

4.4 TRANSPORTATION AND CIRCULATION

The *FORA Reuse Plan Final Environmental Impact Report* (FORA FEIR) identified on a program level potentially significant environmental impacts for transportation as related to increased travel demand on the regional transportation system. The FORA FEIR also identified less than significant impacts due to increased travel demand within FFO and increased demand for transit.

Site specific details and project-level information for the EGSP project was not known and not analyzed at the time of the FORA FEIR. New information between the time the FORA FEIR was certified and the release of the Notice of Preparation (NOP) for the currently proposed EGSP project includes changes in proposed land use types and intensity on the project site; development of a project-specific site plan; development of an onsite circulation, public transportation, pedestrian, and bicycle facilities plans; a parking plan, and the preparation of a project-specific traffic impact analysis for the EGSP project. In addition, traffic in region and project area has grown since the FORA FEIR, necessitating the use of updated traffic modeling information.

This section provides additional analysis of potential impacts not previously analyzed in the FORA FEIR and is based on information contained in the *Traffic Impact Study for East Garrison Development in Monterey County* prepared in September 2004 by TJKM Transportation Consultants under contract with Monterey County. This section provides information regarding existing roadways and traffic conditions in the East Garrison Specific Plan (EGSP) project area, analysis of potential impacts to intersections and roadways resulting from the project, and recommended mitigation measures. The *Traffic Impact Study* is included in Appendix E of this DSEIR.

4.4.1 Environmental Setting

EXISTING ROADWAY SYSTEM

Reservation Road

Reservation Road is a major east-west two- to four-lane arterial, extending westerly from Marina State Beach to State Route (SR) 68. This road has variable speed limits ranging from 35 miles per hour (mph) in the city, to 65 mph east of Blanco Road. Reservation Road is fronted by business and commercial centers and a few residential developments from Del Monte Boulevard to Seacrest Avenue, and open space and farmlands east of Imjin Parkway to Davis Road.

Cyclists are allowed access to Inter-Garrison Road through the small gate opening. Adequately spaced transit bus stops were observed on both sides of Reservation Road. Monterey-Salinas Transit and school buses use Reservation Road.

The relatively low vertical grades and horizontal alignments of Reservation Road segments provide good sight distance to motorists. Sight distance of more than 1000 feet was observed for most roadway segments with speeds up to 55 mph. However, a substantial vertical curve exists east of the proposed main entrance to the project (i.e., Main Project Access) which somewhat reduces sight distance.

Del Monte Boulevard

Del Monte Boulevard is a north-south four-lane arterial that carries heavy traffic volumes to and from Reservation Road during the morning and afternoon peak periods. Del Monte Boulevard is fronted on the east by small business and commercial properties and on the west by recreational trails and parks. Monterey-Salinas Transit operates on Del Monte Boulevard.

Vista Del Camino

Vista Del Camino is a two-lane roadway that forms a “T” intersection with Reservation Road just east of Del Monte Boulevard in the City of Marina. Land uses along Vista Del Camino are mainly residential and commercial.

Seacrest Avenue and Crescent Avenue

Seacrest Avenue and Crescent Avenue are two-lane roadways with adjacent residential and commercial land uses. Both Seacrest Avenue and Crescent Avenue intersect Reservation Road (east of Vista Del Camino) in the City of Marina.

Imjin Parkway

Imjin Parkway is bounded on the north by the University of California-Monterey Bay Education, Science, and Technology Center (UCMBEST) facility. To the south, Imjin Parkway connects with 12th Street, which has a new connection with State Route (SR) 1. This new 12th Street/SR 1 interchange together with Imjin Parkway is being used by Salinas-Monterey Peninsula commuters that previously used Reservation Road through the City of Marina.

Blanco Road and Davis Road

Blanco Road and Davis Road are two-lane rural roadways that provide access between the cities of Salinas and Marina. Land uses fronting the two corridors consist of farmlands and open space.

Light Fighter Drive

Light Fighter Drive serves as a major four-lane collector street carrying moderate traffic to and from CSUMB and the surrounding land uses. It also serves the main former Fort Ord entrance off SR 1. The posted speed limit is 35 mph.

General Jim Moore Boulevard

General Jim Moore Boulevard is an undulating two-lane roadway bounded on the north by Light Fighter Drive and on the south by Canyon Del Rey Boulevard. The posted speed limit varies from 35 mph to 45 mph. General Jim Moore Boulevard is fronted on the west by a few residential properties and on the east by open space and carries a moderate amount of traffic.

Monterey-Salinas Highway (State Route 68)

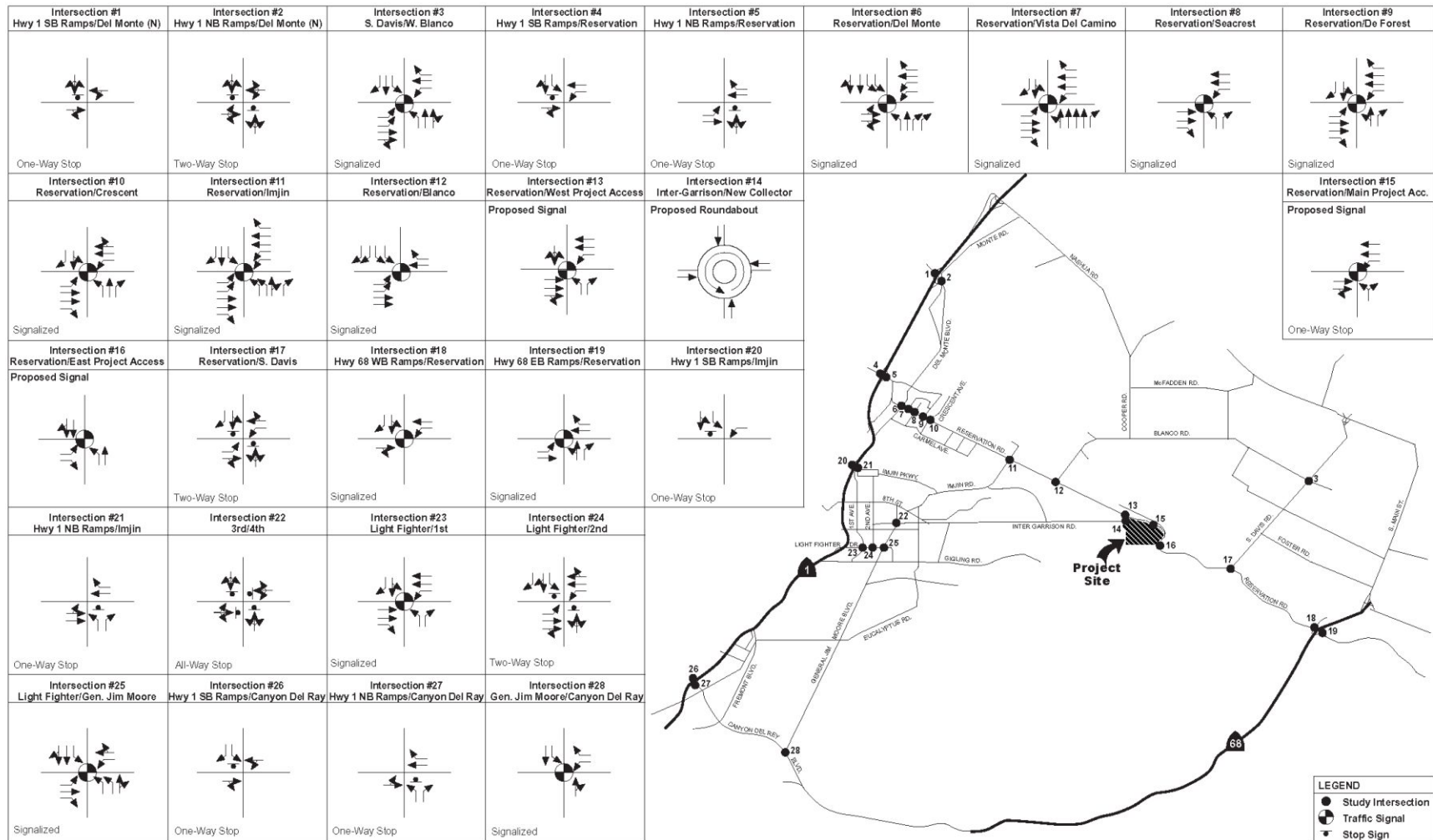
Monterey-Salinas Highway (SR 68) provides access between Monterey (where it connects with SR 1) and Salinas. SR 68 is heavily used by commuters who typically live in the Salinas area and work in the Monterey Peninsula.

Canyon Del Rey Boulevard (State Route 218)

Canyon Del Rey Boulevard (SR 218) is bounded on the north by SR 1 and merges into SR 68 on the south. The roadway provides access to Monterey County cities and is fronted by recreational parks and sparse residential developments.

STUDY INTERSECTIONS

The study evaluated conditions at 28 intersections in the project area that could be potentially impacted by the proposed project. Study intersections are listed in Table 4.4-1 and shown in Exhibit 4.4-1.



Source: TJKM Transportation Consultants, September 2004.



Exhibit 4.4-1 Study Intersections

Table 4.4-1: Study Intersections

Intersection	Signalized	Unsignalized
SR 1 Southbound Ramps/Del Monte Boulevard		✓
SR 1 Northbound Ramps/Del Monte Boulevard		✓
Davis Road/t Blanco Road	✓	
SR 1 Southbound Ramps/Reservation Road		✓
SR 1 Northbound Ramps/Reservation Road		✓
Reservation Road/Del Monte Boulevard	✓	
Reservation Road/Vista Del Camino	✓	
Reservation Road/Seacrest Avenue	✓	
Reservation Road/De Forest Road	✓	
Reservation Road/Crescent Avenue	✓	
Reservation Road/Imjin Parkway	✓	
Reservation Road/Blanco Road	✓	
Reservation Road/Western Project Access ¹	✓	
Inter-Garrison Road/New Collector, connects with Reservation Road ²		✓
Reservation Road/Central (Main) Project Access ¹	✓	
Reservation Road/Eastern Project Access ¹	✓	
Reservation Road/ Davis Road/Driveway to The Bluffs		✓
SR 68 Westbound Ramps/Reservation Road	✓	
SR 68 Eastbound Ramps/Reservation Road	✓	
SR 1 Southbound Ramps/Imjin Parkway		✓
SR 1 Northbound Ramps/Imjin Parkway		✓
3 rd Street/4 th Avenue		✓
Light Fighter Drive/1 st Avenue	✓	
Light Fighter Drive/2 nd Avenue		✓
Light Fighter Drive/General Jim Moore Boulevard	✓	
SR 1 Southbound Ramps/ Canyon Del Rey Boulevard		✓
SR 1 Northbound Ramps/Canyon Del Rey Boulevard		✓
General Jim Moore Boulevard/Canyon Del Rey Boulevard	✓	
¹ Future intersection. ² Future roundabout. Source: TJKM Transportation Consultants, September 2004.		

LEVEL OF SERVICE ANALYSIS METHODOLOGY

Level of service (LOS) is a qualitative measure describing operational conditions as they relate to the traffic stream and perceptions by motorists and passengers. LOS generally describes these conditions

in terms of speed, travel time, delays, freedom to maneuver, traffic interruptions, comfort, convenience, and safety.

Operational LOS are given letter designations from A to F, with A representing the best operating conditions (free-flow) and F the worst (severely congested flow with long delays). Intersections generally dictate traffic conditions on arterial and collector streets. LOS definitions are described below and shown in Table 4.4-2.

Table 4.4-2: Level of Service Definitions

Level of Service	Description	Average Control Delay Per Vehicle (In Seconds Per Vehicle)
A	Free flow with no delays. Users are virtually unaffected by others in the traffic stream.	≤ 10
B	Stable traffic. Traffic flows smoothly with few delays.	> 10 - 20
C	Stable flow but the operation of individual users becomes affected by other vehicles. Modest delays.	> 20 - 35
D	Approaching unstable flow. Operation of individual users becomes significantly affected by other vehicles. Delays may be more than one cycle during peak hours.	> 35 - 55
E	Unstable flow with operating conditions at or near the capacity level. Long delays and vehicle queuing.	> 55 - 80
F	Forced or breakdown flow that causes reduced capacity. Stop and go traffic conditions. Excessive long delays and vehicle queuing.	> 80

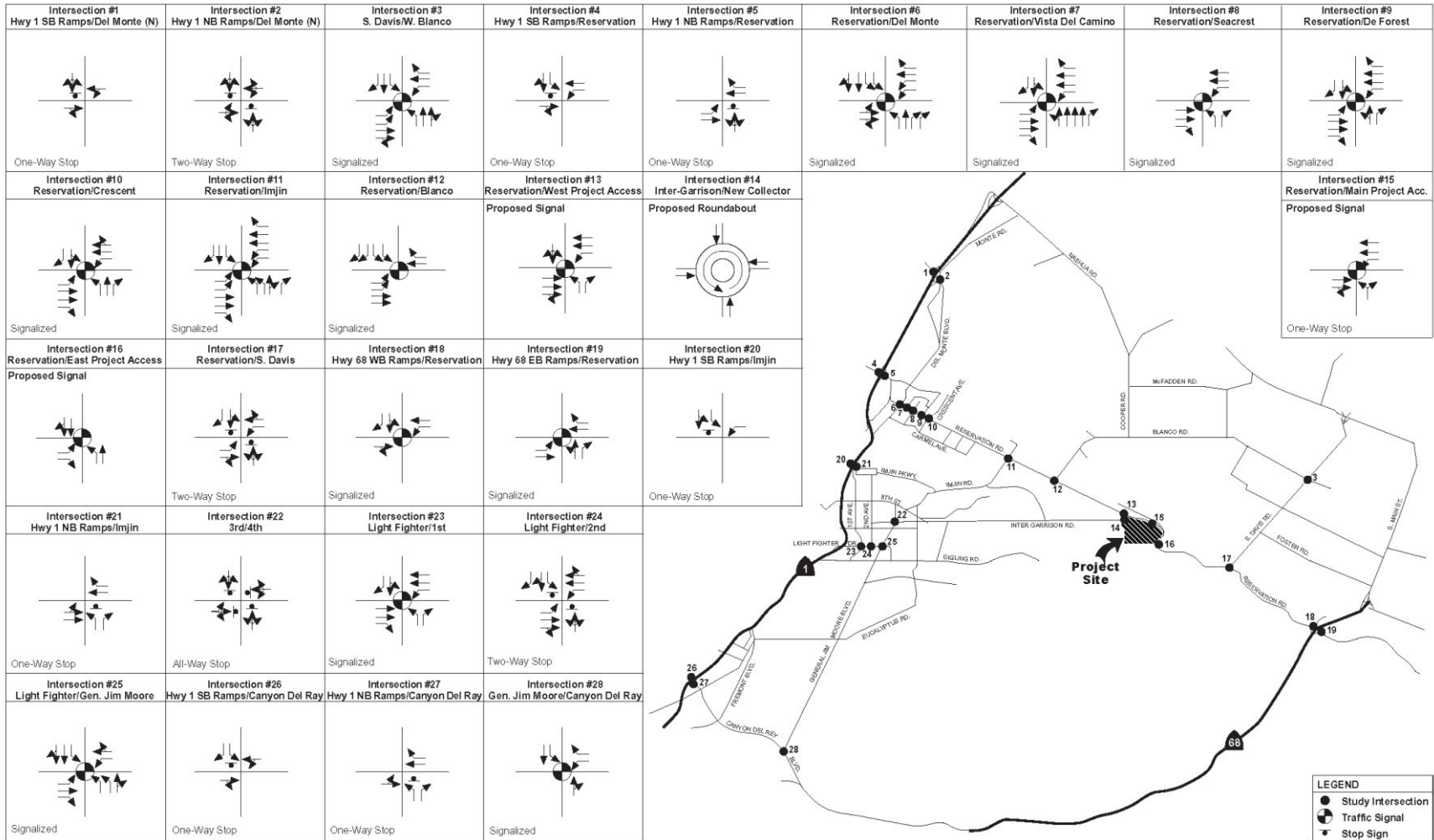
Source: Transportation Research Board, 2000.

EXISTING CONDITIONS INTERSECTION LEVEL OF SERVICE ANALYSIS

Turning movement counts at all study intersections were collected in June of 2003. Exhibit 4.4-2 shows the intersection lane geometry at the study intersections. Exhibit 4.4-3 illustrates the existing peak hour turning movement volumes at the study intersections. Table 4.4-3 summarizes the results of the intersection analysis under Existing Conditions. The detailed LOS calculations are contained in Appendix E of this DSEIR.

The thresholds of significance for intersections and roadway improvements are described in Section 4.4-2: Project Impacts and Mitigation Measures. Currently, all the study intersections operate at acceptable LOS during both the AM and PM peak hours with the exception of the following five study intersections:

- Davis Road/Blanco Road:
LOS F during both the AM and PM peak hours.
- SR 1 Southbound Ramps/Reservation Road:
LOS E during the AM peak hours.
- Reservation Road/Davis Road:
LOS E and LOS F during the AM and PM peak hours, respectively.

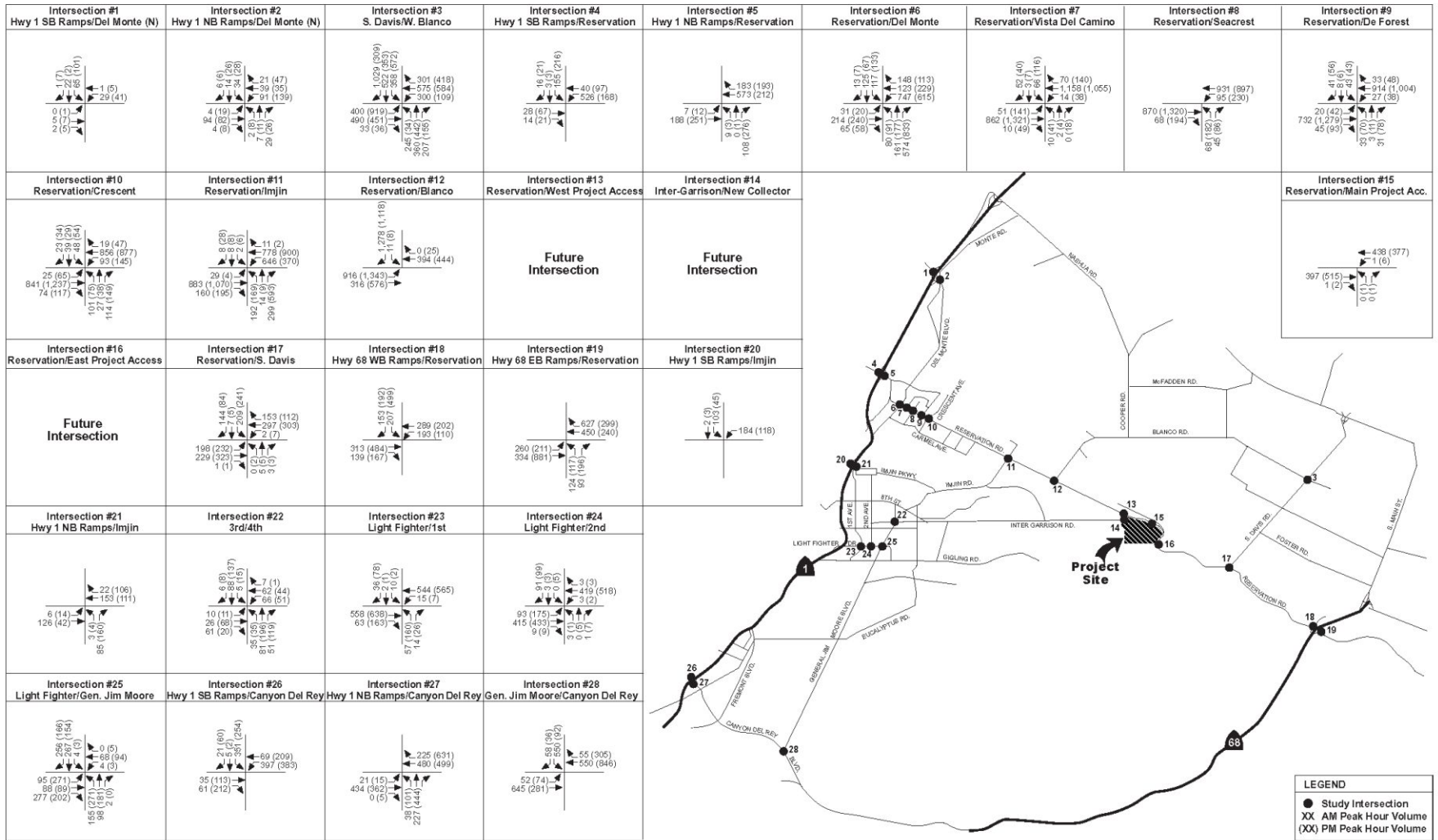


Source: TJKM Transportation Consultants, September 2004.



NOT TO SCALE

Exhibit 4.4-2 Intersection Lane Configuration



LEGEND
● Study Intersection
XX AM Peak Hour Volume
(XX) PM Peak Hour Volume

Source: TJKM Transportation Consultants, September 2004.



NOT TO SCALE

Michael Brandman Associates

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Exhibit 4.4-3 Existing Turning Movement Volumes

EAST GARRISON SPECIFIC PLAN • DSEIR

- SR 1 Southbound Ramps/Canyon Del Rey Boulevard:
LOS F during both the AM and PM peak hours.
- General Jim Moore Boulevard/Canyon Del Rey Boulevard:
LOS F during the AM peak hours.

Although the calculations indicate that SR 1 Southbound ramps/Reservation Road operates at LOS F during the AM peak hour, no excessive delays were observed for drivers trying to turn left from the off-ramp (which is stop-controlled) onto eastbound Reservation Road. The adjacent signal to the east at Beach Road/Reservation Road creates gaps in westbound Reservation Road traffic so that drivers can turn left from the SR 1 southbound off-ramp.

Similarly, although the calculations indicate that Reservation Road/Davis Road/The Bluffs operates at LOS F during the AM and PM peak hours, no excessive delays were observed for drivers trying to turn left from southbound Davis Road (which is stop-controlled) onto eastbound Reservation Road. The adjacent signal to the east at SR 68 Westbound Ramps/Reservation Road creates gaps in westbound Reservation Road traffic so that drivers can turn left from Davis Road.

Table 4.4-3: Existing Intersection Level of Service Analysis

	Intersection	Jurisdiction and LOS Threshold	Control	AM Peak		PM Peak	
				Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
1	SR 1 SB Ramps/Del Monte (North) ¹ - SR 1 SB Off-ramp Approach	Caltrans (D)	1-Way Stop	8.9 (10.3)	A (B)	8.2 (9.8)	A (A)
2	SR 1 NB Ramps/Del Monte (North) ¹ - SB Monte Road Approach	Caltrans (D)	1-Way Stop	5.3 (13.2)	A (B)	6.3 (16.5)	A (C)
3	Davis Road/Blanco Road ²	County (C)	Signal	120+	F	102.3	F
4	SR 1 SB Ramps/Reservation Road ¹ - SR 1 SB Off-ramp Approach	Caltrans (D)	1-Way Stop	41.2 (120+)	E (F)	9.6 (18.4)	A (C)
5	SR 1 NB Ramps/Reservation Road ¹ - SR 1 NB Off-ramp Approach	Caltrans (D)	1-Way Stop	1.2 (10.8)	A (B)	3.7 (12.3)	A (B)
6	Reservation Road/Del Monte Boulevard ³	Marina (D)	Signal	25.7	C	27.4	C
7	Reservation Road/Vista Del Camino ³	Marina (D)	Signal	8.5	A	13.6	B
8	Reservation Road/Seacrest Avenue ³	Marina (D)	Signal	7.9	A	14.6	B
9	Reservation Road/De Forest Road ³	Marina (D)	Signal	8.4	A	9.8	A
10	Reservation Road/Crescent Avenue ³	Marina (D)	Signal	11.0	B	12.7	B
11	Reservation Road/Imjin Parkway ³	Marina (D)	Signal	25.4	C	28.2	C
12	Reservation Road/Blanco Road ²	County (C)	Signal	19.5	B	22.4	C
13	Reservation/Inter-Garrison Road ²	County (C)	— ⁴	— ⁵			
14	Inter-Garrison Road/New Collector ²	County (C)	— ⁴	— ⁵			
15	Reservation/Main Project Access ²	County (C)	— ⁴	— ⁵			

Table 4.4-3 (Cont.): Study Intersections

	Intersection	Jurisdiction and LOS Threshold	Control	AM Peak		PM Peak	
				Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
16	Reservation/Eastern Project Access ²	County (C)	— ⁴	— ⁵			
17	Reservation/Davis Road/The Bluffs ² - SB Davis Road Approach	County (C)	2-Way Stop	38.8 (120+)	E (F)	119.6 (120+)	F (F)
18	SR 68 WB Ramps/Reservation Road ¹	Caltrans (D)	Signal	13.8	B	30.5	C
19	SR 68 EB Ramps/Reservation Road ¹	Caltrans (D)	Signal	20.5	C	15.2	B
20	SR 1 SB Ramps/Imjin Parkway ¹ - SR 1 SB Off-ramp Approach	Caltrans (D)	1-Way Stop	11.4 (13.4)	B (B)	10.1 (10.9)	B (B)
21	SR 1 NB Ramps/Imjin Parkway ¹ - SR 1 NB Off-ramp Approach	Caltrans (D)	1-Way Stop	0.2 (10.4)	A (B)	0.5 (10.4)	A (B)
22	3 rd Street/4 th Avenue ³	Marina (D)	All-Way Stop	8.8	A	10.1	B
23	Light Fighter Drive/1 st Avenue ³	Marina (D)	Signal	7.4	A	9.3	A
24	Light Fighter Drive/2 nd Avenue ³ - NB 2 nd Avenue Approach	Marina (D)	2-Way Stop	1. (19.7)	A (C)	2.6 (22.9)	A (C)
25	Light Fighter Drive/General Jim Moore Boulevard ³	Marina (D)	Signal	17.6	B	21.4	C
26	SR 1 SB Ramps/Canyon Del Rey ¹ - SR 1 SB Off-ramp Approach	Caltrans (D)	1-Way Stop	120+ (120+)	F (F)	117.2 (120+)	F (F)
27	SR 1 NB Ramps/Canyon Del Rey ¹ - SR 1 NB Off-ramp Approach	Caltrans (D)	1-Way Stop	3.4 (17.5)	A (C)	6.8 (25.3)	A (D)
28	Gen. Jim Moore/Canyon Del Rey ¹	Caltrans (D)	Signal	80.8	F	37.3	D

Analysis is performed using the TRAFFIX software based on the 2000 Highway Capacity Manual methodologies. Delay and LOS for worse minor movement is shown in parenthesis.

Unacceptable operations are shown in **bold**

¹ Intersection is under Caltrans jurisdiction, minimum acceptable LOS is D.

² Monterey County Intersection, minimum acceptable LOS is C.

³ City of Marina Intersection, minimum acceptable LOS is D.

⁴ Not available.

⁵ Future intersection.

Abbreviations:
 EB - eastbound RT - right turn
 LT - left turn SB - southbound
 WB - westbound
 NB - northbound sec/veh - seconds per vehicle

Source: TJKM Transportation Consultants, September 2004.

EXISTING CONDITIONS ARTERIAL LEVEL OF SERVICE ANALYSIS

Traffic conditions on the roadway segments were evaluated using the methodologies provided in the 2000 Highway Capacity Manual (HCM). LOS criteria for the multi-lane roadway segments (with more than two lanes) were based on the typical speed-flow and density-flow relationships provided in Chapter 20 in the HCM. LOS criteria for two-lane roadway segments (subdivided into Class I and Class II highways) were based on the average travel speed of the vehicles and the percent time-spent-

following. Class I highways are two-lane highways that are considered major intercity routes, primary arterials connecting major traffic generators, daily commuter routes, or primary links in state or national highway networks. The motorists are expected to travel at relatively high speeds on Class I highways. Class II highways are considered access routes to Class I facilities, serve as scenic or recreational routes that are not primary arterials, or pass through rugged terrain. The motorists are not necessarily expected to travel at high speeds on Class II highways. For Class I highways, where mobility is paramount, LOS is defined in terms of both average travel speed and percent time-spent-following. The *Traffic Impact Study* in Appendix E of this DSEIR contains the segment LOS analysis results.

The study evaluated conditions for roadway segments in the project area that could be potentially impacted by the proposed project. Table 4.4-4 lists the roadway segments analyzed under existing conditions. As shown on Exhibit 4.4-4 and Table 4.4-4, the following roadway segments currently operate at unacceptable LOS under existing conditions:

- Blanco Road between Reservation Road and Salinas River Bridge (segment 2):
LOS E during the AM and PM peak hours.
- Blanco Road between Salinas River Bridge and Davis Road (segment 3):
LOS E during the AM and PM peak hours.
- Davis Road between Ambrose Avenue and Central Avenue (segment 21):
LOS E during the AM and PM peak hours.
- Reservation Road between Portola Drive and SR 68 (segment 24):
LOS D during the PM peak hours.
- SR 183 between Cooper Road and Espinosa Road (segment 26):
LOS E during the PM peak hours.

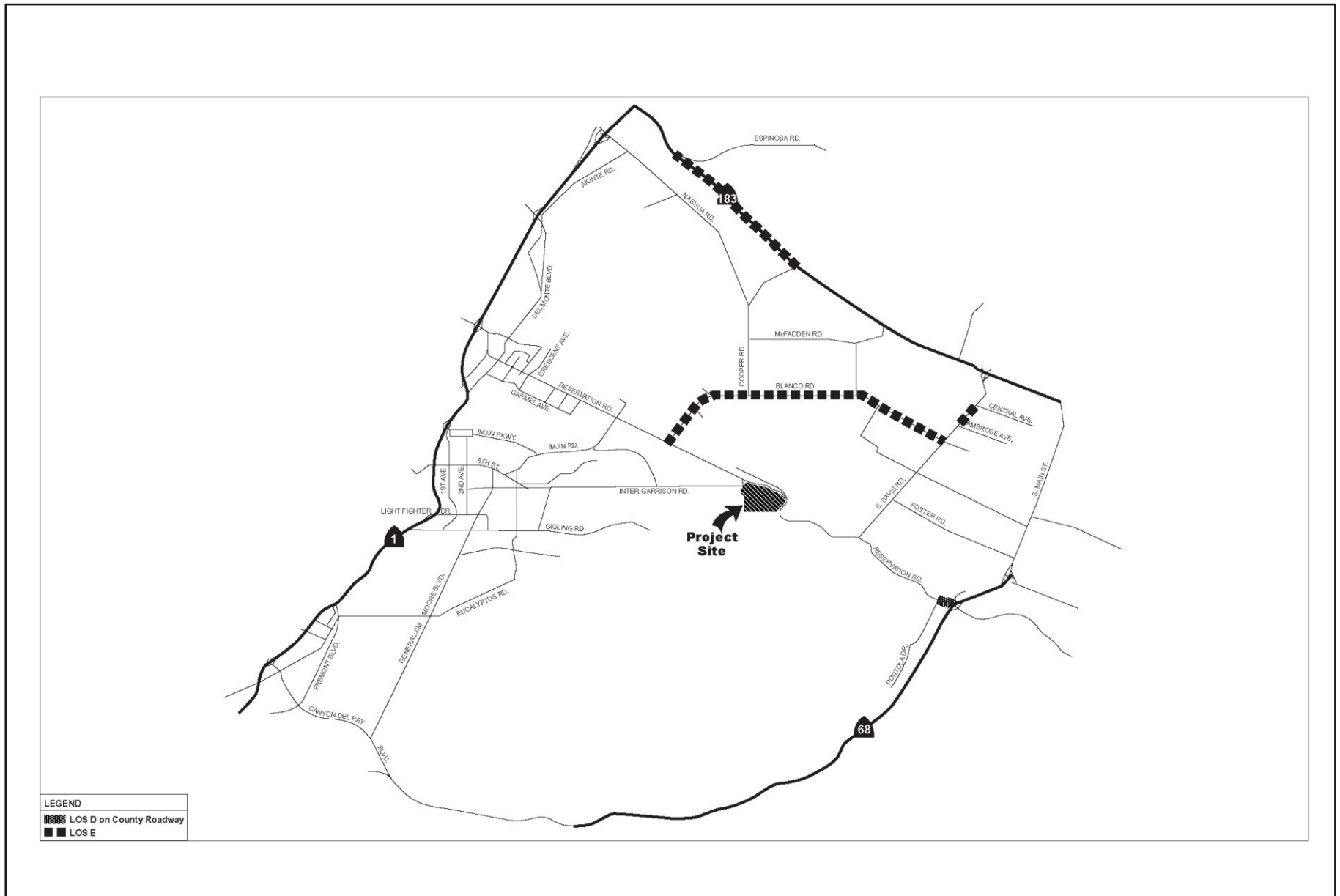
Table 4.4-4: Segment Level of Service Analysis - Existing Conditions

	Roadway Segment	Jurisdiction and LOS Threshold	Roadway Direction	Lanes	AM LOS	PM LOS
1	Abbott between (b/w) Salinas City Limits and Harris	Salinas (D)	N-S	4	A-A	A-A
2.	Blanco Road b/w Reservation and Salinas River Bridge	County (C)	E-W	2	E	E
3	Blanco Road b/w Salinas River Bridge and Davis Road	County (C)	E-W	2	E	E
4	Blanco Road b/w Davis Road and West Alisal	Marina (D)	E-W	3 (a)	B-A	B-A
5	SR 1 b/w Canyon Del Rey and Del Monte	Caltrans (D)	N-S	4	C-D	D-C
6	SR 68 b/w Portola & River Road Interchanges	Caltrans (D)	E-W	4	A-A	A-A
7	Reservation Road b/w Imjin and Blanco	Marina (D)	E-W	4	B-B	B-B
8	Imjin Parkway b/w Preston Park and Abrams	Marina (D)	E-W	4	A-A	A-A
9	West Laurel Drive between US 101 and Davis Road	Marina (D)	E-W	6	B-B	B-B

Table 4.4-4 (Cont.): Segment Level of Service Analysis - Existing Conditions

	Roadway Segment	Jurisdiction and LOS Threshold	Roadway Direction	Lanes	AM LOS	PM LOS
10	West Market Street b/w Davis Road and Clark	Marina (D)	E-W	4	A-A	A-A
11	West Alisal Street b/w Blanco and Acacia	Marina (D)	E-W	4	A-A	A-A
12	Blanco Road b/w South Main and Pajaro Street	Marina (D)	E-W	4	A-A	A-A
13	Gen Jim Moore b/w Light Fighter & Engineer	Seaside (C)	N-S	4	A-A	A-A
14	Reservation Road b/w Salinas Road and Imjin	Marina (D)	E-W	4	A-A	B-A
15	Davis Road between Market Street and Rossi	Marina (D)	N-S	4	A-B	B-B
16	US 101 b/w Laureland Boranda Interchanges	Caltrans (D)	N-S	4	B-C	C-B
17	SR 1 b/w Light Fighter & Fremont Interchanges	Caltrans (D)	N-S	6	B-C	C-B
18	SR 68 b/w River Road and Spreckels Interchanges	Caltrans (D)	E-W	4	A-A	A-B
19	Cooper Road between Blanco Road and SR 183	County (C)	N-S	2	B	B
20	Davis Road b/w Reservation & Salinas River Bridge	County (C)	N-S	2	C	C
21	Davis Road between Ambrose and Central Avenue	County (C)	N-S	2	E	E
22	Reservation b/w Main Project Access & Watkins Gate	County (C)	E-W	2	C	C
23	Reservation Road b/w Watkins Gate and Davis Road	County (C)	E-W	2	C	C
24	Reservation Road between Portola Drive and SR 68	County (C)	E-W	2	C	D
25	Spreckels Blvd. b/w SR 68 and the City of Spreckels	County (C)	E-W	2	C	C
26	SR 183 between Cooper Road and Espinosa Road	Caltrans (D)	N-S	2	D	E
27	General Jim Moore between Broadway and Boundary	Seaside (C)	N-S	2	D	D
28	General Jim Moore between Gigling and Normandy	Seaside (C)	N-S	2	C	C
29	Inter-Garrison Road between West Camp and Abrams	County (C)	E-W	2	No Traffic	
30	Inter-Garrison Road between Abrams and 7th Avenue	County (C)	E-W	2	B	B
N-S North-South; E-W East-West; (a)=Two westbound lanes and one eastbound lane X-X Directional LOS for multi-lane roadway segments (>two lanes), and X = Overall LOS for two-lane segments. Source: TJKM Transportation Consultants, September 2004.						

During the morning and afternoon commute periods, significant traffic delay and congestion is occurring on these segments. As select roadways in the EGSP study area reach their general capacity, additional trips generated in the traffic model will begin to use alternative, circuitous, routes. Trips that seek alternative routes because of congestion are referred to as diverted trips. Congestion in the existing conditions affects future trips and their trip routing in the EGSP study area..



Source: TJKM Transportation Consultants, September 2004.

Exhibit 4.4-4 Roadway Segments with Unacceptable Levels of Service - Existing Conditions



4.4.2 Project Impacts and Mitigation Measures

METHODOLOGY

The EGSP modeling and traffic study is based on the regional traffic model that has been used by Caltrans; the cities of Salinas, Monterey, and Seaside; and Monterey County for corridor studies and General Plan updates. The model has been updated with year 2000 land use and network information in these jurisdictions to better represent the existing conditions and more accurately estimate traffic forecasts. The model’s geographic study area spans three counties: Monterey, Santa Cruz, and San Benito.

The traffic model is a set of custom-made tools that operates in MINUTP software. The model uses state-of-the-art enhancements including cross-classification trip generation that uses persons per dwelling unit and income per dwelling unit as independent predictors of trip generation. In the mode choice component, person trips choose between nine modes of travel based on economic criteria. An iterative, capacity constrained traffic assignment is used for AM, PM, and off-peak periods. Various land uses were assumed during the traffic modeling process. General land use assumptions were based on the construction of 1,470 dwelling units (housing 4,491 people) and the creation of 380 jobs. This scenario estimates traffic conditions as if the project would be fully occupied in the very near future, while in reality full occupancy would probably not occur until 2012. Land use assumptions for the project are shown in Table 4.4-6.

Table 4.4-5: Project Land Use Assumptions

Land Use	Acres	Percentage
Residential	111	46%
Commercial	8	3%
Institutional	10	4%
Open Space/Parks	45	18%
Streets and Miscellaneous	70	29%
Total	244	100%

Source: TJKM Transportation Consultants, September 2004.

PROJECT TRIP GENERATION

The proposed project would generate approximately 13,692 daily trips with 1,290 trips occurring during the AM peak hour and 1,379 trips occurring during the PM peak hour. Project trip generation is shown in Table 4.4-6, which summarizes the project trip generation by traffic analysis zones (TAZ). Project traffic for 1,470 dwelling units was generated by the model and added to existing volumes to obtain expected turning movement volumes for the Existing Plus Project (project) scenario.

Table 4.4-6: Project Trip Generation

TAZ	AM Peak Hour			PM Peak Hour		
	In	Out	Total	In	Out	Total
436	29	53	82	53	33	86

Table 4.4-6 (Cont.): Project Trip Generation

TAZ	AM Peak Hour			PM Peak Hour		
	In	Out	Total	In	Out	Total
437	46	80	126	80	49	129
438	44	81	125	81	49	130
439	0	0	0	0	0	0
440	42	73	115	72	44	116
441	41	72	113	72	45	117
442	34	63	97	64	38	102
443	41	70	111	71	45	116
444	46	82	128	83	49	132
445	51	92	143	92	56	148
446	6	2	8	2	6	8
1092	122	120	242	144	151	295
Total	502	788	1,290	814	565	1,379

Source: TJKM Transportation Consultants, September 2004.

THRESHOLDS OF SIGNIFICANCE

The proposed project is considered to have a significant impact on transportation and circulation if it will result in the following:

- Exceed, either individually or cumulatively, LOS C for intersections and roadway segments within the County of Monterey and the City of Seaside;
- Exceed, either individually or cumulatively, LOS D for intersections and roadway segments within the City of Marina and the City of Salinas; or
- Exceed, either individually or cumulatively, LOS D for freeway ramp intersections and roadways within the California Department of Transportation (Caltrans) right-of-way.

IMPACT ANALYSIS AND MITIGATION MEASURES

Intersections Level of Service

Impact 4.4-1 Implementation of the EGSP will result in an incremental worsening to (i.e., deficient) existing unacceptable LOS at some project area intersections. (Significant and Unavoidable)

Implementation of the proposed project will result in an incremental increase to existing unacceptable (i.e., deficient) LOS at project area intersections. The same intersections currently operating at unacceptable LOS as under Existing Conditions (shown in Table 4.4-4) would continue to operate at unacceptable LOS.

Improvements previously approved and funded for the following intersections are included in the FORA Capital Improvement Program (CIP). Although the project would result in impacts to the

other three intersections, the County has already planned and funded improvements to improve unacceptable LOS at those intersections. Funding for these improvements as required under the FORA CIP will be collected from the project applicant; therefore, payment of these fees for the three intersections is considered sufficient mitigation.

As identified in Table 4.4-7, the EGSP would increase existing delays at the following intersections. These intersection improvements are part of the FORA CIP, which lists roadway segments. However, intersection improvements within a segment are assumed funded. The EGSP project will contribute its fair share to FORA CIP impact fees.

- **Davis Road/Blanco Road**

Remains at LOS F during both the AM and PM peak hours.

- Add a left- and right-turn lanes on the southbound Davis Road approach;
- Add a left-turn lane on the eastbound Blanco Road approach;
- Use “overlap” phasing for right turns from the westbound Blanco Road approach and southbound Davis Road approach; and
- Add a left turn lane on the westbound Blanco Road approach (additional mitigation needed for Existing plus Project conditions).

- **SR 1 Southbound Ramps/Reservation Road**

LOS F during both the AM and PM peak hours.

- Install a traffic signal.

- **SR 1 Southbound Ramps/Canyon Del Rey Boulevard**

LOS F during both the AM and PM peak hours.

- Construct a traffic roundabout. (Because there is a frontage road running parallel to the SR 1 Southbound Ramps near the intersection—making it roughly a five-legged intersection—a traffic roundabout would operate more effectively than a signal.)

- **General Jim Moore Boulevard/Canyon Del Rey Boulevard**

LOS F during the AM peak hours.

- Use permitted left turn phasing (currently protected left turn phasing) for vehicles turning left from eastbound Canyon Del Rey Boulevard approach onto northbound General Jim Moore Boulevard.

In addition, the following intersection operates at unacceptable LOS. However, this intersection is not included on the FORA CIP.

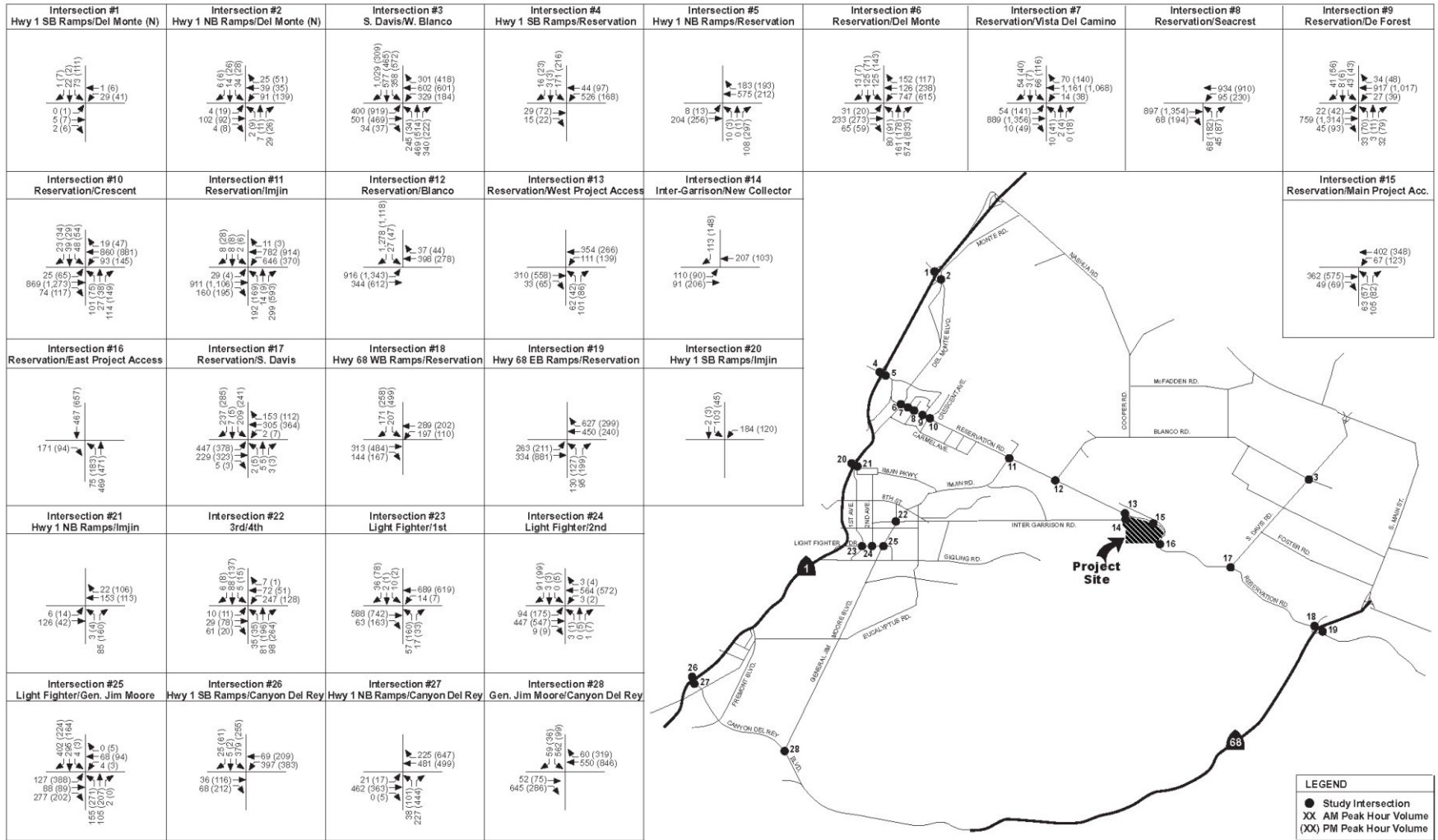
- **Reservation Road/Davis Road/The Bluffs:**

LOS F during both the AM and PM peak hours.

Exhibit 4.4-5 shows the forecasted project peak hour turning movement volumes for all study intersections. Results of the AM and PM peak hour LOS analysis for these study intersections are shown in Tables 4.4-7 and 4.4-8, respectively. Detailed LOS calculation sheets are contained as part of the *Traffic Impact Study* in Appendix E.

Table 4.4-7: Existing and Existing + Project Intersection LOS (AM Peak Only)

	Intersection	Control	Existing		Existing plus Project	
			Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
1	SR 1 SB Ramps/Del Monte Boulevard (N) ¹ - SR 1 SB Off-ramp Approach	1-Way Stop	8.9 (10.3)	A (B)	9.1 (10.4)	A (B)
2	SR 1 NB Ramps/Del Monte Boulevard (N) ¹ - SB Monte Road Approach	1-Way Stop	5.3 (13.2)	A (B)	5.1 (3.3)	A (B)
3	Davis Road/Blanco Road ²	Signal	120+	F	120+	F
4	SR 1 SB Ramps/Reservation Road ¹ - SR 1 SB Off-ramp Approach	1-Way Stop	41.2 (120+)	F (F)	53.4 (120+)	F (F)
5	SR 1 NB Ramps/Reservation Road ¹ - SR 1 NB Off-ramp Approach	1-Way Stop	1.2 (10.8)	A (B)	1.3 (11.0)	A (B)
6	Reservation Road/Del Monte Boulevard ³	Signal	25.7	C	25.9	C
7	Reservation Road/Vista Del Camino ³	Signal	8.5	A	8.5	A
8	Reservation Road/Seacrest Avenue ³	Signal	7.9	A	7.9	A
9	Reservation Road/De Forest Road ³	Signal	8.4	A	8.5	A
10	Reservation Road/Crescent Avenue ³	Signal	11.0	B	11.0	B
11	Reservation Road/Imjin Road ³	Signal	25.4	C	25.9	C
12	Reservation Road/Blanco Road ²	Signal	19.5	B	19.5	B
13	Reservation Road/Inter-Garrison Road ²	Signal	N/A		18.1	B
14	Inter-Garrison Road/New Collector ²	Roundabout	N/A		3.8	A
15	Reservation Road/Main Project Access ²	Signal	N/A		18.9	B
16	Reservation Road/Eastern Project Access ²	Signal	N/A		5.2	A
17	Reservation Road/ Davis Road/The Bluffs ² - SB Davis Road Approach	2-Way Stop	38.8 (120+)	E (F)	120+ (120+)	F (F)
18	SR 68 WB Ramps/Reservation Road ¹	Signal	13.8	B	14.1	B
19	SR 68 EB Ramps/Reservation Road ¹	Signal	20.5	C	20.8	C
20	SR 1 SB Ramps/Imjin Parkway ¹ - SR 1 SB Off-ramp Approach	1-Way Stop	11.4 (13.4)	B (B)	11.4 (13.4)	B (B)
21	SR 1 NB Ramps/Imjin Parkway ¹ - SR 1 NB Off-ramp Approach	1-Way Stop	0.2 (10.4)	A (B)	0.2 (10.4)	A (A)
22	3 rd Street/4 th Avenue ³	ALL-Way Stop	8.8	A	12.0	B
23	Light Fighter Drive/1 st Avenue ³	Signal	7.4	A	7.2	A
24	Light Fighter Drive/2 nd Avenue ³ - NB 2 nd Avenue Approach	2-Way Stop	1. (19.7)	A (C)	1.7 (23.1)	A (C)
25	Light Fighter Drive/Gen. Jim Moore Boulevard ³	Signal	17.6	B	20.2	C



Source: TJKM Transportation Consultants, September 2004.



Exhibit 4.4-5 Existing + Project (1,470 Homes) Peak Hour Turning Movement Volumes

Table 4.4-7 (Cont.): Existing and Existing + Project Intersection LOS (AM Peak Only)

	Intersection	Control	Existing		Existing plus Project	
			Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
26	SR 1 SB Ramps/Canyon Del Rey Boulevard ¹ - SR 1 SB Off-ramp Approach	1-Way Stop	120+ (120+)	F (F)	120+ (120+)	F (F)
27	SR 1 NB Ramps/Canyon Del Rey Boulevard ¹ - SR 1 NB Off-ramp Approach	1-Way Stop	3.4 (17.5)	A (C)	3.5 (18.4)	A (C)
28	General Jim Moore Boulevard/Canyon Del Rey Boulevard ¹	Signal	80.8	F	85.7	F

Analysis was performed using the TRAFFIX software based on the 2000 Highway Capacity Manual methodologies. Unacceptable operations are shown in **bold**.

¹ Intersection is under Caltrans jurisdiction where minimum acceptable LOS is D.
² Monterey County Intersection where minimum acceptable LOS is C.
³ City of Marina Intersection where minimum acceptable LOS is D.

Abbreviations:
EB - eastbound RT - right turn
LT - left turn SB - southbound
N - north. WB - westbound
NB - northbound sec/veh - seconds per vehicle
N/A - not applicable, future intersection
Source: TJKM Transportation Consultants, September 2004.

Table 4.4-8: Existing and Existing + Project Intersection LOS (PM Peak Only)

	Intersection	Control	Existing		Existing plus Project	
			Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
1	SR 1 SB Ramps/Del Monte Boulevard (N) ¹ - SR 1 SB Off-ramp Approach	1-Way Stop	8.2 (9.8)	A (A)	9.1 (10.4)	A (B)
2	SR 1 NB Ramps/Del Monte Boulevard (N) ¹ - SB Monte Road Approach	1-Way Stop	6.3 (16.5)	A (C)	5.1 (13.3)	A (B)
3	Davis Road/Blanco Road ²	Signal	102.3	F	120+	F
4	SR 1 SB Ramps/Reservation Road ¹ - SR 1 SB Off-ramp Approach	1-Way Stop	9.6 (18.4)	A (C)	53.4 (120+)	F (F)
5	SR 1 NB Ramps/Reservation Road ¹ - SR 1 NB Off-ramp Approach	1-Way Stop	3.7 (12.3)	A (B)	1.3 (11.0)	A (B)
6	Reservation Road/Del Monte Boulevard ³	Signal	27.4	C	25.9	C
7	Reservation Road/Vista Del Camino ³	Signal	13.6	B	8.5	A
8	Reservation Road/Seacrest Avenue ³	Signal	14.6	B	7.9	A
9	Reservation Road/De Forest Road ³	Signal	9.8	A	9.9	A
10	Reservation Road/Crescent Avenue ³	Signal	12.7	B	12.8	B
11	Reservation Road/Imjin Road ³	Signal	28.2	C	28.8	C

Table 4.4-8 (Cont.): Existing and Existing + Project Intersection LOS (PM Peak Only)

	Intersection	Control	Existing		Existing plus Project	
			Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
12	Reservation Road/Blanco Road ²	Signal	22.4	C	16.5	B
13	Reservation Road/Inter-Garrison Road ²	Signal	N/A		16.6	B
14	Inter-Garrison Road/New Collector ²	Roundabout	N/A		3.9	A
15	Reservation Road/Main Project Access ²	Signal	N/A		17.5	B
16	Reservation Road/Eastern Project Access ²	Signal	N/A		9.3	A
17	Reservation Rd./ Davis Road/The Bluffs ² - SB Davis Road Approach	2-Way Stop	119.6 (120+)	F (F)	120+ (120+)	F (F)
18	SR 68 WB Ramps/Reservation Road ¹	Signal	30.5	C	30.3	C
19	SR 68 EB Ramps/Reservation Road ¹	Signal	15.2	B	15.4	B
20	SR 1 SB Ramps/Imjin Parkway ¹ - SR 1 SB Off-ramp Approach	1-Way Stop	10.1 (10.9)	B (B)	10.1 (11.0)	B (B)
21	SR 1 NB Ramps/Imjin Parkway ¹ - SR 1 NB Off-ramp Approach	1-Way Stop	0.5 (10.4)	A (B)	0.5 (10.4)	A (B)
22	3 rd Street/4 th Avenue ³	ALL-Way Stop	10.1	B	13.9	B
23	Light Fighter Drive/1 st Avenue ³	Signal	9.3	A	9.7	A
24	Light Fighter Drive/2 nd Avenue ³ - NB 2 nd Avenue Approach	2-Way Stop	2.6 (22.9)	A (C)	2.4 (28.2)	A (D)
25	Light Fighter Drive/Gen. Jim Moore Boulevard ³	Signal	21.4	C	41.8	D
26	SR 1 SB Ramps/Canyon Del Rey Boulevard ¹ - SR 1 SB Off-ramp Approach	1-Way Stop	117.2 (120+)	F (F)	119.0 (120+)	F (F)
27	SR 1 NB Ramps/Canyon Del Rey Boulevard ¹ - SR 1 NB Off-ramp Approach	1-Way Stop	6.8 (25.3)	A (D)	6.8 (25.6)	A (D)
28	General Jim Moore Blvd./Canyon Del Rey Bl. ¹	Signal	37.3	D	40.5	D

Analysis was performed using the TRAFFIX software based on the 2000 Highway Capacity Manual methodologies.

Unacceptable operations are shown in **bold**.

¹ Intersection is under Caltrans jurisdiction where minimum acceptable LOS is D.

² Monterey County Intersection where minimum acceptable LOS is C.

³ City of Marina Intersection where minimum acceptable LOS is D.

Abbreviations:

EB - eastbound RT - right turn

LT - left turn SB - southbound

N - north. WB - westbound

NB - northbound sec/veh - seconds per vehicle

N/A - not applicable, future intersection.

Source: TJKM Transportation Consultants, September 2004.

Mitigation Measures

4.4-1-A The County shall work with FORA for the inclusion of the intersection at Reservation Road/Davis Road in the CIP. Please see the project fair share analysis, below, for additional information on timing and funding of this improvement.

- Reservation Road/Davis Road/”The Bluffs”
Install a traffic signal.

Table 4.4.9 summarizes the expected LOS with implementation of the above mitigation measures.

Table 4.4-9: Existing + Project Intersection LOS (without and with mitigation measures)

	Intersection	Jurisdiction And LOS Threshold	Control	AM Peak		PM Peak	
				Delay (sec/veh)	LOS	Delay (sec/veh)	LOS
3	Davis Road/Blanco Road ² -With mitigation	County (C)	Signal	120+ 31.5	F C	113.0 34.5	F C
4	SR 1 SB Ramps/Reservation Road ¹ - SR 1 SB Off-ramp Approach -With mitigation (signalization)	Caltrans (D)	1-Way Stop Signal	53.4 (120+) 17.8	F (F) B	9.6 (18.5) 23.1	A (C) C
17	Reservation/Davis Road/The Bluffs ² - SB Davis Road Approach -with mitigation (signalization)	County (C)	2-Way Stop Signal	120+ (120+) 32.6	E (F) C	120+ (120+) 32.9	F (F) C
26	SR 1 SB Ramps/Canyon Del Rey ¹ - SR 1 SB Off-ramp Approach -With mitigation (roundabout)	Caltrans (D)	1-Way Stop Round-about	120+ (120+) 4.2	F (F) A	119.0 (120+) 5.4	F (F) A
28	Gen. Jim Moore/Canyon Del Rey ¹ -With mitigation	Caltrans (D)	Signal	85.7 25.8	F C	40.5 14.5	D B
Analysis is performed using the TRAFFIX software based on the 2000 Highway Capacity Manual methodologies. Delay and LOS for worse minor movement is shown in parenthesis. Unacceptable operations are shown in bold ¹ Intersection is under Caltrans jurisdiction, minimum acceptable LOS is D. ² Monterey County Intersection, minimum acceptable LOS is C. Abbreviations: SB - southbound sec/veh - seconds per vehicle Source: TJKM Transportation Consultants, September 2004.							

Significance After Mitigation

Since it is unsure at this time that the Reservation/Davis Road intersection improvement will be approved and funded, this impact is significant and unavoidable.

Roadway Segments Level of Service

Impact 4.4-2 Implementation of the EGSP will result in an incremental increase to existing unacceptable (i.e., deficient) LOS and directly cause an exceedance of acceptable LOS at some project area roadway segments. (Significant and Unavoidable)

As shown on Table 4.4-10, implementation of the EGSP will result in increased roadway traffic, which would result in seven project area roadway segments experiencing a decrease in LOS. With the exception of Davis Road between Reservation Road and Salinas River Bridge and Reservation Road between Watkins Gate and Davis Road, five arterial roadway segments are currently operating at unacceptable LOS. The project will incrementally increase unacceptable LOS at these five arterial

roadways segments, in addition to causing an unacceptable LOS on two additional roadway segments.

Improvements previously approved and funded for the following roadway segments are included in the FORA CIP. Although the project would result in impacts to the other roadway segments, the County has already planned and funded improvements to improve unacceptable LOS on those five roadway segments as shown in Table 4.4-9.. Funding for these improvements as required under the FORA CIP will be collected from the project applicant; therefore, payment of these fees for the five segments is considered sufficient mitigation.

These arterial roadway segments are identified below. Construction of an addition roadway lane will mitigate impacts to these roadways.

- Blanco Road between Reservation Road and Salinas Bridge:
LOS E during the AM and PM peak hours.
- Blanco Road between Salinas River Bridge and Davis Road:
LOS E during the AM and PM peak hours.
- Davis Road between Ambrose and Central Avenue:
LOS E during the AM and PM peak hours.
- Reservation Road between Portola Drive and SR 68:
LOS D during the PM peak hours.
- SR 183 between Cooper Road and Espinosa Road:
LOS E during the AM and PM peak hours.
- Davis Road between Reservation Road and Salinas Bridge:
LOS D during the PM peak hours.
- Reservation Road between Watkins Gate and Davis Road:
LOS D during the PM peak hours.

Table 4.4-10: Segment LOS Analysis - Existing + Project (1,470 Homes) Conditions

	Roadway Segment	Roadway Direction	Lanes	AM LOS	PM LOS
1.	Abbott Road between Salinas City Limits and Harris Road	N-S	4	A-A	A-A
2	Blanco Road between Reservation Road and Salinas River Bridge	E-W	2	E	E
3	Blanco Road between Salinas River Bridge and Davis Road	E-W	2	E	E
4	Blanco Road between Davis Road and West Alisal Street	E-W	31	B-A	B-A
5	SR 1 between Canyon Del Rey and Del Monte Boulevard	N-S	4	C-D	D-C
6	SR 68 between Portola Interchange and River Road Interchange	E-W	4	A-A	A-A

Table 4.4-10 (Cont.): Segment LOS Analysis - Existing + Project (1,470 Homes) Conditions

	Roadway Segment	Roadway Direction	Lanes	AM LOS	PM LOS
7	Reservation Road between Imjin Parkway and Blanco Road	E-W	4	B-B	B-B
8.	Imjin Parkway between Preston Park and Abrams	E-W	4	A-A	A-A
9	West Laurel Drive between US 101 and Davis Road	E-W	6	B-B	B-B
10	West Market Street between Davis Road and Clark Street	E-W	4	A-A	A-A
11	West Alisal Street between Blanco Road and Acacia Street	E-W	4	A-A	A-A
12	Blanco Road between South Main and Pajaro Street	E-W	4	A-A	A-A
13	General Jim Moore Boulevard between Light Fighter and Engineer	N-S	4	A-A	A-A
14	Reservation Road between Salinas Road and Imjin Parkway	E-W	4	A-A	B-A
15	Davis Road between Market Street and Rossi Street	N-S	4	B-B	B-B
16	US 101 between Laurel Interchange and Boronda Interchange	N-S	4	B-C	C-B
17	SR 1 between Light Fighter Interchange and Fremont Interchange	N-S	6	B-C	C-B
18	SR 68 between River Road Interchange and Spreckels Interchange	E-W	4	A-A	A-B
19	Cooper Road between Blanco Road and SR 183	N-S	2	B	B
20	Davis Road between Reservation Road and Salinas Bridge	N-S	2	C	D
21	Davis Road between Ambrose and Central Avenue	N-S	2	E	E
22	Reservation Road between Main Project Access and Watkins Gate	E-W	2	C	C
23	Reservation Road between Watkins Gate and Davis Road	E-W	2	C	D
24	Reservation Road between Portola Drive and SR 68	E-W	2	C	D
25	Spreckels Boulevard between SR 68 and the City of Spreckels	E-W	2	C	C
26	SR 183 between Cooper Road and Espinosa Road	N-S	2	E	E
27	General Jim Moore between Broadway and Boundary Road	N-S	2	D	D
28	General Jim Moore Boulevard between Gigling and Normandy	N-S	2	C	C
29	Inter-Garrison Road between West Camp and Abrams	E-W	2	B	B
30	Inter-Garrison Road between Abrams and 7th Avenue	E-W	2	C	C
N-S North-South E-W East-West ¹ Two westbound lanes and one eastbound lane. X-X Directional LOS for multi-lane roadway segments (>two lanes), and X Overall LOS for two lane roadway segments. Source: TJKM Transportation Consultants, September 2004.					

Exhibit 4.4-6 depicts forecasted project volumes for all study roadway segments that will operate at an unacceptable LOS with implementation of the EGSP. Results of the LOS analysis for all study

area arterial roadway segments, under the EGSP, are shown in Table 4.4-11. Detailed LOS calculation sheets are contained as part of the *Traffic Impact Study* in Appendix E of this DSEIR.

Mitigation Measures

4.4-2-A The County shall work with FORA for the inclusion of widening of the following roadway segments in the CIP. Please see the project fair share analysis, below, for additional information on timing and funding of this improvement.

- Reservation Road between Portola Drive and SR 68.
- SR 183 between Cooper Road and Espinosa Road.

Significance After Mitigation

Since it is unsure at this time that these roadway segment improvements will be approved and funded, this impact is significant and unavoidable.

PROJECT FAIR SHARE ANALYSIS

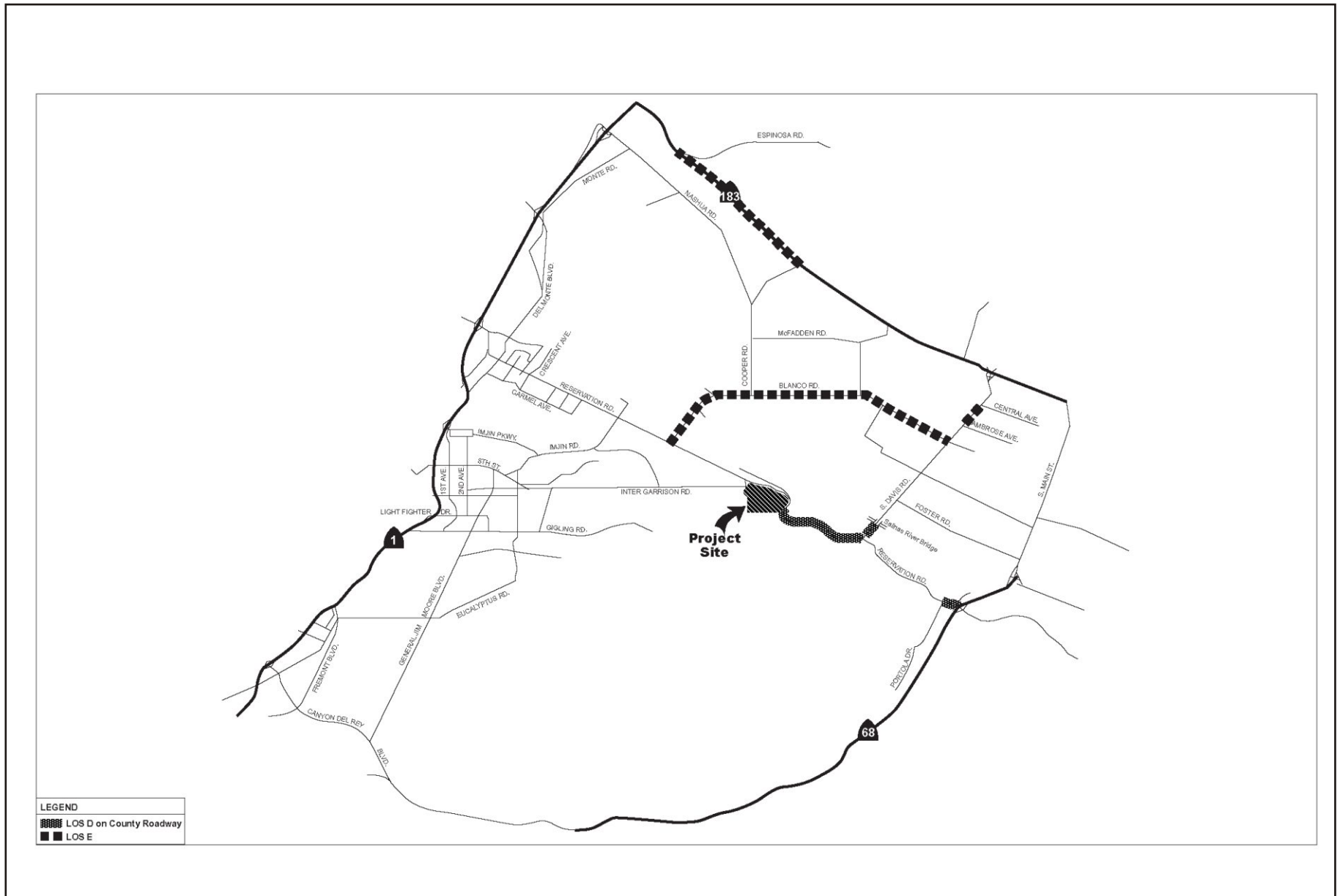
The project sponsor (in consultation with the Monterey County Public Works Department [MCPWD]) shall contribute its fair share (in the form of Fort Ord Reuse Authority (FORA) fees for 1,470 homes). These fees will go towards mitigating expected impacts at study intersections and roadway segments that are included in the FORA Capital Improvement Program (CIP). Based on the information provided at the official FORA CIP website (Table 2—Transportation Network and Transit Elements), the following summarizes the estimated schedule for transportation obligations over the CIP horizon (FY 2003/2004 through FY 2021/2022):

- Improvements related to Davis Road and Blanco Road are scheduled for completion in 2017
- Improvements related to General Jim Moore Boulevard are scheduled for completion in 2006
- Improvements related to Reservation Road are scheduled for completion in 2007

Therefore, it is reasonable to assume that improvements at General Jim Moore Boulevard and at Reservation Road will be completed by 2012, when the project is scheduled to be fully occupied. However, the level-of-service results for the Existing plus Project Conditions do not assume that these improvements are in place.

Tables 4.4-11 and 4.4-12 list the impacted intersections and roadway segments that are not covered under the FORA CIP, the estimated improvement costs and the project fair share contributions. Based on the MCPWD guidelines, the project fair share analysis was completed using the methodology for calculating equitable mitigation measures. The project's fair share may be conservatively high since there probably will be other future development (between now and 2012) that will generate trips at Reservation Road/Davis Road and the three roadway segments (listed on Table 4.4-11) that will also contribute their pro-rata share for improvements, thus lowering the project's fair share.

The project sponsor (in consultation with the MCPWD) is expected to make payments over the course of the construction of different phases of the project except for the improvements at Reservation Road/Davis Road. For this intersection, the project sponsor is expected to pay the entire improvement cost (roughly estimated to be \$750,000) as part of Phase I construction. As part of a reimbursement agreement program with the project sponsor, the MCPWD is expected to reimburse the improvement costs (that are not attributable to the project) after future development make their fair share payments.



Source: TJKM Transportation Consultants, September 2004.

Exhibit 4.4-6
 Roadway Segments with Unacceptable Levels of
 Service-Existing + Project (1,470 Homes) Conditions



Michael Brandman Associates

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Table 4.4-11: Project Fair Share Contribution Toward Intersection Related Non-FORA CIP Improvements

Intersection	Project Fair Share (Percent)	Estimated Total Improvement Cost
Reservation Road/Davis Road	23.1	\$750,000

Table 4.4-12: Project Fair Share Contribution Toward Segment Related Non-FORA CIP Improvements

Segments	From	To	Distance (Miles)	Project Fair Share (Percent)	Estimated Total Improvement Cost
Reservation Road	Watkins Gate	Davis Road	1.5	54.3	\$3,400,000
	SR 68	Portola Drive	<0.1	15.3	\$270,000
SR 183	Cooper Road	Espinosa Road	5.0	2.2	\$11,700,000

