysis for without and with project under Year 2020 conditions. While there is a slight increase in density and a slight decrease in speed, there is no change in LOS under the with project condition.

Table 4.12-21: Year 2020 Freeway Section Level of Service

Interstate 680		Peak Hour	Without Project			With Project		
Direction	Segment		LOS	Density (pc/mi/ln)	Average Speed	LOS	Density (pc/mi/ln)	Average Speed
Northbound	South of Bollinger Canyon Road	AM	F	*	*	F	*	*
		PM	F	*	*	F	*	*
Southbound	South of Bollinger Canyon Road	AM	F	*	*	F	*	*
		PM	F	*	*	F	*	*
Northbound	North of Bollinger Canyon Road	AM	D	29.1	63.5	D	29.9	63.1
		PM	D	30.0	63.0	D	30.8	62.6
Southbound	North of Bollinger Canyon Road	AM	F	*	*	F	*	*
		PM	F	*	*	F	*	*

Notes:
pc/mi/hr = passenger cars per mile per hour
*Density and average speed are not determined for LOS F.
Source: DMJM Harris, 2007.

Ramps

Table 4.12-22 shows the ramp analysis for the without and with project scenarios under Year 2020 conditions. While there is a slight increase in density, there is no change in LOS under the with project condition.

Table 4.12-22: Year 2020 Ramp LOS Analysis Results

I-680 Bollinger Canyon Road Interchange	Without Project				With Project			
	AM		PM		AM		PM	
	LOS	Density (pc/mi/ln)	LOS	Density (pc/mi/hr)	LOS	Density (pc/mi/hr)	LOS	Density (pc/mi/ln)
Northbound Off-Ramp	F	*	F	*	F	*	F	*
Southbound Off-Ramp	F	*	F	*	F	*	F	*
Southbound On-Ramp	F	*	F	*	F	*	F	*

Table 4.12-22 (Cont.): Year 2020 Ramp LOS Analysis Results

I-680 Bollinger Canyon Road Interchange	Without Project				With Project			
	AM		PM		AM		PM	
	LOS	Density (pc/mi/ln)	LOS	Density (pc/mi/hr)	LOS	Density (pc/mi/hr)	LOS	Density (pc/mi/ln)
Southbound On-Ramp (loop)	F	*	F	*	F	*	F	*
Northbound On-Ramp (loop)	D	34.2	D	32.5	D	34.2	D	32.5
Northbound On-Ramp	A	v/c = 0.30	B	v/c = 0.54	A	v/c = 0.32	B	v/c = 0.61
Notes: pc/mi/hr = passenger cars per mile per hour *Density not determined for LOS F. **Only the volume capacity ratio of the ramp is provided, due to the auxiliary lane configuration. Source: DMJM Harris, 2007.								

Summary of Impacts

While the proposed project would not cause any mainline or ramp segment to deteriorate from an acceptable LOS to an unacceptable LOS, it would add trips to mainline and ramp segments that currently or are anticipated to operate at unacceptable levels during both the Existing Plus Project and Year 2020 scenarios. Any further deterioration of unacceptable LOS on mainline or ramp segments is considered a significant impact. Mitigating mainline and ramp impacts would require major capital improvements to I-680, which would require widening the freeway corridor for several miles beyond the limits of the study area. At the time of this writing, no local or regional transportation improvement plans identify widening the I-680 mainline beyond the existing eight lanes through the San Ramon corridor and, therefore, no local, regional, state, or federal funding exists for this improvement. Moreover, widening I-680 may require the acquisition of additional rights-of-way that could necessitate relocation of public roadways and sound walls, reconstruction of interchanges, and condemnation of private properties, among other changes. Until a nexus between the improvements to I-680 and funding is identified, widening the freeway to increase capacity is considered impracticable. Therefore, such an improvement would not be available, as mitigation and freeway impacts would be significant unavoidable impacts of the proposed project.

As a postscript, the proposed project’s trip reduction features should also be considered in context with the conclusion regarding impacts on freeway operations. The proposed project is an infill mixed-use project that would locate housing, employment opportunities, retail, civic uses, entertainment, and a transit center within a compact and focused destination. Infill mixed-use development is regarded as an effective trip-reduction strategy and is identified as a “smart growth” concept by regional agencies such as the Association of Bay Area Governments and the Metropolitan Transportation Commission.

Transportation

In addition, the proposed project would promote trip reduction through its inclusion of a transit center and its enhancement of the surrounding pedestrian and bicycle networks. The transit center would be served by the existing express bus service linking the Bishop Ranch Business Park with the Dublin/Pleasanton and Walnut Creek BART stations. The proposed project would also be served by this service as well as other County Connection bus lines. The proposed project would be located adjacent to the Iron Horse Trail, a regional Class I bicycle/pedestrian facility, which serves destinations such as downtown Walnut Creek, downtown Danville, and the Dublin/Pleasanton BART station. The project would have a direct, “crow flies” connection to the trail to provide safe and convenient access.

The proposed project would also create new cultural, entertainment, and retail opportunities in San Ramon. It would be expected that these new opportunities would primarily cater to existing unmet demand in the communities of San Ramon, Danville, and Dublin, and provide options to local residents who currently travel outside of this area to find these opportunities.

In summary, these aspects of the proposed project are expected to play a substantial role in reducing the total number of trips the proposed project would generate, including those that would use I-680. While these features would not change the residual significance of this impact, they are consistent with long-term regional transportation strategies intended to reduce traffic congestion and create alternatives to single-occupant vehicle usage.

Level of Significance Before Mitigation

Potentially significant impact.

Mitigation Measures

No mitigation is available.

Level of Significance After Mitigation

Significant unavoidable impact.

Queuing

Impact TRANS-4: The proposed project would contribute to deficient queuing under Year 2020 conditions.

Impact Analysis

A queue is a line of vehicles waiting to make a turn movement. Deficient queuing occurs when a 95th percentile vehicle queue exceeds available storage capacity. Because the proposed project would generate a significant number of trips, queuing impacts were assessed at six study intersections to determine if queues would exceed available storage.

Table 4.12-23 provides a summary of Year 2020 with project scenario queuing for both the AM and PM peak hours. The 95th percentile queue lengths are compared relative to the available storage length for each turning movement. The storage lengths shown in the table reflect project-related

improvements. These improvements include lengthening the eastbound left-turn lane on Bollinger Canyon Road at Camino Ramon from 300 feet to 500 feet by removing the existing landscaped median and adding a second westbound left-turn lane at Sunset Drive and decreasing the westbound left-turn pocket at Sunset from 360 feet to 250 feet. The available storage at these six key intersections near the project is also illustrated graphically in Exhibit 4.12-16. The lengths presented in bold indicate when the storage length is exceeded by the calculated 95th percentile queue.

Table 4.12-23: Year 2020 Queuing

No	Intersection	Movement	AM Peak Hour With Project		PM Peak Hour With Project	
			95 th (ft)	Available (ft)	95 th (ft)	Available (ft)
8	Bishop Drive at Camino Ramon	Southbound Left	30	180	147	180
		Westbound Left	25	200	98	200
		Eastbound Left	33	180	67	180
12	Bollinger Canyon Road at Sunset Drive/Chevron Park	Southbound Through-Left	247	170	218*	170
		Eastbound Left	883	600	581	600
		Westbound Left	169	250	38	250
13	Bollinger Canyon Road at Camino Ramon	Southbound Left	113	490	338	490
		Northbound Left	27	445	217	445
		Westbound Left	57	225	28	225
		Eastbound Left	416	500	278	500
14	Bollinger Canyon Road at Bishop Ranch 1 East/ Bishop Drive	Southbound Left	27	175	173	175
		Northbound Left	20	325	156	325
		Westbound Left	52	150	35	150
		Eastbound Left	6	200	15	200
26	Sunset Drive at Shops at Bishop Ranch	Southbound Left	20*	80	30*	80
		Northbound Left	122*	150	92*	150
		Westbound Left	35	100	93	100
27	Sunset Drive at Bishop Drive	Northbound Left	44	280	212	280
		Westbound Left	110	230	348	230
Notes: Bold denotes 95 th percentile queue exceeding available storage capacity, queue may be longer. Queue shown is maximum after two cycles. * Volume for 95th percentile queue is metered by upstream signal. Source: DMJM Harris, 2007.						

As shown in Table 4.12-23, deficient queuing would occur at the following three turning movements:

- **Bollinger Canyon Road/Sunset Drive/Chevron Park:** (2) southbound left (AM and PM) and (1) eastbound left (AM).
- **Sunset Drive and Bishop Drive:** (1) westbound left (PM only).

Mitigation is proposed that would implement storage capacity improvements at the intersections of Bollinger Canyon Road/Sunset Drive/Chevron Park and Bishop Drive/Sunset Drive. The mitigation is described below, along with the effectiveness of mitigating the impacts:

- **Southbound Sunset Drive at Bollinger Canyon Road:** An additional separate left-turn lane would be added where the existing median is located. With this additional lane, AM peak-hour 95th percentile queue lengths would be reduced to 132 feet and PM peak-hour 95th percentile queue lengths would be reduced to 117 feet. Both 95th percentile queue lengths could be accommodated by the 170 feet of available storage capacity.
- **Eastbound Bollinger Canyon Road at Sunset Drive:** The eastbound dual left-turn storage would be extended a distance of 900 feet back toward the interchange. With the additional storage capacity, AM and PM peak-hour 95th percentile queue lengths could be accommodated by the 900 feet of available storage capacity
- **Southbound Bishop Drive at Sunset Drive:** Re-stripe one of the westbound Bishop Drive through lanes to a left-turn lane, providing additional storage back to the West Street intersection. Add “Keep Clear” signage and pavement markings to the intersection of Bishop Drive and Parking Structure A. This would provide 370 feet of total storage capacity, which would be sufficient to accommodate 95th percentile queues.

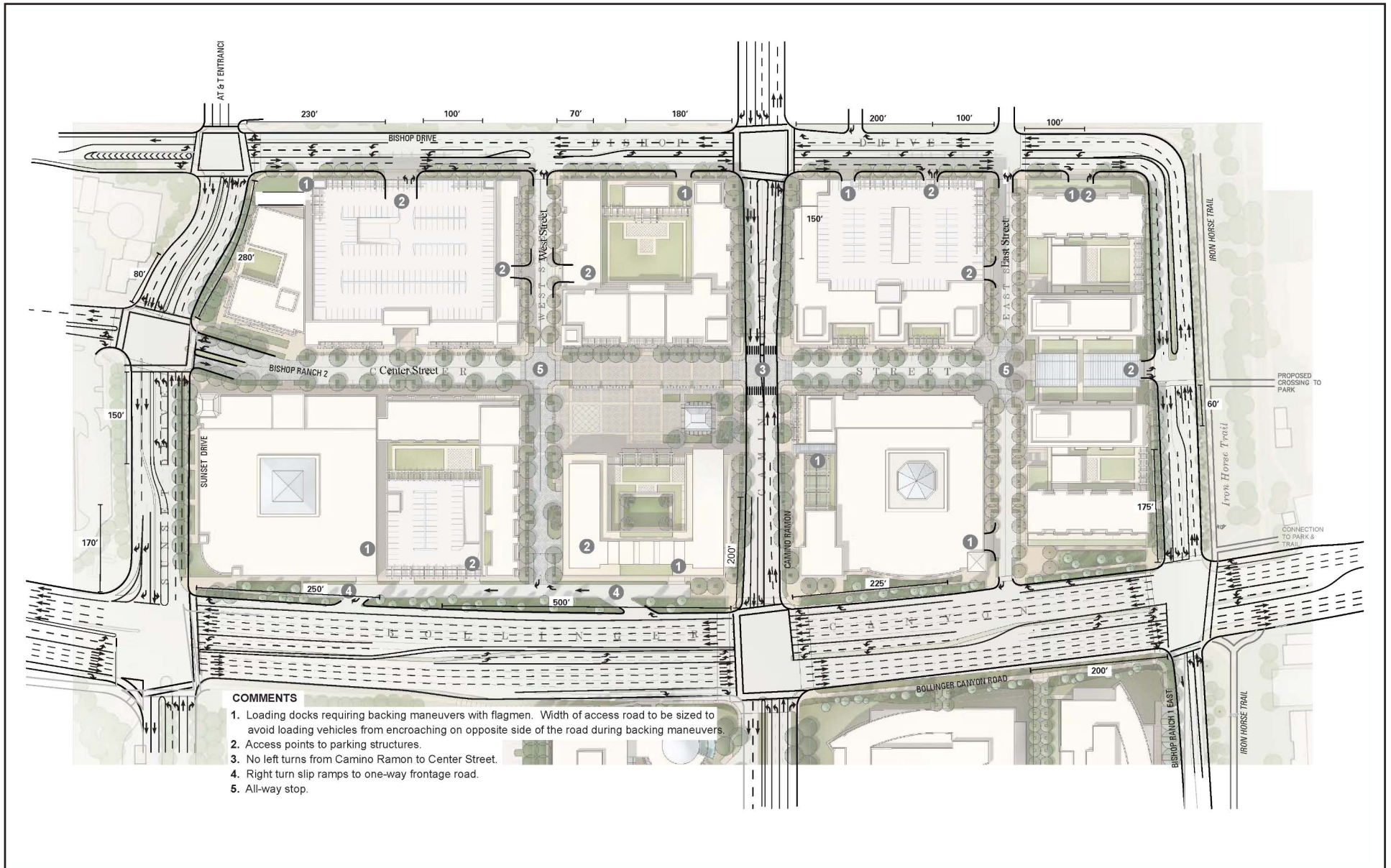
With the implementation of mitigation, all 95th percentile queues could be accommodated by available storage capacity and, therefore, all queuing impacts would be reduced to a level of less than significant.

Level of Significance Before Mitigation

Potentially significant impact.

Mitigation Measures

- MM TRANS-4a** When the improvements are warranted based on the City’s annual monitoring program, the project applicant shall provide pro-rata share payments to the City for the installation of a second left-turn lane on southbound Sunset Drive at Bollinger Canyon Road totaling 170 feet.
- MM TRANS-4b** When the improvements are warranted based on the City’s annual monitoring program, the project applicant shall provide pro-rata share payments to the City for the extension of a left-turn lane on eastbound Bollinger Canyon Road at Sunset Drive totaling a distance of 900 feet.



Source: DMJM HARRIS | AECOM, July 2007.



Not to Scale

Michael Brandman Associates

24910007 • 07/2007 | 4.12-16_roadway_concept_plan.cdr

Exhibit 4.12-16 Roadway Concept Plan

CITY OF SAN RAMON • SAN RAMON CITY CENTER PROJECT
DRAFT SUBSEQUENT ENVIRONMENTAL IMPACT REPORT

MM TRANS-4c When the improvements are warranted based on the City’s annual monitoring program, the project applicant provide pro-rata share payments to the City to re-stripe one of the westbound Bishop Drive through lanes to a left-turn lane to provide storage capacity back to West Street. As part of the re-striping, the City shall install “Keep Clear” signage and pavement markings at the intersection of Bishop Drive and Parking Structure A.

Level of Significance After Mitigation

Less than significant impact.

Parking Capacity

Impact TRANS-5: The proposed project would not provide adequate off-street parking in accordance with the requirements of the City Code.

Impact Analysis

Table 4.12-24 shows the parking demand for the various components of the project. Parking demand is calculated separately for the Plaza District and Bishop Ranch 1A and City Hall. Two adjustments to the rates are included in the table. Parking for multi-family residential is based on the number of bedrooms. One parking space is required for studios and one-bedroom units, and 2 spaces are required for two- or three-bedroom units. The exact bedroom mix has not been determined. A weighted average of 1.8 parking spaces per unit has been used. The office parking rate is also adjusted from 4 spaces per 1,000 square feet to 3.5 spaces per 1,000 square feet. This adjustment reflects the effective TDM program in place in Bishop Ranch.

Table 4.12-24: City Center Parking Analysis Parking Demand

Location	Land Use	Size	Parking Rate	Parking Demand
Plaza District	Retail	613,197 sq ft	1.0 space/250 sq ft	2,453
	Cinema	250 seats ¹	1.0 space/4 seats	63
	Multi-Family Residential	488 units	1.8 spaces ² /unit	878
	Hotel	169 rooms	1.2 spaces/room	203
	Office	50,142 sq ft	3.5 spaces ³ /1,000 sq ft	175
Plaza District Subtotal				3,772
Bishop Ranch 1A, City Hall	Office	681,769 sq ft	3.5 spaces ³ /1,000 sq ft	2,386
	Civic Center	75,150 sq ft	3.5 spaces ³ /1,000 sq ft	263
	Library	35,340 sq ft	3.0 spaces/1,000 sq ft	106
Subtotal Bishop Ranch 1A and City Hall				2,755

Table 4.12-24 (Cont.): City Center Parking Analysis Parking Demand

Location	Land Use	Size	Parking Rate	Parking Demand
Notes: ¹ The size of the cinema is 21,945 square feet and 6 screens. The City bases parking on spaces per seat. The project architect estimates the total seats at 250. ² City zoning ordinance requires 1 space per one-bedroom units and 2 spaces for two- and three-bedroom units. Weighted average of 1.8 spaces per total units used. ³ City zoning ordinance requires 4 spaces per 1,000 square feet. This requirement has been adjusted to 3.5 spaces per 1,000 square feet for Bishop Ranch to reflect the successful TDM program. Source: DMJM Harris, 2007.				

As noted in Table 4.12-24, the total parking demand of the Plaza District is 3,772 parking spaces and the total parking demand of Bishop Ranch 1A and City Hall is 2,755 parking spaces.

Table 4.12-25 shows the proposed parking supply. Parking supply is also calculated separately for the Plaza District, Bishop Ranch 1A, and City Hall.

Total parking for the Plaza District is 4,124 spaces. These spaces are allocated between the various land uses. It is expected that the residential parking and the hotel parking will be specifically designated for those uses. The 4,124 spaces are allocated into 3,068 spaces for retail and office uses, 896 spaces for residential uses, and 160 spaces for hotel uses.

The Bishop Ranch 1A parking supply totals 2,390 spaces, with 2,119 spaces in the structure and 271 surface spaces. Parking supply for the City Hall and Transit Center totals 396 total spaces, with 387 spaces in the structure and 9 surface spaces. Additionally, a new parking structure would be developed for Bishop Ranch 1 that would provide 1,300 spaces to replace the parking lost to the Bishop Ranch 1A parking structure.

Table 4.12-25: City Center Parking Analysis Parking Supply

Location	Parking Facility	Total Parking	Parking Allocation		
			Retail/Office	Residential	Hotel
Retail Complex (North Side of Bollinger Canyon Road)	Structure A	1,471	1,322	149	—
	Structure B	171	—	171	—
	Structure C	160	—	—	160
	Structure D	542	377	165	—
	On-Street-West Side	79	79	—	—
	Structure E	1,069	930	139	—
	Structure F	282	125	157	—
	Structure G	289	174	115	—

Table 4.12-25 (Cont.): City Center Parking Analysis Parking Supply

Location	Parking Facility	Total Parking	Parking Allocation		
			Retail/ Office	Residential	Hotel
<i>cont.</i>	On-street East Side	61	61	—	—
Subtotal, Plaza District		4,124	3,068	896	160
Office/Civic Center (South Side of Bollinger Canyon Road)	BR 1A Structure	2,119	2,119	—	—
	BR 1A Surface	271	271	—	—
	BR 1B Structure	387	387	—	—
	BR 1B Surface	9	9	—	—
Subtotal, Bishop Ranch 1A and City Hall		2,786	2,786	—	—
Source: DMJM Harris, 2007.					

In the Plaza District, retail/office/cinema is over-parked with a demand for 2,691 spaces and a supply of 3,068 spaces. The hotel is slightly under-parked with a demand of 203 spaces and a supply of 160 spaces. Some of the retail spaces in Parking Structure D will need to be allocated to support the hotel. This is incorporated into the proposed project as a mitigation measure. The implementation of this mitigation would ensure that potential parking impacts are less than significant.

Parking demand for both Bishop Ranch 1A and City Hall is less than available supply. Additionally a 513-space future reserve parking structure has been anticipated to address any future need. Therefore, off-street parking impacts would be less than significant.

Motorcycle Parking

The City of San Ramon Zoning Ordinance also requires motorcycle parking. Because of the unique nature of the proposed mixed-use project and shared parking concept, a mitigation measure has been added that requires the project applicant to provide a Motorcycle Parking Study, which analyzes the specific project need for motorcycle parking. The study shall identify where this motorcycle parking would be provided in each component of the project to meet the intent of the City Zoning Ordinance. The implementation of this mitigation measure would reduce potential impacts to a level of less than significant.

Level of Significance Before Mitigation

Potentially significant impact.

Mitigation Measures

MM TRANS-5a The project applicant shall designate a minimum of 203 parking spaces for the use of the hotel. Spaces shall be designated with markings and signage.

Transportation

MM TRANS-5b Prior to issuance of building permits, the project applicant shall submit for review and approval of the City a Motorcycle Parking Study, identifying the location of the minimum number of motorcycle parking spaces for each project component. Each motorcycle parking space shall have minimum dimensions of 4 feet by 7 feet.

Level of Significance After Mitigation

Less than significant impact.

Roadway Safety

Impact TRANS-6: The proposed project may result in inefficient traffic patterns resulting from the provision of on-street parking on Camino Ramon.

Impact Analysis

The proposed project would allow for on-street parking on Camino Ramon between Bollinger Canyon Road and Bishop Drive during non-commute hours. During non-commute hours and on weekends and holidays, Camino Ramon would be narrowed to one through travel lane in each direction, and vehicles would be able to park on street, parallel to the curb.

However, the narrowing of Camino Ramon to two through travel lanes has the potential to create certain inefficiencies in traffic movement. Camino Ramon is the main north-south roadway serving the Bishop Ranch Business Park and provides linkages to Bollinger Canyon Road, Norris Canyon Road, and Crow Canyon Road. The existing segment of Camino Ramon between Bollinger Canyon Road and Bishop Drive currently contains four through travel lanes and has a posted speed limit of 40 miles per hour. Narrowing this roadway to two through travel lanes during the non-commute hours has the potential to create congestion and delays from reduced lane capacity and roadway obstruction from double-parked vehicles, which diminishes roadway operations. This could be a potentially significant impact.

Mitigation is proposed that would require the City of San Ramon to monitor traffic operations on this stretch of Camino Ramon after the opening of the Plaza District. If significant traffic congestion is observed, the City would be required to institute corrective measures to address the problems, up to and including entirely eliminating on-street parking on Camino Ramon. The implementation of this mitigation measure would reduce potential impacts to a level of less than significant.

Level of Significance Before Mitigation

Potentially significant impact.

Mitigation Measures

MM TRANS-6a The City of San Ramon shall monitor Camino Ramon between Bollinger Canyon Road and Bishop Drive for inefficient traffic operations after Plaza District opening. Monitoring activities may include, but are not limited to, video observation, traffic counts, review of police reports, or other activities that empirically document traffic

operations. If necessary, the City shall take action through one or a combination of the following corrective measures, which shall be financed by the project applicant:

- Additional signage or street markings identifying appropriate on-street parking locations, alternate routes, or potential hazards (e.g., vehicles entering the travel lanes)
- Increased traffic enforcement
- Stationing traffic control personnel at strategic locations during peak commute times
- Public education efforts
- Increasing the hours that on-street parking is prohibited
- Entirely eliminating on-street parking

Level of Significance After Mitigation

Less than significant impact.

Emergency Access

Impact TRANS-7: The proposed project would not result in inadequate emergency access.

Impact Analysis

The City Hall component of the proposed project includes a 12,000- to 15,000-square-foot Police Department headquarters. The location of the new Police Department would allow for quick response to emergencies within the Plaza District, Bishop Ranch 1A, and City Hall components of the project, in addition to neighboring land uses such as the Shops at Bishop Ranch, Bishop Ranch 1, Bishop Ranch 3, Central Park, and the Market Place. The Police Department indicates that the new headquarters location would be more geographically centralized and would be expected to improve response times to the central and southern portions of the City, as well as to the Dougherty Valley. This is a beneficial aspect of the proposed project. Therefore, the proposed project will have adequate police response.

The proposed project is located less than 1 mile from Station 34 on Alcosta Boulevard and is located in an area where response times are within the 5-minute standard established by the San Ramon Valley Fire District and the City of San Ramon General Plan. Station 34 is staffed by two engine companies, which combined total six personnel. A tiller ladder truck with a 100-foot aerial ladder is assigned to the station and would be capable of providing response or fire suppression to the upper floors of the proposed project's structures. Station 34 also has a variety of other apparatus, including two Type 1 engines, an ambulance, and an urban search and rescue vehicle. The proposed project would not be expected to compromise fire response to surrounding land uses. Although Camino Ramon would be narrowed to two through lanes during the non-commute hours, a four-lane extension

Transportation

of Bishop Drive would intersect with Bollinger Canyon Road and would provide an alternate route around Camino Ramon for fire trucks and emergency response vehicles. Therefore, the proposed project will have adequate fire response.

For these reasons, the proposed project would not result in inadequate emergency access.

Level of Significance Before Mitigation

Less than significant impact.

Mitigation Measures

No mitigation is necessary.

Level of Significance After Mitigation

Less than significant impact.

Public Transit, Bicycles, and Pedestrians

Impact TRANS-8: The proposed project would provide public transit, bicycle, and pedestrian opportunities and would not conflict with adopted policies, plans, or programs supporting alternative transportation.

Impact Analysis

The proposed project is an approximately 2.1 million-square-foot (approximately 1.6 million net-square-foot increase above vested entitlements), mixed-use project and contains a number of design features that would create new opportunities for use of public transit, bicycle, and pedestrian modes of transportation. Each is discussed separately.

Public Transit

The proposed project would include a Transit Center adjacent to the City Hall (refer to Exhibit 3-13). The Transit Center would occupy the ground floor of the two-story parking structure and would have five bus turnouts. The Transit Center would be covered and would be located adjacent to the San Ramon Police Department headquarters, which would provide a comfortable and safe environment for transit users. The seven existing County Connection bus routes that serve the project site are expected to serve the Transit Center, including the Bishop Ranch express bus service to the Dublin/Pleasanton and Walnut Creek BART stations. Based on the trip reduction analysis discussed previously, the proposed project would generate between 100 and 150 transit trips during each of the AM and PM peak hours. Equal amounts of transit travel would also be created during hours immediately before and after the off-peak hours. Less transit traffic would be generated throughout other hours of the day. The existing San Ramon Transit Center at Executive Parkway and the Iron Horse Trail will remain in operation.

Therefore, transit impacts would be less than significant.

Bicycles

Because of its proximity to the Iron Horse Trail and the adjacency of Class II and III bike lanes on Bishop Drive and Bollinger Canyon Road, respectively, project residents, employees, and guests would be expected to regularly use bicycles. Bishop Drive currently has Class II bike lanes between Norris Canyon Road and Sunset Drive. To facilitate bicycle use, Class II bicycle lanes will be extended on Bishop Drive from their current terminus at Sunset Drive to Bollinger Canyon Road. A pedestrian/bicycle linkage will connect Bishop Drive with the Iron Horse Trail. The extension of the Class II bike lanes on Bishop Drive would close a gap in the City's bicycle circulation network and would enhance the viability of bicycle usage.

The City of San Ramon requires new development projects to provide bicycle storage facilities. Because of the unique nature of the proposed mixed-use project, a mitigation measure has been added that requires the project applicant to provide a bicycle parking study that analyzes the specific project need for bicycle parking and storage. The study shall identify where this bicycle storage would be provided in each component of the project to meet the intent of the City Zoning Ordinance. The implementation of this mitigation measure would reduce potential impacts to a level of less than significant.

Pedestrians

The principal pedestrian feature of the Plaza District is that it is intended to be a pedestrian-oriented environment. Sidewalks would be provided along all street frontages and crosswalks on Center Street would receive a pavement treatment intended to enhance the definition of the pedestrian space. The proposed project would also provide a signalized pedestrian/bicycle crossing between the Plaza District and the Iron Horse Trail. Parking would be restricted to streets and multi-level structures, while walkways and plazas would be located in front of storefronts. On-street parking would be allowed on Camino Ramon between Bollinger Canyon Road and Bishop Drive during the non-peak hours and on weekends and holidays to enhance the pedestrian environment of the Plaza District.

Residential dwelling units in the Plaza District would be within walking distance to jobs in the Bishop Ranch Business Park, government functions in City Hall, eating and drinking establishments, entertainment venues, and recreational facilities (Central Park and the Iron Horse Trail). Given the proximity of these uses, it would be expected that many residents would find it more convenient to walk or bike instead of using a car.

Both Bishop Ranch 1A and City Hall would compliment the pedestrian-oriented environment of the Plaza District. Both components would be located on the opposite side of Bollinger Canyon Road from the Plaza District and would be within walking distance. Similar to the Plaza District, these components would also be within walking distance of neighboring land uses such as the Shops at Bishop Ranch, the Market Place, the Iron Horse Trail, and Central Park. It would be expected that many workers in Bishop Ranch 1A and City Hall would find it more convenient to walk to surrounding land uses rather than use a car.

Two additional crosswalks would also be added to the Bollinger Canyon Road/Bishop Drive/Bishop Ranch 1 East road intersection to provide for pedestrian crossings on all four legs. All other existing crosswalks would be maintained. Pedestrian walk indications will be adjusted as necessary to accommodate the pedestrian volume and the additional roadway width associated with the implementation of the plan line for Bollinger Canyon Road.

Therefore, pedestrian impacts would be less than significant.

Level of Significance Before Mitigation

Potentially significant impact.

Mitigation Measures

MM TRANS-8a Prior to issuance of building permits, the project applicant shall submit for review and approval of the City a Bicycle Parking Study, identifying the location of the minimum number of bicycle parking spaces for each project component. Bicycle storage facilities, when feasible, shall be provided near the primary entrance of each structure they are intended to service.

Level of Significance After Mitigation

Less than significant impact.

Construction Impacts

Impact TRANS-9: The proposed project may create substantial short-term traffic, parking, and vehicular access impacts associated with construction activities.

Impact Analysis

Construction truck traffic would consist of removal of demolished buildings and infrastructure, off-haul of excavated material, and on-haul of new construction materials. Most truck trips would be expected to use I-680 and would leave and enter the freeway at Bollinger Canyon Road. Trucks would use Bollinger Canyon Road, Camino Ramon, Sunset Drive, Bishop Drive, the Bishop Ranch 1 entrance road, and the Bishop Ranch 1 East road. Daily construction truck traffic will vary by type of activity, but the maximum number of daily truck trips is estimated to be 180 round trips. Note that this estimate is consistent with the number of truck trips used in the construction air quality analysis in Section 4.2, Air Quality. Construction truck traffic has the potential to create congestion and delays, as well as hazards from trucks entering roadways and flying debris from uncovered loads.

Construction staging and vehicle parking would be provided onsite. Staging operations have the potential to obstruct roadways and parking lots. Some phases of the project would be labor intensive and may result in several hundred workers on the project site on certain days. Spill-over construction parking could adversely impact off-street parking in the Bishop Ranch Business Park, the Shops at Bishop Ranch, Central Park, the Market Place, Iron Horse Middle School, and other neighboring land uses.

Mitigation is proposed that would require the project applicant to submit a Construction Traffic, Staging, and Management Plan to the City of San Ramon for review and approval. The implementation of the plan would reduce potential impacts to a level of less than significant.

Level of Significance Before Mitigation

Potentially significant impact.

Mitigation Measures

MM TRANS-9 Prior to the commencement of construction, the project applicant shall provide a Construction Traffic, Staging, and Parking Management Plan to the City of San Ramon for review and approval. All construction contracts shall include a clause requiring compliance with the Construction Traffic, Staging, and Parking Management Plan. The plan shall include the following provisions:

- Construction truck traffic shall be limited to the following designated haul routes: Bollinger Canyon Road, Camino Ramon, Sunset Drive, Bishop Drive, the Bishop Ranch 1 entrance road, and the Bishop Ranch 1 East road. Construction truck traffic shall be prohibited on all other roadways, unless compelling circumstances warrant such movements (e.g., a major traffic accident).
- Signage shall be installed at construction truck ingress and egress points alerting motorists to such movements.
- Soil, debris, or other loose materials shall be covered with tarps or other restraining material during haul movements on roadways
- On-site and off-site construction staging and parking locations shall be identified, as well as any necessary shuttle service needed to transport workers from off-site locations. For safety reasons, off-site staging or parking shall not be allowed at Central Park or Iron Horse Middle School.
- A pre-construction conference shall be held advising all construction contractors of the requirements of the Construction Traffic, Staging, and Parking Management Plan.
- A requirement obligating the project applicant to repair any roadways damaged by construction equipment or activities.

Level of Significance After Mitigation

Less than significant impact.

4.13 - Urban Decay

4.13.1 - Introduction

This section describes the existing urban decay setting and potential effects from project implementation on the site and its surrounding area. Descriptions and analysis in this section are based on information contained in the San Ramon Urban Decay Analysis, prepared in June 2007 by Economic & Planning Systems, included in this EIR as Appendix K.

As explained in Section 1, Introduction, where applicable, this project-level Draft Subsequent Environmental Impact Report (DSEIR) tiers off and incorporates by reference information and analysis contained in the City of San Ramon General Plan EIR and the San Ramon City Civic Center EIR, certified by the San Ramon City Council in 2001 and 2003, respectively. Both the General Plan EIR and the City Civic Center EIR did not evaluate impacts related to urban decay; therefore, there is no previous analysis from which to tier. This DSEIR also incorporates by reference the City of San Ramon Zoning Ordinance Final Negative Declaration and the Addendum to the City of San Ramon Zoning Ordinance Final Negative Declaration, both of which were certified by the San Ramon City Council in 2006.

4.13.2 - Environmental Setting

Overview of Urban Decay

The California Environmental Quality Act (CEQA) requires that significant effects on the environment be analyzed, disclosed, and mitigated, if feasible, prior to the approval of discretionary land use approvals. The CEQA Guidelines require that both direct and reasonably foreseeable indirect physical changes be evaluated during the environmental review process. A direct physical change is one that is caused by and immediately related to the project. Examples of direct physical changes are construction-related dust, noise, and traffic. An indirect physical change is one which is not immediately related to the project but which is caused indirectly by the project. An example of an indirect physical change would be the construction of a new sewage treatment plant that provides additional wastewater treatment capacity that may facilitate population growth and may lead to an increase in air pollution.

In the context of CEQA, urban decay is considered an indirect physical impact. The development of new commercial retail space in a retail market has the potential to result in the closure of competing business, which may in turn result in vacant storefronts that meet the California Health and Safety Code definition of blight.

For the purpose of this analysis, urban decay is defined as physical deterioration that is so prevalent and substantial it impairs the proper utilization of affected real estate or the health, safety, and welfare of the surrounding community. Physical deterioration includes, but is not limited to, abnormally high business vacancies, abandoned buildings and commercial sites, boarded doors and windows, parked trucks and long-term unauthorized use of properties and parking lots, extensive gang or offensive

graffiti painted on buildings, dumping of refuse or overturned dumpsters on properties, dead trees or shrubbery, and uncontrolled weed growth or homeless encampments.

Because of the complexities of retail markets, no threshold exists for determining how much lost sales would cause a business to close. However, for the purposes of this analysis, it will be assumed that a shift in retail sales away from existing establishments of greater than 10 percent and lasting longer than 4 years may be large enough to lead to the physical abandonment of buildings. Most businesses can usually withstand a temporary sales shift of 5 to 7 percent, which is typical during a downward business cycle.

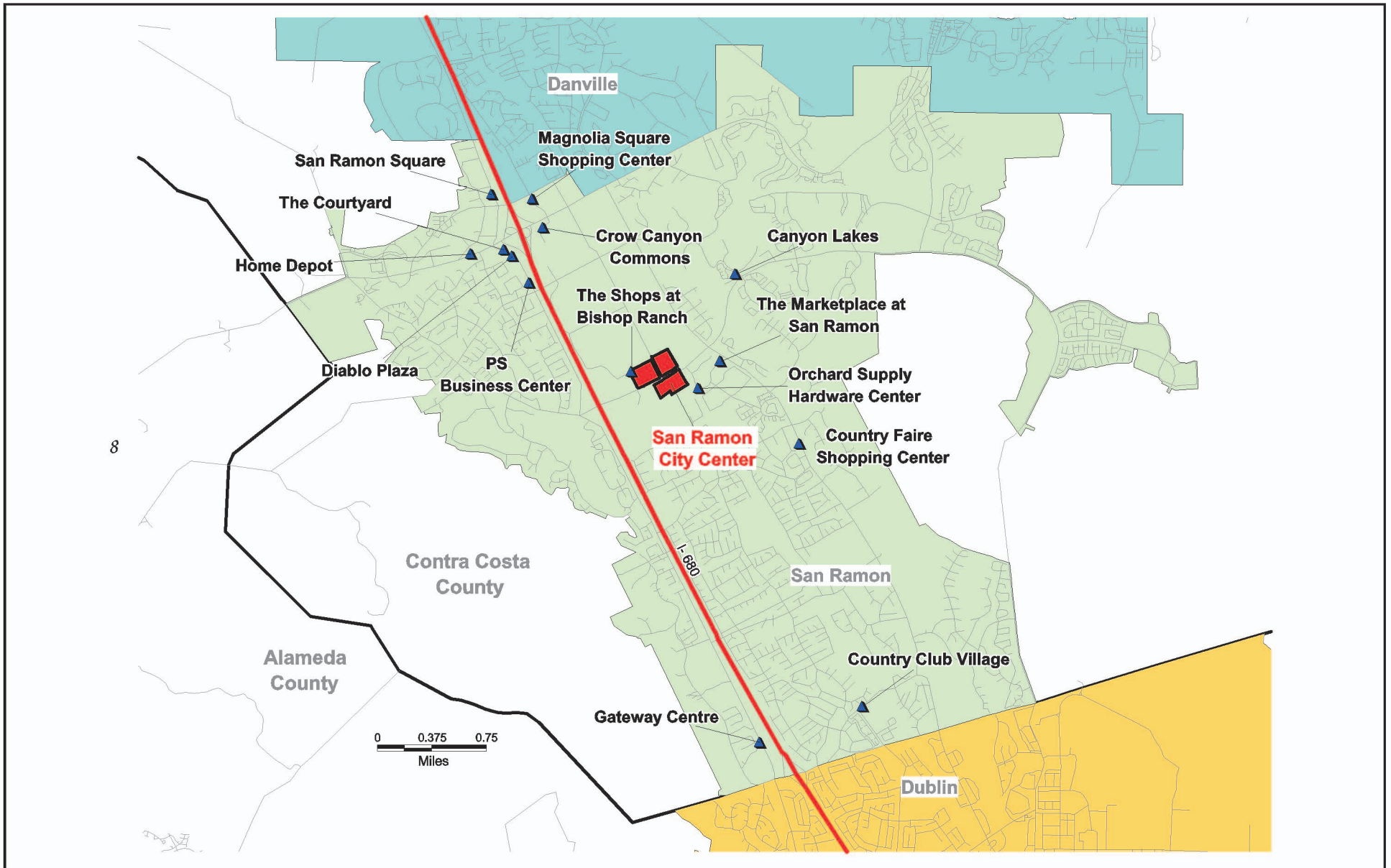
Recent California court decisions (Bakersfield Citizens for Local Control v. City of Bakersfield; Panama 99 Properties, LLC, and Castle & Cooke Commercial-CA, Inc.; as well as Anderson First Coalition, et al. v. City of Anderson, et al. and FHK Companies, et al.) have made clear that for large retail developments, an economic impact analysis should be undertaken to assess the possibility of urban decay and deterioration and indirect physical impacts on the environment.

Trade Area Setting

A Retail Trade Area is defined as a geographic area that contains the elements of demand and supply that will determine the performance of a particular retail store or project. A Trade Area is influenced by a variety of factors, including the location and density of the targeted residential population, the location of key competitors, the relative distance or travel time for each of the above, geographic and psychological barriers, and existing commute and shopping patterns. Retail establishments outside the Trade Area are not considered to be at risk of urban decay, because their primary clientele does not live in the Trade Area.

Exhibit 4.13-1 depicts the Trade Area as assumed for this study. As shown, the Trade Area is assumed to include the cities of Danville, San Ramon, and Dublin. Despite the relative proximity of such retail centers as Walnut Creek and Pleasanton, the proposed project is not expected to capture significant demand from the residents of these cities. Shoppers in these neighboring markets are less likely to travel to San Ramon from Walnut Creek or Pleasanton as their retail options are of much greater scale and scope. However, residents of Danville, San Ramon, and Dublin, many of whom currently commute to Pleasanton and Walnut Creek for shopping, are likely to be attracted by the relative proximity of the proposed project.

It is important to note that a Trade Area is also influenced by the type of tenant. Since future tenants for the proposed project have yet to be determined, however, there is a need to make simplifying assumptions. Although the precise tenanting of the proposed project is unknown, the concept is “lifestyle” oriented, catering to smaller retailers and local and regional shoppers. This type of product is not currently available in the Trade Area but does exist in the neighboring markets of Pleasanton and Walnut Creek. This further reinforces Danville, San Ramon, and Dublin as the appropriate Trade Area for this study.



Source: Economic & Planning Systems, Inc., June 2007.



Michael Brandman Associates

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Exhibit 4.13-1 Trade Area

CITY OF SAN RAMON • SAN RAMON CITY CENTER PROJECT
DRAFT SUBSEQUENT ENVIRONMENTAL IMPACT REPORT

The exclusion of Pleasanton and Walnut Creek from the market area is a conservative approach and justified based on several factors. First, the larger an assumed trade area, the less significant the impact of a single project is likely to be, since it will represent a smaller proportion of the total larger market and thus be overshadowed by larger economic and demographic trends. The retail markets in Walnut Creek and Pleasanton are considerably large, with the Stoneridge Shopping Center in Pleasanton totaling 1.3 million square feet of retail space and Walnut Creek's Broadway Plaza covering nearly 700,000 square feet. With the inclusion of these two cities in the Trade Area, the impact of the proposed project would appear to be quite small on a relative scale, thus overshadowing the potential impact of the project on the retail markets immediately surrounding San Ramon.

Second, the retail markets in both Pleasanton and Walnut Creek are currently very strong and unlikely to be vulnerable to urban decay from supply changes in the Trade Area. For example, annual sales of retail space at Broadway Plaza in Walnut Creek are approximately \$800 per square foot, and the center draws customers from throughout the Bay Area, including San Francisco and even remote areas of Solano and Alameda counties. The Stoneridge Shopping Center in Pleasanton, in turn, generates nearly \$500 per square foot in sales revenue per year, indicating a very healthy demand. Both centers have announced plans for expansion.

Socio-Economic Context

San Ramon is located in central Contra Costa County along the Interstate 680 (I-680) corridor between Walnut Creek and Pleasanton and has been significantly affected by growth trends throughout the larger San Francisco Bay Area. Overall, San Ramon is located in a relatively affluent market with strong population and employment growth.

In addition to serving as a bedroom community for commuters working in larger employment hubs such as Oakland and San Francisco, San Ramon continues to create a significant number of jobs. Some major private employers in the City include AT&T, Chevron, IBM, Lennar Homes, and Target. Bishop Ranch alone has a workforce of 30,000 people.

The significant growth pressures in Contra Costa County and the metropolitan regions of San Francisco have created new opportunities for retail development serving both the local population and commuters. As households and incomes increase, demand for new retail development is likely to continue to be strong over the coming decade. A further description of population, employment, and income trends in the Trade Area is provided below.

Population and Household Trends

Population and household characteristics are key determinants in the type and amount of retail demand in a particular area. Assuming average household incomes remain constant or improve over time, a growing population base will generally result in increased retail demand, providing additional market support for new and existing establishments.

Historic and projected population and household trends are shown in Table 4.13-1, using Association of Bay Area Governments (ABAG) Projections 2005 data and the City of San Ramon General Plan. Despite the economic downturn of the early 1990s, Contra Costa County as a whole has continued to grow. Significant residential growth has occurred in the Trade Area and Contra Costa County over the last ten years, and this trend is expected to continue. As shown in Table 4.13-1, the population in the Trade Area (Danville, San Ramon, and Dublin) grew by about 17 percent over the last five years and is expected to add an additional 41,900 residents between 2005 and 2020, a 30-percent increase. The trend in household growth is similar, with an expected increase of 34 percent over the same period.

The ABAG and the City of San Ramon use different assumptions about the growth in population and employment over the projected time period. The City of San Ramon General Plan projects population to grow at an average annual rate of 3.3 percent between 2007 and 2020. ABAG, on the other hand, has projected an average population growth of 2.0 percent over the same period for San Ramon. This report provides an assessment of retail market supply and demand projections based on two different population assumptions.

Income and Employment Trends

Income and employment play an important role in consumer demand for retail goods. For example, higher-income households typically demand more and a different type of retail goods than lower-income households. In addition, employment growth can have an independent effect on the type and amount of retail goods demanded through increased commuter and business-related purchases.

Income

As shown in Table 4.13-2, the 2005 mean household income in the Trade Area of \$140,434 is projected to grow to \$153,008 by 2020 in real terms (i.e., adjusted for inflation), increasing by 9 percent, or more than \$12,000 per household, according to ABAG. Overall, this represents a relatively healthy growth rate, which, if realized, could significantly boost demand for retail goods. Specifically, as household incomes continue to increase, buying power and expenditures of local households will increase as well, supporting future growth in the retail sector. These income growth projections are combined with household growth projections to estimate growth in retail sales.

Table 4.13-1: Historic and Projected Population and Household Trends

Item		Year									Average Annual Growth Rate (2007–2020)
		2000	2005	2007	2009	2010	2011	2012	2015	2020	
San Ramon General Plan Projections											
Households	San Ramon	17,991	21,121	22,520	24,012	24,795	25,603	26,437	29,108	34,171	3.3 percent
	Retail Trade Area	42,592	48,608	51,246	54,027	55,474	56,959	58,484	63,309	72,251	2.7 percent
Population	San Ramon	50,555	59,349	63,281	67,473	69,673	71,944	74,289	81,792	96,020	3.3 percent
	Retail Trade Area	123,520	145,249	154,872	165,133	164,873	170,247	175,796	184,292	204,920	2.2 percent
Association of Bay Area Governments Projections											
Households	San Ramon	16,981	19,590	20,647	21,761	22,340	22,852	23,376	25,020	27,430	2.2 percent
	Retail Trade Area	41,582	48,850	51,268	53,805	55,120	56,169	57,239	60,570	65,510	1.9 percent
Population	San Ramon	44,834	52,000	54,583	57,294	58,700	59,909	61,143	65,000	70,900	2.0 percent
	Retail Trade Area	117,799	137,900	144,090	150,558	153,900	156,529	159,202	167,500	179,800	1.7 percent
Household and population projections from San Ramon General Plan 2020. Source: Economic & Planning Systems, 2007.											

Table 4.13-2: Income and Employment Projections

Item		Year									Average Annual Growth Rate (2007–2020)
		2005	2007	2008	2009	2010	2013	2015	2018	2020	
Income (dollars)	San Ramon	137,700	139,011	139,671	140,334	141,000	143,446	145,100	148,435	150,700	0.6 percent
	Retail Trade Area	140,434	141,490	142,021	142,554	143,088	145,744	147,542	150,798	153,008	0.6 percent
Employment	San Ramon	40,110	41,577	42,331	43,099	43,880	46,099	47,640	50,007	51,650	1.7 percent
	Retail Trade Area	74,720	77,864	79,485	81,140	82,830	87,587	90,910	96,554	100,510	2.0 percent
Projections provided by ABAG Mean household income in real 2005 dollars, RTA income weighted by households. Source: Economic & Planning Systems, 2007.											

Employment Growth

Also shown in Table 4.13-2, employment in San Ramon is projected to grow 24 percent by 2020 and the Trade Area is expected to grow 29 percent over the same period. The total market area is expected to gain 22,646 jobs over the next 13 years. If realized, this employment growth will have positive implications for the retail sector, especially if it increases in-commute from other regions.

Although important, employment is not used to derive future retail demand. Instead, this analysis relies on growth in households to project retail demand, in part to avoid double counting demand by locally employed residents. To the extent that strong employment growth attracts residents from outside the Trade Area, the estimates are conservative. Based on the 2000 Census, about 25 percent of jobs in San Ramon are filled by people who live outside the Trade Area. Using employment growth to derive retail demand would include spending that is not actually taking place in San Ramon or the Trade Area. Using household growth measures the retail expenditures of the residents of the Trade Area instead of commuters.

Retail Market Conditions

The overall market conditions for retail in the Trade Area are very strong. According to brokers active in the market, vacancy rates across San Ramon, Dublin, and Danville are under 3 percent, reflecting relatively tight market supply conditions. A summary of existing supply conditions and centers is provided in Table 4.13-3 and further described below by city. In general, the presence of numerous shopping centers in the Trade Area is indicative of a relatively mature retail sector. It should be noted that each city also contains a substantial amount of additional retail not located in large shopping centers.

Table 4.13-3: Trade Area Retail Centers

City	Shopping Center	Anchor Tenants	Estimated Square Feet
San Ramon	Country Club Village	Longs Drugs, Le Asia Super Market	111,250
	The Courtyard Center/Crow Canyon	Bighorn Grill, AutoMart, Nations, 7-11	70,000
	Crow Canyon Commons	Albertson's, Rite Aid, Loehmann's	211,500
	Diablo Plaza	Jo-Ann Fabrics, Longs Drugs, Safeway, Crow Canyon Cinemas	142,000
	Gateway Centre	Albertson's, Walgreen's	110,500
	Magnolia Square Shopping Center	Office Depot, Petco	67,000
	The Market Place	Longs Drugs, Nob Hill Supermarket, Fitness 19, El Balazo, Hopyard Alehouse and Grill	182,500
	The Shops at Bishop Ranch	Whole Foods, Borders, Magnolia Audio Video, Bank of the West	96,000

Table 4.13-3 (Cont.): Trade Area Retail Centers

City	Shopping Center	Anchor Tenants	Estimated Square Feet	
<i>cont.</i>	Target (next to The Shops at Bishop Ranch)	Target Greatland	126,000 ²	
	San Ramon Square ¹	Curves, City of D'Lights, European Deli, Three Brothers From China, Madras	33,000	
	Home Depot Center	Home Depot, Staples	149,000	
	Orchard Supply Hardware Center ³	Orchard Supply	40,000	
	Country Faire Shopping Center	Local area retail	94,510	
	PS Business Center	Erik's Deli, Park Avenue Cleaners	24,600	
	Canyon Lakes ¹	Sergio's Trattoria, Yang's, Country Club Cleaners	33,325	
	Subtotal			1,491,185
Dublin	Hacienda Crossings	Best Buy, Barnes & Noble, Babies R Us, Old Navy, IMAX	470,000	
	Waterford Place Shopping Center	Safeway	134,000	
	Dublin Place Shopping Center	Target, Expo Design Center, Burlington Coat Factory, Bassett Furniture, Petsmart	206,425	
	Safeway Center	Safeway	55,000	
	Auto Dealers	Crown Chevrolet, Dublin Auto Center, Dublin Buick Pontiac GMC, Dublin Honda, Dublin Toyota, Ford of Dublin, Stoneridge Chrysler Jeep Dodge	N/A	
	Dublin Crossroads Center	Carl's Jr., Post Tools	32,527	
	Dublin Retail Center	Marshall's, Michael's, Orchard Supply Hardware, Ross	154,728	
	San Ramon Village	Albertson's	49,683	
	Shamrock Village	Dollar Tree, World of Shoes, Gallagher's Pub	85,000	
	Strouds Plaza	Strouds Linen Warehouse	56,000	
	Lamps Plus Center	Lamps Plus, Hana Japan, Country Waffle	54,000	
	Dublin Corners	Sheldan's Bakery Café, Washington Mutual	46,200	
	Other non-anchored retail			1,334,737
	Subtotal			2,678,300
Danville	Downtown District	Light retail, including books, apparel, coffee shops, and restaurants	N/A	
	Danville Livery	Piatte Restaurant, Sweet Potato	95,429	

Table 4.13-3 (Cont.): Trade Area Retail Centers

City	Shopping Center	Anchor Tenants	Estimated Square Feet
<i>cont.</i>	Sycamore Square	Albertson's, Longs Drugs	78,379
	The Village ¹	Walgreen's, Ace Hardware, Wells Fargo	25,350
	Crossroads	Radio Shack, Sushi	25,000
	Danville Square	Trader Joe's, Starbucks	30,000
	Iron Horse Plaza	Lunardi's Supermarket, Peet's Coffee, Supercuts, Blockbuster Video	14,206
	Danville Garden Shopping Center	Safeway	35,000
	Danville Town & Country	McCaulou's Department Store, Safeway	55,200
	Tassajara Crossing	Longs Drugs, Safeway	146,188
	Railroad Centre	Lyons Restaurant	25,000
	Castle Square	Costco, Marshall's	152,000
	The Village at Tassajara	Subway, Baskin-Robbins, UPS Store	30,835
		Subtotal	
Notes:			
¹ Visual estimate of square feet			
² Square feet based on average size of Target stores in California.			
Source: Economic & Planning Systems, 2007.			

San Ramon

San Ramon has a relatively large retail sector consisting of a number of shopping centers clustered along I-680. Most shopping centers in San Ramon are grocery store anchored centers supported by smaller and often local “in-line” retailers and merchants. In addition, there are several large shopping centers with major national retailers, including Home Depot, Target, Whole Foods, and Office Depot, among others. The current inventory of retail area in San Ramon is approximately 1.5 million square feet.

In addition to the listed shopping centers in the Trade Area, there is some amount of smaller retail centers and strip malls with local retailers and small shops. Individually, these shopping centers do not contribute a significant portion of retail square footage or retail sales to the larger Trade Area, but taken as a whole they can play a modest role in the market. Given vacancy rates across the Trade Area, even relatively small retail building space is in high demand. Overall, the retail market in San Ramon consists of local, neighborhood, and community shopping centers, primarily attracting customers from the local Trade Area and not from the region as a whole. The City does not currently possess a “lifestyle” center or other regional destination establishment capable of attracting customers from the broader region. Nor does San Ramon offer an expanded retail center catering to entertainment and the higher-end consumption tastes of local residents. This existing composition

was the basis of a conclusion by the San Ramon Economic Development Strategic Plan, dated July 2005, and prepared by Bay Area Economics (BAE) citing a need for this type of product. As stated in that report: "...a growing retail product type that may have potential for development in San Ramon is the 'lifestyle center,' which offers high-quality merchandise, services, and restaurant/entertainment venues in a contemporary setting."

Dublin

With approximately 2.7 million square feet of retail space, Dublin is the largest retail center within the Trade Area. Most of this development is clustered within and around the three major shopping centers in Dublin: Hacienda Crossing, Waterford Place, and Dublin Place Shopping Center. In addition, there is a large collection of automobile malls and plazas, making Dublin a Trade Area draw for automotive-related expenditures. Where noted, automobile-related expenditures are excluded from the analysis to create a more accurate comparison of the retail markets within the Trade Area and the type of retail categories most relevant to the proposed project.

Danville

The retail market in the City of Danville is mostly composed of small shops and restaurants clustered in the downtown area and along San Ramon Valley Boulevard. There are several larger retail outlets, such as Castle Square shopping center, which includes Costco and Marshalls, and the Tassajara Crossing shopping center near Blackhawk. The Downtown also includes a mix of "Mom & Pop" establishments as well as a number of niche retail chains (e.g., Trader Joe's and Lunardi's Supermarket). Nonetheless, the retail inventory in Danville is considerably smaller than its Trade Area competitors, comprising only 712,000 square feet of space.

4.13.3 - Regulatory Framework

State

California State Health and Safety Code

California State Health and Safety Code Sections 33031(a) and 33031(b) define economic and physical conditions that constitute "blight."

Economic conditions that constitute blight include:

- Depreciated or stagnant property values or impaired investments, including as a result of the presence of hazardous wastes
- Abnormally high business vacancies, abnormally low lease rates, high turnover rates, abandoned buildings, or excessive vacant lots within an area developed for urban uses and served by utilities
- A lack of necessary commercial facilities that are normally found in neighborhoods, including grocery stores, drug stores, banks, and other lending institutions

- Residential overcrowding or an excess of bars, liquor stores, or other businesses that cater exclusively to adults, which has led to problems of public safety and welfare
- A high crime rate that constitutes a serious threat to the public safety and welfare

Physical conditions that constitute blight include:

- Buildings in which it is unsafe or unhealthy for persons to live or work. These conditions can be caused by serious building code violations, dilapidation and deterioration, defective design or physical construction, faulty or inadequate utilities, or other similar factors.
- Factors that prevent or substantially hinder the economically viable use or capacity of buildings or lots. This condition can be caused by a substandard design, inadequate size given present standards and market conditions, lack of parking, or other similar factors.
- Adjacent or nearby uses that are incompatible with each other and which prevent the economic development of those parcels or other portions of the project area.
- The existence of subdivided lots of irregular form and shape and inadequate size for proper usefulness and development that are in multiple ownership.

California Environmental Quality Act

The California Environmental Quality Act (CEQA) requires that significant effects on the environment be analyzed, disclosed, and mitigated, if feasible, prior to the approval of discretionary land use approvals. The CEQA Guidelines require that both direct and reasonably foreseeable indirect physical changes be evaluated during the environmental review process. A direct physical change is one that is caused by and immediately related to the project. Examples of direct physical changes are construction-related dust, noise, and traffic. An indirect physical change is one which is not immediately related to the project but which is caused indirectly by the project. An example of an indirect physical change would be the construction of a new sewage treatment plant that provides additional wastewater treatment capacity that may facilitate population growth and may lead to an increase in air pollution.

In the context of CEQA, blight is considered an indirect physical impact. The development of new commercial retail space in a retail market has the potential to result in the closure of competing business, which may, in turn, result in vacant storefronts that meet the California Health and Safety Code definition of blight.

Local

City of San Ramon General Plan

The City of San Ramon General Plan establishes the following relevant policies related to economic development:

- **Policy 2.4-G-1:** Foster a climate in which business can prosper.
- **Policy 2.4-I-5:** Encourage, consistent with the Housing Element, housing for San Ramon's resident workforce to improve the match between local employment and local workers.
- **Policy 2.4-I-12:** Encourage retail development in mixed-use areas to create and accommodate local demand.
- **Policy 2.4-I-13:** Develop the City Center area into a cultural, recreational, and compatible retail center to ensure consistency with the recommendations of the City Center Task Force.
- **Policy 2.4-G-3:** Ensure the fiscal and financial health of the City.
- **Policy 2.4-I-19:** Encourage diverse economic growth within the City, particularly in the retail sector.
- **Policy 4.6-I-17:** Maintain neighborhood and community shopping centers of sizes and at locations that offer both choice and convenience for shoppers and residents while sustaining a strong retail base for the City.
- **Policy 4.7-I-5:** Support the direction of the City Center Task Force and the City's efforts to develop the City Center as a cohesive mix of civic, compatible retail, and open space uses with an arts and entertainment focus.
- **Policy 7.1-I-1:** Develop and implement a City Center.
- **Policy 11.10-I-4:** Promote a combination of residential, retail, and office uses in areas designated for mixed use.

4.13.4 - Methodology

Economic & Planning Systems (EPS) prepared an Urban Decay Analysis to assess the proposed project's potential retail impacts. The analysis evaluated existing and projected market conditions for the Retail Trade Area (defined as San Ramon, Danville, and Dublin) and the proposed project's potential to (1) induce urban decay through closure of competing businesses, (2) create long-term store vacancies, and (3) result in physical deterioration of properties and structures.

EPS has estimated current and projected household income and retail expenditures in San Ramon and the broader Trade Area using information obtained from the United States Census Bureau.

Population projections for the Trade Area were provided by local land use plans (e.g., the City of San Ramon General Plan) and regional population projections published by ABAG. EPS calculated retail supply in San Ramon and the Retail Trade Area using taxable sales data from the California State Board of Equalization (SBE). EPS then projected household retail expenditures in San Ramon and the broader Trade Area. Estimates of total demand were compared to estimates of existing retail sales to characterize the current level of retail capture or leakage in San Ramon and the Trade Area.

Estimates of retail expenditures are based on projected households, mean household income, and the

percent of household income spent on retail goods. Based on the projected capture/leakage estimates, EPS determined the proposed project's likelihood to cause urban decay.

4.13.5 - Thresholds of Significance

Implementation of the proposed project would result in significant urban decay impacts if it would:

- Create long-term store vacancies or result in the abandonment of buildings within the retail market served by the proposed project; or
- Result in the physical deterioration of properties or structures that impairs the proper utilization of the properties or structures, or health, safety, and welfare of the surrounding community.

4.13.6 - Project Impacts and Mitigation Measures

This section discusses potential impacts associated with the development of the project and provides mitigation measures where appropriate.

Year 2010 Trade Area Conditions

To assess potential urban decay impacts, the baseline Trade Area economic conditions must first be established for 2010, which is the anticipated opening year of the proposed project. Those conditions are described below.

Trade Area Supply

As part of this analysis, information was obtained about planned retail projects in the Trade Area. Table 4.13-4 provides summary information on major development projects in the pipeline in the Trade Area based on information from the cities of Danville, San Ramon, and Dublin, as well as other sources. Projected supply includes all projects built since 2005, as this is the most recent year for which baseline demand and supply data are available.

Table 4.13-4: Planned Retail Development Projects

City	Project Name	Square Feet	Type	Expected Opening Date
San Ramon	San Ramon City Center	613,042*	Lifestyle Center	2010
	The Plaza at Gale Ranch	126,000	Community Center	2007
Dublin	Dublin Corners	46,200	Shopping Center	2006
	Ulferts Corners	50,500	Shopping Center	2007
	Grafton Station and Lowe's	318,000	Shopping Center and Home Improvement	2010

Table 4.13-4 (Cont.): Planned Retail Development Projects

City	Project Name	Square Feet	Type	Expected Opening Date
<i>cont.</i>	Hacienda Drive	300,000	Lifestyle Center	2011
	Emerald Place	140,155	Lifestyle Center	2008
Danville	The Rose Garden	44,500	Lifestyle Center	2008
Total		1,868,397		
Notes: * Includes only the retail component of the proposed project; residential, office, and civic uses are excluded. Source: Economic & Planning Systems, 2007.				

As shown, approximately 1,868,000 square feet of competitive commercial space are in the pipeline in the Retail Trade Area, which represents a significant increase over current levels. For example, the addition of the proposed project raises the amount of retail space in the City by nearly 50 percent. As well, the proposed retail developments in Dublin over the next several years approach nearly 1 million square feet of space.

In addition to the proposed project, the Plaza at Gale Ranch shopping center is expected to open in the summer of 2007. The majority of projected new retail development will be in Dublin over the next five years, particularly in 2010 to 2012. After the proposed project comes on line in San Ramon, Dublin will see nearly 800,000 square feet of new retail between 2010 and 2012. The City of Danville, with a development approach that discourages large shopping centers and national retail outlets, will not see any large new construction within the projection horizon. The one current exception is the Rose Garden, a “mixed-use lifestyle center” of nearly 45,000 square feet just off I-680 on Sycamore Valley Road.

Taxable sales data from SBE was used to project the value of retail supply in San Ramon and the Retail Trade Area. As new developments come on line in the years ahead, the total level of retail in these areas will increase accordingly. Based on research of similar retail establishments, the average revenue of new retail is projected to be \$375 per square foot. Estimates for the Trade Area calculated that existing establishments sell about \$365 per square foot. However, since new retail establishments historically outperform existing retail, the estimate was increased to \$375 in order to evaluate the impact of future development under more conservative assumptions. Beginning with 2005 data, Table 4.13-5 shows the timeline of new retail development and its effect on supply in San Ramon and the Trade Area. Between 2010 and 2012, the retail supply in San Ramon increases nearly 50 percent from 2006 and the Trade Area retail supply increases more than 30 percent.

Trade Area Retail Demand

Current and projected household retail expenditures were estimated in San Ramon and the broader Trade Area and then compared to estimates of existing retail sales to characterize the current level of retail capture or leakage in San Ramon and the Trade Area. Estimates of retail expenditures are based

on projected households, mean household income, and the percent of household income spent on retail goods.

Table 4.13-6 shows the estimated expenditures on retail goods per year, based on household growth assumptions and income growth. As the number of households and household income grows in San Ramon and the Retail Trade Area, so does the amount of expenditures on retail goods. Currently, the only source of increased demand for retail expenditures is the growth in the number of households and the increased real income of those households. A key assumption in this analysis is that the percentage of income spent on retail goods and services, currently 27.0 percent, will not change. In addition, this analysis conservatively assumes that no change in demand from growth in households and income outside the Trade Area will occur.

Using projections from ABAG, Table 4.13-6 shows that households in San Ramon are estimated to spend approximately \$620 million on retail goods in 2007. Retail expenditures are projected to grow to approximately \$1.167 billion in San Ramon by 2020, based on increased population and growing real incomes. Incorporating population projections from the City of San Ramon instead of ABAG changes these numbers to \$635 million in 2007 and \$1.420 billion in 2020.

Table 4.13-5: Projected Retail Supply

Item	Year									
	2005	2006	2007	2008	2009	2010	2011	2012	2018	2020
New Retail Square Feet¹										
San Ramon	—	—	126,000	—	—	613,042	—	—	—	—
Dublin	—	46,200	50,500	140,155	—	318,000	415,000	115,000	—	—
Danville	—	—	—	44,500	—	—	—	—	—	—
Total	—	—	176,500	184,655	—	931,042	415,000	115,000	—	—
Projected Retail Supply										
San Ramon	\$554,090,000	\$554,000,000	\$601,000,000	\$601,000,000	\$601,000,000	\$831,000,000	\$831,000,000	\$831,000,000	\$831,000,000	\$831,000,000
Retail Trade Area	\$1,705,000,000	\$1,722,000,000	\$1,788,000,000	\$1,857,000,000	\$1,857,000,000	\$2,207,000,000	\$2,362,000,000	\$2,405,000,000	\$2,405,000,000	\$2,405,000,000
Notes: ¹ Based on an average sales estimate of \$375 per square foot for new retail. Source: Economic & Planning Systems, 2007.										

Table 4.13-6: Projected Retail Demand

Item		Year									
		2005	2006	2007	2008	2009	2010	2012	2015	2018	2020
San Ramon General Plan Projections											
Households	San Ramon	21,121	21,809	22,520	23,254	24,012	24,795	26,437	29,108	32,048	34,171
	Retail Trade Area	48,608	49,909	51,246	52,618	54,027	55,474	58,484	63,309	68,532	72,251
Income (\$)	San Ramon	137,700	138,354	\$139,011	\$139,671	\$140,334	\$141,000	\$142,626	\$145,100	\$148,435	\$150,700
	Retail Trade Area	140,434	140,961	\$141,490	\$142,021	\$142,554	\$143,088	\$144,854	\$147,542	\$150,798	\$153,008
Projected Local Demand (\$)	San Ramon	554,090,000	593,614,193	634,620,430	677,164,285	721,303,412	767,097,632	871,150,500	1,042,752,944	1,259,987,923	1,419,849,432
	Retail Trade Area	1,705,000,000	1,780,149,853	1,857,601,456	1,937,425,311	2,019,694,074	2,104,482,633	2,321,106,487	2,673,671,113	3,096,500,760	3,403,091,550
Association of Bay Area Governments Projections											
Households	San Ramon	19,590	20,111	20,647	21,196	21,761	22,340	23,376	25,020	26,439	27,430
	Retail Trade Area	48,850	50,044	51,268	52,521	53,805	55,120	57,239	60,570	63,487	65,510
Income (\$)	San Ramon	137,700	138,354	\$139,011	\$139,671	\$140,334	\$141,000	\$142,626	\$145,100	\$148,435	\$150,700
	Retail Trade Area	140,434	140,961	\$141,490	\$142,021	\$142,554	\$143,088	\$144,854	\$147,542	\$150,798	\$153,008
Projected Local Demand (\$)	San Ramon	554,090,000	586,377,627	619,682,126	654,035,523	689,470,851	726,022,187	802,533,940	925,764,539	1,067,220,395	1,167,834,959
	Retail Trade Area	1,705,000,000	1,776,191,578	1,849,397,150	1,924,673,693	2,002,079,793	2,081,675,695	2,262,509,285	2,551,282,659	2,869,543,266	3,094,224,821
<p>Notes: Household projections from San Ramon General Plan 2020. For 2005, demand estimated from State Board of Equalization sales tax data, excluding business-to-business sales. Subsequent years based on percentage of income spent on retail, estimated at 27.0 percent. Source: Economic & Planning Systems, 2007.</p>											

Trade Area Market Capture

The market capture of a trade area is a good indicator of its relative strength and ability to capture sales from its own residents as well as sales from residents in related markets. A Trade Area capture rate is defined as total actual retail sales (from SBE data) divided by the total estimated retail expenditures of local residents. It essentially compares market demand with market supply.

As shown in Table 4.13-7, the Trade Area as a whole captures about 98 percent of the retail expenditures of its local residents. The highest capture rate is in Dublin because of the large number of retail establishments. The capture rate would be higher still if automobile sales were included, as Dublin is a major draw for automobile-related expenditures. Capture rates in San Ramon and Danville are relatively lower, as many residents travel outside these cities for retail purchases at 80 percent and 73 percent, respectively.

Table 4.13-7: Retail Trade Area Capture Rates

City	Actual Retail Sales ¹	Estimated Local Retail Expenditures ²	Capture Rate (%)
San Ramon	\$554,090,000	\$696,762,428	79.5
Dublin	\$739,366,857	\$478,023,840	154.7
Danville	\$411,393,571	\$562,673,895	73.1
Total	\$1,704,850,429	\$1,737,460,163	98.1

Notes:
¹ Based on State Board of Equalization data, adjusted for expenditures on food based on BLS estimates, excluding automobile expenditures.
² Based on Bureau of Labor Statistics, Consumer Expenditure Survey 2005, excluding automobile expenditures.
 Source: Economic & Planning Systems, 2007.

To better illustrate the types of retail offered in San Ramon relative to the purchase of local residents, Table 4.13-8 lists the major retail categories and the amounts supplied based on sales data from the SBE. These calculations illustrate the concept of retail leakage by showing how much of a particular category is demanded based on certain income and demographic characteristics and whether the local market is meeting this demand. As shown, there are several categories of retail in San Ramon where local market supply does not adequately meet local demand. In particular, most automobile-related expenditures take place outside the City, and a significant amount of spending on apparel and home furnishing is done at retailers outside San Ramon. As noted above, this leakage suggests a market opportunity for retail space offering apparel and home furnishings.

Future gains in Trade Area sales will be derived from (1) growth in Trade Area population, (2) growth in Trade Area real income, and (3) increased capture from neighboring jurisdictions. To be conservative, this analysis assumes future demand is derived only from growth in population and income and not from an increased capture rate. This assumption is supported by the fact that the Trade Area as a whole already performs at a relatively balanced level with 98 percent capture rate.

However, given the “lifestyle” orientation of the proposed project, it may, in fact, capture sales currently leaking to neighboring jurisdictions.

Table 4.13-8: San Ramon Retail Capture

Retail Category	Actual Retail Sales (Supply) ¹	Estimated Retail Expenditures (Demand) ²	Capture	
			Dollars	Percent
(Dollars)				
Apparel stores	6,817,000	69,995,070	(63,178,070)	10
General merchandise	77,197,000	52,716,690	24,480,310	146
Food stores ³	115,440,000	100,927,680	14,512,320	114
Eating and drinking places	78,234,000	112,407,420	(34,173,420)	70
Home furnishing and appliances	22,665,000	56,242,890	(33,577,890)	40
Building materials and farm implements	89,205,000	17,498,768	71,706,233	510
Service stations	57,449,000	150,000,630	(92,551,630)	38
Other retail stores	107,083,000	136,973,280	(29,890,280)	78
Totals	554,090,000	696,762,428	-142,672,428	80
Notes:				
¹ State Board of Equalization, Taxable Sales. 2005 data.				
² Bureau of Labor Statistics. 2005 data.				
³ Adjusted to reflect both taxable and non-taxable food expenditures.				
⁴ Automobile expenditures excluded from both supply and demand calculations.				
Source: Economic & Planning Systems, 2007.				

Summary of Year 2010 Baseline Market Assumptions

To evaluate the proposed project’s potential retail impact, baseline conditions for Year 2010 were estimated. Baseline market conditions provide the context for understanding potential impacts and serve as the basis for several key assumptions used in this analysis, as described below.

Trade Area Vacancy Rate

The previous chapter found that current conditions in the Trade Area retail market are extremely favorable, with an overall vacancy rate equal to or less than 3 percent. The vacancy rate in San Ramon is estimated at about 3.75 percent. A vacancy rate of this level suggests that available retail space is a result of frictional changes in the retail market, typically caused by normal tenant turnover rather than structural over-supply. It is not unusual for retail businesses to expand or contract in response to changing market conditions and thus seek out retail space that better accommodates customer demands. A high vacancy rate, in contrast, could suggest a market more vulnerable to conditions that lead to urban decay (e.g., physical deterioration of property because of deferred maintenance and abandonment).

Trade Area Capture Rate

The Trade Area is currently exhibiting a relatively balanced market capture rate. Specifically, Trade Area retail establishments are capturing about 98 percent of taxable retail sales potential of its local residents, excluding auto purchases. The market impact calculations provided in this analysis assume that the Trade Area retail capture from other jurisdictions will remain constant. The capture rate in San Ramon is approximately 80 percent.

Average Trade Area Sales per Square Foot

This analysis relies on a single, average annual sales per square foot assumption, based on retail sales in the Trade Area and the total square feet of retail inventory. As of 2005, the most recent year for which adequate data are available, the overall sales per square foot in the Trade Area was about \$365. As previously noted, this figure has been increased to \$375 per square foot to account for higher sales experienced by newer retail developments relative to existing retail developments.

Future Trade Area Retail Development

Based on information provided by Trade Area cities, there will be approximately 1.9 million new square feet of retail in the Trade Area over the next 10 years, including the 635,000 square feet of retail in the proposed project.

Store Closure and Long-Term Vacancies

Impact UD-1: Development of the proposed project would not result in closure of competing business that would create long-term store vacancies in the Trade Area.

Impact Analysis

The potential of the proposed project causing store closure and long-term vacancies is evaluated in this impact. To determine the potential for store closure and long-term vacancies, the proposed project's retail impact must first be quantified. Once the retail impact is determined, the potential for store closure and long-term vacancies can be assessed. As such, this impact discussion is divided into two sections to reflect this analytical approach.

Project Retail Impact

The impact of the proposed project is evaluated by comparing long-term market demand and supply projections using the assumptions described above. Future Trade Area demand and supply balances for retail sales were calculated as a whole rather than by retail category, given the lack of information on the precise tenant mix in the proposed project.

Table 4.13-9 summarizes the potential effects of the proposed project on the Trade Area retail market by adding its additional sales and square feet to the status quo demand and supply balance for select years between 2005 and 2020. The "status quo" 2005 demand level is based on actual sales data adjusted to real 2005 dollars, as reported by the SBE for 2005. Incremental growth in demand beyond 2005 is assumed to come from population growth and income in the Trade Area only and not from additional capture from other jurisdictions, as noted above. As population and income increase,

the total amount of disposable income in the Trade Area generates increased taxable sales for all retail categories. Additional demand is calculated by multiplying the Trade Area population and income growth by the estimated expenditures per household.

Table 4.13-9: Supply and Demand Comparison

Item		Amount by Year (2005 Dollars)								
		2005	2008	2009	2010	2011	2012	2013	2015	2020
City of San Ramon Projections										
Projected Retail Supply	San Ramon	\$554,090,000	\$601,000,000	\$601,000,000	\$831,000,000	\$831,000,000	\$831,000,000	\$831,000,000	\$831,000,000	\$831,000,000
	Retail Trade Area	\$1,705,000,000	\$1,857,000,000	\$1,857,000,000	\$2,207,000,000	\$2,362,000,000	\$2,405,000,000	\$2,405,000,000	\$2,405,000,000	\$2,405,000,000
Projected Retail Demand	San Ramon	\$554,090,000	\$677,164,285	\$721,303,412	\$767,097,632	\$818,140,691	\$871,150,500	\$926,202,838	\$1,042,752,944	\$1,419,849,432
	Retail Trade Area	\$1,705,000,000	\$1,937,425,311	\$2,019,694,074	\$2,104,482,633	\$2,221,031,709	\$2,321,106,487	\$2,434,823,632	\$2,673,671,113	\$3,403,091,550
Supply and Demand Balance	San Ramon	\$0	\$76,164,285	\$120,303,412	-\$63,902,368	-\$12,859,309	\$40,150,500	\$95,202,838	\$211,752,944	\$588,849,432
	Retail Trade Area	\$0	\$80,425,311	\$162,694,074	-\$102,517,367	-\$150,968,291	-\$83,893,513	\$29,823,632	\$268,671,113	\$998,091,550
Required Sales Reduction of Existing Establishments	San Ramon	—	13.75%	21.71%	-11.53%	-2.32%	7.25%	17.18%	38.22%	106.27%
	Retail Trade Area	—	4.72%	9.54%	-6.01%	-8.85%	-4.92%	1.75%	15.76%	58.54%
Association of Bay Area Governments Projections										
Projected Retail Supply	San Ramon	\$554,090,000	\$601,000,000	\$601,000,000	\$831,000,000	\$831,000,000	\$831,000,000	\$831,000,000	\$831,000,000	\$831,000,000
	Retail Trade Area	\$1,705,000,000	\$1,857,000,000	\$1,857,000,000	\$2,207,000,000	\$2,362,000,000	\$2,405,000,000	\$2,405,000,000	\$2,405,000,000	\$2,405,000,000
Projected Retail Demand	San Ramon	\$554,090,000	\$654,035,523	\$689,470,851	\$726,022,187	\$763,735,019	\$802,533,940	\$842,450,226	\$925,764,539	\$1,167,834,959
	Retail Trade Area	\$1,705,000,000	\$1,924,673,693	\$2,202,079,793	\$2,081,675,695	\$2,170,962,885	\$2,262,509,285	\$2,356,372,060	\$2,551,282,659	\$3,094,224,821

Table 4.13-9 (Cont.): Supply and Demand Comparison

Item		Amount by Year (2005 Dollars)								
		2005	2008	2009	2010	2011	2012	2013	2015	2020
Supply and Demand Balance	San Ramon	\$0	\$53,035,523	\$88,470,851	-\$104,977,813	-\$67,264,981	-\$28,466,060	\$11,450,226	\$94,764,539	\$336,834,959
	Retail Trade Area	\$0	\$67,673,693	\$145,079,793	-\$125,324,305	-\$191,037,115	-\$142,490,715	-\$48,627,940	\$146,282,659	\$689,224,821
Required Sales Reduction of Existing Establishments	San Ramon	—	9.57%	15.97%	-18.95%	-12.14%	-5.14%	2.07%	17.10%	60.79%
	Retail Trade Area	—	3.97%	8.51%	-7.35%	-11.20%	-8.36%	-2.85%	8.58%	40.42%

Notes:
 The Retail Trade Area (RTA) includes the cities of San Ramon, Danville, and Dublin.
 Demand in 2005 is based on actual retail sales. Demand in subsequent years equals 2005 demand plus new retail expenditures by local residents.
 Source: Economic & Planning Systems, 2007

The calculations shown in Table 4.13-9 assume 2005 is the status quo, or base year against which future impacts to the market are compared. As noted earlier, the Trade Area is capturing approximately 98 percent of the sales potential in this year (excluding autos), although San Ramon's capture rates is significantly lower. When the proposed project enters the market in 2010 and future retail developments in Dublin come on the market, the supply and demand balance will change. In 2009, households in the Trade Area will demand \$2.0 billion in retail goods, while the supply of retail goods in the Trade Area is only \$1.857 billion, implying a small supply deficit, or about \$145 million in unmet demand. As more retail establishments come on the market through 2012, the amount of retail supplied will exceed the amount demanded, assuming no additional capture from outside the Trade Area, such as Pleasanton, Livermore, or Walnut Creek. (As noted, this is a conservative assumption, since, in reality, the proposed project may attract customers from neighboring markets.)

One year after the proposed project is completed, the Trade Area will have \$191 million of excess supply. This means certain stores may lose business until there are more people (and income) in the Trade Area. Based on the analysis of retail demand, retail establishments in the Trade Area may have an average decrease in sales of 6.6 percent over three years (General Plan) or 7.4 percent over four years (ABAG) beginning in 2010, in order to absorb new retail in the City. However, this possible short-term imbalance in the retail market will be mitigated in a relatively short time, about three to four years following the construction of the proposed project, at which time demand will far exceed supply. In addition, the analysis calculates retail demand based on the growth in households in San Ramon. Projecting retail demand based on employment growth would result in a rosier picture for retail demand in San Ramon.

Potential for Store Closures and Long-Term Vacancies

The proposed project would add supply to the retail market in San Ramon and the Trade Area. The more net square feet that are added to the Trade Area above baseline conditions, the greater the sales shift from existing retailers, and the greater the potential for retail stores to close. Consequently, a number of existing retail tenants—especially those that compete directly with the yet unknown businesses that would tenant the proposed project—will face competitive pressures. However, these pressures will be mitigated in a relatively short time, with retail demand and supply balancing within one to two years. Based on the analysis of the previous chapters and the urban decay assumptions described above, the proposed project is unlikely to precipitate store closures or long-term vacancies in San Ramon or the Trade Area. This conclusion is supported by the following considerations:

- **Strong Retail Market Conditions in the Trade Area:** Retail market conditions in the Trade Area are very strong, as discussed in previous chapters. Total annual retail demand in the Trade Area is expected to reach about \$2.62 billion by 2012, two years after retail opens at the proposed project, an increase of about 22 percent from 2007 levels.
- **Supportable Sales Shift Impact:** The net impact of the shift of sales required to support the proposed project would be nearly eliminated by 2013, or within about three years after the

opening of the project, because of steadily rising population and income in the Trade Area (see Table 4.13-7). The overall strength in the retail market suggests that any short-term vacancies that result should be absorbed by other tenants in a relatively short time. Thus, property owners will have a financial incentive to maintain their properties and avoid conditions conducive to urban decay.

- **Increased Capture from Adjacent Markets:** The above analysis assumes that the Trade Area capture rate from adjacent markets remains constant over the study period. This assumption is conservative because the Trade Area currently captures about 98 percent of local demand and San Ramon captures nearly 80 percent of retail sales. To the extent that particular retail tenants can attract a significant proportion of their customers from adjacent markets, the impact on existing Trade Area businesses might be reduced.
- **Repositioning of Properties to Non-retail Uses:** The analysis presented herein relates to the demand for property currently used and zoned for retail uses only. However, individual landowners may be able to avoid conditions conducive to urban decay (e.g., long-term vacancies) if they can readily convert their property to other more marketable or lucrative uses (e.g., residential, industrial, or office). Currently, the zoning of retail property in San Ramon is mixed-use, meaning it can be used for non-retail purposes. In other words, these properties would be relatively easy to convert to alternative uses in the unlikely event that the local retail market experiences prolonged decline.
- **Entrepreneurialism and Market Adaptation:** Retail is a highly competitive and adaptable sector that is affected by a variety of evolving trends, including consumer preferences, demographics, travel patterns, technology and innovation (e.g., online shopping), as well as commodity production and distribution markets. Individual tenants or property owners will respond to these trends with varying degrees of success, depending upon their entrepreneurial skills, local planning and business development efforts, and other factors. These factors, although intangible and difficult to predict, can improve the performance of the retail sector beyond what might be expected based on population and income growth projections alone.

It can be concluded that the above findings suggest that the risk of urban decay from the proposed project is minimal. Even if the potential impacts described above manifest themselves, the effect would be short-lived and relatively modest (an average of 7.4 percent over 4 years for the Trade Area), under the worst-case scenario. Urban decay becomes a possibility when sales declines are deep and last for a prolonged period of time, typically five years or more. This is not the case with the proposed project, as the excess retail supply will be overcome by increased demand from population and income growth in a very short time, in this case about four years. Therefore, potential impacts related to store closure and long-term vacancies would be less than significant.

Level of Significance Before Mitigation

Less than significant impact.

Mitigation Measures

No mitigation is necessary.

Level of Significance After Mitigation

Less than significant impact.

Cumulative Retail Impacts

Impact UD-2: Development of the proposed project and other planned retail projects would not result in the closure of competing businesses to the extent that it would result in urban decay.

Impact Analysis

Table 4.13-10 provides a summary of the estimated sales shifts existing retail establishments between 2010 and 2020, after the proposed project and other planned retail projects come online. Existing businesses in the Trade Area would experience relatively minor sales shifts to new retail developments between 2010 and 2013. By 2015, existing businesses and planned retail projects would experience a net increase in retail sales. Existing businesses in San Ramon would experience significant shifts in 2010 and 2011 and a minor shift in 2012. By 2013, existing businesses and planned retail projects would experience a net increase in retail sales.

Table 4.13-10: Cumulative Retail Impacts

Year	Estimated Sales Shifts From Existing Establishments (percent)	
	Trade Area	San Ramon
2010	-7.35	-18.95
2011	-11.20	-12.14
2012	-8.36	-5.14
2013	-2.85	2.07
2015	8.58	17.10
2020	40.42	60.79

Source: Economic & Planning Systems, 2007.

As new retail space is added to both the Trade Area and San Ramon supply inventory, a temporary imbalance in the retail demand and supply conditions relative to the status quo will be created. This imbalance is expected to reverse itself within two years and is consistent with normal business cycle fluctuations. Continued growth in retail demand associated with increased Trade Area population and income will minimize the impact of any sales shift from existing businesses that might result from new development in a relatively short time. By 2014, four years after the opening of the proposed project, the decline in retail sales of existing establishments needed to accommodate new development would be eliminated because of expanding population and income.

Moreover, current retail market conditions in the Trade Area are highly favorable, with population and income growth expected to continue to provide a healthy source of new retail demand. Demographic projections indicate a steady annual increase in population (3.30 percent), employment (2.00 percent), and income (0.60 percent) in the Trade Area over the next 10 years. In addition, existing retail vacancy rates across the Trade Area are approximately 3.00 percent, with a 3.75-percent vacancy rate in San Ramon, indicating extremely tight market conditions. Although overall market conditions in the Trade Area are healthy, 1.9 million square feet of new retail space are expected to come online within the 2010 to 2012 period, providing increased competition for existing retailers.

Because of strong and growing retail market conditions in the Trade Area, properties that are adversely affected by increased competition from the proposed project are likely to successfully reposition themselves in a relatively short time, thus avoiding conditions conducive to urban decay. The potential sales shift averaging approximately 7.4 percent over four years, is neither deep nor prolonged enough to lead property owners to neglect their properties. The potential decrease in sales over this period is no more severe than the normal fluctuations of a typical business cycle. Thus, property owners would have a financial incentive to maintain their properties with the realistic expectation of benefiting from a generally healthy and growing market.

For these reasons, the proposed project, in conjunction with other planned retail projects in the Trade Area, would not be reasonably expected to result in cumulative retail impacts that create urban decay conditions. Impacts would be less than significant.

Level of Significance Before Mitigation

Less than significant impact.

Mitigation Measures

No mitigation is necessary.

Level of Significance After Mitigation

Less than significant impact.

4.14 - Utility Systems

4.14.1 - Introduction

This section describes the existing setting regarding utility systems and potential effects from project implementation on the site and its surrounding area. Descriptions and analysis in this section are based on information contained in the Preliminary Hydrology Report prepared in April 2007 by RBF Consulting, the Water Supply Assessment prepared by East Bay Municipal Utility District, the East Bay Municipal Utility District 2005 Urban Water Management Plan, and the Development Capacity Analysis prepared by the Central Contra Costa Sanitary District. The Preliminary Hydrology Report is included in this EIR as Appendix H, the Water Supply Assessment is contained in Appendix J, and the Development Capacity Analysis in Appendix H.

As explained in Section 1, Introduction, where applicable, this project-level Draft Subsequent Environmental Impact Report (DSEIR) tiers off and incorporates by reference information and analysis contained in the City of San Ramon General Plan EIR and the San Ramon City Civic Center EIR, certified by the San Ramon City Council in 2001 and 2003, respectively. The General Plan EIR contemplated buildout of the General Plan at a programmatic level and concluded that all impacts on utility systems were less than significant after mitigation in Section 4.6 of the document. The City Civic Center EIR provided project-level analysis of the smaller and less intense City Civic Center project and concluded that all utility system impacts were less than significant after mitigation in Section 4.8 of the document. This DSEIR also incorporates by reference the City of San Ramon Zoning Ordinance Final Negative Declaration and the Addendum to the City of San Ramon Zoning Ordinance Final Negative Declaration, both of which were certified by the San Ramon City Council in 2006.

This DSEIR accounts for modifications to the baseline conditions that have occurred since certification of the previous EIRs and changes that have increased the size and intensity of the proposed project. Accordingly, not all of the conclusions in the previous EIRs are applicable to the proposed project and new analysis is provided for potential impacts not previously considered in those documents.

4.14.2 - Environmental Setting

Potable Water

East Bay Municipal Utility District (East Bay MUD) provides potable water supply and distribution to a 325-square-mile service area in Alameda and Contra Costa Counties with a population of 1.3 million. The service area includes 20 cities and 15 unincorporated communities, stretching from San Lorenzo in the south, to Crockett in the north, to Pleasant Hill and San Ramon in the east. East Bay MUD is an independent public utility agency governed by an elected seven-member board of directors.

East Bay MUD delivered more than 77 billion gallons of potable water to customers within its service area in 2006, for an average of 211 million gallons per day (mgd). This represented a 3.3-percent increase over its 2005 deliveries of 74 billion gallons of water. Below is a description of East Bay MUD's distribution and water supply sources.

Distribution System

East Bay MUD's distribution and storage system consists of 4,085 miles of pipelines and 833 million gallons of storage capacity. East Bay MUD operates five terminal reservoirs: Briones, Chabot, Lafayette, San Pablo, and Upper San Leandro.

Potable water destined for San Ramon is treated at the Walnut Creek Water Treatment Plant and conveyed south down a transmission line within the Iron Horse Trail right-of-way through Alamo and Danville. In 2006, East Bay MUD completed a \$180 million project to improve water quality and reliability along the main transmission line. The project consisted of capacity expansion and seismic upgrades at Walnut Creek Water Treatment Plant, upgrading a pumping plant in Alamo, and installing four miles of water pipeline in Walnut Creek and Alamo.

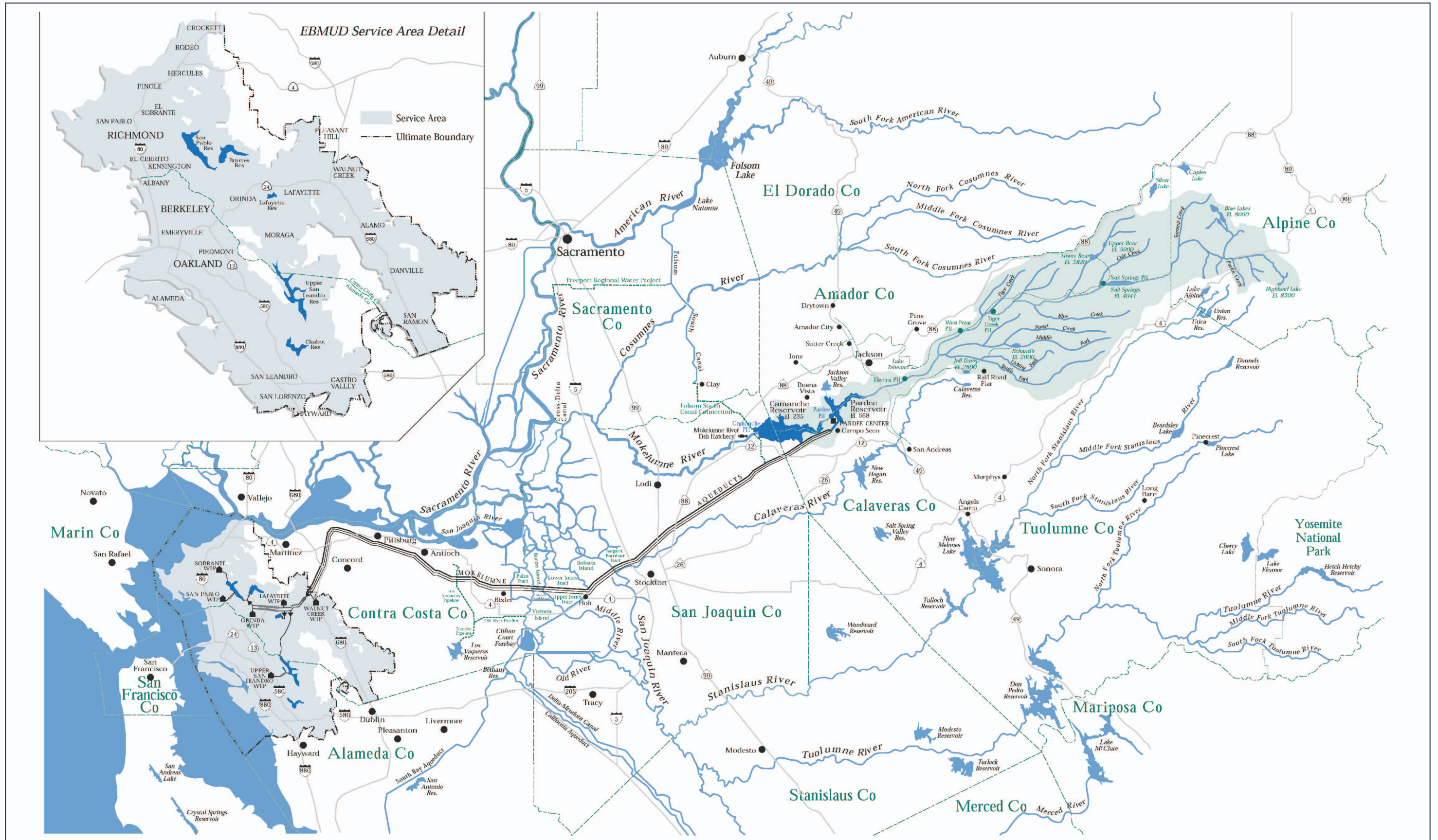
East Bay MUD provides water to San Ramon customers from four pressure zones that correspond to elevation ranges. The project site is within the Amador Pressure Zone (450 to 650 feet). Bishop Ranch 2 and Parcels 1A and 1B have existing connections to the East Bay MUD distribution system.

Seismic Improvement Program

East Bay MUD commenced a \$202 million Seismic Improvement Program in 1995 to strengthen its water system to withstand earthquakes and improve post-earthquake fire fighting capability. The Seismic Improvement Program includes replacement or upgrades to existing distribution and storage facilities and the construction of new facilities. As part of the program, East Bay MUD completed the 11-mile Southern Loop pipeline between San Ramon and Castro Valley in 2002. The Southern Loop is an emergency bi-directional pipeline that provides operational redundancy to serve either side of the East Bay Hills. In addition, East Bay MUD has seismically upgraded, replaced, or decommissioned 70 of 74 local water reservoirs. East Bay MUD has also performed seismic upgrades at its treatment plants.

Water Supply

East Bay MUD obtains approximately 90 percent of its water supply from the Mokelumne River watershed in Alpine, Amador, and Calaveras counties in the Sierra Nevada Mountains. The remaining 10 percent is provided by local runoff collected in its five terminal reservoirs. Each water supply source is discussed below. Exhibit 4.14-1 depicts the East Bay MUD terminal reservoir capacities.



Source: East Bay Municipal Utility District, February 2003.

Mokelumne River

East Bay MUD's Mokelumne River supply facilities include Pardee Dam near Jackson in the Sierra Foothills and Comanche Dam, located 10 miles downstream. Water is diverted from the Mokelumne River at Pardee Dam to the three Mokelumne Aqueducts, which bring untreated water 90 miles west to the East Bay MUD service area. Pardee Dam opened in 1929 and has a maximum capacity of 197,950 acre-feet. Comanche Dam opened in 1964 and has a maximum capacity of 417,120 acre-feet. Note that Comanche Dam does not provide water to the East Bay MUD service area; rather it functions to regulate the release of water downstream for other beneficial uses such as flood control, irrigation, downstream water rights holders, and environmental protection.

East Bay MUD has existing entitlements to a maximum of 325 mgd of Mokelumne River water. However, East Bay MUD's ability to use the full allotment is restricted by a number of factors, including upstream water use by prior rights holders, downstream water use by riparian and senior appropriators and other downstream obligations (e.g., environmental), and variability in rainfall and runoff.

Untreated water from Mokelumne River is of high quality and requires minimal treatment. East Bay MUD has purchased conservation easements in the Mokelumne River watershed upstream of Pardee Dam to prevent the potential for the introduction of agricultural or urban runoff into the reservoir.

Mokelumne Aqueducts

The Mokelumne Aqueducts are comprised of three steel pipes that were developed over a 34-year period. Aqueduct No. 1 is 5 feet, 5 inches in diameter and went online in 1929; Aqueduct No. 2 is 5 feet, 7 inches in diameter and went online in 1949; Aqueduct No. 3 is 7 feet, 3 inches in diameter and went online in 1963. Collectively, the three aqueducts have a gravity flow capacity of 200 mgd and up to 325 mgd with pumping at the Walnut Creek Treatment Plant.

East Bay MUD has partnered with five reclamation districts responsible for levees to prevent failure and flooding where elevated sections of the Mokelumne Aqueducts cross the Delta. The \$10 million, multiyear program will bring levees to United States Army Corps of Engineers agricultural levee standards. East Bay MUD has contributed \$6.6 million to date.

Terminal Reservoirs

East Bay MUD operates five terminal reservoirs: Briones, Chabot, Lafayette, San Pablo, and Upper San Leandro. Briones, San Pablo, and Upper San Leandro supply water throughout the year, while Chabot and Lafayette serve as emergency sources of supply. These reservoirs also collect local runoff in their respective watersheds. The 2005 Urban Water Management Plan indicates that local runoff provides 15 to 25 mgd of supply. The reservoirs are operated to maintain a 180-day supply of standby storage. Table 4.14-1 provides a summary of each reservoir.

Table 4.14-1: Terminal Reservoir Summary

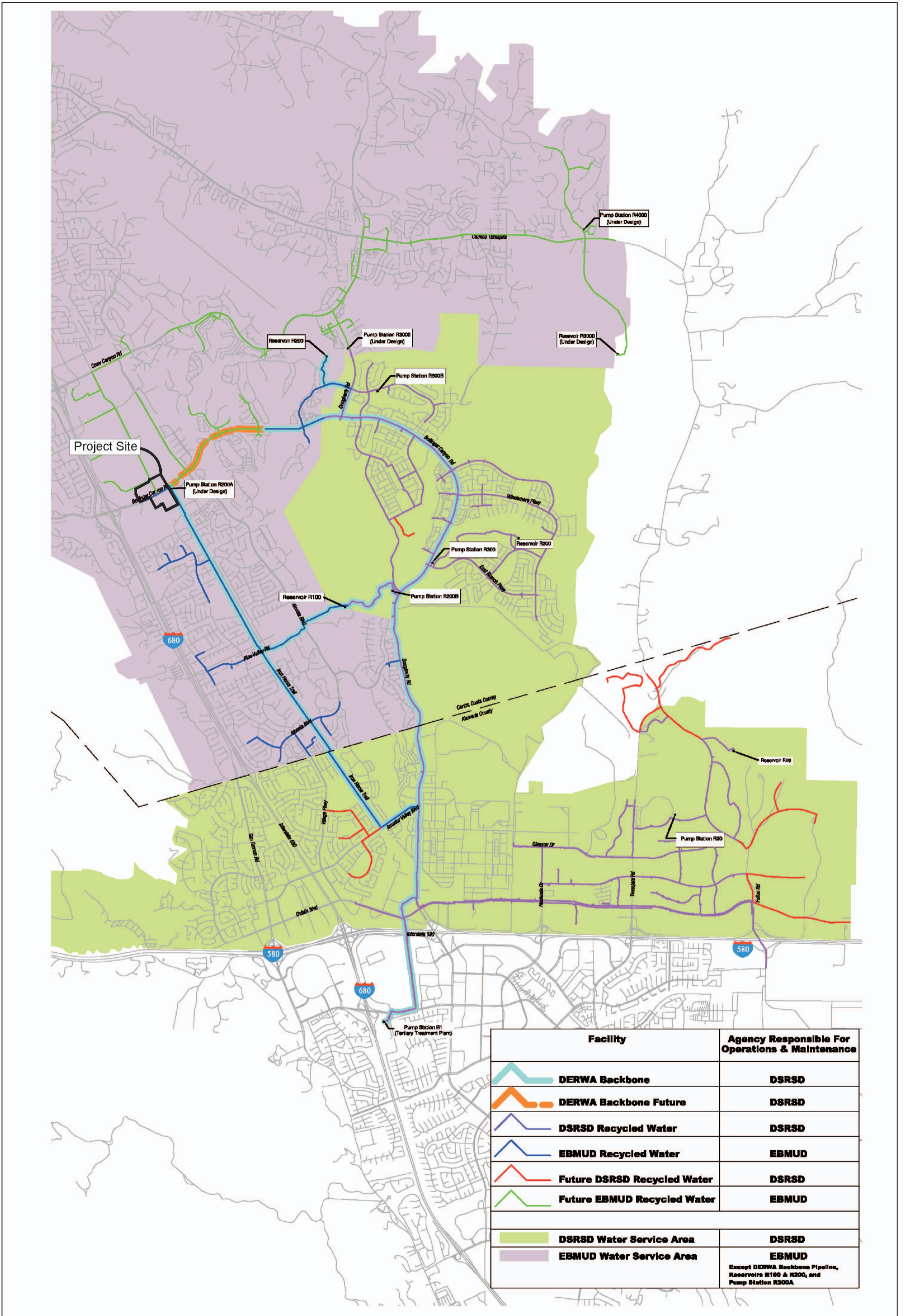
Terminal Reservoir	Capacity (acre-feet)	Water Sources
Briones	60,500	Mokelumne Aqueducts; Bear Creek
Chabot	10,400	Mokelumne Aqueducts; San Leandro Creek; Upper San Leandro Reservoir; Miller Creek
Lafayette	4,300	Lafayette Creek
San Pablo	38,600*	Mokelumne Aqueducts; San Pablo Creek; Bear Creek; Briones Reservoir
Upper San Leandro	38,000	Mokelumne Aqueducts; San Leandro Creek and tributaries
Total	151,800	
Notes: * Capacity has been temporarily restricted to 24,200 acre-feet until seismic upgrades are complete Source: East Bay Municipal Utility District, 2005.		

East Bay MUD is currently in the process of implementing seismic improvements to San Pablo Reservoir, which originally was constructed in 1920 and upgraded in 1967 and 1979. A portion of the reservoir is enclosed by an earthen embankment. A 2003 study of the embankment's seismic stability indicated that a major earthquake on the Hayward Fault could result in failure and cause an uncontrolled release of water into the Sobrante Valley. Subsequently, East Bay MUD lowered the reservoir level by 20 feet until seismic upgrades of the embankment were complete. The seismic upgrades are scheduled to begin in 2007. East Bay MUD is also evaluating the seismic stability of the Chabot and Lafayette reservoirs.

Recycled Water

East Bay MUD and the Dublin San Ramon Services District (DSRSD) jointly provide and distribute recycled municipal water in San Ramon through the San Ramon Valley Recycled Water Program. The program is administered by a joint powers authority DSRSD-East Bay MUD Recycled Water Authority (DERWA). The first phase of the program was completed in 2006 and provides 23 sites, including greenbelts, parks, and schools, with a total of 700,000 gallons per day of recycled water. When completed, the program will supply 2.4 mgd to parts of San Ramon, Danville, and Blackhawk.

Treated effluent at the R1 tertiary treatment plant in Pleasanton is filtered and disinfected for appropriate irrigation reuse. Recycled water is conveyed to central San Ramon via a backbone line located within the Iron Horse Trail right-of-way. The backbone line currently extends as far north as Bollinger Canyon Road. Future plans identify a network of recycled water lines serving the Bishop Ranch office park. Exhibit 4.14-2 depicts the existing and planned San Ramon Valley Recycled Water Program system.



Facility	Agency Responsible For Operations & Maintenance
DERWA Backbone	DSRSD
DERWA Backbone Future	DSRSD
DSRSD Recycled Water	DSRSD
EBMUD Recycled Water	EBMUD
Future DSRSD Recycled Water	DSRSD
Future EBMUD Recycled Water	EBMUD
DSRSD Water Service Area	DSRSD
EBMUD Water Service Area	EBMUD Except DERWA Backbone Pipeline, Reservoirs R100 & R200, and Pump Station R200A

Source: DERWA San Ramon Valley Recycled Water Program, March 2007.

Water Balance

Table 4.14-2 summarizes the projected demand and supply forecast by the 2005 Urban Water Management Plan between 2005 and 2030. Water demand projections were obtained from a 2000 Demand Study prepared by East Bay MUD that evaluated the buildout potential of local land use plans within its service area in a demand study that assumed land uses changes and densification of uses over time. The supply analysis modeled four scenarios: normal water year, single dry year, multiple dry years (2 years), and multiple dry years (3 years). Note that East Bay MUD delivered 205 mgd in 2005 and 211 mgd in 2006, which were substantially below the demand projections contained in the 2005 Urban Water Management Plan.

Table 4.14-2: Demand and Supply Projections (2025–2030)

Scenario	Category	Year (million gallons per day)					
		2005	2010	2015	2020	2025	2030
Demand	Unadjusted Customer Demand	241	258	267	277	279	281
	Adjusted For Conservation	-13	-21	-27	-35	-35	-35
	Adjusted For Recycled Water	-16	-12	-14	-14	-14	-14
	Planning Level of Demand	222	225	226	228	230	232
Normal Water Year	Available Supply	>222	>225	>226	>228	>230	>232
Single Dry Year (Year 1)	Available Supply	211	213	215	217	219	220
	Deficiency (5 percent maximum)*	5%	5%	5%	5%	5%	5%
	Supplementary Supply Needed	69	0	0	0	0	0
Multiple Dry Years (Year 2)	Available Supply	167	168	170	171	173	174
	Deficiency (25 percent maximum)*	25%	25%	25%	25%	25%	25%
	Supplementary Supply Needed	40	0	0	0	0	0
Multiple Dry Years (Year 3)	Available Supply	43	167	166	153	151	147
	Deficiency (25 percent maximum)*	56%**	26%	27%	33%	34%	37%
	Supplementary Supply Needed	15	1	4	18	22	27
Three Year Drought	Supplementary Supply Needed to Limit Deficiency to 25 percent	124	1	4	18	22	27
Notes: * Deficiency signifies maximum rationing level. ** The Freeport Regional Water Project is projected to provide dry-year water supplies beginning in 2010. Source: East Bay Municipal Utility District, 2005.							

As shown in the above table, the three-year drought scenario would result in projected demand outpacing available supplies. Under the single-dry year scenario, a 5-percent reduction in demand could be achieved through rationing, and under the multiple dry year scenarios, a 25-percent reduction in necessary supply could be achieved through rationing. The rationing would be sufficient to provide for adequate water balance for the single dry year and multiple dry year (2 years)

scenarios, but a deficit would occur for the multiple dry year (3 years) scenario. However, the deficit under the 3-year drought scenario would only be slightly above the reduction in supply that could be accomplished through 25-percent reduction, particularly during the early portion of the planning period.

Water Supply Projects

East Bay MUD has several projects underway to enhance its water supply. Below is a summary of each of them.

Freeport Regional Water Project

The \$850 million Freeport Regional Water Project will provide up to 100 million mgd for East Bay MUD customers and 85 mgd for future needs in Sacramento County. East Bay MUD is partnering with the Sacramento County Water Agency to build this regional water project near Freeport on the Sacramento River. The Freeport Project will be available to supplement water supply only during dry years and limit potential rationing for East Bay MUD customers to 25 percent and reduce economic losses during droughts. The project includes a 185-mgd intake and pump station on the Sacramento River and 17 miles of large-diameter pipe extending to the Folsom South Canal. East Bay MUD's share will flow south down the canal to a 100-mgd pumping plant, then through 19 more miles of pipe to a second pumping plant near Camanche Reservoir and into the Mokelumne Aqueducts. A legal settlement was reached with project opponents in early 2007 and construction began in May 2007. The project is scheduled for completion in 2009. This project was evaluated in an Environmental Impact Report/Environmental Impact Statement (State Clearinghouse No. 2002032132) certified by the Freeport Regional Water Authority Board of Directors in January 2005.

Desalination

East Bay MUD is a participating agency in the Bay Area Regional Desalination Project, which is exploring the feasibility of using desalination technology as a long-term water supply option. Initiated in 2003, the \$226 million Bay Area Regional Desalination Project is envisioned to serve 5.4 million customers within the service areas of East Bay MUD, the Contra Costa Water District (CCWD), the San Francisco Public Utilities Commission, and the Santa Clara Valley Water District with 65 mgd of water by 2012. Currently, three sites are undergoing feasibility analysis for suitability of supporting a desalination plant: the Mirant Power Plant in Pittsburg, the East Bay MUD's wastewater treatment plant in Oakland, and the Oceanside Wastewater Treatment Plant in San Francisco. A pilot test in Mallard Slough in east Contra Costa County is scheduled to commence this year. This project component will include both state and federal environmental review.

East Bay MUD has also pursued an independent desalination project for the C&H sugar plant in Crockett that would provide approximately 1.5 mgd of water that would replace current potable supplies. The project is intended to be a low-energy application of desalination by capturing unused steam energy at plant for use as energy.

Improved Linkages

East Bay MUD is in the process of improving its linkages with neighboring water agencies to provide redundancy and enhance reliability during emergencies or planned maintenance.

East Bay MUD, the San Francisco Public Utilities Commission, and the City of Hayward are building an intertie (interconnection) in Hayward to transfer up to 30 mgd among the agencies. The California Department of Water Resources awarded a \$2.6 million grant for the construction, begun in January 2005 and expected to be in service in 2007. This project was evaluated in a Negative Declaration (State Clearinghouse No. 2003022126) certified by the Hayward City Council in April 2003.

CCWD began construction of another intertie in Brentwood, where East Bay MUD's Mokelumne Aqueduct and CCWD's Los Vaqueros Pipeline cross. This link will provide water to CCWD after East Bay MUD completes the Freeport Regional Water Project on the Sacramento River in 2009, and will supply up to 100 mgd of untreated water to either East Bay MUD or CCWD in an emergency. This project was evaluated in a Negative Declaration (State Clearinghouse No. 2005082108) certified by CCWD's Board of Directors in 2005.

Aquifer Storage

East Bay MUD is also seeking to expand its water supply options through aquifer storage of surplus water. East Bay MUD is currently in the process of developing the Bayside Groundwater Project in San Leandro and San Lorenzo, which will store surplus water available in wet years in an underground aquifer for use in dry years. The project is expected to supply 1 mgd and is scheduled to be completed in 2008. This project was evaluated in an Environmental Impact Report (State Clearinghouse No. 2000092044) certified by the East Bay MUD Board of Directors in November 2005.

Drought Management Plan

East Bay MUD has a Drought Management Program to address potential water shortages caused by droughts and other water supply disruptions. East Bay MUD determines its water supply each April and initiates water demand reduction programs if projected supplies are less than 500,000 acre-feet. Drought Management Program measures include voluntary and mandatory reduction strategies listed below. These strategies become mandatory if East Bay MUD declares a water shortage emergency.

Moderate – 0- to 15-Percent Shortage

- Initiate public information campaign.
- Institute voluntary or mandatory water use goals and restrictions.
- Institute rate changes to elicit conservation (i.e., inclining block rate structures).
- Increase advertising of water-saving devices provided free to customers and other free conservation programs.

- Increase efficiency of system water supplies (e.g., intensify enforcement of hydrant opening regulations, increase meter-reading efficiency and maintenance, intensify leak detection and repair program).
- Prepare and disseminate brochures, bill inserts, and other literature addressing the drought situation and conservation strategies.
- Intensify media outreach program and advertising efforts to remind customers to save water.

Severe – 15- to 25-Percent Shortage

- Intensify actions taken during moderate stage
- Institute mandatory water use reductions
- Declare a water shortage emergency
- Seek and procure a supplemental water supply
- Implement rate and water use restriction changes appropriate to shortage

Critical - 25 percent or more

- Intensify all actions taken during severe stage

As shown in Table 4.14-2, East Bay MUD's long-term water planning assumes that a 5-percent reduction in water demand would be made during the first year of a three-year drought and a 25-percent reduction could be made in the second and third years of the drought.

Wastewater

Central Contra Costa Sanitary District (Central San) provides wastewater collection and treatment to the northern portion of the City of San Ramon, the incorporated cities and towns of Danville, Orinda, Lafayette, Moraga, Walnut Creek, Pleasant Hill, and Martinez, and the unincorporated communities of Alamo, Blackhawk, and Pacheco. Central San provides treatment for the cities of Concord and Clayton. The total population within the Central San service area is approximately 445,000. Central San is an independent public utility agency governed by an elected five-member board of directors.

Collection System

Central San's sewer collection infrastructure consists of approximately 1,500 miles of underground pipe ranging from 4 to 102 inches in diameter and 23 lift stations. Wastewater flows from San Ramon are conveyed north to Central San's wastewater treatment plant via the San Ramon Interceptor located within the Iron Horse Trail corridor. In 2003, Central San initiated a capacity improvement project for the interceptor between Norris Canyon Road in San Ramon and St. James Place in Danville in anticipation of increased wastewater flows from planned growth in San Ramon. Central San is scheduled to finish the interceptor capacity improvement project in mid-2008.

Treatment Plant

Central San treats sewage at its treatment plant in Martinez. The treatment plant has a dry weather effluent discharge limit of 53.8 mgd. In 2006, the average daily dry weather flow at treatment plant was 39.1 mgd. The treatment plant uses ultraviolet disinfection and has secondary treatment capabilities. A portion of the treated effluent receives additional treatment and is used as recycled water; the remaining effluent is released into Suisun Bay via an outfall. The treatment plant is in compliance with all applicable federal and state environmental health and safety standards for treated wastewater. The plant obtains 90 percent of its electricity through a methane cogeneration system with a nearby landfill.

Storm Drainage

The City of San Ramon owns and maintains drainage facilities within the City limits. The four parcels constituting the project site and the immediate vicinity are drained by an existing 72-inch-diameter storm drain located under Camino Ramon that transitions to an 84-inch-diameter pipe south of Bollinger Canyon Road and, ultimately, to a 96-inch-diameter pipeline located under the Bishop Ranch 1 surface parking areas. The 96-inch-diameter pipeline crosses Bishop Ranch 1 to the Iron Horse Trail corridor and ultimately discharges into South San Ramon Creek, approximately 2,000 feet south of Parcel 1A.

Solid Waste

Solid waste collection and disposal in San Ramon is provided by Valley Waste Management, which is part of Waste Management Inc. Valley Waste Management provides solid waste collection services under an exclusive franchise agreement with the City of San Ramon. These services include collection of solid waste from commercial, industrial, and residential customers, collection of residential recyclables and yard trimmings, and management of the San Ramon Recycling Center.

Landfills

The California Integrated Waste Management Board indicates that 52,110 tons of solid waste was generated in the City of San Ramon in 2005. More than 80 percent of San Ramon’s solid waste was disposed at the Vasco Road Sanitary Landfill, with smaller amounts disposed of at other regional landfills. Table 4.14-3 provides a summary of the regional landfills that accept solid waste from San Ramon.

Table 4.14-3: Landfill Summary

Landfill	Location	Maximum Daily Throughput (tons)	Remaining Capacity (cubic yards)	Closure Date
Altamont Landfill	Livermore	11,150	124.4 million	2025
Keller Canyon Landfill	Pittsburg	3,500	68.2 million	2030
Newby Island Sanitary Landfill	San Jose	4,000	18.2 million	2025

Table 4.14-3 (Cont.): Landfill Summary

Landfill	Location	Maximum Daily Throughput (tons)	Remaining Capacity (cubic yards)	Closure Date
Potrero Hills Sanitary Landfill	Suisun City	4,330	8.2 million	2011
Vasco Road Landfill	Livermore	2,518	12.2 million	2015
Source: California Integrated Waste Management Board, 2007.				

Waste Diversion

The California Integrated Waste Management Board indicates that the City of San Ramon had a waste diversion rate of 51 percent in 2004, the most recent year final numbers are available. Table 4.14-4 provides a summary of San Ramon's waste diversion rates between 2003 and 2005.

Table 4.14-4: Waste Diversion Rates (2003–2005)

2003	2004	2005
54	51	52*
Notes: * Preliminary rate submitted by City; subject to change Source: California Integrated Waste Management Board, 2007.		

Recycling and Green Waste Collection

Valley Waste Management provides curbside recycling and green waste pick-up services to residential customers in San Ramon. Accepted recyclable materials include aluminum, glass, plastic, cardboard, mixed paper, newsprint, and motor oil. Commercial customers can contract with one or more of the 10 City-licensed recycling service providers. The providers are Amador Valley Industries; Green Waste Recovery, Inc.; Mt. Diablo Recycling; Pacific Rim Recycling; Pagnini's, Inc.; Premier Recycle; Recycle for Hope; Super Link Plastic, Inc.; Valley Waste Management; and Weyerhaeuser Company.

As part of its contract with the City, Valley Waste Management operates the San Ramon Recycling Center at 2231 Omega Road in the northern portion of the City. The San Ramon Recycling Center is a drop-off facility that accepts the previously mentioned recyclable materials, as well as scrap metal and wooden pallets. The Recycling Center also hosts a GoodWill trailer that accepts clothing and other household items for reuse.

Household Hazardous Waste

Central San accepts household hazardous waste (paint, pesticides, motor oil, and other household chemicals) from San Ramon residents and businesses that qualify as small quantity generators at its Household Hazardous Waste Collection Facility, located at 4797 Imhoff Place in Martinez. Valley Waste Management collected used motor oil and motor oil filters from single-family homes as a part of the weekly curbside recyclables collection. Electronic scrap and passenger car/truck tires are

collected by Valley Waste Management as a part of the three scheduled bulky waste collections that each single family home received each year.

Energy

Pacific Gas and Electric Company (PG&E) provides electricity and natural gas service to the City of San Ramon. Below is a discussion of each energy source.

Electricity

PG&E provides electricity to all or part of 47 counties in California, constituting most of the northern and central portions of the State. PG&E obtains 40 percent of electricity from its own generation sources and the remaining 60 percent from outside sources. PG&E-owned generating capacity includes nuclear, fossil fuel-fired, and hydroelectric facilities. Outside suppliers to PG&E include the State Department of Water Resources, irrigation districts, renewable energy suppliers, and other fossil fuel-fired suppliers. PG&E operates approximately 158,700 circuit miles of transmission and distribution lines. PG&E is interconnected with electric power systems in the Western Electricity Coordinating Council, which includes 14 western states; Alberta and British Columbia, Canada; and parts of Mexico.

In 2006, PG&E delivered 84,310 gigawatt hours of electricity to its customers. Commercial customers accounted for largest segment of demand, with 40 percent of the total.

Natural Gas

PG&E provides natural gas to all or part of 38 counties in California, comprising most of the northern and central portions of the state. PG&E obtains approximately 62 percent of its natural gas supplies from western Canada, 32 percent from the southwestern United States, and the balance from in-state sources. PG&E operates approximately 47,000 miles of transmission and distribution pipelines.

In 2006, PG&E delivered 836 billion cubic feet (Bcf) of natural gas to its customers. Commercial customers accounted for the smallest segment of demand, with 12 percent of the total.

4.14.3 - Regulatory Framework

State

California Water Code Sections 10910-10915

California Water Code Sections 10910 through 10915 require that a Water Supply Assessment be prepared for any project with the following characteristics:

- A residential development of more than 500 dwelling units.
- A shopping center or business establishment employing more than 1,000 persons or having more than 500,000 square feet of floor space.
- A commercial office building employing more than 1,000 persons or having more than 250,000 square feet of floor space.

- A proposed hotel or motel, or both, having more than 500 rooms.
- An industrial, manufacturing, or processing plant, or industrial park planned to house more than 1,000 persons, occupying more than 40 acres of land, or having more than 650,000 square feet of floor area.
- A mixed-use project that includes one or more of the projects specified above.
- A project that would demand an amount of water equivalent to, or greater than, the amount of water required by a 500 dwelling unit project.

The Water Supply Assessment must evaluate the proposed project's demand and determine if the local water supplier has adequate supplies to serve the project.

California Urban Water Management Planning Act

The Urban Water Management Planning Act (California Water Code §§ 10610-10656) requires that all urban water suppliers prepare urban water management plans and update them every 5 years.

California Integrated Waste Management Act

To minimize the amount of solid waste that must be disposed of by transformation and land disposal, the State Legislature passed Assembly Bill 939, the California Integrated Waste Management Act of 1989 (AB 939), effective January 1990. The legislation required each local jurisdiction in the State to set diversion requirements of 25 percent in 1995 and 50 percent in 2000; established a comprehensive statewide system of permitting, inspections, enforcement, and maintenance for solid waste facilities; and authorized local jurisdictions to impose fees based on the types or amounts of solid waste generated.

California Public Utilities Commission

The California Public Utilities Commission (CPUC) regulates privately owned telecommunication, electric, natural gas, water, railroad, rail transit, and passenger transportation companies. It is the responsibility of the CPUC to assure California utility customers safe, reliable utility service at reasonable rates, protect utility customers from fraud, and promote a healthy California economy.

California's Energy Efficiency Standards for Residential and Nonresidential Buildings

Title 24, Part 6, of the California Code of Regulations establishes California's Energy Efficiency Standards for Residential and Nonresidential Buildings. The standards were updated in 2005 and set a goal of reducing growth in electricity use by 478 gigawatt-hours per year (GWh/y) and growth in natural gas use by 8.8 million therms per year (therms/y). The savings attributable to new nonresidential buildings are 163.2 GWh/y of electricity savings and 0.5 million therms. For nonresidential buildings, the standards establish minimum energy efficiency requirements related to building envelope, mechanical systems (e.g., HVAC and water heating systems), indoor and outdoor lighting, and illuminated signs.

Local

City of San Ramon General Plan

The City of San Ramon General Plan establishes the following relevant policies related to utility systems:

- **Policy 2.4-I-16:** Evaluate the ability of new development to pay for its infrastructure, its share of public and community facilities, and the incremental operating costs it imposes.
- **Policy 2.4-I-17:** Existing City development review practices assure that new development provides for the capital facilities needed to serve it. Ongoing maintenance of those facilities – generally via infrastructure landscaping and lighting districts – is also typically provided for. While the defraying of such costs by new development would normally be expected, some projects may contribute to the community in ways that compensate for a negative fiscal impact.
- **Policy 3.1-I-7:** Allow urban development only within the City’s Urban Growth Boundary and only in accord with a plan for full urban services (police, fire, parks, water, sewer, streets and storm drainage) to which all providers are committed.
- **Policy 3.2-G-1:** Ensure the attainment of public facility and service standards through the City’s development review process, Capital Improvement Program, and a variety of funding mechanisms to maintain existing facilities and help fund expansion.
- **Policy 3.2-I-3:** Require new development to fund public facilities and infrastructure that is deemed necessary to mitigate the impact of that new development.
- **Policy 3.2-I-4:** Levy mitigation fees for public facilities and infrastructure improvements in proportion to a new development’s impact.
- **Policy 7.4-I-1:** Cooperate with Pacific Gas and Electric Company (PG&E) to monitor future utility expansion to ensure that facilities are designed and planned with minimal impact on existing and future residents.
- **Policy 7.4-I-3:** Require new development to underground all utility lines needed to serve the future buildings and their occupants, and work with PG&E to underground utilities in existing residential neighborhoods, making the Southern San Ramon area a priority.
- **Policy 7.4-I-7:** Encourage all new development to provide the technology to support multiple telecommunications facilities and providers.
- **Policy 7.5-G-1:** Manage solid waste so that State diversion goals are exceeded and the best possible service is provided to the citizens and businesses of San Ramon.
- **Policy 7.5-I-2:** Provide and promote opportunities to reduce waste at home and in businesses, and make possible the safe disposal of hazardous materials.

- **Policy 7.5-I-4:** Require builders to incorporate interior and exterior storage areas for recyclables into new commercial and residential remodeled buildings, and encourage remodeled buildings (both residential and commercial) to make recycling activities more convenient for those who use the buildings.
- **Policy 8.7-G-1:** Encourage the implementation of water quality and conservation programs and measures by San Ramon employers, residents, and service providers.
- **Policy 8.7-I-2:** Require new development to be equipped with water conservation devices, including the possibility of dual water systems.
- **Policy 8.7-I-3:** Continue to implement and enforce provisions of the Water Conservation and Landscape Ordinance 218.
- **Policy 8.7-I-4:** Support the application of reclaimed water to reduce the demand on municipal water supplies.
- **Policy 8.7-I-5:** Work with DERWA (Dublin San Ramon Services District and East Bay Municipal Utility District Recycled Water Authorities) to encourage and promote water reclamation projects in the City of San Ramon.
- **Policy 9.3-I-2:** Require new development to prepare hydrologic studies to assess storm runoff impacts on the local and subregional storm drainage systems and/or creek corridors.
- **Policy 9.3-I-3:** Require new development to provide for the perpetual funding and ongoing maintenance of detention basins. Maintenance may be by the City under contract, by a private entity, or by another public agency.
- **Policy 9.3-I-4:** Establish landscape and maintenance guidelines for required detention basins to ensure that such facilities achieve a look and quality that is consistent with the landscape of San Ramon and applicable regulatory requirements.
- **Policy 11.14-G-1:** Promote energy conserving practices in the construction, renovation, and maintenance of San Ramon's housing units.
- **Policy 11.14-I-2:** Enforce the State's energy conservation standards for new residential construction and renovations to existing structures.

San Ramon City Code

San Ramon City Code Division C4 Chapter VIII (Ordinance No. 218) requires that water conservation features be incorporated into landscaping plans. The ordinance includes provisions requiring the use of drought tolerant landscaping, climate sensitive irrigation systems, use of water efficient sprinkler heads, and other water conservation practices and technologies where feasible.

East Bay Municipal Utility District

East Bay MUD Policy 8.01 requires that customers use recycled water for non-domestic purpose when it is of adequate quality and quantity, available at reasonable cost, not detrimental to public health, and not injurious to plants or wildlife.

4.14.4 - Methodology

East Bay MUD prepared a Water Supply Assessment for the proposed project in April 2007. The Water Supply Assessment was required by State law because the proposed project would develop a mixed-use project that would demand an equivalent or greater amount of water as a 500 unit residential project. Note that the proposed project would also exceed the thresholds related to 500,000 square feet of retail space and 250,000 square feet of office space. The Water Supply Assessment provided demand projections for the proposed project and evaluated those projections in relation to those contained in East Bay MUD's 2005 Urban Water Management Plan. The Water Supply Assessment is contained in its entirety in Appendix K of this DSEIR.

Central San prepared a Development Capacity Analysis for the proposed project that evaluated demand and available wastewater system capacity. The Development Capacity Analysis is contained in its entirety in Appendix H of this DSEIR.

RBF Consulting, the project engineer, prepared project utility plans for water, wastewater, and drainage. RBF consulted with utility providers including East Bay MUD, DERWA, Central San, and the City of San Ramon about existing infrastructure and necessary improvements to serve the proposed project. RBF also prepared a stand-alone Preliminary Hydrology Report, which is contained in its entirety in Appendix F of this DSEIR.

Michael Brandman Associates (MBA) evaluated utility system impacts using the aforementioned reports and plans, as well as utility information provided in the City of San Ramon General Plan, the City of San Ramon General Plan EIR, the East Bay MUD 2006 Annual Report, and the PG&E 10-k Annual Report. MBA also reviewed information posted on agency websites, including East Bay MUD, Central San, DERWA, and the California Integrated Waste Management Board.

4.14.5 - Thresholds of Significance

According to the CEQA Guidelines' Appendix G Environmental Checklist, to determine whether impacts to utilities and service systems are significant environmental effects, the following questions are analyzed and evaluated. Would the project:

- a.) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?
- b.) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

- c.) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?
- d.) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?
- e.) Result in a determination by the wastewater treatment provider, which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?
- f.) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?
- g.) Comply with federal, state, and local statutes and regulations related to solid waste?
- h.) Result in the unnecessary or wasteful use of energy?

4.14.6 - Project Impacts and Mitigation Measures

This section discusses potential impacts associated with the development of the project and provides mitigation measures where appropriate.

Potable Water

Impact US-1: The proposed project would substantially increase demand for potable water.

Impact Analysis

The proposed project would develop and redevelop a total of approximately 2.1 million square feet of mixed uses (approximately 1.6 million net square feet above existing vested entitlement and approximately 1.9 million square feet of net additional construction above existing site conditions) on approximately 44 acres and would increase potable water demand from existing levels. Pursuant to State law, East Bay MUD prepared a Water Supply Assessment in April 2007. The findings of the Water Supply Assessment are summarized below and the complete document is available in Appendix K of this DSEIR.

The Water Supply Assessment indicates that existing potable water demand on the four parcels that constitute the project site is 22,000 gallons per day and projects that the completed City Center project's demand would be 400,000 gallons per day. The Water Supply Assessment states that the 378,000-gallons-per-day net increase is consistent with the demand projections contained in East Bay MUD's 2005 Urban Water Management Plan for its service area and would not change the 2030 horizon year demand projections. The demand projections were previously provided in Table 4.14-2.

As previously discussed, East Bay MUD's 2005 Urban Water Management Plan forecasts a worst-case scenario of a three-year drought that would result in a net deficit of 1 mgd at the end of the third year in 2009 and 27 mgd at the end of the third year in 2030. The three-year drought scenario assumes that rationing would reduce total demand by 5 percent during the first year and by 25 percent

in the second and third years. The Freeport Regional Water Project, scheduled to come on line in 2010, would provide 100 mgd of supplemental supply during dry years.

It is important to note that the 2005 Urban Water Management Plan's planning level of demand is higher than actual observed demand. The 2005 Urban Water Management Plan assumed that there would be 222 mgd of demand in 2005. Usage figures provided by East Bay MUD indicate that actual usage was 205 mgd in 2005, which is 7 percent lower than forecast in the 2005 Urban Water Management Plan. Therefore, the demand projections contained in the 2005 Urban Water Management Plan should be treated as conservative and will likely be significantly higher than actual observed demand over the planning horizon of the plan.

In addition to the Freeport Regional Water Project, East Bay MUD is also developing other sources of supplemental supplies. These projects include participating in the Bay Area Regional Desalination Project and developing the Bayside Groundwater Project. The 2005 Urban Water Management Plan did not account for these supplies in its long-term projections. Therefore, when these projects are developed, they would add additional supplies beyond what was projected in Table 4.14-2.

The 2005 Urban Water Management Plan indicates that outdoor water use ranges from 14 to 38 percent of total water use depending on residential housing type. The proposed project would connect to the DERWA recycled water system for outdoor irrigation. Because no detailed plans of the proposed project's recycled water system are available at the time of this writing, this has been incorporated as a mitigation measure.

The proposed project would also be required to comply with the Model Water Efficient Landscape Ordinance, which requires that plans and water usage estimates for landscape irrigation be submitted prior to the issuance of ministerial permits. This has been incorporated as a mitigation measure.

Finally, the proposed project would implement various water conservation measures and practices, including high efficient washers, re-circulating hot water systems, tankless hot water heaters, green roofs, evapotranspiration-based water controllers, water budgets for landscape irrigation, and high efficiency toilets. These have been incorporated as a mitigation measure.

In summary, the proposed project would cause a net increase in potable water demand by 378,000 gallons per day in relation to existing demand on the project site. East Bay MUD indicated that this demand is accounted for in their long-term water supply planning and would not require the development of additional supplies. While East Bay MUD 2005 Urban Water Management Plan forecasts a worst-case scenario of a three-year drought that would result in a net deficit of 1 mgd at the end of the third year in 2010 and 27 mgd at the end of the third year in 2030, the proposed project would not exacerbate this projected deficit because its demand is accounted for in this total. Moreover, East Bay MUD has several likely sources of supplemental water supply under development that would reduce this deficit. Mitigation is proposed that would reduce the project's

potable water demand through the use of recycled water irrigation, compliance with the Model Water Efficient Landscape Ordinance, and the implementation of water conservation measures. For these reasons, the proposed project would have a less than significant impact on potable water.

Level of Significance Before Mitigation

Potentially significant impact.

Mitigation Measures

- MM US-1a** To the maximum extent practicable, all outdoor landscaped areas associated with the Plaza District, Bishop Ranch 1A, and City Hall shall be irrigated with recycled water from the DERWA system.
- MM US-1b** All project landscaping shall comply with the Model Water Efficient Landscape Ordinance (Division 2, Title 23, California Code of Regulations, Chapter 2.7, Sections 490 through 495), which requires that a landscape documentation package be submitted to the lead agency prior to the issuance of ministerial permits. The package shall include the following: a water conservation concept statement, calculations of water allowance and usage, a landscape design plan, an irrigation design plan, irrigation schedules, a maintenance schedule, a landscape irrigation audit schedule, a grading design plan, and soil analysis.
- MM US-1c** The project applicant shall implement the following water conservation measures into their respective components of the proposed project:
- High-efficiency clothes washers and dishwashing machines.
 - Re-circulating hot water systems.
 - High-efficiency or tankless hot water heaters.
 - Green roofs.
 - Evapotranspiration-based irrigation controllers.
 - Water budgets for landscape irrigation.
 - High efficiency toilets in non-residential buildings.

Level of Significance After Mitigation

Less than significant impact.

Wastewater

Impact US-2: The proposed project would not result in a need for new or expanded offsite conveyance or treatment facilities.

Impact Analysis

Central San prepared a Development Capacity Analysis for the proposed project that projected the project would generate a net increase of 181,935 gallons of wastewater per day. This estimate accounts for existing wastewater generated by Bishop Ranch 2. The Development Capacity Analysis

indicates that the proposed project would connect to existing sewer lines located under Bishop Drive, Camino Ramon, Bollinger Canyon Road, and the Bishop Ranch 1 East road. Wastewater would be conveyed in these sewer lines to a lift station located in the Iron Horse Trail corridor near the southern boundary of Bishop Ranch 1. From there, project effluent would enter the San Ramon Interceptor and be conveyed north up the Iron Horse Trail corridor to the treatment plant in Martinez. The Development Capacity Analysis indicates that there is adequate capacity in the interceptor and at the treatment plant to accommodate the proposed project's effluent under a worst-case scenario of a 20-year storm event. Therefore, the proposed project would not result in a need for new or expanded offsite conveyance or treatment facilities.

Level of Significance Before Mitigation

Less than significant impact.

Mitigation Measures

No mitigation is necessary.

Level of Significance After Mitigation

Less than significant impact.

Storm Drainage

Impact US-3: **The proposed project would not result in a need for new or expanded offsite storm drainage facilities.**

Impact Analysis

The development of the proposed project would require the removal of all existing storm drain infrastructure located on Parcels 1A and 1B, and in Bishop Ranch 2. The proposed project would maintain the existing storm drain line under Camino Ramon and the Bishop Ranch 1 entrance road to a point approximately 200 feet south of Bollinger Canyon Road. From there, the existing 96-inch-diameter pipe would be removed because it veers east and crosses the footprint of the Bishop Ranch 1A parking structure. A replacement storm drain would be installed around the south side of the parking structure and would reconnect with the remainder of the existing 96-inch-diameter storm drain that discharges into South San Ramon Creek. This alignment modification would not significantly affect the hydrologic or hydraulic conditions on the project site or locations upstream or downstream of the project site.

The proposed project would also implement green roofs and bioswales that would capture runoff from impervious surfaces. Green roofs are vegetated areas on rooftops fed by piping from stormwater collection systems. Bioswales are vegetated drainage features that promote percolation of storm water runoff. Both features are intended to capture urban water pollutants and reduce the volume of runoff leaving the project site. Through the implementation of these onsite features, there would be no need for offsite water treatment or flood control improvements in downstream

waterways. In addition, mitigation measures HYD-2A and HYD-2B require the project applicant to submit detailed plans demonstrating the effectiveness of these measures.

The proposed project would have a less than significant impact on storm drainage.

Level of Significance Before Mitigation

Less than significant impact.

Mitigation Measures

No mitigation is necessary.

Level of Significance After Mitigation

Less than significant impact.

Solid Waste

Impact US-4: The proposed project would generate substantial amounts of solid waste that may result in the unnecessary use of regional landfill capacity.

Impact Analysis

Solid waste would be generated by short-term construction activities and long-term operational activities. Each is discussed below.

Construction Waste Generation

The construction phase of the proposed project would include demolition of Bishop Ranch 2 and the Bishop Ranch parking areas on Parcels 1A and 1B and the construction of more than 2.1 million square feet of residential and nonresidential uses. Using construction and demolition debris waste generation rates published by the U.S. Environmental Protection Agency, an estimate of the total construction and demolition debris generated by the proposed project is provided in Table 4.14-5. Note that nonresidential and residential construction activities were calculated separately because of differences in waste generation rates.

Table 4.14-5: Construction and Demolition Waste Generation

Activity	Type	Waste Generation Rate	Square Footage	Total
Demolition	Nonresidential	155 pounds/square foot	194,652	15,086 tons
Construction	Nonresidential	3.89 pounds/square foot	1,617,797	3,147 tons
	Residential	4.38 pounds/square foot	550,669	1,206 tons
Total				19,439 tons
1 ton = 2,000 pounds Source: U.S. Environmental Protection Agency, 1998.				

The proposed project is estimated to generate 19,439 tons of construction and demolition debris. This tonnage would be spread out over the length of construction activities and the actual volumes of construction waste disposed of at any one time are not expected to be more than several tons of

debris. However, because 19,439 tons represents a significant amount of construction and demolition waste, mitigation is proposed that would require the applicant to implement construction and demolition recycling to the maximum extent feasible. The implementation of this mitigation measure would reduce short-term solid waste generation substantially. Therefore, short-term construction impacts on landfill capacity would be less than significant.

Operational Waste Generation

Daily and annual operational solid waste generation estimates are provided in Table 4.14-6. The waste generation rates provided in the table were derived from information provided in the City of San Ramon General Plan EIR. This table accounts for existing solid waste generated by Bishop Ranch 2. Note that the estimates in the table are considered conservative estimates and likely overstate actual operational solid waste generation.

Table 4.14-6: Operational Net Solid Waste Generation

Use	Size	Waste Generation Rate	Daily Total (tons)	Annual Total (tons)
Bishop Ranch 2 (existing)	194,652 square feet	0.1 pound/square foot/day	(10)	(3,650)
Residential and Hotel	656 units	13.7 pounds/unit/day	4.5	1,640
Non-Residential (includes retail, office, and civic)	1,477,930 square feet	0.1 pound/square foot/day	74	26,973
Net Total			68.5	24,963
Notes: 1 ton = 2,000 pounds Waste generation rates were obtained from Table 4.6-3 of the City of San Ramon General Plan EIR. Source: City of San Ramon, 2001.				

The proposed project is estimated to generate a net total of 68.5 tons of solid waste on a daily basis and 24,963 tons on an annual basis. While regional landfill capacity would be available to accommodate this amount of solid waste, this figure could be substantially reduced through recycling and waste reduction practices and would avoid the unnecessary use of landfill capacity. Mitigation is proposed that would require the applicant to implement operational recycling and waste reduction practices to the maximum extent feasible. The implementation of this mitigation measure would reduce operational solid waste generation substantially and conserve landfill capacity. Therefore, long-term operational impacts on landfill capacity would be less than significant.

Level of Significance Before Mitigation

Potentially significant impact.

Mitigation Measures

MM US-4a Prior to the issuance of demolition permits, the project applicant shall submit a recycling plan to the City of San Ramon identifying the procedures by which

construction and demolition would be salvaged and recycled to the maximum extent feasible. The plan shall include proof that a construction and demolition debris recycler is under contract to the applicant to perform this work.

MM US-4b Prior to the issuance of occupancy permits, the project applicant shall submit a Recycling and Waste Reduction Plan to the City of San Ramon identifying practices it and its tenants would implement during project operations that demonstrate at least 50-percent diversion.

Operation recycling and waste reduction practices shall include, but not be limited to:

- Contracting with one or more City-licensed commercial recycling providers to serve all project commercial uses. Recyclable materials collection containers shall be provided in common commercial tenant disposal areas and be equipped to accept aluminum, cardboard, glass, green waste, mixed paper, and plastic materials, and, where feasible, food scraps.
- Compliance with City of San Ramon's 50-percent waste diversion ordinance.
- Installation of common recycling facilities in all residential uses. These facilities shall be equipped to accept aluminum, cardboard, glass, mixed paper, and plastic materials and contain signage clearly identifying accepted materials.
- Periodic notification of residents and commercial tenants about the location of recycling facilities and accepted materials.
- Installation of recyclable materials receptacles in public places (e.g., along streets in the Plaza District, outside of City Hall, etc.). Recycling receptacles shall be of high-quality design and contain signage clearly identifying accepted materials.
- Common commercial and residential disposal areas shall be designed with sufficient space to accommodate separate containers for solid waste, recyclables, organics, and—for restaurants—tallow, subject to approval of the franchise waste provider and City of San Ramon. Plans should include adequate and safe access for solid waste and recycling vehicles to access and collect materials.

Level of Significance After Mitigation

Less than significant impact.

Energy

Impact US-5: The proposed project would demand substantial amounts of electricity and natural gas.

Impact Analysis

Using consumption figures provided by the California Energy Commission, the proposed project’s estimated building electricity and natural gas consumption following construction is summarized in Table 4.14-7. As shown in the table, the proposed project is estimated to demand a net total of 84,900 kilowatt hours (kWH) and 6,490 thousand British Thermal Units (kBTUs) on a daily basis.

Table 4.14-7: Estimated Energy Consumption

Use	Energy Source	Annual Consumption Rate	Estimated Daily Consumption	Estimated Annual Consumption
Bishop Ranch 2	Electricity	15.7 kWH/square foot (Electricity) 1.2 kBTU/square foot (Natural Gas)	(8,373 kWH)	(3 million kWH)
	Natural Gas		(640 kBTU)	(233,000 kBTU)
City Center Project	Electricity		93,273 kWH	34 million kWH
	Natural Gas		7,130 kBTU	2.6 million kBTU
Net Change	Electricity		84,900 kWH	31 million kWH
	Natural Gas		6,490 kBTU	2.3 million kBTU
kWH = kilowatt hours kBTU = 1,000 British Thermal Units Source: California Energy Commission, 2007.				

PG&E provided a letter dated May 17, 2007 indicating that it has adequate existing infrastructure and electricity and natural gas supplies to serve the proposed project (available in Appendix H of this DSEIR).

Nonetheless, the proposed project’s projected consumption of electricity and natural gas can be reduced through energy conservation measures such as natural day lighting, automated occupancy sensors, participation in PG&E energy efficiency rebate programs, high-efficiency clothes washers and dishwashing machines, re-circulating hot water systems, and tankless water heaters. These measures have been incorporated as mitigation. With the implementation of these energy conservation measures, the proposed project’s energy demand would not be unnecessary or wasteful. Impacts would be less than significant.

Level of Significance Before Mitigation

Potentially significant impact.

Mitigation Measures

MM US-5 The project applicant shall implement the following energy conservation measures into the proposed project, unless safety or technical feasibility considerations take precedence:

- Natural day lighting through the use of windows and skylights.
- Automated occupancy sensors in structures that automatically shut off lights when rooms are unoccupied.
- Participation in PG&E energy efficiency rebate programs (e.g., air conditioning, gas heating, refrigeration, and lighting).
- High-efficiency clothes washers and dishwashing machines.
- Re-circulating hot water systems.
- Tankless water heaters.

Level of Significance After Mitigation

Less than significant impact.