APPENDIX I

Noise Technical Report

RECON

Noise Analysis for the Otay Mesa Community Plan Update, City of San Diego Project No. 30330/304032 SCH No. 2004651076

Prepared for

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Acronyms

ALUCP	Airport Land Use Compatibility Plan
Caltrans	California Department of Transportation
CEQA	California Environmental Quality Act
CNEL	community noise equivalent level
CPU	Community Plan Update
dB	decibel
dB(A)	A-weighted decibel level
EIR	Environmental Impact Report
FHWA	Federal Highway Administration
I-805; I-5	Interstate 805; Interstate 5
L_{eq}	average-equivalent noise level
LDC	Land Development Code
MHPA	Multi-Habitat Planning Area
MSCP	Multiple Species Conservation Program
OMDD	Otay Mesa Development District
POE	Port of entry
SANDAG	San Diego Association of Governments
SPL	sound pressure level
SR	State Route
STC	sound transmission class

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1.0 Summary

This report evaluates potential local and regional noise impacts associated with the Otay Mesa Community Plan Update (CPU). The Otay Mesa community planning area is located in the southern portion of the city of San Diego. This report evaluates potential noise impacts by comparing the existing noise levels in Otay Mesa to the future noise levels associated with the CPU.

The CPU is an update to the adopted 1981 Otay Mesa Community Plan Approval of the CPU amends the General Plan and would establish land use designations and policies to guide future development consistent with the City's General Plan (2008). The CPU expresses the General Plan policies through the provision of more site-specific recommendations.

Construction activities related to implementation of the CPU would potentially generate short-term noise levels in excess of 75 A-weighted decibel (dB) average sound level (dB(A) L_{eq}) at adjacent properties, which could therefore be potentially significant. The City regulates noise associated with construction equipment and activities through enforcement of noise ordinance standards (e.g., days of the week and hours of operation) and imposition of conditions of approval for building or grading permits. However, as the degree of success of these measures cannot be adequately known for each specific project at this program-level of analysis, mitigation would be required.

Additionally, noise levels associated with the earthwork, construction, and surface preparation for future development within the CPU area could result in short-term, temporary noise impacts that could adversely affect sensitive species within the Multi-Habitat Planning Area (MHPA). Construction noise during the breeding season would be considered adverse to this species. This impact is analyzed in the biological resources report for the CPU and in the environmental impact report (EIR).

Based on traffic noise modeling, noise levels at existing and proposed residential use areas in the western portion of the CPU area would exceed the City's compatible thresholds for residential land uses. Therefore, mitigation measures have been developed to require future land uses to develop project-level analyses that would demonstrate conformance with City standards. However, because the degree of future impacts and applicability, feasibility, and success of future mitigation measures cannot be adequately known for each specific future project at this program-level of analysis, the program-level impact related to exterior and interior noise impacts remains significant and unavoidable, even with adherence to the Mitigation Framework.

Based on the available airport noise contours and the CPU land use plan, the CPU would not expose people residing or working in the CPU area to excessive noise levels due to airport operations.

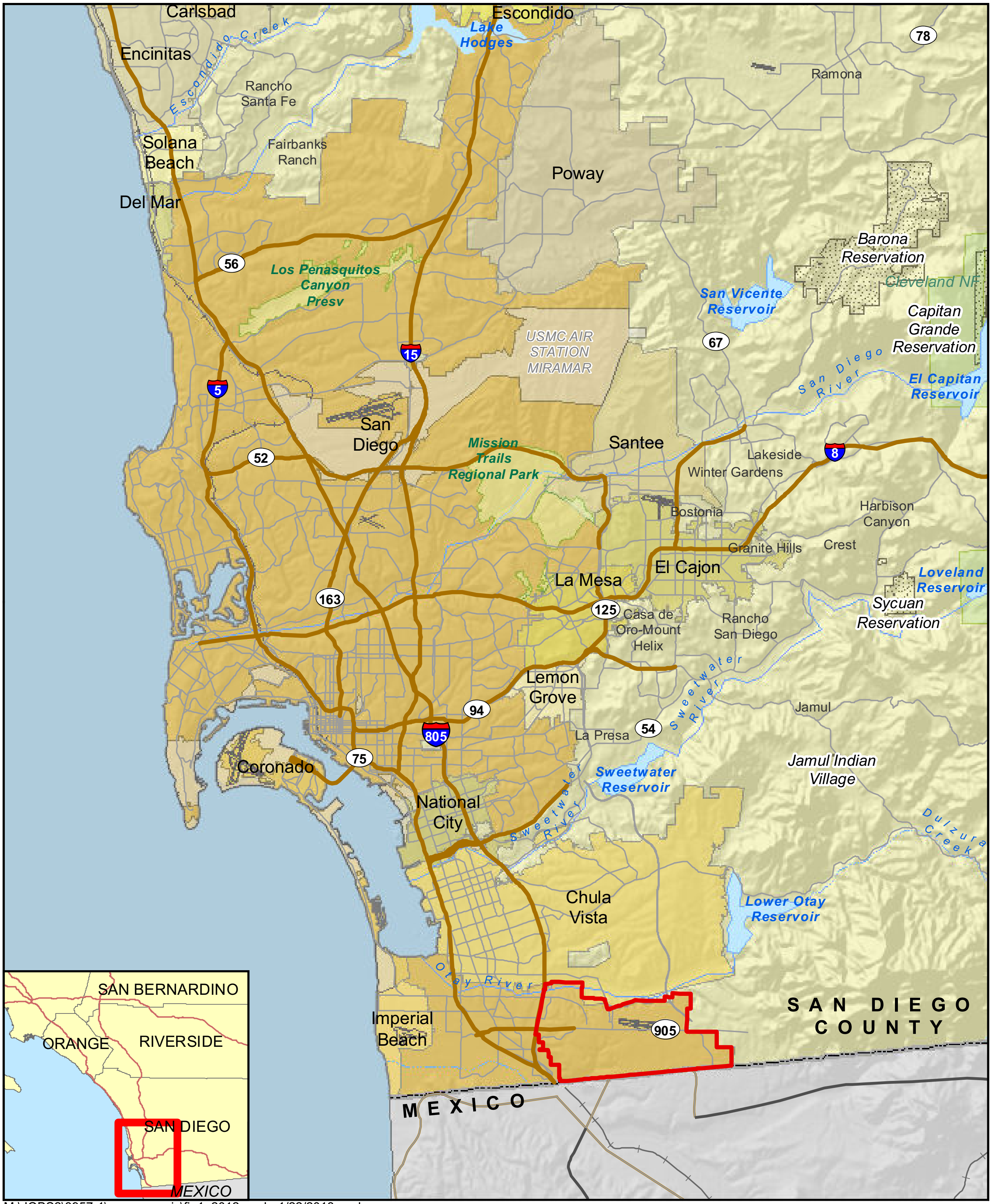
The juxtaposition of other residential/commercial/industrial land uses would potentially result in a noise incompatibility of adjacent land uses. Compliance with regulations and policies would reduce direct and indirect impacts associated with the generation of noise levels in excess of standards established in the General Plan or Noise Ordinance. However, no project-level site plans have been considered as part of the environmental review of the CPU. Without detailed operational data it cannot be verified that future projects would be capable of reducing noise levels to comply with City standards, thus additional analyses would be required to provide verification that City standards have been met. While the identified mitigation would verify compliance with appropriate standards, it cannot assure that potential noise levels associated with development implemented in accordance with the CPU would be reduced to below a level of significance.

2.0 Introduction

The CPU area is located in the southern portion of the city of San Diego. The CPU would update the adopted 1981 Otay Mesa Community Plan. The purpose of this study is to assess the potential for significant adverse noise impacts to result from the CPU. Figure 1 shows the regional location of the CPU. Figure 2 provides an aerial photograph of the CPU. Figure 3 shows the CPU land uses. Noise impacts were assessed in accordance with the City of San Diego California Environmental Quality Act (CEQA) Significance Determination Thresholds (City of San Diego 2011).

2.1 Project Description

The CPU is an update to the adopted 1981 Otay Mesa Community Plan. The CPU provides goals and policies for future development within the CPU area. Approval of the CPU amends the General Plan. The concurrent rezone would rescind the Otay Mesa Development District (OMDD) and update zoning regulations within the CPU area. Amendments to the Land Development Code (LDC) would also be required to create implementing zones for proposed commercial and industrial land use designations under the CPU.



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Otay Mesa Community Plan Boundary

FIGURE 1

Regional Location of
Otay Mesa Community Plan Area

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FIGURE 2

Aerial Photograph of CPU Area and Noise Measurement Locations

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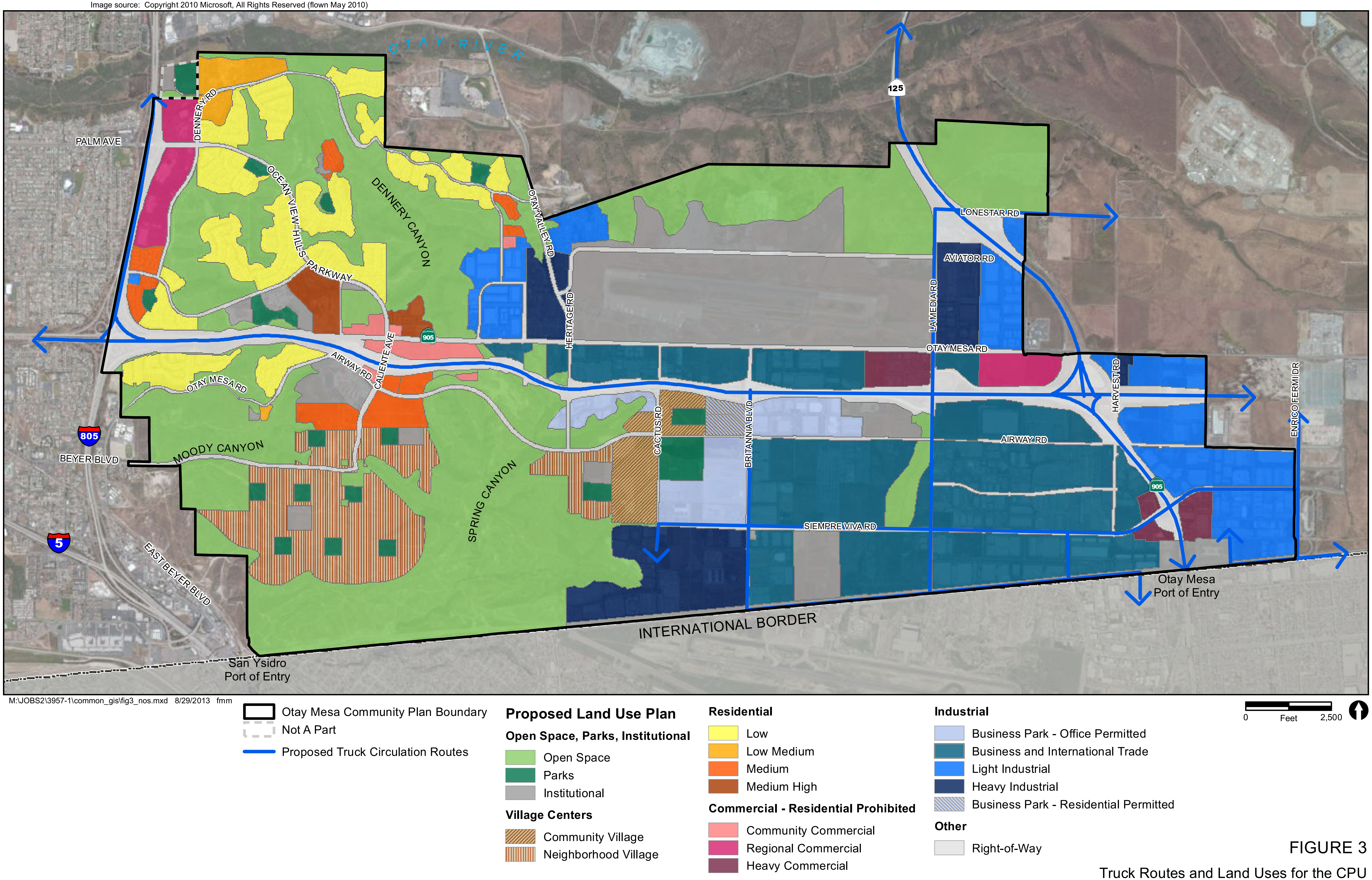

FIGURE 3

Truck Routes and Land Uses for the CPU

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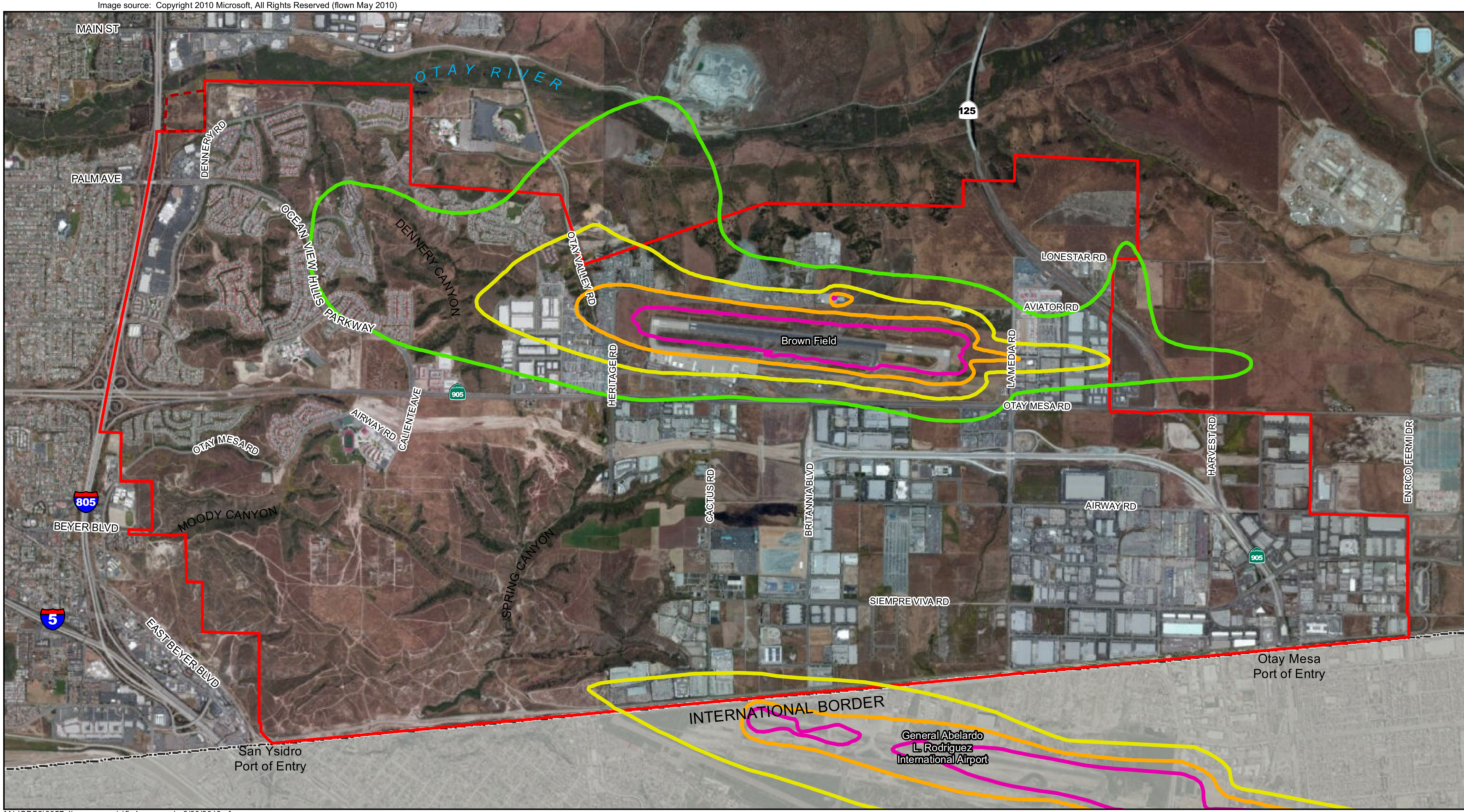

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Otay Mesa Community Plan Boundary

Not A Part

Airport Noise Contours

60 CNEL

65 CNEL

70 CNEL

75 CNEL

0 Feet 2,500

FIGURE 4

Airport Noise Contours

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Approval of the CPU would establish land use designations and policies to guide future development consistent with the City's General Plan (2008). The CPU expresses the General Plan policies through the provision of more site-specific recommendations.

The CPU includes nine elements based on those promulgated in the City's General Plan, with goals and policies for each. The nine elements are: Land Use; Mobility; Urban Design; Economic Prosperity; Public Facilities, Services, and Safety; Recreation; Conservation; Noise; and Historic Preservation. Procedures for implementation of the goals and policies are also set forth.

The CPU area is bounded by the City of Chula Vista (north), Interstate 805 (I-805; west), International Border (south), and unincorporated San Diego County (east).

2.2 Development Summary

The CPU encompasses a broad range of the land use designations defined in the General Plan and contains a more detailed description and distribution of land uses than the citywide General Plan. Land uses include residential with a variety of density ranges, village centers, commercial, industrial, open space, parks, and institutional. The existing adopted community plan and CPU land use distributions are summarized in Table 1. Figure 3 shows the CPU land uses.

TABLE 1
OTAY MESA LAND USE DISTRIBUTION

Land Use	Adopted Community Plan	CPU
Open Space	2,570 acres	2,748 acres
Residential	1,269 acres/12,400 du	757 acres/7,648 du
Commercial	452 acres	316 acres
Village Area		
Residential	0 acres	695 acres/11,126 du
Mixed Use	0 acres	30 acres
Industrial	2,839 acres	2,426 acres
Institutional	1,027 acres	1,165 acres
Parks	64 acres	161 acres
Right-of-Way	1,098 acres	1,021 acres
TOTAL	**9,319 acres/12,400 du**	**9,319 acres/18,774 du**

CPU = Otay Mesa Community Plan Update

Five districts interconnected through activities and infrastructure would help to organize and form the community of Otay Mesa. The districts include:

- Northwest District, which generally comprises the existing development in the northwestern portion of Otay Mesa and the seven Precise Planning Area neighborhoods: California Terraces, Dennery Ranch, Hidden Trails, Remington Hills, Riviera del Sol, Robinhood Ridge, and Santee Investments.

- Southwest District, which includes the area south of State Route 905 (SR-905) and west of Spring Canyon. This district would be primarily residential in nature with a mixed-use core including civic, and neighborhood-serving commercial uses and services.

- Central District, which generally is the land along the Airway Road corridor. The Central district would comprise three primary land use areas: Central Village, Grand Park, and Education Complex.

- Airport District, which generally is Brown Field and industrial land surrounding the airport.

- South District, which includes the existing port of entry (POE) and the uses intended to support the international business and trade uses that are necessary for the movement of goods across the border.

3.0 Analysis Methodology

3.1 Fundamentals of Noise

Simply stated, noise is unwanted sound. Sound is caused by minute pressure variations in the air—above and below static atmospheric pressure—that are sensed by the human ear. The number of these minute pressure variations over time is referred to as the frequency of the sound.

Sound Pressure Level

$$SPL = 10\log_{10}\left(\frac{p}{p_o}\right)^2$$

Where:

p = the sound pressure of the signal above atmospheric pressure, and

p_o = the reference pressure (standardized at 20 micropascals[1])

[1]A micropascal is a unit of pressure equal to a millionth of a newton per square meter.

Sound in the ambient environment is composed of a wide range of frequencies. Because the human ear is not equally sensitive at all frequencies, two different noises that have the same sound pressure level (SPL) may be perceived as having different levels of loudness. Therefore, the SPL is not a measure of the loudness of a sound. In order to obtain levels that more closely approximate the perceived loudness of noise by humans, *frequency weighting* of the sound level is used.

The most common frequency weighting used for assessment of noise in the ambient environment is *A-weighting*. A-weighting is a frequency correction that often correlates well with the subjective response of humans to noise. The noise at any given location is a function of the noise produced by the source, the propagation path between the source and the receiver, and the sensitivity of the receiver. To reduce noise levels at a sensitive receiver, the only available techniques are to reduce the noise at the source, to interrupt the propagation path between the source and the receiver, or to increase the distance between the source and the receiver. The propagation path is the path that the sound travels between its source and the receiver.

The evaluation of the effects of noise in the city of San Diego must consider the sound pressure levels to which people will be exposed, the duration of those levels, and the time of day—or night—at which they occur. While different people will respond differently to any specific situation, overall response is primarily a factor of these three main elements. The City of San Diego uses the community noise equivalent level (CNEL) as the measure for assessing transportation noise impacts with respect to land use planning.

3.2 Applicable Standards

3.2.1 Standards Applicable to Construction Noise

Construction noise is regulated by the City's Municipal Code. Section 59.5.0404 of the Municipal Code, the Noise Abatement and Control Ordinance, states that:

> A. It shall be unlawful for any person, between the hours of 7:00 P.M. of any day and 7:00 A.M. of the following day, or on legal holidays as specified in Section 21.04 of the San Diego Municipal Code, with exception of Columbus Day and Washington's Birthday, or on Sundays, to erect, construct, demolish, excavate for, alter or repair any building or structure in such a manner as to create disturbing, excessive or offensive noise. . . .
>
> B. . . . it shall be unlawful for any person, including the City of San Diego, to conduct any construction activity so as to cause, at or beyond the property lines of any property zoned residential, an average sound level greater than 75 decibels during the 12-hour period from 7:00 A.M. to 7:00 P.M.

3.2.2 Standards Applicable to Traffic Noise

Future residents and visitors to the CPU area of the city of San Diego would be exposed to noise from vehicle traffic on area roadways, from aircraft operations at Brown Field, and from other local noise sources. In the city of San Diego, noise standards are expressed in terms of the average-equivalent noise level (L_{eq}) and the CNEL. The L_{eq} is the level of a steady sound which, in the stated time period and at a stated location, has the same A-weighted sound energy as the time-varying sound. The CNEL is a 24-hour A-weighted decibel (dB) average sound level [dB(A) L_{eq}] from midnight to midnight obtained after the addition of 5 dB to sound levels occurring between 7:00 P.M. and 10:00 P.M. and 10 dB to the sound levels occurring between 10:00 P.M. and 7:00 A.M. Adding 5 dB and 10 dB to the evening and nighttime hours, respectively, accounts for the added sensitivity of humans to noise during these time periods.

The City's Noise Element of the General Plan specifies compatibility standards for different categories of land use. The land-use compatibility standards are summarized in Table 2 (City of San Diego 2008).

The City also specifies that residential structures shall be designed to prevent the intrusion of exterior noises such that interior noise levels attributable to exterior sources do not exceed 45 CNEL in noise-sensitive interior rooms. This conforms to Title 24 of the California Code of Regulations that requires that multiple dwelling units' interior noise levels, due to exterior sources, not exceed 45 dB CNEL.

Title 24 of the California Code of Regulations further specifies that for multiple dwelling units, if the exterior noise level exceeds 60 CNEL, an acoustical analysis shall demonstrate that the design would achieve the prescribed interior noise standard. The City of San Diego assumes that standard construction techniques would provide a 15-dB reduction of exterior noise levels to an interior receiver. With these criteria, standard construction would be assumed to result in interior noise levels of 45 CNEL or less when exterior sources are 60 CNEL or less. When exterior noise levels are greater than 60 CNEL, consideration of specific construction techniques would be required.

The City also specifies that the interior noise level due to exterior sources is not to exceed 45 CNEL for institutional uses and is not to exceed 50 CNEL for office buildings and commercial uses.

3.2.3 Standards Applicable to Aircraft Noise

The Airport Land Use Compatibility Plan (ALUCP) for Brown Field identifies land uses compatible with annual noise levels due to operations at Brown Field. These land use compatibility noise levels are to be used in determining whether a proposed land use is consistent with ALUCP policies and guidelines. Table 3 presents the land uses and the compatible noise levels.

TABLE 2
LAND USE NOISE COMPATIBILITY GUIDELINES

Land Use Category	Exterior Noise Exposure [CNEL]				
		60	65	70	75
Open Space, Parks, and Recreational					
Community and Neighborhood Parks; Passive Recreation					
Regional Parks; Outdoor Spectator Sports, Golf Courses; Athletic Fields; Water Recreational Facilities; Horse Stables; Park Maintenance Facilities					
Agricultural					
Crop Raising and Farming; Aquaculture, Dairies; Horticulture Nurseries and Greenhouses; Animal Raising, Maintaining and Keeping; Commercial Stables					
Residential					
Single Units; Mobile Homes; Senior Housing		45			
Multiple Units; Mixed-Use Commercial/Residential; Live Work; Group Living Accommodations		45	45		
Institutional					
Hospitals; Nursing Facilities; Intermediate Care Facilities; Kindergarten through Grade 12 Educational Facilities; Libraries; Museums; Places of Worship; Child Care Facilities		45			
Vocational or Professional Educational Facilities; Higher Education Institution Facilities (Community or Junior Colleges, Colleges, or Universities)		45	45		
Cemeteries					
Sales					
Building Supplies/Equipment; Food, Beverage, and Groceries; Pets and Pet Supplies; Sundries, Pharmaceutical, and Convenience Sales; Wearing Apparel and Accessories			50	50	
Commercial Services					
Building Services; Business Support; Eating and Drinking; Financial Institutions; Assembly and Entertainment; Radio and Television Studios; Golf Course Support			50	50	
Visitor Accommodations		45	45	45	
Offices					
Business and Professional; Government; Medical, Dental, and Health Practitioner; Regional and Corporate Headquarters			50	50	
Vehicle and Vehicular Equipment Sales and Services Use					
Commercial or Personal Vehicle Repair and Maintenance; Commercial or Personal Vehicle Sales and Rentals; Vehicle Equipment and Supplies Sales and Rentals; Vehicle Parking					
Wholesale, Distribution, Storage Use Category					
Equipment and Materials Storage Yards; Moving and Storage Facilities; Warehouse; Wholesale Distribution					
Industrial					
Heavy Manufacturing; Light Manufacturing; Marine Industry; Trucking and Transportation Terminals; Mining and Extractive Industries					
Research and Development				50	

Compatible	Indoor Uses	Standard construction methods should attenuate exterior noise to an acceptable indoor noise level.
	Outdoor Uses	Activities associated with the land use may be carried out.
Conditionally Compatible	Indoor Uses	Building structure must attenuate exterior noise to the indoor noise level indicated by the number for occupied areas.
	Outdoor Uses	Feasible noise mitigation techniques should be analyzed and incorporated to make the outdoor activities acceptable.
Incompatible	Indoor Uses	New construction should not be undertaken.
	Outdoor Uses	Severe noise interference makes outdoor activities unacceptable.

SOURCE: City of San Diego 2008.

TABLE 3
BROWN FIELD NOISE COMPATIBILITY CRITERIA

Land Use Category[1] *Note: Multiple categories may apply to a project*	**Exterior Noise Exposure (CNEL)**			
	60-65	**65-70**	**70-75**	**75-80**
Agricultural and Animal-Related				
Horse stables; livestock breeding or farming	**A**	**A**	**A**	
Nature preserves; wildlife preserves				
Interactive nature exhibits	**A**			
Zoos	**A**	**A**		
Agriculture (except residences and livestock); greenhouses; fishing				**A**
Recreational				
Children-oriented neighborhood parks; playgrounds	**A**			
Campgrounds; recreational vehicle/motor home parks				
Community parks; regional parks; golf courses; tennis courts; athletic fields; outdoor spectator sports; fairgrounds; water recreation facilities		**A**		
Recreation buildings; gymnasiums; club houses; athletic clubs; dance studios		**50**	**50**	
Public				
Outdoor amphitheaters	**A**			
Children's schools (K-12); day care centers (>14 children)	**45**			
Libraries	**45**			
Auditoriums; concert halls; indoor arenas; places of worship	**45**	**45**		
Adult schools; colleges; universities[2]	**45**	**45**		
Prisons; reformatories		**50**		
Public safety facilities (e.g., police, fire stations)		**50**	**50**	
Cemeteries; cemetery chapels; mortuaries		**45** **A**	**45** **A**	
Residential, Lodging, and Care				
Residential (including single-family, multi-family, and mobile homes); family day care homes (≤14 children)	**45**			
Extended-stay hotels; retirement homes; assisted living; hospitals; nursing homes; intermediate care facilities	**45**			
Hotels; motels; other transient lodging[3]	**45**	**45**	**45**	
Commercial and Industrial				
Office buildings; office areas of industrial facilities; medical clinics; clinical laboratories; radio, television, recording studios		**50**	**50**	
Retail sales; eating/drinking establishments; movie theaters; personal services		**50**	**50** **B**	
Wholesale sales; warehouses; mini/other indoor storage			**50** **C**	
Industrial manufacturing; research & development; auto, marine, other sales & repair services; car washes; gas stations; trucking, transportation terminals			**50** **C**	
Extractive industry; utilities; road, rail right-of-ways; outdoor storage; public works yards; automobile parking; automobile dismantling; solid waste facilities				**50** **C**
Animal shelters/kennels	**50**	**50**	**50**	

TABLE 3
BROWN FIELD NOISE COMPATIBILITY CRITERIA
(cont.)

Land Use Acceptability		Interpretation/Comments
	Compatible	Indoor Uses: Standard construction methods will sufficiently attenuate exterior noise to an acceptable indoor community noise equivalent level (CNEL). Outdoor Uses: Activities associated with the land use may be carried out with essentially no interference from aircraft noise.
45 **50**	Conditional[4]	Indoor Uses: Building structure must be capable of attenuating exterior noise to the indoor CNEL indicated by the number, standard construction methods will normally suffice. Outdoor Uses: CNEL is acceptable for outdoor activities, although some noise interference may occur.
A **B** **C**	Conditional[4]	Indoor and Outdoor Uses: A Caution should be exercised with regard to noise-sensitive outdoor uses; these uses are likely to be disrupted by aircraft noise events; acceptability is dependent upon characteristics of the specific use.[5] B Outdoor dining or gathering places incompatible above 70 CNEL. C Sound attenuation must be provided for associated office, retail, and other noise-sensitive indoor spaces sufficient to reduce exterior noise to an interior maximum of 50 CNEL.
	Incompatible	Use is not compatible under any circumstances.

SOURCE: San Diego County Regional Airport Authority 2010
[1]Land uses not specifically listed shall be evaluated, as determined by the ALUC, using the criteria for similar uses.
[2]Applies only to classrooms, offices, and related indoor uses. Laboratory facilities, gymnasiums, outdoor athletic facilities, and other uses to be evaluated as indicated for those land use categories.
[3]Lodging intended for stays by an individual person of no more than 25 days consecutively and no more than 90 days total per year; facilities for longer stays are in the extended-stay hotel category.
[4]An *aviation easement* is required for any project situated on a property lying within the projected 65 CNEL noise contour. See Policy 2.11.5 and Policy 3.3.3(d).
[5]Noise-sensitive land uses are ones for which the associated primary activities, whether indoor or outdoor, are susceptible to disruption by loud noise events. The most common types of noise-sensitive land uses include, but are not limited to, the following: residential, hospitals, nursing facilities, intermediate care facilities, educational facilities, libraries, museums, places of worship, child-care facilities, and certain types of passive recreational parks and open space.

3.2.4 Standards Applicable to On-Site Generated Noise

In addition to allowing development that would result in future sensitive receptors being located in potentially adverse noise areas, there is the potential that the CPU would allow uses that generate noise. Impacts to sensitive receptors generated by activities at a given location are regulated by the City's Municipal Code. The Noise Ordinance specifies maximum one-hour average sound level limits at the boundary of a property. These maximum one-hour sound level limits are the maximum noise levels allowed at any point on or beyond the property boundaries due to activities occurring on the property. Where two or more zones adjoin, the sound level limit is the arithmetic mean of the respective limits for the two zones. Table 4 shows the exterior noise limits specified in the City's Noise Control Ordinance.

TABLE 4
EXTERIOR NOISE LIMITS

Receiving Land Use Category	Noise Level [dB(A)]		
	7:00 A.M. to 7:00 P.M.	7:00 P.M. to 10:00 P.M.	10:00 P.M. to 7:00 A.M.
Single Dwelling Units	50	45	40
Multiple Dwelling Units (up to a maximum density of 1 dwelling unit/2,000 square feet)	55	50	45
All Other Residential	60	55	50
Commercial	65	60	60
Industrial or Agricultural	75	75	75

dB(A) = A-weighted decibel (dB) level

3.3 Existing Noise Level Measurements

To determine the existing noise conditions and assess the potential impacts of noise resulting from the CPU, noise measurements were taken in the project vicinity by Jessica Fleming, RECON Acoustical Analyst on Wednesday, June 15, 2011 and by Karyl Palmer on October 18, 2012. Noise measurements were taken with one Larson–Davis Model 820 Type 1 Integrating Sound Level Meter, serial number 1824. The following parameters were used:

Filter: A-weighted
Response: Fast
Time History Period: 5 second

The meter was calibrated prior to each day's measurements. On June 15, five ground-floor measurements (5 feet above the ground) were taken at five locations in the project vicinity. On October 18, an additional three ground-floor measurements (5 feet above the ground) were taken at three locations in the project vicinity.

3.4 Vehicle Traffic Noise Analysis

3.4.1 Traffic Parameters

Traffic noise occurs adjacent to every roadway and is directly related to the traffic volume, speed, and mix of vehicles. Existing and future traffic volumes for the adopted Otay Mesa Community Plan and the CPU were obtained from the traffic study prepared for the CPU (Urban Systems Associates, Inc. 2012). Posted speeds for each roadway were obtained from the San Diego Association of Governments (SANDAG; 2011) and were assumed for the traffic noise projections.

The CPU experiences an atypically large percentage of truck traffic given its high volume of industrial activity and circulation patterns. Truck volumes for I-805, SR-905, SR-125, and SR- 11 were obtained from California Department of Transportation (Caltrans) truck counts (Caltrans 2009). For I-805, a traffic mix of 93.1 percent cars, 4.2 percent medium trucks, and 2.7 percent heavy trucks was assumed. For SR-905, SR-125, and SR-11, a traffic mix of 91.9 percent cars, 5.5 percent medium trucks, and 2.6 heavy trucks was observed.

Figure 3 shows the CPU truck routes. As shown, truck routes are on I-805, SR-905, SR-125, Britannia Boulevard, La Media, Enrico Fermi Drive, Siempre Viva Road, and Lone Star Road. For Britannia Boulevard, La Media, Enrico Fermi Drive, Siempre Viva Road, and Lone Star Road, a traffic mix of 65 percent cars, 10 percent medium trucks, 20 percent heavy trucks, 2 percent buses, and 3 percent motorcycles was assumed. Based on a future truck forecast performed for previously CPU land use scenarios, this truck volume is conservatively high (Steve Manganiello/Katz, Okitsu & Associates, pers. communication 2006).

For the remaining circulation roadways that are not truck routes, a standard mix of 90 percent cars, 3 percent medium trucks, 2 percent heavy trucks, 2 percent buses, and 3 percent motorcycles was assumed.

The adopted Community Plan includes the extension of La Media Road north of Lone Star Road to cross the Otay River Valley on a bridge. However, the latest City of Chula Vista General Plan Circulation Element Update has deleted this crossing from Chula Vista to the south. This extension of La Media Road is not included in the CPU.

Table 5 summarizes the vehicle traffic parameters used in this analysis for each roadway segment for the Adopted Community Plan, the CPU.

TABLE 5
VEHICLE TRAFFIC PARAMETERS

Street	Segment	Traffic Mix (percent)			Speed (mph)	ADT	
		Autos	Medium Trucks	Heavy Trucks		Adopted Plan	Proposed Plan
Airway Road	Old Otay Mesa Rd. to Caliente Ave.	90	3	2	40	20,500	10,500
Airway Road	Caliente Ave. to Heritage Rd.	90	3	2	40	59,000	38,000
Airway Road	Heritage Rd. to Cactus Rd.	90	3	2	40	39,500	60,500
Airway Road	Cactus Rd. to Britannia Blvd.	90	3	2	40	46,500	44,500
Airway Road	Britannia Blvd. to La Media Rd.	90	3	2	40	39,000	35,000
Airway Road	La Media Rd. to Harvest Rd.	90	3	2	40	54,500	34,000
Airway Road	Harvest Rd. to Sanyo Ave.	90	3	2	40	49,500	26,500
Airway Road	Sanyo Ave. to Paseo de las Americas	90	3	2	40	20,500	10,000
Airway Road	Paseo de las Americas to Michael Faraday Dr.	90	3	2	40	17,000	9,500
Airway Road	Michael Faraday Dr. to Enrico Fermi Dr.	90	3	2	40	16,000	12,000
Airway Road	Enrico Fermi Dr. to Siempre Viva Rd.	90	3	2	40	15,000	12,500
Avendia De Las Vistas	Otay Valley Rd. to Vis ta Santo Domingo	90	3	2	30	9,000	7,000
Avendia De Las Vistas	Vista Santo Domingo to Dennery Rd.	90	3	2	30	25,000	19,500
Avenida Cos ta Azul	Otay Mesa Rd. to St. Andrews Ave.	90	3	2	35	18,000	19,000
Aviator Road	Heritage Rd. to La Media Rd.	90	3	2	45	15,500	23,000
Beyer Boulevard	Alaquinas Dr. to Old Otay Mesa Rd.	90	3	2	35	24,500	32,500
Beyer Boulevard	Old Otay Mesa Rd. to Caliente Ave.	90	3	2	45	3,000	31,000
Britannia Boulevard	Otay Mesa Rd. to SR-905	90	3	2	40	19,500	17,500
Britannia Boulevard	SR-905 to Airway Rd.	65	10	20	40	52,000	63,000
Britannia Boulevard	Airway Rd. to Siempre Viva Rd.	65	10	20	40	32,500	44,500
Britannia Boulevard	Siempre Viva Rd. to South End	65	10	20	40	33,000	22,000
Cactus Road	Otay Mesa Rd. to Airway Rd.	90	3	2	45	35,000	40,500
Cactus Road	Airway Rd. to Siempre Viva Rd.	90	3	2	45	23,000	40,500
Cactus Road	Siempre Viva Rd. to South End	90	3	2	45	29,500	11,000
Caliente Avenue	Otay Mesa Rd. to SR-905	90	3	2	30	39,000	38,000
Caliente Avenue	Otay Mesa Rd. to SR-905	90	3	2	30	39,000	38,000
Caliente Avenue	SR-905 to Airway Rd.	90	3	2	40	38,000	32,000

TABLE 5
VEHICLE TRAFFIC PARAMETERS
(continued)

Street	Segment	Traffic Mix (percent)			Speed	ADT	
		Autos	Medium Trucks	Heavy Trucks	(mph)	Adopted Plan	Proposed Plan
Caliente Avenue	Airway Rd. to Beyer Blvd.	90	3	2	40	48,000	46,000
Caliente Avenue	Beyer Blvd. to Siempre Viva Rd.	90	3	2	40	48,000	41,000
Camino Maquiladora	Heritage Rd. to Pacific Rim Ct.	90	3	2	30	7,500	9,500
Camino Maquiladora	Pacific Rim Ct. to Cactus Rd.	90	3	2	30	6,000	7,500
Camino Maquiladora	Cactus Rd. to Continental St.	90	3	2	30	5,500	6,000
Centurion Street	Airway Rd. to Gigantic St.	90	3	2	40	18,500	6,000
Continental Street	South of Otay Mesa Rd.	90	3	2	35	4,500	4,500
Continental Street	North of Airway Rd.	90	3	2	35	10,000	12,000
Corporate Center Drive	Progressive Ave. to Innovative Dr.	90	3	2	40	13,000	8,000
Corporate Center Drive	Otay Mesa Rd. to Progressive Ave.	90	3	2	40	24,500	19,500
Corporate Center Drive	South End to Otay Mesa Rd.	90	3	2	40	17,500	17,500
Datsun Street	Innovative Dr. to Heritage Rd.	90	3	2	45	31,000	30,000
Del Sol Boulevard	Ocean View Hills Pkwy. to Surf Crest Dr.	90	3	2	35	23,500	19,500
Del Sol Boulevard	Surf Crest Dr. to Riviera Pointe	90	3	2	35	26,000	23,000
Del Sol Boulevard	Riviera Pointe to Dennery Rd.	90	3	2	35	26,000	23,000
Del Sol Boulevard	Dennery Rd. to I-805	90	3	2	35	20,000	16,000
Dennery Road	Palm Ave. to Del Sol Blvd.	90	3	2	35	28,500	28,000
Dennery Road	Palm Ave. to Regatta Ln.	90	3	2	35	21,000	19,500
Dennery Road	Regatta Ln. to Red Coral Ln.	90	3	2	35	15,000	12,500
Dennery Road	Red Coral Ln. to Black Coral Ln.	90	3	2	35	15,000	12,500
Dennery Road	Black Coral Ln. to East End	90	3	2	35	21,500	16,500
Emerald Crest Dr.	Otay Mesa Rd. to South End	90	3	2	35	25,000	25,000
Enrico Fermi Drive	Siempre Viva Rd. to Via de la Amistad	65	10	20	40	10,500	10,500
Enrico Fermi Drive	Airway Rd. to Siempre Viva Rd.	65	10	20	40	8,000	8,000
Enrico Fermi Drive	SR-11 to Airway Rd.*	65	10	20	40	17,000	15,500
Excellante Street	Airway Rd. to Gigantic St.	90	3	2	40	19,500	6,000
Exposition Way/Vista Santo Domingo	Avenida De Las Vistas to Corporate Dr.	90	3	2	35	17,000	12,500
Gailes Boulevard	Otay Mesa Rd. to St. Andrews Ave.	90	3	2	40	9,000	12,500
Gigantic Street	Excellante St. to Centurion St.	90	3	2	40	19,500	6,000

TABLE 5
VEHICLE TRAFFIC PARAMETERS
(continued)

Street	Segment	Traffic Mix (percent)			Speed (mph)	ADT	
		Autos	Medium Trucks	Heavy Trucks		Adopted Plan	Proposed Plan
Harvest Road	Otay Center Dr. to Siempre Viva Rd.	90	3	2	40	38,000	10,000
Harvest Road	Airway Rd. to Otay Center Dr.	90	3	2	40	34,000	16,000
Harvest Road	South of Otay Mesa Rd.	90	3	2	40	11,000	8,500
Heinrich Hertz Drive	Airway Rd. to Paseo de las Americas	90	3	2	35	27,000	12,000
Heritage Road/Otay Valley Road	Avenida De Las Vistas to Datsun St.	90	3	2	45	77,500	75,500
Heritage Road/Otay Valley Road	Datsun St. to Otay Mesa Rd.	90	3	2	45	47,500	48,000
Heritage Road/Otay Valley Road	Otay Mesa Rd. to SR-905	90	3	2	45	17,500	23,500
Heritage Road/Otay Valley Road	SR-905 to Airway Rd.	90	3	2	45	52,000	35,000
Heritage Road/Otay Valley Road	Main St. to Avenida De Las Vistas	90	3	2	45	87,000	83000
Heritage Road/Otay Valley Road	Airway Rd. to Siempre Viva Rd.	90	3	2	45	58,000	N/A
I-805	Main St. to Palm Ave.	93.1	4.2	2.7	65	263,000	248,000
I-805	Palm Ave. to SR-905	93.1	4.2	2.7	65	232,500	222,000
I-805	SR-905 to I-5	93.1	4.2	2.7	65	107,500	122,000
I-805	I-5 to Border	93.1	4.2	2.7	65	127,500	135,500
Innovative Drive	Otay Mesa Rd. to Corporate Center Dr.	90	3	2	30	16,000	15,000
La Media Road	Lone Star Rd. to Aviator Rd.	65	10	20	45	64,500	19,500
La Media Road	Aviator Rd. to Otay Mesa Rd.	65	10	20	45	64,500	22,500
La Media Road	Otay Mesa Rd. to SR-905	65	10	20	45	48,000	37,500
La Media Road	SR-905 to Airway Rd.	65	10	20	40	75,500	64,000
La Media Road	Airway Rd. to Siempre Viva Rd.	65	10	20	40	32,000	33,000
La Media Road	Birch Rd. to Lone Star Rd.	65	10	20	40	93,000	N/A
Lone Star Road	La Media Rd. to SR-125	65	10	20	40	38,000	N/A
Lone Star Road	SR-125 to Piper Ranch Rd.	65	10	20	40	55,000	35,000
Lone Star Road	SR-125 to Piper Ranch Rd.	65	10	20	40	55,000	35,000
Lone Star Road	Piper Ranch Rd. to City/County Boundary	65	10	20	40	54,500	36,000
Marconi Drive	Paseo de las Americas to Enrico Fermi Dr.	90	3	2	35	16,500	8,000
Michael Faraday Drive	Airway Rd. to Siempre Viva Rd.	90	3	2	30	9,500	6,500
Michael Faraday Drive	Siempre Viva Rd. to Marconi Dr.	90	3	2	30	5,500	8,000
Ocean View Hills Pkwy	Dennery Rd. to Del Sol Blvd.	90	3	2	45	27,000	22,000

TABLE 5
VEHICLE TRAFFIC PARAMETERS
(continued)

Street	Segment	Traffic Mix (percent) Autos	Medium Trucks	Heavy Trucks	Speed (mph)	ADT Adopted Plan	Proposed Plan
Ocean View Hills Pkwy	Del Sol Blvd. to Street “A”	90	3	2	40	45,000	35,000
Ocean View Hills Pkwy	Street A to Otay Mesa Rd.	90	3	2	40	23,500	23,500
Old Otay Mesa Road	Otay Mesa Rd. to Airway Rd.	90	3	2	40	22,000	22,000
Old Otay Mesa Road	Airway Rd. to Crescent Bay Dr.	90	3	2	40	20,000	14,500
Old Otay Mesa Road	Crescent Bay Dr. to Beyer Blvd.	90	3	2	40	21,500	16,000
Otay Center Drive	Harvest Rd. to Siempre Viva Rd.	90	3	2	35	14,000	15,500
Otay Mesa Center Road	Otay Mesa Rd. to St. Andrews Ave.	90	3	2	40	36,500	24,000
Otay Mesa Road	Street A to Caliente Ave.	90	3	2	45	32,000	26,000
Otay Mesa Road	Caliente Ave. to Corporate Center Dr.	90	3	2	45	78,000	72,500
Otay Mesa Road	Corporate Center Dr. to Innovative Dr.	90	3	2	45	36,000	51,500
Otay Mesa Road	Innovative Dr. to Heritage Rd.	90	3	2	45	42,000	46,500
Otay Mesa Road	Heritage Rd. to Cactus Rd.	90	3	2	50	74,000	76,500
Otay Mesa Road	Cactus Rd. to Britannia Blvd.	90	3	2	50	47,500	44,000
Otay Mesa Road	Britannia Blvd. to Ailsa Ct.	90	3	2	50	58,500	50,500
Otay Mesa Road	Ailsa Ct. to La Media Rd.	90	3	2	50	49,500	42,500
Otay Mesa Road	La Media Rd. to Piper Ranch Rd.	90	3	2	45	50,000	54,000
Otay Mesa Road	Piper Ranch Rd. to SR-125	90	3	2	45	22,500	28,500
Otay Mesa Road	SR-125 to Harvest Rd.	90	3	2	45	42,500	36,000
Otay Mesa Road	Harvest Rd. to Sanyo Ave.	90	3	2	45	38,500	32,000
Otay Mesa Road	Sanyo Ave. to Enrico Fermi Dr.	90	3	2	40	14,000	7,500
Pacific Rim Court	Otay Mesa Rd. to Camino Maquiladora	90	3	2	45	4,000	4,500
Palm Ave.	Piccard Ave to I-805	90	3	2	35	69,500	N/A
Palm Ave.	I-805 to Dennery Rd.	90	3	2	45	69,500	59,500
Paseo de las Americas	Airway Rd. to Siempre Viva Rd.	90	3	2	35	33,500	16,500
Paseo de las Americas	Siempre Viva Rd. to Marconi Dr.	90	3	2	35	16,000	15,000
Piper Ranch Rd.	Lone Star Rd. to Otay Mesa Rd.	90	3	2	40	17,000	20,500
Piper Ranch Rd.	Lone Star Rd. to Otay Mesa Rd.	90	3	2	40	17,000	20,500
Progressive Ave.	Corporate Center Dr. to Innovative Dr.	90	3	2	30	17,000	11,500
Sanyo Ave.	Otay Mesa Rd. to Airway Rd.	90	3	2	45	43,000	24,500

TABLE 5
VEHICLE TRAFFIC PARAMETERS
(continued)

Street	Segment	Traffic Mix (percent)			Speed (mph)	ADT	
		Autos	Medium Trucks	Heavy Trucks		Adopted Plan	Proposed Plan
Siempre Viva Rd.	Cactus Rd. to Britannia Blvd.	90	3	2	40	44,500	37,000
Siempre Viva Rd.	Britannia Blvd. to La Media Rd.	90	3	2	40	52,500	42,500
Siempre Viva Rd.	La Media Rd. to Harves t Rd.	90	3	2	40	34,500	40,500
Siempre Viva Rd.	Harvest Rd. to Otay Center Dr.	90	3	2	40	35,000	34,000
Siempre Viva Rd.	Otay Center Dr. to SR-905	90	3	2	40	64,500	60,000
Siempre Viva Rd.	SR-905 to Paseo de las Americas	90	3	2	40	72,000	63,000
Siempre Viva Rd.	Paseo de las Americas to Michael Faraday Dr.	90	3	2	40	20,500	23,000
Siempre Viva Rd.	Michael Faraday Dr. to Enrico Fermi Dr.	90	3	2	40	21,000	21,000
Siempre Viva Rd.	Enrico Fermi Dr. to SR-11	90	3	2	40	21,000	17,500
Siempre Viva Rd.	Caliente Ave. to West Terminus	91.9	5.5	2.6	65	47,000	10,000
Siempre Viva Rd.	Heritage Rd. to Cactus Rd.	91.9	5.5	2.6	65	48,000	N/A
SR-11	SR-905 to Enrico Fermi Dr.	91.9	5.5	2.6	65	50,500	47,000
SR-11	Enrico Fermi Dr. to Siempre Viva Rd	91.9	5.5	2.6	65	25,000	24,500
SR-11	Siempre Viva Rd. to Border	91.9	5.5	2.6	65	39,500	39,500
SR-125	Birch Rd. to Lone Star Rd.	91.9	5.5	2.6	65	102,500	155,500
SR-125	Lone Star Rd. to SR-905	91.9	5.5	2.6	65	76,000	115,500
SR-905	Picador Blvd. to I-805	91.9	5.5	2.6	65	144,500	128,500
SR-905	I-805 to Caliente Ave.	91.9	5.5	2.6	65	253,500	221,000
SR-905	Caliente Ave. to Heritage Rd.	91.9	5.5	2.6	65	224,000	196,000
SR-905	Heritage Rd. to Britannia Blvd.	91.9	5.5	2.6	65	193,000	173,000
SR-905	Britannia Blvd. to La Media Rd.	91.9	5.5	2.6	65	167,000	154,000
SR-905	La Media Rd. to SR-125	91.9	5.5	2.6	65	121,000	103,500
SR-905	SR-125 to Siempre Viva Rd.	91.9	5.5	2.6	65	103,000	99,000
SR-905	Siempre Viva Rd. to Border	91.9	5.5	2.6	65	64,500	64,500
St. Andrews Ave.	Otay Mesa Center Rd. to La Media Rd.	90	3	2	30	20,500	13,500
Street A	Ocean View Hills Pkwy. to Otay Mesa Rd.	90	3	2	40	19,500	13,500

ADT = average daily traffic

3.4.2 Analysis of Traffic Noise

The Federal Highway Administration (FHWA) Traffic Noise Model algorithms were used to calculate distances to noise contours for each roadway. The FHWA model takes into account traffic mix, speed, and volume; roadway gradient; relative distances between sources, barriers, and sensitive receptors; and shielding provided by intervening terrain or structures.

The analysis of the noise environment considered that the topography was flat with no intervening terrain between sensitive land uses and roadways. Because there are no obstructions, predicted noise levels are higher than would actually occur. In actuality buildings and other obstructions along the roadways would shield distant receivers from the traffic noise.

A large portion of the project area is undeveloped with soft ground conditions. Therefore, soft site conditions where used in this analysis. Furthermore, soft site conditions would account for noise attenuation due to shielding from buildings and other obstructions.

4.0 Existing Conditions

The CPU is subject to various existing noise sources including traffic on circulation element roadways, traffic on I-805, SR-125, SR-905, aircraft from Brown Field and General Abelardo L. Rodriguez International Airport, and industrial and commercial activities, including the heavy truck traffic associated with them.

4.1 Vehicle Traffic Noise

As part of this analysis, ambient noise conditions were measured in the planning area. In order to provide a qualitative assessment of the variability of noise throughout the study area, eight daytime noise measurements that were 15 minutes in duration were made throughout the study area.

The measurement locations are shown in Figure 2 and were chosen to obtain existing noise levels in order to characterize the existing ambient noise condition. The noise measurement data are contained in Attachment 1.

Measurements 1–5 were taken on June 15, 2011; at this time, SR-905 was under construction. SR-905 now connects the Otay Mesa POE with regional freeways I-5 and I-805. Phase 1 from the Otay Mesa POE to Airway Road was completed at the time of the June 2011 noise measurements. Also completed was the SR-905 link with I-805. The Phase 2 connection to I-805 was completed in 2012. Before the Phase 2 link was completed, traffic traveling on SR-905 was diverted onto Otay Mesa Road. Therefore, SR-905/Otay Mesa Road experienced high traffic volumes including heavy truck traffic at the time of the first noise measurements. Measurements 6–8 were taken after SR-905 completion.

Measurement 1 was taken adjacent to Ocean View Hills Parkway in the residential area of Otay Mesa. The main source of noise at the measurement location was traffic on Ocean View Hills Parkway. The speed limit on this portion of Ocean View Hills Parkway is 45 miles per hour (mph). Noise levels were measured for 15 minutes, and traffic was counted during the measurement period. The average measured noise level at 40 feet from the centerline of Ocean View Hills Parkway was 72.3 dB(A) L_{eq}.

Measurement 2 was taken in a commercial parking lot on a hill overlooking I-805. The main source of noise at the measurement location was traffic on I-805. Noise levels were measured for 15 minutes. The average measured noise level was 80.9 dB(A) L_{eq}.

Measurement 3 was taken adjacent to SR-905/Otay Mesa Road. The speed limit on this portion of Otay Mesa Road is 45 mph. Noise levels were measured for 15 minutes. The average measured noise level at approximately 85 feet from the centerline was 77.3 dB(A) L_{eq}.

Measurement 4 was taken adjacent to Airway Road in an industrial portion of the CPU. Because of the amount of industrial uses, Airway Road experiences high heavy truck volumes. The speed limit on this portion of Airway Road is 40 mph. Noise levels were measured for 15 minutes, and traffic was counted during the measurement period. The average measured noise level at 30 feet from the centerline was 72.6 dB(A) L_{eq}.

Measurement 5 was taken adjacent to Siempre Viva Road. Like Airway Road, Siempre Viva Road experiences high heavy truck volumes. The speed limit on this portion of Siempre Viva Road is 40 mph. Noise levels were measured for 15 minutes, and traffic was counted during the measurement period. The average measured noise level at 60 feet from the centerline was 72.1 dB(A) L_{eq}.

Measurements 6–8 were taken on October 18, 2012; at this time, SR-905 had been completed.

With the completion of SR-905, Otay Mesa Road experiences less traffic volumes including heavy truck traffic than in previous years.

Measurement 6 was taken adjacent to SR-905/Otay Mesa Road near Innovative Drive. The speed limit on this portion of Otay Mesa Road is 45 mph. Noise levels were measured for 15 minutes. The average measured noise level at approximately 93 feet from the centerline was 68.7 dB(A) L_{eq}.

Measurement 7 was taken adjacent to a semi-trailer storage area overlooking SR-125. The main source of noise at the measurement location was traffic on SR-125. Noise levels were measured for 15 minutes. The average measured noise level was 61.5 dB(A) L_{eq}.

Measurement 8 was taken on Cactus Road, adjacent to SR-905. The main source of noise at the measurement location was traffic on SR-905. Noise levels were measured for 15 minutes. The average measured noise level was 72.0 dB(A) L_{eq}.

Table 6 presents the results of the noise measurements. Table 7 summarizes the 15-minute traffic counts.

TABLE 6
MEASURED NOISE LEVELS

Location	Date	Average Noise Level [dB(A)]	Traffic Noise Sources	Distance From Centerline (feet)	Noise Level at 50 feet from Source [dB(A)]
1	06/15/11	72.3	Ocean View Hills Parkway	40	71.3
2	06/15/11	72.7	I-805	330	80.9
3	06/15/11	77.3	SR-905/Otay Mesa Road	85	79.6
4	06/15/11	74.8	Airway Road	30	72.6
5	06/15/11	72.1	Siempre Viva Road	60	72.9
6	10/18/12	68.7	Otay Mesa Road	93	71.4
7	10/18/12	55.2	SR-125	215	61.5
8	10/18/12	66.0	SR-905	197	72.0

dB(A) = A-weighted decibel (dB) level

TABLE 7
15-MINUTE TRAFFIC COUNTS

Location	Roadway	Autos	Medium Trucks	Heavy Trucks	Buses	Motor-cycles
1	Ocean View Hills Parkway	134	3	1	0	1
4	Airway Road	49	4	38	2	4
5	Siempre Viva Road	68	5	28	2	6

4.2 Air Traffic Noise

Brown Field and General Abelardo L. Rodriguez International Airport in Tijuana also generate noise within the CPU. Figure 4 shows the existing noise contours associated with operations at these airports (San Diego County Regional Airport Authority 2003, 2010). As shown, the primary source of aircraft noise in the CPU is due to operations at Brown Field. Only a small portion of the CPU is located within the 65-CNEL contour line of the General Abelardo L. Rodriguez International Airport.

4.3 Other Sources of Noise

Other sources of noise within the CPU are due to the normal activities associated with a given land use. For example, within residential areas noise sources include dogs, landscaping activities, and parties. Commercial uses include car washes, fast food restaurants, and auto repair facilities. Sources of noise in industrial and manufacturing areas may include heavy machinery and truck loading/unloading. Residential uses located adjacent to commercial and industrial uses would be exposed to noise associated with these land uses.

5.0 Future Acoustical Environment and Impacts

5.1 Construction Noise Impacts

Temporary or periodic noise increases could result from construction activities within the CPU. Noise associated with the demolition, earthwork, construction, and surface preparation for projects approved under the CPU would result in short-term impacts to adjacent residential properties. A variety of noise-generating equipment would be used during the construction phase such as scrapers, dump trucks, backhoes, front-end loaders, jackhammers, and concrete mixers, along with others.

Table 8 indicates the types of construction equipment typically involved in construction projects. This type of equipment can individually generate noise levels that range between 78 and 91 dB(A) L_{eq} at 50 feet from the source, as listed in Table 8.

The exact location of projects and construction activities approved under the CPU are not known at this time. It is likely that sensitive receptors would be located in the vicinity of construction activities. The City of San Diego regulates noise associated with construction equipment and activities through its Noise Abatement and Control Ordinance. If construction activities exceed the limitations set forth in Section 59.5.0404 of the City's Noise Abatement and Control Ordinance (see Section 2.2.1 above), then noise impacts would be significant.

Any construction resulting from the adoption of the CPU must comply with this requirement. As noted above, construction equipment would generate noise levels between 80 and 90 dB at 50 feet from the source when in operation. At the 500-foot boundary of the limitation for construction equipment, the sound pressure level would be 20 dB less than a noise measurement taken at 50 feet. Depending on the nature of the

TABLE 8
MEASURED NOISE LEVELS OF COMMON CONSTRUCTION EQUIPMENT

Equipment	Noise Level at 50 feet (dB(A) L_{eq})	Typical Duty Cycle (%)
Auger Drill Rig	85	20
Backhoe	80	40
Blasting	94	1
Chain Saw	85	20
Clam Shovel	93	20
Compactor (ground)	80	20
Compressor (air)	80	40
Concrete Mixer Truck	85	40
Concrete Pump	82	20
Concrete Saw	90	20
Crane (mobile or stationary)	85	20
Dozer	85	40
Dump Truck	84	40
Excavator	85	40
Front End Loader	80	40
Generator (25 KVA or less)	70	50
Generator (more than 25 KVA)	82	50
Grader	85	40
Hydra Break Ram	90	10
Impact Pile Driver (diesel or drop)	95	20
Insitu Soil Sampling Rig	84	20
Jackhammer	85	20
Mounted Impact Hammer (hoe ram)	90	20
Paver	85	50
Pneumatic Tools	85	50
Pumps	77	50
Rock Drill	85	20
Rock Crusher	95	50
Scraper	85	40
Tractor	84	40
Vacuum Excavator (vac-truck)	85	40
Vibratory Concrete Mixer	80	20
Vibratory Pile Driver	95	20

SOURCE: FHWA 2008.
KVA = kilovolt amps

construction including the duration of specific activities, nature of the equipment involved, location of the particular receiver, and nature of intervening barriers, construction noise within 500 feet of a residential zone could range from less than 60 dB(A)L_{eq} to as much as 90 dB(A) L_{eq}. Grading activities are estimated to generate worst-case average noise levels of 84 dB(A) equivalent sound level (L_{eq}) at a distance of 50 feet (Bolt, Beranek, and Newman, Inc. 1971). Construction noise levels of 84 dB(A) would attenuate to 75 dB(A) at 140 feet. Therefore, significant impacts would occur if residential uses are located closer than 140 feet of construction activities.

Therefore, construction activities related to implementation of the CPU would potentially generate short-term noise levels in excess of 75 dB(A) L_{eq} at adjacent properties and would therefore be potentially significant. The City regulates noise associated with construction equipment and activities through enforcement of noise ordinance standards (e.g., days of the week and hours of operation) and imposition of conditions of approval for building or grading permits. However, as the degree of success of these measures cannot be adequately known for each specific project at this program-level of analysis, mitigation would be required.

Additionally, noise levels associated with the earthwork, construction, and surface preparation for future development within the CPU area would result in short-term, temporary noise impacts that would adversely affect coastal California gnatcatchers within the MHPA. Construction noise during the period of March 1 to August 15 in excess of 60 dB(A) CNEL would expose coastal California gnatcatchers to noise levels considered adverse to this species. As this is a noise analysis, this information was provided to the project biologist, and mitigation measures have been specified in the EIR and biology report prepared for the CPU that would reduce these impacts.

5.2 Traffic Noise Impacts and Land Use Compatibility

The methods used in the analysis of future conditions are described in the Analysis Methodology section of this report. Future traffic parameters used are shown in Table 5.

The distances to the 60, 65, 70, and 75 CNEL noise contours for freeways and major roadways are shown in Table 9. A complete list of distances to the 60, 65, 70, and 75 CNEL noise contours for all roadway segments for the adopted community plan and the CPU are included in Attachment 2. Distances to the noise contours assume a soft, flat site with no intervening barriers or obstructions. Future noise contours for the adopted community plan and CPU traffic volumes as well as the proposed land uses for the adopted community plan and the CPU are shown in Figures 5 and 6, respectively.

TABLE 9
FUTURE TRAFFIC NOISE CONTOUR DISTANCES FOR FREEWAYS AND MAJOR ROADWAYS

		Contour Distances at Buildout of Adopted Community Plan (feet)				Contour Distances at Buildout of CPU (feet)			
Roadway	Segment	75 CNEL	70 CNEL	65 CNEL	60 CNEL	75 CNEL	70 CNEL	65 CNEL	60 CNEL
Airway Road	Old Otay Mesa Road to Caliente Avenue	37	79	170	366	23	50	109	234
Airway Road	Caliente Avenue to Heritage Road	74	159	343	740	55	119	256	552
Airway Road	Heritage Road to Cactus Road	57	122	263	566	75	162	349	752
Airway Road	Cactus Road to Britannia Boulevard	63	136	293	631	61	132	285	613
Airway Road	Britannia Boulevard to La Media Road	56	121	261	561	52	113	242	522
Airway Road	La Media Road to Harvest Road	70	151	326	702	51	110	238	512
Airway Road	Harvest Road to Sanyo Avenue	66	142	305	658	43	93	201	434
Britannia Boulevard	Otay Mesa Road to SR-905	35	76	164	354	33	71	153	329
Britannia Boulevard	SR-905 to Airway Road	167	359	774	1,667	189	408	879	1,895
Britannia Boulevard	Siempre Viva Road to South End	122	263	566	1,219	150	324	697	1,503
Britannia Boulevard	Airway Road to Siempre Viva Road	123	265	571	1,231	94	202	436	940
La Media Road	Lone Star Road to Aviator Road	212	457	984	2,120	95	206	443	955
La Media Road	Aviator Road to Otay Mesa Road	212	457	984	2,120	105	226	488	1,050
La Media Road	Otay Mesa Road to SR-905	174	375	808	1,741	148	318	685	1,477
La Media Road	SR-905 to Airway Road	214	461	992	2,138	191	412	889	1,915
La Media Road	Airway Road to Siempre Viva Road	121	260	560	1,206	123	265	571	1,231
La Media Road	Birch Road to Lone Star Road	246	529	1,140	2,456	0	0	1	1
Otay Mesa Road	Street A to Caliente Avenue	58	126	271	583	51	109	236	507
Otay Mesa Road	Caliente Avenue to Corporate Center Drive	106	227	490	1,056	101	217	467	1,005
Otay Mesa Road	Corporate Center Drive to Innovative Drive	63	136	293	630	80	172	372	800
Otay Mesa Road	Innovative Drive to Heritage Road	70	151	324	699	75	161	347	748
Otay Mesa Road	Heritage Road to Cactus Road	119	257	554	1,193	122	263	566	1,220
Otay Mesa Road	Cactus Road to Britannia Boulevard	89	191	412	888	84	182	391	843
Otay Mesa Road	Britannia Boulevard to Ailsa Court	102	220	473	1,020	92	199	429	925
Otay Mesa Road	Ailsa Court to La Media Road	91	197	423	912	82	178	383	824
Otay Mesa Road	La Media Road to Piper Ranch Road	78	169	364	785	83	178	383	826
Otay Mesa Road	Piper Ranch Road to SR-125	46	99	214	461	54	116	250	539
Otay Mesa Road	SR-125 to Harvest Road	70	152	327	704	63	136	293	630
Otay Mesa Road	Harvest Road to Sanyo Avenue	66	142	306	659	58	126	271	583
Otay Mesa Road	Sanyo Avenue to Enrico Fermi Drive	28	61	132	284	19	40	87	187
Siempre Viva Road	Cactus Road to Britannia Boulevard	61	132	285	613	54	117	252	542
Siempre Viva Road	Britannia Boulevard to La Media Road	68	147	318	684	59	128	276	595
Siempre Viva Road	La Media Road to Harvest Road	52	111	240	517	58	124	267	576
Siempre Viva Road	Harvest Road to Otay Center Drive	52	113	242	522	51	110	238	512
Siempre Viva Road	Otay Center Drive to SR-905	79	169	364	785	75	161	347	748
Siempre Viva Road	SR-905 to Paseo de las Americas	84	182	392	845	77	167	359	773
Siempre Viva Road	Paseo de las Americas to Michael Faraday Drive	37	79	170	366	39	85	183	395
Siempre Viva Road	Michael Faraday Drive to Enrico Fermi Drive	37	80	172	372	37	80	172	372
Siempre Viva Road	Enrico Fermi Drive to SR-11	37	80	172	372	33	71	153	329
Siempre Viva Road	Caliente Avenue to East Beyer Boulevard	146	315	678	1,460	52	112	242	520
Siempre Viva Road	Heritage Road to Cactus Road	148	319	687	1,481	0	0	1	1
I-805	Main Street to Palm Avenue	453	976	2,103	4,531	436	939	2,022	4,357
I-805	Palm Avenue to SR-905	417	899	1,937	4,174	405	872	1,878	4,047
I-805	SR-905 to I-5	250	538	1,158	2,496	272	585	1,260	2,715
I-805	I-5 to Border	280	602	1,298	2,796	291	627	1,352	2,912
SR-11	SR-905 to Enrico Fermi Drive	153	330	711	1,532	146	315	678	1,460
SR-11	Enrico Fermi Drive to Siempre Viva Road	96	207	445	959	95	204	439	946
SR-11	Siempre Viva Road to Border	130	280	604	1,301	130	280	604	1,301
SR-125	Birch Road to Lone Star Road	246	529	1,140	2,456	324	699	1,505	3,243
SR-125	Lone Star Road to SR-905	201	433	934	2,012	266	573	1,234	2,659
SR-905	Picador Boulevard to I-805	309	665	1,433	3,088	286	615	1,325	2,855
SR-905	I-805 to Caliente Avenue	449	968	2,085	4,491	410	883	1,903	4,099
SR-905	Caliente Avenue to Heritage Road	414	891	1,920	4,136	378	815	1,756	3,784
SR-905	Heritage Road to Britannia Boulevard	374	807	1,738	3,745	348	750	1,616	3,482
SR-905	Britannia Boulevard to La Media Road	340	733	1,578	3,401	322	694	1,495	3,222
SR-905	La Media Road to SR-125	274	591	1,273	2,743	247	533	1,147	2,472
SR-905	SR-125 to Siempre Viva Road	246	531	1,144	2,464	240	517	1,114	2,400
SR-905	Siempre Viva Road to Border	180	389	837	1,803	180	389	837	1,803

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As shown in Figures 5 and 6, traffic noise levels at existing and proposed residential use areas in the western portion of the CPU area would exceed the City's compatibility thresholds for residential land uses.

While the City has a compatibility level of 60 CNEL or less for residential uses, noise levels of 61–65 CNEL are generally considered acceptable for residential uses, since interior noise levels can be reduced to 45 CNEL through simple means, such as closing/sealing windows and providing mechanical ventilation. Additionally, passive mitigation such as noise walls can usually reduce exterior noise levels to comply with City standards. The majority of proposed residential land uses would be located within the conditionally compatibility zone.

Noise levels of 66–69 CNEL are more difficult to reduce to compatible levels in single dwelling units and these uses are typically precluded from these areas, however, multiple dwelling units can generally provide the required structural attenuation to reduce noise levels at interior locations. Additionally, due to the provision of common exterior use areas, these projects can generally provide greater shielding to these smaller areas, thus providing exterior use areas that comply with City standards. The greatest concentration of residential uses within this noise level range are south of Airway Road, west and east of Caliente Avenue, north of SR-905, and east of I-805.

Noise levels of 70–74 CNEL are very difficult to reduce to compatible interior noise levels in most residential structures, and noise sensitive land uses are typically precluded from these areas. Additionally, land uses in areas with noise levels this high or greater are not usually capable of providing sufficient shielding for exterior use areas.

Noise levels of 75 CNEL or greater are typically limited to industrial uses or retail commercial uses. Residential uses north and south of SR-905 and west of I-805, in the western portion of the CPU area, would be located within the 75 CNEL contours for I-805 and SR-905.

For properties located in areas where exterior noise levels exceed 60 CNEL, site-specific noise studies would be required. Additionally, site-specific interior noise levels would be required for land uses located in areas where exterior noise levels exceed the City's noise and land use compatibility thresholds as defined in the General Plan, Table N-3.

It should be noted that at any specific location the actual existing noise would depend upon not only the source noise level, but also the nature of the path from the source to the sensitive receptor. Buildings, walls, and other barriers would block the direct line of sight and reduce noise levels at the receptor. As an example, a first row of buildings would reduce traffic noise levels at receptors by 3–5 dBA behind those structures depending on the building to gap ratio. Large continuous structures can provide substantially greater attenuation of traffic noise.

Implementation of the policies in the CPU and General Plan would preclude or reduce traffic noise impacts. In addition, the City's process for the evaluation of discretionary projects includes environmental review and documentation pursuant to California Environmental Quality Act (CEQA) as well as an analysis of those projects for consistency with the goals, policies, and recommendations of the General Plan. Compliance with the standards is required of all projects and is not considered to be mitigation. However, it is possible that for certain projects, adherence to the regulations may not adequately reduce noise levels, and such projects would require additional measures to comply with applicable standards.

Thus, without mitigation, implementation of the CPU would result in a significant impact from traffic noise, because the CPU would potentially allow sensitive receptors to be located in areas where exterior noise levels exceed the compatibility standards established by the General Plan (see Table 2).

5.3 Airport Noise Impacts

As discussed previously, the primary sources of aircraft noise in the vicinity of the CPU area are aircraft operations associated with Brown Field located in the center of the CPU and General Abelardo L. Rodriquez International Airport in Tijuana, just south of the U.S.–Mexico border. Figure 4 shows the existing noise contours associated with operations at Brown Field and the General Abelardo L. Rodriguez International Airport (San Diego County Regional Airport Authority 2003 and 2010).

Table 3 presents the land uses and the compatible noise levels used for determining whether a proposed land use is consistent with ALUCP policies and guidelines (San Diego County Regional Airport Authority 2010).

As shown in Figure 4, existing residential uses east of Ocean View Hills Parkway are located within the 60 CNEL contour line for Brown Field, and two existing residential areas east of Vista Santo Domingo are located within the 65 CNEL contour. No residential use currently exists within the 70 CNEL or greater contours, and none is proposed under the CPU. No new residential development is proposed within the Brown Field 60 or 65 CNEL contours.

Several commercial and industrial uses are also located within the airport influence area. These uses are compatible with noise levels up to 75 CNEL (see Table 3). However, noise levels at these areas do not exceed 70 CNEL due to operations at Brown Field.

As shown in Figure 4, the 65 CNEL contour line for General Abelardo L. Rodriguez International Airport crosses the southernmost boundary of the CPU area. Existing and proposed industrial uses are located within this 65 CNEL contour line. Typical commercial and industrial uses are conditionally compatible within 70 to 75 CNEL with

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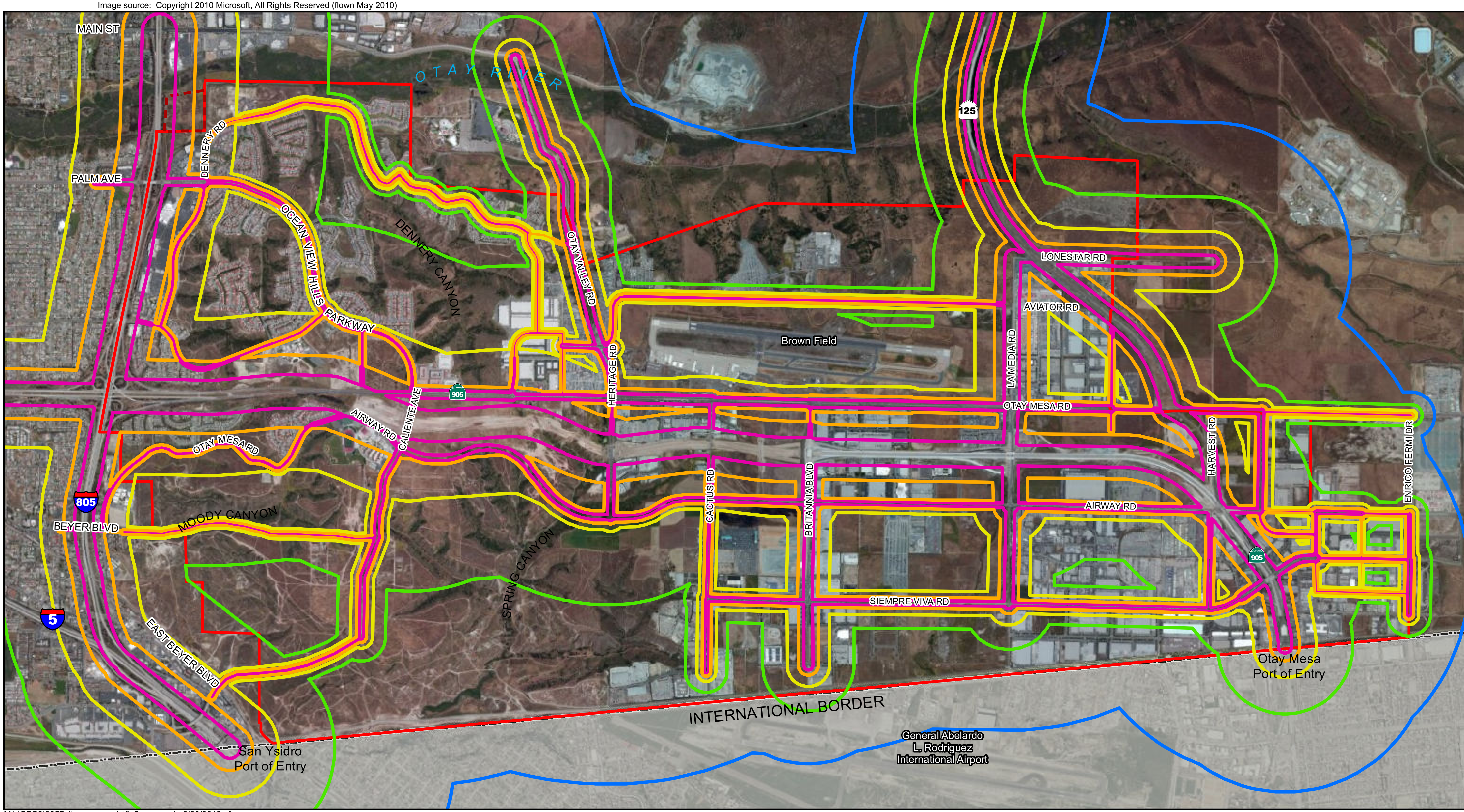

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Otay Mesa Community Plan Boundary

Not A Part

Future Traffic Noise Contours

55 CNEL

60 CNEL

65 CNEL

70 CNEL

75 CNEL

0 Feet 2,500

FIGURE 5

Future Traffic Noise Contours for the Adopted Community Plan and Existing Land Uses

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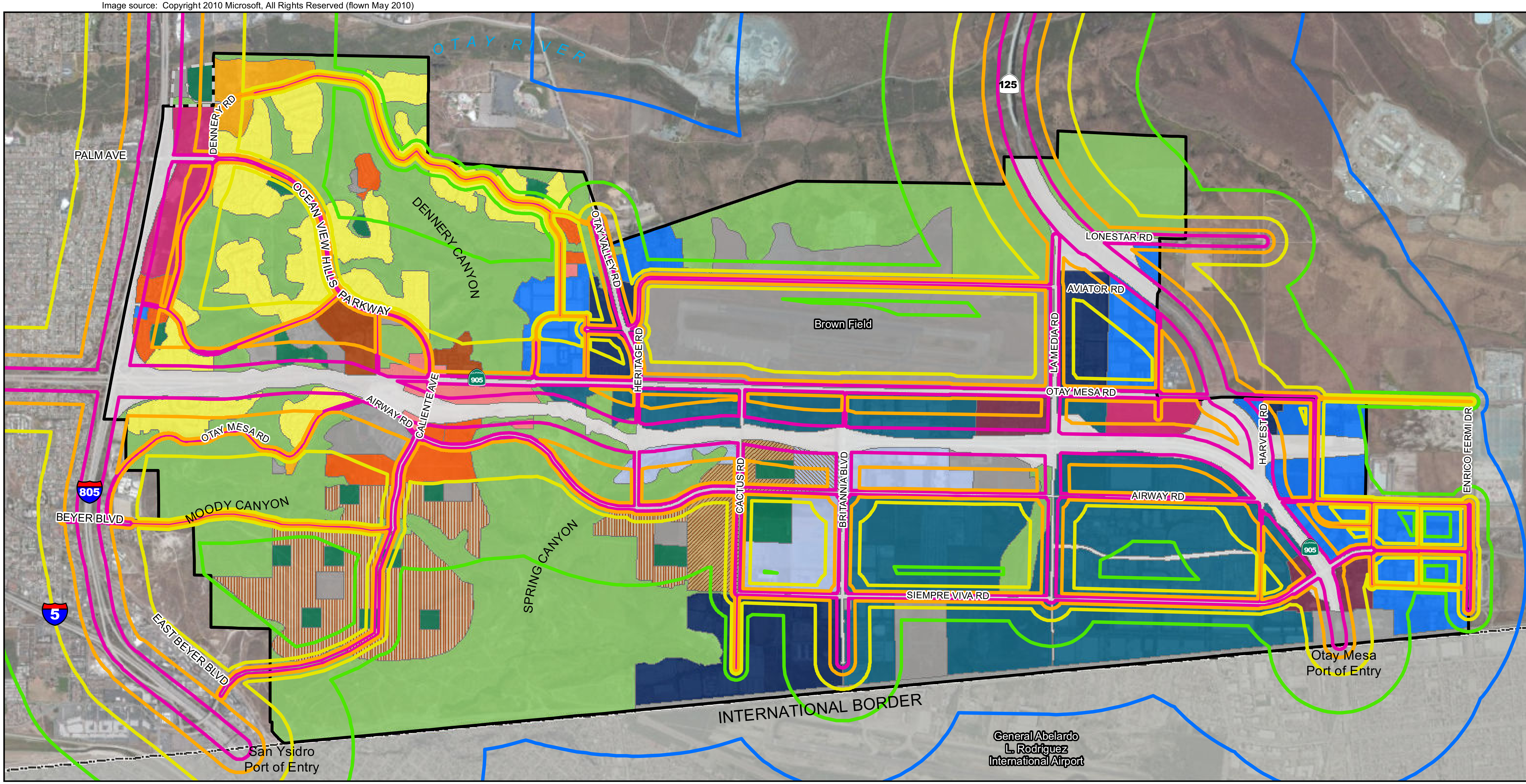

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Otay Mesa Community Plan Boundary

Not A Part

Future Traffic Noise Contours

- 55 CNEL
- 60 CNEL
- 65 CNEL
- 70 CNEL
- 75 CNEL

Proposed Land Use Plan

Open Space, Parks, Institutional

- Open Space
- Parks
- Institutional

Village Centers

- Community Village
- Neighborhood Village

Residential

- Low
- Low Medium
- Medium
- Medium High

Commercial - Residential Prohibited

- Community Commercial
- Regional Commercial
- Heavy Commercial

Industrial

- Business Park - Office Permitted
- Business and International Trade
- Light Industrial
- Heavy Industrial
- Business Park - Residential Permitted

Other

- Right-of-Way

FIGURE 6

Future Traffic Noise Contours for the CPU and Proposed Land Uses

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an interior noise level of 50 CNEL for associated offices. However, public works yards, outdoor storage, extractive industry, and solid waste facilities are compatible up to 75 dB(A). Typical commercial and industrial construction provides 25–30 dB(A) attenuation from exterior noise sources. Therefore, noise levels of 70 CNEL would be reduced to 40–45 CNEL within structures located within this zone.

Based on the available airport noise contours and the CPU land use plan, the CPU would not expose people residing or working in the CPU area to excessive noise levels due to airport operations.

5.4 Stationary Source/Collocation Noise Impacts

The CPU strives to integrate land uses in accordance with the City of Villages concept. As such, noise-sensitive land uses, such as residential, would be located in proximity to noise generating land uses, such as commercial and industrial land uses.

Stationary sources of noise include activities associated with a given land use. For example, noise sources in commercial uses would include car washes, fast food restaurants, auto repair facilities, parking lots, and a variety of other uses; sources of noise in industrial and manufacturing areas would include heavy machinery, truck loading/unloading, and other industrial activities. Figure 3 shows the areas of residential–industrial land uses. Mixed-use areas would also contain residential and commercial interfaces. As shown, there are areas where noise sensitive residential uses would be located adjacent to noise generating uses. These include the mixed-use villages where there is a residential–commercial interface and residential areas adjacent to commercial and industrial land uses.

Commercial and industrial uses in the CPU area could include manufacturing and warehousing, repair facilities, manufacturing facilities, machine shops, recycling facilities, and auto repair. Typical noise levels from these types of uses are discussed below.

Manufacturing facilities and machine shops have noise sources that include compressors, generators, welders, manual and pneumatic tools, air conditioning and heating units, and other equipment. Maximum noise levels range greatly and could be as loud as 80 dB(A) L_{eq} at 50 feet (RECON 2013a).

Noise sources associated with recycling facilities include trucks, loaders, conveyor systems, sorting equipment, compactors, fans, blowers, and other equipment. Measured maximum noise levels range from 65 to 85 dB(A) L_{eq} at 50 feet, and average hourly noise levels range from 60 to 70 dB(A) L_{eq} at 50 feet.

Noise sources from auto repair facilities include pneumatic impact wrenches, hammering, air compressors, closing vehicle doors and hoods, and revving engines. At 50 feet from an open garage door, the general maximum noise levels can range from 60 to 80 dB(A) L_{eq}.

Other noise sources may include warning horns and truck deliveries. Noise levels due to delivery trucks are approximately 75 to 85 dB(A) L_{eq} at 50 feet, and noise levels due to truck back-up alarms are approximately 65 to 75 dB(A) L_{eq} at 50 feet.

The noise level limit at the boundary between a noise-sensitive land use and a commercial or industrial use is dependent on the type of land use where the noise is being generated, the type of sensitive land use that is receiving the noise, and the time of day that the noise is being generated (see Table 4). For example, to reduce the typical average commercial and industrial noise levels, which range from 60 to 80 dB(A) L_{eq} at 50 feet, to the daytime single-family residential noise level limit of 50 dB(A) L_{eq}, a buffer distance ranging from 50 to 500 feet would be required. Site-specific noise reduction measures such as noise barriers would allow for reduced buffer distances. However, without project-specific details, noise levels generated by these activities associated with future development under the CPU cannot be anticipated at the program level.

Although noise-sensitive residential land uses would be exposed to noise associated with the operation of these commercial and industrial uses, City policies in place are intended to control noise and reduce noise impacts between various land uses. The City's noise policies, as contained in the General Plan and noise ordinance, include policies and regulations that require noise studies for land uses proposed for potentially incompatible locations, limits on hours of operation for various noise-generating activities, and standards for the compatibility of various land uses with the existing and future noise environment. In addition, enforcement of the previously described federal, state, and local noise regulations reduce impacts. Moreover, the CPU includes policies to reduce noise impacts. Such policies include requiring site design considerations and other measures to reduce noise levels from these noise-generating uses where an interface with noise sensitive land uses occurs. The CPU also defines acceptable methods for separating sensitive receptors within the CPU area, in the form of roads, parking, and landscaping to reduce noise levels to sensitive receptors. These criteria would be applied as future development is proposed to implement the CPU.

The juxtaposition of proposed land uses would result in potentially significant noise impacts. While the applicable regulations and policies would reduce direct and indirect impacts associated with the generation of noise levels in excess of standards established in the General Plan or Noise Ordinance, no project-level site plans, or implementation programs have been considered as part of the environmental review of the CPU. However, without detailed operational data it cannot be verified that future projects implemented in accordance with the CPU would be capable of reducing noise levels to comply with City standards. As the degree of success of regulations cannot be adequately known for each specific project at this program-level of analysis, impacts would be significant. Additional mitigation would be required to provide verification that City standards have been met.

6.0 Mitigation Framework

The following measures would reduce noise impacts resulting from the adoption of the CPU:

6.1 Traffic Noise and Land Use Compatibility

NOI-1. Prior to the issuance of building permits, site-specific exterior noise analyses that demonstrate that the project would not place residential receptors in locations where the exterior existing or future noise levels would exceed the noise compatibility standards of the City's General Plan shall be required as part of the environmental and discretionary review of future development proposals. Effective noise reduction measures may include, but are not limited to, building noise barriers, increased building setbacks, speed reductions on surrounding roadways, alternative pavement surfaces, or other relevant noise attenuation measures. Exact noise mitigation measures and their effectiveness shall be determined by the site-specific exterior noise analyses.

NOI-2. When building plans are available and prior to the issuance of building permits, site-specific interior noise analyses demonstrating compliance with the interior noise compatibility standards of the City's General Plan and other applicable regulations shall be prepared for noise sensitive land uses located in areas where exterior noise levels exceed 60 CNEL or where the exterior noise levels exceed the noise compatibility standards of the City's General Plan. Noise control measures may include, but are not limited to, increasing roof, wall, window, and door sound attenuation ratings, placing HVAC in noise reducing enclosures, or designing buildings so that no windows face freeways or major roadways. Exact noise mitigation measures and their effectiveness shall be determined by the site-specific exterior noise analyses.

Future development proposals implementing the CPU will be required to incorporate feasible mitigation measures and alternatives adopted in conjunction with the certification of this PEIR. However, because the degree of future impacts and applicability, feasibility, and success of future mitigation measures cannot be adequately known for each specific future project at this program-level of analysis, the program-level impact related to exterior and interior noise impacts remains significant and unavoidable, even with adherence to the Mitigation Framework.

Additionally, project traffic noise effects on existing residences would be potentially significant. There are areas within the CPU area where project traffic noise would potentially cause interior noise levels in existing residences to exceed applicable standards. As these older homes may not have been constructed to achieve current interior noise standards, there is the potential that project traffic would generate noise levels that exceed current standards at these existing residences. Possible exterior noise mitigation would include the construction of barriers between heavily traveled roadways and noise sensitive exterior use areas. Possible noise reduction measures would include retrofitting older homes with new window and door components with higher sound transmission class (STC) ratings. However, because the significant noise impacts are to existing homes in an already urbanized area, there is no feasible mitigation. Impacts would remain significant and unavoidable.

6.2 Stationary Sources (Collocation)

NOI-3. Operational noise from various land uses could adversely impact adjacent properties, either individually or cumulatively. Prior to the issuance of a building permit, a site-specific noise analysis of any on-site generated noise sources, including generators, mechanical equipment, and trucks, which will identify all noise-generating equipment, predict noise levels at property lines from all identified equipment, and recommended mitigation to be implemented (e.g., enclosures, barriers, site orientation), as necessary, to comply with the City’s Noise Abatement and Control Ordinance. Noise reduction measures shall include building noise-attenuating walls, reducing noise at the source by requiring quieter machinery or limiting the hours of operation, or other attenuation measures. Additionally, future projects shall be required to buffer sensitive receptors from noise sources through the use of open space and other separation techniques as recommended after thorough analysis by a qualified acoustical engineer. Exact noise mitigation measures and their effectiveness shall be determined by the site-specific noise analyses.

Future development proposals implementing the CPU will be required to incorporate feasible mitigation measures and alternatives adopted in conjunction with the certification of this PEIR. However, because the degree of future impacts and applicability, feasibility, and success of future mitigation measures cannot be adequately known for each specific future project at this program-level of analysis, the program-level impact related to the generation of noise levels in excess of the standards established in the City’s Noise Abatement and Control Ordinance remain significant and unavoidable, even with adherence to the Mitigation Framework.

6.3 Construction

NOI-4. For projects that would exceed daily construction noise thresholds established by the City of San Diego, best construction management practices shall be used to reduce construction noise levels to comply with standards established by the City of San Diego in Article 9.5 Noise Abatement and Control. Future projects shall be required to prepare and implement a Construction Noise Management Plan. Appropriate management practices shall be determined on a project-by-project basis and are specific to a location. Control measures shall include:

a) Minimizing simultaneous operation of multiple construction equipment units;

b) Locating stationary equipment as far as reasonable from sensitive receptors;

c) Requiring all internal combustion-engine-driven equipment to be equipped with mufflers that are in good operating condition and appropriate for the equipment; and

d) Construction of temporary noise barriers around construction sites that block the line-of-sight to surrounding receptors.

The Land Use Adjacency Guidelines in the Multiple Species Conservation Program (MSCP) Subarea Plan address noise impacts associated with industrial, commercial, mixed-use, or recreation uses that generate stationary noise adjacent to MHPA areas. Potential noise mitigation measures consistent with the City's Biology Guidelines and MSCP Subarea Plan are identified in the biological technical report (RECON 2013b). Future development shall be conditioned to comply with the Land Use Adjacency Guidelines and potential construction-related noise impacts to the coastal California gnatcatcher would be reduced to below a level of significance.

Future development proposals implementing the CPU will be required to incorporate feasible mitigation measures and alternatives adopted in conjunction with the certification of this PEIR. With adherence to the Mitigation Framework, the program-level impact related to construction noise impacts to residential uses and sensitive species would be reduce to below a level of significance.

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ATTACHMENTS

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ATTACHMENT 1

Noise Measurement Data

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June 15, 2011 Measurements

C:\LARDAV\SLMUTIL\15JUN_09.bin Time History Data
Sample Period (sec): 5.000

Site Location	Meas Number	Date	Time	Level	Lmax	SEL

Run	Key	Date	Time	Level	Lmax	SEL
0	0	15Jun 11	10:52:00	56.4	61.5	63.4
0	0	15Jun 11	10:52:05	51.0	52.7	58.0
0	0	15Jun 11	10:52:10	56.2	61.3	63.1
0	0	15Jun 11	10:52:15	68.7	72.2	75.7
0	0	15Jun 11	10:52:20	77.5	85.4	84.5
0	0	15Jun 11	10:52:25	67.0	70.2	74.0
0	0	15Jun 11	10:52:30	59.1	64.5	66.1
0	0	15Jun 11	10:52:35	51.0	53.9	57.9
0	0	15Jun 11	10:52:40	63.6	72.3	70.6
0	0	15Jun 11	10:52:45	69.9	76.5	76.9
0	0	15Jun 11	10:52:50	58.9	61.6	65.9
0	0	15Jun 11	10:52:55	68.4	75.7	75.4
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0	0	15Jun 11	10:53:05	65.0	67.1	72.0
0	0	15Jun 11	10:53:10	62.0	65.7	69.0
0	0	15Jun 11	10:53:15	65.0	68.5	72.0
0	0	15Jun 11	10:53:20	60.5	66.6	67.5
0	0	15Jun 11	10:53:25	70.7	75.6	77.7
0	0	15Jun 11	10:53:30	65.2	69.3	72.2
0	0	15Jun 11	10:53:35	62.9	67.7	69.9
0	0	15Jun 11	10:53:40	66.4	74.8	73.4
0	0	15Jun 11	10:53:45	76.8	80.1	83.8
0	0	15Jun 11	10:53:50	66.1	70.2	73.1
0	0	15Jun 11	10:53:55	57.2	61.2	64.1
0	0	15Jun 11	10:54:00	53.1	57.8	60.1
0	0	15Jun 11	10:54:05	60.3	64.1	67.3
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0	0	15Jun 11	10:55:45	66.9	71.8	73.9
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0	0	15Jun 11	10:56:05	70.1	77.7	77.1
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0	0	15Jun 11	10:56:25	52.1	56.0	59.1
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0	0	15Jun 11	10:56:35	54.5	57.7	61.5
0	0	15Jun 11	10:56:40	66.3	72.3	73.3
0	0	15Jun 11	10:56:45	77.3	84.2	84.3
0	0	15Jun 11	10:56:50	73.4	76.5	80.4
0	0	15Jun 11	10:56:55	72.8	77.3	79.8
0	0	15Jun 11	10:57:00	70.9	76.6	77.9
0	0	15Jun 11	10:57:05	66.4	73.7	73.4
0	0	15Jun 11	10:57:10	69.0	73.7	76.0
0	0	15Jun 11	10:57:15	64.0	65.7	71.0
0	0	15Jun 11	10:57:20	60.8	64.1	67.7
0	0	15Jun 11	10:57:25	62.5	65.3	69.5
0	0	15Jun 11	10:57:30	71.0	76.5	78.0
0	0	15Jun 11	10:57:35	67.2	70.0	74.2
0	0	15Jun 11	10:57:40	61.0	65.7	68.0
0	0	15Jun 11	10:57:45	57.3	60.3	64.2
0	0	15Jun 11	10:57:50	55.5	62.0	62.5
0	0	15Jun 11	10:57:55	74.1	80.8	81.1
0	0	15Jun 11	10:58:00	63.5	68.1	70.5
0	0	15Jun 11	10:58:05	56.2	59.5	63.1
0	0	15Jun 11	10:58:10	46.8	49.7	53.8
0	0	15Jun 11	10:58:15	44.8	47.2	51.8
0	0	15Jun 11	10:58:20	46.1	48.0	53.1
0	0	15Jun 11	10:58:25	48.6	54.3	55.6
0	0	15Jun 11	10:58:30	72.1	78.0	79.1
0	0	15Jun 11	10:58:35	73.8	78.2	80.8
0	0	15Jun 11	10:58:40	63.0	67.7	70.0
0	0	15Jun 11	10:58:45	85.5	93.6	92.5
0	0	15Jun 11	10:58:50	70.9	80.5	77.9
0	0	15Jun 11	10:58:55	65.1	68.7	72.1
0	0	15Jun 11	10:59:00	72.4	77.0	79.4
0	0	15Jun 11	10:59:05	72.0	76.6	79.0
0	0	15Jun 11	10:59:10	64.9	68.1	71.9
0	0	15Jun 11	10:59:15	64.0	67.6	71.0
0	0	15Jun 11	10:59:20	63.1	65.7	70.1
0	0	15Jun 11	10:59:25	66.2	70.3	73.2
0	0	15Jun 11	10:59:30	73.2	80.2	80.2
0	0	15Jun 11	10:59:35	67.3	73.1	74.3
0	0	15Jun 11	10:59:40	60.7	66.6	67.7
0	0	15Jun 11	10:59:45	50.7	54.3	57.7
0	0	15Jun 11	10:59:50	49.2	59.3	56.2
0	0	15Jun 11	10:59:55	62.9	71.9	69.9
0	0	15Jun 11	11:00:00	73.7	77.1	80.7
0	0	15Jun 11	11:00:05	65.3	67.3	72.3
0	0	15Jun 11	11:00:10	54.2	61.6	61.2
0	0	15Jun 11	11:00:15	69.6	75.3	76.6
0	0	15Jun 11	11:00:20	61.3	66.5	68.3
0	0	15Jun 11	11:00:25	71.7	77.2	78.6
0	0	15Jun 11	11:00:30	63.0	66.6	70.0
0	0	15Jun 11	11:00:35	55.5	59.6	62.5
0	0	15Jun 11	11:00:40	54.6	58.8	61.6
0	0	15Jun 11	11:00:45	65.9	69.3	72.9
0	0	15Jun 11	11:00:50	66.8	69.2	73.8
0	0	15Jun 11	11:00:55	72.4	77.3	79.4
0	0	15Jun 11	11:01:00	77.4	83.5	84.4
0	0	15Jun 11	11:01:05	72.4	80.7	79.4
0	0	15Jun 11	11:01:10	71.6	77.7	78.6
0	0	15Jun 11	11:01:15	61.1	63.0	68.1
0	0	15Jun 11	11:01:20	59.5	62.6	66.5
0	0	15Jun 11	11:01:25	49.5	53.2	56.5
0	0	15Jun 11	11:01:30	48.5	56.3	55.4
0	0	15Jun 11	11:01:35	50.7	54.5	57.7
0	0	15Jun 11	11:01:40	69.4	75.1	76.4
0	0	15Jun 11	11:01:45	68.6	72.3	75.6
0	0	15Jun 11	11:01:50	74.5	77.7	81.5
0	0	15Jun 11	11:01:55	74.5	78.8	81.5

0	0	15Jun 11 11:02:00	65.1	67.9	72.1	0	0	15Jun 11 11:31:35	72.0	73.5	79.0
0	0	15Jun 11 11:02:05	56.1	59.3	63.1	0	0	15Jun 11 11:31:40	73.8	75.0	80.8
0	0	15Jun 11 11:02:10	71.8	77.3	78.7	0	0	15Jun 11 11:31:45	73.5	74.3	80.5
0	0	15Jun 11 11:02:15	62.5	65.7	69.5	0	0	15Jun 11 11:31:50	72.7	74.1	79.7
0	0	15Jun 11 11:02:20	58.8	62.0	65.8	0	0	15Jun 11 11:31:55	71.8	73.0	78.8
0	0	15Jun 11 11:02:25	58.1	64.2	65.1	0	0	15Jun 11 11:32:00	72.2	73.1	79.2
0	0	15Jun 11 11:02:30	75.5	84.1	82.5	0	0	15Jun 11 11:32:05	72.1	73.8	79.1
0	0	15Jun 11 11:02:35	75.3	81.5	82.3	0	0	15Jun 11 11:32:10	71.9	73.1	78.9
0	0	15Jun 11 11:02:40	70.9	76.2	77.9	0	0	15Jun 11 11:32:15	71.6	73.1	78.6
0	0	15Jun 11 11:02:45	78.8	82.9	85.8	0	0	15Jun 11 11:32:20	71.5	73.1	78.4
0	0	15Jun 11 11:02:50	75.7	84.0	82.7	0	0	15Jun 11 11:32:25	71.3	72.7	78.3
0	0	15Jun 11 11:02:55	71.6	76.5	78.6	0	0	15Jun 11 11:32:30	71.8	73.2	78.8
0	0	15Jun 11 11:03:00	72.0	77.8	79.0	0	0	15Jun 11 11:32:35	72.5	73.4	79.5
0	0	15Jun 11 11:03:05	63.6	67.2	70.6	0	0	15Jun 11 11:32:40	71.0	72.1	78.0
0	0	15Jun 11 11:03:10	53.4	56.2	60.4	0	0	15Jun 11 11:32:45	71.6	73.0	78.6
0	0	15Jun 11 11:03:15	48.9	50.7	55.9	0	0	15Jun 11 11:32:50	72.7	74.0	79.7
0	0	15Jun 11 11:03:20	47.5	48.5	54.4	0	0	15Jun 11 11:32:55	73.8	74.8	80.8
0	0	15Jun 11 11:03:25	55.0	61.1	61.9	0	0	15Jun 11 11:33:00	73.4	75.0	80.4
0	0	15Jun 11 11:03:30	71.6	75.5	78.6	0	0	15Jun 11 11:33:05	71.8	72.6	78.7
0	0	15Jun 11 11:03:35	69.1	72.8	76.1	0	0	15Jun 11 11:33:10	71.1	72.5	78.1
0	0	15Jun 11 11:03:40	78.1	84.6	85.1	0	0	15Jun 11 11:33:15	73.7	75.3	80.7
0	0	15Jun 11 11:03:45	75.1	80.5	82.1	0	0	15Jun 11 11:33:20	74.8	76.0	81.8
0	0	15Jun 11 11:03:50	67.7	70.2	74.7	0	0	15Jun 11 11:33:25	73.5	74.7	80.5
0	0	15Jun 11 11:03:55	71.2	75.2	78.2	0	0	15Jun 11 11:33:30	72.5	73.6	79.5
0	0	15Jun 11 11:04:00	60.4	63.7	67.4	0	0	15Jun 11 11:33:35	73.0	74.8	80.0
0	0	15Jun 11 11:04:05	60.1	61.8	67.1	0	0	15Jun 11 11:33:40	73.5	74.8	80.5
0	0	15Jun 11 11:04:10	61.3	66.1	68.3	0	0	15Jun 11 11:33:45	74.6	75.5	81.6
0	0	15Jun 11 11:04:15	71.4	77.1	78.4	0	0	15Jun 11 11:33:50	72.9	74.5	79.9
0	0	15Jun 11 11:04:20	74.1	76.7	81.1	0	0	15Jun 11 11:33:55	71.2	73.3	78.2
0	0	15Jun 11 11:04:25	64.0	68.5	71.0	0	0	15Jun 11 11:34:00	74.5	77.8	81.5
0	0	15Jun 11 11:04:30	57.2	60.8	64.2	0	0	15Jun 11 11:34:05	75.3	78.3	82.3
0	0	15Jun 11 11:04:35	49.4	52.6	56.4	0	0	15Jun 11 11:34:10	73.9	77.2	80.9
0	0	15Jun 11 11:04:40	47.7	49.3	54.7	0	0	15Jun 11 11:34:15	71.9	73.2	78.9
0	0	15Jun 11 11:04:45	46.4	47.8	53.4	0	0	15Jun 11 11:34:20	70.9	72.3	77.9
0	0	15Jun 11 11:04:50	46.8	49.0	53.7	0	0	15Jun 11 11:34:25	70.3	72.0	77.3
0	0	15Jun 11 11:04:55	48.9	53.0	55.9	0	0	15Jun 11 11:34:30	70.0	71.5	77.0
0	0	15Jun 11 11:05:00	67.2	73.6	74.2	0	0	15Jun 11 11:34:35	72.0	73.9	79.0
0	0	15Jun 11 11:05:05	66.9	73.6	73.9	0	0	15Jun 11 11:34:40	73.6	75.3	80.6
0	0	15Jun 11 11:05:10	59.9	65.5	66.9	0	0	15Jun 11 11:34:45	72.6	74.6	79.6
0	0	15Jun 11 11:05:15	47.7	49.7	54.7	0	0	15Jun 11 11:34:50	70.8	72.5	77.8
0	0	15Jun 11 11:05:20	53.9	60.8	60.9	0	0	15Jun 11 11:34:55	71.1	73.2	78.1
0	0	15Jun 11 11:05:25	76.1	83.2	83.1	0	0	15Jun 11 11:35:00	72.7	74.0	79.6
0	0	15Jun 11 11:05:30	73.3	78.2	80.3	0	0	15Jun 11 11:35:05	74.3	75.3	81.3
0	0	15Jun 11 11:05:35	73.7	80.8	80.7	0	0	15Jun 11 11:35:10	72.9	74.2	79.9
0	0	15Jun 11 11:05:40	66.1	72.5	73.1	0	0	15Jun 11 11:35:15	72.5	73.2	79.5
0	0	15Jun 11 11:05:45	62.0	65.2	69.0	0	0	15Jun 11 11:35:20	74.1	75.5	81.1
0	0	15Jun 11 11:05:50	54.7	58.1	61.7	0	0	15Jun 11 11:35:25	72.8	74.6	79.8
0	0	15Jun 11 11:05:55	63.4	67.6	70.4	0	0	15Jun 11 11:35:30	70.8	72.2	77.7
0	0	15Jun 11 11:06:00	60.2	65.0	67.2	0	0	15Jun 11 11:35:35	72.2	73.3	79.2
0	0	15Jun 11 11:06:05	65.1	67.6	72.1	0	0	15Jun 11 11:35:40	72.4	73.6	79.4
0	0	15Jun 11 11:06:10	65.3	67.2	72.3	0	0	15Jun 11 11:35:45	73.1	74.6	80.1
0	0	15Jun 11 11:06:15	65.9	68.1	72.9	0	0	15Jun 11 11:35:50	74.1	75.4	81.1
0	0	15Jun 11 11:06:20	62.4	64.8	69.4	0	0	15Jun 11 11:35:55	75.1	76.1	82.1
0	0	15Jun 11 11:06:25	58.6	60.7	65.6	0	0	15Jun 11 11:36:00	75.4	76.6	82.4
0	0	15Jun 11 11:06:30	56.3	61.0	63.2	0	0	15Jun 11 11:36:05	75.2	76.4	82.1
0	0	15Jun 11 11:06:35	52.8	57.1	59.8	0	0	15Jun 11 11:36:10	74.4	75.2	81.4
0	0	15Jun 11 11:06:40	61.3	63.7	68.3	0	0	15Jun 11 11:36:15	74.2	75.2	81.2
0	0	15Jun 11 11:06:45	68.5	73.9	75.5	0	0	15Jun 11 11:36:20	74.1	75.1	81.1
0	0	15Jun 11 11:06:50	66.1	73.0	73.1	0	0	15Jun 11 11:36:25	73.5	74.6	80.5
0	0	15Jun 11 11:06:55	65.5	72.0	72.5	0	0	15Jun 11 11:36:30	72.4	73.5	79.4
0	0	15Jun 11 11:07:00	71.7	71.7	78.7	0	0	15Jun 11 11:36:35	70.2	71.7	77.2
Stop	Key					0	0	15Jun 11 11:36:40	70.0	71.1	77.0
Run	Key					0	0	15Jun 11 11:36:45	70.6	71.8	77.6
0	0	15Jun 11 11:31:00	73.1	74.8	80.1	0	0	15Jun 11 11:36:50	70.8	72.1	77.8
0	0	15Jun 11 11:31:05	73.6	74.3	80.6	0	0	15Jun 11 11:36:55	71.8	72.7	78.8
0	0	15Jun 11 11:31:10	72.8	74.2	79.7	0	0	15Jun 11 11:37:00	72.7	74.0	79.7
0	0	15Jun 11 11:31:15	72.4	73.8	79.4	0	0	15Jun 11 11:37:05	73.3	74.1	80.3
0	0	15Jun 11 11:31:20	70.0	71.3	77.0	0	0	15Jun 11 11:37:10	73.0	74.0	79.9
0	0	15Jun 11 11:31:25	68.6	70.6	75.6	0	0	15Jun 11 11:37:15	71.1	72.3	78.1
0	0	15Jun 11 11:31:30	69.9	72.5	76.9	0	0	15Jun 11 11:37:20	70.8	71.7	77.7

0	0	15Jun 11 11:37:25	70.1	72.7	77.1	0		0	15Jun 11 11:43:15	71.4	72.2	78.4
0	0	15Jun 11 11:37:30	71.9	73.6	78.9	0		0	15Jun 11 11:43:20	72.5	73.8	79.5
0	0	15Jun 11 11:37:35	73.6	74.7	80.6	0		0	15Jun 11 11:43:25	73.6	74.6	80.6
0	0	15Jun 11 11:37:40	72.9	74.7	79.9	0		0	15Jun 11 11:43:30	74.3	75.2	81.3
0	0	15Jun 11 11:37:45	71.0	72.1	78.0	0		0	15Jun 11 11:43:35	73.6	74.8	80.6
0	0	15Jun 11 11:37:50	71.6	73.1	78.6	0		0	15Jun 11 11:43:40	71.4	72.5	78.4
0	0	15Jun 11 11:37:55	73.6	74.7	80.6	0		0	15Jun 11 11:43:45	71.2	72.1	78.2
0	0	15Jun 11 11:38:00	72.8	74.3	79.8	0		0	15Jun 11 11:43:50	71.7	72.7	78.7
0	0	15Jun 11 11:38:05	73.7	74.8	80.7	0		0	15Jun 11 11:43:55	73.4	74.8	80.4
0	0	15Jun 11 11:38:10	73.5	75.0	80.5	0		0	15Jun 11 11:44:00	74.5	75.6	81.5
0	0	15Jun 11 11:38:15	73.6	74.8	80.6	0		0	15Jun 11 11:44:05	72.9	74.8	79.9
0	0	15Jun 11 11:38:20	71.9	73.3	78.9	0		0	15Jun 11 11:44:10	69.2	71.7	76.2
0	0	15Jun 11 11:38:25	72.6	74.0	79.6	0		0	15Jun 11 11:44:15	65.8	67.5	72.8
0	0	15Jun 11 11:38:30	73.2	75.2	80.2	0		0	15Jun 11 11:44:20	64.1	66.2	71.1
0	0	15Jun 11 11:38:35	72.2	74.2	79.2	0		0	15Jun 11 11:44:25	66.9	71.1	73.9
0	0	15Jun 11 11:38:40	72.7	73.5	79.7	0		0	15Jun 11 11:44:30	71.5	74.6	78.5
0	0	15Jun 11 11:38:45	72.1	73.3	79.1	0		0	15Jun 11 11:44:35	69.9	72.3	76.9
0	0	15Jun 11 11:38:50	71.1	72.6	78.1	0		0	15Jun 11 11:44:40	72.3	74.5	79.3
0	0	15Jun 11 11:38:55	71.8	74.0	78.7	0		0	15Jun 11 11:44:45	74.5	75.8	81.5
0	0	15Jun 11 11:39:00	73.9	75.0	80.9	0		0	15Jun 11 11:44:50	74.9	76.1	81.9
0	0	15Jun 11 11:39:05	73.8	74.6	80.8	0		0	15Jun 11 11:44:55	74.4	76.2	81.4
0	0	15Jun 11 11:39:10	73.1	74.2	80.1	0		0	15Jun 11 11:45:00	73.6	74.7	80.6
0	0	15Jun 11 11:39:15	73.0	74.5	80.0	0		0	15Jun 11 11:45:05	71.8	73.5	78.8
0	0	15Jun 11 11:39:20	73.7	75.0	80.7	0		0	15Jun 11 11:45:10	71.3	72.5	78.3
0	0	15Jun 11 11:39:25	73.9	75.2	80.9	0		0	15Jun 11 11:45:15	72.0	73.2	79.0
0	0	15Jun 11 11:39:30	72.5	73.5	79.4	0		0	15Jun 11 11:45:20	71.8	73.2	78.8
0	0	15Jun 11 11:39:35	70.3	73.0	77.3	0		0	15Jun 11 11:45:25	72.3	73.7	79.3
0	0	15Jun 11 11:39:40	70.4	72.2	77.4	0		0	15Jun 11 11:45:30	73.5	75.0	80.5
0	0	15Jun 11 11:39:45	70.9	72.7	77.9	0		0	15Jun 11 11:45:35	73.3	74.5	80.3
0	0	15Jun 11 11:39:50	71.9	73.0	78.9	0		0	15Jun 11 11:45:40	73.6	74.8	80.6
0	0	15Jun 11 11:39:55	72.9	74.5	79.9	0		0	15Jun 11 11:45:45	75.2	76.6	82.1
0	0	15Jun 11 11:40:00	72.6	73.8	79.6	0		0	15Jun 11 11:45:50	75.0	77.0	82.0
0	0	15Jun 11 11:40:05	72.7	73.9	79.7	0		0	15Jun 11 11:45:55	73.3	75.2	80.3
0	0	15Jun 11 11:40:10	73.5	74.6	80.5	0		0	15Jun 11 11:46:00	72.4	72.8	79.4
0	0	15Jun 11 11:40:15	74.5	76.6	81.5	Stop	Key					
0	0	15Jun 11 11:40:20	71.8	73.3	78.8	Run	Key					
0	0	15Jun 11 11:40:25	70.4	72.3	77.4	0		0	15Jun 11 12:34:00	80.7	83.0	87.6
0	0	15Jun 11 11:40:30	71.1	72.6	78.1	0		0	15Jun 11 12:34:05	77.4	83.1	84.4
0	0	15Jun 11 11:40:35	71.9	73.3	78.9	0		0	15Jun 11 12:34:10	81.3	83.9	88.2
0	0	15Jun 11 11:40:40	71.5	73.0	78.5	0		0	15Jun 11 12:34:15	80.1	83.6	87.1
0	0	15Jun 11 11:40:45	70.0	71.7	77.0	0		0	15Jun 11 12:34:20	73.3	75.2	80.2
0	0	15Jun 11 11:40:50	70.9	72.3	77.9	0		0	15Jun 11 12:34:25	66.3	68.9	73.3
0	0	15Jun 11 11:40:55	69.4	71.5	76.4	0		0	15Jun 11 12:34:30	74.0	77.2	80.9
0	0	15Jun 11 11:41:00	69.0	70.2	76.0	0		0	15Jun 11 12:34:35	75.4	77.6	82.4
0	0	15Jun 11 11:41:05	70.2	71.4	77.1	0		0	15Jun 11 12:34:40	67.9	73.4	74.9
0	0	15Jun 11 11:41:10	72.1	73.0	79.1	0		0	15Jun 11 12:34:45	72.5	75.9	79.5
0	0	15Jun 11 11:41:15	72.4	73.2	79.4	0		0	15Jun 11 12:34:50	74.7	77.9	81.7
0	0	15Jun 11 11:41:20	72.5	74.1	79.5	0		0	15Jun 11 12:34:55	68.9	71.1	75.9
0	0	15Jun 11 11:41:25	73.6	75.2	80.6	0		0	15Jun 11 12:35:00	66.4	68.3	73.4
0	0	15Jun 11 11:41:30	74.1	75.0	81.1	0		0	15Jun 11 12:35:05	69.9	72.6	76.9
0	0	15Jun 11 11:41:35	73.9	74.7	80.9	0		0	15Jun 11 12:35:10	65.9	67.7	72.9
0	0	15Jun 11 11:41:40	73.5	74.2	80.5	0		0	15Jun 11 12:35:15	61.3	62.9	68.3
0	0	15Jun 11 11:41:45	72.0	73.3	79.0	0		0	15Jun 11 12:35:20	60.3	61.4	67.3
0	0	15Jun 11 11:41:50	72.3	74.1	79.3	0		0	15Jun 11 12:35:25	63.7	71.5	70.7
0	0	15Jun 11 11:41:55	72.8	73.8	79.8	0		0	15Jun 11 12:35:30	69.1	73.8	76.1
0	0	15Jun 11 11:42:00	72.7	73.8	79.7	0		0	15Jun 11 12:35:35	72.1	77.6	79.1
0	0	15Jun 11 11:42:05	73.0	75.2	80.0	0		0	15Jun 11 12:35:40	62.7	66.6	69.7
0	0	15Jun 11 11:42:10	75.1	76.5	82.1	0		0	15Jun 11 12:35:45	69.8	76.1	76.8
0	0	15Jun 11 11:42:15	73.8	75.6	80.8	0		0	15Jun 11 12:35:50	69.5	75.5	76.4
0	0	15Jun 11 11:42:20	72.5	73.6	79.5	0		0	15Jun 11 12:35:55	56.5	59.6	63.5
0	0	15Jun 11 11:42:25	73.5	74.8	80.5	0		0	15Jun 11 12:36:00	57.7	64.6	64.7
0	0	15Jun 11 11:42:30	74.4	75.5	81.4	0		0	15Jun 11 12:36:05	73.2	75.6	80.2
0	0	15Jun 11 11:42:35	73.6	75.7	80.6	0		0	15Jun 11 12:36:10	72.7	76.5	79.7
0	0	15Jun 11 11:42:40	73.1	75.0	80.1	0		0	15Jun 11 12:36:15	72.0	75.3	79.0
0	0	15Jun 11 11:42:45	74.0	74.7	81.0	0		0	15Jun 11 12:36:20	71.0	74.5	77.9
0	0	15Jun 11 11:42:50	73.6	75.0	80.6	0		0	15Jun 11 12:36:25	73.8	76.4	80.8
0	0	15Jun 11 11:42:55	72.5	74.2	79.5	0		0	15Jun 11 12:36:30	77.6	82.2	84.6
0	0	15Jun 11 11:43:00	71.8	73.2	78.8	0		0	15Jun 11 12:36:35	82.8	86.5	89.8
0	0	15Jun 11 11:43:05	71.8	72.6	78.7	0		0	15Jun 11 12:36:40	86.4	94.0	93.4
0	0	15Jun 11 11:43:10	70.8	72.2	77.8	0		0	15Jun 11 12:36:45	81.3	84.3	88.2

0	0	15Jun 11	12:36:50	79.5	81.9	86.5		0	0	15Jun 11	12:42:40	81.0	83.6	88.0
0	0	15Jun 11	12:36:55	77.9	79.5	84.9		0	0	15Jun 11	12:42:45	79.6	81.8	86.6
0	0	15Jun 11	12:37:00	82.0	85.0	89.0		0	0	15Jun 11	12:42:50	81.8	84.2	88.8
0	0	15Jun 11	12:37:05	78.9	80.9	85.9		0	0	15Jun 11	12:42:55	78.4	83.2	85.4
0	0	15Jun 11	12:37:10	78.6	80.3	85.6		0	0	15Jun 11	12:43:00	78.7	80.4	85.7
0	0	15Jun 11	12:37:15	78.1	80.2	85.1		0	0	15Jun 11	12:43:05	78.2	81.7	85.2
0	0	15Jun 11	12:37:20	79.2	82.9	86.2		0	0	15Jun 11	12:43:10	81.5	84.7	88.5
0	0	15Jun 11	12:37:25	73.8	76.2	80.8		0	0	15Jun 11	12:43:15	85.7	87.5	92.7
0	0	15Jun 11	12:37:30	75.7	78.4	82.7		0	0	15Jun 11	12:43:20	78.1	85.9	85.1
0	0	15Jun 11	12:37:35	75.5	78.4	82.5		0	0	15Jun 11	12:43:25	74.4	78.6	81.4
0	0	15Jun 11	12:37:40	76.7	80.5	83.7		0	0	15Jun 11	12:43:30	74.5	77.3	81.5
0	0	15Jun 11	12:37:45	72.4	78.0	79.4		0	0	15Jun 11	12:43:35	73.9	78.0	80.9
0	0	15Jun 11	12:37:50	72.5	74.9	79.5		0	0	15Jun 11	12:43:40	76.8	80.0	83.8
0	0	15Jun 11	12:37:55	73.2	78.5	80.2		0	0	15Jun 11	12:43:45	81.1	86.0	88.1
0	0	15Jun 11	12:38:00	72.2	77.5	79.2		0	0	15Jun 11	12:43:50	79.5	83.4	86.5
0	0	15Jun 11	12:38:05	65.7	67.4	72.6		0	0	15Jun 11	12:43:55	70.0	72.1	77.0
0	0	15Jun 11	12:38:10	60.0	63.1	66.9		0	0	15Jun 11	12:44:00	64.2	68.8	71.2
0	0	15Jun 11	12:38:15	56.1	57.4	63.1		0	0	15Jun 11	12:44:05	62.5	65.0	69.5
0	0	15Jun 11	12:38:20	53.3	53.9	60.3		0	0	15Jun 11	12:44:10	62.3	67.0	69.3
0	0	15Jun 11	12:38:25	53.5	54.2	60.4		0	0	15Jun 11	12:44:15	74.4	79.3	81.4
0	0	15Jun 11	12:38:30	53.8	55.2	60.8		0	0	15Jun 11	12:44:20	63.1	65.5	70.1
0	0	15Jun 11	12:38:35	55.2	57.5	62.2		0	0	15Jun 11	12:44:25	62.4	65.1	69.4
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0	0	15Jun 11	12:38:45	63.5	67.3	70.5		0	0	15Jun 11	12:44:35	72.3	78.9	79.2
0	0	15Jun 11	12:38:50	77.5	80.2	84.5		0	0	15Jun 11	12:44:40	78.9	81.1	85.9
0	0	15Jun 11	12:38:55	82.4	86.4	89.4		0	0	15Jun 11	12:44:45	77.2	80.9	84.1
0	0	15Jun 11	12:39:00	75.6	78.1	82.6		0	0	15Jun 11	12:44:50	76.2	80.5	83.2
0	0	15Jun 11	12:39:05	78.9	82.9	85.9		0	0	15Jun 11	12:44:55	80.7	82.4	87.6
0	0	15Jun 11	12:39:10	78.7	80.8	85.7		0	0	15Jun 11	12:45:00	79.0	82.8	86.0
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0	0	15Jun 11	12:39:35	80.7	82.6	87.7		0	0	15Jun 11	12:45:25	70.4	74.3	77.4
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0	0	15Jun 11	12:40:00	80.0	82.9	87.0		0	0	15Jun 11	12:45:50	83.1	89.0	90.1
0	0	15Jun 11	12:40:05	78.8	80.7	85.8		0	0	15Jun 11	12:45:55	80.7	82.0	87.7
0	0	15Jun 11	12:40:10	78.0	81.0	85.0		0	0	15Jun 11	12:46:00	77.9	80.3	84.9
0	0	15Jun 11	12:40:15	80.3	82.1	87.2		0	0	15Jun 11	12:46:05	83.5	89.8	90.5
0	0	15Jun 11	12:40:20	77.1	79.3	84.1		0	0	15Jun 11	12:46:10	83.4	85.5	90.4
0	0	15Jun 11	12:40:25	70.6	72.6	77.6		0	0	15Jun 11	12:46:15	81.1	85.0	88.1
0	0	15Jun 11	12:40:30	78.4	88.0	85.4		0	0	15Jun 11	12:46:20	78.0	80.5	85.0
0	0	15Jun 11	12:40:35	76.9	79.7	83.9		0	0	15Jun 11	12:46:25	70.5	73.7	77.5
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0	0	15Jun 11	12:40:45	67.1	73.1	74.1		0	0	15Jun 11	12:46:35	67.3	71.2	74.3
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0	0	15Jun 11	12:41:55	58.8	64.5	65.8		0	0	15Jun 11	12:47:45	69.5	74.2	76.5
0	0	15Jun 11	12:42:00	57.3	58.2	64.3		0	0	15Jun 11	12:47:50	64.2	71.7	71.2
0	0	15Jun 11	12:42:05	61.7	68.6	68.6		0	0	15Jun 11	12:47:55	57.4	58.7	64.4
0	0	15Jun 11	12:42:10	70.1	74.7	77.1		0	0	15Jun 11	12:48:00	56.1	57.3	63.1
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0	0	15Jun 11	12:42:20	76.3	78.5	83.3		0	0	15Jun 11	12:48:10	55.8	58.0	62.7
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0	0	15Jun 11	12:42:30	82.1	84.4	89.1		0	0	15Jun 11	12:48:20	58.5	61.5	65.5
0	0	15Jun 11	12:42:35	78.8	81.2	85.8		0	0	15Jun 11	12:48:25	68.9	74.5	75.9

0	0	15Jun 11 12:48:30	74.8	79.3	81.8
0	0	15Jun 11 12:48:35	78.3	82.9	85.3
0	0	15Jun 11 12:48:40	82.5	86.3	89.4
0	0	15Jun 11 12:48:45	81.2	85.9	88.2
0	0	15Jun 11 12:48:50	79.3	81.0	86.3
0	0	15Jun 11 12:48:55	79.8	81.9	86.8
0	0	15Jun 11 12:49:00	80.8	81.5	87.8
Stop	Key				
Run	Key				
0	0	15Jun 11 13:40:00	59.7	63.0	66.7
0	0	15Jun 11 13:40:05	60.6	62.6	67.6
0	0	15Jun 11 13:40:10	79.1	84.6	86.1
0	0	15Jun 11 13:40:15	70.3	77.5	77.2
0	0	15Jun 11 13:40:20	72.1	77.2	79.1
0	0	15Jun 11 13:40:25	74.1	78.2	81.1
0	0	15Jun 11 13:40:30	73.0	76.2	80.0
0	0	15Jun 11 13:40:35	69.1	75.2	76.1
0	0	15Jun 11 13:40:40	66.6	70.3	73.6
0	0	15Jun 11 13:40:45	78.3	84.5	85.3
0	0	15Jun 11 13:40:50	78.6	88.1	85.6
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0	0	15Jun 11 13:41:10	81.9	85.5	88.9
0	0	15Jun 11 13:41:15	75.4	83.3	82.4
0	0	15Jun 11 13:41:20	68.9	71.7	75.9
0	0	15Jun 11 13:41:25	78.5	85.3	85.5
0	0	15Jun 11 13:41:30	88.0	91.3	95.0
0	0	15Jun 11 13:41:35	80.6	88.0	87.6
0	0	15Jun 11 13:41:40	78.9	84.2	85.9
0	0	15Jun 11 13:41:45	70.2	79.1	77.2
0	0	15Jun 11 13:41:50	60.7	62.8	67.7
0	0	15Jun 11 13:41:55	59.9	61.6	66.9
0	0	15Jun 11 13:42:00	66.4	71.1	73.4
0	0	15Jun 11 13:42:05	65.7	69.0	72.7
0	0	15Jun 11 13:42:10	65.4	68.2	72.4
0	0	15Jun 11 13:42:15	59.4	63.8	66.4
0	0	15Jun 11 13:42:20	58.5	59.7	65.5
0	0	15Jun 11 13:42:25	59.8	63.1	66.7
0	0	15Jun 11 13:42:30	65.2	72.2	72.1
0	0	15Jun 11 13:42:35	72.4	79.8	79.4
0	0	15Jun 11 13:42:40	79.1	84.7	86.1
0	0	15Jun 11 13:42:45	69.8	72.2	76.7
0	0	15Jun 11 13:42:50	71.5	78.1	78.4
0	0	15Jun 11 13:42:55	61.4	65.3	68.4
0	0	15Jun 11 13:43:00	61.2	66.3	68.2
0	0	15Jun 11 13:43:05	69.9	73.8	76.9
0	0	15Jun 11 13:43:10	74.3	78.7	81.3
0	0	15Jun 11 13:43:15	81.2	86.1	88.2
0	0	15Jun 11 13:43:20	71.1	74.9	78.1
0	0	15Jun 11 13:43:25	64.3	65.7	71.3
0	0	15Jun 11 13:43:30	61.7	64.1	68.6
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0	0	15Jun 11 13:43:40	70.8	73.4	77.8
0	0	15Jun 11 13:43:45	74.1	79.9	81.1
0	0	15Jun 11 13:43:50	79.0	82.8	86.0
0	0	15Jun 11 13:43:55	71.8	75.4	78.8
0	0	15Jun 11 13:44:00	73.8	76.9	80.7
0	0	15Jun 11 13:44:05	77.6	85.3	84.6
0	0	15Jun 11 13:44:10	79.1	89.4	86.1
0	0	15Jun 11 13:44:15	68.4	72.1	75.4
0	0	15Jun 11 13:44:20	68.8	74.1	75.7
0	0	15Jun 11 13:44:25	63.9	71.7	70.9
0	0	15Jun 11 13:44:30	67.9	72.7	74.9
0	0	15Jun 11 13:44:35	70.3	76.4	77.3
0	0	15Jun 11 13:44:40	64.3	66.7	71.3
0	0	15Jun 11 13:44:45	69.2	72.3	76.1
0	0	15Jun 11 13:44:50	79.0	82.6	86.0
0	0	15Jun 11 13:44:55	66.8	75.6	73.8
0	0	15Jun 11 13:45:00	62.4	65.8	69.4

0	0	15Jun 11 13:45:05	75.1	82.9	82.1
0	0	15Jun 11 13:45:10	81.8	86.7	88.8
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0	0	15Jun 11 13:45:20	73.2	79.3	80.2
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0	0	15Jun 11 13:45:30	60.5	63.8	67.5
0	0	15Jun 11 13:45:35	60.9	63.8	67.9
0	0	15Jun 11 13:45:40	72.3	77.8	79.3
0	0	15Jun 11 13:45:45	62.0	65.9	69.0
0	0	15Jun 11 13:45:50	62.2	67.4	69.2
0	0	15Jun 11 13:45:55	71.3	81.5	78.3
0	0	15Jun 11 13:46:00	60.4	61.9	67.4
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0	0	15Jun 11 13:46:15	59.8	62.0	66.8
0	0	15Jun 11 13:46:20	75.5	80.3	82.5
0	0	15Jun 11 13:46:25	67.2	72.5	74.2
0	0	15Jun 11 13:46:30	71.9	77.5	78.9
0	0	15Jun 11 13:46:35	64.9	69.0	71.9
0	0	15Jun 11 13:46:40	67.9	72.4	74.9
0	0	15Jun 11 13:46:45	76.1	83.3	83.1
0	0	15Jun 11 13:46:50	78.9	84.5	85.9
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0	0	15Jun 11 13:47:00	59.3	61.9	66.3
0	0	15Jun 11 13:47:05	57.0	57.9	64.0
0	0	15Jun 11 13:47:10	57.3	60.0	64.3
0	0	15Jun 11 13:47:15	57.3	58.0	64.3
0	0	15Jun 11 13:47:20	60.3	65.4	67.2
0	0	15Jun 11 13:47:25	79.5	85.9	86.5
0	0	15Jun 11 13:47:30	71.4	80.2	78.4
0	0	15Jun 11 13:47:35	61.6	64.1	68.6
0	0	15Jun 11 13:47:40	59.0	60.0	66.0
0	0	15Jun 11 13:47:45	70.0	75.8	77.0
0	0	15Jun 11 13:47:50	67.6	71.9	74.6
0	0	15Jun 11 13:47:55	77.2	81.2	84.2
0	0	15Jun 11 13:48:00	68.8	75.5	75.8
0	0	15Jun 11 13:48:05	68.5	74.8	75.4
0	0	15Jun 11 13:48:10	77.1	82.4	84.1
0	0	15Jun 11 13:48:15	80.8	86.0	87.8
0	0	15Jun 11 13:48:20	81.0	85.7	88.0
0	0	15Jun 11 13:48:25	73.0	76.7	80.0
0	0	15Jun 11 13:48:30	72.6	76.3	79.6
0	0	15Jun 11 13:48:35	74.6	76.7	81.6
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0	0	15Jun 11 13:48:45	79.5	82.8	86.4
0	0	15Jun 11 13:48:50	77.1	80.8	84.1
0	0	15Jun 11 13:48:55	71.5	76.5	78.4
0	0	15Jun 11 13:49:00	69.9	75.4	76.9
0	0	15Jun 11 13:49:05	74.8	79.2	81.7
0	0	15Jun 11 13:49:10	69.8	72.4	76.8
0	0	15Jun 11 13:49:15	61.4	67.3	68.4
0	0	15Jun 11 13:49:20	58.1	60.5	65.1
0	0	15Jun 11 13:49:25	59.0	60.1	66.0
0	0	15Jun 11 13:49:30	69.5	74.8	76.5
0	0	15Jun 11 13:49:35	68.9	76.9	75.9
0	0	15Jun 11 13:49:40	70.9	74.3	77.9
0	0	15Jun 11 13:49:45	72.3	75.4	79.3
0	0	15Jun 11 13:49:50	78.2	82.0	85.2
0	0	15Jun 11 13:49:55	77.5	79.9	84.4
0	0	15Jun 11 13:50:00	75.9	79.0	82.9
0	0	15Jun 11 13:50:05	73.8	78.8	80.8
0	0	15Jun 11 13:50:10	73.8	80.0	80.8
0	0	15Jun 11 13:50:15	80.0	85.6	87.0
0	0	15Jun 11 13:50:20	84.5	90.3	91.5
0	0	15Jun 11 13:50:25	87.8	91.9	94.8
0	0	15Jun 11 13:50:30	69.7	73.4	76.7
0	0	15Jun 11 13:50:35	66.9	69.5	73.9
0	0	15Jun 11 13:50:40	65.1	68.4	72.1
0	0	15Jun 11 13:50:45	65.0	67.9	71.9
0	0	15Jun 11 13:50:50	81.4	86.5	88.4

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0		0	15Jun 11 13:51:05	66.8	68.5	73.8	0	0	15Jun 11 14:13:41	59.0	64.3	66.0
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0		0	15Jun 11 13:51:15	69.0	77.1	76.0	0	0	15Jun 11 14:13:51	57.7	59.2	64.6
0		0	15Jun 11 13:51:20	69.5	76.9	76.4	0	0	15Jun 11 14:13:56	53.8	56.2	60.7
0		0	15Jun 11 13:51:25	59.9	61.9	66.9	0	0	15Jun 11 14:14:01	52.9	54.2	59.9
0		0	15Jun 11 13:51:30	57.6	59.9	64.6	0	0	15Jun 11 14:14:06	56.4	59.8	63.4
0		0	15Jun 11 13:51:35	55.8	56.8	62.8	0	0	15Jun 11 14:14:11	62.7	64.5	69.7
0		0	15Jun 11 13:51:40	56.6	57.5	63.6	0	0	15Jun 11 14:14:16	64.8	68.7	71.8
0		0	15Jun 11 13:51:45	56.8	58.3	63.8	0	0	15Jun 11 14:14:21	70.8	75.4	77.8
0		0	15Jun 11 13:51:50	65.3	76.8	72.2	0	0	15Jun 11 14:14:26	74.4	86.8	81.4
0		0	15Jun 11 13:51:55	79.1	87.6	86.1	0	0	15Jun 11 14:14:31	70.9	84.0	77.9
0		0	15Jun 11 13:52:00	65.7	68.8	72.7	0	0	15Jun 11 14:14:36	66.6	68.7	73.6
0		0	15Jun 11 13:52:05	60.7	66.0	67.7	0	0	15Jun 11 14:14:41	62.4	65.7	69.4
0		0	15Jun 11 13:52:10	63.0	69.9	70.0	0	0	15Jun 11 14:14:46	75.9	84.0	82.9
0		0	15Jun 11 13:52:15	76.8	84.0	83.8	0	0	15Jun 11 14:14:51	68.3	74.3	75.2
0		0	15Jun 11 13:52:20	79.1	85.5	86.1	0	0	15Jun 11 14:14:56	63.2	65.5	70.2
0		0	15Jun 11 13:52:25	65.9	70.3	72.9	0	0	15Jun 11 14:15:01	61.2	64.9	68.1
0		0	15Jun 11 13:52:30	69.3	74.8	76.2	0	0	15Jun 11 14:15:06	55.3	56.3	62.3
0		0	15Jun 11 13:52:35	57.6	58.6	64.6	0	0	15Jun 11 14:15:11	55.1	56.9	62.1
0		0	15Jun 11 13:52:40	56.2	57.9	63.2	0	0	15Jun 11 14:15:16	65.6	73.6	72.6
0		0	15Jun 11 13:52:45	56.8	57.9	63.8	0	0	15Jun 11 14:15:21	73.3	82.6	80.2
0		0	15Jun 11 13:52:50	57.4	58.1	64.4	0	0	15Jun 11 14:15:26	56.2	58.4	63.1
0		0	15Jun 11 13:52:55	59.1	61.6	66.1	0	0	15Jun 11 14:15:31	60.8	64.8	67.8
0		0	15Jun 11 13:53:00	66.8	73.0	73.8	0	0	15Jun 11 14:15:36	62.2	64.6	69.2
0		0	15Jun 11 13:53:05	71.0	75.0	78.0	0	0	15Jun 11 14:15:41	59.8	66.1	66.8
0		0	15Jun 11 13:53:10	67.0	76.0	74.0	0	0	15Jun 11 14:15:46	83.6	94.1	90.6
0		0	15Jun 11 13:53:15	57.8	58.9	64.8	0	0	15Jun 11 14:15:51	61.4	66.1	68.4
0		0	15Jun 11 13:53:20	56.4	57.1	63.4	0	0	15Jun 11 14:15:56	55.0	59.3	62.0
0		0	15Jun 11 13:53:25	56.3	58.8	63.2	0	0	15Jun 11 14:16:01	50.9	53.7	57.9
0		0	15Jun 11 13:53:30	72.6	79.9	79.6	0	0	15Jun 11 14:16:06	51.4	55.3	58.4
0		0	15Jun 11 13:53:35	68.7	76.0	75.7	0	0	15Jun 11 14:16:11	57.8	61.9	64.8
0		0	15Jun 11 13:53:40	62.1	65.0	69.1	0	0	15Jun 11 14:16:16	63.0	64.9	70.0
0		0	15Jun 11 13:53:45	64.7	67.9	71.7	0	0	15Jun 11 14:16:21	60.0	62.8	67.0
0		0	15Jun 11 13:53:50	57.4	58.1	64.4	0	0	15Jun 11 14:16:26	52.9	54.7	59.9
0		0	15Jun 11 13:53:55	57.4	58.3	64.4	0	0	15Jun 11 14:16:31	52.3	55.4	59.3
0		0	15Jun 11 13:54:00	57.2	58.6	64.2	0	0	15Jun 11 14:16:36	60.4	63.6	67.4
0		0	15Jun 11 13:54:05	57.0	59.0	63.9	0	0	15Jun 11 14:16:41	61.6	64.6	68.6
0		0	15Jun 11 13:54:10	57.0	58.3	64.0	0	0	15Jun 11 14:16:46	52.7	54.7	59.7
0		0	15Jun 11 13:54:15	56.6	57.7	63.6	0	0	15Jun 11 14:16:51	55.1	57.9	62.1
0		0	15Jun 11 13:54:20	56.1	56.9	63.1	0	0	15Jun 11 14:16:56	70.3	76.0	77.3
0		0	15Jun 11 13:54:25	56.3	57.4	63.3	0	0	15Jun 11 14:17:01	68.8	74.8	75.8
0		0	15Jun 11 13:54:30	66.0	70.3	73.0	0	0	15Jun 11 14:17:06	65.2	70.8	72.2
0		0	15Jun 11 13:54:35	68.6	72.5	75.6	0	0	15Jun 11 14:17:11	72.8	76.7	79.8
0		0	15Jun 11 13:54:40	77.5	88.5	84.5	0	0	15Jun 11 14:17:16	73.1	75.2	80.1
0		0	15Jun 11 13:54:45	75.2	78.5	82.1	0	0	15Jun 11 14:17:21	63.6	69.4	70.6
0		0	15Jun 11 13:54:50	65.1	70.1	72.1	0	0	15Jun 11 14:17:26	57.3	59.1	64.3
0		0	15Jun 11 13:54:55	58.9	63.4	65.9	0	0	15Jun 11 14:17:31	58.8	64.9	65.8
0		0	15Jun 11 13:55:00	58.6	58.6	65.6	0	0	15Jun 11 14:17:36	57.8	59.9	64.8
Stop	Key						0	0	15Jun 11 14:17:41	62.7	64.8	69.7
Run	Key						0	0	15Jun 11 14:17:46	61.7	64.3	68.7
0		0	15Jun 11 14:12:01	53.9	55.8	60.9	0	0	15Jun 11 14:17:51	75.8	85.5	82.8
0		0	15Jun 11 14:12:06	52.1	54.5	59.1	0	0	15Jun 11 14:17:56	82.4	94.3	89.4
0		0	15Jun 11 14:12:11	50.5	51.8	57.5	0	0	15Jun 11 14:18:01	81.2	94.1	88.1
0		0	15Jun 11 14:12:16	51.9	53.0	58.9	0	0	15Jun 11 14:18:06	67.3	70.8	74.3
0		0	15Jun 11 14:12:21	54.6	57.7	61.6	0	0	15Jun 11 14:18:11	72.0	79.1	79.0
0		0	15Jun 11 14:12:26	68.1	72.9	75.1	0	0	15Jun 11 14:18:16	69.2	71.2	76.2
0		0	15Jun 11 14:12:31	71.1	74.3	78.1	0	0	15Jun 11 14:18:21	73.4	81.9	80.4
0		0	15Jun 11 14:12:36	72.3	79.4	79.3	0	0	15Jun 11 14:18:26	73.0	74.4	80.0
0		0	15Jun 11 14:12:41	76.8	82.2	83.8	0	0	15Jun 11 14:18:31	70.5	72.9	77.5
0		0	15Jun 11 14:12:46	66.1	67.7	73.1	0	0	15Jun 11 14:18:36	70.1	73.2	77.1
0		0	15Jun 11 14:12:51	65.6	68.4	72.6	0	0	15Jun 11 14:18:41	62.4	68.1	69.4
0		0	15Jun 11 14:12:56	83.0	94.5	90.0	0	0	15Jun 11 14:18:46	61.5	68.1	68.5
0		0	15Jun 11 14:13:01	84.5	95.1	91.4	0	0	15Jun 11 14:18:51	56.7	59.9	63.7
0		0	15Jun 11 14:13:06	87.6	95.5	94.6	0	0	15Jun 11 14:18:56	56.8	58.3	63.8
0		0	15Jun 11 14:13:11	69.5	72.8	76.5	0	0	15Jun 11 14:19:01	58.3	60.8	65.2
0		0	15Jun 11 14:13:16	75.2	84.7	82.2	0	0	15Jun 11 14:19:06	58.8	62.9	65.8
0		0	15Jun 11 14:13:21	79.6	90.0	86.6	0	0	15Jun 11 14:19:11	54.3	56.1	61.3
0		0	15Jun 11 14:13:26	75.1	84.5	82.1	0	0	15Jun 11 14:19:16	53.1	56.1	60.1

0	0	15Jun 11	14:19:21	55.5	58.2	62.5
0	0	15Jun 11	14:19:26	65.8	71.4	72.8
0	0	15Jun 11	14:19:31	72.5	75.6	79.5
0	0	15Jun 11	14:19:36	69.5	72.7	76.5
0	0	15Jun 11	14:19:41	66.9	71.5	73.9
0	0	15Jun 11	14:19:46	60.0	64.2	67.0
0	0	15Jun 11	14:19:51	71.9	76.0	78.9
0	0	15Jun 11	14:19:56	62.4	67.3	69.4
0	0	15Jun 11	14:20:01	65.3	71.5	72.3
0	0	15Jun 11	14:20:06	67.3	71.0	74.3
0	0	15Jun 11	14:20:11	65.9	68.8	72.9
0	0	15Jun 11	14:20:16	66.2	69.9	73.2
0	0	15Jun 11	14:20:21	54.6	57.2	61.6
0	0	15Jun 11	14:20:26	54.0	55.3	61.0
0	0	15Jun 11	14:20:31	60.0	69.0	67.0
0	0	15Jun 11	14:20:36	72.4	79.8	79.4
0	0	15Jun 11	14:20:41	57.3	59.3	64.3
0	0	15Jun 11	14:20:46	60.8	63.8	67.8
0	0	15Jun 11	14:20:51	60.2	63.6	67.2
0	0	15Jun 11	14:20:56	54.6	59.0	61.6
0	0	15Jun 11	14:21:01	53.3	55.3	60.3
0	0	15Jun 11	14:21:06	55.7	69.0	62.7
0	0	15Jun 11	14:21:11	52.6	55.2	59.6
0	0	15Jun 11	14:21:16	55.3	59.6	62.3
0	0	15Jun 11	14:21:21	59.5	65.6	66.5
0	0	15Jun 11	14:21:26	53.0	55.5	60.0
0	0	15Jun 11	14:21:31	52.5	54.8	59.4
0	0	15Jun 11	14:21:36	52.3	54.2	59.2
0	0	15Jun 11	14:21:41	53.9	59.6	60.9
0	0	15Jun 11	14:21:46	55.2	57.7	62.2
0	0	15Jun 11	14:21:51	66.0	71.6	73.0
0	0	15Jun 11	14:21:56	81.2	88.2	88.2
0	0	15Jun 11	14:22:01	63.9	70.7	70.9
0	0	15Jun 11	14:22:06	73.6	83.6	80.6
0	0	15Jun 11	14:22:11	62.0	63.7	69.0
0	0	15Jun 11	14:22:16	62.8	64.8	69.8
0	0	15Jun 11	14:22:21	68.1	71.6	75.1
0	0	15Jun 11	14:22:26	71.4	73.6	78.4
0	0	15Jun 11	14:22:31	67.9	69.4	74.9
0	0	15Jun 11	14:22:36	59.3	63.0	66.2
0	0	15Jun 11	14:22:41	54.7	56.9	61.7
0	0	15Jun 11	14:22:46	70.4	76.3	77.4
0	0	15Jun 11	14:22:51	65.4	71.6	72.4
0	0	15Jun 11	14:22:56	65.0	70.1	72.0
0	0	15Jun 11	14:23:01	61.3	64.3	68.3
0	0	15Jun 11	14:23:06	63.6	65.3	70.6
0	0	15Jun 11	14:23:11	58.3	60.3	65.3
0	0	15Jun 11	14:23:16	72.4	76.8	79.4
0	0	15Jun 11	14:23:21	71.1	73.8	78.1
0	0	15Jun 11	14:23:26	71.7	75.5	78.6

0	0	15Jun 11	14:23:31	58.3	61.5	65.3
0	0	15Jun 11	14:23:36	56.3	60.0	63.3
0	0	15Jun 11	14:23:41	67.6	71.6	74.6
0	0	15Jun 11	14:23:46	68.5	71.5	75.5
0	0	15Jun 11	14:23:51	62.7	69.2	69.7
0	0	15Jun 11	14:23:56	60.7	64.1	67.7
0	0	15Jun 11	14:24:01	55.3	60.3	62.3
0	0	15Jun 11	14:24:06	71.4	80.6	78.4
0	0	15Jun 11	14:24:11	64.7	74.4	71.6
0	0	15Jun 11	14:24:16	76.2	82.1	83.2
0	0	15Jun 11	14:24:21	62.5	68.6	69.5
0	0	15Jun 11	14:24:26	53.8	56.4	60.8
0	0	15Jun 11	14:24:31	53.0	54.6	60.0
0	0	15Jun 11	14:24:36	58.8	60.4	65.8
0	0	15Jun 11	14:24:41	56.2	60.1	63.2
0	0	15Jun 11	14:24:46	52.2	54.8	59.1
0	0	15Jun 11	14:24:51	56.0	59.9	63.0
0	0	15Jun 11	14:24:56	77.5	85.9	84.5
0	0	15Jun 11	14:25:01	73.3	85.1	80.3
0	0	15Jun 11	14:25:06	57.2	59.3	64.1
0	0	15Jun 11	14:25:11	57.1	59.8	64.1
0	0	15Jun 11	14:25:16	59.6	62.8	66.6
0	0	15Jun 11	14:25:21	64.0	68.1	71.0
0	0	15Jun 11	14:25:26	69.7	72.8	76.7
0	0	15Jun 11	14:25:31	65.6	72.8	72.6
0	0	15Jun 11	14:25:36	79.4	84.2	86.4
0	0	15Jun 11	14:25:41	63.2	67.9	70.2
0	0	15Jun 11	14:25:46	57.9	59.6	64.9
0	0	15Jun 11	14:25:51	66.9	71.6	73.9
0	0	15Jun 11	14:25:56	60.5	66.6	67.5
0	0	15Jun 11	14:26:01	57.0	58.9	64.0
0	0	15Jun 11	14:26:06	53.6	57.7	60.6
0	0	15Jun 11	14:26:11	52.1	53.2	59.1
0	0	15Jun 11	14:26:16	55.9	59.2	62.9
0	0	15Jun 11	14:26:21	67.3	71.9	74.3
0	0	15Jun 11	14:26:26	76.0	81.3	83.0
0	0	15Jun 11	14:26:31	64.3	68.2	71.3
0	0	15Jun 11	14:26:36	60.6	63.9	67.6
0	0	15Jun 11	14:26:41	59.7	65.1	66.7
0	0	15Jun 11	14:26:46	59.0	62.3	66.0
0	0	15Jun 11	14:26:51	63.2	67.0	70.2
0	0	15Jun 11	14:26:56	66.7	69.3	73.7

C:\LARDAV\SLMUTIL\15JUN_09.bin Time History Data
Sample Period (sec): 5.000

Meas
Site Location Number Date Time Level Lmax SEL

Stop Key

October 18, 2012 Measurements

C:\NOISE\LARDAV\SLMUTIL\18OCT12.bin Time History Data
Sample Period (sec): 5.000

Site Location Run	Key	Meas Number	Date	Time	Level	Lmax	SEL
0		0	18Oct 12	10:57:00	49.8	51.8	56.8
0		0	18Oct 12	10:57:05	47.7	48.9	54.7
0		0	18Oct 12	10:57:10	50.0	51.8	57.0
0		0	18Oct 12	10:57:15	54.3	57.2	61.3
0		0	18Oct 12	10:57:20	66.7	71.9	73.7
0		0	18Oct 12	10:57:25	73.3	74.5	80.3
0		0	18Oct 12	10:57:30	76.7	78.9	83.6
0		0	18Oct 12	10:57:35	69.2	72.9	76.2
0		0	18Oct 12	10:57:40	57.2	60.1	64.2
0		0	18Oct 12	10:57:45	59.4	62.9	66.4
0		0	18Oct 12	10:57:50	71.9	73.9	78.9
0		0	18Oct 12	10:57:55	73.6	74.6	80.6
0		0	18Oct 12	10:58:00	72.0	73.0	79.0
0		0	18Oct 12	10:58:05	72.1	73.5	79.1
0		0	18Oct 12	10:58:10	62.7	67.6	69.7
0		0	18Oct 12	10:58:15	54.6	56.7	61.6
0		0	18Oct 12	10:58:20	60.6	68.0	67.6
0		0	18Oct 12	10:58:25	71.6	74.5	78.6
0		0	18Oct 12	10:58:30	69.5	73.6	76.5
0		0	18Oct 12	10:58:35	68.7	72.5	75.7
0		0	18Oct 12	10:58:40	73.4	76.6	80.4
0		0	18Oct 12	10:58:45	62.1	65.2	69.1
0		0	18Oct 12	10:58:50	58.4	61.6	65.4
0		0	18Oct 12	10:58:55	63.6	65.9	70.5
0		0	18Oct 12	10:59:00	71.8	75.1	78.7
0		0	18Oct 12	10:59:05	73.6	75.5	80.6
0		0	18Oct 12	10:59:10	73.3	75.5	80.3
0		0	18Oct 12	10:59:15	70.6	71.5	77.6
0		0	18Oct 12	10:59:20	64.4	69.1	71.4
0		0	18Oct 12	10:59:25	60.0	62.4	67.0
0		0	18Oct 12	10:59:30	61.1	62.4	68.1
0		0	18Oct 12	10:59:35	60.6	65.2	67.6
0		0	18Oct 12	10:59:40	69.1	71.1	76.1
0		0	18Oct 12	10:59:45	72.2	73.1	79.2
0		0	18Oct 12	10:59:50	67.2	71.6	74.1
0		0	18Oct 12	10:59:55	68.5	74.0	75.5
0		0	18Oct 12	11:00:00	74.6	76.7	81.6
0		0	18Oct 12	11:00:05	73.0	76.7	80.0
0		0	18Oct 12	11:00:10	75.3	77.1	82.3
0		0	18Oct 12	11:00:15	66.5	70.9	73.5
0		0	18Oct 12	11:00:20	57.7	60.2	64.6
0		0	18Oct 12	11:00:25	56.6	57.1	63.6
0		0	18Oct 12	11:00:30	55.7	58.0	62.7
0		0	18Oct 12	11:00:35	68.3	73.2	75.3
0		0	18Oct 12	11:00:40	67.8	72.9	74.7
0		0	18Oct 12	11:00:45	69.8	73.2	76.8
0		0	18Oct 12	11:00:50	64.7	70.1	71.7
0		0	18Oct 12	11:00:55	58.1	59.1	65.1
0		0	18Oct 12	11:01:00	61.4	62.5	68.4
0		0	18Oct 12	11:01:05	63.4	63.9	70.4
0		0	18Oct 12	11:01:10	64.1	66.5	71.1
0		0	18Oct 12	11:01:15	73.8	76.2	80.8
0		0	18Oct 12	11:01:20	72.9	75.0	79.9
0		0	18Oct 12	11:01:25	71.2	74.2	78.2
0		0	18Oct 12	11:01:30	70.4	73.4	77.4
0		0	18Oct 12	11:01:35	67.9	69.7	74.9
0		0	18Oct 12	11:01:40	65.7	72.1	72.7
0		0	18Oct 12	11:01:45	71.4	74.9	78.4
0		0	18Oct 12	11:01:50	57.9	62.2	64.9
0		0	18Oct 12	11:01:55	55.7	57.0	62.7
0		0	18Oct 12	11:02:00	59.9	61.4	66.9
0		0	18Oct 12	11:02:05	65.6	68.1	72.5
0		0	18Oct 12	11:02:10	60.4	65.4	67.4
0		0	18Oct 12	11:02:15	59.0	61.4	66.0
0		0	18Oct 12	11:02:20	66.4	71.2	73.4
0		0	18Oct 12	11:02:25	73.4	75.7	80.4
0		0	18Oct 12	11:02:30	72.2	75.0	79.2
0		0	18Oct 12	11:02:35	67.3	72.1	74.3
0		0	18Oct 12	11:02:40	56.1	58.5	63.1
0		0	18Oct 12	11:02:45	56.8	58.2	63.8
0		0	18Oct 12	11:02:50	58.3	58.9	65.3
0		0	18Oct 12	11:02:55	58.0	58.7	65.0
0		0	18Oct 12	11:03:00	58.2	59.6	65.2
0		0	18Oct 12	11:03:05	65.2	69.6	72.2
0		0	18Oct 12	11:03:10	73.6	75.2	80.6
0		0	18Oct 12	11:03:15	73.8	75.2	80.8
0		0	18Oct 12	11:03:20	71.7	74.9	78.7
0		0	18Oct 12	11:03:25	70.2	74.4	77.2
0		0	18Oct 12	11:03:30	58.5	61.7	65.5
0		0	18Oct 12	11:03:35	65.0	68.9	72.0
0		0	18Oct 12	11:03:40	64.3	68.5	71.2
0		0	18Oct 12	11:03:45	59.0	59.9	66.0
0		0	18Oct 12	11:03:50	60.0	60.5	67.0
0		0	18Oct 12	11:03:55	59.6	60.5	66.6
0		0	18Oct 12	11:04:00	55.8	57.4	62.8
0		0	18Oct 12	11:04:05	54.7	55.4	61.7
0		0	18Oct 12	11:04:10	58.1	60.0	65.1
0		0	18Oct 12	11:04:15	60.6	62.1	67.5
0		0	18Oct 12	11:04:20	60.2	62.1	67.1
0		0	18Oct 12	11:04:25	56.9	58.0	63.9
0		0	18Oct 12	11:04:30	58.4	60.0	65.3
0		0	18Oct 12	11:04:35	66.3	72.1	73.3
0		0	18Oct 12	11:04:40	73.1	74.8	80.1
0		0	18Oct 12	11:04:45	70.2	74.1	77.2
0		0	18Oct 12	11:04:50	63.3	67.1	70.3
0		0	18Oct 12	11:04:55	60.7	63.5	67.7
0		0	18Oct 12	11:05:00	72.4	77.6	79.4
0		0	18Oct 12	11:05:05	73.8	77.6	80.8
0		0	18Oct 12	11:05:10	61.3	65.1	68.3
0		0	18Oct 12	11:05:15	65.9	68.6	72.9
0		0	18Oct 12	11:05:20	64.8	68.4	71.8
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0		0	18Oct 12	11:05:30	56.7	58.4	63.7
0		0	18Oct 12	11:05:35	67.4	72.1	74.4
0		0	18Oct 12	11:05:40	73.7	76.0	80.7
0		0	18Oct 12	11:05:45	65.4	69.6	72.4
0		0	18Oct 12	11:05:50	64.6	70.2	71.5
0		0	18Oct 12	11:05:55	69.8	72.0	76.8
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0		0	18Oct 12	11:06:10	64.9	67.5	71.9
0		0	18Oct 12	11:06:15	59.8	65.5	66.8
0		0	18Oct 12	11:06:20	71.6	74.0	78.6
0		0	18Oct 12	11:06:25	73.9	75.9	80.9
0		0	18Oct 12	11:06:30	62.9	67.9	69.9
0		0	18Oct 12	11:06:35	58.0	59.1	65.0
0		0	18Oct 12	11:06:40	60.0	62.7	67.0
0		0	18Oct 12	11:06:45	64.1	65.1	71.0
0		0	18Oct 12	11:06:50	63.4	65.1	70.4
0		0	18Oct 12	11:06:55	59.2	61.0	66.2
0		0	18Oct 12	11:07:00	57.8	58.4	64.7
0		0	18Oct 12	11:07:05	60.8	66.2	67.8

0	0	18Oct 12 11:07:10	71.2	73.7	78.2
0	0	18Oct 12 11:07:15	61.0	65.6	68.0
0	0	18Oct 12 11:07:20	56.2	56.6	63.2
0	0	18Oct 12 11:07:25	61.0	64.4	68.0
0	0	18Oct 12 11:07:30	70.8	72.8	77.8
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0	0	18Oct 12 11:07:55	55.8	58.5	62.8
0	0	18Oct 12 11:08:00	63.7	68.7	70.7
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0	0	18Oct 12 11:08:25	71.2	72.9	78.2
0	0	18Oct 12 11:08:30	64.9	67.5	71.9
0	0	18Oct 12 11:08:35	61.2	64.9	68.2
0	0	18Oct 12 11:08:40	70.2	72.9	77.2
0	0	18Oct 12 11:08:45	65.6	68.5	72.6
0	0	18Oct 12 11:08:50	69.4	71.9	76.4
0	0	18Oct 12 11:08:55	74.0	76.0	81.0
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0	0	18Oct 12 11:09:05	59.6	63.4	66.6
0	0	18Oct 12 11:09:10	54.7	55.9	61.7
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0	0	18Oct 12 11:09:20	72.5	76.7	79.5
0	0	18Oct 12 11:09:25	68.6	74.5	75.6
0	0	18Oct 12 11:09:30	55.8	59.1	62.8
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0	0	18Oct 12 11:09:45	75.3	77.3	82.3
0	0	18Oct 12 11:09:50	65.5	71.4	72.5
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0	0	18Oct 12 11:10:10	58.3	59.9	65.3
0	0	18Oct 12 11:10:15	57.1	58.0	64.1
0	0	18Oct 12 11:10:20	64.4	71.4	71.4
0	0	18Oct 12 11:10:25	72.3	74.9	79.2
0	0	18Oct 12 11:10:30	73.9	77.0	80.9
0	0	18Oct 12 11:10:35	61.5	66.9	68.5
0	0	18Oct 12 11:10:40	58.5	63.9	65.5
0	0	18Oct 12 11:10:45	71.9	74.5	78.9
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0	0	18Oct 12 11:10:55	71.5	74.5	78.5
0	0	18Oct 12 11:11:00	68.1	70.4	75.1
0	0	18Oct 12 11:11:05	71.2	73.8	78.2
0	0	18Oct 12 11:11:10	63.4	69.4	70.4
0	0	18Oct 12 11:11:15	54.2	56.0	61.2
0	0	18Oct 12 11:11:20	59.3	60.1	66.3
0	0	18Oct 12 11:11:25	58.5	60.1	65.5
0	0	18Oct 12 11:11:30	53.1	54.7	60.1
0	0	18Oct 12 11:11:35	54.8	55.5	61.8
0	0	18Oct 12 11:11:40	57.4	60.6	64.4
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0	0	18Oct 12 11:11:55	60.3	62.5	67.3
0	0	18Oct 12 11:12:00	60.7	62.2	67.7
0	0	18Oct 12 11:12:05	67.8	69.8	74.8
0	0	18Oct 12 11:12:10	63.8	67.7	70.8
0	0	18Oct 12 11:12:15	69.8	71.5	76.8
Stop	Key				
Run	Key				
0	0	18Oct 12 11:43:00	41.5	45.7	48.5
0	0	18Oct 12 11:43:05	39.7	41.1	46.7
0	0	18Oct 12 11:43:10	39.7	42.6	46.6
0	0	18Oct 12 11:43:15	46.6	48.3	53.6
0	0	18Oct 12 11:43:20	44.6	46.6	51.6
0	0	18Oct 12 11:43:25	44.7	47.8	51.7

0	0	18Oct 12 11:43:30	54.4	59.4	61.4
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0	0	18Oct 12 11:43:40	61.5	63.0	68.5
0	0	18Oct 12 11:43:45	51.9	56.6	58.8
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0	0	18Oct 12 11:43:55	38.7	40.0	45.7
0	0	18Oct 12 11:44:00	43.9	51.9	50.9
0	0	18Oct 12 11:44:05	65.4	68.6	72.4
0	0	18Oct 12 11:44:10	66.0	68.6	73.0
0	0	18Oct 12 11:44:15	58.2	63.5	65.1
0	0	18Oct 12 11:44:20	59.8	63.9	66.7
0	0	18Oct 12 11:44:25	57.0	62.4	64.0
0	0	18Oct 12 11:44:30	55.2	56.8	62.2
0	0	18Oct 12 11:44:35	50.9	54.9	57.9
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0	0	18Oct 12 11:44:45	59.2	61.0	66.2
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0	0	18Oct 12 11:45:00	43.0	44.0	50.0
0	0	18Oct 12 11:45:05	43.8	45.0	50.8
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0	0	18Oct 12 11:45:15	62.1	64.2	69.0
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0	0	18Oct 12 11:45:30	41.4	42.9	48.4
0	0	18Oct 12 11:45:35	46.1	52.7	53.1
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0	0	18Oct 12 11:45:45	52.9	58.7	59.9
0	0	18Oct 12 11:45:50	42.2	44.5	49.2
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0	0	18Oct 12 11:46:05	38.1	40.3	45.1
0	0	18Oct 12 11:46:10	50.7	57.9	57.7
0	0	18Oct 12 11:46:15	59.6	61.2	66.6
0	0	18Oct 12 11:46:20	50.1	54.8	57.1
0	0	18Oct 12 11:46:25	55.1	60.3	62.1
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0	0	18Oct 12 11:46:35	59.3	60.4	66.3
0	0	18Oct 12 11:46:40	53.5	58.8	60.5
0	0	18Oct 12 11:46:45	43.6	47.2	50.6
0	0	18Oct 12 11:46:50	54.4	59.5	61.4
0	0	18Oct 12 11:46:55	57.5	59.7	64.5
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0	0	18Oct 12 11:47:15	63.5	65.9	70.5
0	0	18Oct 12 11:47:20	48.8	55.2	55.8
0	0	18Oct 12 11:47:25	39.1	40.5	46.1
0	0	18Oct 12 11:47:30	49.0	56.2	56.0
0	0	18Oct 12 11:47:35	55.7	57.7	62.7
0	0	18Oct 12 11:47:40	43.4	48.8	50.4
0	0	18Oct 12 11:47:45	38.6	39.4	45.6
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0	0	18Oct 12 11:48:25	42.2	45.5	49.2
0	0	18Oct 12 11:48:30	40.2	42.3	47.2
0	0	18Oct 12 11:48:35	51.2	55.4	58.1
0	0	18Oct 12 11:48:40	56.9	58.0	63.9
0	0	18Oct 12 11:48:45	51.2	53.7	58.1
0	0	18Oct 12 11:48:50	61.4	65.9	68.4
0	0	18Oct 12 11:48:55	64.1	66.2	71.0
0	0	18Oct 12 11:49:00	57.6	59.8	64.5
0	0	18Oct 12 11:49:05	59.1	60.2	66.1
0	0	18Oct 12 11:49:10	54.7	58.2	61.7
0	0	18Oct 12 11:49:15	60.1	62.3	67.1

0	0	18Oct 12 11:49:20	48.3	54.7	55.3
0	0	18Oct 12 11:49:25	38.8	39.8	45.8
0	0	18Oct 12 11:49:30	38.9	39.8	45.9
0	0	18Oct 12 11:49:35	36.3	36.9	43.2
0	0	18Oct 12 11:49:40	38.8	40.9	45.8
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0	0	18Oct 12 11:50:15	40.3	42.5	47.3
0	0	18Oct 12 11:50:20	37.8	38.8	44.8
0	0	18Oct 12 11:50:25	41.8	43.8	48.8
0	0	18Oct 12 11:50:30	44.2	47.4	51.2
0	0	18Oct 12 11:50:35	46.6	47.8	53.5
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0	0	18Oct 12 11:50:45	54.5	58.2	61.5
0	0	18Oct 12 11:50:50	63.0	64.8	70.0
0	0	18Oct 12 11:50:55	61.5	64.5	68.5
0	0	18Oct 12 11:51:00	60.9	62.4	67.9
0	0	18Oct 12 11:51:05	59.7	61.5	66.7
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0	0	18Oct 12 11:51:40	43.2	44.5	50.2
0	0	18Oct 12 11:51:45	38.9	40.0	45.9
0	0	18Oct 12 11:51:50	40.3	42.2	47.3
0	0	18Oct 12 11:51:55	43.7	52.2	50.6
0	0	18Oct 12 11:52:00	47.4	51.8	54.4
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0	0	18Oct 12 11:52:25	53.1	56.4	60.1
0	0	18Oct 12 11:52:30	55.7	56.8	62.7
0	0	18Oct 12 11:52:35	49.2	53.2	56.2
0	0	18Oct 12 11:52:40	41.4	44.0	48.4
0	0	18Oct 12 11:52:45	44.9	48.4	51.9
0	0	18Oct 12 11:52:50	59.8	63.3	66.8
0	0	18Oct 12 11:52:55	57.2	62.4	64.1
0	0	18Oct 12 11:53:00	46.3	50.8	53.3
0	0	18Oct 12 11:53:05	40.9	42.0	47.9
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0	0	18Oct 12 11:53:25	40.4	43.3	47.4
0	0	18Oct 12 11:53:30	45.1	50.9	52.1
0	0	18Oct 12 11:53:35	56.9	59.2	63.9
0	0	18Oct 12 11:53:40	56.1	58.8	63.0
0	0	18Oct 12 11:53:45	42.9	47.9	49.9
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0	0	18Oct 12 11:54:25	41.6	43.0	48.6
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0	0	18Oct 12 11:54:40	57.5	59.8	64.5
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0	0	18Oct 12 11:54:55	45.2	46.4	52.2
0	0	18Oct 12 11:55:00	50.0	56.8	57.0
0	0	18Oct 12 11:55:05	57.9	59.5	64.9

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0	0	18Oct 12 11:55:15	40.8	42.9	47.8
0	0	18Oct 12 11:55:20	42.8	43.8	49.8
0	0	18Oct 12 11:55:25	52.7	56.5	59.6
0	0	18Oct 12 11:55:30	54.9	57.3	61.8
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0	0	18Oct 12 11:55:45	41.5	43.7	48.5
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0	0	18Oct 12 11:56:20	52.5	54.5	59.5
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0	0	18Oct 12 11:56:30	44.8	46.3	51.8
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0	0	18Oct 12 11:56:55	39.7	40.4	46.7
0	0	18Oct 12 11:57:00	40.0	40.3	47.0
0	0	18Oct 12 11:57:05	40.4	41.9	47.4
0	0	18Oct 12 11:57:10	46.5	47.5	53.5
0	0	18Oct 12 11:57:15	47.0	48.0	54.0
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0	0	18Oct 12 11:57:25	53.6	55.3	60.5
0	0	18Oct 12 11:57:30	60.4	62.5	67.4
0	0	18Oct 12 11:57:35	56.6	59.2	63.6
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0	0	18Oct 12 11:58:00	54.3	58.2	61.3
0	0	18Oct 12 11:58:05	48.8	50.8	55.8
0	0	18Oct 12 11:58:10	57.4	61.0	64.4
0	0	18Oct 12 11:58:15	46.7	49.3	53.7
0	0	18Oct 12 11:58:20	45.9	47.0	52.9
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0	0	18Oct 12 11:58:35	46.2	47.4	53.2
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0	0	18Oct 12 11:59:00	58.3	63.7	65.3
0	0	18Oct 12 11:59:05	65.3	66.5	72.3
0	0	18Oct 12 11:59:10	63.8	65.3	70.8
0	0	18Oct 12 11:59:15	61.3	65.0	68.3
0	0	18Oct 12 11:59:20	52.5	54.7	59.5
0	0	18Oct 12 11:59:25	47.1	50.2	54.1
0	0	18Oct 12 11:59:30	45.2	45.7	52.2
0	0	18Oct 12 11:59:35	44.8	45.2	51.8
0	0	18Oct 12 11:59:40	46.4	48.9	53.4
0	0	18Oct 12 11:59:45	49.0	51.2	56.0
0	0	18Oct 12 11:59:50	56.2	58.0	63.2
0	0	18Oct 12 11:59:55	50.2	53.2	57.2
0	0	18Oct 12 12:00:00	46.9	46.9	53.9
Stop	Key				
Run	Key				
0	0	18Oct 12 12:52:00	63.2	63.8	70.2
0	0	18Oct 12 12:52:05	65.3	66.4	72.2
0	0	18Oct 12 12:52:10	65.0	65.4	72.0
0	0	18Oct 12 12:52:15	67.2	68.3	74.2
0	0	18Oct 12 12:52:20	66.4	68.4	73.4
0	0	18Oct 12 12:52:25	67.7	69.2	74.6
0	0	18Oct 12 12:52:30	65.0	68.7	72.0
0	0	18Oct 12 12:52:35	61.7	66.0	68.7
0	0	18Oct 12 12:52:40	64.7	66.7	71.7

0	0	18Oct 12 12:52:45	62.3	62.9	69.3	0	0	18Oct 12 12:58:35	66.2	67.4	73.1
0	0	18Oct 12 12:52:50	62.7	63.4	69.7	0	0	18Oct 12 12:58:40	65.3	67.4	72.3
0	0	18Oct 12 12:52:55	62.6	64.0	69.6	0	0	18Oct 12 12:58:45	63.6	65.9	70.6
0	0	18Oct 12 12:53:00	65.8	67.4	72.7	0	0	18Oct 12 12:58:50	64.6	66.0	71.6
0	0	18Oct 12 12:53:05	64.7	67.7	71.7	0	0	18Oct 12 12:58:55	64.2	68.0	71.2
0	0	18Oct 12 12:53:10	66.1	67.9	73.1	0	0	18Oct 12 12:59:00	66.9	68.7	73.9
0	0	18Oct 12 12:53:15	63.3	64.9	70.3	0	0	18Oct 12 12:59:05	64.9	66.4	71.9
0	0	18Oct 12 12:53:20	64.0	67.8	71.0	0	0	18Oct 12 12:59:10	62.7	63.4	69.6
0	0	18Oct 12 12:53:25	68.5	69.8	75.5	0	0	18Oct 12 12:59:15	65.7	68.5	72.7
0	0	18Oct 12 12:53:30	65.2	66.8	72.2	0	0	18Oct 12 12:59:20	66.9	68.7	73.9
0	0	18Oct 12 12:53:35	64.3	65.2	71.3	0	0	18Oct 12 12:59:25	66.5	68.0	73.5
0	0	18Oct 12 12:53:40	66.7	68.3	73.7	0	0	18Oct 12 12:59:30	64.7	65.5	71.7
0	0	18Oct 12 12:53:45	67.6	69.2	74.6	0	0	18Oct 12 12:59:35	65.8	66.7	72.8
0	0	18Oct 12 12:53:50	65.9	66.3	72.9	0	0	18Oct 12 12:59:40	63.9	64.3	70.9
0	0	18Oct 12 12:53:55	65.2	69.9	72.1	0	0	18Oct 12 12:59:45	63.8	64.9	70.7
0	0	18Oct 12 12:54:00	71.8	72.9	78.7	0	0	18Oct 12 12:59:50	64.6	65.4	71.5
0	0	18Oct 12 12:54:05	70.5	71.3	77.5	0	0	18Oct 12 12:59:55	63.9	64.8	70.9
0	0	18Oct 12 12:54:10	67.6	69.2	74.6	0	0	18Oct 12 13:00:00	66.1	67.5	73.1
0	0	18Oct 12 12:54:15	66.4	66.8	73.4	0	0	18Oct 12 13:00:05	68.8	69.7	75.8
0	0	18Oct 12 12:54:20	64.8	66.2	71.7	0	0	18Oct 12 13:00:10	67.6	69.6	74.6
0	0	18Oct 12 12:54:25	64.9	65.8	71.9	0	0	18Oct 12 13:00:15	64.8	65.3	71.8
0	0	18Oct 12 12:54:30	65.8	66.9	72.8	0	0	18Oct 12 13:00:20	66.9	68.9	73.9
0	0	18Oct 12 12:54:35	64.8	65.3	71.8	0	0	18Oct 12 13:00:25	68.0	69.3	75.0
0	0	18Oct 12 12:54:40	65.2	67.0	72.2	0	0	18Oct 12 13:00:30	65.9	68.3	72.9
0	0	18Oct 12 12:54:45	67.5	68.7	74.5	0	0	18Oct 12 13:00:35	65.8	66.7	72.7
0	0	18Oct 12 12:54:50	68.7	70.7	75.7	0	0	18Oct 12 13:00:40	65.7	66.9	72.7
0	0	18Oct 12 12:54:55	67.9	69.8	74.9	0	0	18Oct 12 13:00:45	66.1	66.8	73.0
0	0	18Oct 12 12:55:00	66.6	68.5	73.5	0	0	18Oct 12 13:00:50	65.7	66.8	72.7
0	0	18Oct 12 12:55:05	64.9	65.4	71.9	0	0	18Oct 12 13:00:55	63.0	63.5	70.0
0	0	18Oct 12 12:55:10	66.0	68.2	73.0	0	0	18Oct 12 13:01:00	66.8	69.3	73.8
0	0	18Oct 12 12:55:15	66.2	67.3	73.2	0	0	18Oct 12 13:01:05	64.7	67.8	71.7
0	0	18Oct 12 12:55:20	64.2	65.0	71.2	0	0	18Oct 12 13:01:10	64.8	66.2	71.8
0	0	18Oct 12 12:55:25	63.9	64.7	70.9	0	0	18Oct 12 13:01:15	65.3	66.5	72.3
0	0	18Oct 12 12:55:30	67.4	69.0	74.4	0	0	18Oct 12 13:01:20	62.1	64.0	69.0
0	0	18Oct 12 12:55:35	64.0	65.8	71.0	0	0	18Oct 12 13:01:25	62.2	63.0	69.2
0	0	18Oct 12 12:55:40	60.6	61.7	67.6	0	0	18Oct 12 13:01:30	63.2	64.7	70.1
0	0	18Oct 12 12:55:45	60.3	60.9	67.3	0	0	18Oct 12 13:01:35	64.8	65.5	71.8
0	0	18Oct 12 12:55:50	61.1	62.8	68.1	0	0	18Oct 12 13:01:40	64.1	64.8	71.0
0	0	18Oct 12 12:55:55	65.4	66.5	72.3	0	0	18Oct 12 13:01:45	63.8	64.3	70.8
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0	0	18Oct 12 12:56:05	62.5	63.2	69.5	0	0	18Oct 12 13:01:55	63.9	65.2	70.8
0	0	18Oct 12 12:56:10	62.6	64.9	69.5	0	0	18Oct 12 13:02:00	62.4	64.0	69.3
0	0	18Oct 12 12:56:15	64.6	65.8	71.5	0	0	18Oct 12 13:02:05	62.4	63.4	69.4
0	0	18Oct 12 12:56:20	64.2	66.0	71.2	0	0	18Oct 12 13:02:10	61.2	62.0	68.2
0	0	18Oct 12 12:56:25	60.6	61.2	67.6	0	0	18Oct 12 13:02:15	62.9	63.7	69.9
0	0	18Oct 12 12:56:30	60.7	61.4	67.7	0	0	18Oct 12 13:02:20	62.3	63.2	69.3
0	0	18Oct 12 12:56:35	62.3	63.3	69.3	0	0	18Oct 12 13:02:25	63.8	64.9	70.7
0	0	18Oct 12 12:56:40	64.2	66.0	71.2	0	0	18Oct 12 13:02:30	61.2	63.7	68.2
0	0	18Oct 12 12:56:45	68.4	70.2	75.4	0	0	18Oct 12 13:02:35	62.1	62.8	69.1
0	0	18Oct 12 12:56:50	68.4	70.4	75.4	0	0	18Oct 12 13:02:40	65.5	69.4	72.5
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0	0	18Oct 12 12:57:00	61.5	62.2	68.5	0	0	18Oct 12 13:02:50	68.4	69.5	75.4
0	0	18Oct 12 12:57:05	60.7	61.5	67.7	0	0	18Oct 12 13:02:55	64.1	67.8	71.0
0	0	18Oct 12 12:57:10	64.4	68.2	71.4	0	0	18Oct 12 13:03:00	63.4	64.7	70.4
0	0	18Oct 12 12:57:15	69.4	71.9	76.4	0	0	18Oct 12 13:03:05	62.0	62.7	69.0
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0	0	18Oct 12 12:57:30	68.4	70.9	75.4	0	0	18Oct 12 13:03:20	65.8	67.0	72.8
0	0	18Oct 12 12:57:35	72.6	73.2	79.6	0	0	18Oct 12 13:03:25	67.6	68.5	74.6
0	0	18Oct 12 12:57:40	70.4	73.2	77.4	0	0	18Oct 12 13:03:30	66.9	68.9	73.9
0	0	18Oct 12 12:57:45	64.8	66.4	71.8	0	0	18Oct 12 13:03:35	67.7	69.4	74.7
0	0	18Oct 12 12:57:50	64.3	65.8	71.2	0	0	18Oct 12 13:03:40	69.0	70.3	76.0
0	0	18Oct 12 12:57:55	67.1	68.4	74.0	0	0	18Oct 12 13:03:45	66.9	69.2	73.9
0	0	18Oct 12 12:58:00	66.5	67.2	73.5	0	0	18Oct 12 13:03:50	65.9	67.5	72.8
0	0	18Oct 12 12:58:05	68.0	69.0	75.0	0	0	18Oct 12 13:03:55	66.9	68.3	73.9
0	0	18Oct 12 12:58:10	65.5	66.7	72.5	0	0	18Oct 12 13:04:00	63.7	66.9	70.7
0	0	18Oct 12 12:58:15	63.3	64.3	70.3	0	0	18Oct 12 13:04:05	60.9	62.5	67.9
0	0	18Oct 12 12:58:20	66.1	67.8	73.1	0	0	18Oct 12 13:04:10	63.7	64.2	70.7
0	0	18Oct 12 12:58:25	66.7	67.5	73.7	0	0	18Oct 12 13:04:15	64.2	66.2	71.1
0	0	18Oct 12 12:58:30	67.0	67.7	74.0	0	0	18Oct 12 13:04:20	66.1	67.5	73.1

0	0	18Oct	12	13:04:25	64.7	65.9	71.7
0	0	18Oct	12	13:04:30	62.7	63.3	69.7
0	0	18Oct	12	13:04:35	66.4	70.7	73.4
0	0	18Oct	12	13:04:40	71.7	73.2	78.7
0	0	18Oct	12	13:04:45	71.2	73.0	78.2
0	0	18Oct	12	13:04:50	65.6	67.7	72.6
0	0	18Oct	12	13:04:55	64.4	65.5	71.4
0	0	18Oct	12	13:05:00	63.1	64.2	70.0
0	0	18Oct	12	13:05:05	62.4	63.0	69.4
0	0	18Oct	12	13:05:10	64.2	66.0	71.2
0	0	18Oct	12	13:05:15	68.3	70.4	75.3
0	0	18Oct	12	13:05:20	72.1	73.0	79.1
0	0	18Oct	12	13:05:25	68.2	70.4	75.2
0	0	18Oct	12	13:05:30	63.5	64.8	70.5
0	0	18Oct	12	13:05:35	66.2	68.2	73.2
0	0	18Oct	12	13:05:40	66.2	68.2	73.2
0	0	18Oct	12	13:05:45	63.2	64.9	70.1
0	0	18Oct	12	13:05:50	63.3	65.3	70.2
0	0	18Oct	12	13:05:55	63.4	65.0	70.4
0	0	18Oct	12	13:06:00	61.1	61.8	68.1
0	0	18Oct	12	13:06:05	61.9	62.5	68.9
0	0	18Oct	12	13:06:10	61.2	61.9	68.2
0	0	18Oct	12	13:06:15	62.6	63.2	69.5
0	0	18Oct	12	13:06:20	62.5	63.3	69.5
0	0	18Oct	12	13:06:25	63.3	64.2	70.3
0	0	18Oct	12	13:06:30	65.2	66.9	72.2
0	0	18Oct	12	13:06:35	63.9	66.4	70.9
0	0	18Oct	12	13:06:40	62.3	63.7	69.3
0	0	18Oct	12	13:06:45	66.2	67.4	73.1
0	0	18Oct	12	13:06:50	66.7	69.9	73.7
0	0	18Oct	12	13:06:55	71.6	72.5	78.6
0	0	18Oct	12	13:07:00	71.8	73.0	78.8
0	0	18Oct	12	13:07:05	67.1	70.2	74.0
0	0	18Oct	12	13:07:10	61.6	63.5	68.6
0	0	18Oct	12	13:07:15	61.5	62.0	68.5
0	0	18Oct	12	13:07:20	62.7	63.4	69.7
0	0	18Oct	12	13:07:25	63.4	64.2	70.4
0	0	18Oct	12	13:07:30	65.3	66.5	72.3
0	0	18Oct	12	13:07:35	64.8	66.9	71.8
0	0	18Oct	12	13:07:40	66.3	67.2	73.3
0	0	18Oct	12	13:07:45	70.6	72.5	77.6
0	0	18Oct	12	13:07:50	69.5	71.2	76.5
0	0	18Oct	12	13:07:55	67.2	68.4	74.2
0	0	18Oct	12	13:08:00	66.4	66.5	73.4

Stop Key
Run Key

ATTACHMENT 2

Traffic Noise Prediction Model

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FHWA RD-77-108
Traffic Noise Prediction Model
Data Input Sheet

Project Name : OMCPU
Project Number : 3957.1
Modeled Condition : Adopted

Surface F CNEL
Assessm Soft
Peak rati 10
Traffic De ADT

Segment	Roadway	Segment From/To	Traffic Vol.	Speed (Mph)	Distance to CL	% Autos	%MT	% HT	Day %	Eve %	Night %	K-Factor
1	Airway Road	Old Otay Mesa Rd. to Caliente Ave.	20,500	40	100	90	3	2	78.00	8.00	14.00	
2	Airway Road	Caliente Ave. to Heritage Rd.	59,000	40	100	90	3	2	78.00	8.00	14.00	
3	Airway Road	Heritage Rd. to Cactus Rd.	39,500	40	100	90	3	2	78.00	8.00	14.00	
4	Airway Road	Cactus Rd. to Britannia Blvd.	46,500	40	100	90	3	2	78.00	8.00	14.00	
5	Airway Road	Britannia Blvd. to La Media Rd.	39,000	40	100	90	3	2	78.00	8.00	14.00	
6	Airway Road	La Media Rd. to Harves t Rd.	54,500	40	100	90	3	2	78.00	8.00	14.00	
7	Airway Road	Harvest Rd. to Sanyo Ave.	49,500	40	100	90	3	2	78.00	8.00	14.00	
8	Airway Road	Sanyo Ave. to Paseo de las Americas	20,500	40	100	90	3	2	78.00	8.00	14.00	
9	Airway Road	Paseo de las Americas to Michael Faraday Dr.	17,000	40	100	90	3	2	78.00	8.00	14.00	
10	Airway Road	Michael Faraday Dr. to Enrico Fermi Dr.	16,000	40	100	90	3	2	78.00	8.00	14.00	
11	Airway Road	Enrico Fermi Dr. to Siempre Viva Rd.	15,000	40	100	90	3	2	78.00	8.00	14.00	
12	Avendia De Las Vistas	Otay Valley Rd. to Vista Santo Domingo	9,000	30	100	90	3	2	78.00	8.00	14.00	
13	Avendia De Las Vistas	Vista Santo Domingo to Dennery Rd.	25,000	30	100	90	3	2	78.00	8.00	14.00	
14	Avenida Costa Azul	Otay Mesa Rd. to St. Andrews Ave.	18,000	35	100	90	3	2	78.00	8.00	14.00	
15	Aviator Road	Heritage Rd. to La Media Rd.	15,500	45	100	90	3	2	78.00	8.00	14.00	
16	Beyer Boulevard	Alaquinas Dr. to Old Otay Mesa Rd.	24,500	35	100	90	3	2	78.00	8.00	14.00	
17	Beyer Boulevard	Old Otay Mesa Rd. to East End	3,000	45	100	90	3	2	78.00	8.00	14.00	
18	Britannia Boulevard	Otay Mesa Rd. to SR-905	19,500	40	100	90	3	2	78.00	8.00	14.00	
19	Britannia Boulevard	SR-905 to Airway Rd.	52,000	40	100	65	10	20	78.00	8.00	14.00	
20	Britannia Boulevard	Siempre Viva Rd. to South End	32,500	40	100	65	10	20	78.00	8.00	14.00	
21	Britannia Boulevard	Airway Rd. to Siempre Viva Rd.	33,000	40	100	65	10	20	78.00	8.00	14.00	
22	Cactus Road	Otay Mesa Rd. to Airway Rd.	35,000	45	100	90	3	2	78.00	8.00	14.00	
23	Cactus Road	Airway Rd. to Siempre Viva Rd.	23,000	45	100	90	3	2	78.00	8.00	14.00	
24	Cactus Road	Siempre Viva Rd. to South End	29,500	45	100	90	3	2	78.00	8.00	14.00	
25	Caliente Avenue	Otay Mesa Rd. to SR-905	39,000	30	100	90	3	2	78.00	8.00	14.00	
26	Caliente Avenue	Otay Mesa Rd. to SR-905	39,000	30	100	90	3	2	78.00	8.00	14.00	
27	Caliente Avenue	SR-905 to Airway Rd.	38,000	40	100	90	3	2	78.00	8.00	14.00	
28	Caliente Avenue	Airway Rd. to Siempre Viva Rd.	48,000	40	100	90	3	2	78.00	8.00	14.00	
29	Caliente Avenue	Airway Rd. to Siempre Viva Rd.	48,000	40	100	90	3	2	78.00	8.00	14.00	
30	Camino Maquiladora	Heritage Rd. to Pacific Rim Ct .	7,500	30	100	90	3	2	78.00	8.00	14.00	
31	Camino Maquiladora	Pacific Rim Ct . to Cactus Rd.	6,000	30	100	90	3	2	78.00	8.00	14.00	
32	Camino Maquiladora	Cactus Rd. to Continental St.	5,500	30	100	90	3	2	78.00	8.00	14.00	
33	Centurion Street	Airway Rd. to Gigantic St.	18,500	40	100	90	3	2	78.00	8.00	14.00	
34	Continental Street	South of Otay Mes a Rd.	4,500	35	100	90	3	2	78.00	8.00	14.00	
35	Continental Street	North of Airway Rd.	10,000	35	100	90	3	2	78.00	8.00	14.00	
36	Corporate Center Drive	Progressive Ave. to Innovative Dr.	13,000	40	100	90	3	2	78.00	8.00	14.00	
37	Corporate Center Drive	Otay Mes a Rd. to Progres s ive Ave.	24,500	40	100	90	3	2	78.00	8.00	14.00	
38	Corporate Center Drive	South End to Otay Mesa Rd.	17,500	40	100	90	3	2	78.00	8.00	14.00	
39	Datsun Street	Innovative Dr. to Heritage Rd.	31,000	45	100	90	3	2	78.00	8.00	14.00	
40	Del Sol Boulevard	Ocean View Hills Pkwy. to Surf Crest Dr.	23,500	35	100	90	3	2	78.00	8.00	14.00	
41	Del Sol Boulevard	Surf Cres t Dr. to Riviera Pointe	26,000	35	100	90	3	2	78.00	8.00	14.00	
42	Del Sol Boulevard	Riviera Pointe to Dennery Rd.	26,000	35	100	90	3	2	78.00	8.00	14.00	
43	Del Sol Boulevard	Dennery Rd. to I-805	20,000	35	100	90	3	2	78.00	8.00	14.00	
44	Dennery Road	Palm Ave. to Del Sol Blvd.	28,500	35	100	90	3	2	78.00	8.00	14.00	
45	Dennery Road	Palm Ave. to Regatta Ln.	21,000	35	100	90	3	2	78.00	8.00	14.00	

46	Dennery Road	Regatta Ln. to Red Coral Ln.	15,000	35	100	90	3	2	78.00	8.00	14.00
47	Dennery Road	Red Coral Ln. to Black Coral Ln.	15,000	35	100	90	3	2	78.00	8.00	14.00
48	Dennery Road	Black Coral Ln. to East End	21,500	35	100	90	3	2	78.00	8.00	14.00
49	Emerald Crest Dr.	Otay Mesa Rd. to South End	25,000	35	100	90	3	2	78.00	8.00	14.00
50	Enrico Fermi Drive	Siempre Viva Rd. to Via de la Amistad	10,500	40	100	65	10	20	78.00	8.00	14.00
51	Enrico Fermi Drive	Airway Rd. to SiempreViva Rd.	8,000	40	100	65	10	20	78.00	8.00	14.00
52	Enrico Fermi Drive	SR-11 to Airway Rd.	17,000	40	100	65	10	20	78.00	8.00	14.00
53	Excellante Street	Airway Rd. to Gigantic St.	19,500	40	100	90	3	2	78.00	8.00	14.00
54	Exposition Way / Vista Sar	Avenida De Las Vistas to Corporate Center Dr.	17,000	35	100	90	3	2	78.00	8.00	14.00
55	Gailes Boulevard	Otay Mesa Rd. to St . Andrews Ave.	9,000	40	100	90	3	2	78.00	8.00	14.00
56	Gigantic Street	Excellante St. to Centurion St.	19,500	40	100	90	3	2	78.00	8.00	14.00
57	Harvest Road	Otay Center Dr. to Siempre Viva Rd.	38,000	40	100	90	3	2	78.00	8.00	14.00
58	Harvest Road	Airway Rd. to Otay Center Dr.	34,000	40	100	90	3	2	78.00	8.00	14.00
59	Harvest Road	South of Otay Mesa Rd.	11,000	40	100	90	3	2	78.00	8.00	14.00
60	Heinrich Hertz Drive	Airway Rd. to Paseo de las Americas	27,000	35	100	90	3	2	78.00	8.00	14.00
61	Road	Avenida De Las Vistas to Datsun St.	77,500	45	100	90	3	2	78.00	8.00	14.00
62	Road	Datsun St. to Otay Mesa Rd.	47,500	45	100	90	3	2	78.00	8.00	14.00
63	Road	Otay Mesa Rd. to SR-905	17,500	45	100	90	3	2	78.00	8.00	14.00
64	Road	SR-905 to Airway Rd.	52,000	45	100	90	3	2	78.00	8.00	14.00
65	Road	Main St. to Avenida De Las Vistas	87,000	45	100	90	3	2	78.00	8.00	14.00
66	Road	Airway Rd. to Siempre Viva Rd.	58,000	45	100	90	3	2	78.00	8.00	14.00
67	I-805	Main St. to Palm Ave.	263,000	65	100	93.1	4.2	2.7	78.00	8.00	14.00
68	I-805	Palm Ave. to SR-905	232,500	65	100	93.1	4.2	2.7	78.00	8.00	14.00
69	I-805	SR-905 to I-5	107,500	65	100	93.1	4.2	2.7	78.00	8.00	14.00
70	I-805	I-5 to Border	127,500	65	100	93.1	4.2	2.7	78.00	8.00	14.00
71	Innovative Drive	Otay Mesa Rd. to Corporate Center Dr.	16,000	30	100	90	3	2	78.00	8.00	14.00
72	La Media Road	Lone Star Rd. to Aviator Rd.	64,500	45	100	65	10	20	78.00	8.00	14.00
73	La Media Road	Aviator Rd. to Otay Mesa Rd.	64,500	45	100	65	10	20	78.00	8.00	14.00
74	La Media Road	Otay Mesa Rd. to SR-905	48,000	45	100	65	10	20	78.00	8.00	14.00
75	La Media Road	SR-905 to Airway Rd.	75,500	40	100	65	10	20	78.00	8.00	14.00
76	La Media Road	Airway Rd. to Siempre Viva Rd.	32,000	40	100	65	10	20	78.00	8.00	14.00
77	La Media Road	Birch Rd. to Lone Star Rd.	93,000	40	100	65	10	20	78.00	8.00	14.00
78	Lone Star Road	La Media Rd. to SR-125	38,000	40	100	65	10	20	78.00	8.00	14.00
79	Lone Star Road	SR-125 to Piper Ranch Rd.	55,000	40	100	65	10	20	78.00	8.00	14.00
80	Lone Star Road	SR-125 to Piper Ranch Rd.	55,000	40	100	65	10	20	78.00	8.00	14.00
81	Lone Star Road	Piper Ranch Rd. to City / County Boundary	54,500	40	100	65	10	20	78.00	8.00	14.00
82	Marconi Drive	Pas eo de las Americas to Enrico Fermi Dr.	16,500	35	100	90	3	2	78.00	8.00	14.00
83	Michael Faraday Drive	Airway Rd. to Siempre Viva Rd.	9,500	30	100	90	3	2	78.00	8.00	14.00
84	Michael Faraday Drive	Siempre Viva Rd. to Marconi Dr.	5,500	30	100	90	3	2	78.00	8.00	14.00
85	Ocean View Hills Pkwy	Dennery Rd. to Del Sol Blvd.	27,000	45	100	90	3	2	78.00	8.00	14.00
86	Ocean View Hills Pkwy	Del Sol Blvd. to Street A	45,000	40	100	90	3	2	78.00	8.00	14.00
87	Ocean View Hills Pkwy	Street A to Otay Mesa Rd.	23,500	40	100	90	3	2	78.00	8.00	14.00
88	Old Otay Mesa Road	Otay Mesa Rd. to Airway Rd.	22,000	40	100	90	3	2	78.00	8.00	14.00
89	Old Otay Mesa Road	Airway Rd. to Crescent Bay Dr.	20,000	40	100	90	3	2	78.00	8.00	14.00
90	Old Otay Mesa Road	Crescent Bay Dr. to Beyer Blvd.	21,500	40	100	90	3	2	78.00	8.00	14.00
91	Otay Center Drive	Harvest Rd. to Siempre Viva Rd.	14,000	35	100	90	3	2	78.00	8.00	14.00
92	Otay Mesa Center Road	Otay Mesa Rd. to St. Andrews Ave.	36,500	40	100	90	3	2	78.00	8.00	14.00
93	Otay Mesa Road	Street A to Caliente Ave.	32,000	45	100	90	3	2	78.00	8.00	14.00
94	Otay Mesa Road	Caliente Ave. to Corporate Center Dr.	78,000	45	100	90	3	2	78.00	8.00	14.00
95	Otay Mesa Road	Corporate Center Dr. to Innovative Dr.	36,000	45	100	90	3	2	78.00	8.00	14.00
96	Otay Mesa Road	Innovative Dr. to Heritage Rd.	42,000	45	100	90	3	2	78.00	8.00	14.00
97	Otay Mesa Road	Heritage Rd. to Cactus Rd.	74,000	50	100	90	3	2	78.00	8.00	14.00
98	Otay Mesa Road	Cactus Rd. to Britannia Blvd.	47,500	50	100	90	3	2	78.00	8.00	14.00
99	Otay Mesa Road	Britannia Blvd. to Ailsa Ct.	58,500	50	100	90	3	2	78.00	8.00	14.00
100	Otay Mesa Road	Ailsa Ct. to La Media Rd.	49,500	50	100	90	3	2	78.00	8.00	14.00

101	Otay Mesa Road	La Media Rd. to Piper Ranch Rd.	50,000	45	100	90	3	2	78.00	8.00	14.00
102	Otay Mesa Road	Piper Ranch Rd. to SR-125	22,500	45	100	90	3	2	78.00	8.00	14.00
103	Otay Mesa Road	SR-125 to Harvest Rd.	42,500	45	100	90	3	2	78.00	8.00	14.00
104	Otay Mesa Road	Harvest Rd. to Sanyo Ave.	38,500	45	100	90	3	2	78.00	8.00	14.00
105	Otay Mesa Road	Sanyo Ave. to Enrico Fermi Dr.	14,000	40	100	90	3	2	78.00	8.00	14.00
106	Pacific Rim Court	Otay Mesa Rd. to Camino Maquiladora	4,000	45	100	90	3	2	78.00	8.00	14.00
107	Palm Ave.	Piccard Ave to I-805	69,500	35	100	90	3	2	78.00	8.00	14.00
108	Palm Ave.	I-805 to Dennery Rd.	69,500	45	100	90	3	2	78.00	8.00	14.00
109	Paseo de las Americas	Airway Rd. to Siempre Viva Rd.	33,500	35	100	90	3	2	78.00	8.00	14.00
110	Paseo de las Americas	Siempre Viva Rd. to Marconi Dr.	16,000	35	100	90	3	2	78.00	8.00	14.00
111	Piper Ranch Road	Lone Star Rd. to Otay Mesa Rd.	17,000	40	100	90	3	2	78.00	8.00	14.00
112	Piper Ranch Road	Lone Star Rd. to Otay Mesa Rd.	17,000	40	100	90	3	2	78.00	8.00	14.00
113	Progressive Avenue	Corporate Center Dr. to Innovative Dr.	17,000	30	100	90	3	2	78.00	8.00	14.00
114	Sanyo Avevue	Otay Mes a Rd. to Airway Rd.	43,000	45	100	90	3	2	78.00	8.00	14.00
115	Siempre Viva Rd.	Cactus Rd. to Britannia Blvd.	44,500	40	100	90	3	2	78.00	8.00	14.00
116	Siempre Viva Rd.	Britannia Blvd. to La Media Rd.	52,500	40	100	90	3	2	78.00	8.00	14.00
117	Siempre Viva Rd.	La Media Rd. to Harvest Rd.	34,500	40	100	90	3	2	78.00	8.00	14.00
118	Siempre Viva Rd.	Harvest Rd. to Otay Center Dr.	35,000	40	100	90	3	2	78.00	8.00	14.00
119	Siempre Viva Rd.	Otay Center Dr. to SR-905	64,500	40	100	90	3	2	78.00	8.00	14.00
120	Siempre Viva Rd.	SR-905 to Paseo de las Americas	72,000	40	100	90	3	2	78.00	8.00	14.00
121	Siempre Viva Rd.	Paseo de las Americas to Michael Faraday Dr.	20,500	40	100	90	3	2	78.00	8.00	14.00
122	Siempre Viva Rd.	Michael Faraday Dr. to Enrico Fermi Dr.	21,000	40	100	90	3	2	78.00	8.00	14.00
123	Siempre Viva Rd.	Enrico Fermi Dr. to SR-11	21,000	40	100	90	3	2	78.00	8.00	14.00
124	Siempre Viva Rd.	Caliente Ave. to East Beyer Blvd.	47,000	65	100	91.9	5.5	2.6	78.00	8.00	14.00
125	Siempre Viva Rd.	Heritage Rd. to Cactus Rd.	48,000	65	100	91.9	5.5	2.6	78.00	8.00	14.00
126	SR-11	SR-905 to Enrico Fermi Dr.	50,500	65	100	91.9	5.5	2.6	78.00	8.00	14.00
127	SR-11	Enrico Fermi Dr. to Siempre Viva Rd.	25,000	65	100	91.9	5.5	2.6	78.00	8.00	14.00
128	SR-11	Siempre Viva Rd. to Border	39,500	65	100	91.9	5.5	2.6	78.00	8.00	14.00
129	SR-125	Birch Rd. to Lone Star Rd.	102,500	65	100	91.9	5.5	2.6	78.00	8.00	14.00
130	SR-125	Lone Star Rd. to SR-905	76,000	65	100	91.9	5.5	2.6	78.00	8.00	14.00
131	SR-905	Picador Blvd. to I-805	144,500	65	100	91.9	5.5	2.6	78.00	8.00	14.00
132	SR-905	I-805 to Caliente Ave.	253,500	65	100	91.9	5.5	2.6	78.00	8.00	14.00
133	SR-905	Caliente Ave. to Heritage Rd.	224,000	65	100	91.9	5.5	2.6	78.00	8.00	14.00
134	SR-905	Heritage Rd. to Britannia Blvd.	193,000	65	100	91.9	5.5	2.6	78.00	8.00	14.00
135	SR-905	Britannia Blvd. to La Media Rd.	167,000	65	100	91.9	5.5	2.6	78.00	8.00	14.00
136	SR-905	La Media Rd. to SR-125	121,000	65	100	91.9	5.5	2.6	78.00	8.00	14.00
137	SR-905	SR-125 to Siempre Viva Rd.	103,000	65	100	91.9	5.5	2.6	78.00	8.00	14.00
138	SR-905	Siempre Viva Rd. to Border	64,500	65	100	91.9	5.5	2.6	78.00	8.00	14.00
139	St. Andrews Avenue	Otay Mesa Center Rd. To La Media Rd.	20,500	30	100	90	3	2	78.00	8.00	14.00
140	Street A	Ocean View Hills Pkwy. to Otay Mesa Rd.	19,500	40	100	90	3	2	78.00	8.00	14.00

Predicted Noise Levels

Project Name : OMCPU
Project Number : 3957.1
Modeled Condition : Adopted
0 Assessment Metric:

		Segment	Noise Levels, dBA Assessment Metric:				Distance to Traffic Noise Level Contours, Feet				
Segment	Roadway	From/To	Auto	MT	HT	Total	75 dB	70 dB	65 dB	60 dB	55 dB
1	Airway Road	Old Otay Mesa Rd. to Caliente Ave.	65.9	60.1	63.1	68	22	70	221	699	2,211
2	Airway Road	Caliente Ave. to Heritage Rd.	70.5	64.7	67.7	73	64	201	636	2,012	6,364
3	Airway Road	Heritage Rd. to Cactus Rd.	68.8	62.9	66.0	71	43	135	426	1,347	4,260
4	Airway Road	Cactus Rd. to Britannia Blvd.	69.5	63.6	66.7	72	50	159	502	1,586	5,015
5	Airway Road	Britannia Blvd. to La Media Rd.	68.7	62.9	65.9	71	42	133	421	1,330	4,206
6	Airway Road	La Media Rd. to Harves t Rd.	70.2	64.3	67.4	73	59	186	588	1,859	5,878
7	Airway Road	Harvest Rd. to Sanyo Ave.	69.8	63.9	67.0	72	53	169	534	1,688	5,339
8	Otay Center Drive	Harvest Rd. to Siempre Viva Rd.	62.6	57.5	61.0	66	11	36	115	363	1,147
9	Otay Mesa Center Road	Otay Mesa Rd. to St. Andrews Ave.	68.4	62.6	65.6	71	39	124	394	1,245	3,937
10	Airway Road	Michael Faraday Dr. to Enrico Fermi Dr.	64.8	59.0	62.1	67	17	55	173	546	1,726
11	Airway Road	Enrico Fermi Dr. to Siempre Viva Rd.	64.6	58.7	61.8	67	16	51	162	512	1,618
12	Avendia De Las Vistas	Otay Valley Rd. to Vista Santo Domingo	58.8	54.6	59.9	63	6	20	64	202	638
13	Avendia De Las Vistas	Vista Santo Domingo to Dennery Rd.	63.2	59.0	64.4	67	18	56	177	560	1,771
14	Avenida Costa Azul	Otay Mesa Rd. to St. Andrews Ave.	63.7	58.6	62.0	67	15	47	148	467	1,475
15	Aviator Road	Heritage Rd. to La Media Rd.	66.2	59.7	62.4	68	22	68	216	681	2,155
16	Beyer Boulevard	Alaquinas Dr. to Old Otay Mesa Rd.	65.0	59.9	63.4	68	20	63	201	635	2,008
17	Beyer Boulevard	Old Otay Mesa Rd. to East End	59.1	52.5	55.3	61	4	13	42	132	417
18	Britannia Boulevard	Otay Mesa Rd. to SR-905	65.7	59.9	62.9	68	21	67	210	665	2,103
19	Britannia Boulevard	SR-905 to Airway Rd.	68.6	69.3	77.2	78	215	681	2,152	6,807	21,525
20	Britannia Boulevard	Siempre Viva Rd. to South End	66.5	67.3	75.1	76	135	425	1,345	4,254	13,453
21	Britannia Boulevard	Airway Rd. to Siempre Viva Rd.	66.6	67.4	75.2	76	137	432	1,366	4,320	13,660
22	Cactus Road	Otay Mesa Rd. to Airway Rd.	69.7	63.2	65.9	72	49	154	487	1,539	4,866
23	Cactus Road	Airway Rd. to Siempre Viva Rd.	67.9	61.4	64.1	70	32	101	320	1,011	3,198
24	Cactus Road	Siempre Viva Rd. to South End	69.0	62.5	65.2	71	41	130	410	1,297	4,102
25	Caliente Avenue	Otay Mesa Rd. to SR-905	65.1	60.9	66.3	69	28	87	276	874	2,763
26	Caliente Avenue	Otay Mesa Rd. to SR-905	65.1	60.9	66.3	69	28	87	276	874	2,763
27	Caliente Avenue	SR-905 to Airway Rd.	68.6	62.8	65.8	71	41	130	410	1,296	4,099
28	Caliente Avenue	Airway Rd. to Siempre Viva Rd.	69.6	63.8	66.8	72	52	164	518	1,637	5,177
29	Caliente Avenue	Airway Rd. to Siempre Viva Rd.	69.6	63.8	66.8	72	52	164	518	1,637	5,177
30	Camino Maquiladora	Heritage Rd. to Pacific Rim Ct .	58.0	53.8	59.1	62	5	17	53	168	531
31	Camino Maquiladora	Pacific Rim Ct . to Cactus Rd.	57.0	52.8	58.2	61	4	13	43	134	425
32	Camino Maquiladora	Cactus Rd. to Continental St.	56.6	52.4	57.8	61	4	12	39	123	390
33	Centurion Street	Airway Rd. to Gigantic St.	65.5	59.6	62.7	68	20	63	200	631	1,995
34	Continental Street	South of Otay Mes a Rd.	57.7	52.6	56.0	61	4	12	37	117	369
35	Continental Street	North of Airway Rd.	61.1	56.1	59.5	64	8	26	82	259	820
36	Corporate Center Drive	Progressive Ave. to Innovative Dr.	63.9	58.1	61.2	66	14	44	140	443	1,402
37	Corporate Center Drive	Otay Mes a Rd. to Progres s ive Ave.	66.7	60.9	63.9	69	26	84	264	836	2,643
38	Corporate Center Drive	South End to Otay Mesa Rd.	65.2	59.4	62.5	68	19	60	189	597	1,888
39	Datsun Street	Innovative Dr. to Heritage Rd.	69.2	62.7	65.4	71	43	136	431	1,363	4,310
40	Del Sol Boulevard	Ocean View Hills Pkwy. to Surf Crest Dr.	64.8	59.8	63.2	68	19	61	193	609	1,926
41	Del Sol Boulevard	Surf Cres t Dr. to Riviera Pointe	65.3	60.2	63.6	68	21	67	213	674	2,131
42	Del Sol Boulevard	Riviera Pointe to Dennery Rd.	65.3	60.2	63.6	68	21	67	213	674	2,131
43	Del Sol Boulevard	Dennery Rd. to I-805	64.1	59.1	62.5	67	16	52	164	518	1,639
44	Dennery Road	Palm Ave. to Del Sol Blvd.	65.7	60.6	64.0	69	23	74	234	739	2,336
45	Dennery Road	Palm Ave. to Regatta Ln.	64.4	59.3	62.7	67	17	54	172	544	1,721
46	Dennery Road	Regatta Ln. to Red Coral Ln.	62.9	57.8	61.3	66	12	39	123	389	1,229
47	Dennery Road	Red Coral Ln. to Black Coral Ln.	62.9	57.8	61.3	66	12	39	123	389	1,229
48	Dennery Road	Black Coral Ln. to East End	64.5	59.4	62.8	67	18	56	176	557	1,762
49	Emerald Crest Dr.	Otay Mesa Rd. to South End	65.1	60.0	63.5	68	20	65	205	648	2,049
50	Enrico Fermi Drive	Siempre Viva Rd. to Via de la Amistad	61.6	62.4	70.2	71	43	137	435	1,374	4,346

51	Enrico Fermi Drive	Airway Rd. to SiempreViva Rd.	60.4	61.2	69.1	70	33	105	331	1,047	3,312
52	Enrico Fermi Drive	SR-11 to Airway Rd.	63.7	64.5	72.3	73	70	223	704	2,225	7,037
53	Excellante Street	Airway Rd. to Gigantic St.	65.7	59.9	62.9	68	21	67	210	665	2,103
54	Exposition Way / Vista Sar	Avenida De Las Vistas to Corporate Center Dr.	63.4	58.4	61.8	66	14	44	139	441	1,393
55	Gailes Boulevard	Otay Mesa Rd. to St . Andrews Ave.	62.3	56.5	59.6	65	10	31	97	307	971
56	Gigantic Street	Excellante St. to Centurion St.	65.7	59.9	62.9	68	21	67	210	665	2,103
57	Harvest Road	Otay Center Dr. to Siempre Viva Rd.	68.6	62.8	65.8	71	41	130	410	1,296	4,099
58	Harvest Road	Airway Rd. to Otay Center Dr.	68.1	62.3	65.3	71	37	116	367	1,160	3,667
59	Harvest Road	South of Otay Mesa Rd.	63.2	57.4	60.4	66	12	38	119	375	1,186
60	Heinrich Hertz Drive	Airway Rd. to Paseo de las Americas	65.5	60.4	63.8	68	22	70	221	700	2,213
61	Heritage Road/Otay Valley	Avenida De Las Vistas to Datsun St.	73.2	66.7	69.4	75	108	341	1,078	3,407	10,775
62	Heritage Road/Otay Valley	Datsun St. to Otay Mesa Rd.	71.0	64.5	67.3	73	66	209	660	2,088	6,604
63	Heritage Road/Otay Valley	Otay Mesa Rd. to SR-905	66.7	60.2	62.9	69	24	77	243	769	2,433
64	Heritage Road/Otay Valley	SR-905 to Airway Rd.	71.4	64.9	67.7	74	72	229	723	2,286	7,230
65	Heritage Road/Otay Valley	Main St. to Avenida De Las Vistas	73.7	67.2	69.9	76	121	383	1,210	3,825	12,096
66	Heritage Road/Otay Valley	Airway Rd. to Siempre Viva Rd.	71.9	65.4	68.1	74	81	255	806	2,550	8,064
67	I-805	Main St. to Palm Ave.	83.2	75.9	77.5	85	964	3,050	9,645	30,500	96,449
68	I-805	Palm Ave. to SR-905	82.7	75.4	76.9	84	853	2,696	8,526	26,963	85,264
69	I-805	SR-905 to I-5	79.3	72.0	73.6	81	394	1,247	3,942	12,467	39,423
70	I-805	I-5 to Border	80.1	72.8	74.3	82	468	1,479	4,676	14,786	46,757
71	Innovative Drive	Otay Mesa Rd. to Corporate Center Dr.	61.2	57.1	62.4	66	11	36	113	359	1,134
72	La Media Road	Lone Star Rd. to Aviator Rd.	71.0	71.1	78.6	80	309	976	3,086	9,760	30,863
73	La Media Road	Aviator Rd. to Otay Mesa Rd.	71.0	71.1	78.6	80	309	976	3,086	9,760	30,863
74	La Media Road	Otay Mesa Rd. to SR-905	69.7	69.8	77.3	79	230	726	2,297	7,263	22,968
75	La Media Road	SR-905 to Airway Rd.	70.2	71.0	78.8	80	313	988	3,125	9,883	31,252
76	La Media Road	Airway Rd. to Siempre Viva Rd.	66.4	67.2	75.1	76	132	419	1,325	4,189	13,246
77	La Media Road	Birch Rd. to Lone Star Rd.	71.1	71.9	79.7	81	385	1,217	3,850	12,174	38,496
78	Lone Star Road	La Media Rd. to SR-125	67.2	68.0	75.8	77	157	497	1,573	4,974	15,730
79	Lone Star Road	SR-125 to Piper Ranch Rd.	68.8	69.6	77.4	79	228	720	2,277	7,199	22,767
80	Lone Star Road	SR-125 to Piper Ranch Rd.	68.8	69.6	77.4	79	228	720	2,277	7,199	22,767
81	Lone Star Road	Piper Ranch Rd. to City / County Boundary	68.8	69.6	77.4	79	226	713	2,256	7,134	22,560
82	Marconi Drive	Pas eo de las Americas to Enrico Fermi Dr.	63.3	58.2	61.7	66	14	43	135	428	1,352
83	Michael Faraday Drive	Airway Rd. to Siempre Viva Rd.	59.0	54.8	60.2	63	7	21	67	213	673
84	Michael Faraday Drive	Siempre Viva Rd. to Marconi Dr.	56.6	52.4	57.8	61	4	12	39	123	390
85	Ocean View Hills Pkwy	Dennery Rd. to Del Sol Blvd.	68.6	62.1	64.8	71	38	119	375	1,187	3,754
86	Ocean View Hills Pkwy	Del Sol Blvd. to Street A	69.3	63.5	66.6	72	49	153	485	1,535	4,854
87	Ocean View Hills Pkwy	Street A to Otay Mesa Rd.	66.5	60.7	63.7	69	25	80	253	802	2,535
88	Old Otay Mesa Road	Otay Mesa Rd. to Airway Rd.	66.2	60.4	63.4	69	24	75	237	750	2,373
89	Old Otay Mesa Road	Airway Rd. to Crescent Bay Dr.	65.8	60.0	63.0	68	22	68	216	682	2,157
90	Old Otay Mesa Road	Crescent Bay Dr. to Beyer Blvd.	66.1	60.3	63.3	69	23	73	232	733	2,319
91	Otay Center Drive	Harvest Rd. to Siempre Viva Rd.	62.6	57.5	61.0	66	11	36	115	363	1,147
92	Otay Mesa Center Road	Otay Mesa Rd. to St. Andrews Ave.	68.4	62.6	65.6	71	39	124	394	1,245	3,937
93	Otay Mesa Road	Street A to Caliente Ave.	69.3	62.8	65.5	71	44	141	445	1,407	4,449
94	Otay Mesa Road	Caliente Ave. to Corporate Center Dr.	73.2	66.7	69.4	75	108	343	1,084	3,429	10,845
95	Otay Mesa Road	Corporate Center Dr. to Innovative Dr.	69.8	63.3	66.1	72	50	158	501	1,583	5,005
96	Otay Mesa Road	Innovative Dr. to Heritage Rd.	70.5	64.0	66.7	73	58	185	584	1,847	5,840
97	Otay Mesa Road	Heritage Rd. to Cactus Rd.	74.3	67.2	69.6	76	130	412	1,303	4,120	13,028
98	Otay Mesa Road	Cactus Rd. to Britannia Blvd.	72.4	65.2	67.7	74	84	264	836	2,644	8,362
99	Otay Mesa Road	Britannia Blvd. to Ailsa Ct.	73.3	66.1	68.6	75	103	326	1,030	3,257	10,299
100	Otay Mesa Road	Ailsa Ct. to La Media Rd.	72.5	65.4	67.9	74	87	276	871	2,756	8,715
101	Otay Mesa Road	La Media Rd. to Piper Ranch Rd.	71.3	64.7	67.5	73	70	220	695	2,198	6,952
102	Otay Mesa Road	Piper Ranch Rd. to SR-125	67.8	61.3	64.0	70	31	99	313	989	3,128
103	Otay Mesa Road	SR-125 to Harvest Rd.	70.6	64.0	66.8	73	59	187	591	1,869	5,909
104	Otay Mesa Road	Harvest Rd. to Sanyo Ave.	70.1	63.6	66.3	72	54	169	535	1,693	5,353
105	Otay Mesa Road	Sanyo Ave. to Enrico Fermi Dr.	64.3	58.4	61.5	67	15	48	151	478	1,510
106	Pacific Rim Court	Otay Mesa Rd. to Camino Maquiladora	60.3	53.8	56.5	62	6	18	56	176	556
107	Palm Ave.	Piccard Ave to I-805	69.6	64.5	67.9	73	57	180	570	1,801	5,696
108	Palm Ave.	I-805 to Dennery Rd.	72.7	66.2	68.9	75	97	306	966	3,056	9,663
109	Paseo de las Americas	Airway Rd. to Siempre Viva Rd.	66.4	61.3	64.7	69	27	87	275	868	2,746

110	Paseo de las Americas	Siempre Viva Rd. to Marconi Dr.	63.2	58.1	61.5	66	13	41	131	415	1,311
111	Piper Ranch Road	Lone Star Rd. to Otay Mesa Rd.	65.1	59.3	62.3	68	18	58	183	580	1,834
112	Piper Ranch Road	Lone Star Rd. to Otay Mesa Rd.	65.1	59.3	62.3	68	18	58	183	580	1,834
113	Progressive Avenue	Corporate Center Dr. to Innovative Dr.	61.5	57.3	62.7	66	12	38	120	381	1,205
114	Sanyo Avevue	Otay Mes a Rd. to Airway Rd.	70.6	64.1	66.8	73	60	189	598	1,891	5,979
115	Siempre Viva Rd.	Cactus Rd. to Britannia Blvd.	69.3	63.4	66.5	72	48	152	480	1,518	4,800
116	Siempre Viva Rd.	Britannia Blvd. to La Media Rd.	70.0	64.2	67.2	73	57	179	566	1,791	5,663
117	Siempre Viva Rd.	La Media Rd. to Harvest Rd.	68.2	62.3	65.4	71	37	118	372	1,177	3,721
118	Siempre Viva Rd.	Harvest Rd. to Otay Center Dr.	68.2	62.4	65.5	71	38	119	378	1,194	3,775
119	Siempre Viva Rd.	Otay Center Dr. to SR-905	70.9	65.1	68.1	73	70	220	696	2,200	6,957
120	Siempre Viva Rd.	SR-905 to Paseo de las Americas	71.4	65.5	68.6	74	78	246	777	2,456	7,766
121	Siempre Viva Rd.	Paseo de las Americas to Michael Faraday Dr.	65.9	60.1	63.1	68	22	70	221	699	2,211
122	Siempre Viva Rd.	Michael Faraday Dr. to Enrico Fermi Dr.	66.0	60.2	63.2	69	23	72	227	716	2,265
123	Siempre Viva Rd.	Enrico Fermi Dr. to SR-11	66.0	60.2	63.2	69	23	72	227	716	2,265
124	Siempre Viva Rd.	Caliente Ave. to East Beyer Blvd.	75.7	69.6	69.8	77	176	558	1,765	5,581	17,648
125	Siempre Viva Rd.	Heritage Rd. to Cactus Rd.	75.8	69.7	69.9	78	180	570	1,802	5,700	18,024
126	SR-11	SR-905 to Enrico Fermi Dr.	76.0	69.9	70.1	78	190	600	1,896	5,997	18,963
127	SR-11	Enrico Fermi Dr. to Siempre Viva Rd.	72.9	66.9	67.1	75	94	297	939	2,969	9,387
128	SR-11	Siempre Viva Rd. to Border	74.9	68.8	69.1	77	148	469	1,483	4,690	14,832
129	SR-125	Birch Rd. to Lone Star Rd.	79.1	73.0	73.2	81	385	1,217	3,849	12,171	38,489
130	SR-125	Lone Star Rd. to SR-905	77.8	71.7	71.9	80	285	902	2,854	9,024	28,538
131	SR-905	Picador Blvd. to I-805	80.6	74.5	74.7	82	543	1,716	5,426	17,158	54,259
132	SR-905	I-805 to Caliente Ave.	83.0	76.9	77.1	85	952	3,010	9,519	30,101	95,189
133	SR-905	Caliente Ave. to Heritage Rd.	82.5	76.4	76.6	84	841	2,660	8,411	26,598	84,111
134	SR-905	Heritage Rd. to Britannia Blvd.	81.8	75.7	76.0	84	725	2,292	7,247	22,917	72,471
135	SR-905	Britannia Blvd. to La Media Rd.	81.2	75.1	75.3	83	627	1,983	6,271	19,830	62,708
136	SR-905	La Media Rd. to SR-125	79.8	73.7	73.9	82	454	1,437	4,544	14,368	45,435
137	SR-905	SR-125 to Siempre Viva Rd.	79.1	73.0	73.2	81	387	1,223	3,868	12,231	38,676
138	SR-905	Siempre Viva Rd. to Border	77.1	71.0	71.2	79	242	766	2,422	7,659	24,220
139	St. Andrews Avenue	Otay Mesa Center Rd. To La Media Rd.	62.3	58.1	63.5	67	15	46	145	459	1,453
140	Street A	Ocean View Hills Pkwy. to Otay Mesa Rd.	65.7	59.9	62.9	68	21	67	210	665	2,103

FHWA RD-77-108

Traffic Noise Prediction Model

Data Input Sheet

Project Name : OMCPU
Project Number : 3957.1
Modeled Condition : Proposed

Surface Refelction: CNEL
Assessment Metric: Soft
Peak ratio to ADT: 10.00
Traffic Desc. (Peak or ADT) : ADT

Segment	Roadway	Segment From/To	Traffic Vol.	Speed (Mph)	Distance to CL	% Autos	%MT	% HT	Day %	Eve %	Night %	K-Factor
1	Airway Road	Old Otay Mesa Rd. to Caliente Ave.	10,500	40	100	90	3	2	78.00	8.00	14.00	
2	Airway Road	Caliente Ave. to Heritage Rd.	38,000	40	100	90	3	2	78.00	8.00	14.00	
3	Airway Road	Heritage Rd. to Cactus Rd.	60,500	40	100	90	3	2	78.00	8.00	14.00	
4	Airway Road	Cactus Rd. to Britannia Blvd.	44,500	40	100	90	3	2	78.00	8.00	14.00	
5	Airway Road	Britannia Blvd. to La Media Rd.	35,000	40	100	90	3	2	78.00	8.00	14.00	
6	Airway Road	La Media Rd. to Harvest Rd.	34,000	40	100	90	3	2	78.00	8.00	14.00	
7	Airway Road	Harvest Rd. to Sanyo Ave.	26,500	40	100	90	3	2	78.00	8.00	14.00	
8	Airway Road	Sanyo Ave. to Paseo de las Americas	10,000	40	100	90	3	2	78.00	8.00	14.00	
9	Airway Road	Paseo de las Americas to Michael Faraday Dr.	9,500	40	100	90	3	2	78.00	8.00	14.00	
10	Airway Road	Michael Faraday Dr. to Enrico Fermi Dr.	12,000	40	100	90	3	2	78.00	8.00	14.00	
11	Airway Road	Enrico Fermi Dr. to Siempre Viva Rd.	12,500	40	100	90	3	2	78.00	8.00	14.00	
12	Avendia De Las Vistas	Otay Valley Rd. to Vis ta Santo Domingo	7,000	30	100	90	3	2	78.00	8.00	14.00	
13	Avendia De Las Vistas	Vista Santo Domingo to Dennery Rd.	19,500	30	100	90	3	2	78.00	8.00	14.00	
14	Avenida Cos ta Azul	Otay Mesa Rd. to St. Andrews Ave.	19,000	35	100	90	3	2	78.00	8.00	14.00	
15	Aviator Road	Heritage Rd. to La Media Rd.	23,000	45	100	90	3	2	78.00	8.00	14.00	
16	Beyer Boulevard	Alaquinas Dr. to Old Otay Mesa Rd.	32,500	35	100	90	3	2	78.00	8.00	14.00	
17	Beyer Boulevard	Old Otay Mesa Rd. to Caliente Ave.	31,000	45	100	90	3	2	78.00	8.00	14.00	
18	Britannia Boulevard	Otay Mesa Rd. to SR-905	17,500	40	100	90	3	2	78.00	8.00	14.00	
19	Britannia Boulevard	SR-905 to Airway Rd.	63,000	40	100	65	10	20	78.00	8.00	14.00	
20	Britannia Boulevard	Airway Rd. to Siempre Viva Rd.	44,500	40	100	65	10	20	78.00	8.00	14.00	
21	Britannia Boulevard	Siempre Viva Rd. to South End	22,000	40	100	65	10	20	78.00	8.00	14.00	
22	Cactus Road	Otay Mesa Rd. to Airway Rd.	40,500	45	100	90	3	2	78.00	8.00	14.00	
23	Cactus Road	Airway Rd. to Siempre Viva Rd.	40,500	45	100	90	3	2	78.00	8.00	14.00	
24	Cactus Road	Siempre Viva Rd. to South End	11,000	45	100	90	3	2	78.00	8.00	14.00	
25	Caliente Avenue	Otay Mesa Rd. to SR-905	38,000	30	100	90	3	2	78.00	8.00	14.00	
26	Caliente Avenue	Otay Mesa Rd. to SR-905	38,000	30	100	90	3	2	78.00	8.00	14.00	
27	Caliente Avenue	SR-905 to Airway Rd.	32,000	40	100	90	3	2	78.00	8.00	14.00	
28	Caliente Avenue	Airway Rd. to Beyer Blvd.	46,000	40	100	90	3	2	78.00	8.00	14.00	
29	Caliente Avenue	Beyer Blvd. to Siempre Viva Rd.	41,000	40	100	90	3	2	78.00	8.00	14.00	
30	Camino Maquiladora	Heritage Rd. to Pacific Rim Ct.	9,500	30	100	90	3	2	78.00	8.00	14.00	
31	Camino Maquiladora	Pacific Rim Ct. to Cactus Rd.	7,500	30	100	90	3	2	78.00	8.00	14.00	
32	Camino Maquiladora	Cactus Rd. to Continental St.	6,000	30	100	90	3	2	78.00	8.00	14.00	
33	Centurion Street	Airway Rd. to Gigantic St.	6,000	40	100	90	3	2	78.00	8.00	14.00	
34	Continental Street	South of Otay Mesa Rd.	4,500	35	100	90	3	2	78.00	8.00	14.00	
35	Continental Street	North of Airway Rd.	12,000	35	100	90	3	2	78.00	8.00	14.00	
36	Corporate Center Drive	Progressive Ave. to Innovative Dr.	8,000	40	100	90	3	2	78.00	8.00	14.00	
37	Corporate Center Drive	Otay Mesa Rd. to Progressive Ave.	19,500	40	100	90	3	2	78.00	8.00	14.00	
38	Corporate Center Drive	South End to Otay Mesa Rd.	17,500	40	100	90	3	2	78.00	8.00	14.00	
39	Datsun Street	Innovative Dr. to Heritage Rd.	30,000	45	100	90	3	2	78.00	8.00	14.00	
40	Del Sol Boulevard	Ocean View Hills Pkwy. to Surf Crest Dr.	19,500	35	100	90	3	2	78.00	8.00	14.00	

41	Del Sol Boulevard	Surf Cres t Dr. to Riviera Pointe	23,000	35	100	90	3	2	78.00	8.00	14.00
42	Del Sol Boulevard	Riviera Pointe to Dennery Rd.	23,000	35	100	90	3	2	78.00	8.00	14.00
43	Del Sol Boulevard	Dennery Rd. to I-805	16,000	35	100	90	3	2	78.00	8.00	14.00
44	Dennery Road	Palm Ave. to Del Sol Blvd.	28,000	35	100	90	3	2	78.00	8.00	14.00
45	Dennery Road	Palm Ave. to Regatta Ln.	19,500	35	100	90	3	2	78.00	8.00	14.00
46	Dennery Road	Regatta Ln. to Red Coral Ln.	12,500	35	100	90	3	2	78.00	8.00	14.00
47	Dennery Road	Red Coral Ln. to Black Coral Ln.	12,500	35	100	90	3	2	78.00	8.00	14.00
48	Dennery Road	Black Coral Ln. to Eas t End	16,500	35	100	90	3	2	78.00	8.00	14.00
49	Emerald Crest Dr.	Otay Mesa Rd. to South End	25,000	35	100	90	3	2	78.00	8.00	14.00
50	Enrico Fermi Drive	Siempre Viva Rd. to Via de la Amis tad	10,500	40	100	65	10	20	78.00	8.00	14.00
51	Enrico Fermi Drive	Airway Rd. to SiempreViva Rd.	8,000	40	100	65	10	20	78.00	8.00	14.00
52	Enrico Fermi Drive	SR-11 to Airway Rd.*	15,500	40	100	65	10	20	78.00	8.00	14.00
53	Excellante Street	Airway Rd. to Gigantic St.	6,000	40	100	90	3	2	78.00	8.00	14.00
54	Exposition Way / Vista San	Avenida De Las Vistas to Corporate Dr.	12,500	35	100	90	3	2	78.00	8.00	14.00
55	Gailes Boulevard	Otay Mesa Rd. to St. Andrews Ave.	12,500	40	100	90	3	2	78.00	8.00	14.00
56	Gigantic Street	Excellante St. to Centurion St.	6,000	40	100	90	3	2	78.00	8.00	14.00
57	Harvest Road	Otay Center Dr. to Siempre Viva Rd.	10,000	40	100	90	3	2	78.00	8.00	14.00
58	Harvest Road	Airway Rd. to Otay Center Dr.	16,000	40	100	90	3	2	78.00	8.00	14.00
59	Harvest Road	South of Otay Mesa Rd.	8,500	40	100	90	3	2	78.00	8.00	14.00
60	Heinrich Hertz Drive	Airway Rd. to Paseo de las Americas	12,000	35	100	90	3	2	78.00	8.00	14.00
61	Road	Main St. to Avenida De Las Vis tas	83,000	45	100	90	3	2	78.00	8.00	14.00
62	Road	Avenida De Las Vis tas to Datsun St .	75,500	45	100	90	3	2	78.00	8.00	14.00
63	Road	Datsun St. to Otay Mesa Rd.	48,000	45	100	90	3	2	78.00	8.00	14.00
64	Road	Otay Mesa Rd. to SR-905	23,500	45	100	90	3	2	78.00	8.00	14.00
65	Road	SR-905 to Airway Rd.	35,000	45	100	90	3	2	78.00	8.00	14.00
66	Road	Main St. to Avenida De Las Vistas	1	45	100	90	3	2	78.00	8.00	14.00
67	Road	Airway Rd. to Siempre Viva Rd.	1	45	100	90	3	2	78.00	8.00	14.00
68	I-805	Main St. to Palm Ave.	248,000	65	100	93.1	4.2	2.7	78.00	8.00	14.00
69	I-805	Palm Ave. to SR-905	222,000	65	100	93.1	4.2	2.7	78.00	8.00	14.00
70	I-805	SR-905 to I-5	122,000	65	100	93.1	4.2	2.7	78.00	8.00	14.00
71	I-805	I-5 to Border	135,500	65	100	93.1	4.2	2.7	78.00	8.00	14.00
72	Innovative Drive	Otay Mesa Rd. to Corporate Center Dr.	15,000	30	100	90	3	2	78.00	8.00	14.00
73	La Media Road	Lone Star Rd. to Aviator Rd.	19,500	45	100	65	10	20	78.00	8.00	14.00
74	La Media Road	Aviator Rd. to Otay Mesa Rd.	22,500	45	100	65	10	20	78.00	8.00	14.00
75	La Media Road	Otay Mesa Rd. to SR-905	37,500	45	100	65	10	20	78.00	8.00	14.00
76	La Media Road	SR-905 to Airway Rd.	64,000	40	100	65	10	20	78.00	8.00	14.00
77	La Media Road	Airway Rd. to Siempre Viva Rd.	33,000	40	100	65	10	20	78.00	8.00	14.00
78	La Media Road	Birch Rd. to Lone Star Rd.	1	40	100	65	10	20	78.00	8.00	14.00
79	Lone Star Road	La Media Rd. to SR-125	1	40	100	65	10	20	78.00	8.00	14.00
80	Lone Star Road	SR-125 to Piper Ranch Rd.	35,000	40	100	65	10	20	78.00	8.00	14.00
81	Lone Star Road	SR-125 to Piper Ranch Rd.	35,000	40	100	65	10	20	78.00	8.00	14.00
82	Lone Star Road	Piper Ranch Rd. to City / County Boundary	36,000	40	100	65	10	20	78.00	8.00	14.00
83	Marconi Drive	Paseo de las Americas to Enrico Fermi Dr.	8,000	35	100	90	3	2	78.00	8.00	14.00
84	Michael Faraday Drive	Airway Rd. to Siempre Viva Rd.	6,500	30	100	90	3	2	78.00	8.00	14.00
85	Michael Faraday Drive	Siempre Viva Rd. to Marconi Dr.	8,000	30	100	90	3	2	78.00	8.00	14.00
86	Ocean View Hills Pkwy	Dennery Rd. to Del Sol Blvd.	22,000	45	100	90	3	2	78.00	8.00	14.00
87	Ocean View Hills Pkwy	Del Sol Blvd. to Street “A”	35,000	40	100	90	3	2	78.00	8.00	14.00
88	Ocean View Hills Pkwy	Street “A” to Otay Mesa Rd.	23,500	40	100	90	3	2	78.00	8.00	14.00
89	Old Otay Mesa Road	Otay Mesa Rd. to Airway Rd.	22,000	40	100	90	3	2	78.00	8.00	14.00
90	Old Otay Mesa Road	Airway Rd. to Crescent Bay Dr.	14,500	40	100	90	3	2	78.00	8.00	14.00

91	Old Otay Mesa Road	Crescent Bay Dr. to Beyer Blvd.	16,000	40	100	90	3	2	78.00	8.00	14.00
92	Otay Center Drive	Harvest Rd. to Siempre Viva Rd.	15,500	35	100	90	3	2	78.00	8.00	14.00
93	Otay Mesa Center Road	Otay Mesa Rd. to St. Andrews Ave.	24,000	40	100	90	3	2	78.00	8.00	14.00
94	Otay Mesa Road	Street A to Caliente Ave.	26,000	45	100	90	3	2	78.00	8.00	14.00
95	Otay Mesa Road	Caliente Ave. to Corporate Center Dr.	72,500	45	100	90	3	2	78.00	8.00	14.00
96	Otay Mesa Road	Corporate Center Dr. to Innovative Dr.	51,500	45	100	90	3	2	78.00	8.00	14.00
97	Otay Mesa Road	Innovative Dr. to Heritage Rd.	46,500	45	100	90	3	2	78.00	8.00	14.00
98	Otay Mesa Road	Heritage Rd. to Cactus Rd.	76,500	50	100	90	3	2	78.00	8.00	14.00
99	Otay Mesa Road	Cactus Rd. to Britannia Blvd.	44,000	50	100	90	3	2	78.00	8.00	14.00
100	Otay Mesa Road	Britannia Blvd. to Ailsa Ct.	50,500	50	100	90	3	2	78.00	8.00	14.00
101	Otay Mesa Road	Ailsa Ct. to La Media Rd.	42,500	50	100	90	3	2	78.00	8.00	14.00
102	Otay Mesa Road	La Media Rd. to Piper Ranch Rd.	54,000	45	100	90	3	2	78.00	8.00	14.00
103	Otay Mesa Road	Piper Ranch Rd. to SR-125	28,500	45	100	90	3	2	78.00	8.00	14.00
104	Otay Mesa Road	SR-125 to Harves t Rd.	36,000	45	100	90	3	2	78.00	8.00	14.00
105	Otay Mesa Road	Harvest Rd. to Sanyo Ave.	32,000	45	100	90	3	2	78.00	8.00	14.00
106	Otay Mesa Road	Sanyo Ave. to Enrico Fermi Dr.	7,500	40	100	90	3	2	78.00	8.00	14.00
107	Pacific Rim Court	Otay Mesa Rd. to Camino Maquiladora	4,500	45	100	90	3	2	78.00	8.00	14.00
108	Palm Ave.	Piccard Ave to I-805	1	35	100	90	3	2	78.00	8.00	14.00
109	Palm Ave.	I-805 to Dennery Rd.	59,500	45	100	90	3	2	78.00	8.00	14.00
110	Paseo de las Americas	Airway Rd. to Siempre Viva Rd.	16,500	35	100	90	3	2	78.00	8.00	14.00
111	Paseo de las Americas	Siempre Viva Rd. to Marconi Dr.	15,000	35	100	90	3	2	78.00	8.00	14.00
112	Piper Ranch Road	Lone Star Rd. to Otay Mesa Rd.	20,500	40	100	90	3	2	78.00	8.00	14.00
113	Piper Ranch Road	Lone Star Rd. to Otay Mesa Rd.	20,500	40	100	90	3	2	78.00	8.00	14.00
114	Progressive Avenue	Corporate Center Dr. to Innovative Dr.	11,500	30	100	90	3	2	78.00	8.00	14.00
115	Sanyo Avevue	Otay Mesa Rd. to Airway Rd.	24,500	45	100	90	3	2	78.00	8.00	14.00
116	Siempre Viva Rd.	Cactus Rd. to Britannia Blvd.	37,000	40	100	90	3	2	78.00	8.00	14.00
117	Siempre Viva Rd.	Britannia Blvd. to La Media Rd.	42,500	40	100	90	3	2	78.00	8.00	14.00
118	Siempre Viva Rd.	La Media Rd. to Harves t Rd.	40,500	40	100	90	3	2	78.00	8.00	14.00
119	Siempre Viva Rd.	Harves t Rd. to Otay Center Dr.	34,000	40	100	90	3	2	78.00	8.00	14.00
120	Siempre Viva Rd.	Otay Center Dr. to SR-905	60,000	40	100	90	3	2	78.00	8.00	14.00
121	Siempre Viva Rd.	SR-905 to Paseo de las Americas	63,000	40	100	90	3	2	78.00	8.00	14.00
122	Siempre Viva Rd.	Paseo de las Americas to Michael Faraday Dr.	23,000	40	100	90	3	2	78.00	8.00	14.00
123	Siempre Viva Rd.	Michael Faraday Dr. to Enrico Fermi Dr.	21,000	40	100	90	3	2	78.00	8.00	14.00
124	Siempre Viva Rd.	Enrico Fermi Dr. to SR-11*	17,500	40	100	90	3	2	78.00	8.00	14.00
125	Siempre Viva Rd.	Caliente Ave. to West Terminus	10,000	65	100	91.9	5.5	2.6	78.00	8.00	14.00
126	Siempre Viva Rd.	Heritage Rd. to Cactus Rd.	1	65	100	91.9	5.5	2.6	78.00	8.00	14.00
127	SR-11	SR-905 to Enrico Fermi Dr.	47,000	65	100	91.9	5.5	2.6	78.00	8.00	14.00
128	SR-11	Enrico Fermi Dr. to Siempre Viva Rd	24,500	65	100	91.9	5.5	2.6	78.00	8.00	14.00
129	SR-11	Siempre Viva Rd. to Border	39,500	65	100	91.9	5.5	2.6	78.00	8.00	14.00
130	SR-125	Birch Rd. to Lone Star Rd.	155,500	65	100	91.9	5.5	2.6	78.00	8.00	14.00
131	SR-125	Lone Star Rd. to SR-905	115,500	65	100	91.9	5.5	2.6	78.00	8.00	14.00
132	SR-905	Picador Blvd. to I-805	128,500	65	100	91.9	5.5	2.6	78.00	8.00	14.00
133	SR-905	I-805 to Caliente Ave.	221,000	65	100	91.9	5.5	2.6	78.00	8.00	14.00
134	SR-905	Caliente Ave. to Heritage Rd.	196,000	65	100	91.9	5.5	2.6	78.00	8.00	14.00
135	SR-905	Heritage Rd. to Britannia Blvd.	173,000	65	100	91.9	5.5	2.6	78.00	8.00	14.00
136	SR-905	Britannia Blvd. to La Media Rd.	154,000	65	100	91.9	5.5	2.6	78.00	8.00	14.00
137	SR-905	La Media Rd. to SR-125	103,500	65	100	91.9	5.5	2.6	78.00	8.00	14.00
138	SR-905	SR-125 to Siempre Viva Rd.	99,000	65	100	91.9	5.5	2.6	78.00	8.00	14.00
139	SR-905	Siempre Viva Rd. to Border	64,500	65	100	91.9	5.5	2.6	78.00	8.00	14.00
140	St. Andrews Avenue	Otay Mesa Center Rd. to La Media Rd.	13,500	30	100	90	3	2	78.00	8.00	14.00
141	Street A	Ocean View Hills Pkwy. to Otay Mesa Rd.	13,500	40	100	90	3	2	78.00	8.00	14.00

FHWA RD-77-108

Traffic Noise Prediction Model

Predicted Noise Levels

Project Name : OMCPU
Project Number : 3957.1
Modeled Condition : Proposed
Assessment Metric: Soft

Segment	Roadway	Segment From/To	Noise Levels, dBA Soft Auto	MT	HT	Total	Distance to Traffic Noise Level Contours, Feet 75 dB	70 dB	65 dB	60 dB	55 dB
1	Airway Road	Old Otay Mesa Rd. to Caliente Ave.	63.0	57.2	60.2	66	23	50	109	234	504
2	Airway Road	Caliente Ave. to Heritage Rd.	68.6	62.8	65.8	71	55	119	256	552	1,189
3	Airway Road	Heritage Rd. to Cactus Rd.	70.6	64.8	67.8	73	75	162	349	752	1,621
4	Airway Road	Cactus Rd. to Britannia Blvd.	69.3	63.4	66.5	72	61	132	285	613	1,321
5	Airway Road	Britannia Blvd. to La Media Rd.	68.2	62.4	65.5	71	52	113	242	522	1,125
6	Airway Road	La Media Rd. to Harvest Rd.	68.1	62.3	65.3	71	51	110	238	512	1,104
7	Airway Road	Harvest Rd. to Sanyo Ave.	67.0	61.2	64.3	70	43	93	201	434	935
8	Old Otay Mesa Road	Crescent Bay Dr. to Beyer Blvd.	64.8	59.0	62.1	67	31	67	144	310	668
9	Otay Center Drive	Harvest Rd. to Siempre Viva Rd.	63.0	58.0	61.4	66	25	54	117	253	544
10	Airway Road	Michael Faraday Dr. to Enrico Fermi Dr.	63.6	57.8	60.8	66	26	55	119	256	551
11	Airway Road	Enrico Fermi Dr. to Siempre Viva Rd.	63.8	57.9	61.0	66	26	57	122	263	566
12	Avendia De Las Vistas	Otay Valley Rd. to Vis ta Santo Domingo	57.7	53.5	58.8	62	13	29	63	135	291
13	Avendia De Las Vistas	Vista Santo Domingo to Dennery Rd.	62.1	57.9	63.3	66	27	58	124	267	576
14	Avenida Cos ta Azul	Otay Mesa Rd. to St. Andrews Ave.	63.9	58.8	62.3	67	29	62	134	289	624
15	Aviator Road	Heritage Rd. to La Media Rd.	67.9	61.4	64.1	70	47	101	217	468	1,007
16	Beyer Boulevard	Alaquinas Dr. to Old Otay Mesa Rd.	66.3	61.2	64.6	69	41	89	192	414	892
17	Beyer Boulevard	Old Otay Mesa Rd. to Caliente Ave.	69.2	62.7	65.4	71	57	123	265	571	1,229
18	Britannia Boulevard	Otay Mesa Rd. to SR-905	65.2	59.4	62.5	68	33	71	153	329	709
19	Britannia Boulevard	SR-905 to Airway Rd.	69.4	70.2	78.0	79	189	408	879	1,895	4,082
20	Britannia Boulevard	Airway Rd. to Siempre Viva Rd.	67.9	68.7	76.5	78	150	324	697	1,503	3,237
21	Britannia Boulevard	Siempre Viva Rd. to South End	64.8	65.6	73.4	75	94	202	436	940	2,024
22	Cactus Road	Otay Mesa Rd. to Airway Rd.	70.4	63.8	66.6	73	68	147	317	682	1,469
23	Cactus Road	Airway Rd. to Siempre Viva Rd.	70.4	63.8	66.6	73	68	147	317	682	1,469
24	Cactus Road	Siempre Viva Rd. to South End	64.7	58.2	60.9	67	29	62	133	286	616
25	Caliente Avenue	Otay Mesa Rd. to SR-905	65.0	60.8	66.2	69	42	90	194	417	898
26	Caliente Avenue	Otay Mesa Rd. to SR-905	65.0	60.8	66.2	69	42	90	194	417	898
27	Caliente Avenue	SR-905 to Airway Rd.	67.9	62.0	65.1	70	49	106	228	492	1,060
28	Caliente Avenue	Airway Rd. to Beyer Blvd.	69.4	63.6	66.7	72	63	135	291	627	1,350
29	Caliente Avenue	Beyer Blvd. to Siempre Viva Rd.	68.9	63.1	66.2	71	58	125	269	580	1,251
30	Camino Maquiladora	Heritage Rd. to Pacific Rim Ct.	59.0	54.8	60.2	63	17	36	77	165	357
31	Camino Maquiladora	Pacific Rim Ct. to Cactus Rd.	58.0	53.8	59.1	62	14	30	66	141	305
32	Camino Maquiladora	Cactus Rd. to Continental St.	57.0	52.8	58.2	61	12	26	57	122	262
33	Centurion Street	Airway Rd. to Gigantic St.	60.6	54.7	57.8	63	16	35	75	161	347
34	Continental Street	South of Otay Mesa Rd.	57.7	52.6	56.0	61	11	24	51	111	239
35	Continental Street	North of Airway Rd.	61.9	56.8	60.3	65	21	46	99	213	459
36	Corporate Center Drive	Progressive Ave. to Innovative Dr.	61.8	56.0	59.1	64	20	42	91	195	421
37	Corporate Center Drive	Otay Mesa Rd. to Progressive Ave.	65.7	59.9	62.9	68	35	76	164	354	762
38	Corporate Center Drive	South End to Otay Mesa Rd.	65.2	59.4	62.5	68	33	71	153	329	709
39	Datsun Street	Innovative Dr. to Heritage Rd.	69.1	62.5	65.3	71	56	120	259	558	1,203
40	Del Sol Boulevard	Ocean View Hills Pkwy. to Surf Crest Dr.	64.0	59.0	62.4	67	29	63	137	295	634

41	Del Sol Boulevard	Surf Cres t Dr. to Riviera Pointe	64.8	59.7	63.1	68	33	71	153	329	708
42	Del Sol Boulevard	Riviera Pointe to Dennery Rd.	64.8	59.7	63.1	68	33	71	153	329	708
43	Del Sol Boulevard	Dennery Rd. to I-805	63.2	58.1	61.5	66	26	56	120	258	556
44	Dennery Road	Palm Ave. to Del Sol Blvd.	65.6	60.5	64.0	69	37	81	174	375	808
45	Dennery Road	Palm Ave. to Regatta Ln.	64.0	59.0	62.4	67	29	63	137	295	634
46	Dennery Road	Regatta Ln. to Red Coral Ln.	62.1	57.0	60.5	65	22	47	102	219	472
47	Dennery Road	Red Coral Ln. to Black Coral Ln.	62.1	57.0	60.5	65	22	47	102	219	472
48	Dennery Road	Black Coral Ln. to Eas t End	63.3	58.2	61.7	66	26	57	122	263	568
49	Emerald Crest Dr.	Otay Mesa Rd. to South End	65.1	60.0	63.5	68	35	75	161	348	749
50	Enrico Fermi Drive	Siempre Viva Rd. to Via de la Amis tad	61.6	62.4	70.2	71	57	124	266	574	1,236
51	Enrico Fermi Drive	Airway Rd. to SiempreViva Rd.	60.4	61.2	69.1	70	48	103	222	479	1,031
52	Enrico Fermi Drive	SR-11 to Airway Rd.*	63.3	64.1	71.9	73	74	160	345	744	1,603
53	Excellante Street	Airway Rd. to Gigantic St.	60.6	54.7	57.8	63	16	35	75	161	347
54	Exposition Way / Vista San	Avenida De Las Vistas to Corporate Dr.	62.1	57.0	60.5	65	22	47	102	219	472
55	Gailes Boulevard	Otay Mesa Rd. to St. Andrews Ave.	63.8	57.9	61.0	66	26	57	122	263	566
56	Gigantic Street	Excellante St. to Centurion St.	60.6	54.7	57.8	63	16	35	75	161	347
57	Harvest Road	Otay Center Dr. to Siempre Viva Rd.	62.8	57.0	60.0	65	23	49	105	227	488
58	Harvest Road	Airway Rd. to Otay Center Dr.	64.8	59.0	62.1	67	31	67	144	310	668
59	Harvest Road	South of Otay Mesa Rd.	62.1	56.3	59.3	65	20	44	94	203	438
60	Heinrich Hertz Drive	Airway Rd. to Paseo de las Americas	61.9	56.8	60.3	65	21	46	99	213	459
61	Heritage Road/Otay Valley	Main St. to Avenida De Las Vis tas	73.5	66.9	69.7	76	110	237	511	1,100	2,370
62	Heritage Road/Otay Valley	Avenida De Las Vis tas to Datsun St .	73.1	66.5	69.3	75	103	223	479	1,033	2,225
63	Heritage Road/Otay Valley	Datsun St. to Otay Mesa Rd.	71.1	64.6	67.3	73	76	165	354	764	1,645
64	Heritage Road/Otay Valley	Otay Mesa Rd. to SR-905	68.0	61.5	64.2	70	47	102	220	474	1,022
65	Heritage Road/Otay Valley	SR-905 to Airway Rd.	69.7	63.2	65.9	72	62	133	287	619	1,333
66	Heritage Road/Otay Valley	Main St. to Avenida De Las Vistas	24.3	17.8	20.5	26	0	0	0	1	1
67	Heritage Road/Otay Valley	Airway Rd. to Siempre Viva Rd.	24.3	17.8	20.5	26	0	0	0	1	1
68	I-805	Main St. to Palm Ave.	83.0	75.7	77.2	85	436	939	2,022	4,357	9,387
69	I-805	Palm Ave. to SR-905	82.5	75.2	76.7	84	405	872	1,878	4,047	8,719
70	I-805	SR-905 to I-5	79.9	72.6	74.1	82	272	585	1,260	2,715	5,850
71	I-805	I-5 to Border	80.3	73.0	74.6	82	291	627	1,352	2,912	6,274
72	Innovative Drive	Otay Mesa Rd. to Corporate Center Dr.	61.0	56.8	62.1	65	22	48	104	224	483
73	La Media Road	Lone Star Rd. to Aviator Rd.	65.8	65.9	73.4	75	95	206	443	955	2,057
74	La Media Road	Aviator Rd. to Otay Mesa Rd.	66.4	66.5	74.0	75	105	226	488	1,050	2,263
75	La Media Road	Otay Mesa Rd. to SR-905	68.6	68.7	76.2	78	148	318	685	1,477	3,181
76	La Media Road	SR-905 to Airway Rd.	69.5	70.3	78.1	79	191	412	889	1,915	4,125
77	La Media Road	Airway Rd. to Siempre Viva Rd.	66.6	67.4	75.2	76	123	265	571	1,231	2,652
78	La Media Road	Birch Rd. to Lone Star Rd.	21.4	22.2	30.0	31	0	0	1	1	3
79	Lone Star Road	La Media Rd. to SR-125	21.4	22.2	30.0	31	0	0	1	1	3
80	Lone Star Road	SR-125 to Piper Ranch Rd.	66.8	67.6	75.5	77	128	276	594	1,280	2,758
81	Lone Star Road	SR-125 to Piper Ranch Rd.	66.8	67.6	75.5	77	128	276	594	1,280	2,758
82	Lone Star Road	Piper Ranch Rd. to City / County Boundary	67.0	67.8	75.6	77	130	281	606	1,305	2,811
83	Marconi Drive	Paseo de las Americas to Enrico Fermi Dr.	60.2	55.1	58.5	63	16	35	75	163	350
84	Michael Faraday Drive	Airway Rd. to Siempre Viva Rd.	57.3	53.1	58.5	62	13	28	60	128	277
85	Michael Faraday Drive	Siempre Viva Rd. to Marconi Dr.	58.2	54.0	59.4	63	15	32	68	148	318
86	Ocean View Hills Pkwy	Dennery Rd. to Del Sol Blvd.	67.7	61.2	63.9	70	45	98	211	454	978
87	Ocean View Hills Pkwy	Del Sol Blvd. to Street “A”	68.2	62.4	65.5	71	52	113	242	522	1,125
88	Ocean View Hills Pkwy	Street “A” to Otay Mesa Rd.	66.5	60.7	63.7	69	40	86	186	401	863
89	Old Otay Mesa Road	Otay Mesa Rd. to Airway Rd.	66.2	60.4	63.4	69	38	83	178	383	826
90	Old Otay Mesa Road	Airway Rd. to Crescent Bay Dr.	64.4	58.6	61.6	67	29	63	135	290	625
91	Old Otay Mesa Road	Crescent Bay Dr. to Beyer Blvd.	64.8	59.0	62.1	67	31	67	144	310	668
92	Otay Center Drive	Harvest Rd. to Siempre Viva Rd.	63.0	58.0	61.4	66	25	54	117	253	544

93	Otay Mesa Center Road	Otay Mesa Rd. to St. Andrews Ave.	66.6	60.8	63.8	69	41	88	189	406	875
94	Otay Mesa Road	Street A to Caliente Ave.	68.4	61.9	64.6	71	51	109	236	507	1,093
95	Otay Mesa Road	Caliente Ave. to Corporate Center Dr.	72.9	66.4	69.1	75	101	217	467	1,005	2,166
96	Otay Mesa Road	Corporate Center Dr. to Innovative Dr.	71.4	64.9	67.6	74	80	172	372	800	1,724
97	Otay Mesa Road	Innovative Dr. to Heritage Rd.	71.0	64.4	67.2	73	75	161	347	748	1,611
98	Otay Mesa Road	Heritage Rd. to Cactus Rd.	74.4	67.3	69.8	76	122	263	566	1,220	2,627
99	Otay Mesa Road	Cactus Rd. to Britannia Blvd.	72.0	64.9	67.4	74	84	182	391	843	1,817
100	Otay Mesa Road	Britannia Blvd. to Ailsa Ct.	72.6	65.5	67.9	74	92	199	429	925	1,992
101	Otay Mesa Road	Ailsa Ct. to La Media Rd.	71.9	64.8	67.2	74	82	178	383	824	1,776
102	Otay Mesa Road	La Media Rd. to Piper Ranch Rd.	71.6	65.1	67.8	74	83	178	383	826	1,780
103	Otay Mesa Road	Piper Ranch Rd. to SR-125	68.8	62.3	65.0	71	54	116	250	539	1,162
104	Otay Mesa Road	SR-125 to Harves t Rd.	69.8	63.3	66.1	72	63	136	293	630	1,358
105	Otay Mesa Road	Harvest Rd. to Sanyo Ave.	69.3	62.8	65.5	71	58	126	271	583	1,256
106	Otay Mesa Road	Sanyo Ave. to Enrico Fermi Dr.	61.6	55.7	58.8	64	19	40	87	187	403
107	Pacific Rim Court	Otay Mesa Rd. to Camino Maquiladora	60.8	54.3	57.0	63	16	34	73	158	340
108	Palm Ave.	Piccard Ave to I-805	21.1	16.1	19.5	24	0	0	0	0	1
109	Palm Ave.	I-805 to Dennery Rd.	72.0	65.5	68.2	74	88	190	409	881	1,899
110	Paseo de las Americas	Airway Rd. to Siempre Viva Rd.	63.3	58.2	61.7	66	26	57	122	263	568
111	Paseo de las Americas	Siempre Viva Rd. to Marconi Dr.	62.9	57.8	61.3	66	25	53	115	247	533
112	Piper Ranch Road	Lone Star Rd. to Otay Mesa Rd.	65.9	60.1	63.1	68	37	79	170	366	788
113	Piper Ranch Road	Lone Star Rd. to Otay Mesa Rd.	65.9	60.1	63.1	68	37	79	170	366	788
114	Progressive Avenue	Corporate Center Dr. to Innovative Dr.	59.8	55.6	61.0	64	19	40	87	188	405
115	Sanyo Avevue	Otay Mesa Rd. to Airway Rd.	68.2	61.7	64.4	70	49	105	226	488	1,051
116	Siempre Viva Rd.	Cactus Rd. to Britannia Blvd.	68.5	62.6	65.7	71	54	117	252	542	1,168
117	Siempre Viva Rd.	Britannia Blvd. to La Media Rd.	69.1	63.2	66.3	72	59	128	276	595	1,281
118	Siempre Viva Rd.	La Media Rd. to Harves t Rd.	68.9	63.0	66.1	71	58	124	267	576	1,240
119	Siempre Viva Rd.	Harves t Rd. to Otay Center Dr.	68.1	62.3	65.3	71	51	110	238	512	1,104
120	Siempre Viva Rd.	Otay Center Dr. to SR-905	70.6	64.7	67.8	73	75	161	347	748	1,612
121	Siempre Viva Rd.	SR-905 to Paseo de las Americas	70.8	65.0	68.0	73	77	167	359	773	1,665
122	Siempre Viva Rd.	Paseo de las Americas to Michael Faraday Dr.	66.4	60.6	63.6	69	39	85	183	395	851
123	Siempre Viva Rd.	Michael Faraday Dr. to Enrico Fermi Dr.	66.0	60.2	63.2	69	37	80	172	372	801
124	Siempre Viva Rd.	Enrico Fermi Dr. to SR-11*	65.2	59.4	62.5	68	33	71	153	329	709
125	Siempre Viva Rd.	Caliente Ave. to West Terminus	69.0	62.9	63.1	71	52	112	242	520	1,121
126	Siempre Viva Rd.	Heritage Rd. to Cactus Rd.	29.0	22.9	23.1	31	0	0	1	1	2
127	SR-11	SR-905 to Enrico Fermi Dr.	75.7	69.6	69.8	77	146	315	678	1,460	3,146
128	SR-11	Enrico Fermi Dr. to Siempre Viva Rd	72.9	66.8	67.0	75	95	204	439	946	2,038
129	SR-11	Siempre Viva Rd. to Border	74.9	68.8	69.1	77	130	280	604	1,301	2,802
130	SR-125	Birch Rd. to Lone Star Rd.	80.9	74.8	75.0	83	324	699	1,505	3,243	6,986
131	SR-125	Lone Star Rd. to SR-905	79.6	73.5	73.7	81	266	573	1,234	2,659	5,730
132	SR-905	Picador Blvd. to I-805	80.1	74.0	74.2	82	286	615	1,325	2,855	6,152
133	SR-905	I-805 to Caliente Ave.	82.4	76.3	76.5	84	410	883	1,903	4,099	8,831
134	SR-905	Caliente Ave. to Heritage Rd.	81.9	75.8	76.0	84	378	815	1,756	3,784	8,152
135	SR-905	Heritage Rd. to Britannia Blvd.	81.4	75.3	75.5	83	348	750	1,616	3,482	7,501
136	SR-905	Britannia Blvd. to La Media Rd.	80.8	74.8	75.0	83	322	694	1,495	3,222	6,941
137	SR-905	La Media Rd. to SR-125	79.1	73.0	73.3	81	247	533	1,147	2,472	5,326
138	SR-905	SR-125 to Siempre Viva Rd.	78.9	72.8	73.1	81	240	517	1,114	2,400	5,170
139	SR-905	Siempre Viva Rd. to Border	77.1	71.0	71.2	79	180	389	837	1,803	3,885
140	St. Andrews Avenue	Otay Mesa Center Rd. to La Media Rd.	60.5	56.3	61.7	65	21	45	97	209	451
141	Street A	Ocean View Hills Pkwy. to Otay Mesa Rd.	64.1	58.3	61.3	67	28	60	128	277	596

APPENDIX J

Transportation Analysis

TRANSPORTATION ANALYSIS

For

OTAY MESA COMMUNITY PLAN UPDATE

Prepared for

THE CITY OF SAN DIEGO

Final Report, June 14, 2012
with corrections dated August 30, 2013
on four pages (ES-21, ES-38, ES-67, and 5-32).

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D. Scenario 3B Without La Media Road

ES. EXECUTIVE SUMMARY

In support of the Otay Mesa Community Plan Update, this traffic study was prepared to evaluate existing and future traffic conditions at buildout of the community for three scenarios, the Adopted Community Plan, Scenario 3B With La Media Road, and Scenario 3B Without La Media Road.

No Project Scenario / Adopted Community Plan: The adopted Otay Mesa Community Plan concentrates residential development in the western third of Otay Mesa with industrial and commercial uses planned for the central and eastern portions of the community. The original 1981 land use map anticipated the development of 18,200 dwelling units in Otay Mesa. However, a 1997 community plan amendment to incorporate the Multiple Species Conservation Program (MSCP) reduced the potential residential build-out units resulting in 12,206 dwelling units currently being anticipated by the Otay Mesa Community Plan. The traffic forecast for this alternate assumed 5,776,000 square feet of commercial uses and 64,465,000 square feet of industrial uses. The buildout of this plan would generate a total of 1,165,103 average daily vehicle trips.

Land Use Scenario 3B With La Media Road: Approximately 18,774 dwelling units could be developed under this plan by increasing the housing unit yield in the southwestern residential areas, creating Community Villages south of Airway Road, west of Cactus Road and in an area south of SR-905 and west of Britannia Boulevard. This plan would retain industrial and commercial uses between Otay Mesa Road and SR-905. A cross border facility is included in this plan. The traffic forecast for this alternative assumed 3,917,000 square feet of commercial uses and 54,461,000 square feet of industrial uses. The buildout of this plan would generate 1,045,025 average daily vehicle trips.

The City of Chula Vista is preparing a General Plan Amendment, anticipated in Spring 2012, that would delete the La Media Road bridge crossing the Otay River Valley from their General Plan, and has deleted this project from their facilities financing plan. Therefore, the "With La Media Road" connection to Chula Vista appears to no longer be a viable alternative. For this reason, the detailed analysis provided in Chapter 6 for the 3B With La Media Road alternative is not summarized here in the Executive Summary.

Land Use Scenario 3B Without La Media Road – Proposed Community Plan Buidlout: The Adopted Community Plan includes the extension of La Media Road north of Lone Star Road to cross the Otay River Valley on a bridge. However, the City of Chula Vista has indicated that they will be deleting this crossing from their General Plan Circulation Element. The Scenario 3B land use assumptions remain unchanged, but the segment of La Media Road crossing the Otay River Valley has been deleted for this analysis. Approximately 18,774 dwelling units could be developed under this plan. The buildout of this plan would generate 1,045,025 average daily vehicle trips.

For buildout conditions this study evaluated 121 roadway segments, 17 freeway segments, 53 intersections, 14 freeway on-ramp meters, and queuing at 31 freeway interchange intersections.

I. EXISTING CONDITIONS

The existing Otay Mesa Community Plan land uses are only partially built out and the future street network is incomplete. The future SR-905 freeway is partially built and was opened to traffic in December 2010 from Britannia Boulevard to the international border, but has not yet been fully constructed from I-805 to Britannia Boulevard. The existing conditions analysis is based on data collected before SR-905 was opened to traffic from Britannia Boulevard to the international border.

Roadway Segments

Provided below is a summary of existing conditions on roadway segments that are operating at unacceptable levels of service “E” or “F’.

- Otay Mesa Road (SR-905 to Caliente Avenue) LOS F;
- Otay Mesa Road (Caliente Avenue to Corporate Center Drive) LOS F;
- Otay Mesa Road (Corporate Center Drive to Heritage Road) LOS E;
- Otay Mesa Road (Otay Mesa Center Road to La Media Road) LOS E;
- Otay Valley Road (Main Street to Avenida De Las Vistas) LOS F;
- Otay Valley Road / Heritage Road (Avenida De Las Vistas to Otay Mesa Road) LOS F;
- La Media Road (Airway Road to Siempre Viva Road) LOS F.

All other roadway segments evaluated operate acceptably, at levels of service better than “E” or “F”.

Freeway Segments

All study area freeway segments of Interstate I-805 and SR-905 operate acceptably.

Intersections

The following intersection currently operates unacceptably.

- Otay Mesa Road / Heritage Road – LOS E during AM peak hour.

Ramp Meters

Currently, the I-805 / Palm Avenue and the SR-905 / Siempre Viva Road interchange ramps do not have ramp meters installed. The other interchanges evaluated in the buildout scenarios did not exist at the time of existing traffic counts.

Freeway Interchange Queues

Freeway interchange intersection queues were not evaluated for existing conditions.

II. NO PROJECT SCENARIO / ADOPTED COMMUNITY PLAN BUILDOUT

Roadway Segments

Roadway segments at buildout were evaluated for levels of service based on the City of San Diego Street Design manual. The initial "without mitigation" classification of roadways is based on the existing functional classifications or the current Community Plan classification if the street did not exist in the existing conditions assessment or if analyzing the projected volumes on the existing facility would not be meaningful because it would not be possible to carry those volumes on the existing-sized facility due to its capacity. Segments that would be at level of service "E" or "F" are considered to be significantly impacted by implementation of the land use plan. **Table ES II-1** lists segments that would be at level of service "E" or "F", without reclassification and construction to a higher standard, and the level of service after reclassification and construction to a higher standard.

TABLE ES II-1

Buildout Adopted Community Plan

Roadway Segments at LOS "E" or "F"

Street	Segment	#	(1) Class	LOS E ADT (2)	Segment ADT	LOS	New Class	New LOS	S?
Otay Mesa Road	Caliente Ave. to Corporate Center Dr.	2	6-PA	60,000	78,000	F	N	-	Y
	Heritage Rd. to Cactus Rd.	5	6-PA	60,000	74,000	F	N	-	Y
	Britannia Blvd. to Ailsa Ct.	7	6-PA	60,000	58,500	E	N	-	Y
	Ailsa Ct. to La Media Rd.	8	7-M	55,000	49,500	E	6-PA	C	N
	SR-125 to Harvest Rd.	11	4-M	40,000	42,500	F	6-PA	C	N
	Harvest Rd. to Sanyo Ave.	12	4-M	40,000	38,500	E	6-PA	C	N
Airway Road	Caliente Ave. to Heritage Rd.	15	4-M	40,000	59,000	F	6-PA	E	Y
	Heritage Rd. to Cactus Rd.	16	4-M	40,000	39,500	E	6-M	C	N
	Cactus Rd. to Britannia Blvd.	17	4-M	40,000	46,500	F	6-M	E	Y
	Britannia Blvd. to La Media Rd.	18	4-M	40,000	39,000	E	6-M	C	N
	La Media Rd. to Harvest Rd.	19	4-M	40,000	54,500	F	6-M	F	Y
	Harvest Rd. to Sanyo Ave.	20	4-M	40,000	49,500	F	6-M	E	Y
Siempre Viva Road	Caliente Ave. to East Beyer Blvd.	25	4-M	40,000	47,000	F	N	-	Y
	Otay Center Dr. to SR-905	31	6-PA	60,000	64,500	F	N	-	Y
	SR-905 to Paseo de las Americas	32	6-PA	60,000	72,000	F	N	-	Y
Palm Avenue	I-805 to Dennery Rd.	37	7-PA	65,000	69,500	F	N	-	Y
Caliente Avenue	Airway Rd. to Siempre Viva Rd.	43	4-M	40,000	48,000	F	6-M	E	Y
Heritage Road/ Otay Valley Road	Main St. to Avenida De Las Vistas**	46	6-PA	60,000	87,000	F	N	-	Y
	Avenida De Las Vistas to Datsun St.	47	6-M	50,000	77,500	F	6-PA	F	Y
	Datsun St. to Otay Mesa Rd.	48	6-M	50,000	47,500	E	6-PA	C	N
	SR-905 to Airway Rd.	50	6-M	50,000	52,000	F	6-PA	D	N
	Airway Rd. to Siempre Viva Rd.	51	6-M	50,000	58,000	F	6-PA	E	Y
Cactus Road	Otay Mesa Rd. to Airway Rd.	52	4-CL	30,000	35,000	F	4-M	D	N
	Siempre Viva Rd. to South End	54	4-CL	30,000	29,500	E	N	-	Y
Britannia Boulevard	SR-905 to Airway Rd.	56	4-M	40,000	52,000	F	6-PA	D	N
	Siempre Viva Rd. to South End	58	2-C	8,000	32,500	F	4-M	D	N
La Media Road	Birch Rd. to Lone Star Rd.**	59	6-PA	60,000	93,000	F	N	-	Y
	Lone Star Rd. to Aviator Rd.	60	6-PA	60,000	64,500	F	N	-	Y
	Aviator Rd. to Otay Mesa Rd.	61	6-PA	60,000	64,500	F	N	-	Y
	SR-905 to Airway Rd.	63	6-PA	60,000	75,500	E	N	-	Y
Harvest Road	Otay Center Dr. to Siempre Viva Rd.	67	4-M	40,000	38,000	E	N	-	Y

= Segment Number

**Segment is in Chula Vista

(1) = Current Community Plan Classification unless footnotes (3) or (4) apply.

(2) = Source: City of San Diego Traffic Impact Study Manual, Table 2.

(3) = Add to Circulation Plan.

(4) = Functional classification shown, not currently classified.

S? = Significant impact, Yes (Y) or No (N). - Shading indicates a significant impact.

N = New Classification is not proposed.

New LOS = LOS after change in classification.

Legend

8-M = 8-lane Major Arterial

7-PA = 7-lane Primary Arterial

7-M = 7-lane Major Arterial

6-PA = 6-lane Primary Arterial

6-M = 6-lane Major Arterial

5-M = 5-lane Major Arterial (3SB / 2NB)

4-P = 4-lane Primary Arterial

4-M = 4-lane Major Arterial

4-CL = 4-lane Collector (with continuous left turn lane)

4-C = 4-lane Collector (without continuous left turn lane)

TABLE ES II-1

Buildout Adopted Community Plan

Roadway Segments at LOS "E" or "F"

Street	Segment	#	(1) Class	LOS E ADT (2)	Segment ADT	LOS	New Class	New LOS	S?
Lone Star Road	La Media Rd. to SR-125	71	4-M	40,000	38,000	E	6-PA	C	N
	SR-125 to Piper Ranch Rd.	72	4-M	40,000	55,000	F	6-PA	D	N
	Piper Ranch Rd. to City / County Boundary	73	4-M	40,000	54,500	F	6-PA	D	N
Aviator Road	Heritage Rd. to La Media Rd. (3)	74	2-C	8,000	15,500	F	4-CL	C	N
Dennery Road	Red Coral Ln. to Black Coral Ln.	78	2-CL	15,000	15,000	E	N	-	Y
	Black Coral Ln. to East End	79	2-CN	10,000	21,500	F	N	-	Y
Avenida De Las Vistas	Vista Santo Domingo to Dennery Rd.	81	2-CN	10,000	25,000	F	N	-	Y
Del Sol Boulevard	Surf Crest Dr. to Riviera Pointe	83	2-CN	10,000	26,000	F	N	-	Y
	Riviera Pointe to Dennery Rd.	84	2-CL	15,000	26,000	F	N	-	Y
Old Otay Mesa Road	Crescent Bay Dr. to Beyer Blvd.	89	2-C	8,000	21,500	F	N	-	Y
Corporate Center Drive	Progressive Ave. to Innovative Dr.	93	2-C	8,000	13,000	F	2-CL	D	N
Sanyo Avenue	Otay Mesa Rd. to Airway Rd. (4)	97	4-C	15,000	43,000	F	4-M	F	Y
Heinrich Hertz Drive	Airway Rd. to Paseo de las Americas (4)	98	2-CL	15,000	27,000	F	N	-	Y
Paseo de las Americas	Airway Rd. to Siempre Viva Rd.	99	2-C	8,000	33,500	F	4-M	D	N
	Siempre Viva Rd. to Marconi Dr.	100	2-C	8,000	16,000	F	4-CL	C	N
Marconi Drive	Paseo de las Americas to Enrico Fermi Dr.	101	2-C	8,000	16,500	F	2-CL	F	Y
Otay Center Drive	Harvest Rd. to Siempre Viva Rd. (4)	102	4-C	15,000	14,000	E	4-CL	B	N
St. Andrews Avenue	Otay Mesa Center Rd. To La Media Rd.	105	2-C	8,000	20,500	F	4-CL	D	N
Gailes Boulevard	Otay Mesa Rd. to St. Andrews Ave.	107	2-C	8,000	9,000	F	4-C	C	N
Camino Maquiladora	Heritage Rd. to Pacific Rim Ct.	108	2-C	8,000	7,500	E	N	-	Y
Progressive Avenue	Corporate Center Dr. to Innovative Dr.	112	2-C	8,000	17,000	F	N	-	Y
Otay Mesa Center Road	Otay Mesa Rd. to St. Andrews Ave.	113	2-C	8,000	36,500	F	4-M	E	Y
Datsun Street	Innovative Dr. to Heritage Rd. (3)	114	2-C	8,000	31,000	F	4-CL	F	Y
Avenida Costa Azul	Otay Mesa Rd. to St. Andrews Ave.(3)	115	2-CL	15,000	18,000	F	4-CL	C	N
Excellante Street	Airway Rd. to Gigantic St.	116	4-C	15,000	19,500	F	N	-	Y
Gigantic Street	Excellante St. to Centurion St.	117	4-C	15,000	19,500	F	N	-	Y
Centurion Street	Airway Rd. to Gigantic St.	118	4-C	15,000	18,500	F	N	-	Y
Exposition Way / Vista Santo Domingo	Avenida De Las Vistas to Corporate Center Dr. (3) (4)	119	2-CN	10,000	17,000	F	N	-	Y

= Segment Number

(1) = Current Community Plan Classification unless footnotes (3) or (4) apply.

(2) = Source: City of San Diego Traffic Impact Study Manual, Table 2.

(3) = Add to Circulation Plan.

(4) = Functional classification shown, not currently classified.

S? = Significant impact, Yes (Y) or No (N). ░ - Shading indicates a significant impact.

N =New classification is not proposed.

New LOS = LOS after change in classification.

Legend

8-M = 8-lane Major Arterial

7-PA = 7-lane Primary Arterial

7-M = 7-lane Major Arterial

6-PA = 6-lane Primary Arterial

6-M = 6-lane Major Arterial

5-M = 5-lane Major Arterial (3SB / 2NB)

4-P = 4-lane Primary Arterial

4-M = 4-lane Major Arterial

4-CL = 4-lane Collector (with continuous left turn lane)

4-C = 4-lane Collector (without continuous left turn lane)

As shown in this table 59 roadway segments would operate at level of service "E" or "F" with the assumed initial classification or "without mitigation". After reclassification and construction to a higher standard, 38 segments would operate at "E" or "F" and remain significantly impacted, as indicated with a "Y" in the last column with the (S?) heading.

Figure ES II-1 shows recommended roadway classifications and also segments highlighted in red that are proposed to be classified to a higher standard.

Refer to Chapter 5, page 5-11 for the discussion of the proposed mitigations and / or explanation of why the significant impact is not proposed to be fully mitigated.

A comparison of the Buildout Adopted Community Plan significantly impacted roadway segments to the 3B Without La Media Road Scenario is provided below, based on the listing of impacted roadway segments shown in **Table ES II-2**.

The Adopted Community Plan Scenario has 38 roadway segments that would remain significantly impacted after mitigation.

The 3B Without La Media Road Scenario would have 24 roadway segments that would remain significantly impacted after mitigation.

The following 19 roadway segments would remain significantly impacted under both scenarios.

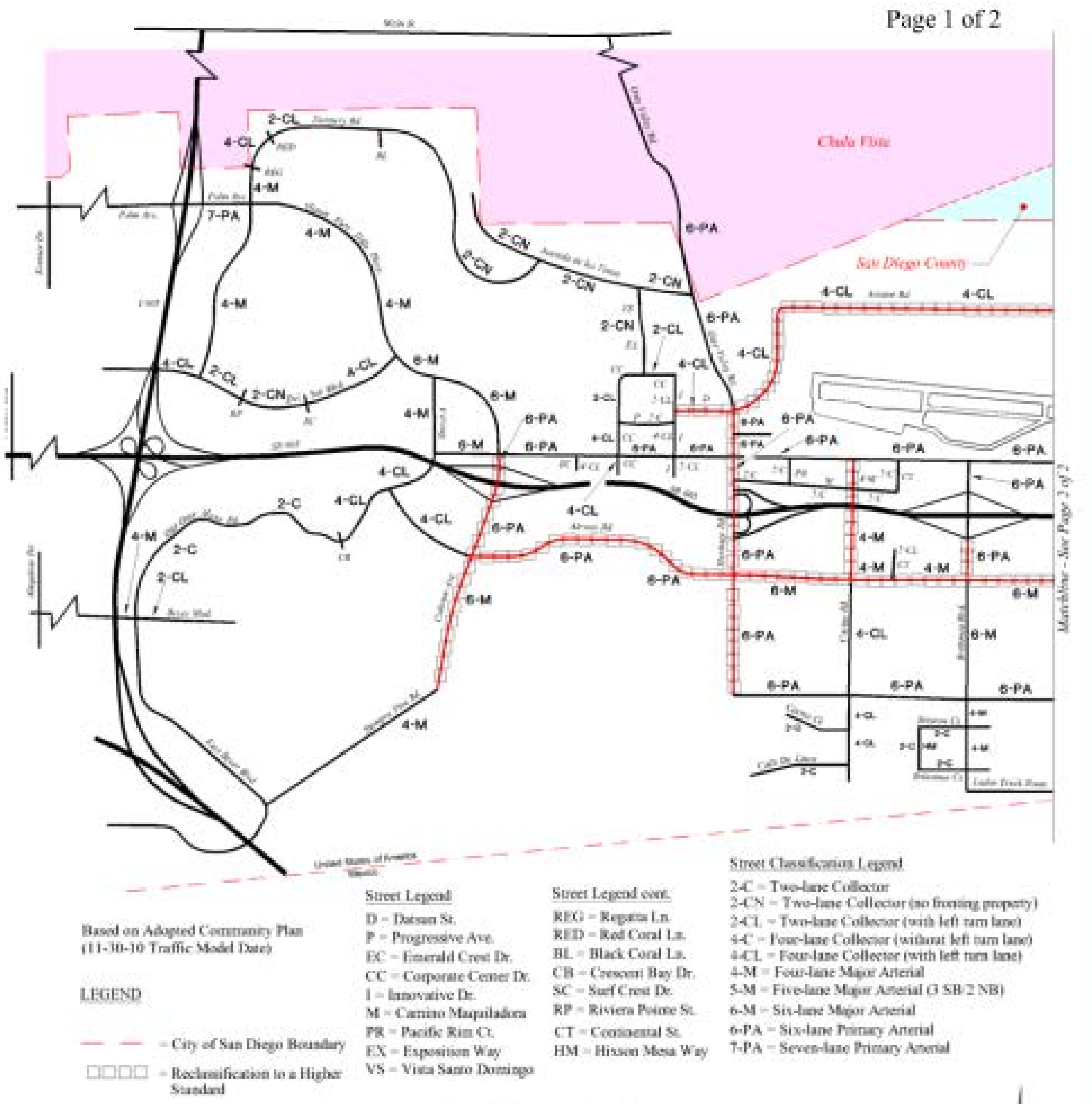
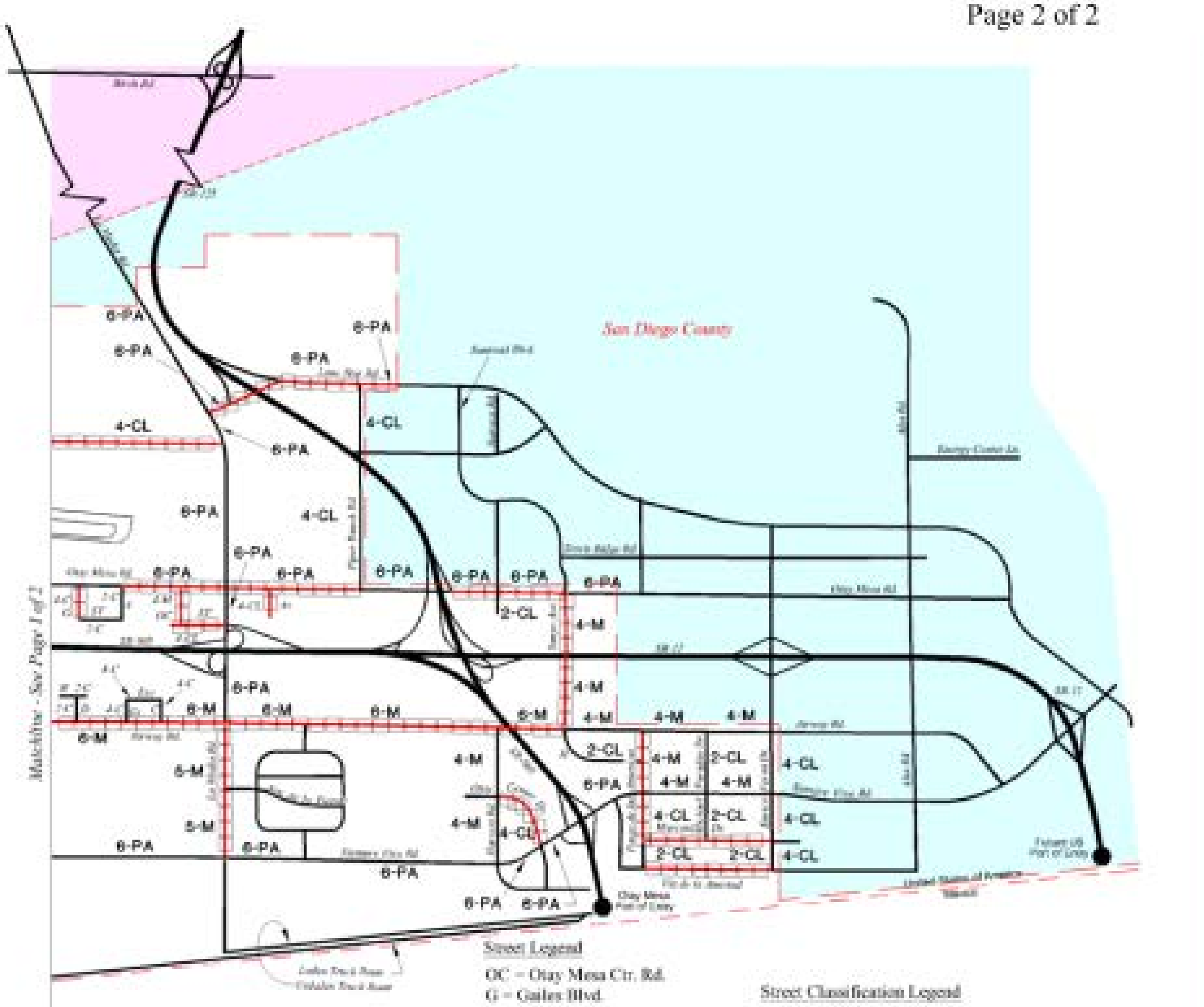


FIGURE ES - II -1

Adopted Community Plan Land Use Scenario
With Proposed Roadway Classification Recommendations
(Mitigation / Reclassification to a Higher Standard shown in Red)

Page 2 of 2



Street Legend
OC = Otay Mesa Ctr. Rd.
G = Gailes Blvd.
A = Ailsa Ct.
ST = St. Andrews Ave.
H = Heinrich Hertz Dr.
C = Centurion St.
Gi = Gigantic St.
Exc = Excellante St.
Av = Avenida Costa Azul
W = Waterville Rd.
D = Dublin Dr.
OP = Otay Pacific Dr.
OPP = Otay Pacific Pl.
LC = Las Californias Dr.

Street Classification Legend
2-C = Two-lane Collector
2-CN = Two-lane Collector (no fronting property)
2-CL = Two-lane Collector (with left turn lane)
4-C = Four-lane Collector (without left turn lane)
4-CL = Four-lane Collector (with left turn lane)
4-M = Four-lane Major Arterial
5-M = Five-lane Major Arterial (3 SB/2 NB)
6-M = Six-lane Major Arterial
6-PA = Six-lane Primary Arterial
7-PA = Seven-lane Primary Arterial

Based on Adopted Community Plan
(11-30-10 Traffic Model Data)

LEGEND

= City of San Diego Boundary

= Reclassification to a Higher Standard

NO SCALE

FIGURE ES - II -1

Adopted Community Plan Land Use Scenario
With Proposed Roadway Classification Recommendations
(Mitigation / Reclassification to a Higher Standard shown in Red)

TABLE ES II-2

Comparison Of
Buildout Adopted Community Plan To
3B Without La Media Road Scenario
Roadway Segment Significant Impacts After Mitigation

Street	Segment	#	ACP (1) S?	3B W/Out La Media (2) S?
Otay Mesa	Caliente Ave. to Corporate Center Dr.	2	Y	Y
	Heritage Rd. to Cactus Rd.	5	Y	Y
	Britannia Blvd. to Ailsa Ct.	7	Y	N
Airway Road	Caliente Ave. to Heritage Rd.	15	Y	Y
	Heritage Rd. to Cactus Rd.	16	N	Y
	Cactus Rd. to Britannia Blvd.	17	Y	N
	La Media Rd. to Harvest Rd.	19	Y	N
	Harvest Rd. to Sanyo Ave.	20	Y	N
Siempre Viva Road	Caliente Ave. to East Beyer Blvd.	25	Y	N
	Otay Center Dr. to SR-905	31	Y	Y
	SR-905 to Paseo de las Americas	32	Y	Y
Palm Avenue	I-805 to Dennery Rd.	37	Y	N
Caliente Avenue	Airway Rd. to Siempre Viva Rd.	43	Y	Y
	Beyer Blvd. to Siempre Viva Rd.	43A	Y	Y
Heritage Road/ Otay Valley Road	Main St. to Avenida De Las Vistas**	46	Y	Y
	Avenida De Las Vistas to Datsun St.	47	Y	Y
Cactus Road	Otay Mesa Rd. to Airway Rd.	52	N	Y
	Airway Rd. to Siempre Viva Rd.	53	N	Y
	Siempre Viva Rd. to South End	54	Y	N
Britannia Boulevard	SR-905 to Airway Rd.	56	N	Y
La Media Road	Birch Rd. to Lone Star Rd.**	59	Y	N
	Lone Star Rd. to Aviator Rd.	60	Y	N
	Aviator Rd. to Otay Mesa Rd.	61	Y	N
	SR-905 to Airway Rd.	63	Y	Y
Harvest Road	Otay Center Dr. to Siempre Viva Rd.	67	Y	N
Dennery Road	Red Coral Ln. to Black Coral Ln.	78	Y	N
	Black Coral Ln. to East End	79	Y	Y
Avenida De Las Vistas	Vista Santo Domingo to Dennery Rd.	81	Y	Y
Del Sol Boulevard	Surf Crest Dr. to Riviera Pointe	83	Y	Y
	Riviera Pointe to Dennery Rd.	84	Y	Y
Old Otay Mesa Road	Crescent Bay Dr. to Beyer Blvd.	89	Y	Y
Sanyo Avenue	Otay Mesa Rd. to Airway Rd.	97	Y	N
Heinrich Hertz Drive	Airway Rd. to Paseo de las Americas	98	Y	N
Marconi Drive	Paseo de las Americas to Enrico Fermi Dr.	101	Y	N
Camino Maquiladora	Heritage Rd. to Pacific Rim Ct.	108	Y	Y
	Pacific Rim Ct. to Cactus Rd.	109	N	Y
Progressive Avennue	Corporate Center Dr. to Innovative Dr.	112	Y	Y
Otay Mesa Center Road	Otay Mesa Rd. to St. Andrews Ave.	113	Y	N
Datsun Street	Innovative Dr. to Heritage Rd.	114	Y	Y
Excellante Street	Airway Rd. to Gigantic St.	116	Y	N
Gigantic Street	Excellante St. to Centurion St.	117	Y	N
Centurion Street	Airway Rd. to Gigantic St.	118	Y	N
Exposition Way / Vista Santo Domingo	Avenida De Las Vistas to Corporate Center Dr.	119	Y	Y

= Segment Number

**** = Segment in Chula Vista.**

S? = Significant impact, Yes (Y) or No (N).

(1) = Significant impact in the Adopted Community Plan Scenario.

(2) = Significant impact in the 3B Without La Media Road Scenario.

Y = Shading indicates a significant impact.

- Otay Mesa Road (Caliente Avenue to Corporate Center Drive);
- Otay Mesa Road (Heritage Road to Cactus Road);
- Airway Road (Caliente Avenue to Heritage Road);
- Siempre Viva Road (Otay Center Drive to SR-905)
- Siempre Viva Road / SR-905 to Paseo de las Americas);
- Caliente Avenue (Airway Road to Siempre Viva Road);
- Caliente Avenue (Beyer Boulevard to Siempre Viva Road);
- Heritage Road / Otay Valley Road (Main Street to Avenida de las Vistas);
- Heritage Road / Otay Valley Road (Avenida de las Vistas to Datsun Street);
- La Media Road (SR-905 to Airway Road);
- Dennery Road (Black Coral Lane to East End);
- Avenida de las Vistas (Vista Santo Domingo to Dennery Road);
- Del Sol Boulevard (Surf Crest Drive to Riviera Pointe);
- Del Sol Boulevard (Riviera Pointe to Dennery Road);
- Old Otay Mesa Road (Crescent Bay Drive to Airway Road);
- Camino Maquiladora (Heritage Road to Pacific Rim Court);
- Progressive Avenue (Corporate Center Drive to Innovative Drive);
- Datsun Street (Innovative Drive to Heritage Road);
- Exposition Way / Vista Santo Domingo (Avenida de las Vista to Corporate Center Drive).

The following 19 roadway segments would remain significantly impacted after mitigation in the Adopted Community Plan land use scenario, but not in the 3B Without La Media Road scenario:

- Otay Mesa Road (Britannia Boulevard to Ailsa Court);
- Airway Road (Cactus Road to Britannia Boulevard);
- Airway Road (La Media Road to Harvest Road);
- Airway Road (Harvest Road to Sanyo Avenue);
- Siempre Viva Road (Caliente Avenue to East Beyer Boulevard);
- Palm Avenue (I-805 to Dennery Road);
- Cactus Road (Siempre Viva Road to South End);
- La Media Road (Birch Road to Lone Star Road); (No segment in 3B Wihtout La Media Road);
- La Media Road (Lone Star Road to Aviator Road);
- La Media Road (Aviator Road to Otay Mesa Road);
- Harvest Road (Otay Center Drive to Siempre Viva Road);
- Dennery Road (Red Coral Lane to Black Coral Lane);
- Sanyo Avenue (Otay Mesa Road to Airway Road)
- Heinrich Hertz Drive (Airway Road to Paseo de las Americas);
- Marconi Drive (Paseo de las Americas to Enrico Fermi Drive);
- Otay Mesa Center Road (Otay Mesa Road to St. Andrews Avenue);
- Excellante Street (Airway Road to Gigantic Street);
- Gigantic Street (Excellante Street to Centurion Street);
- Centurion Street (Airway Road to Gigantic Street).

The following roadway segments would remain significantly impacted after mitigation in the 3B Without La Media Road land use scenario but not in the Adopted Community Plan scenario.

- Airway Road (Heritage Road to Cactus Road);
- Cactus Road (Otay Mesa Road to Airway Road);
- Cactus Road (Airway Road to Siempre Viva Road);
- Britannia Boulevard (SR-905 to Airway Road);
- Camino Maquiladora (Pacific Rim Court to Cactus Road).

Figure ES II-2 shows the Adopted Community Plan land use scenario roadway segments that would remain at level of service “E” or “F” after mitigation.

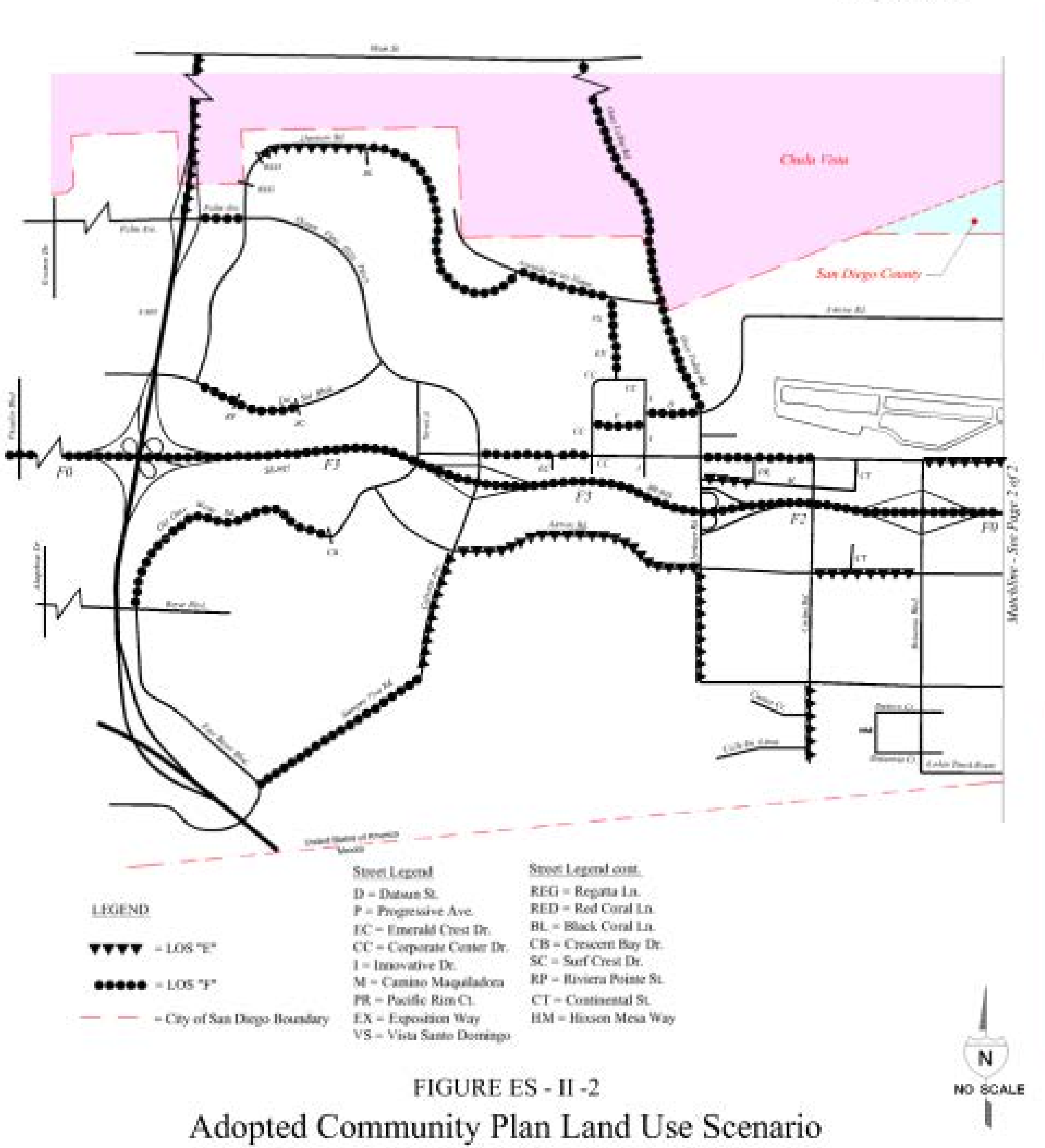


FIGURE ES - II -2

Adopted Community Plan Land Use Scenario
Roadway Segments Remaining at LOS "E" or "F" After Mitigation

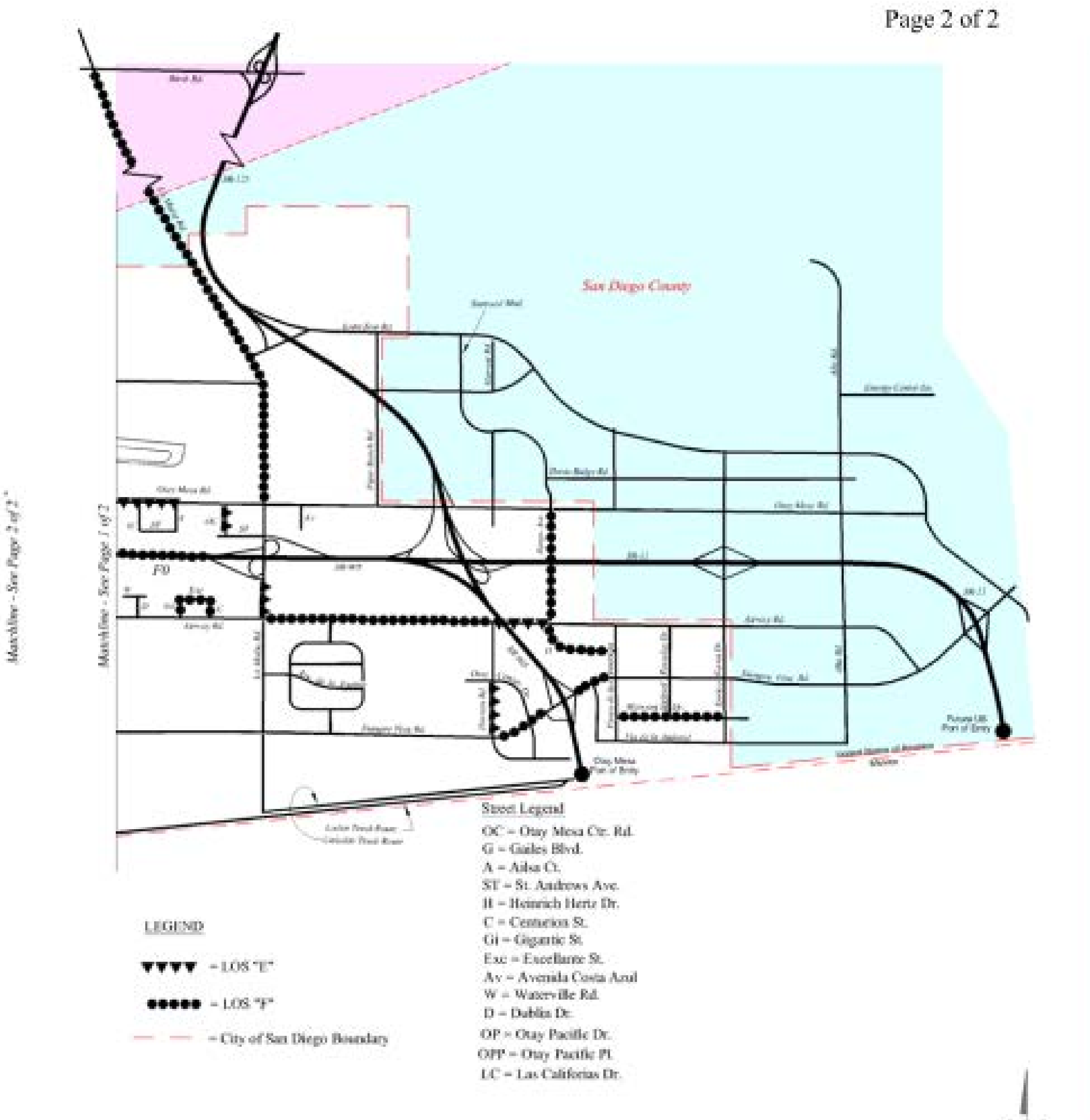


FIGURE ES - II -2

Adopted Community Plan Land Use Scenario
Roadway Segments Remaining at LOS "E" or "F" After Mitigation

NO SCALE

Freeway Segments

Table ES II-3 lists freeway segments evaluated for the "No Project" buildout Adopted Community Plan scenario.

Interstate 805

Segments of Interstate 805 north of State Route 905 are projected to be significantly impacted by buildout of the Adopted Otay Mesa Community Plan and regional cumulative traffic. With existing lanes and an additional northbound auxiliary lane currently being constructed between SR-905 and Palm Avenue, the segment of I-805 north of SR-905 are expected to be at level of service "F". The Adopted SANDAG 2050 Regional Transportation Plan (RTP) includes two managed lanes on I-805 in each direction north of SR-905. With these additional lanes, the segment of I-805 between Main Street and Palm Avenue would be at level of service "E". The segment between Palm Avenue and SR-905 would be at level of service "D" during peak hours.

Table ES II-4 shows freeway levels of service with HOV lanes added to segments at level of service "F".

State Route 905 is assumed with six lanes and auxillary lanes as is being constructed by Caltrans. Impacts would be significant and unmitigated between Picador Boulevard and La Media Road. State Route 905 has been designed so that median High Occupancy Vehicle (HOV) lanes could be installed in the future, but are not currently planned or funded by Caltrans or SANDAG. The addition of HOV lanes would provide partial mitigation for local and regional cumulative impacts, but would not provide acceptable levels of service.

TABLE ES II-3

Buildout Adopted Community Plan Freeway Segment Levels of Service

Segment		Lanes (1-Way)	Cap.	ADT (1)	Peak Volume	V/C	LOS (2)
SR-905	Picador Blvd. to I-805 (3)	2 + AUX	6,500	144,500	7,707	1.19	F0
	I-805 to Caliente Ave. (4)	3 + CL	8,550	249,000	13,280	1.55	F3
	Caliente Ave. to Heritage Rd.	3	7,050	220,500	11,760	1.67	F3
	Heritage Rd. to Britannia Blvd.	3	7,050	192,000	10,240	1.45	F2
	Britannia Blvd. to La Media Rd.	3	7,050	165,000	8,800	1.25	F0
	La Media Rd. to SR-125	3	7,050	119,500	6,373	0.90	D
	SR-125 to Siempre Viva Rd.	3	7,050	106,500	5,680	0.81	D
	Siempre Viva Rd. to Border	3	7,050	71,000	3,787	0.54	B
I-805	Main St. to Palm Ave.	4+AUX	11,200	264,000	14,080	1.26	F1
	Palm Ave. to SR-905	4+AUX	11,200	234,500	12,507	1.12	F0
	SR-905 to I-5	4	9,400	119,000	6,347	0.68	C
	I-5 to Border	6	14,100	143,500	7,653	0.54	B
SR-125	Birch Rd. to Lone Star Rd.	4 (Toll)	9,400	97,000	5,173	0.55	B
	Lone Star Rd. to SR-905	4 (Toll)	9,400	71,500	3,813	0.41	A
SR – 11	SR-905 to Enrico Fermi Dr.	2	4,700	49,500	2,640	0.56	B
	Enrico Fermi Dr. to Siempre Viva Rd	2	4,700	25,500	1,360	0.29	A
	Siempre Viva Rd. to Border	2	4,700	43,500	2,320	0.49	B

Legend

Cap = Capacity of Segment
Mainlane Cap. @ 2,350 VPHPL
Auxillary Lane Cap. @ 1,800 VPHPL
HOV Lane Cap. @ 1,600 VPHPL
Climbing Lane Cap. @ 1,500 VPHPL

ADT = Average Daily Traffic

V/C = Volume to Capacity Ratio

LOS = Level of Service

F = Shading indicates a significant impact.

Note:

(1) Buildout Forecast Volume, Average Daily Traffic Volume (11-30-10 Run Date, Series 11)

(2) Caltrans District 11 LOS Estimation Procedures, See Table 2-3

(3) = 2 Mainlanes + Auxillary Lane

(4) = EB: 3 Mainlanes + Climbing Lane
WB: 3 Mainlanes + Auxillary Lane

TABLE ES II-4

Buildout Adopted Community Plan Freeway Segment Levels of Service

(With HOV Lanes Added To LOS F Segments)

Segment		ADD HOV	Lanes (1Way)	Cap.	ADT (1)	Peak Volume	V/C	LOS (2)
SR-905	Picador Blvd. to I-805 (3)	+H	2 + AUX	8,100	144,500	7,707	0.95	E
	I-805 to Caliente Ave. (4)	+H	3 + CL	10,150	249,000	13,280	1.31	F1
	Caliente Ave. to Heritage Rd.	+H	3	8,650	220,500	11,760	1.36	F2
	Heritage Rd. to Britannia Blvd.	+H	3	8,650	192,000	10,240	1.18	F0
	Britannia Blvd. to La Media Rd.	+H	3	8,650	165,000	8,800	1.02	F0
I-805	Main St. to Palm Ave,	+2H	4+AUX	14,400	264,000	14,080	0.98	E
	Palm Ave. to SR-905	+2H	4+AUX	14,400	234,500	12,507	0.87	D

Legend

Cap = Capacity of Segment
Mainlane Cap. @ 2,350 VPHPL
Auxillary Lane Cap. @ 1,800 VPHPL
HOV Lane Cap. @ 1,600 VPHPL
Climbing Lane Cap. @ 1,500 VPHPL

ADT = Average Daily Traffic

V/C = Volume to Capacity Ratio

LOS = Level of Service

F = Shading indicates a significant impact.

+H = Add HOV lane in each direction.
+2H = Add two HOV lanes in each direction.

Note:

(1) Buildout Forecast Volume, Average Daily Traffic Volume (11-30-10 Run Date, Series 11)

(2) Caltrans District 11 LOS Estimation Procedures, See Table 2-3

(3) = 2 Mainlanes + Auxillary Lane

(4) = EB: 3 Mainlanes + Climbing Lane
WB: 3 Mainlanes + Auxillary Lane

SR-905 HOV lanes are not currently in the Regional Transportation Plan, and are not funded.

A comparison of the Buildout Adopted Community Plan significantly impacted freeway segments to the 3B Without La Media Road Scenario is provided below, based on the listing of impacted freeway segments shown in **Table ES II-5**.

The Adopted Community Plan Scenario has six freeway segments that would remain significantly impacted after mitigation.

The 3B Without La Media Road Scenario has three freeway segments that would remain significantly impacted after mitigation.

The following three freeway segments would remain significantly impacted under both scenarios:

- SR-905 (I-805 to Caliente Avenue);
- SR-905 (Caliente Avenue to Heritage Road);
- SR-905 (Heritage Road to Britannia Boulevard).

The following three freeway segments would remain significantly impacted under the Adopted Community Plan Scenario but not the 3B Without La Media Road Scenario:

- SR-905 (Picador Boulevard to I-805);
- SR-905 (Britannia Boulevard to La Media Road);
- I-805 (Main Street to Palm Avenue).

TABLE ES II-5

Comparison of

Buildout Community Plan to 3B Without La Media Road Scenario

Freeway Segment Significant Impacts After Mitigation

(With HOV Lanes Added)

Segment		ADD HOV	Lanes (1Way)	LOS (1)	LOS (2)
SR-905	Picador Blvd. to I-805	+H	2 + AUX	E	D
	I-805 to Caliente Ave.	+H	3 + CL	F1	F0
	Caliente Ave. to Heritage Rd.	+H	3	F2	F0
	Heritage Rd. to Britannia Blvd.	+H	3	F0	F0
	Britannia Blvd. to La Media Rd.	+H	3	F0	D
I-805	Main St. to Palm Ave,	+2H	4+AUX	E	D

Legend
LOS = Level of Service

(1) = Adopted Community Plan land use scenario.

(2) = 3B Without La Media Road land use scenario.

F = Shading indicates a significant impact.

+H = Add HOV lane in each direction.

+2H = Add two HOV lanes in each direction.

Note:
SR-905 HOV lanes are not currently in the Regional Transportation Plan, and are not funded.

Intersections

Intersections projected to operate at level of service "E" or "F" are considered to be significantly impacted by implementation of the land use plan. **Table ES II-6** shows intersection levels of service. Of the 53 intersections evaluated at Buildout in the No Project / Adopted Community Plan scenario, four would be at level of service "E" and 42 would be at level of service "F" during the AM peak hour. During the PM peak hour, five would be at level of service "E" and 43 would be at level of service "F". A total of 49 intersections would operate at level of service "E" or "F" during the morning and / or evening peak hour.

With proposed mitigation, two would be at level of service "E" and 33 would be at level of service "F" during the AM peak hour. During the PM peak hour, ~~five~~ six would be at level of service "E" and 31 would be at level of service "F'. With proposed mitigation, a total of ~~39~~ 40 intersections would operate at level of service "E" or "F' during the morning and / or evening peak hour.

Several interchange intersections that can be designed for acceptable levels of service are included as significantly impacted due to upstream queues extending through the intersection causing increased delay and a degraded level of service, as footnoted in this table.

Intersection lane configurations without mitigation are assumed to be as shown in the City of San Diego Street Design Manual for the roadway classification at the intersection approaches. The Design Manual requires widening for an additional 10 feet at approaches to intersecting four or six lane streets for a two lane left turn, and this additional width is not considered mitigation. Therefore, dual left turns are to be assumed at all four or six lane major and primary arterials, before mitigation, unless a supporting traffic

TABLE ES II-6

Buildout Adopted Community Plan Intersection Levels of Service

		Without Mitigation				With Mitigation			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
	Intersection	CD	LOS	CD	LOS	CD	LOS	CD	LOS
1	Palm Ave. / I-805 SB Ramps	64.8	E	111.7	F	36.6	D	71.5	E
2	Palm Ave. / I-805 NB Ramps	167.1	F	172.8	F	5.6	A	8.9	(1) A
3	Palm Ave. / Dennery Rd.	36.0	D	69.4	E	-	-	-	-
4	Otay Mesa Rd. / Caliente Ave.	359.8	F	201.6	F	236.3	F	102.0	F
5	Caliente Ave. / SR-905 WB Ramps	154.1	F	162.7	F	64.7	E	57.4	E
6	Caliente Ave. / SR-905 EB Ramps	225.9	F	214.7	F	92.9	F	56.8	E
7	Caliente Ave. / Airway Rd.	347.1	F	510.6	F	326.2	F	396.2	F
8	Caliente Ave. / Siempre Viva Rd.	86.4	F	82.0	F	-	-	-	-
9	Otay Mesa Rd. / Heritage Rd.	350.5	F	286.1	F	285.8	F	155.8	F
10	Heritage Rd. / SR-905 WB Ramps	36.8	(1) D	240.9	F	14.6	B	13.2	B
11	Heritage Rd. / SR-905 EB Ramps	64.3	E	127.7	F	50.4	(1) D	45.7	(1) D
12	Heritage Rd. / Airway Rd.	457.0	F	555.0	F	143.3	F	225.6	F
13	Heritage Rd. / Siempre Viva Rd.	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
14	Otay Mesa Rd. / Cactus Rd.	481.3	F	302.6	F	249.9	F	166.0	F
15	Airway Rd. / Cactus Rd.	212.3	F	319.4	F	115.2	F	100.7	F
16	Siempre Viva Rd. / Cactus Rd.	269.6	F	290.1	F	127.9	F	108.2	F
17	Otay Mesa Rd. / Britannia Blvd.	63.8	E	72.0	E	24.0	(1) C	54.1	(1) D
18	Britannia Blvd. / SR-905 WB Ramps	191.8	F	298.2	F	46.7	(1) D	187.9	F
19	Britannia Blvd. / SR-905 EB Ramps	290.0	F	283.7	F	276.0	F	124.5	F
20	Britannia Blvd. / Airway Rd.	453.3	F	490.5	F	218.1	F	206.7	F
21	Siempre Viva Rd. / Britannia Blvd.	502.4	F	494.6	F	208.2	F	302.3	F
22	Otay Mesa Rd. / La Media Rd.	484.5	F	495.7	F	148.3	F	128.0	F

Note: #13 is a right angle intersection (as assumed in the traffic model) with only two approaches.

Legend

CD = Control Delay

LOS = Level of Service

(1) = Vehicle queues may extend through this intersection from an upstream intersection so that the peak hour level of service would be degraded due to vehicles blocking this intersection.

F = Shading indicates a significant impact

TABLE ES II-6 (Continued)

Buildout Adopted Community Plan Intersection Levels of Service

		Without Mitigation				With Mitigation			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
Intersection		CD	LOS	CD	LOS	CD	LOS	CD	LOS
23	La Media Rd. / SR-905 WB Ramps	257.6	F	335.2	F	117.7	F	195.7	F
24	La Media Rd. / SR-905 EB Ramps	319.2	F	224.8	F	218.5	F	157.6	F
25	La Media Rd. / Airway Rd.	786.8	F	654.3	F	236.9	F	338.7	F
26	La Media Rd. / Siempre Viva Rd.	303.0	F	238.6	F	90.6	F	102.7	F
27	La Media Rd. / Lone Star Rd.	547.7	F	755.8	F	399.5	F	492.2	F
28	Lone Star Rd. / SR-125 SB Off Ramp	52.4	(1) D	14.4	(1) B	-	-	-	-
29	Lone Star Rd. / SR-125 NB On Ramp	3.3	(1) A	7.2	(1) A	-	-	-	-
30	Lone Star Rd. / Piper Ranch Rd.	67.5	E	15.4	B	43.2	D	15.2	B
31	Otay Mesa Rd. / Piper Ranch Rd.	274.0	F	284.6	F	89.7	F	165.7	F
32	Otay Mesa Rd. / SR-125 SB Off Ramp	40.2	(1) D	7.9	(1) A	16.5	(1) B	7.3	A
33	Otay Mesa Rd. / SR-125 NB On Ramp	3.3	(1) A	14.9	(1) B	-	-	-	-
34	Otay Mesa Rd. / Harvest Rd.	132.3	F	87.2	F	34.1	C	41.9	(1) D
35	Siempre Viva Rd. / Otay Center Dr.	298.0	F	471.8	F	235.5	F	225.9	F
36	Siempre Viva Rd. / SR-905 SB to EB Ramp	149.3	F	248.1	F	-	-	-	-
36A	Siempre Viva Rd. / SR-905 SB to WB Ramp	(2) 4,196	F	(2) 899.3	F	292.5	F	40.4	(1) D
37	Siempre Viva Rd. / SR-905 NB Ramps	150.8	F	431.7	F	144.1	F	355.8	F
38	Siempre Viva Rd. / Paseo de las Americas	648.7	F	751.1	F	352.0	F	430.7	F
39	Dennery Rd. / Del Sol Blvd.	104.7	F	72.2	E	-	-	-	-
40	Ocean View Hills Pkwy. / Del Sol Blvd.	172.7	F	192.2	F	68.2	E	132.4	F
41	Ocean View Hills Pkwy. / Street A	162.6	F	258.4	F	49.8	D	51.9	D
42	Old Otay Mesa Rd. / Beyer Blvd.	623.1	F	638.2	F	47.7	D	46.0	D
43	Otay Mesa Rd. / Corporate Center Dr.	146.2	F	125.8	F	103.7	F	96.5	F
44	Otay Mesa Rd. / Innovative Dr.	96.4	F	64.8	E	82.8	F	36.2	D

Legend
CD = Control Delay
LOS = Level of Service
(1) = Vehicle queues may extend through this intersection from an upstream intersection so that the peak hour level of service would be degraded due to vehicles blocking this intersection.
(2) Unsignalized: SB to WB Right Turn at LOS F (AM and PM Peak Hours);
F = Shading indicates a significant impact.

TABLE ES II-6 (Continued)

Buildout Adopted Community Plan Intersection Levels of Service

		Without Mitigation				With Mitigation			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
Intersection		CD	LOS	CD	LOS	CD	LOS	CD	LOS
45	Harvest Rd. / Airway Rd.	41.1	D	238.9	F	38.1	D	101.5	F
46	Harvest Rd. / Siempre Viva Rd.	239.9	F	230.4	F	203.8	F	221.1	F
47	Otay Mesa Rd. / Sanyo Ave.	296.7	F	424.5	F	109.9	F	113.5	F
48	Airway Rd. / Sanyo Ave.	740.3	F	371.4	F	178.8	F	131.1	F
49	Paseo de las Americas / Heinrich Hertz Dr.	(3) 196.9	F	(3) 440.2	F	10.4	B	15.0	B
50	Paseo de las Americas / Marconi Dr.	(4) 57.8	F	(4) 268.1	F	4.6	A	60.6	E
51	Heritage Rd. / Otay Valley Rd. / Datsun St.	531.8	F	676.7	F	181.3	F	290.3	F
52	Aviator Rd. / La Media Rd.	159.9	F	79.4	E	102.4	F	54.4	D
53	Otay Valley Rd. / Avenida De Las Vistas	850.4	F	361.8	F	-	-	-	-

Note: Control delay results should be considered unreliable at delay values higher than two times the LOS E value of 80.0 seconds.

Legend
CD = Control Delay
LOS = Level of Service
(3) Unsignalized: Northbound Left, Eastbound Left and Right Turns at LOS F (AM and PM Peak Hours)
(4) Unsignalized: Southbound Left, Westbound Left Turns at LOS F (AM Peak Hour);
Westbound Right Turn at LOS F (PM Peak Hour).
For unsignalized intersections, LOS F is at greater than 50.0 seconds delay / vehicle.
F = Shading indicates a significant impact.

Control Delay	LOS
0.0 - 10.0	A
10.1 - 20.0	B
20.1 - 35.0	C
35.1 - 55.0	D
55.1 - 80.0	E
Over 80.0	F
Source: 2000 Highway Capacity Manual	

study documents that a single left turn would be sufficient. Overlapping left-turn / right-turn phases are recommended at the high volume right turns during the traffic signal design stage.

Separate single or dual turn lanes at new intersections should be designed with appropriate right of way widths. At retrofit locations additional lanes have been reviewed for initial feasibility by on-site observations and aerial photography. In some cases additional right of way will be needed, but only during the design phase will the required widths be determined.

Improvements are recommended at the interchange ramps for SR-905 / Caliente Avenue, SR-905 / Future Heritage Road, SR-905 / Britannia Boulevard; SR-905 / La Media Rd.; SR-905 / Siempre Viva Road. Subsequent design requirements from Caltrans may change the recommended lane configurations.

All locations are signalized. Lane configurations with and without mitigation are shown in **Figure ES II-3**.

Figure ES II-4 shows graphically the intersection levels of service after mitigation.

Refer to Chapter 5, page 5-41 for discussion of the proposed mitigation and / or explanation of why the significant impact is not proposed to be fully mitigated.

A comparison of the Buildout Adopted Community Plan Scenario significantly impacted intersections after mitigation to the 3B Without La Media Road Scenario is provided below, based on the listing of remaining significantly impacted intersections shown in **Table ES II-7**.

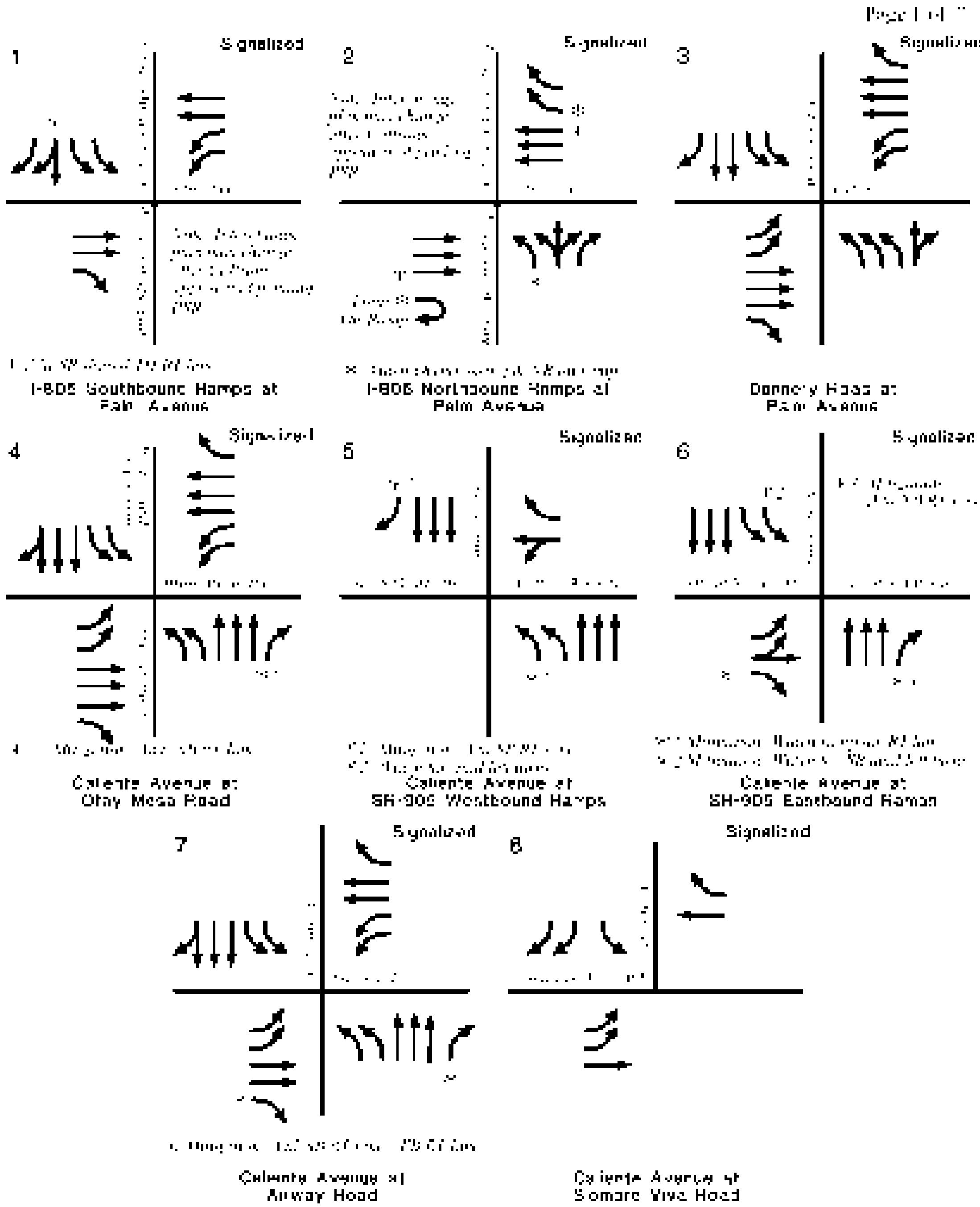


FIGURE ES-II-3
Buildout Recommended Lane Configurations - Adopted Community Plan
(With Mitigation)

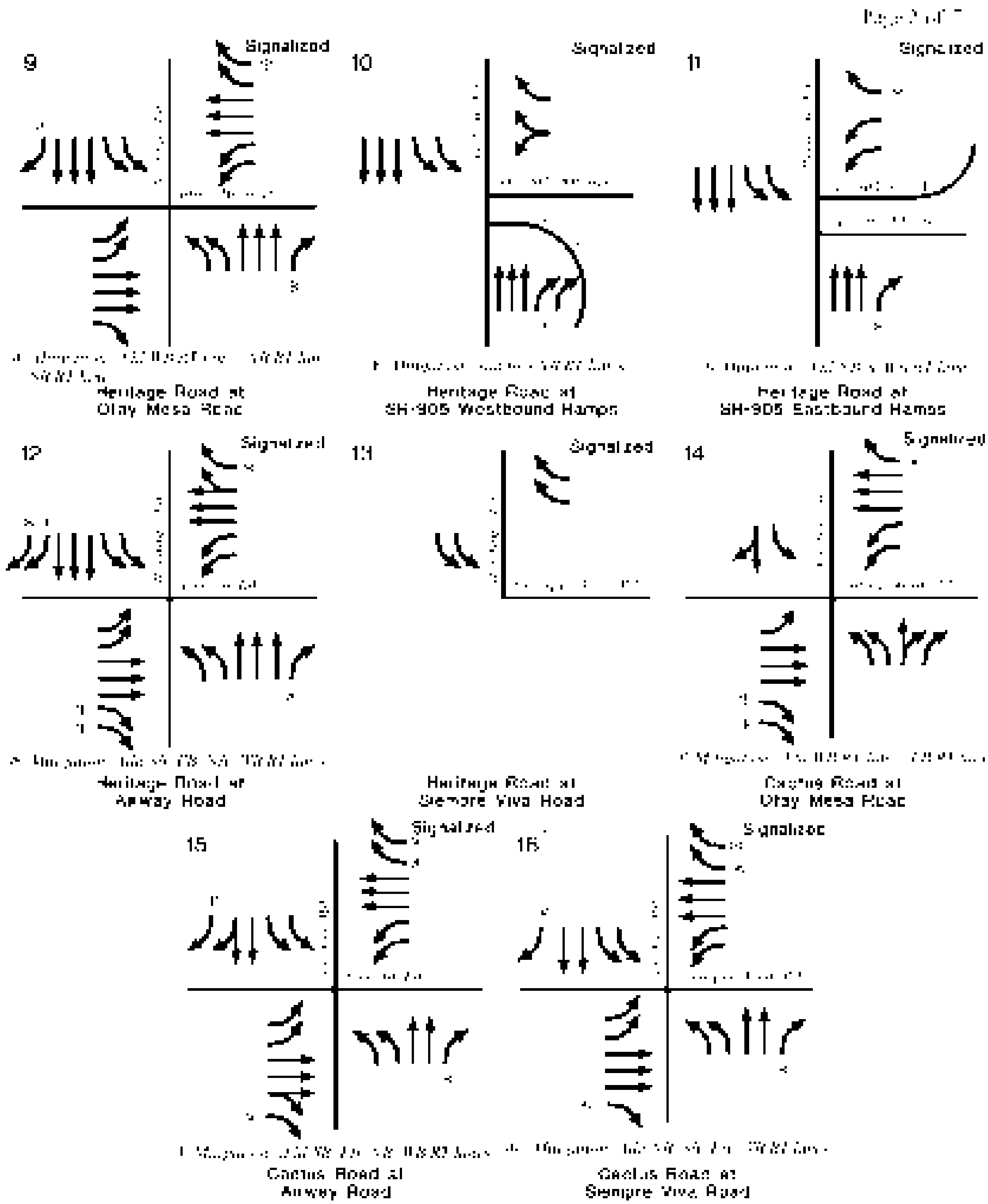


FIGURE ES-II-3

Buildout Recommended Lane Configurations - Adopted Community Plan (With Mitigation)

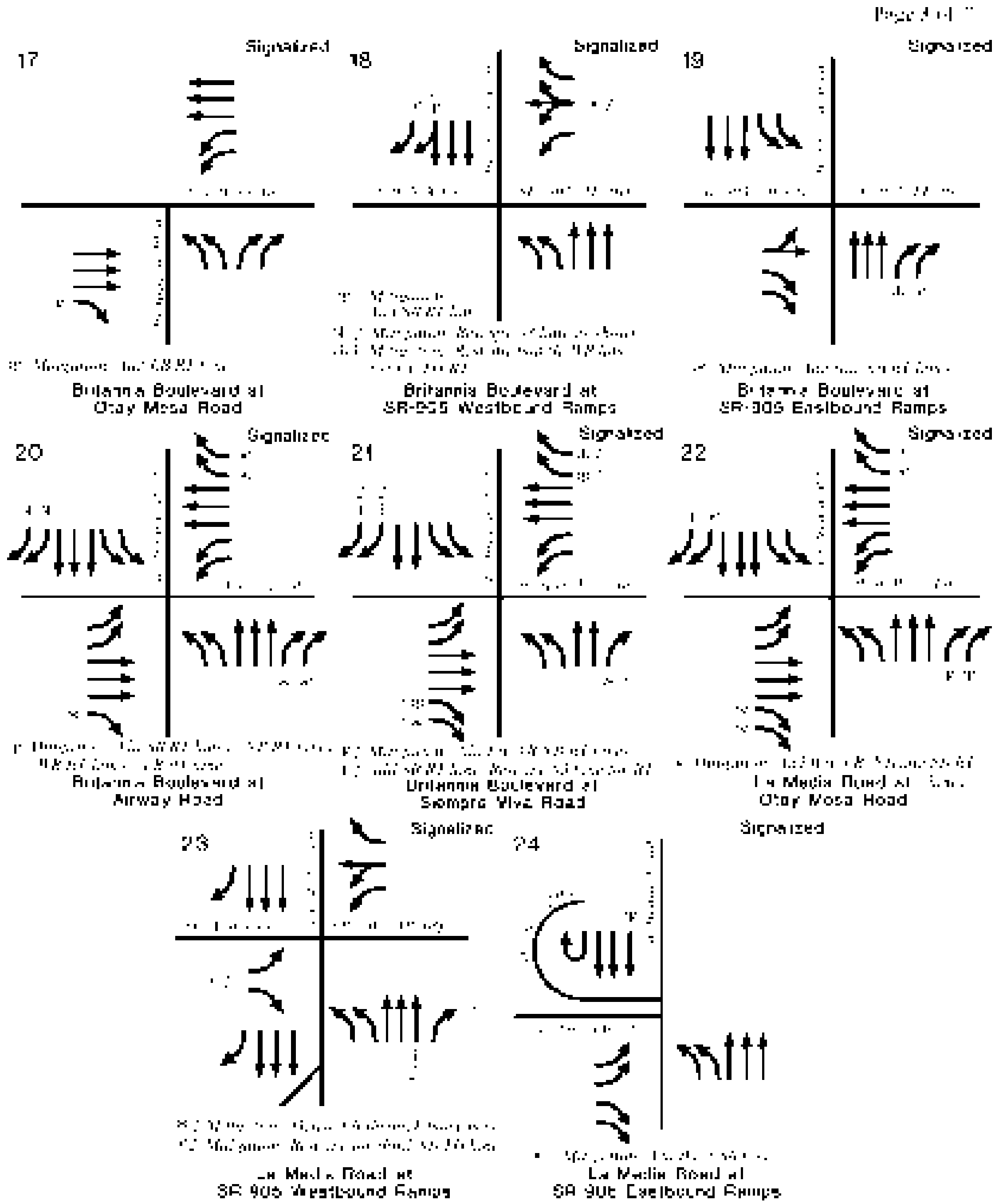


FIGURE ES-II-3

Buildout Recommended Lane Configurations - Adopted Community Plan (With Mitigation)

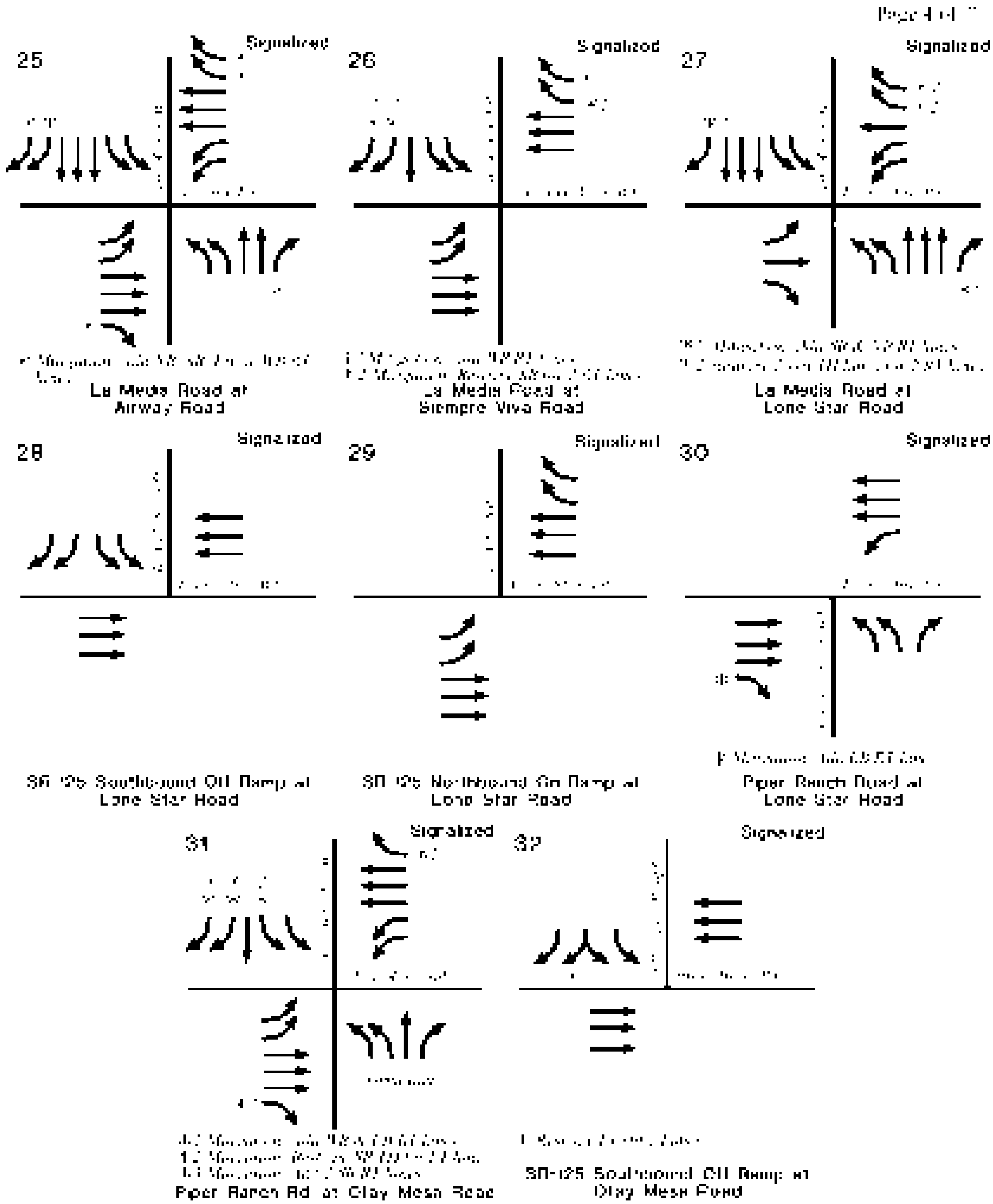


FIGURE ES-II-3

Buildout Recommended Lane Configurations - Adopted Community Plan
(With Mitigation)

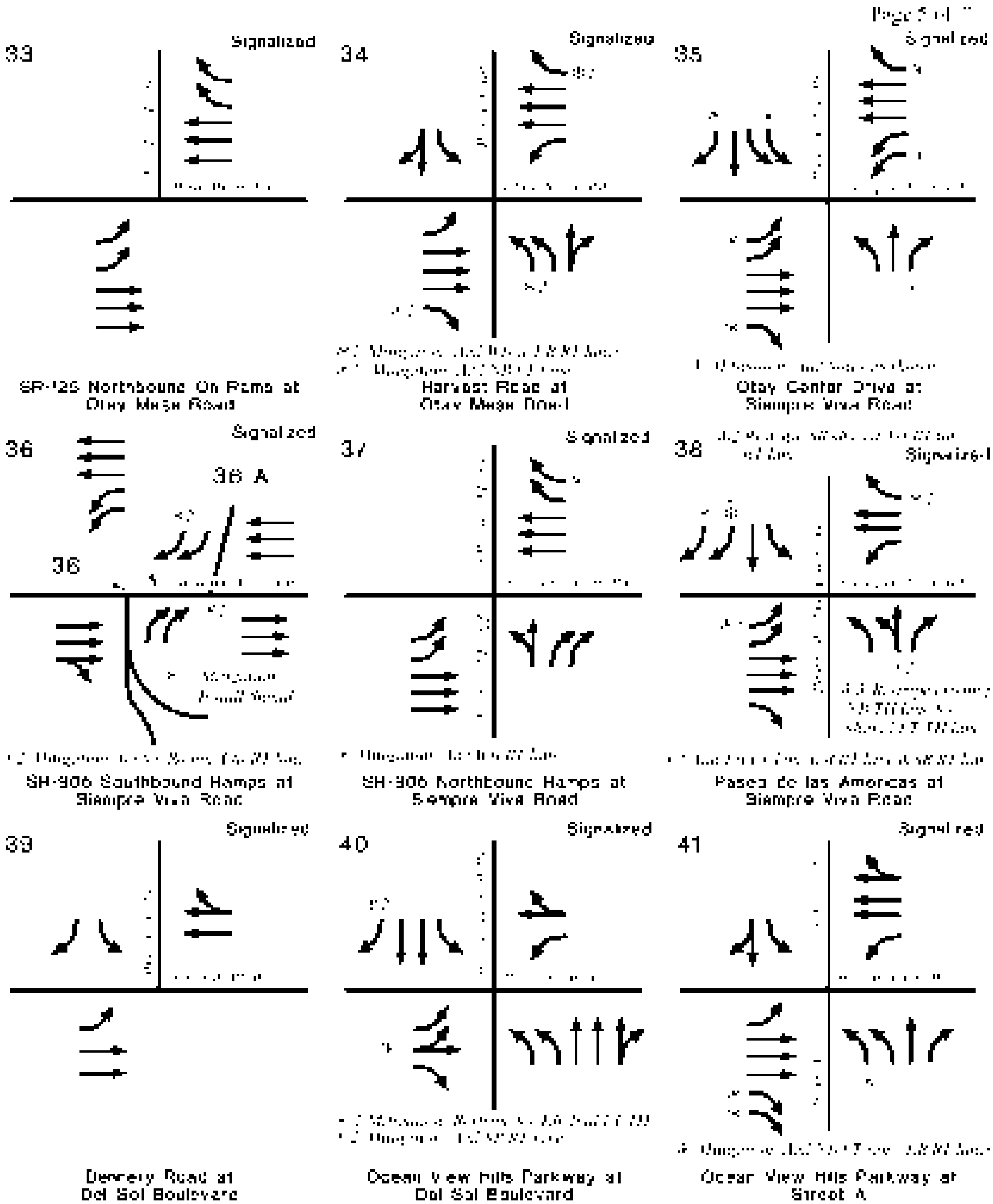


FIGURE ES-II-3
Buildout Recommended Lane Configurations - Adopted Community Plan
(With Mitigation)

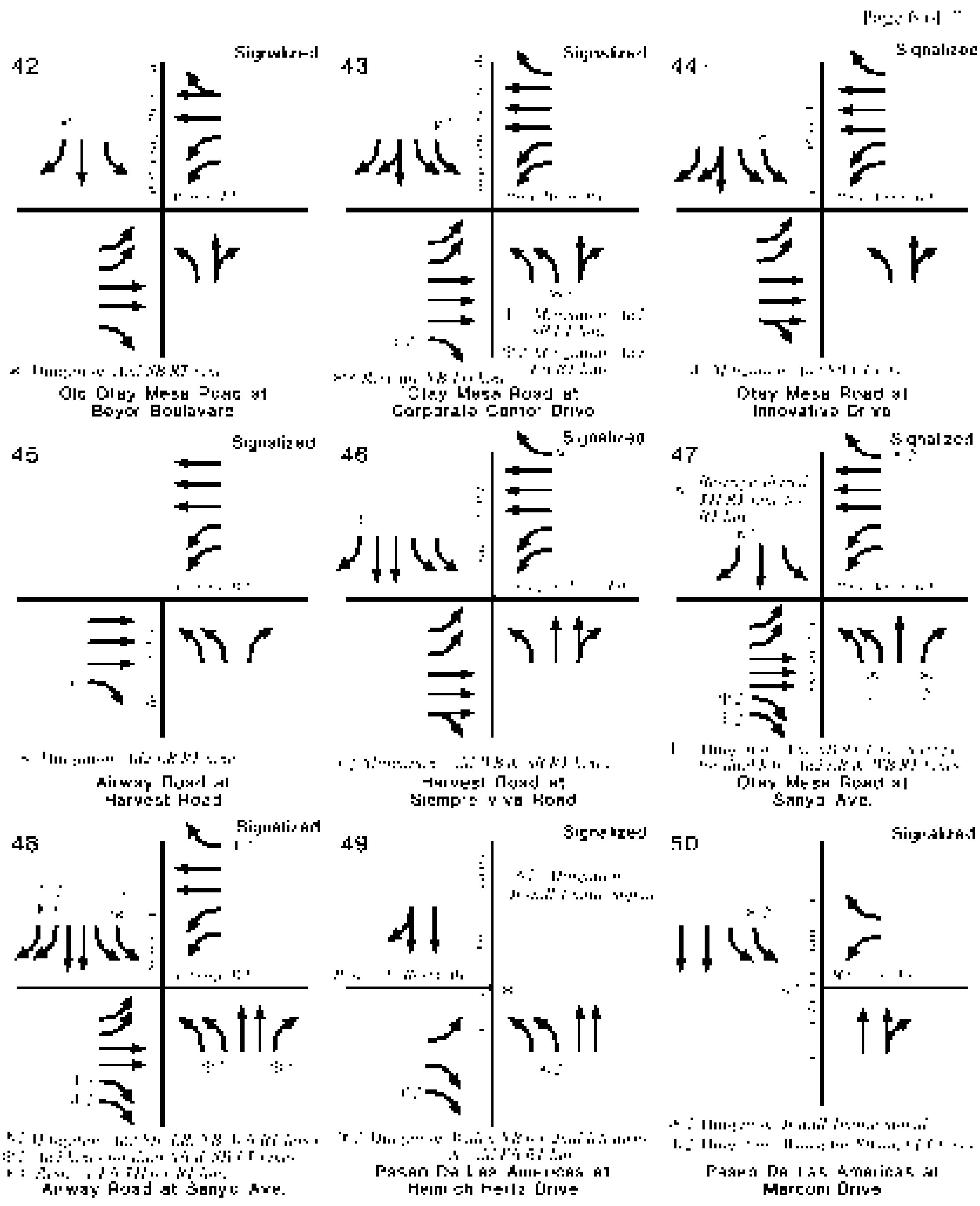


FIGURE ES-II-3

Buildout Recommended Lane Configurations - Adopted Community Plan (With Mitigation)

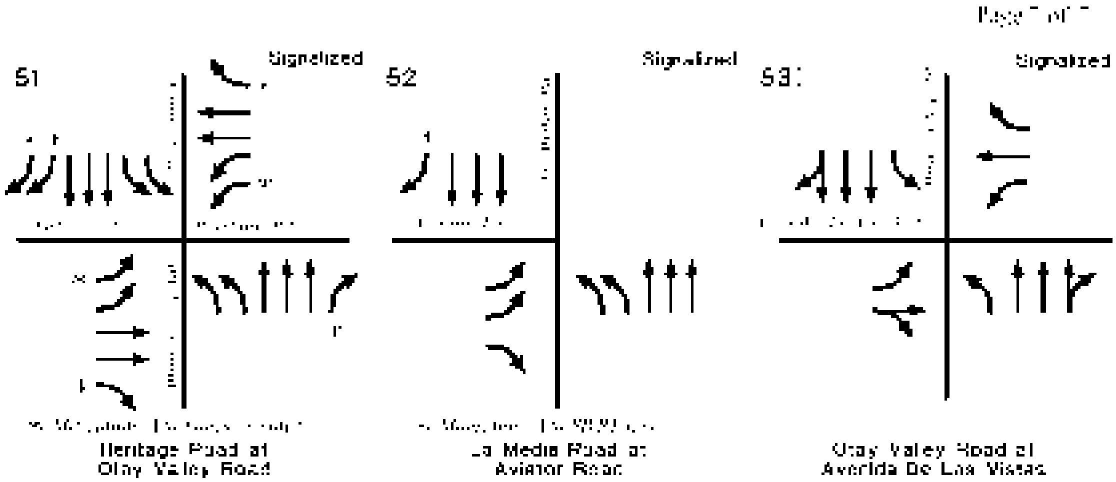


FIGURE ES-II-3
Buildout Recommended Lane Configurations - Adopted Community Plan
(With Mitigation)

Page 1 of 2

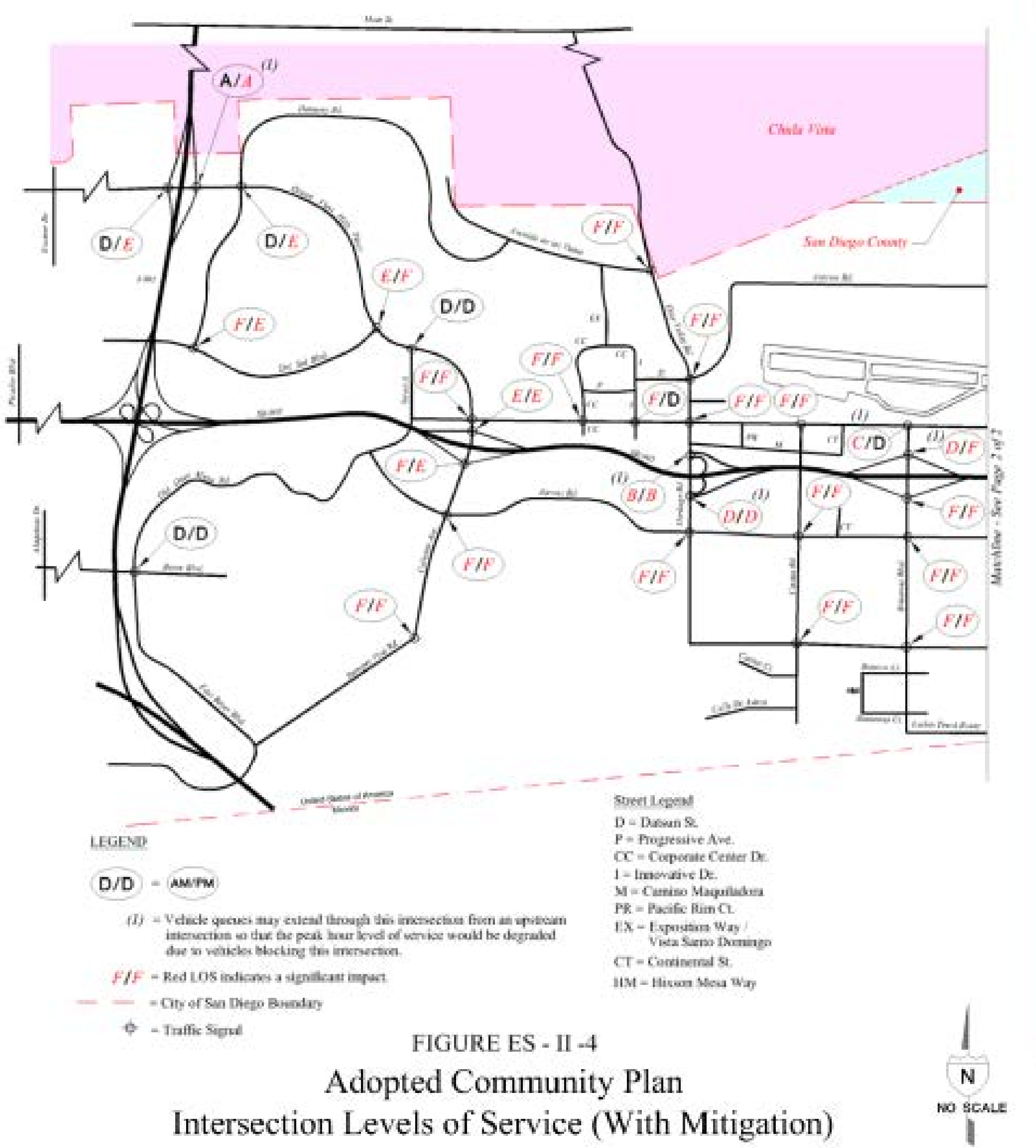
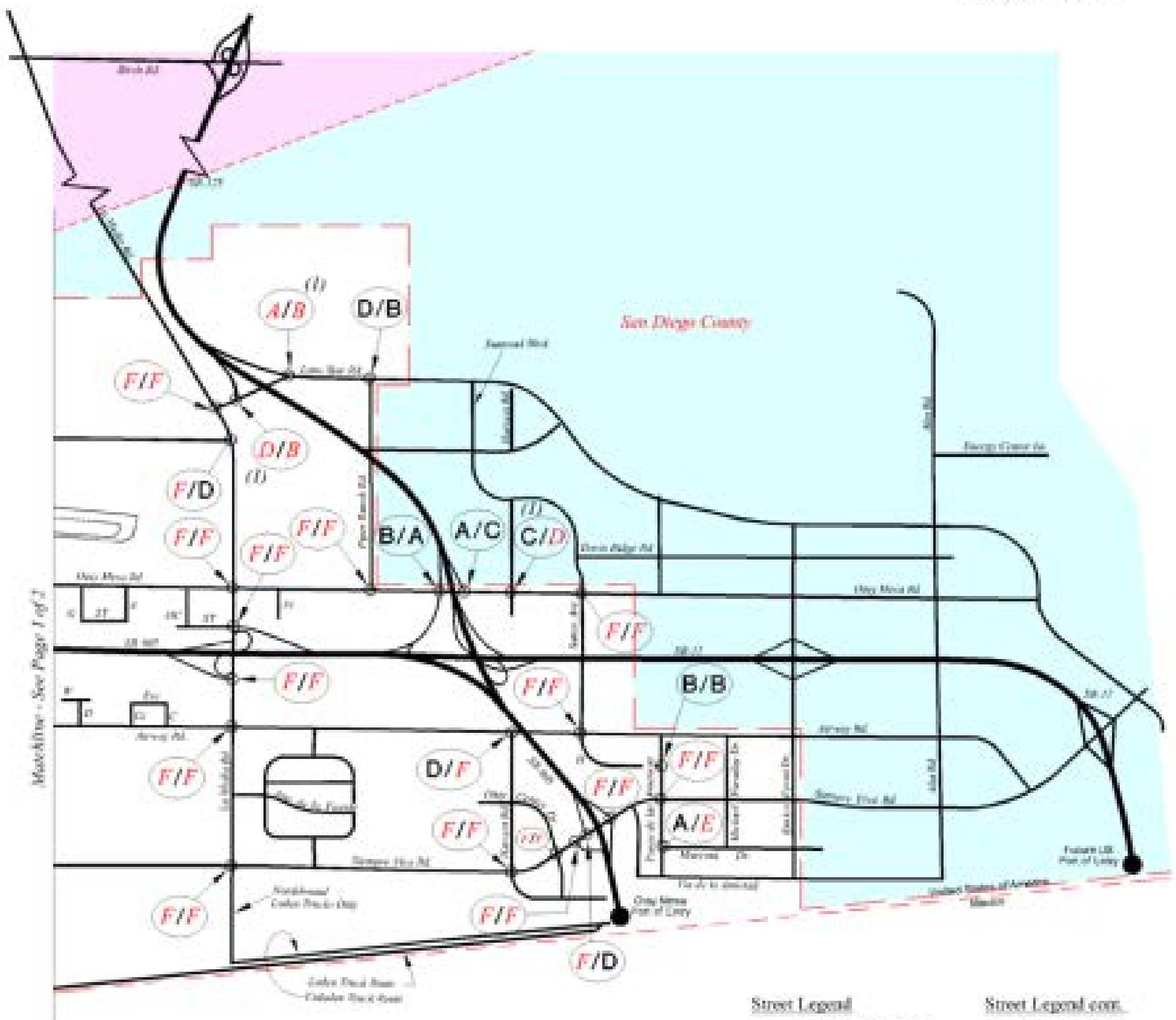


FIGURE ES - II -4

Adopted Community Plan
Intersection Levels of Service (With Mitigation)

Page 2 of 2



Street Legend	Street Legend cont.
OC = Otay Mesa Ctr. Rd.	W = Waterville Rd.
G = Gailes Blvd.	D = Dublin Dr.
A = Ailsa Ct.	OP = Otay Pacific Dr.
ST = St. Andrews Ave.	OPP = Otay Pacific Pl.
H = Heinrich Hertz Dr.	LC = Las Californias Dr.
C = Centurion St.	
Gi = Gigantic St.	
Exc = Excellante St.	
Av = Avenida Costa Azul	

LEGEND

D/D = AM/PM

(1) = Vehicle queues may extend through this intersection from an upstream intersection so that the peak hour level of service would be degraded due to vehicles blocking this intersection.

F/F = Red LOS indicates a significant impact.

= City of San Diego Boundary

= Traffic Signal

FIGURE ES - II -4

Adopted Community Plan
Intersection Levels of Service (With Mitigation)

N
NO SCALE

TABLE ES II-7

Comparison Of
Buildout Adopted Community Plan To
3B Without La Media Road Scenario
Intersection Significant Impacts After Mitigation

		Adopted Community Plan		3B Without La Media Road	
		AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
	Intersection	LOS	LOS	LOS	LOS
1	Palm Ave. / I-805 SB Ramps	D	E	C	D
2	Palm Ave. / I-805 NB Ramps	A	(1) A	A	A
3	Palm Ave. / Dennery Rd.	D	E	C	E
4	Otay Mesa Rd. / Caliente Ave.	F	F	F	F
5	Caliente Ave. / SR-905 WB Ramps	E	E	(1) C	(1) C
6	Caliente Ave. / SR-905 EB Ramps	F	E	E	E
7	Caliente Ave. / Airway Rd.	F	F	F	F
8	Caliente Ave. / Siempre Viva Rd.	F	F	F	F
9	Otay Mesa Rd. / Heritage Rd.	F	F	F	F
10	Heritage Rd. / SR-905 WB Ramps	B	B	(1) B	(1) C
11	Heritage Rd. / SR-905 EB Ramps	(1) D	(1) D	(1) D	(1) C
12	Heritage Rd. / Airway Rd.	F	F	F	F
13	Heritage Rd. / Siempre Viva Rd.	N/A	N/A	N/A	N/A
14	Otay Mesa Rd. / Cactus Rd.	F	F	F	F
15	Airway Rd. / Cactus Rd.	F	F	F	F
16	Siempre Viva Rd. / Cactus Rd.	F	F	D	F
17	Otay Mesa Rd. / Britannia Blvd.	(1) C	(1) D	E	D
18	Britannia Blvd. / SR-905 WB Ramps	(1) D	F	E	F
19	Britannia Blvd. / SR-905 EB Ramps	F	F	F	E
20	Britannia Blvd. / Airway Rd.	F	F	F	F
21	Siempre Viva Rd. / Britannia Blvd.	F	F	F	F
22	Otay Mesa Rd. / La Media Rd.	F	F	F	F

Note: #13 is a right angle intersection (as assumed in the traffic model) with only two approaches.

Legend

LOS = Level of Service

(1) = Vehicle queues may extend through this intersection from an upstream intersection so that the peak hour level of service would be degraded due to vehicles blocking this intersection.

F = Shading indicates a significant impact

TABLE ES II-7 (Continued)

Comparison Of
Buildout Adopted Community Plan To
3B Without La Media Road Scenario
Intersection Significant Impacts After Mitigation

		Adopted Community Plan		3B Without La Media Road	
		AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
Intersection		LOS	LOS	LOS	LOS
23	La Media Rd. / SR-905 WB Ramps	F	F	F	F
24	La Media Rd. / SR-905 EB Ramps	F	F	F	(1) D
25	La Media Rd. / Airway Rd.	F	F	F	F
26	La Media Rd. / Siempre Viva Rd.	F	F	F	D
27	La Media Rd. / Lone Star Rd.	F	F	N/A	N/A
28	Lone Star Rd. / SR-125 SB Off Ramp	(1) D	(1) B	E	F
29	Lone Star Rd. / SR-125 NB On Ramp	(1) A	(1) A	(1) A	F
30	Lone Star Rd. / Piper Ranch Rd.	D	B	A	(1) A
31	Otay Mesa Rd. / Piper Ranch Rd.	F	F	D	D
32	Otay Mesa Rd. / SR-125 SB Off Ramp	(1) B	(1) A	C	(1) B
33	Otay Mesa Rd. / SR-125 NB On Ramp	(1) A	(1) B	A	C
34	Otay Mesa Rd. / Harvest Rd.	C	(1) D	B	(1) D
35	Siempre Viva Rd. / Otay Center Dr.	F	F	F	F
36	Siempre Viva Rd. / SR-905 SB to EB Ramp	F	F	(1) C	F
36A	Siempre Viva Rd. / SR-905 SB to WB Ramp	F	(1) D	F	(1) B
37	Siempre Viva Rd. / SR-905 NB Ramps	F	F	(1) D	F
38	Siempre Viva Rd. / Paseo de las Americas	F	F	E	F
39	Dennery Rd. / Del Sol Blvd.	F	E	D	D
40	Ocean View Hills Pkwy. / Del Sol Blvd.	E	F	D	D
41	Ocean View Hills Pkwy. / Street A	D	D	D	C
42	Old Otay Mesa Rd. / Beyer Blvd.	D	D	F	F
43	Otay Mesa Rd. / Corporate Center Dr.	F	F	E	F
44	Otay Mesa Rd. / Innovative Dr.	F	D	F	F

Legend

LOS = Level of Service

(1) = Vehicle queues may extend through this intersection from an upstream intersection so that the peak hour level of service would be degraded due to vehicles blocking this intersection.

F = Shading indicates a significant impact.

TABLE ES II-7 (Continued)

Comparison Of
Buildout Adopted Community Plan To
3B Without La Media Road Scenario
Intersection Significant Impacts After Mitigation

		Adopted Community Plan		3B Without La Media Road	
		AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
Intersection		LOS	LOS	LOS	LOS
45	Harvest Rd. / Airway Rd.	D	F	D	B
46	Harvest Rd. / Siempre Viva Rd.	F	F	C	D
47	Otay Mesa Rd. / Sanyo Ave.	F	F	F	F
48	Airway Rd. / Sanyo Ave.	F	F	D	D
49	Paseo de las Americas / Heinrich Hertz Dr.	B	B	A	B
50	Paseo de las Americas / Marconi Dr.	A	E	B	B
51	Heritage Rd. / Otay Valley Rd. / Datsun St.	F	F	F	F
52	Aviator Rd. / La Media Rd.	F	D	C	B
53	Otay Valley Rd. / Avenida De Las Vistas	F	F	F	F

Legend

F = Shading indicates a significant impact.

The Adopted Community Plan Scenario has 42 intersections during the AM peak hour and ~~44~~ 46 during the PM peak hour that would remain significantly impacted after mitigation.

The 3B Without La Media Road Scenario has 34 intersections during the AM peak hour and 37 during the PM peak hour that would remain significantly impacted after mitigation.

The following 35 intersections would remain significantly impacted under both scenarios:

- Palm Avenue / Dennery Road (PM);
- Otay Mesa Road / Caliente Avenue (AM & PM);
- Caliente Avenue / SR-905 WB Ramps (AM & PM);
- Caliente Avenue / SR-905 EB Ramps (AM &PM);
- Caliente Avenue / Airway Road (AM & PM);
- Caliente Avenue / Siempre Viva Road (AM & PM);
- Otay Mesa Road / Heritage Road (AM & PM);
- Heritage Road / SR-905 EB Ramps (AM & PM);
- Heritage Road / Airway Road (AM & PM);
- Otay Mesa Road / Cactus Road (AM & PM);
- Airway Road / Cactus Road (AM & PM);
- Siempre Viva Road / Cactus Road (PM);
- Otay Mesa Road / Britannia Boulevard (AM);
- Britannia Boulevard / SR-905 WB Ramps (AM & PM);
- Britannia Boulevard / SR-905 EB Ramps (AM & PM);
- Britannia Boulevard / Airway Road (AM & PM);

- Siempre Viva Road / Britannia Boulevard (AM & PM);
- Otay Mesa Road / La Media Road (AM & PM);
- La Media Road / SR-905 WB Ramps (AM & PM);
- La Media Road / SR-905 EB Ramps (AM);
- La Media Road / Airway Road (AM & PM);
- La Media Road / Siempre Viva Road (AM);
- Lone Star Road / SR-125 SB Off Ramp (PM);
- Lone Star Road / SR-125 NB On Ramp (PM);
- Otay Mesa Road / Harvest Road (PM);
- Siempre Viva Road / Otay Center Drive (AM & PM);
- Siempre Viva Road / SR-905 SB to EB Ramp(PM);
- Siempre Viva Road / SR-905 SB to WB Ramp (AM & PM):
- Siempre Viva Road / SR-905 NB Ramps (PM);
- Siempre Viva Road / Paseo de las Americas (AM & PM);
- Otay Mesa Road / Corporate Center Drive (AM & PM);
- Otay Mesa Road / Innovative Drive (AM);
- Otay Mesa Road / Sanyo Avenue (AM & PM);
- Heritage Road / Otay Valley Road / Datsun Street (AM & PM);
- Otay Valley Road / Avenida De Las Vistas (AM & PM).

The following 11 intersections would remain significantly impacted under the Adopted Community Plan Scenario, but not the 3B Without La Media Road Scenario:

- Palm Avenue / I-805 SB Ramps;
- Palm Avenue / I-805 NB Ramps;
- Otay Mesa Road / SR-125 NB On-Ramp;
- Otay Mesa Road / Piper Ranch Road;
- Dennery Road / Del Sol Boulevard;
- Ocean View Hills Parkway / Del Sol Boulevard;
- Harvest Road / Airway Road;
- Harvest Road / Siempre Viva Road;
- Airway Road / Sanyo Avenue;
- Paseo de las Americas / Marconi Drive;
- Aviator Road / La Media Road.

The following three intersections would remain significantly impacted under the 3B Without La Media Road Scenario, but not the Adopted Community Plan Scenario:

- Heritage Road / SR-905 WB Ramps;
- Lone Star Road / Piper Ranch Road;
- Old Otay Mesa Road / Beyer Boulevard.

Ramp Meters

There are currently no freeway on-ramp traffic metering signals in operation at the 14 locations evaluated. Future freeway on-ramp meter operations were evaluated for the No Project / Adopted Community Plan scenario at the fourteen future on-ramp meters. The likely most restrictive ramp meter rate as provided by Caltrans was used for this evaluation.

The City of San Diego Traffic Impact Study Manual and the Regional SANTEC / ITE Traffic Impact Study Guidelines state that levels of service do not apply to ramp meters, but that ramp meter delays above 15 minutes are considered excessive. The 14 ramp meters were evaluated for the AM and PM peak hours. Ramp meter delays above 15 minutes would occur at six ramps during the AM peak hours and 11 ramps during the PM peak hours. Ramp meter delays above 15 minutes would occur during a total of 17 peak hours during the AM and PM peak hours.

Ramp meter delays above 15 minutes are considered significant impacts if downstream freeways are operating at level of service “E” or “F”. The following five ramp locations would be significantly impacted using this significance criteria:

- SR-905 / Caliente Avenue Westbound on-ramp (AM and PM);
- SR-905 / Heritage Road Westbound on-ramp (PM);
- SR-905 Britannia Boulevard Westbound on-ramp (AM and PM);
- SR-905 / Britannia Boulevard Eastbound on-ramp (PM);
- SR-905 / La Media Road Westbound on-ramp (AM and PM).

Figure ES II-5 shows the intersections that would be significantly impacted by ramp meter delays.

A comparison of the Adopted Community Plan land use scenario to the 3B Without La Media Road land use scenario indicates that the significantly impacted ramp meter locations above would be the same under the 3B Scenario, except with the addition of:

- SR-905 / Heritage Road Westbound On-Ramp (AM).

Ramp meter queues are also tabulated. Considering the queues that would exceed the ramp storage length, there are estimated to be 17 times queues would exceed the ramp storage length during the 28 peak hours evaluated at the 11 ramps listed below:

- I-805 / Palm Avenue Northbound On-ramp (AM and PM);
- SR-905 / Caliente Avenue Westbound On-ramp (AM and PM);
- SR-905 / Heritage Road Westbound On-ramp (PM);
- SR-905 / Britannia Boulevard Westbound On-ramp (AM and PM);
- SR-905 / Britannia Boulevard Eastbound On-ramp (PM);
- SR-905 / La Media Road Westbound On-ramp (AM and PM);
- SR-905 / La Media Road Eastbound On-ramp (PM);
- SR-905 / Siempre Viva Road Northbound On-ramp (AM and PM);
- SR-905 / Siempre Viva Road Southbound On-ramp (PM);
- SR-125 / Otay Mesa Road Northbound On-ramp (PM);
- SR-125 / Lone Star Road Northbound On-ramp (AM and PM).

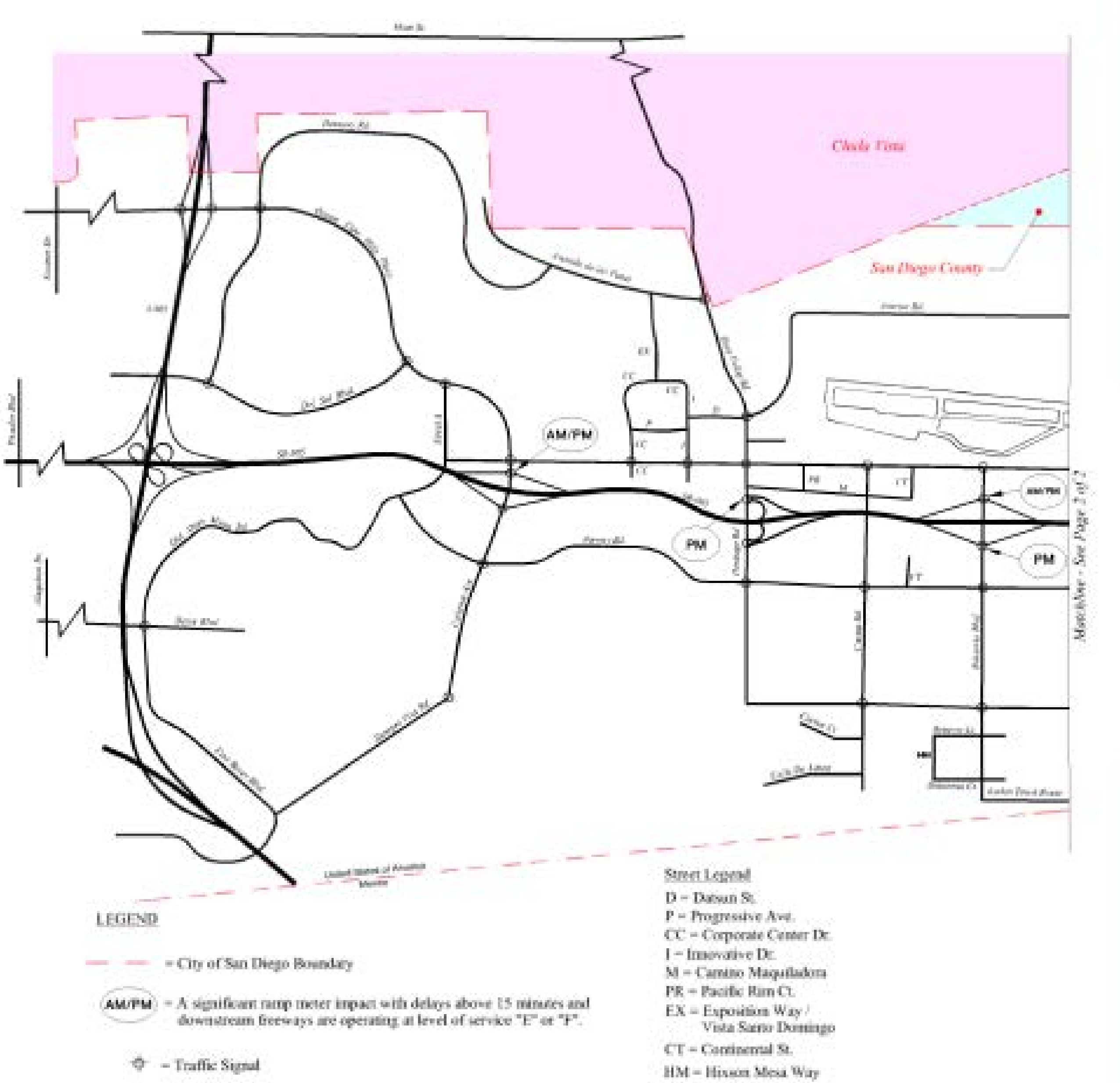


FIGURE ES - II -5

Adopted Community Plan
Significant Ramp Meter Delays

N
NO SCALE

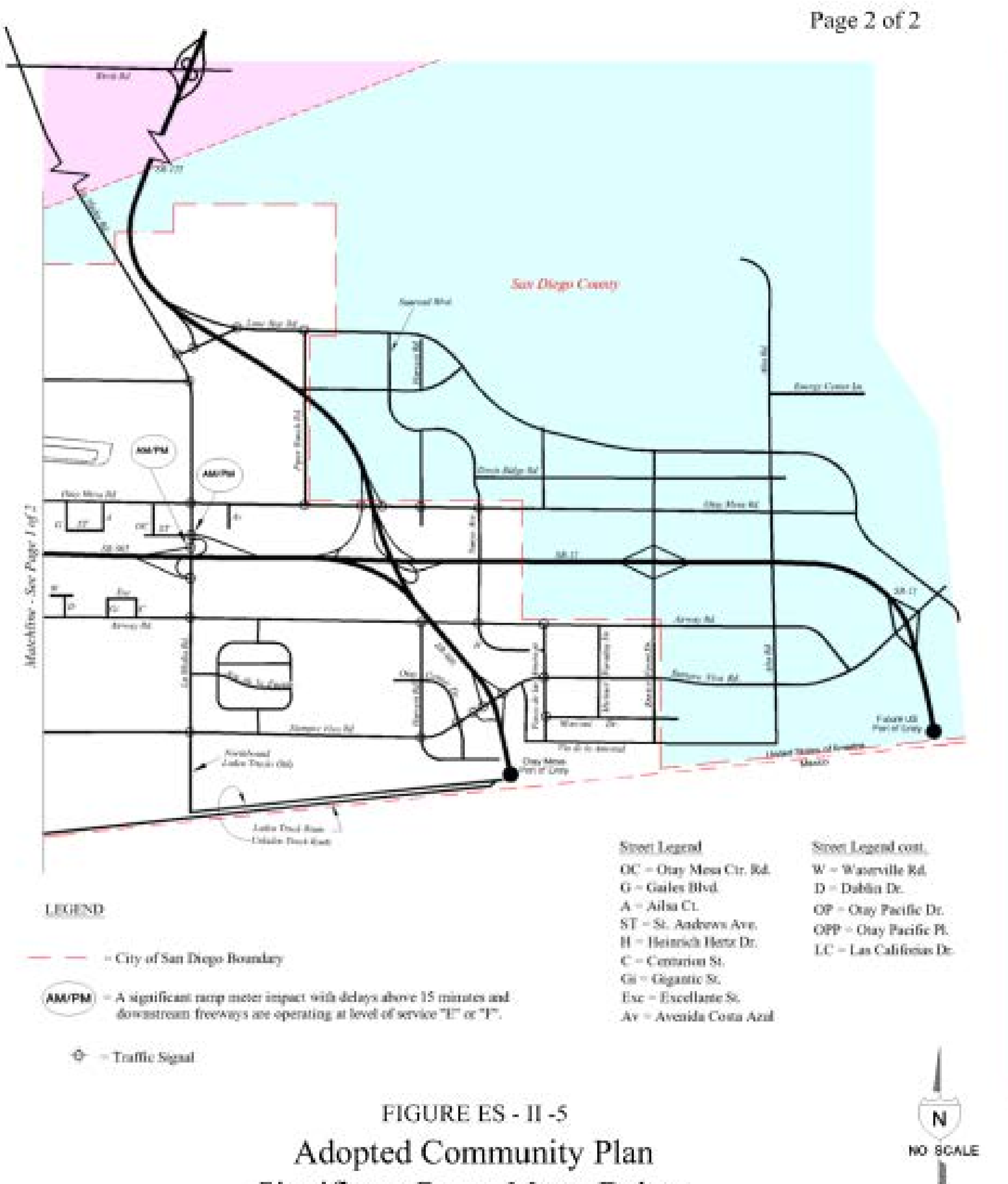


FIGURE ES - II -5

Adopted Community Plan
Significant Ramp Meter Delays

A comparison of the Adopted Community Plan land use scenario to the 3B Without La Media Road land use scenario indicates the locations would be the same for each scenario, but the peak hours would change with the Adopted Community Plan as listed below:

- SR-905 / Heritage Road Westbound On-Ramp (AM & PM);
- SR-125 / Otay Mesa Road Northbound On-Ramp (AM & PM);
- SR-125 / Lone Star Road Northbound On-Ramp (PM Only).

Freeway Interchange Queues

A queue analysis was prepared at the interchange ramp intersections plus closely spaced adjacent intersections within the study area, without and with the recommended intersection mitigation.

The queue analysis was provided to indicate the locations that might need queue storage enhancements such as extending right or left turn storage lengths, if feasible, during design and to ensure that any intersection with excessive queues was not reported as operating acceptably.

Of the 166 queues evaluated without intersection mitigation, during AM and PM peak hours, 92 are expected to exceed the available storage between these closely spaced intersections at freeway interchange ramps. With intersection mitigation, 192 queues were evaluated and 76 are expected to exceed the available storage length extending through the adjacent intersection. **Table ES II-8** lists the locations of the excessive queues.

Table ES II-8

Buildout Adopted Community Plan

Queue Analysis With Mitigation

Queue Locations North / South	AM PEAK HOUR					
Location	Excess Queue (Feet)			Excess Queue (Feet)		
	Southbound			Northbound		
	RT	TH	LT	LT	TH	RT
Otay Mesa Rd. / Caliente Ave.	-	-	-	None	None	7,380
Caliente Ave. / SR-905 WB Ramps	428	50	-	315	None	-
Caliente Ave. / SR-905 EB Ramps	-	None	140	-	1,448	None
Caliente Ave. / Airway Rd.	-	225	2,500	-	-	-
Otay Mesa Rd. / Heritage Rd.	-	-	-	None	None	None
Heritage Rd. / SR-905 WB Ramps	-	None	None	-	None	None
Heritage Rd. / SR-905 EB Ramps	-	75	None	-	650	None
Heritage Rd. / Airway Rd.	None	1,550	1,328	-	-	-
Otay Mesa Rd. / Britannia Blvd.	-	-	-	None	-	None
Britannia Blvd. / SR-905 WB Ramps	-	None	-	560	None	-
Britannia Blvd. / SR-905 EB Ramps	-	618	None	-	193	-
Britannia Blvd. / Airway Rd.	628	1,390	2,750	-	-	-
Otay Mesa Rd. / La Media Rd.	-	-	-	1,973	905	135
La Media Rd. / SR-905 WB Ramps	None	2,450	-	None	1,548	-
La Media Rd. / SR-905 EB Ramps	None	3,100	-	None	1,308	-
La Media Rd. / Airway Rd.	1,198	1,378	3,650	-	-	-

Queue Locations North / South	PM PEAK HOUR					
Location	Excess Queue (Feet)			Excess Queue (Feet)		
	Southbound			Northbound		
	RT	TH	LT	LT	TH	RT
Otay Mesa Rd. / Caliente Ave.	-	-	-	250	33	2,775
Caliente Ave. / SR-905 WB Ramps	12	150	-	1,005	1,335	-
Caliente Ave. / SR-905 EB Ramps	-	None	None	-	1,570	None
Caliente Ave. / Airway Rd.	-	968	2,500	-	-	-
Otay Mesa Rd. / Heritage Rd.	-	-	-	None	None	None
Heritage Rd. / SR-905 WB Ramps	-	None	None	-	None	None
Heritage Rd. / SR-905 EB Ramps	-	None	None	-	1,775	None
Heritage Rd. / Airway Rd.	288	None	None	-	-	-
Otay Mesa Rd. / Britannia Blvd.	-	-	-	None	-	None
Britannia Blvd. / SR-905 WB Ramps	-	110	-	4,425	None	-
Britannia Blvd. / SR-905 EB Ramps	-	None	None	-	2,000	None
Britannia Blvd. / Airway Rd.	None	None	90	-	-	-
Otay Mesa Rd. / La Media Rd.	-	-	-	640	745	None
La Media Rd. / SR-905 WB Ramps	3	2,425	-	None	None	-
La Media Rd. / SR-905 EB Ramps	None	1,725	-	360	1,950	-
La Media Rd. / Airway Rd.	None	None	2,325	-	-	-

Note: Based on 95th percentile back of queue. 25 FT. per vehicle.
TH = Through Lanes
LT = Left Turn Lane
RT = Right Turn Lane
░ = Shading indicates excess queue.

Table ES II-8

Buildout Adopted Community Plan

Queue Analysis With Mitigation

Queue Locations East / West	AM PEAK HOUR					
Location	Excess Queue (Feet) Eastbound			Excess Queue (Feet) Westbound		
	RT	TH	LT	LT	TH	RT
Palm Ave. / I-805 SB Ramps	-	-	-	None	None	-
Palm Ave. / I-805 NB Ramps	None	None	-	-	None	None
Palm Ave. Dennery Rd.	None	None	None	-	-	-
Siempre Viva Rd. / Otay Center Dr.	-	-	-	None	5,300	None
Siempre Viva Rd. / SR-905 SB Ramps	-	1,140	-	None	None	-
Siempre Viva Rd. / SR-905 NB Ramps	-	2,325	943	-	1,375	None
Siempre Viva Rd. / Paseo de las Americas	2,350	33	3,100	-	-	-
La Media Rd. / Lone Star Rd.	-	-	-	485	130	None
Lone Star Rd. / SR-125 SB Off Ramp	-	1,488	-	-	None	-
Lone Star Rd. / SR-125 NB On Ramp	-	-	None	-	None	None
Lone Star Rd. / Piper Ranch Rd.	None	1,875	-	-	-	-
Otay Mesa Rd. / Piper Ranch Rd.	-	-	-	None	None	None
Otay Mesa Rd. / SR-125 SB Off Ramp	-	None	-	-	None	-
Otay Mesa Rd. / SR-125 NB On Ramp	-	-	None	-	None	None
Otay Mesa Rd. / Harvest Rd.	None	1,015	None	-	-	-

Queue Locations East / West	PM PEAK HOUR					
Location	Excess Queue (Feet) Eastbound			Excess Queue (Feet) Westbound		
	RT	TH	LT	LT	TH	RT
Palm Ave. / I-805 SB Ramps	-	-	-	None	None	-
Palm Ave. / I-805 NB Ramps	None	None	-	-	None	None
Palm Ave. Dennery Rd.	1,383	None	None	-	-	-
Siempre Viva Rd. / Otay Center Dr.	-	-	-	553	None	None
Siempre Viva Rd. / SR-905 SB Ramps	-	5,650	-	1,593	None	-
Siempre Viva Rd. / SR-905 NB Ramps	-	None	6,000	-	None	4,225
Siempre Viva Rd. / Paseo de las Americas	None	None	2,750	-	-	-
La Media Rd. / Lone Star Rd.	-	-	-	193	None	3,725
Lone Star Rd. / SR-125 SB Off Ramp	-	None	-	-	None	-
Lone Star Rd. / SR-125 NB On Ramp	-	-	None	-	None	298
Lone Star Rd. / Piper Ranch Rd.	None	None	-	-	-	-
Otay Mesa Rd. / Piper Ranch Rd.	-	-	-	None	None	None
Otay Mesa Rd. / SR-125 SB Off Ramp	-	None	-	-	None	-
Otay Mesa Rd. / SR-125 NB On Ramp	-	-	None	-	None	608
Otay Mesa Rd. / Harvest Rd.	None	None	None	-	-	-

Note: Based on 95th percentile back of queue. 25 FT. per vehicle.
TH = Through Lanes
LT = Left Turn Lane
RT = Right Turn Lane
░ = Shading indicates excess queue.

Figure ES II-6 shows the interchange intersections that would be affected by excessive queues. Vehicle queues will extend through these intersections from an upstream intersection so that any acceptable peak hour level of service will be at level of service "F" due to vehicles blocking this intersection. The intersection level of service table (**Table ES II-6**) includes this condition as footnoted.

III. SCENARIO 3B WITHOUT LA MEDIA ROAD (PROPOSED COMMUNITY PLAN BUILDOUT)

Roadway Segments

Roadway segments at buildout were evaluated for levels of service based on the City of San Diego Street Design manual. The initial "without mitigation" classification of roadways is based on the existing functional classifications or the current Community Plan classification if the street did not exist in the existing conditions assessment or if analyzing the projected volumes on the existing facility would not be meaningful because it would not be possible to carry those volumes on the existing-sized facility due to its capacity. Segments that would be at level of service "E" or "F" are considered to be significantly impacted by implementation of the land use plan. **Table ES III-1** lists segments that would be at level of service "E" or "F" for this scenario, without reclassification and construction to a higher standard, and the level of service after reclassification and construction to a higher standard.

As shown in this table, 41 roadway segments would operate at level of service "E" or "F" with the assumed initial classification. After reclassification and construction to a higher standard, 24 segments would operate at "E" or F" and remain significantly impacted, as indicated with a "Y" in the last column with the (S?) heading. For comparison, the No Project Scenario has 59 segments at level of service "E" or "F" initially and 38 segments that remain significantly impacted.

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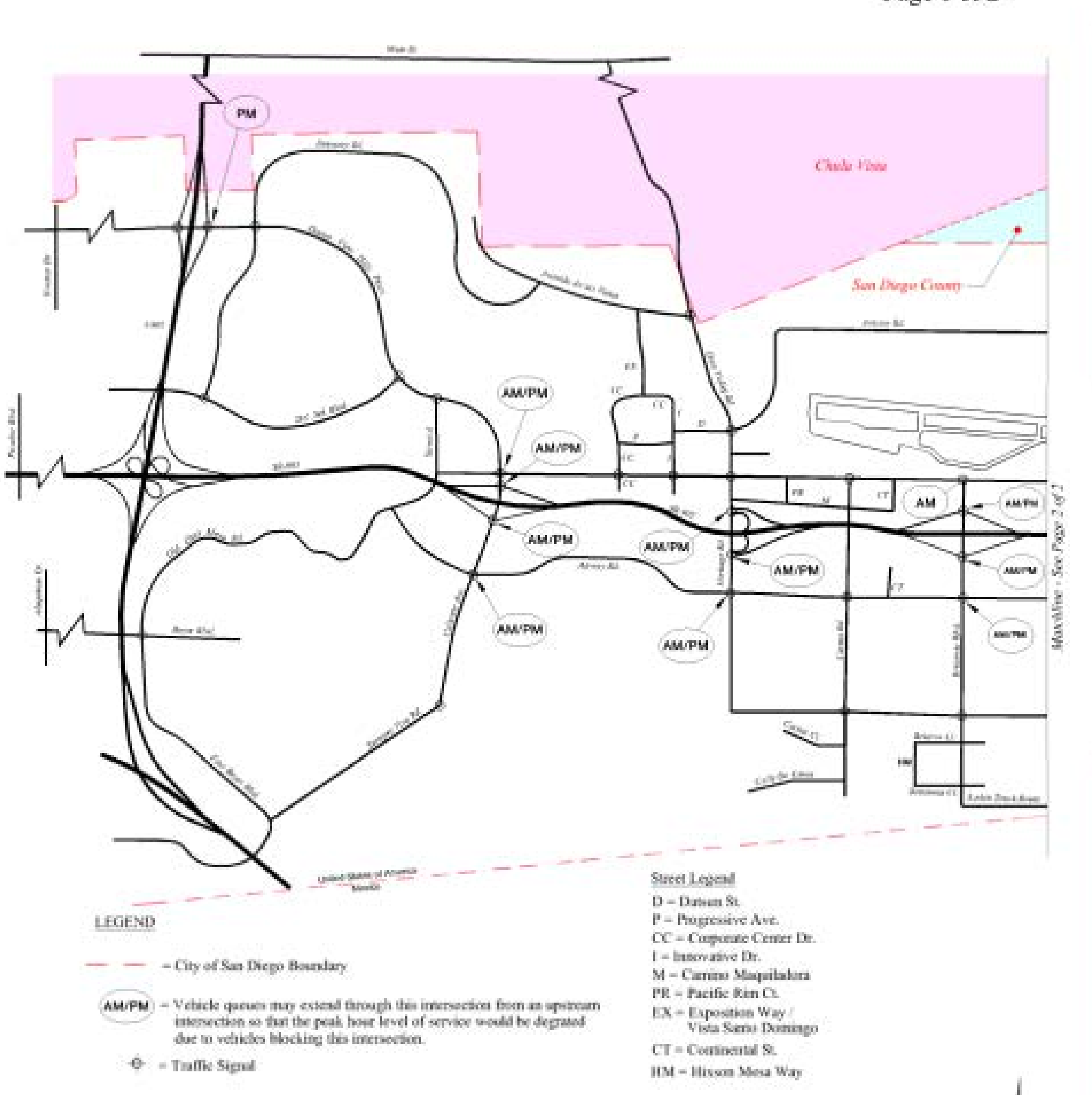

FIGURE ES - II -6
Adopted Community Plan
Interchange and Adjacent Intersection Queueing Impacts

N
NO SCALE

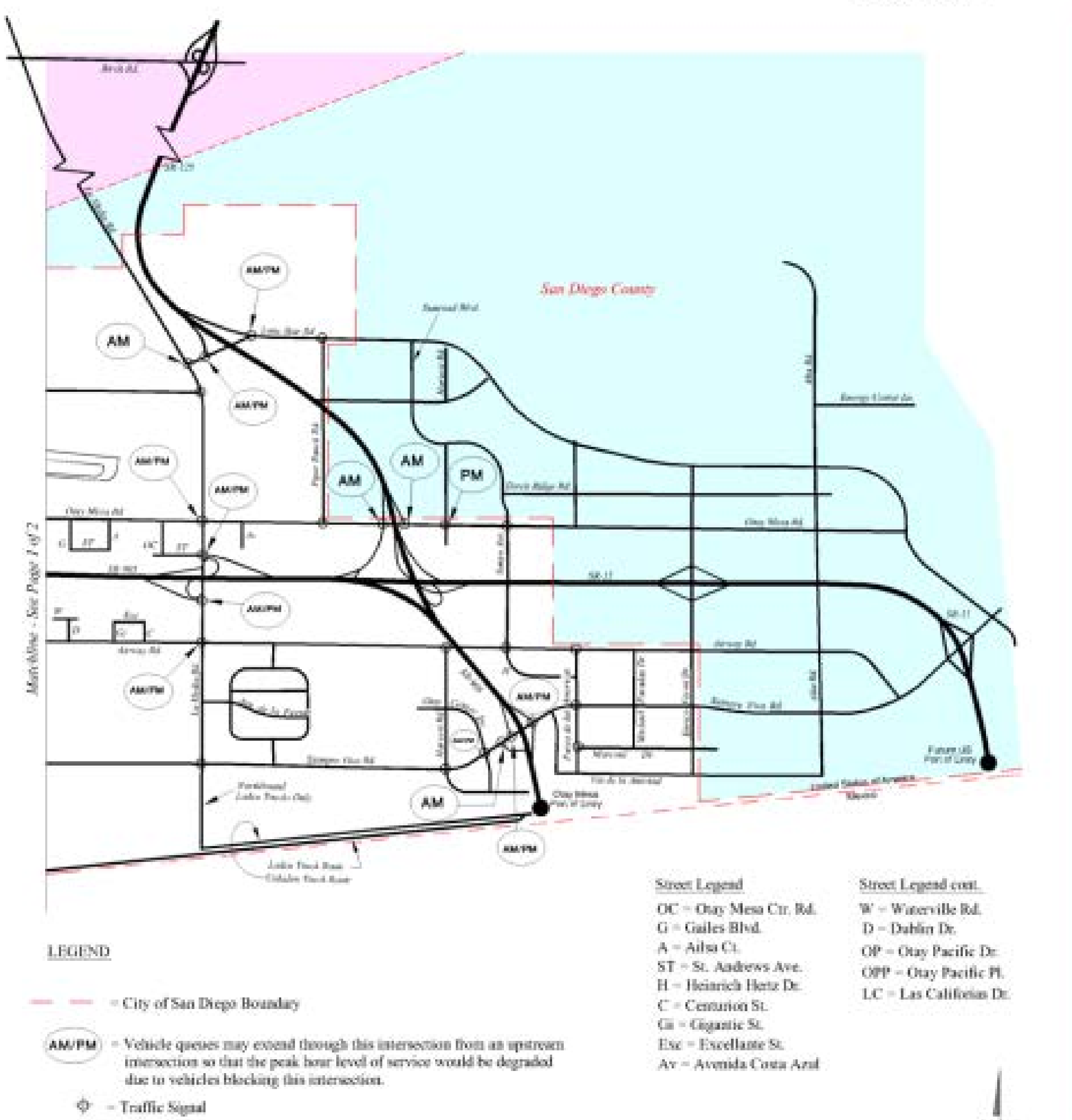

FIGURE ES - II -6

Adopted Community Plan

Interchange and Adjacent Intersection Queueing Impacts

TABLE ES III-1

Buildout Scenario 3B Without La Media Rd.

Roadway Segments at LOS "E" or "F"

Street	Segment	#	(1) Class	LOS E ADT (2)	Segment ADT	LOS		New Class	NEW LOS	S?
Otay Mesa Road	Caliente Ave. to Corporate Center Dr.	2	6-PA	60,000	72,500	F		N	-	Y
	Heritage Rd. to Cactus Rd.	5	6-PA	60,000	76,500	F		N	-	Y
	SR-125 to Harvest Rd.	11	4-M	40,000	36,000	E		6-PA	C	N
Airway Road	Caliente Ave. to Heritage Rd.	15	4-M	40,000	38,000	E		N	-	Y
	Heritage Rd. to Cactus Rd.	16	4-M	40,000	60,500	F		6-PA	F	Y
	Cactus Rd. to Britannia Blvd.	17	4-M	40,000	44,500	F		6-M	D	N
Siempre Viva Road	Otay Center Dr. to SR-905	31	6-PA	60,000	60,000	E		N	-	Y
	SR-905 to Paseo de las Americas	32	6-PA	60,000	63,000	F		N	-	Y
Caliente Avenue	Airway Rd. to Beyer Blvd.	43	4-M	40,000	46,000	F		6-M	E	Y
	Beyer Blvd. to Siempre Viva Rd.	43A	4-M	40,000	41,000	F		N	-	Y
Heritage Road/ Otay Valley Road	Main St. to Avenida De Las Vistas	46	6-PA	60,000	83,000	F		N	-	Y
	Avenida De Las Vistas to Datsun St.	47	6-M	50,000	75,500	F		6-PA	F	Y
	Datsun St. to Otay Mesa Rd.	48	6-M	50,000	48,000	E		6-PA	C	N
Cactus Road	Otay Mesa Rd. to Airway Rd.	52	4-CL	30,000	40,500	F		4-M	F	Y
	Airway Rd. to Siempre Viva Rd.	53	4-CL	30,000	40,500	F		4-M	F	Y
Britannia Boulevard	SR-905 to Airway Rd.	56	4-M	40,000	63,000	F		6-PA	F	Y
	Airway Rd. to Siempre Viva Rd.	57	4-M	40,000	44,500	F		6-M	D	N
	Siempre Viva Rd. to South End	58	2-C	8,000	22,000	F		4-CL	D	N
La Media Road	SR-905 to Airway Rd.	63	6-PA	60,000	64,000	F		N	-	Y

= Segment Number

** = Segment is in Chula Vista.

(1) = Current Community Plan Classification unless footnotes (3) or (4) apply.

(2) = Source: City of San Diego Traffic Impact Study Manual, Table 2.

(3) = Add to Circulation Plan.

(4) = Functional classification shown, not currently classified.

S? = Significant impact, Yes (Y) or No (N).

N = New classification is not proposed.

New LOS = LOS after change in classification.

░ = Shading indicates a significant impact.

Legend

8-M = 8-lane Major Arterial

7-PA = 7-lane Primary Arterial

7-M = 7-lane Major Arterial

6-PA = 6-lane Primary Arterial

6-M = 6-lane Major Arterial

5-M = 5-lane Major Arterial (3SB /2NB)

4-P = 4-lane Primary Arterial

4-M = 4-lane Major Arterial

4-CL = 4-lane Collector (with continuous left turn lane)

4-C = 4-lane Collector (without continuous left turn lane)

2-CL = 2-lane Collector (with continuous left turn lane)

2-CN = 2-lane Collector (no fronting property)

2-C = 2-lane Collector (without continuous left turn lane)

TABLE ES III-1

Buildout Scenario 3B Without La Media Rd.

Roadway Segments at LOS "E" or "F"

Street	Segment	#	(1) Class	LOS E ADT (2)	Segment ADT	LOS		New Class	NEW LOS	S?
Lone Star Road	Piper Ranch Rd. to City / County Boundary	73	4-M	40,000	36,000	E		6-PA	C	N
Aviator Road	Heritage Rd. to La Media Rd. (3)	74	2-C	8,000	23,000	F		4-CL	D	N
Dennery Road	Black Coral Ln. to East End	79	2-CN	10,000	16,500	F		N	-	Y
Avendia De Las Vistas	Vista Santo Domingo to Dennery Rd.	81	2-CN	10,000	19,500	F		N	-	Y
Del Sol Boulevard	Surf Crest Dr. to Riviera Pointe	83	2-CN	10,000	23,000	F		N	-	Y
	Riviera Pointe to Dennery Rd.	84	2-CL	15,000	23,000	F		N	-	Y
Old Otay Mesa Road	Crescent Bay Dr. to Beyer Blvd.	89	2-C	8,000	16,000	F		N	-	Y
Corporate Center Drive	Progressive Ave. to Innovative Dr.	93	2-C	8,000	8,000	E		2-CL	C	N
Sanyo Avevue	Otay Mesa Rd. to Airway Rd. (4)	97	4-C	15,000	24,500	F		4-CL	D	N
Paseo de las Americas	Airway Rd. to Siempre Viva Rd.	99	2-C	8,000	16,500	F		4-CL	C	N
	Siempre Viva Rd. to Marconi Dr.	100	2-C	8,000	15,000	F		4-CL	C	N
Marconi Drive	Paseo de las Americas to Enrico Fermi Dr.	101	2-C	8,000	8,000	E		2-CL	C	N
Otay Center Drive	Harvest Rd. to Siempre Viva Rd. (3)	102	4-C	15,000	15,500	F		4-CL	C	N
St. Andrews Avenue	Otay Mesa Center Rd. to La Media Rd.	105	2-C	8,000	13,500	F		4-CL	C	N
Gailes Boulevard	Otay Mesa Rd. to St. Andrews Ave.	107	2-C	8,000	12,500	F		4-C	D	N
Camino Maquiladora	Heritage Rd. to Pacific Rim Ct.	108	2-C	8,000	9,500	F		N	-	Y
	Pacific Rim Ct. to Cactus Rd.	109	2-C	8,000	7,500	E		N	-	Y
Progressive Avenue	Corporate Center Dr. to Innovative Dr.	112	2-C	8,000	11,500	F		N	-	Y
Otay Mesa Center Road	Otay Mesa Rd. to St. Andrews Ave.	113	2-C	8,000	24,000	F		4-CL	D	N
Datsun Street	Innovative Dr. to Heritage Rd. (3)	114	2-C	8,000	30,000	F		4-CL	E	Y
Avenida Costa Azul	Otay Mesa Rd. to St. Andrews Ave. (3)	115	2-CL	15,000	19,000	E		4-CL	B	N
Exposition Way / Vista Santo Domingo	Avenida De Las Vistas to Corporate Center Dr. (4)	119	2-CN	10,000	12,500	F		N	-	Y

= Segment Number

(1) = Current Community Plan Classification unless footnotes (3) or (4) apply.

(2) = Source: City of San Diego Traffic Impact Study Manual, Table 2.

(3) = Add to Circulation Plan.

(4) = Functional classification shown, not currently classified.

S? = Significant impact, Yes (Y) or No (N).

N = New classification is not proposed.

New LOS = LOS after change in classification.

░ = Shading indicates a significant impact.

Legend

8-M = 8-lane Major Arterial

7-PA = 7-lane Primary Arterial

7-M = 7-lane Major Arterial

6-PA = 6-lane Primary Arterial

6-M = 6-lane Major Arterial

5-M = 5-lane Major Arterial (3SB /2NB)

4-P = 4-lane Primary Arterial

4-M = 4-lane Major Arterial

4-CL = 4-lane Collector (with continuous left turn lane)

4-C = 4-lane Collector (without continuous left turn lane)

2-CL = 2-lane Collector (with continuous left turn lane

2-CN = 2-lane Collector (no fronting property)

2-C = 2-lane Collector (without continuous left turn lane)

Figure ES III-1 shows recommended roadway classifications and also segments highlighted in red that are proposed to be classified to a higher standard.

Refer to Chapter 7, page 7-11 for discussion of the proposed mitigation and / or explanation of why the significant impact is not proposed to be fully mitigated.

A comparison of the 3B Without La Media Road land use plan significantly impacted roadway segments to the Buildout Adopted Community Plan Scenario is provided below, based on the listing of impacted roadway segments shown in **Table ES III-2**.

The 3B Without La Media Road Scenario has 24 roadway segments that would remain significantly impacted after mitigation.

The Adopted Community Plan Scenario has 38 roadway segments that would remain significantly impacted after mitigation.

The following 19 roadway segments would remain significantly impacted under both scenarios.

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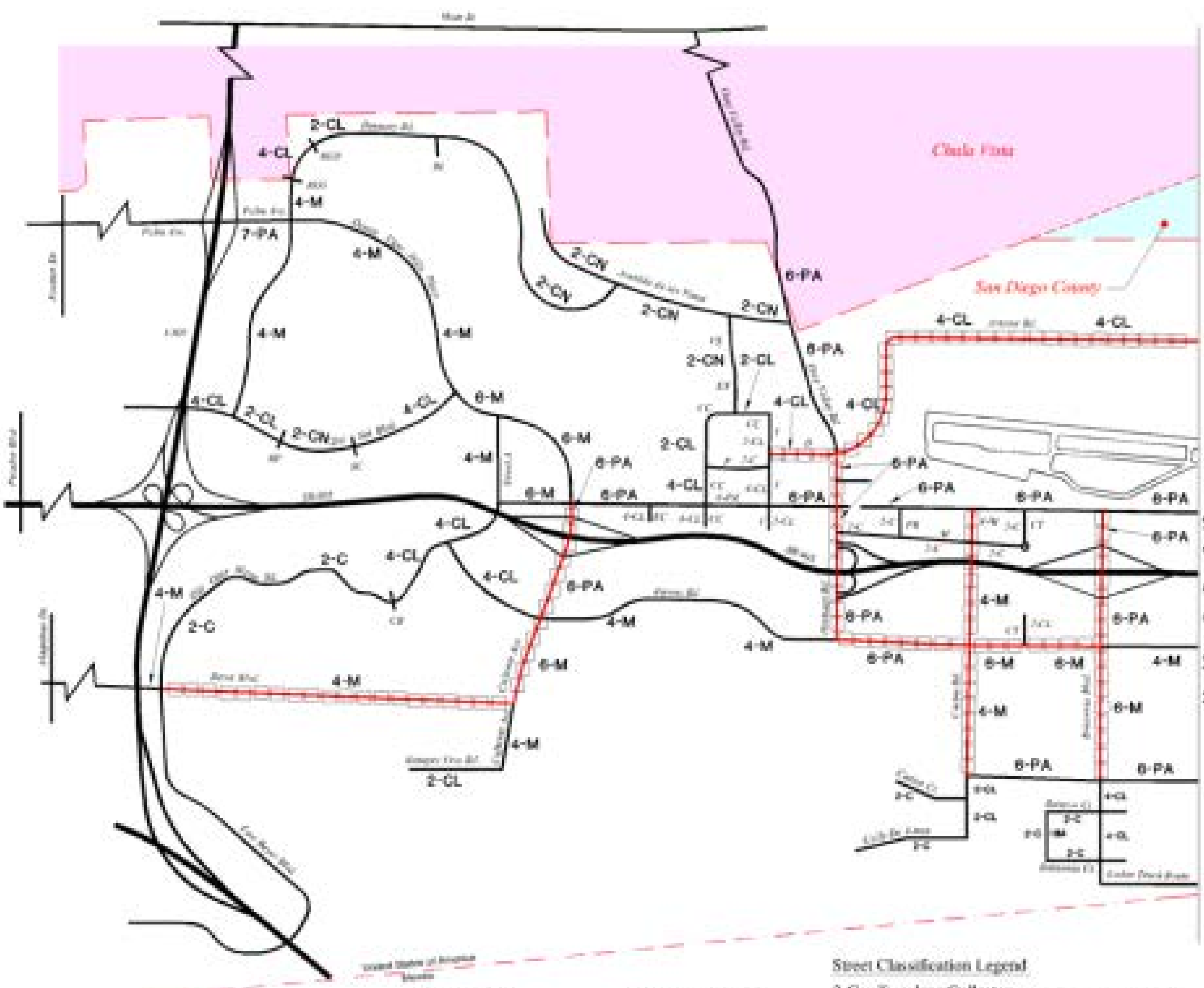


Based on Alternative 3B Without La Media Rd.
(7-26-10 Run Date, Series 11)

LEGEND

- = City of San Diego Boundary
- = Reclassification to a Higher Standard

Street Legend

D = Datsun St.
P = Progressive Ave.
EC = Emerald Crest Dr.
CC = Corporate Center Dr.
I = Innovative Dr.
M = Camino Maquiladora
PR = Pacific Rim Ct.
EX = Exposition Way
VS = Vista Santo Domingo

Street Legend cont.

REG = Regatta Ln.
RED = Red Coral Ln.
BL = Black Coral Ln.
CB = Crescent Bay Dr.
SC = Surf Crest Dr.
RP = Riviera Pointe St.
CT = Continental St.
HM = Hixson Mesa Way

Street Classification Legend

2-C = Two-lane Collector
2-CN = Two-lane Collector (no fronting property)
2-CL = Two-lane Collector (with left turn lane)
4-C = Four-lane Collector (without left turn lane)
4-CL = Four-lane Collector (with left turn lane)
4-M = Four-lane Major Arterial
5-M = Five-lane Major Arterial (3 SB/2 NB)
6-M = Six-lane Major Arterial
6-PA = Six-lane Primary Arterial
7-PA = Seven-lane Primary Arterial

N
NO SCALE

FIGURE ES - III -1

Scenario 3B Without La Media Road Land Use Scenario
With Proposed Roadway Classification Recommendations
(Mitigation / Reclassification to a Higher Standard shown in Red)

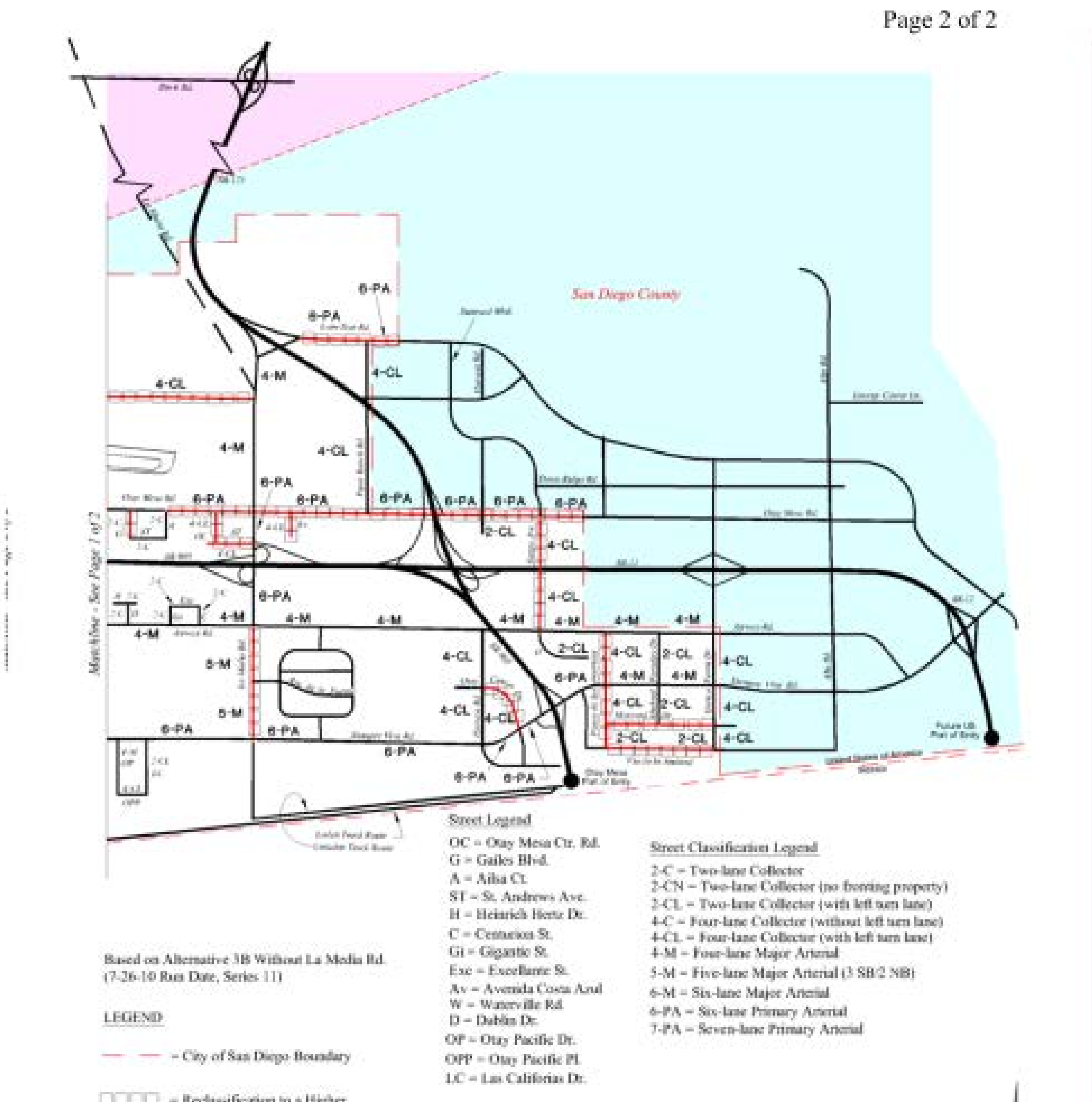


FIGURE ES - III -1

Scenario 3B Without La Media Road Land Use Scenario
With Proposed Roadway Classification Recommendations
(Mitigation / Reclassification to a Higher Standard shown in Red)

TABLE ES III-2

Comparison Of
Buildout 3B Without La Media Road Scenario To
Adopted Community Plan
Roadway Segments Significant Impacts After Mitigation

Street	Segment	#	ACP (1) S?	3B W/Out La Media (2) S?
Otay Mesa	Caliente Ave. to Corporate Center Dr.	2	Y	Y
	Heritage Rd. to Cactus Rd.	5	Y	Y
	Britannia Blvd. to Ailsa Ct.	7	Y	N
Airway Road	Caliente Ave. to Heritage Rd.	15	Y	Y
	Heritage Rd. to Cactus Rd.	16	N	Y
	Cactus Rd. to Britannia Blvd.	17	Y	N
	La Media Rd. to Harvest Rd.	19	Y	N
	Harvest Rd. to Sanyo Ave.	20	Y	N
Siempre Viva Road	Caliente Ave. to East Beyer Blvd.	25	Y	N
	Otay Center Dr. to SR-905	31	Y	Y
	SR-905 to Paseo de las Americas	32	Y	Y
Palm Avenue	I-805 to Dennery Rd.	37	Y	N
Caliente Avenue	Airway Rd. to Siempre Viva Rd.	43	Y	Y
	Beyer Blvd. to Siempre Viva Rd.	43A	Y	Y
Heritage Road/ Otay Valley Road	Main St. to Avenida De Las Vistas**	46	Y	Y
	Avenida De Las Vistas to Datsun St.	47	Y	Y
Cactus Road	Otay Mesa Rd. to Airway Rd.	52	N	Y
	Airway Rd. to Siempre Viva Rd.	53	N	Y
	Siempre Viva Rd. to South End	54	Y	N
Britannia Boulevard	SR-905 to Airway Rd.	56	N	Y
La Media Road	Birch Rd. to Lone Star Rd.**	59	Y	N/A
	Lone Star Rd. to Aviator Rd.	60	Y	N
	Aviator Rd. to Otay Mesa Rd.	61	Y	N
	SR-905 to Airway Rd.	63	Y	Y
Harvest Road	Otay Center Dr. to Siempre Viva Rd.	67	Y	N
Dennery Road	Red Coral Ln. to Black Coral Ln.	78	Y	N
	Black Coral Ln. to East End	79	Y	Y
Avenida De Las Vistas	Vista Santo Domingo to Dennery Rd.	81	Y	Y
Del Sol Boulevard	Surf Crest Dr. to Riviera Pointe	83	Y	Y
	Riviera Pointe to Dennery Rd.	84	Y	Y
Old Otay Mesa Road	Crescent Bay Dr. to Beyer Blvd.	89	Y	Y
Sanyo Avenue	Otay Mesa Rd. to Airway Rd.	97	Y	N
Heinrich Hertz Drive	Airway Rd. to Paseo de las Americas	98	Y	N
Marconi Drive	Paseo de las Americas to Enrico Fermi Dr.	101	Y	N
Camino Maquiladora	Heritage Rd. to Pacific Rim Ct.	108	Y	Y
	Pacific Rim Ct. to Cactus Rd.	109	N	Y
Progressive Avennue	Corporate Center Dr. to Innovative Dr.	112	Y	Y
Otay Mesa Center Road	Otay Mesa Rd. to St. Andrews Ave.	113	Y	N
Datsun Street	Innovative Dr. to Heritage Rd.	114	Y	Y
Excellante Street	Airway Rd. to Gigantic St.	116	Y	N
Gigantic Street	Excellante St. to Centurion St.	117	Y	N
Centurion Street	Airway Rd. to Gigantic St.	118	Y	N
Exposition Way / Vista Santo Domingo	Avenida De Las Vistas to Corporate Center Dr.	119	Y	Y

= Segment Number

**** = Segment in Chula Vista.**

S? = Significant impact, Yes (Y) or No (N).

(1) = Significant impact in the Adopted Community Plan Scenario.

(2) = Significant impact in the 3B Without La Media Road Scenario.

Y = Shading indicates a significant impact.

- Otay Mesa Road (Caliente Avenue to Corporate Center Drive);
- Otay Mesa Road (Heritage Road to Cactus Road);
- Airway Road (Caliente Avenue to Heritage Road);
- Siempre Viva Road (Otay Center Drive to SR-905)
- Siempre Viva Road / SR-905 to Paseo de las Americas);
- Caliente Avenue (Airway Road to Siempre Viva Road);
- Caliente Avenue (Beyer Boulevard to Siempre Viva Road);
- Heritage Road / Otay Valley Road (Main Street to Avenida de las Vistas);
- Heritage Road / Otay Valley Road (Avenida de las Vistas to Datsun Street);
- La Media Road (SR-905 to Airway Road);
- Dennery Road (Black Coral Lane to East End);
- Avenida de las Vistas (Vista Santo Domingo to Dennery Road);
- Del Sol Boulevard (Surf Crest Drive to Riviera Pointe);
- Del Sol Boulevard (Riviera Pointe to Dennery Road);
- Old Otay Mesa Road (Crescent Bay Drive to Airway Road);
- Camino Maquiladora (Heritage Road to Pacific Rim Court);
- Progressive Avenue (Corporate Center Drive to Innovative Drive);
- Datsun Street (Innovative Drive to Heritage Road);
- Exposition Way / Vista Santo Domingo (Avenida de las Vista to Corporate Center Drive).

The following 19 roadway segments would remain significantly impacted after mitigation in the Adopted Community Plan land use scenario, but not in the 3B Without La Media Road scenario:

- Otay Mesa Road (Britannia Boulevard to Ailsa Court);
- Airway Road (Cactus Road to Britannia Boulevard);
- Airway Road (La Media Road to Harvest Road);
- Airway Road (Harvest Road to Sanyo Avenue);
- Siempre Viva Road (Caliente Avenue to East Beyer Boulevard);
- Palm Avenue (I-805 to Dennery Road);
- Cactus Road (Siempre Viva Road to South End);
- La Media Road (Birch Road to Lone Star Road); (No segment in 3B Without La Media Road);
- La Media Road (Lone Star Road to Aviator Road);
- La Media Road (Aviator Road to Otay Mesa Road);
- Harvest Road (Otay Center Drive to Siempre Viva Road);
- Dennery Road (Red Coral Lane to Black Coral Lane);
- Sanyo Avenue (Otay Mesa Road to Airway Road)
- Heinrich Hertz Drive (Airway Road to Paseo de las Americas);
- Marconi Drive (Paseo de las Americas to Enrico Fermi Drive);
- Otay Mesa Center Road (Otay Mesa Road to St. Andrews Avenue);
- Excellante Street (Airway Road to Gigantic Street);
- Gigantic Street (Excellante Street to Centurion Street);
- Centurion Street (Airway Road to Gigantic Street).

The following roadway segments would remain significantly impacted after mitigation in the 3B Without La Media Road land use scenario but not in the Adopted Community Plan scenario.

- Airway Road (Heritage Road to Cactus Road);
- Cactus Road (Otay Mesa Road to Airway Road);
- Cactus Road (Airway Road to Siempre Viva Road);
- Britannia Boulevard (SR-905 to Airway Road);
- Camino Maquiladora (Pacific Rim Court to Cactus Road);

Figure ES III-2 shows the 3B Without La Media Road use scenario roadway segments that would remain at level of service “E” or “F” after mitigation.

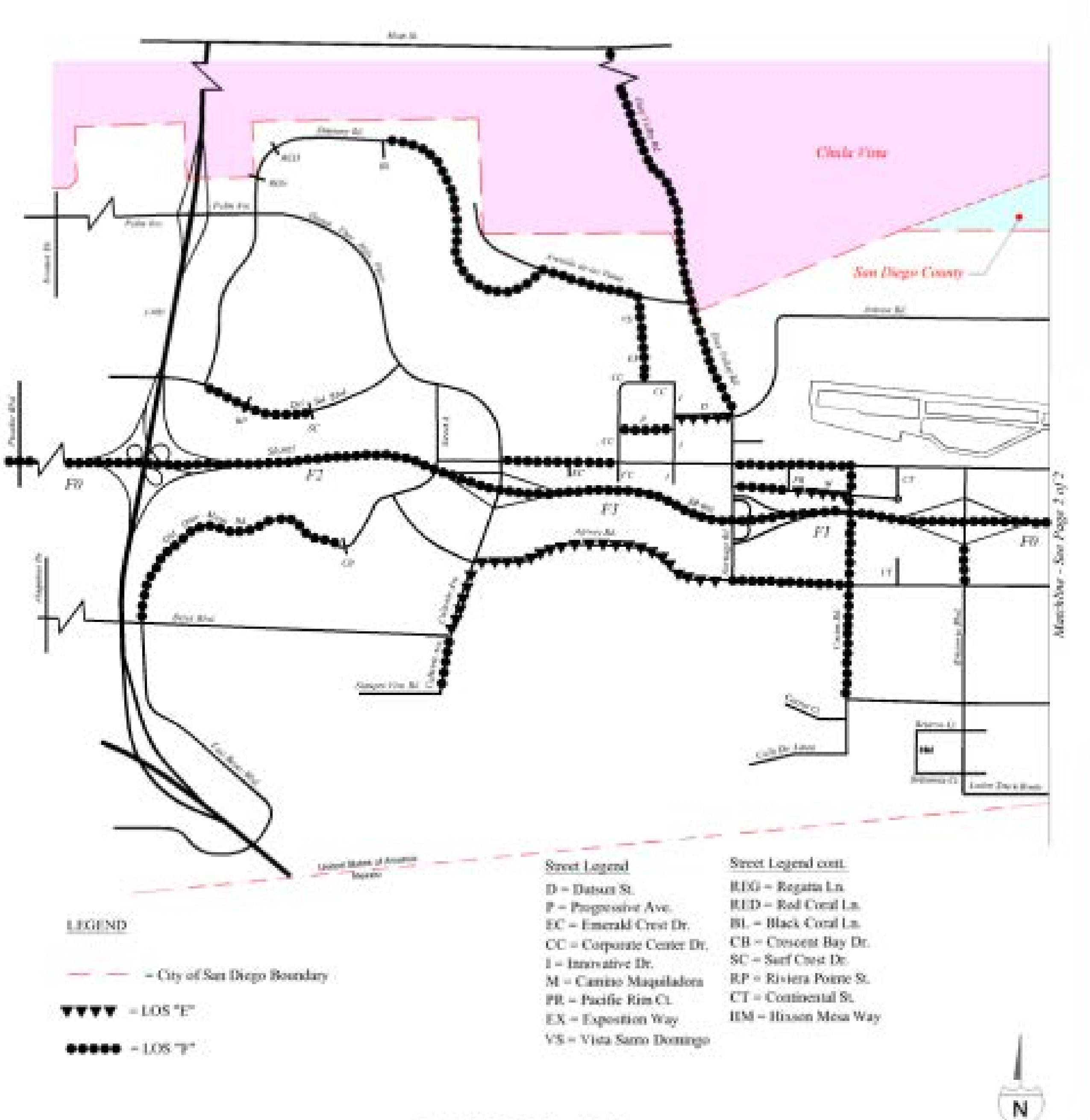


FIGURE ES - III -2
Scenario 3B Without La Media Road Land Use Scenario
Roadway Segments Remaining at LOS "E" or "F" After Mitigation

Page 2 of 2

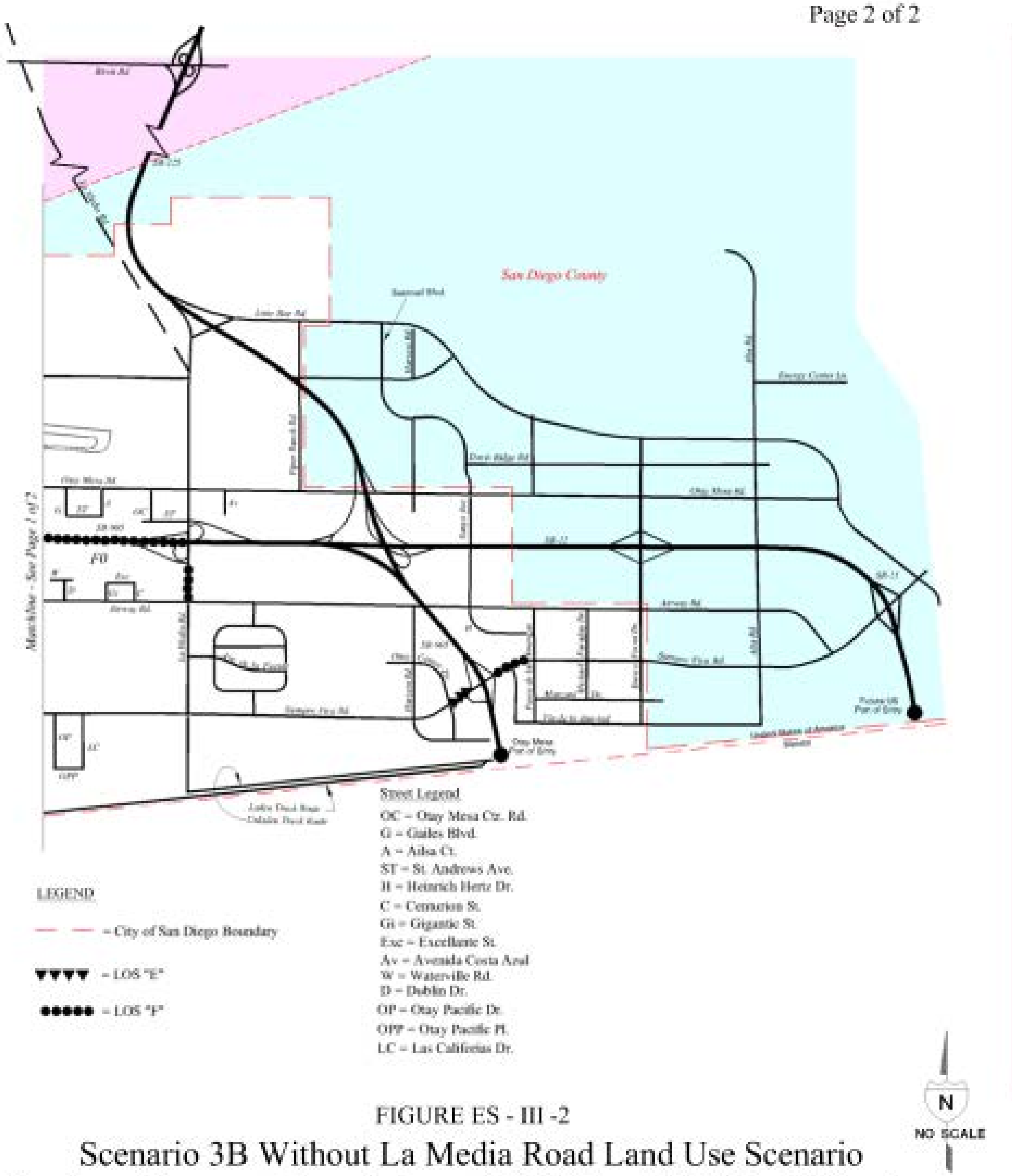


FIGURE ES - III -2

Scenario 3B Without La Media Road Land Use Scenario
Roadway Segments Remaining at LOS "E" or "F" After Mitigation

Freeway Segments

Table ES III-3 lists freeway segments evaluated for the 3B Without La Media Road scenario.

Interstate 805

Segments of Interstate 805 north of State Route 905 are projected to be significantly impacted by buildout of the proposed Otay Mesa Community Plan (Scenario 3B Without La Media Road scenario) and regional cumulative traffic. With existing lanes and an additional northbound auxiliary lane currently being constructed between SR-905 and Palm Avenue, the segments of I-805 north of SR-905 are expected to be at level of service “F”. The Adopted SANDAG 2050 Regional Transportation Plan (RTP) includes two managed lanes on I-805 in each direction north of SR-905. With these additional lanes, the segments of I-805 between Main Street and Palm Avenue and the segment between Palm Avenue and SR-905 would be at level of service “D” during peak hours.

Table ES III-4 shows freeway levels of service with HOV lanes added to segments at level of service “F”.

State Route 905 is assumed with six lanes and auxillary lanes as is being constructed by Caltrans. Impacts would be significant and unmitigated between Picador Boulevard and La Media Road. State Route 905 has been designed so that median High Occupancy Vehicle (HOV) lanes could be installed in the future, but are not currently planned or funded by Caltrans. The addition of HOV lanes would provide partial mitigation for local and regional cumulative impacts, but would not provide acceptable levels of service.

TABLE ES III-3

Scenario 3B Freeway Segment Levels of Service Without La Media Road

Segment		Lanes (1-Way)	Cap.	ADT (1)	Peak Volume	V/C	LOS (2)
SR-905	Picador Blvd. to I-805 (3)	2 + AUX	6,500	128,500	6,853	1.05	F0
	I-805 to Caliente Ave. (4)	3 + CL	8,550	221,000	11,787	1.38	F2
	Caliente Ave. to Heritage Rd.	3	7,050	196,000	10,453	1.48	F3
	Heritage Rd. to Britannia Blvd.	3	7,050	173,000	9,227	1.31	F1
	Britannia Blvd. to La Media Rd.	3	7,050	154,000	8,213	1.16	F0
	La Media Rd. to SR-125	3	7,050	103,500	5,520	0.78	C
	SR-125 to Siempre Viva Rd.	3	7,050	99,000	5,280	0.75	C
	Siempre Viva Rd. to Border	3	7,050	64,500	3,440	0.49	B
I-805	Main St. to Palm Ave.	4+AUX	11,200	248,000	13,227	1.18	F0
	Palm Ave. to SR-905	4+AUX	11,200	222,000	11,840	1.06	F0
	SR-905 to I-5	4	9,400	122,000	6,507	0.69	C
	I-5 to Border	6	14,100	135,500	7,227	0.51	B
SR-125	Birch Rd. to Lone Star Rd.	4 (Toll)	9,400	155,500	8,293	0.88	D
	Lone Star Rd. to SR-905	4(Toll)	9,400	115,500	6,160	0.66	C
SR – 11	SR-905 to Enrico Fermi Dr.	2	4,700	47,000	2,507	0.53	B
	Enrico Fermi Dr. to Siempre Viva Rd	2	4,700	24,500	1,307	0.28	A
	Siempre Viva Rd. to Border	2	4,700	39,500	2,107	0.45	B

Legend

Cap = Capacity of Segment
Mainlane Cap. @ 2,350 VPHPL
Auxillary Lane Cap. @ 1,800 VPHPL
HOV Lane Cap. @ 1,600 VPHPL
Climbing Lane Cap. @ 1,500 VPHPL

ADT = Average Daily Traffic

V/C = Volume to Capacity Ratio

LOS = Level of Service

F0 = Shading indicates a significant impact.

Note:

(1) Buildout Forecast Volume, Average Daily Traffic Volume (7-26-10 Run Date, Series 11)

(2) Caltrans District 11 LOS Estimation Procedures, See Table 2-3

(3) = 2 Mainlanes + Auxillary Lane

(4) = EB: 3 Mainlanes + Climbing Lane
WB: 3 Mainlanes + Auxillary Lane

TABLE ES III-4

Scenario 3B Without La Media Road Freeway Segment Levels of Service

(With HOV Lanes Added To LOS F Segments)

Segment		ADD HOV	Lanes (1Way)	Cap.	ADT (1)	Peak Volume	V/C	LOS (2)
SR-905	Picador Blvd. to I-805 (3)	+H	2 + AUX	8,100	128,500	6,853	0.83	D
	I-805 to Caliente Ave. (4)	+H	3 + CL	10,150	221,000	11,787	1.13	F0
	Caliente Ave. to Heritage Rd.	+H	3	8,650	196,000	10,453	1.18	F0
	Heritage Rd. to Britannia Blvd.	+H	3	8,650	173,000	9,227	1.04	F0
	Britannia Blvd. to La Media Rd.	+H	3	8,650	154,000	8,213	.92	D
I-805	Main St. to Palm Ave,	+2H	4+AUX	14,400	248,000	13,227	.92	D
	Palm Ave. to SR-905	+2H	4+AUX	14,400	222,000	11,840	.82	D

Legend

Cap = Capacity of Segment
Mainlane Cap. @ 2,350 VPHPL
Auxillary Lane Cap. @ 1,800 VPHPL
HOV Lane Cap. @ 1,600 VPHPL
Climbing Lane Cap. @ 1,500 VPHPL

ADT = Average Daily Traffic

V/C = Volume to Capacity Ratio

LOS = Level of Service

F0 = Shading indicates a significant impact.

+H = Add HOV lane in each direction.

+2H = Add two HOV lanes in each direction.

Note:

(1) Buildout Forecast Volume, Average Daily Traffic Volume (07-26-10 Run Date, Series 11)

(2) Caltrans District 11 LOS Estimation Procedures, See Table 2-3

(3) = 2 Mainlanes + Auxillary Lane

(4) = EB: 3 Mainlanes + Climbing Lane
WB: 3 Mainlanes + Auxillary Lane

SR-905 HOV lanes are not currently in the Regional Transportation Plan, and are not funded.

A comparison of the 3B Without La Media Road Scenario significantly impacted freeway segments to the Adopted Community Plan Scenario is provided below, based on the listing of impacted freeway segments shown in **Table ES III-5**.

The Adopted Community Plan Scenario has six freeway segments that would remain significantly impacted after mitigation.

The 3B Without La Media Road Scenario has three freeway segments that would remain significantly impacted after mitigation.

The following three freeway segments would remain significantly impacted under both scenarios:

- SR-905 (I-805 to Caliente Avenue);
- SR-905 (Caliente Avenue to Heritage Road);
- SR-905 (Heritage Road to Britannia Boulevard).

The following three freeway segments would remain significantly impacted under the Adopted Community Plan Scenario but not the 3B Without La Media Road Scenario:

- SR-905 (Picador Boulevard to I-805);
- SR-905 (Britannia Boulevard to La Media Road);
- I-805 (Main Street to Palm Avenue).

TABLE ES III-5

Comparison of
Buildout 3B Without La Media Road To
Adopted Community Plan
Freeway Segment Significant Impacts After Mitigation
(With HOV Lanes Added)

Segment		ADD HOV	Lanes (1Way)	LOS (1)	LOS (2)
SR-905	Picador Blvd. to I-805	+H	2 + AUX	E	D
	I-805 to Caliente Ave.	+H	3 + CL	F1	F0
	Caliente Ave. to Heritage Rd.	+H	3	F2	F0
	Heritage Rd. to Britannia Blvd.	+H	3	F0	F0
	Britannia Blvd. to La Media Rd.	+H	3	F0	D
I-805	Main St. to Palm Ave,	+2H	4+AUX	E	D

Legend

LOS = Level of Service

(1) = Adopted Community Plan land use scenario.

(2) = 3B Without La Media Road land use scenario.

F = Shading indicates a significant impact.

+H = Add HOV lane in each direction.

+2H = Add two HOV lanes in each direction.

Note:

SR-905 HOV lanes are not currently in the Regional Transportation Plan, and are not funded.

Intersections

Intersections operating at level of service “E” or “F” are considered to be significantly impacted by implementation of the land use plan. **Table ES III-6** shows intersection levels of service. Of the 52 intersections evaluated at Buildout in the 3B Without La Media Road scenario, four would be at level of service “E” and ~~38~~ 37 would be at level of service “F” during the AM peak hour. During the PM peak hour, four would be at level of service “E” and 40 would be at level of service “F”. A total of ~~47~~ 48 intersections would operate at level of service “E” or “F” during the morning and / or evening peak hour. In comparison, the No Project Scenario would have a total of 49 intersections at level of service “E” or “F” before mitigation.

With mitigation, six would be at level of service “E” and 22 would be at level of service “F” during the AM peak hour. During the PM peak hour, three would be at level of service “E” and 26 would be at level of service “F’. With mitigation, a total of ~~36~~ 33 intersections would operate at level of service “E” or “F’ during the morning and / or evening peak hour. In comparison, the No Project Scenario would have a total of 40 intersections at level of service “E” or “F” after mitigation.

Several interchange intersections that can be designed for acceptable levels of service are included as significantly impacted due to upstream queues extending through the intersection causing increased delay and a degraded level of service, as footnoted in this table.

TABLE ES III-6

Buildout Scenario 3B Without La Media Road Intersection Levels of Service

		Without Mitigation				With Mitigation			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
Intersection		CD	LOS	CD	LOS	CD	LOS	CD	LOS
1	Palm Ave. / I-805 SB Ramps	48.9	D	51.3	D	24.8	C	35.7	D
2	Palm Ave. / I-805 NB Ramps	116.1	F	122.6	F	4.6	A	5.5	A
3	Palm Ave. / Dennery Rd.	33.5	C	67.2	E	-	-	-	-
4	Otay Mesa Rd. / Caliente Ave.	263.5	F	146.0	F	205.9	F	87.2	F
5	Caliente Ave. / SR-905 WB Ramps	83.1	F	43.2	(1) D	34.0	(1) C	34.0	(1) C
6	Caliente Ave. / SR-905 EB Ramps	165.7	F	150.5	F	55.0	E	70.2	E
7	Caliente Ave. / Airway Rd.	228.5	F	223.0	F	143.0	F	200.5	F
8	Caliente Ave. / Beyer Blvd.	252.0	F	429.8	F	212.7	F	122.4	F
9	Otay Mesa Rd. / Heritage Rd.	367.5	F	257.4	F	272.0	F	161.2	F
10	Heritage Rd. / SR-905 WB Ramps	69.9	E	81.1	F	15.9	(1) B	28.4	(1) C
11	Heritage Rd. / SR-905 EB Ramps	113.0	F	86.4	F	39.5	(1) D	25.5	(1) C
12	Heritage Rd. / Airway Rd.	162.7	F	402.8	F	144.5	F	88.3	F
13	Heritage Rd. / Siempre Viva Rd.	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
14	Otay Mesa Rd. / Cactus Rd.	437.9	F	290.5	F	139.6	F	199.7	F
15	Airway Rd. / Cactus Rd.	361.5	F	437.7	F	188.6	F	306.2	F
16	Siempre Viva Rd. / Cactus Rd.	48.7	D	127.7	F	47.6	D	117.3	F
17	Otay Mesa Rd. / Britannia Blvd.	108.5	F	117.2	F	63.1	E	47.5	D
18	Britannia Blvd. / SR-905 WB Ramps	240.5	F	577.4	F	65.0	E	547.1	F
19	Britannia Blvd. / SR-905 EB Ramps	353.3	F	235.1	F	305.9	F	67.1	E
20	Britannia Blvd. / Airway Rd.	618.2	F	615.8	F	184.9	F	241.1	F
21	Siempre Viva Rd. / Britannia Blvd.	363.3	F	362.8	F	177.5	F	143.2	F
22	Otay Mesa Rd. / La Media Rd.	457.1	F	443.8	F	131.9	F	126.2	F

Legend
CD = Control Delay
LOS = Level of Service
(1) = Vehicle queues may extend through this intersection from an upstream intersection so that the peak hour level of service would be degraded due to vehicles blocking this intersection.
F = Shading indicates significant impact.

TABLE ES III-6 (Continued)

Buildout Scenario 3B Without La Media Road Intersection Levels of Service

		Without Mitigation				With Mitigation			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
Intersection		CD	LOS	CD	LOS	CD	LOS	CD	LOS
23	La Media Rd. / SR-905 WB Ramps	266.1	F	227.2	F	129.8	F	112.7	F
24	La Media Rd. / SR-905 EB Ramps	234.7	F	84.7	F	162.2	F	48.5	(1) D
25	La Media Rd. / Airway Rd.	496.6	F	507.9	F	182.5	F	212.5	F
26	La Media Rd. / Siempre Viva Rd.	244.0	F	112.1	F	81.6	F	37.1	D
27	La Media Rd. / Lone Star Rd.	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
28	Lone Star Rd. / SR-125 SB Off Ramp	63.6	E	96.8	F	-	-	-	-
29	Lone Star Rd. / SR-125 NB On Ramp	2.1	(1) A	147.8	F	-	-	-	-
30	Lone Star Rd. / Piper Ranch Rd.	8.1	A	9.3	(1) A	-	-	-	-
31	Otay Mesa Rd. / Piper Ranch Rd.	129.2	F	166.2	F	44.6	D	47.5	D
32	Otay Mesa Rd. / SR-125 SB Off Ramp	82.9	F	13.0	(1) B	30.4	C	11.0	(1) B
33	Otay Mesa Rd. / SR-125 NB On Ramp	4.8	A	22.0	C	-	-	-	-
34	Otay Mesa Rd. / Harvest Rd.	37.9	D	133.7	F	11.8	B	38.9	(1) D
35	Siempre Viva Rd. / Otay Center Dr.	276.0	F	213.0	F	83.0	F	85.4	F
36	Siempre Viva Rd. / SR-905 SB to EB Ramp	29.0	(1) C	146.2	F	-	-	-	-
36A	Siempre Viva Rd. / SR-905 SB to WB Ramp	(2) 2,641	F	(2) 205.7	F	382.0	F	16.3	(1) B
37	Siempre Viva Rd. / SR-905 NB Ramps	47.2	(1) D	262.7	F	39.3	(1) D	250.4	F
38	Siempre Viva Rd. / Paseo de las Americas	188.8	F	367.1	F	78.8	E	159.5	F
39	Dennery Rd. / Del Sol Blvd.	49.3	D	49.4	D	-	-	-	-
40	Ocean View Hills Pkwy. / Del Sol Blvd.	67.8	E	67.3	E	50.5	D	53.3	D
41	Ocean View Hills Pkwy. / Street A	48.2	D	57.9	E	35.5	D	34.6	C
42	Old Otay Mesa Rd. / Beyer Blvd.	381.2	F	396.5	F	194.3	F	181.8	F
43	Otay Mesa Rd. / Corporate Center Dr.	119.3	F	184.3	F	78.6	E	140.6	F
44	Otay Mesa Rd. / Innovative Dr.	114.4	F	108.9	F	113.7	F	89.8	F

Legend
CD = Control Delay
LOS = Level of Service
(1) = Vehicle queues may extend through this intersection from an upstream intersection so that the peak hour level of service would be degraded due to vehicles blocking this intersection.
(2) = Unsignalized: SB to WB right turn at LOS F (AM and PM Peak Hours)
F = Shading indicates a significant impact.

TABLE ES III-6 (Continued)

Buildout Scenario 3B Without La Media Road Intersection Levels of Service

		Without Mitigation				With Mitigation			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
Intersection		CD	LOS	CD	LOS	CD	LOS	CD	LOS
45	Harvest Rd. / Airway Rd.	116.7	F	13.8	B	42.5	D	13.5	B
46	Harvest Rd. / Siempre Viva Rd.	76.6	E	69.2	E	28.7	C	51.5	D
47	Otay Mesa Rd. / Sanyo Ave.	263.3	F	276.6	F	106.7	F	89.0	F
48	Airway Rd. / Sanyo Ave.	225.6	F	229.8	F	49.7	D	38.6	D
49	Paseo de las Americas / Heinrich Hertz Dr.	(3) 988.3	F	(3) 244.6	F	8.9	A	13.0	B
50	Paseo de las Americas / Marconi Dr.	(4) 869.6	F	(4) 108.0	F	11.5	B	13.4	B
51	Heritage Rd. / Otay Valley Rd.	516.4	F	837.9	F	178.7	F	382.7	F
52	Aviator Rd. / La Media Rd.	105.1	F	38.0	D	27.7	C	18.3	B
53	Otay Valley Rd. / Avenida De Las Vistas	764.4	F	298.6	F	-	-	-	-

Note: Control delay results should be considered unreliable at delay volumes higher than two times the LOS E delay of 80.0 seconds.

Legend

CD = Control Delay
LOS = Level of Service
(3) Unsignalized: eastbound left turn at LOS F(AM Peak Hour);
eastbound left and right turns at LOS F (PM Peak Hour).

(4) Unsignalized: westbound left turn at LOS F (AM and PM Peak Hours);
westbound right turn at LOS F (PM Peak Hour).

F = Shading indicates a significant impact.

Control Delay	LOS
0.0 - 10.0	A
10.1 - 20.0	B
20.1 - 35.0	C
35.1 - 55.0	D
55.1 - 80.0	E
Over 80.0	F
Source: 2000 Highway Capacity Manual	

Intersection lane configurations without mitigation are assumed to be as shown in the City of San Diego Street Design Manual for the roadway classification at the intersection approaches. The Design Manual requires widening for an additional 10 feet at approaches to intersecting four or six lane streets for a two lane left turn, and this additional width is not considered mitigation. Therefore, dual left turns are to be assumed at all four or six lane major and primary arterials, before mitigation, unless a supporting traffic study documents that a single left turn would be sufficient. Overlapping left-turn / right-turn phases are recommended at the high volume right turns during the traffic signal design stage.

Separate single or dual right turn lanes at new intersections should be designed with appropriate right of way widths. At retrofit locations additional lanes have been reviewed for initial feasibility by on-site observations and aerial photography. In some cases additional right of way will be needed, but only during the design phase will the required widths be determined.

Improvements are recommended at the interchange ramps for SR-905 / Caliente Avenue, SR-905 / Future Heritage Road, SR-905 / Britannia Boulevard; SR-905 / La Media Rd.; SR-905 / Siempre Viva Road. Subsequent design requirements from Caltrans may change the recommended lane configurations.

All intersections are planned to be signalized. Lane configurations with and without mitigation are shown in **Figure ES III-3**

Figure ES III-4 shows graphically the intersection levels of service after mitigation.

Refer to Chapter 7 page 7-30 for the discussion of the proposed mitigations and / or explanation of why the significant impact is not proposed to be fully mitigated.

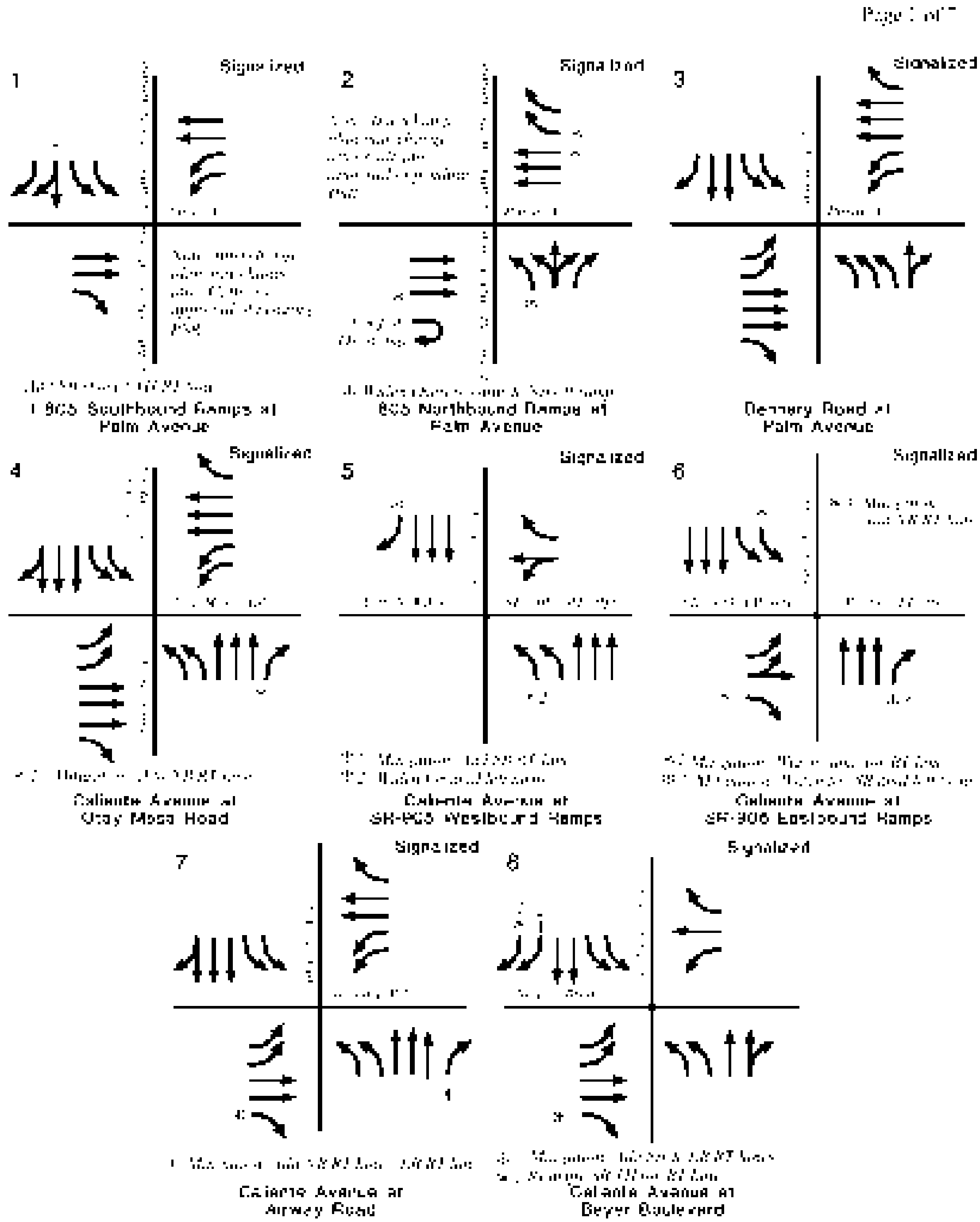


FIGURE ES-III-3

Buildout Recommended Lane Configurations - Alternative 3-B

Without La Media Road (With Mitigation)

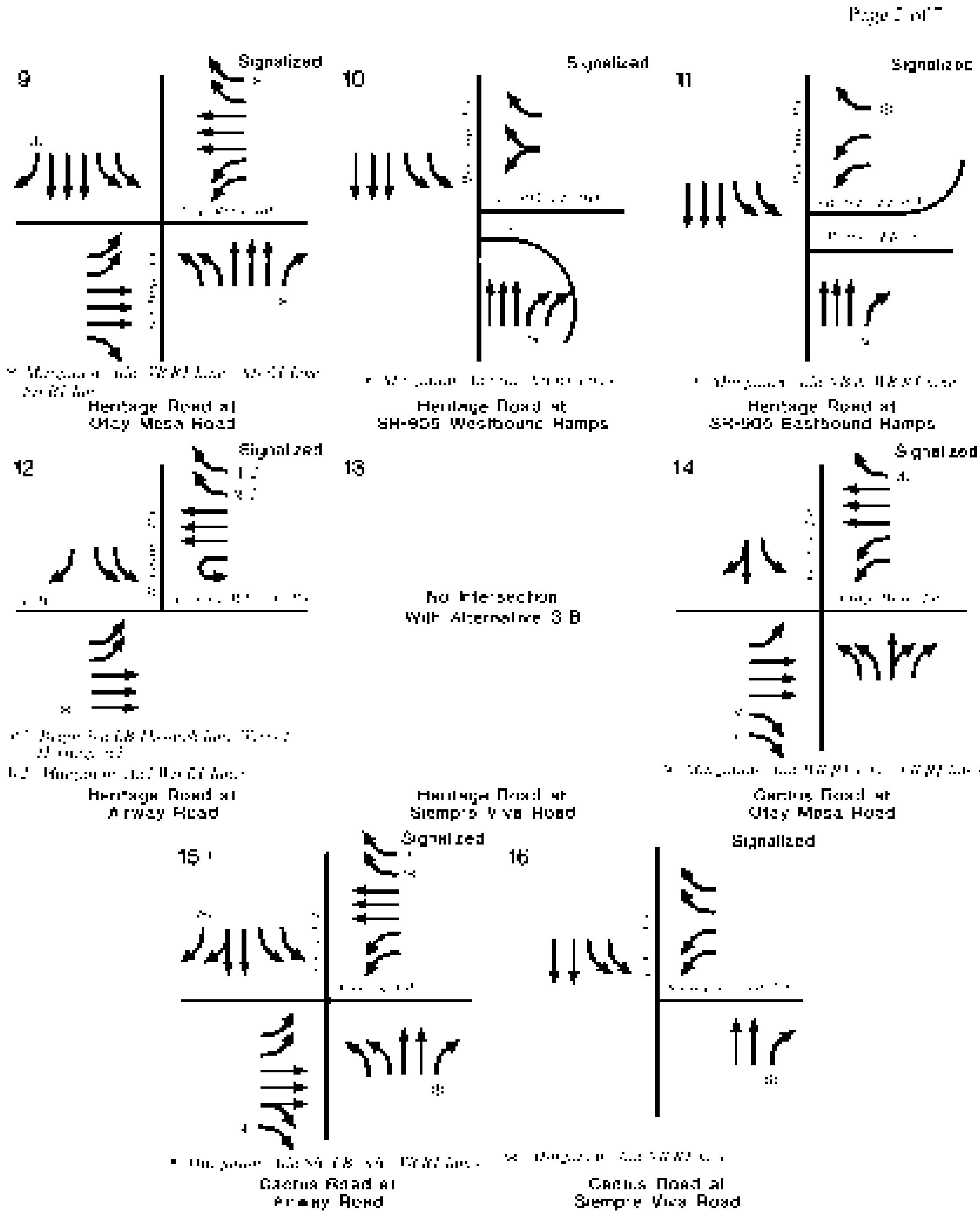


FIGURE ES-III-3

Buildout Recommended Lane Configurations - Alternative 3-B

Without La Media Road (With Mitigation)

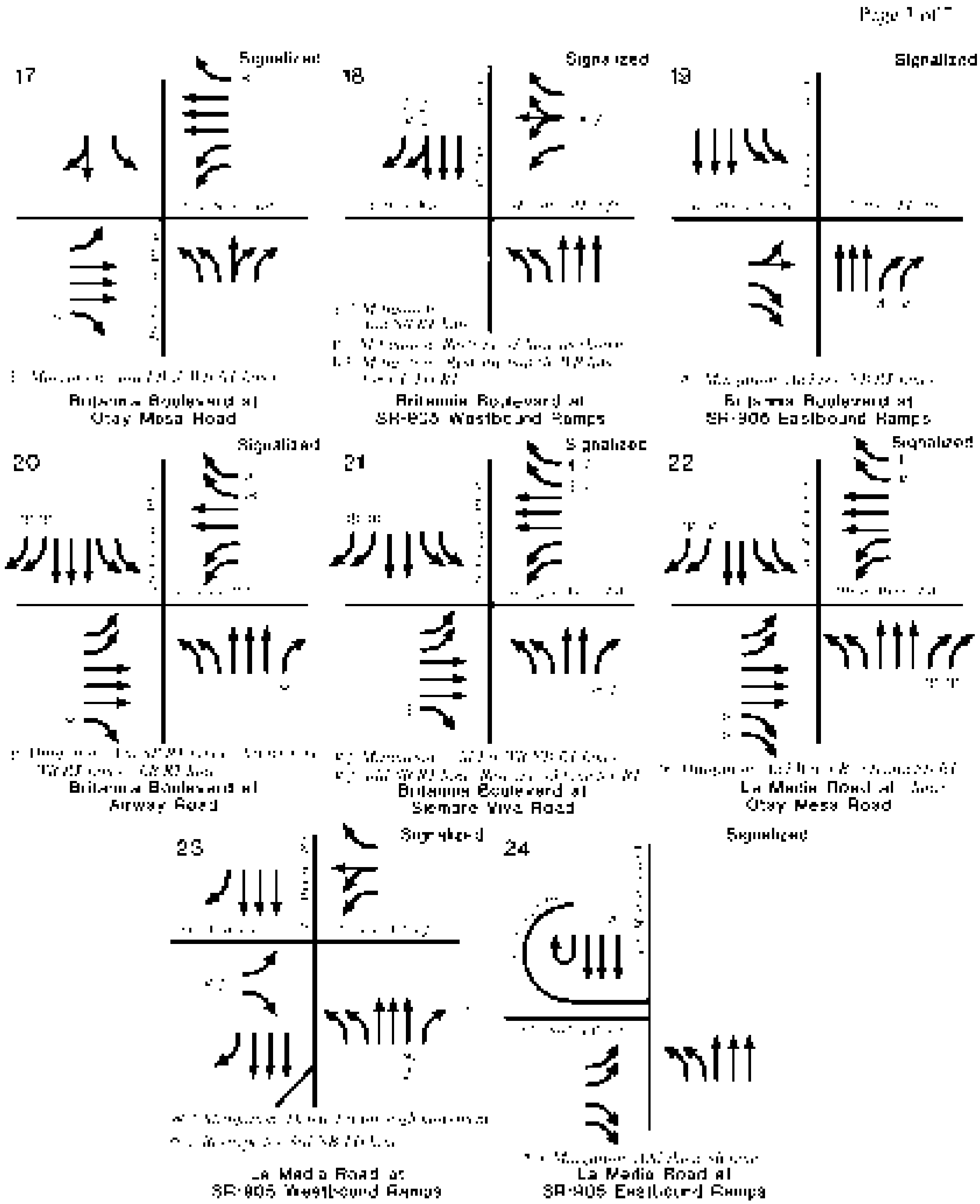


FIGURE ES-III-3

Buildout Recommended Lane Configurations - Alternative 3-B

Without La Media Road (With Mitigation)

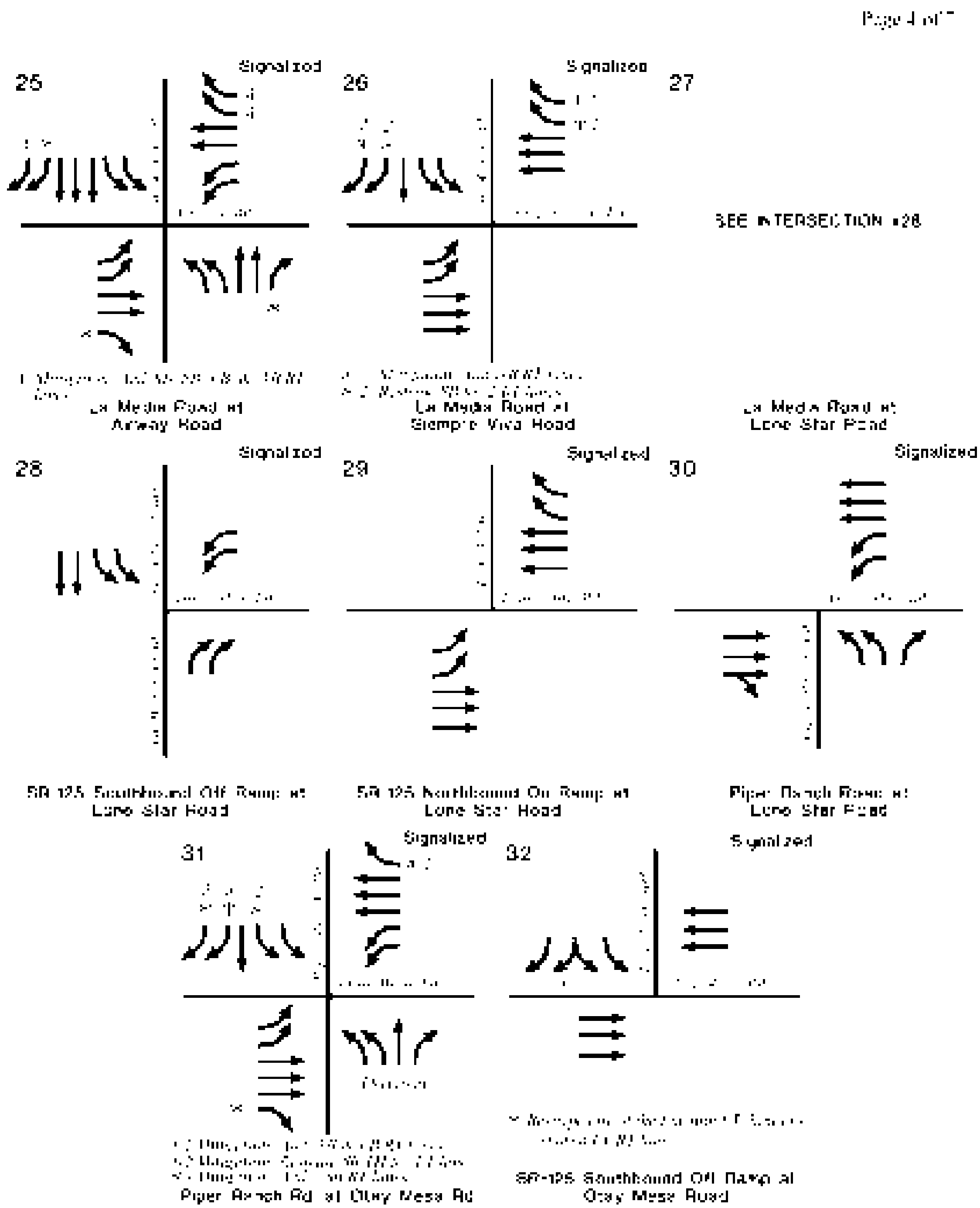


FIGURE ES-III-5

Buildout Recommended Lane Configurations - Alternative 3-B

Without La Media Road (With Mitigation)

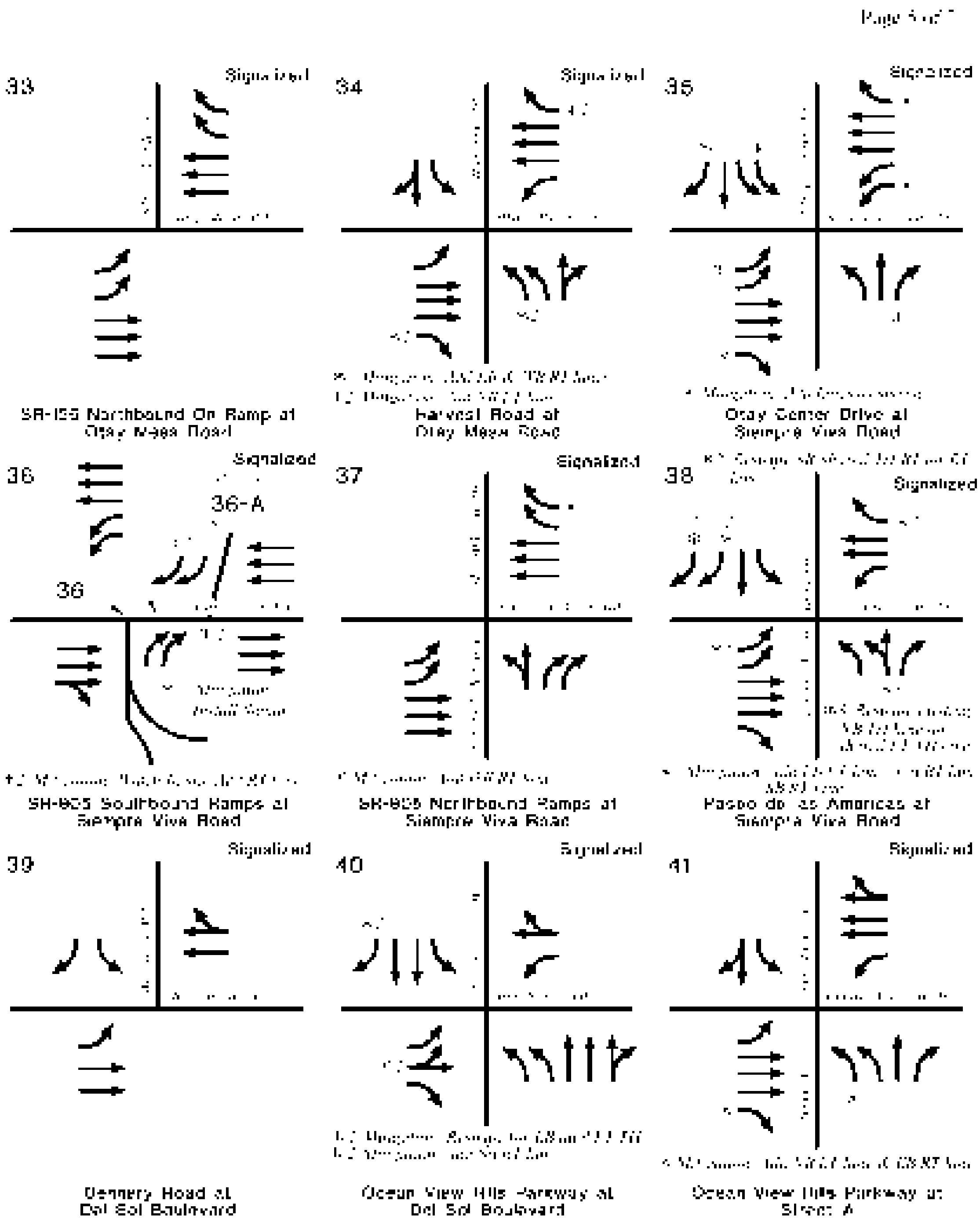


FIGURE ES-III-3

Buildout Recommended Lane Configurations - Alternative 3-B

Without La Media Road (With Mitigation)

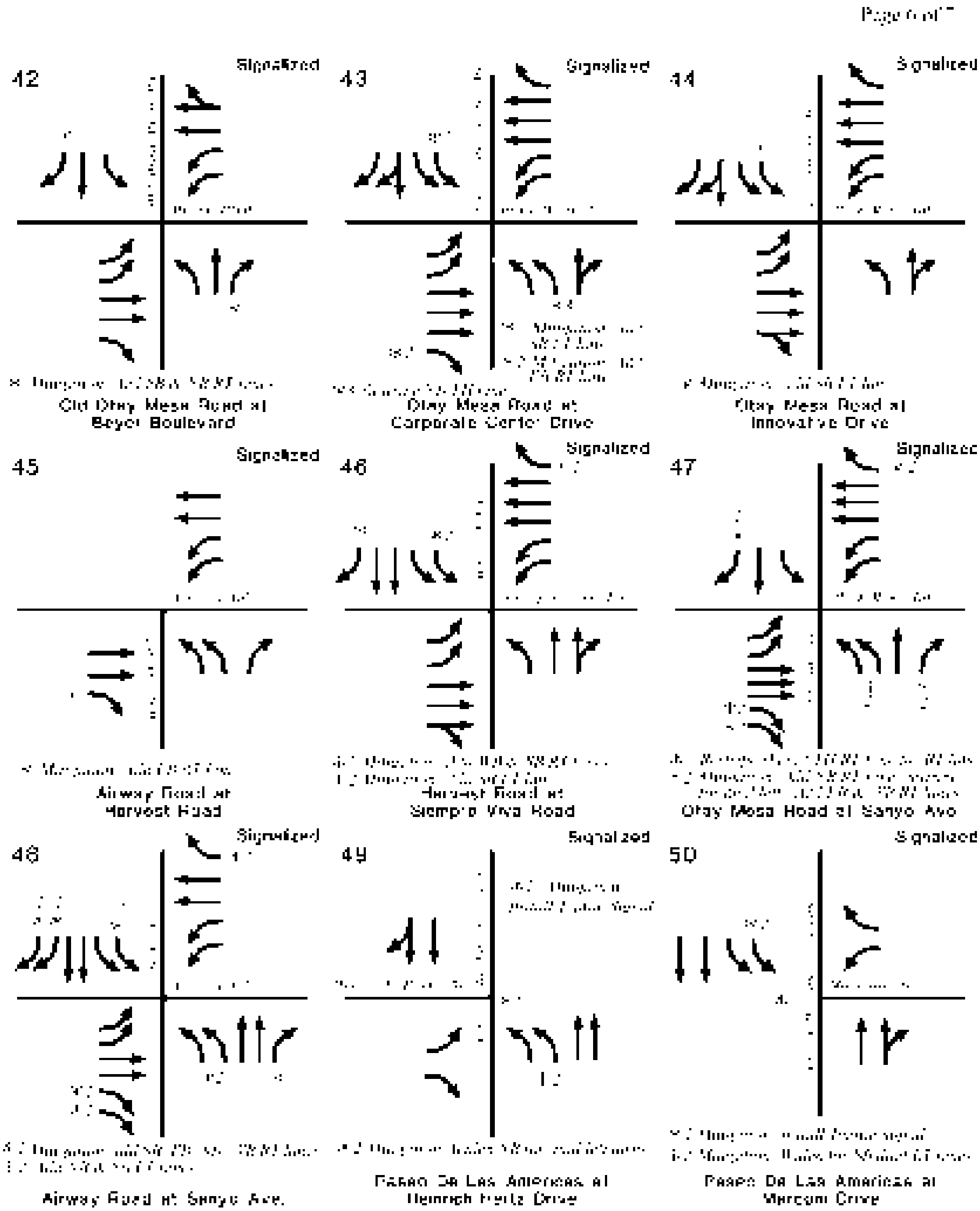


FIGURE ES-III-3

Buildout Recommended Lane Configurations - Alternative 3-B

Without La Media Road (With Mitigation)

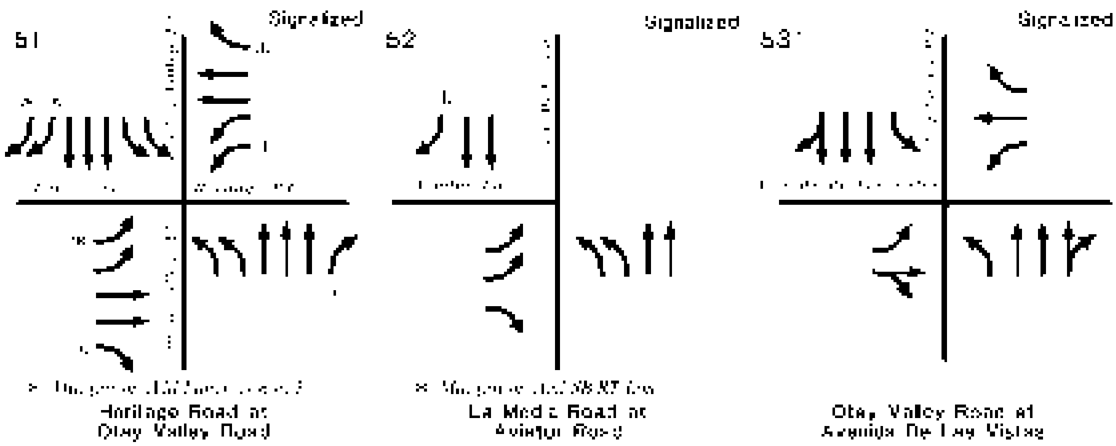


FIGURE ES-III-3

Buildout Recommended Lane Configurations - Alternative 3-B

Without La Media Road (With Mitigation)

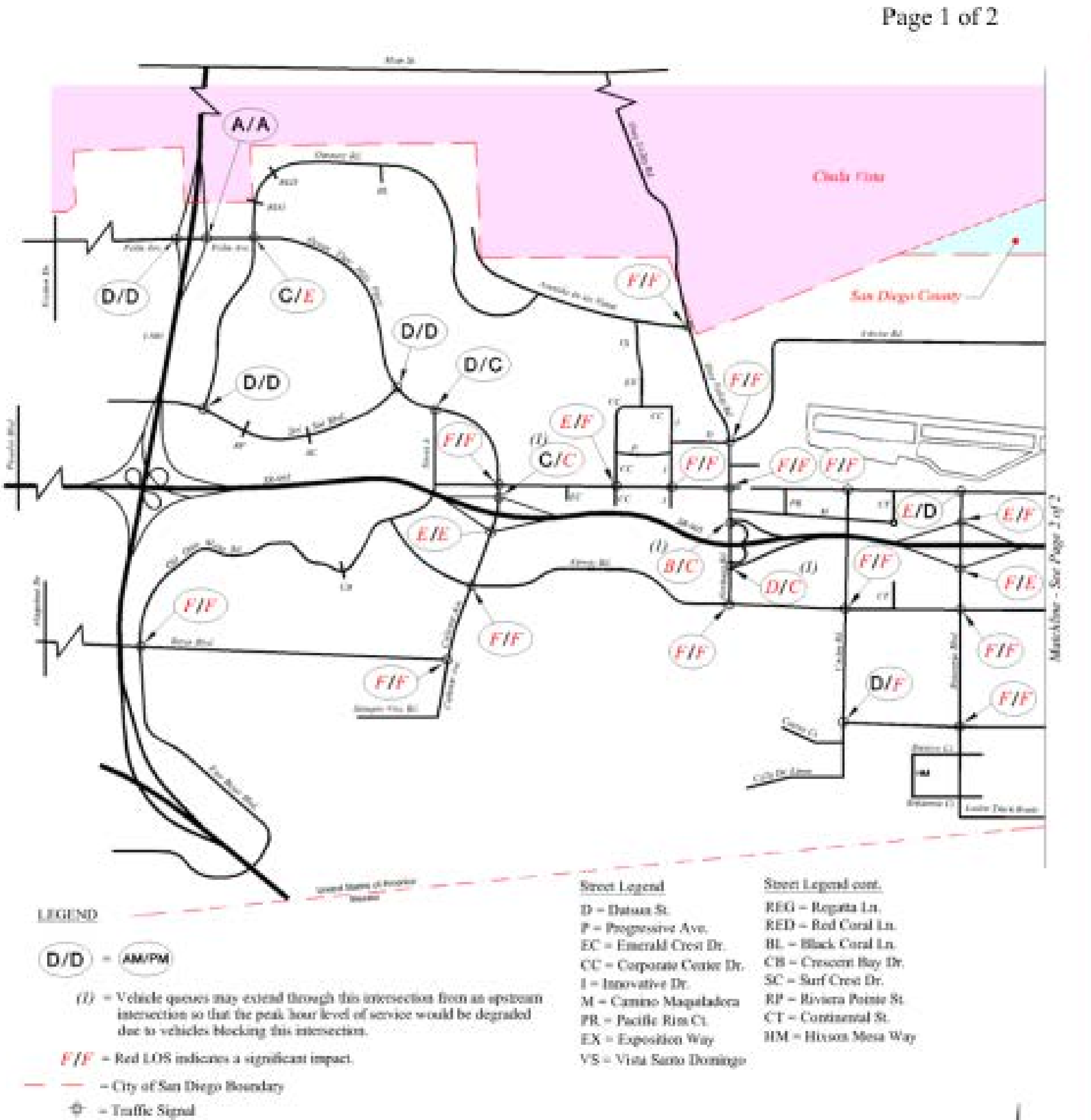
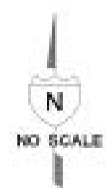


FIGURE ES - III -4

Buildout 3B Without La Media Road Scenario
Intersection Levels of Service (With Mitigation)



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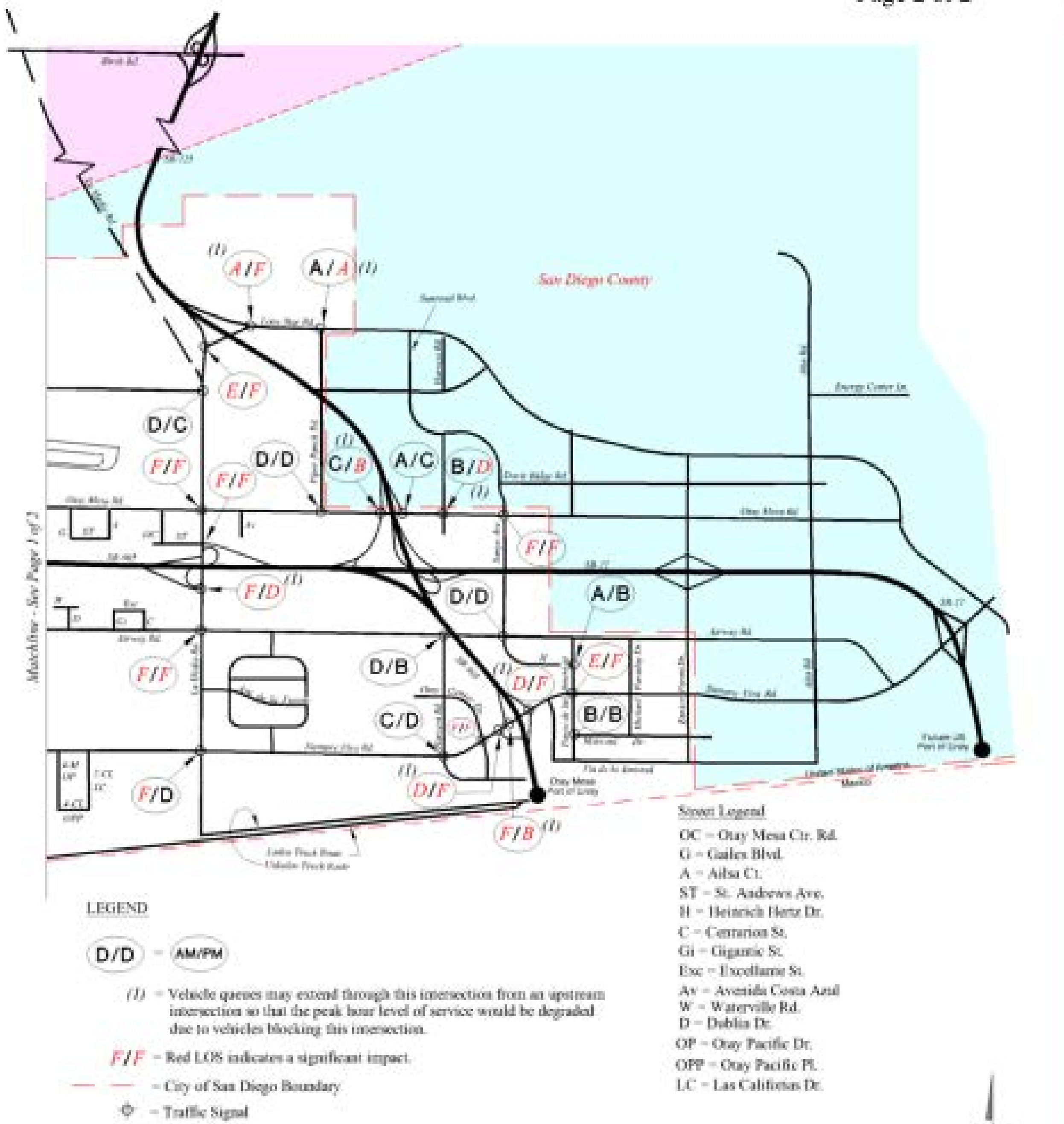
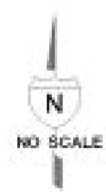


FIGURE ES - III -4

Buildout 3B Without La Media Road Scenario
Intersection Levels of Service (With Mitigation)



A comparison of the Buildout 3B Without La Media Road Scenario significantly impacted intersections after mitigation to the Adopted Community Plan Scenario is provided below, based on the listing of remaining significantly impacted intersections shown in **Table III-7.**

The 3B Without La Media Road Scenario has 34 intersections during the AM peak hour and 37 during the PM peak hour that would remain significantly impacted after mitigation.

The Adopted Community Plan Scenario has 42 intersections during the AM peak hour and 44 during the PM peak hour that would remain significantly impacted after mitigation.

The following 36 intersections would remain significantly impacted under both scenarios:

- Palm Avenue / Dennery Road (PM);
- Otay Mesa Road / Caliente Avenue (AM & PM);
- Caliente Avenue / SR-905 WB Ramps (AM & PM);
- Caliente Avenue / SR-905 EB Ramps (AM &PM);
- Caliente Avenue / Airway Road (AM & PM);
- Caliente Avenue / Siempre Viva Road (AM & PM);
- Otay Mesa Road / Heritage Road (AM & PM);
- Heritage Road / SR-905 WB Ramps (AM & PM);
- Heritage Road / SR-905 EB Ramps (AM & PM);
- Heritage Road / Airway Road (AM & PM);
- Otay Mesa Road / Cactus Road (AM & PM);
- Airway Road / Cactus Road (AM & PM);
- Siempre Viva Road / Cactus Road (PM);
- Otay Mesa Road / Britannia Boulevard (AM);
- Britannia Boulevard / SR-905 WB Ramps (AM & PM);

TABLE ES III-7

Comparison Of
Buildout 3B Without La Media Road To
Buildout Adopted Community Plan
Intersection Significant Impacts After Mitigation

		Adopted Community Plan		3B Without La Media Road	
		AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
Intersection		LOS	LOS	LOS	LOS
1	Palm Ave. / I-805 SB Ramps	D	E	C	D
2	Palm Ave. / I-805 NB Ramps	A	(1) A	A	A
3	Palm Ave. / Dennery Rd.	D	E	C	E
4	Otay Mesa Rd. / Caliente Ave.	F	F	F	F
5	Caliente Ave. / SR-905 WB Ramps	E	E	(1) C	(1) C
6	Caliente Ave. / SR-905 EB Ramps	F	E	E	E
7	Caliente Ave. / Airway Rd.	F	F	F	F
8	Caliente Ave. / Siempre Viva Rd.	F	F	F	F
9	Otay Mesa Rd. / Heritage Rd.	F	F	F	F
10	Heritage Rd. / SR-905 WB Ramps	B	B	(1) B	(1) C
11	Heritage Rd. / SR-905 EB Ramps	(1) D	(1) D	(1) D	(1) C
12	Heritage Rd. / Airway Rd.	F	F	F	F
13	Heritage Rd. / Siempre Viva Rd.	N/A	N/A	N/A	N/A
14	Otay Mesa Rd. / Cactus Rd.	F	F	F	F
15	Airway Rd. / Cactus Rd.	F	F	F	F
16	Siempre Viva Rd. / Cactus Rd.	F	F	D	F
17	Otay Mesa Rd. / Britannia Blvd.	(1) C	(1) D	E	D
18	Britannia Blvd. / SR-905 WB Ramps	(1) D	F	E	F
19	Britannia Blvd. / SR-905 EB Ramps	F	F	F	E
20	Britannia Blvd. / Airway Rd.	F	F	F	F
21	Siempre Viva Rd. / Britannia Blvd.	F	F	F	F
22	Otay Mesa Rd. / La Media Rd.	F	F	F	F

Note: #13 is a right angle intersection (as assumed in the traffic model) with only two approaches.

Legend

LOS = Level of Service

(1) = Vehicle queues may extend through this intersection from an upstream intersection so that the peak hour level of service would be degraded due to vehicles blocking this intersection.

F = Shading indicates a significant impact

TABLE ES III-7 (Continued)

Comparison Of
Buildout 3B Without La Media Road To
Buildout Adopted Community Plan
Intersection Significant Impacts After Mitigation

		Adopted Community Plan		3B Without La Media Road	
		AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
Intersection		LOS	LOS	LOS	LOS
23	La Media Rd. / SR-905 WB Ramps	F	F	F	F
24	La Media Rd. / SR-905 EB Ramps	F	F	F	(1) D
25	La Media Rd. / Airway Rd.	F	F	F	F
26	La Media Rd. / Siempre Viva Rd.	F	F	F	D
27	La Media Rd. / Lone Star Rd.	F	F	N/A	N/A
28	Lone Star Rd. / SR-125 SB Off Ramp	(1) D	(1) B	E	F
29	Lone Star Rd. / SR-125 NB On Ramp	(1) A	(1) A	(1) A	F
30	Lone Star Rd. / Piper Ranch Rd.	D	B	A	(1) A
31	Otay Mesa Rd. / Piper Ranch Rd.	F	F	D	D
32	Otay Mesa Rd. / SR-125 SB Off Ramp	(1) B	A	C	(1) B
33	Otay Mesa Rd. / SR-125 NB On Ramp	(1) A	B	A	C
34	Otay Mesa Rd. / Harvest Rd.	C	(1) D	B	(1) D
35	Siempre Viva Rd. / Otay Center Dr.	F	F	F	F
36	Siempre Viva Rd. / SR-905 SB to EB Ramp	F	F	(1) C	F
36A	Siempre Viva Rd. / SR-905 SB to WB Ramp	F	(1) D	F	(1) B
37	Siempre Viva Rd. / SR-905 NB Ramps	F	F	(1) D	F
38	Siempre Viva Rd. / Paseo de las Americas	F	F	E	F
39	Dennery Rd. / Del Sol Blvd.	F	E	D	D
40	Ocean View Hills Pkwy. / Del Sol Blvd.	E	F	D	D
41	Ocean View Hills Pkwy. / Street A	D	D	D	C
42	Old Otay Mesa Rd. / Beyer Blvd.	D	D	F	F
43	Otay Mesa Rd. / Corporate Center Dr.	F	F	E	F
44	Otay Mesa Rd. / Innovative Dr.	F	D	F	F

Legend

LOS = Level of Service

(1) = Vehicle queues may extend through this intersection from an upstream intersection so that the peak hour level of service would be degraded due to vehicles blocking this intersection.

F = Shading indicates a significant impact.

TABLE ES III-7 (Continued)

Comparison Of
Buildout 3B Without La Media Road To
Buildout Adopted Community Plan
Intersection Significant Impacts After Mitigation

		Adopted Community Plan		3B Without La Media Road	
		AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
	Intersection	LOS	LOS	LOS	LOS
45	Harvest Rd. / Airway Rd.	D	F	D	B
46	Harvest Rd. / Siempre Viva Rd.	F	F	C	D
47	Otay Mesa Rd. / Sanyo Ave.	F	F	F	F
48	Airway Rd. / Sanyo Ave.	F	F	D	D
49	Paseo de las Americas / Heinrich Hertz Dr.	B	B	A	B
50	Paseo de las Americas / Marconi Dr.	A	E	B	B
51	Heritage Rd. / Otay Valley Rd. / Datsun St.	F	F	F	F
52	Aviator Rd. / La Media Rd.	F	D	C	B
53	Otay Valley Rd. / Avenida De Las Vistas	F	F	F	F

Legend

F = Shading indicates a significant impact.

- Britannia Boulevard / SR-905 EB Ramps (AM & PM);
- Britannia Boulevard / Airway Road (AM & PM);
- Siempre Viva Road / Britannia Boulevard (AM & PM);
- Otay Mesa Road / La Media Road (AM & PM);
- La Media Road / SR-905 WB Ramps (AM & PM);
- La Media Road / SR-905 EB Ramps (AM);
- La Media Road / Airway Road (AM & PM);
- La Media Road / Siempre Viva Road (AM);
- Lone Star Road / SR-125 SB Off Ramp (PM);
- Lone Star Road / SR-125 NB On Ramp (PM);
- Otay Mesa Road / Harvest Road (PM);
- Siempre Viva Road / Otay Center Drive (AM & PM);
- Siempre Viva Road / SR-905 SB to EB Ramp(PM);
- Siempre Viva Road / SR-905 SB to WB Ramp (AM & PM):
- Siempre Viva Road / SR-905 NB Ramps (PM);
- Siempre Viva Road / Paseo de las Americas (AM & PM);
- Otay Mesa Road / Corporate Center Drive (AM & PM);
- Otay Mesa Road / Innovative Drive (AM);
- Otay Mesa Road / Sanyo Avenue (AM & PM);
- Heritage Road / Otay Valley Road / Datsun Street (AM & PM);
- Otay Valley Road / Avenida De Las Vistas (AM & PM).

The following 11 intersections would remain significantly impacted under the Adopted Community Plan Scenario, but not the 3B Without La Media Road Scenario:

- Palm Avenue / I-805 SB Ramps;
- Palm Avenue / I-805 NB Ramps;
- Otay Mesa Road / SR-125 NB On-Ramp;
- Otay Mesa Road / Piper Ranch Road;
- Dennery Road / Del Sol Boulevard;
- Ocean View Hills Parkway / Del Sol Boulevard;
- Harvest Road / Airway Road;
- Harvest Road / Siempre Viva Road;
- Airway Road / Sanyo Avenue;
- Paseo de las Americas / Marconi Drive;
- Aviator Road / La Media Road.

The following three intersections would remain significantly impacted under the 3B Without La Media Road Scenario, but not the Adopted Community Plan Scenario:

- Heritage Road / SR-905 WB Ramps;
- Lone Star Road / Piper Ranch Road;
- Old Otay Mesa Road / Beyer Boulevard.

Ramp Meters

There are currently no freeway on-ramp traffic metering signals in operation at the 14 locations evaluated. Future freeway on-ramp meter operations were evaluated for the 3B Without La Media Road scenario at the fourteen future on-ramp meters. The likely most restrictive ramp meter rate as provided by Caltrans was used for this evaluation.

The City of San Diego Traffic Impact Study Manual and the Regional SANTEC / ITE Traffic Impact Study Guidelines state that levels of service do not apply to ramp meters, but that ramp meter delays above 15 minutes are considered excessive. The 14 future ramp meters were evaluated for the AM and PM peak hours. Ramp meter delays above 15 minutes would occur at five ramps during the AM peak hour and 11 ramps during the PM peak hour. Ramp meter delays above 15 minutes would occur during a total of 16 peak hours.

Ramp meter delays above 15 minutes are considered significant impacts if downstream freeways are operating at level of service "E" or "F". The following five ramp locations would be significantly impacted using this significance criteria:

- SR-905 / Caliente Avenue Westbound on-ramp (AM and PM);
- SR-905 / Heritage Road Westbound on-ramp (AM and PM);
- SR-905 Britannia Boulevard Westbound on-ramp (AM and PM);
- SR-905 / Britannia Boulevard Eastbound on-ramp (PM);
- SR-905 / La Media Road Westbound on-ramp (AM and PM).

Figure ES III-5 shows the intersections that would be significantly impacted by ramp meter delays.

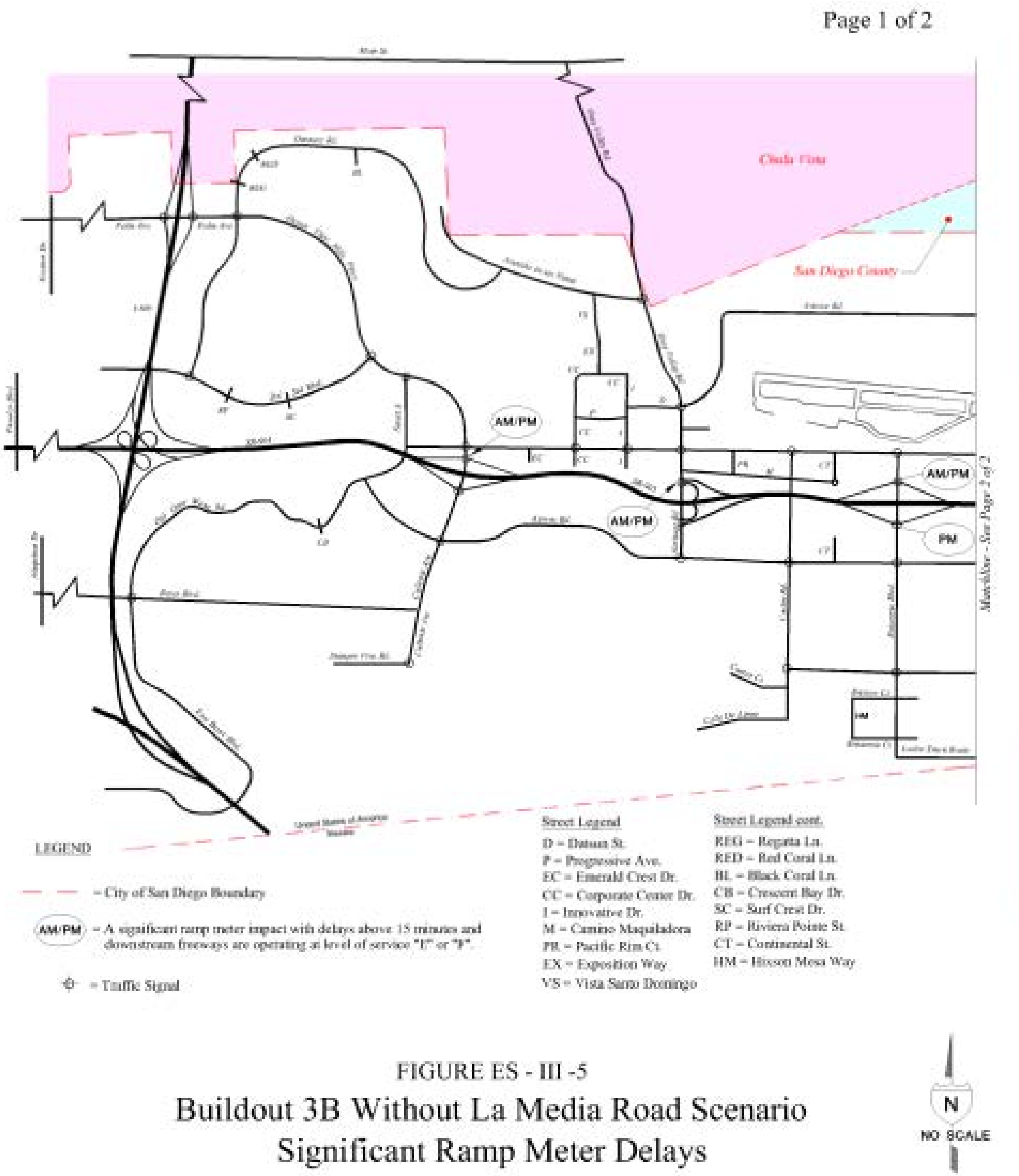


FIGURE ES - III -5
Buildout 3B Without La Media Road Scenario Significant Ramp Meter Delays

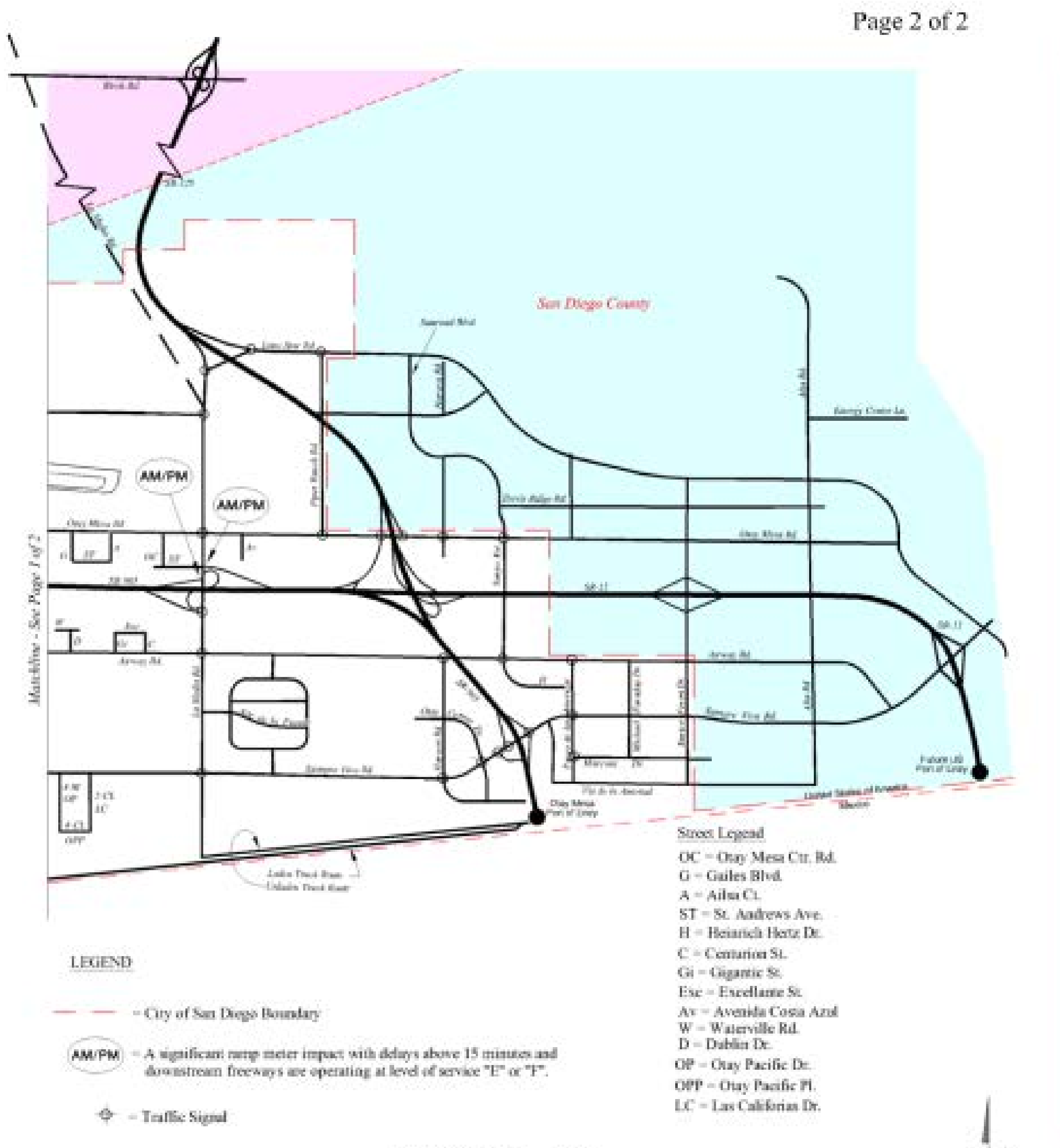


FIGURE ES - III -5

Buildout 3B Without La Media Road Scenario
Significant Ramp Meter Delays

Ramp meter queues are also tabulated. Considering the queues that would exceed the ramp storage length, there are estimated to be 18 times queues would exceed the ramp storage length during the 28 peak hours evaluated, at the 11 ramps listed below:

I-805 / Palm Avenue Northbound On-Ramp (From Westbound) (AM and PM);

SR-905 / Caliente Avenue Westbound On-Ramp (AM and PM);

SR-905 / Heritage Road Westbound On-Ramp (AM and PM);

SR-905 / Britannia Boulevard Westbound On-Ramp (AM and PM);

SR-905 / Britannia Boulevard Eastbound On-Ramp (PM);

SR-905 / La Media Road Westbound On-Ramp (AM and PM);

SR-905 / La Media Road Eastbound On-Ramp (PM);

SR-905 / Siempre Viva Road Northbound On-Ramp (AM and PM);

SR-905 / Siempere Viva Road Southbound On-Ramp (PM);

SR-125 / Otay Mesa Road Northbound On-Ramp (AM and PM);

SR-125 / Lone Star Road Northbound On-Ramp (PM).

A comparison of the 3B Without La Media Road land use scenario to the Adopted Community Plan land use scenario indicates the locations would be the same for each scenario, but the peak hours would change with the Adopted Community Plan Scenario as listed below:

- SR-905 / Heritage Road Westbound On-Ramp (PM Only);
- SR-125 / Otay Mesa Road Northbound On-Ramp (PM Only);
- SR-125 / Lone Star Road Northbound On-Ramp (AM & PM).

Freeway Interchange Queues

A queue analysis was prepared at the interchange ramp intersections plus closely spaced adjacent intersections within the study area, without and with the recommended intersection mitigation.

The queue analysis was provided to indicate the locations that might need queue storage enhancements, such as extending right or left turn storage lengths, if feasible, during design and to ensure that any intersection with excessive queues was not report as operating acceptably. The interchange intersections that are designed to operate acceptably, but will have excessive queues due to upstream queues, have been footnoted accordingly in the intersection levels of service tables.

Of the 158 queues evaluated without intersection mitigation, during AM and PM peak hours, 80 are expected to exceed the available vehicle storage between these closely spaced intersections at freeway interchange ramps. With intersection mitigation, 188 queues were evaluated and 63 are expected to exceed available storage, extending through the adjacent intersection. **Table ES III-8** lists the locations of the excessive queues.

Figure ES III-6 shows interchange intersection locations that would be affected by excessive queues. Vehicle queues will extend through these intersections from an upstream intersection so that any acceptable peak hour level of service will be at a degraded level of service due to vehicles blocking the intersection.

Table ES III-8

Alternative 3B Without La Media Road

Buildout Queue Analysis With Mitigation

Queue Locations North / South	AM PEAK HOUR					
Location	Excess Queue (Feet)			Excess Queue (Feet)		
	Southbound			Northbound		
	RT	TH	LT	LT	TH	RT
Otay Mesa Rd. / Caliente Ave.	-	-	-	None	None	2,425
Caliente Ave. / SR-905 WB Ramps	35	None	-	155	1135	-
Caliente Ave. / SR-905 EB Ramps	-	None	45	-	395	None
Caliente Ave. / Airway Rd.	None	50	1,273	-	-	-
Otay Mesa Rd. / Heritage Rd.	-	-	-	None	None	510
Heritage Rd. / SR-905 WB Ramps	-	None	None	-	None	None
Heritage Rd. / SR-905 EB Ramps	-	None	None	-	893	None
Heritage Rd. / Airway Rd.	None	-	2,225	-	-	-
Otay Mesa Rd. / Britannia Blvd.	-	-	-	None	90	185
Britannia Blvd. / SR-905 WB Ramps	None	None	-	805	None	-
Britannia Blvd. / SR-905 EB Ramps	-	710	None	-	None	none
Britannia Blvd. / Airway Rd.	2,100	2,225	895	-	-	-
Otay Mesa Rd. / La Media Rd.	-	-	-	1,183	520	423
La Media Rd. / SR-905 WB Ramps	None	1,120	-	None	None	-
La Media Rd. / SR-905 EB Ramps	None	1,775	-	188	None	-
La Media Rd. / Airway Rd.	470	715	2,375	-	-	-

Queue Locations North / South	PM PEAK HOUR					
Location	Excess Queue (Feet)			Excess Queue (Feet)		
	Southbound			Northbound		
	RT	TH	LT	LT	TH	RT
Otay Mesa Rd. / Caliente Ave.	-	-	-	160	None	None
Caliente Ave. / SR-905 WB Ramps	None	48	-	None	745	-
Caliente Ave. / SR-905 EB Ramps	-	None	None	-	685	None
Caliente Ave. / Airway Rd.	None	1,330	185	-	-	-
Otay Mesa Rd. / Heritage Rd.	-	-	-	None	None	None
Heritage Rd. / SR-905 WB Ramps	-	None	393	-	None	398
Heritage Rd. / SR-905 EB Ramps	-	None	None	-	450	None
Heritage Rd. / Airway Rd.	None	-	2,425	-	-	-
Otay Mesa Rd. / Britannia Blvd.	-	-	-	None	None	None
Britannia Blvd. / SR-905 WB Ramps	None	None	-	6,975	None	-
Britannia Blvd. / SR-905 EB Ramps	-	None	None	-	1,725	None
Britannia Blvd. / Airway Rd.	None	None	330	-	-	-
Otay Mesa Rd. / La Media Rd.	-	-	-	340	None	150
La Media Rd. / SR-905 WB Ramps	None	2,125	-	None	None	-
La Media Rd. / SR-905 EB Ramps	None	410	-	263	None	-
La Media Rd. / Airway Rd.	None	None	None	-	-	-

Note: Based on 95th percentile back of queue. 25 FT. per vehicle.
TH = Through Lanes
LT = Left Turn Lane
RT = Right Turn Lane
░ = Shading indicates excess queue.

Table ES III-8

Alternative 3B Without La Media Road

Buildout Queue Analysis With Mitigation

Queue Locations East / West	AM PEAK HOUR					
Location	Excess Queue (Feet)			Excess Queue (Feet)		
	Eastbound			Westbound		
	RT	TH	LT	LT	TH	RT
Palm Ave. / I-805 SB Ramps	-	-	-	None	None	-
Palm Ave. / I-805 NB Ramps	None	None	-	-	None	None
Palm Ave. Dennery Rd.	None	None	None	-	-	-
Siempre Viva Rd. / Otay Center Dr.	-	-	-	None	2,350	1,298
Siempre Viva Rd. / SR-905 SB Ramps	-	383	-	None	-	None
Siempre Viva Rd. / SR-905 NB Ramps	-	None	143	-	None	180
Siempre Viva Rd. / Paseo de las Americas	1,020	None	None	-	-	-
Lone Star Rd. / SR-125 SB Off Ramp	-	-	-	-	None	-
Lone Star Rd. / SR-125 NB On Ramp	-	-	None	-	None	None
Lone Star Rd. / Piper Ranch Rd.	-	50	-	-	-	-
Otay Mesa Rd. / Piper Ranch Rd.	-	-	-	None	None	None
Otay Mesa Rd. / SR-125 SB Off Ramp	-	None	-	-	None	-
Otay Mesa Rd. / SR-125 NB On Ramp	-	None	None	-	None	None
Otay Mesa Rd. / Harvest Rd.	None	None	None	-	-	-

Queue Locations East / West	PM PEAK HOUR					
Location	Excess Queue (Feet)			Excess Queue (Feet)		
	Eastbound			Westbound		
	RT	TH	LT	LT	TH	RT
Palm Ave. / I-805 SB Ramps	-	-	-	None	None	-
Palm Ave. / I-805 NB Ramps	None	None	-	-	None	None
Palm Ave. Dennery Rd.	1,383	None	None	-	-	-
Siempre Viva Rd. / Otay Center Dr.	-	-	-	None	15	None
Siempre Viva Rd. / SR-905 SB Ramps	-	3,375	-	835	-	-
Siempre Viva Rd. / SR-905 NB Ramps	-	None	3,825	-	None	1,750
Siempre Viva Rd. / Paseo de las Americas	None	None	None	-	-	-
-						
Lone Star Rd. / SR-125 SB Off Ramp	-	-	-	508	None	-
Lone Star Rd. / SR-125 NB On Ramp	-	-	1,615	-	None	2,150
Lone Star Rd. / Piper Ranch Rd.	-	None	-	-	-	-
Otay Mesa Rd. / Piper Ranch Rd.	-	-	-	None	None	None
Otay Mesa Rd. / SR-125 SB Off Ramp	-	None	-	-	None	-
Otay Mesa Rd. / SR-125 NB On Ramp	-	None	225	-	None	618
Otay Mesa Rd. / Harvest Rd.	None	None	None	-	-	-

Note: Based on 95th percentile back of queue. 25 FT. per vehicle.
TH = Through Lanes
LT = Left Turn Lane
RT = Right Turn Lane
░ = Shading indicates excess queue.

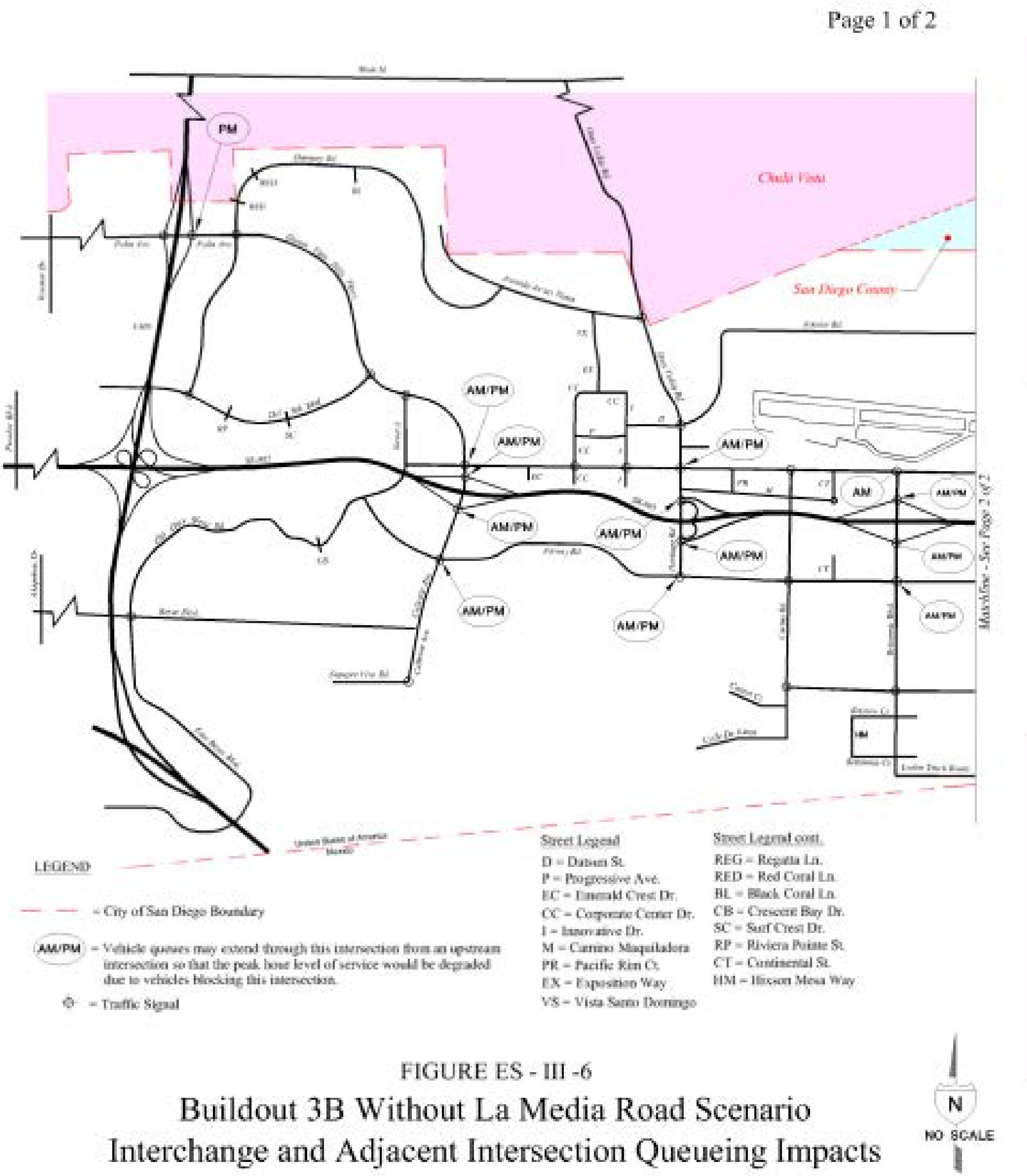


FIGURE ES - III -6

Buildout 3B Without La Media Road Scenario
Interchange and Adjacent Intersection Queueing Impacts

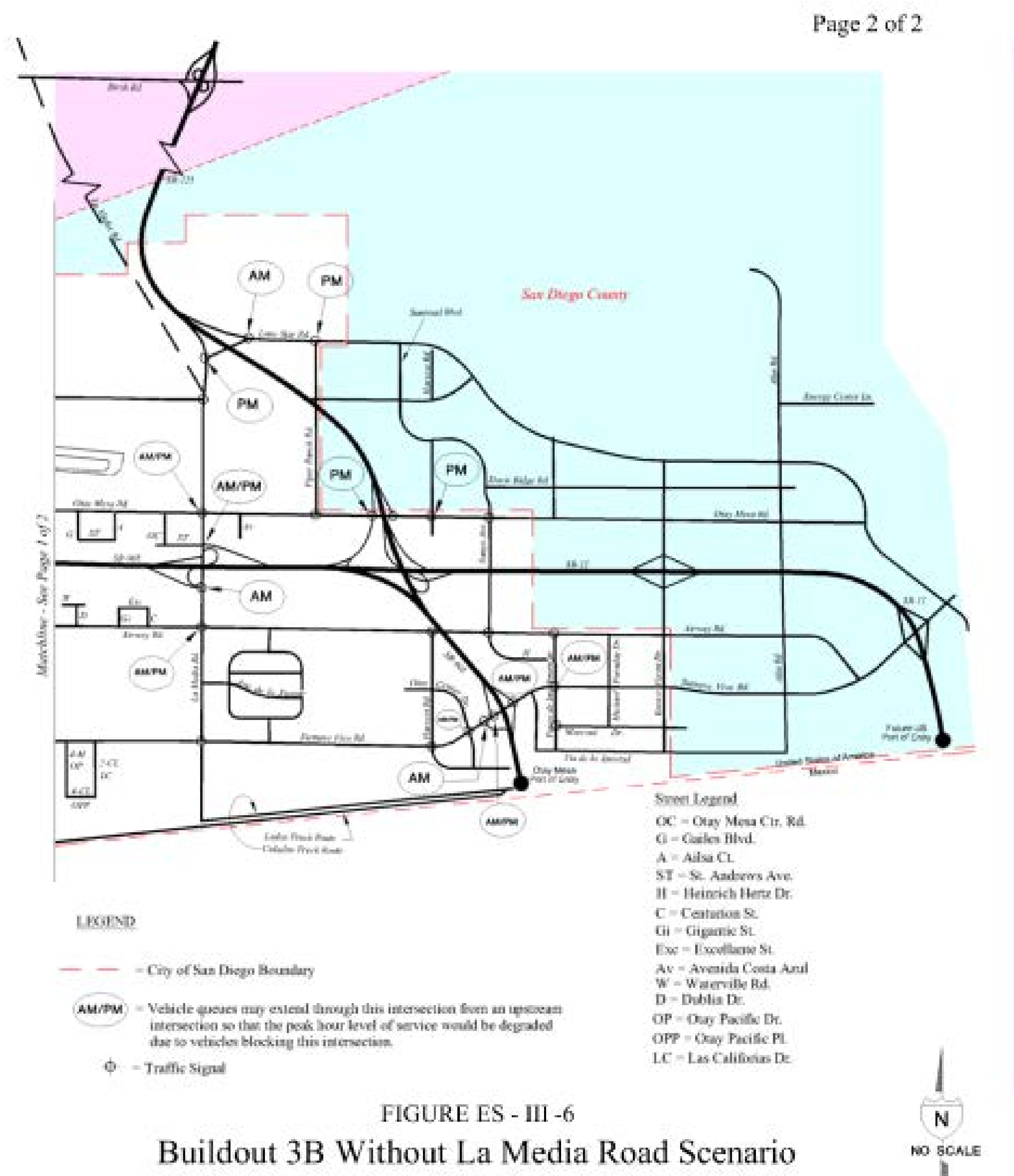


FIGURE ES - III -6

Buildout 3B Without La Media Road Scenario
Interchange and Adjacent Intersection Queueing Impacts

1.0 INTRODUCTION

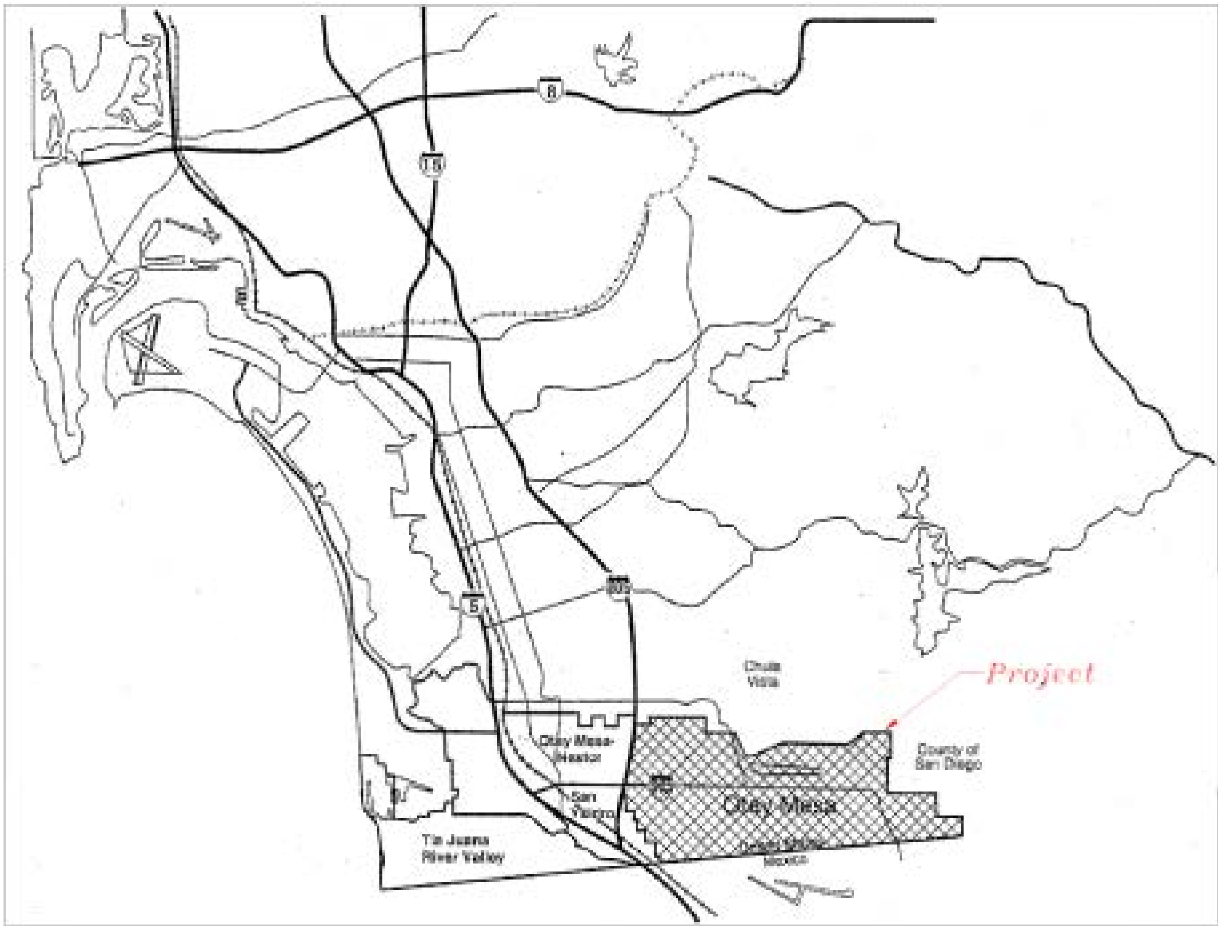
The City of San Diego is responsible for transportation planning activities related to all dedicated, non-freeway facilities within San Diego City limits. The Mobility Planning Section identifies future travel demand for both urbanized and urbanizing communities in an ongoing effort to ensure an adequate circulation system for future development.

A community plan is a comprehensive plan for development which consists of many elements such as land use, open space, public facilities, and mobility. This Traffic Study is the supporting documentation for the Mobility Element of the Otay Mesa Community Plan. This Study identifies the roadway network throughout the community necessary to accommodate traffic generated by existing and future land uses on the street system.

Otay Mesa is bounded by the city Chula Vista to the north, the Mexican border to the south, Interstate 805 to the west and the San Diego County limits to the east. **Figure 1-1** shows the Otay Mesa vicinity map.

Much of the land in Otay Mesa is undeveloped. The current land use is primarily residential on the western portion of the community and industrial on the eastern portion. A significant amount of land is dedicated to the Multiple Species Conservation Program (MSCP). Private parties have also purchased land in Otay Mesa as mitigation for their development projects elsewhere.

The border crossing between the U.S. and Mexico is located at the southeast corner of Otay Mesa and where State Route 905 terminates. A second border crossing facility also exists east of Enrico Fermi Drive. This point of entry is primarily used by commercial truck traffic that is predominant throughout the community.



SOURCE

Base Map Provided By:
City of San Diego Planning Department
Otay Mesa Existing Conditions Report

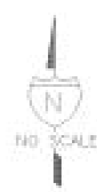


FIGURE 1-1

Project Location Map

2.0 IMPACT ANALYSIS

2.1 Forecast Model

The travel forecast model used for this traffic study was calibrated in Otay Mesa from the San Diego Association of Governments (SANDAG) Series 11 Regional Transportation Model. The SANDAG model incorporates land use, population, and employment data estimated for the year 2030 in the future. Land uses within the Otay Mesa Community Planning area are assumed to be built out within the traffic model. The SANDAG regional transportation network includes the future improvements that are in the Adopted Community Plan and are assumed to be completed, and includes Year 2030 Regional Transportation Plan "Reasonably Expected" projects in the region. The Otay Mesa model has been modified to include a half-diamond interchange at SR-125 / Lone Star Road. Also, a portion of SR-125 has been assumed as a toll facility and modeled to approximate toll conditions.

2.2 Study Area

The study area is defined by the Otay Mesa Community Plan area boundaries and extends to those areas immediately outside the Community Plan boundary to roads that are common to other jurisdictions such as the City of Chula Vista to the north and the County of San Diego to the east.

Intersections within the Otay Mesa Community Plan boundary identified for evaluation are based on the following criteria:

1) Any new/future major intersections (not existing today);
2) All freeway on/off ramps;
3) All intersections adjacent to freeway on/off ramps;
4) Intersections of arterial and major circulation element roadways.

2.3 Methodologies

The following describes the analytical techniques used to derive study findings, conclusions, and recommendations. These evaluations were performed in accordance with Caltrans and City of San Diego requirements. Definitions of level of service, peak traffic hours, and detailed information on roadway segments and intersection analysis methods, standards, and thresholds are discussed in the following sections.

2.3a Roadway Segment Level of Service Standards

The roadway level of service standards and thresholds the City of San Diego incorporates within its jurisdiction provide the basis for analyzing arterial roadway segment performance. The analysis of roadway segment level of service is based on the functional classification of the roadway, the maximum desirable capacity, roadway geometrics, and existing or forecasted average daily traffic (ADT) volumes. **Table 2-1** presents the roadway segment capacity and level of service standards used to analyze arterial roadways.

These standards are generally used as long-range planning guidelines to determine the functional classifications of roadways. The actual capacity of roadway facilities can vary due to a number of actual characteristics including, but not limited to, pavement width, access to cross streets and driveways, intersection signal timing, geometry, and on-street parking. The actual functional capacity is based on the ability of arterial intersections to accommodate peak hour volumes. Level of service D is considered acceptable for roadway segments.

TABLE 2-1

Roadway Classifications, Levels of Service (LOS) and Average Daily Traffic (ADT)

		LEVEL OF SERVICE				
Street Classification	**Lanes**	**A**	**B**	**C**	**D**	**E**
Expressway	6	30,000	42,000	60,000	70,000	80,000
Prime Arterial	6	25,000	35,000	50,000	55,000	60,000
Major Arterial	6	20,000	28,000	40,000	45,000	50,000
Major Arterial	4	15,000	21,000	30,000	35,000	40,000
Collector	4	10,000	14,000	20,000	25,000	30,000
Collector (no center lane) (continuous left turn lane)	4 2	5,000	7,000	10,000	13,000	15,000
Collector (no fronting property)	2	4,000	5,500	7,500	9,000	10,000
Collector (commercial-industrial fronting)	2	2,500	3,500	5,000	6,500	8,000
Collector (multi-family)	2	2,500	3,500	5,000	6,500	8,000
Sub-Collector (single-family)	2	--	--	2,200	--	--

Approximate recommended ADT based on the City of San Diego Street Design Manual. The volumes and the average daily level of service listed above are only intended as a general planning guideline. Levels of service are not applied to residential streets since their primary purpose is to serve abutting lots, not to carry through traffic. Levels of service normally apply to roads carrying through traffic between major trip generators and attractors.

2.3b Peak Hour Intersection Level of Service Standards

The analysis of peak hour intersection performance was conducted using the Highway Capacity Manual analysis software program, which uses the "operational analysis" procedure for signalized intersections as defined in the Highway Capacity Manual (HCM). These procedures establish the maximum saturation flow of a single lane at an intersection. This saturation flow rate is adjusted to account for lane width, on-street parking, conflicting pedestrian flow, traffic composition (i.e., percent of trucks) and shared lane movements (e.g., through and right-turn movements from the same lane). Level of service for signalized intersections is based on the average time (seconds) that vehicles entering an intersection are delayed by intersection controls. **Table 2-2** lists the HCM level of service/delay criteria for signalized intersections.

TABLE 2-2

Signalized Intersection Level of Service

The operational analysis method for evaluation of signalized intersections presented in the 2000 Highway Capacity Manual defines level of service in terms of delay, or more specifically, average control delay per vehicle. Delay is a measure of driver and/or passenger discomfort, frustration, fuel consumption, and lost travel time.

Average Control Delay Per Vehicle (seconds)	**Level of Service (LOS) Characteristics**
<10.0	LOS A describes operations with very low delay. This occurs when progression is extremely favorable, and most vehicles do not stop at all. Short cycle lengths may also contribute to low delay.
10.1-20.0	LOS B describes operations with generally good progression and/or short cycle lengths. More vehicles stop than for LOS A, causing higher levels of average delay.
20.1-35.0	LOS C describes operations with higher delays, which may result from fair progression and/or longer cycle lengths. Individual cycle failures may begin to appear at this level. The number of vehicles stopping is significant at this level, although many still pass through the intersection without stopping.
35.1-55.0	LOS D describes operations with high delay, resulting from some combination of unfavorable progression, long cycle lengths, or high volumes. The influence of congestion becomes more noticeable, and individual cycle failures are noticeable.
55.1-80.0	LOS E is considered the limit of acceptable delay. Individual cycle failures are frequent occurrences.
>80.0s	LOS F describes a condition of excessively high delay, considered unacceptable to most drivers. This condition often occurs when arrival flow rates exceed the LOS D capacity of the intersection. Poor progression and long cycle lengths may also be major contributing causes to such delay.

Source: 2000 Highway Capacity Manual, TRB Special Report 209

2.3c Impact Significance Criteria

For program level traffic analysis, a project is considered to generate a significant impact if intersections or street segments operate at level of service E or F.

2.3d Freeway Level of Service

Freeway segments were analyzed using standard Caltrans methodologies. The procedures for calculating freeway level of service involved estimating a peak hour volume to capacity (V/C) ratio. Peak hour volumes are estimated from the application of design hour ("K"), directional ("D") and truck ("T") factors to Average Daily Traffic (ADT) volumes. The truck factors (percent trucks) were obtained from the historical Caltrans data, local truck counts, and projections of future volumes at the border crossings. The resulting V/C ratio is then compared with accepted ranges of V/C values corresponding to the various levels of service. The corresponding level of service represents an approximation of existing or forecasted freeway operating conditions during the peak hour.

Table 2-3 shows the Freeway segment analysis methods used by Caltrans District 11. As the table shows, Caltrans has developed four levels of freeway congestion within level of service F, ranging from F (0) (considered congestion) to F (3) (gridlock). Any facility operating at level of service E or F is considered to have a significant impact.

TABLE 2-3

Freeway Segment Level of Service Definition

Caltrans District 11 **Freeway Level of Service Definitions**			
LOS	***V/C***	***Congestion/Delay***	***Traffic Description***
Used for freeways, expressways, and conventional highways			
A	≤0.41	None	Free Flow
B	0.42-0.62	None	Free to stable flow, light to moderate volumes
C	0.63-0.80	None to minimal	Stable flow, moderate volumes, freedom to maneuver noticeably restricted
D	0.81-0.92	Minimal to substantial	Approaches unstable flow, heavy volumes, very limited freedom to maneuver
E	0.93-1.00	Significant	Extremely unstable slow, maneuverability and psychological comfort extremely poor
Used for freeways and expressways			
F0	1.01-1.25	Considerable 0-1 hour delay	Forced flow, heavy congestion, long queues form behind breakdown points, stop and go
F1	1.26-1.35	Severe 1-2 hour delay	Very heavy congestion, very long queues
F2	1.36-1.45	Very severe 2-3 hour delay	Extremely heavy congestion, longer queues, more numerous breakdown points, longer stop periods
F3	>1.46	Extremely severe 3+ hours of delay	Gridlock

Source: Caltrans, 1992

2.4 Mitigation

Mitigation for significant traffic impacts would be in the form of either the Otay Mesa Community Plan Public Facilities Financing Plan (PFFP) or a fair share contribution to improvements identified, full funding, or construction of improvements deemed project related. However, some improvements identified may not fully mitigate traffic operations to acceptable levels of service. In this instance, significant traffic impacts would remain unmitigated.

3.0 EXISTING CONDITIONS

This section of the report evaluates existing average daily traffic (ADT) volumes on important study area street segments (between intersections) and at major intersections during AM and PM peak hours. Traffic volumes are based on recent daily roadway traffic counts and peak period manual traffic counts at intersections.

3.1 Existing Circulation System

Much of the land in Otay Mesa is undeveloped. As a result, the street system is disjointed and incomplete. Interstate 805 and SR-125, known as the South Bay Expressway, provide major access to and from the north of Otay Mesa.

State Route 905 and Palm Avenue provide east-west connections from the community to Interstate 805. Conventional highway SR-905 / Otay Mesa Road provides connection from the Otay Mesa Port of Entry (POE) and community surface streets with regional freeway I-805. Freeway SR-905 is under construction parallel to conventional highway SR-905 / Otay Mesa Road. Phase 1-A of the project has been partially completed which includes segments from the Otay Mesa POE to Britannia Boulevard. The Phase 1-B connection to I-805 is currently under construction. Although the partial interchanges at La Media Road and Britannia Boulevard have recently been open for use, traffic counts at those locations are not included in this section.

State Route 125 toll highway is a privately operated toll highway extending from the State Route 54 / State Route 125 junction to Otay Mesa Road.

The following are general descriptions of key roadways within the community divided into three categories; roads that provide access to and from the community, roads within residential area, and roads within industrial areas.

Community Access Roads

Old Otay Mesa Road – a two-lane Collector (without left turn lane) connecting Otay Mesa with San Ysidro. It extends along the rim of a canyon and intersects with SR-905 / Otay Mesa Road.

SR-905 – a four-lane freeway that extends into Otay Mesa for a mile from its interchange with I-805 and transitions into Otay Mesa Road, a six-lane Primary Arterial.

Del Sol Boulevard – a four-lane Collector (with left turn lane) as it crosses under I-805 from Otay Mesa-Nestor. It intersects Dennery Road and then continues for approximately a quarter-mile as a two-lane Collector (with left turn lane).

Palm Avenue – crosses over I-805 from Otay Mesa-Nestor on a four-lane bridge with double left-turn-lanes at the interchange of Palm Avenue and I-805. Palm Avenue transitions to a six-lane Primary Arterial, and intersects with Dennery Road.

Otay Valley Road – a six-lane major road, Main Street, at I-805 in the City of Chula Vista. Otay Valley Road crosses at the Otay River on a two-lane bridge with a center turn lane and continues as a two-lane Collector (without left turn lane) into the City of San Diego.

Otay Mesa Road – From the terminus of SR-905, Otay Mesa Road is constructed as a six-lane Primary Arterial to Otay Center Road. It is constructed as a seven-lane Major Arterial between Otay Center Road and La Media Road. It transitions to a four-lane Major Arterial east of La Media Road and intersects with the SR-125 southbound off-ramp and northbound on-ramp, and continues east into County of San Diego lands.

Otay Mesa Border Crossing and Port of Entry – a second border crossing between the U.S. and Mexico located at the southeast corner of Otay Mesa. This point of entry allows automobiles but is primarily used for truck traffic which is predominant throughout the community of Otay Mesa.

Roads within Residential Areas

Dennery Road – is constructed as a four-lane Major Arterial between Del Sol Boulevard and Palm Avenue. North of Palm Avenue, the road transitions to a four-lane Collector (with left turn lane) and eventually transitions to a 2-lane Collector (without fronting property).

Ocean View Hills Parkway – is a four-lane Major Arterial road extending from Dennery Road to Del Sol Boulevard. South of Del Sol Boulevard this roadway is constructed as a six-lane Major Arterial and intersects with conventional highway SR-905 / Otay Mesa Road.

Avenida de las Vistas – is a two-lane Collector (without fronting property) extending west of Otay Valley Road. The residential development along Avenida de las Vistas can be accessed via Otay Valley Road to the north or Otay Mesa Road from the south.

Caliente Avenue – is a partially built four-lane Major Arterial extending south from Otay Mesa Road, intersecting with Airway Road. This segment will be constructed as six-lanes as part of the SR-905 interchange currently under construction at this location.

Beyer Boulevard – is a four-lane Major Arterial extending from Old Otay Mesa Road westerly into the San Ysidro community plan area, and provides access to the nearby Beyer Blvd. transit station.

Roads Within Industrial Areas

Airway Road – is an east-west, partially built roadway varying in width that runs parallel with Otay Mesa Road from Britannia Boulevard to the County boundary. The western segment of Airway Road is a three-lane Collector (2 lanes eastbound, 1 lane westbound) between Old Otay Mesa Road and Caliente Avenue, and provides access to San Ysidro High School.

Siempre Viva Road – is an east-west, partially built roadway varying in width between Cactus Road and and La Media Road. East of La Media Road, Seimpre Viva Road is a six-lane Primary Arterial with an interchange at SR-905 and then transitions to a four-lane Major Arterial from Paseo de las Americas to the County boundary.

Heritage Road – is a north-south, partially built roadway varying in width from Otay Valley Road to its terminus south of Gateway Park Drive.

Cactus Road – is a north-south, four-lane Collector (with left turn lane) south of Otay Mesa Road, ending at the SR-905 right of way. South of SR-905 it is partially constructed with two lanes.

Britannia Boulevard – is a north-south, partially built Major Arterial roadway extending between Otay Mesa Road and Siempre Viva Road. The SR-905 interchange is under construction between Otay Mesa Road and Airway Road. South of Airway Road, portions are built as a four-lane Major Arterial, while some segments are only constructed to half-width.

La Media Road – is a north-south, partially built Major Arterial extending from north of Otay Mesa Road to Siempre Viva Road. The SR-905 interchange is under construction between Otay Mesa Road and Airway Road. South of Airway Road only two lanes are built, extending to a truck only road extending to the east Otay Mesa inspection facility. This road is currently the designated southbound truck route for laden (carrying cargo) trucks from conventional highway SR-905 / Otay Mesa Road to the east Otay Mesa inspection facility.

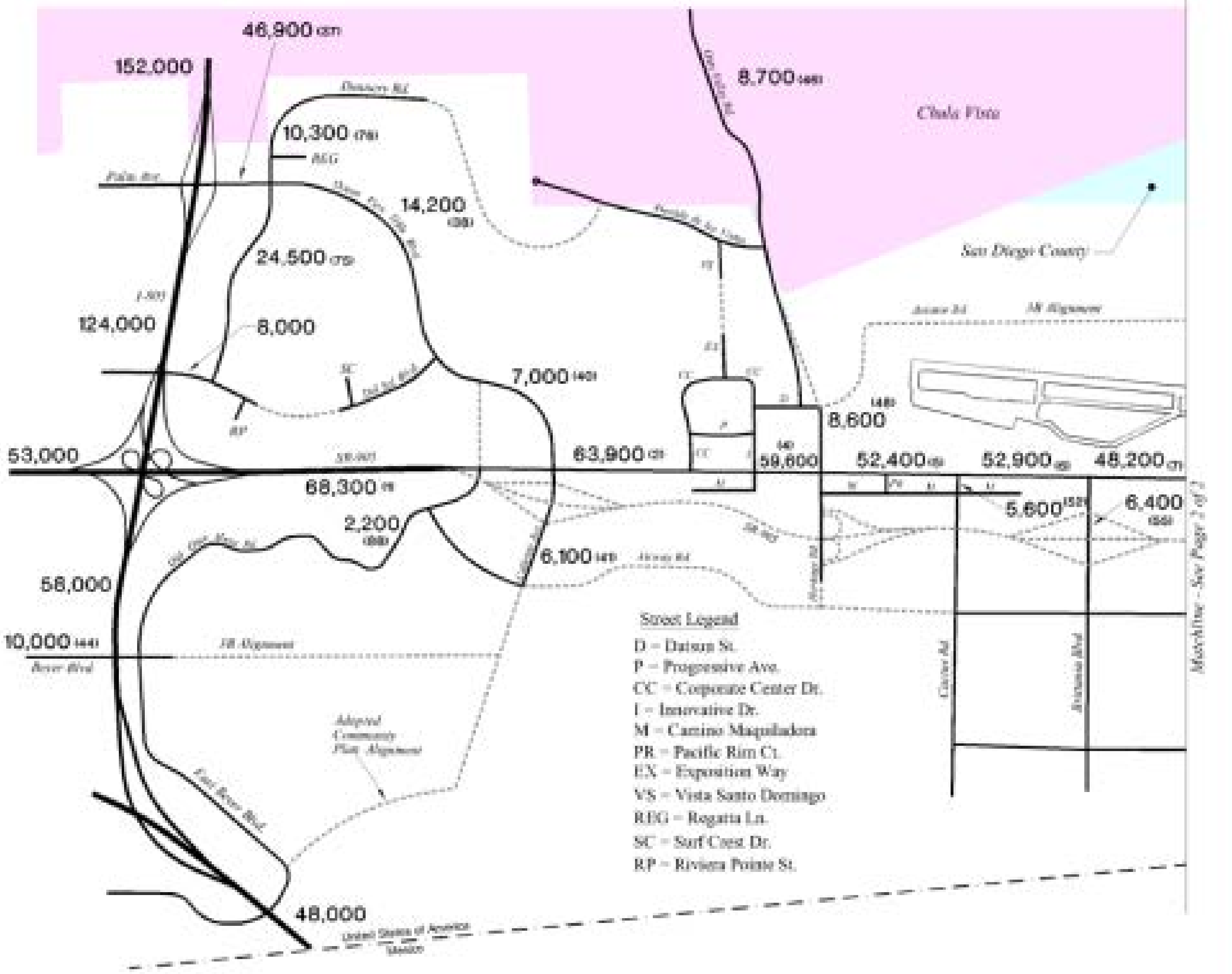
3.2 Street Segments

Figure 3-1 shows existing average daily traffic volumes on street segments within the study area. These volumes were taken from recent traffic counts conducted by Caltrans, the City of San Diego, or recently counted for other project study purposes, but were obtained before the opening of SR-905 Phase 1-A improvements from the partial Britannia Boulevard interchange to east of the La Media Road partial interchange.

Figure 3-2 shows the intersection number key.

Table 3-1 includes existing street segment levels of service based on the City of San Diego Traffic Impact Study Manual, **Table 2**. The current functional roadway classifications are listed. As shown, most street segments operate acceptably (at LOS "D" or better) except Otay Mesa Road, which operates at level of service "E" or "F" between the terminus of freeway SR-905 and Heritage Road, and level of service "E" between Otay Mesa Center Road and La Media Road.

Page 1 of 2

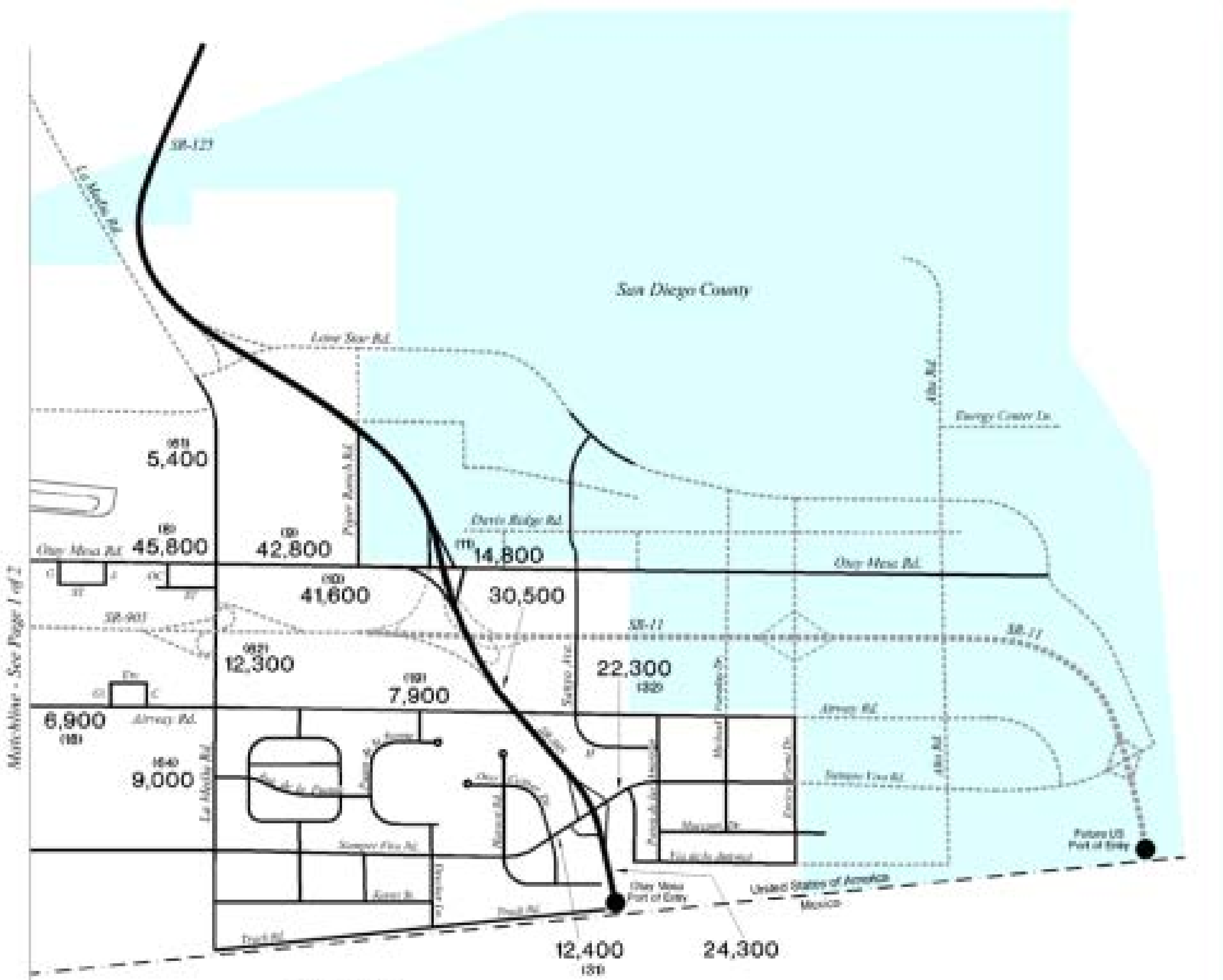


(XX) = Segment number, coincides with Buildout segment numbers.

FIGURE 3-1

Existing Average Daily Traffic Volumes (2005 - 2010)

Page 2 of 2



Street Legend

OC = Otay Mesa Ctr. Rd.
G = Gailes Blvd.
A = Ailsa Ct.
ST = St. Andrews Ave.
H = Heinrich Hertz Dr.
C = Centurion St.
Gi = Gigantic St.
Exc = Excellante St.

(XX) = Segment number, coincides with Buildout segment numbers.

FIGURE 3-1

Existing Average Daily Traffic Volumes (2005 - 2010)

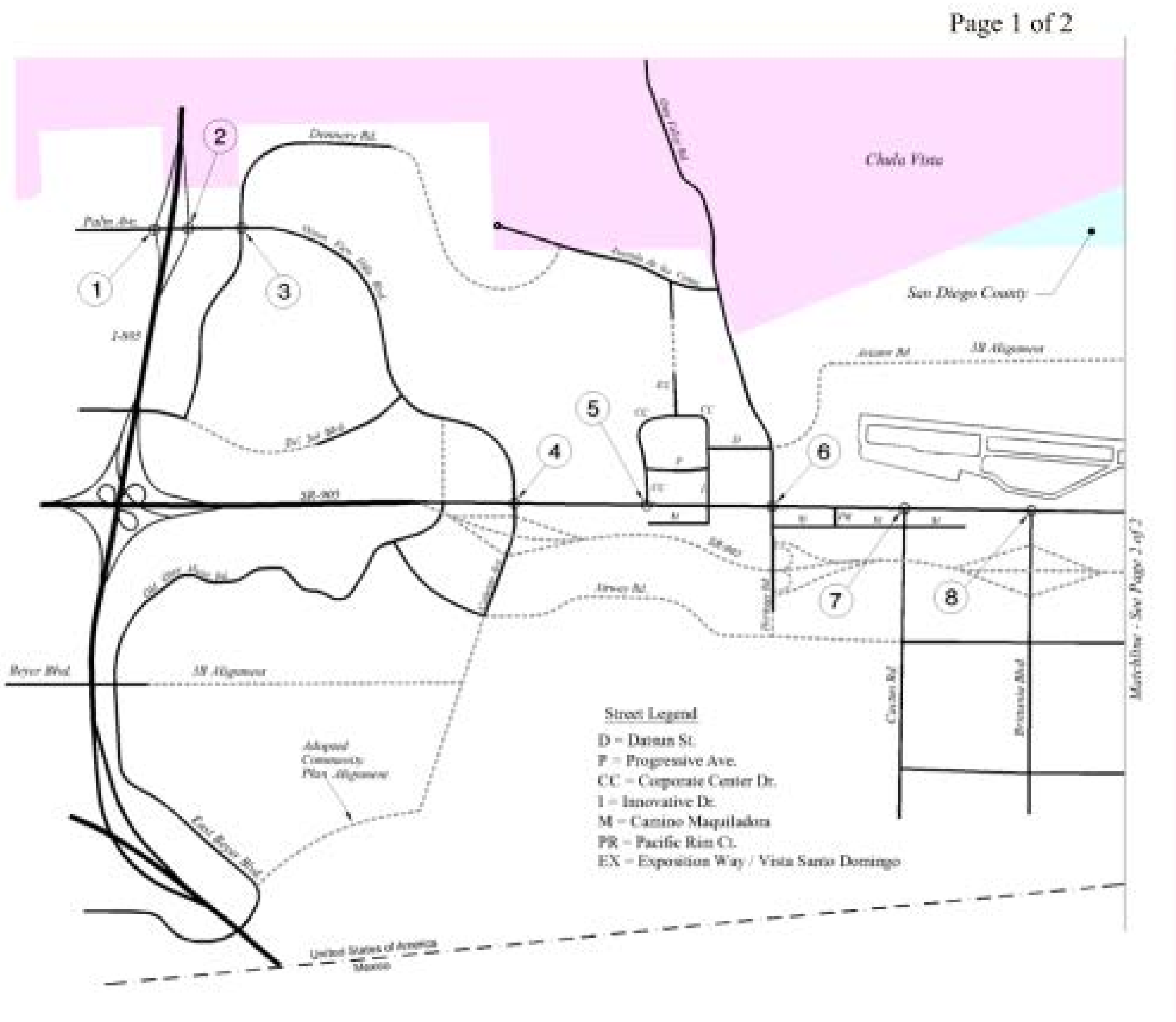
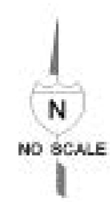
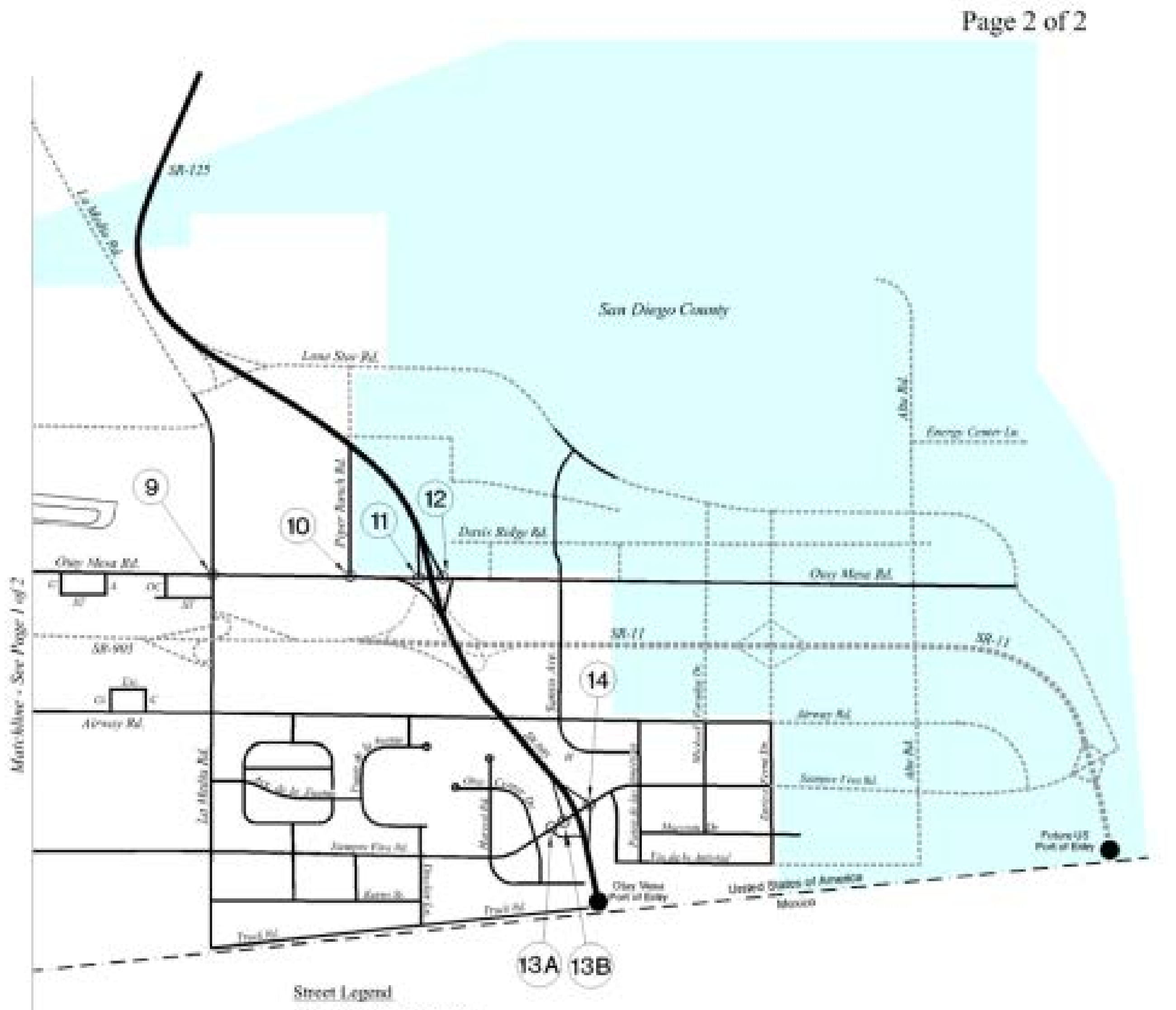


FIGURE 3-2
Existing Intersection Key





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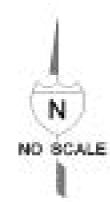


FIGURE 3-2
Existing Intersection Key

TABLE 3-1

Existing (2005 to 2010) Average Daily Traffic & Level of Service

Street	Segment	#	Class (1)	LOS E ADT (2)	Segment ADT	V/C	LOS	Traffic Count Date
Otay Mesa Road	SR-905 to Caliente Ave.	1	6-PA	60,000	68,300	1.14	F	2009 ①
	Caliente Ave. to Corporate Center Dr.	2	6-PA	60,000	63,900	1.07	F	2009 ①
	Corporate Center Dr. to Heritage Rd.	4	6-PA	60,000	59,600	0.99	E	2009 ①
	Heritage Rd. to Cactus Rd.	5	6-PA	60,000	52,400	0.87	D	2009 ①
	Cactus Rd. to Britannia Blvd.	6	6-PA	60,000	52,900	0.88	D	2009 ①
	Britannia Blvd. to Otay Mesa Center Rd.	7	6-PA	60,000	48,200	0.80	C	2009 ①
	Otay Mesa Center Rd. to La Media Rd.	8	7-M	55,000	45,800	0.84	E	2009 ①
	La Media Rd. to SR-125 SB Ramps	9	5-PA	55,000	42,800	0.78	C	2009 ①
	SR-125 NB Ramps to Sanyo Ave.	11	4-M	40,000	14,800	0.37	A	2009 ①
Airway Road	Britannia Blvd. to La Media Rd.	18	2-CL	15,000	6,900	0.46	B	2010①
	La Media Rd. to Sanyo Ave.	19	2-CL	15,000	7,900	0.53	C	2010①
Siempre Viva Rd. Road	Harvest Rd. to SR-905 SB Ramps	31	6-PA	60,000	12,400	0.21	A	2009 ②
	SR-905 NB Ramps to Paseo de las Americas	32	6-PA	60,000	22,300	0.37	A	2009 ②
Palm Ave.	I-805 NB Ramps to Dennery Rd.	37	6-PA	60,000	46,900	0.78	C	2010 ③
Ocean View Hills Pkwy.	Dennery Rd. to Del Sol Blvd.	38	4-M	40,000	14,200	0.36	A	2010 ③
	Del Sol Blvd. to Otay Mesa Rd.	40	6-M	50,000	7,000	0.14	A	2010①
Caliente Avenue	Otay Mesa Rd. to Airway Rd.	41	4-M	40,000	6,100	0.15	A	2010①
Old Otay Mesa Road	Otay Mesa Rd. to Airway Rd.	88	2-C	8,000	2,200	0.28	A	2009 ②
Beyer Boulevard	Smythe Ave. to Old Otay Mesa Rd.	44	4-M	40,000	10,000	0.24	A	2007③
Heritage Road/ Otay Valley Road	Main St. to Avenida De Las Vistas	46	2-C	8,000	8,700	1.09	F	2010①
	Avenida De Las Vistas to Otay Mesa Rd.	48	2-C	8,000	8,600	1.08	F	2010①
Cactus Road	Otay Mesa Rd. to SR-905.	52	4-CL	30,000	5,600	0.19	A	2010①
Britannia Boulevard	Otay Mesa Rd. to Airway Rd.	55	4-M	40,000	6,400	0.16	A	2009①

TABLE 3-1 (Cont.)

Street	Segment	#	Class (1)	LOS E ADT (2)	Segment ADT	V/C	LOS	Traffic Count Date
La Media Road	North of to Otay Mesa Rd.	61	2-CL	15,000	5,400	0.36	B	2010①
	Otay Mesa Rd. to Airway Rd.	62	2-CL	15,000	12,300	0.82	D	2010①
	Airway Rd. to Siempre Viva Rd.	64	2-C	8,000	9,000	1.13	F	2010①
Dennery Road	Palm Ave. to Regatta Ln.	76	4-M	40,000	10,300	0.26	A	2005④
	Palm Ave. to Walmart Dr.	75	4-M	40,000	24,500	0.61	C	2005④
Del Sol Boulevard	West of Dennery Rd.	85	4-C	15,000	8,000	0.53	C	2010①

(1) Functional Classification, as currently built.
(2) Source: City of San Diego Traffic Impact Study Manual, Table 2.
= Segment number, coincides with buildout segment number.

Legend

7-M = 7-Lane Major Arterial

6-PA = 6-Lane Primary Arterial

6-M = 6-Lane Major

4-M = 4-Lane Major

5-PA = Lane Primary Arterial

4-CL = 4-Lane Collector (With Left Lane Turn Lane).

4-C = 4-Lane Collector (Without Left Turn Lane).

2-CL = 2-Lane Collector (With Left Turn Lane).

2-C = 2-Lane Collector (Without Left Turn Lane, Industrial Fronting).

Sources of Traffic Volumes

① = Rick Engineering Company

② = LSA Associates, Inc.

③ = Kimley-Horn & Associates, Inc.

④ = Urban Systems Associates, Inc. / TSI

The segments of Otay Valley Road / Heritage Road between Main Street in Chula Vista and Otay Mesa Road are at levels of service "F". La Media Road between Airway Road and Siempre Viva Road is at level of service "F".

Table 3-2 shows freeway segment levels of service. Freeway segments of I-805 and SR-905 are shown to operate acceptably at LOS "D" or better.

3.3 Intersections

Figure 3-3 includes existing lane configurations at major intersections.

Figure 3-4 shows existing AM and PM peak hour traffic volumes at the study area intersections. Intersection levels of service for the AM and PM peak hours were calculated using Highway Capacity Manual procedures. **Table 3-3** includes the results of the intersection level of service evaluation for existing conditions. **Figure 3-5** also shows intersection levels of service graphically. The study area intersections are shown to be operating at acceptable levels of service ("D" or better LOS) for existing conditions, except at one location. The Otay Mesa Road / Heritage Avenue intersection operates at level of service "E" during the AM peak hour.

3.4 Ramp Meters

Currently, the I-805 / Palm Avenue and SR-905 / Siempre Viva Road interchange freeway on ramps do not have ramp meters installed.

Appendix A includes additional existing conditions information, traffic counts, traffic signal timing sheets, and levels of service worksheets.

TABLE 3-2

Existing Freeway Segment Levels of Service

Freeway Segment	Lanes (1-Way)	Cap.	ADT (1)	Peak Hour %	Direction Split	Truck Factor	Peak Volume	V/C	LOS (2)
Interstate 805									
Otay Valley Rd. - Palm Ave.	4+AUX	11,200	152,000	0.08	0.60	0.90	8,107	0.72	C
Palm Ave. - SR-905	4	9,400	124,000	0.08	0.60	0.90	6,613	0.70	C
SR-905 - San Ysidro Blvd.	4	9,400	58,000	0.08	0.60	0.90	3,093	0.33	A
SR-905									
Picador Blvd. - I-805	2	4,700	53,000	0.08	0.60	0.90	2,827	0.60	B
I-805 – Caliente Ave.	2	4,700	58,300	0.08	0.60	0.90	3,109	0.66	C
Otay Mesa Rd. - Siempre Viva Rd.	2	4,700	30,500	0.08	0.60	0.90	1,600	0.34	A
Siempre Viva Rd. - Border	3	4,700	24,300	0.08	0.60	0.90	1,296	0.28	A

LEGEND:

Cap. = Capacity in one direction

ADT = Average Daily Traffic

V/C = Volume to Capacity Ratio

LOS = Level of Service

Peak Hour % = % of ADT in Peak Hour

Freeway Mainlane Capacity = 2,350 VPHPL

Auxillary Lane Capacity (AUX) = 1,800 VPHPL

Direction Split = % of Peak Hour in Peak Direction

Truck Factor = Represents Capacity Reduction for Heavy Vehicles (Trucks at 10% of ADT)

NOTES:

(1) Caltrans District 11, 2009.

(2) Caltrans District 11 LOS Estimation Procedures, See Appendix A

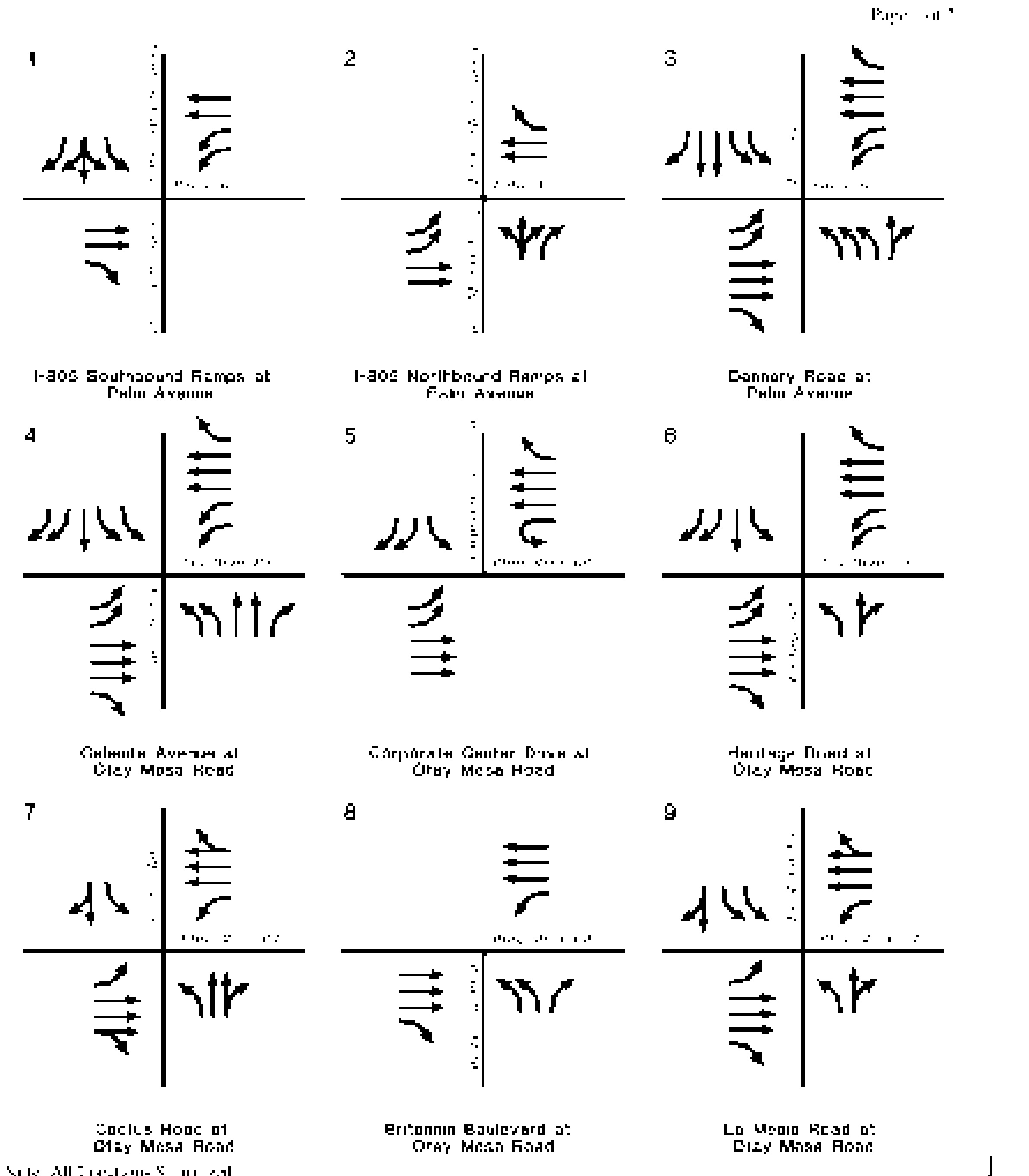


FIGURE 3-3
Existing Lane Configurations

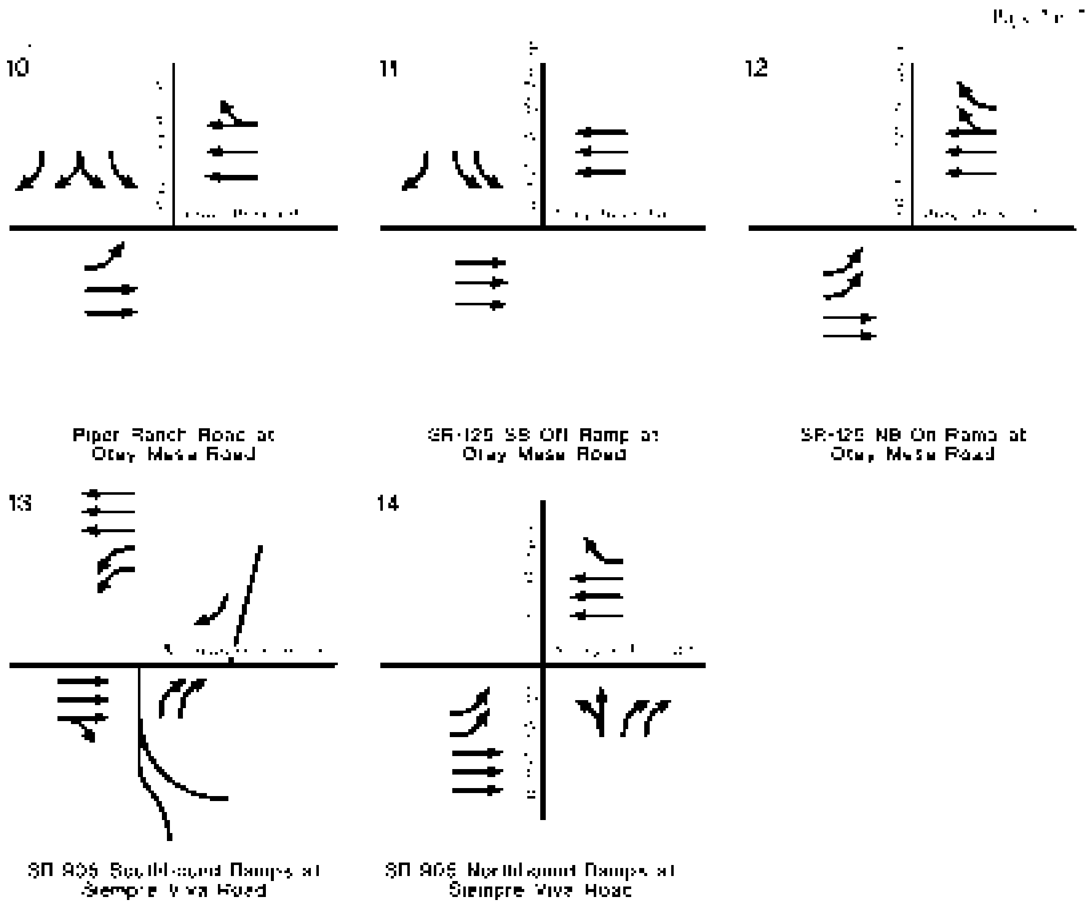
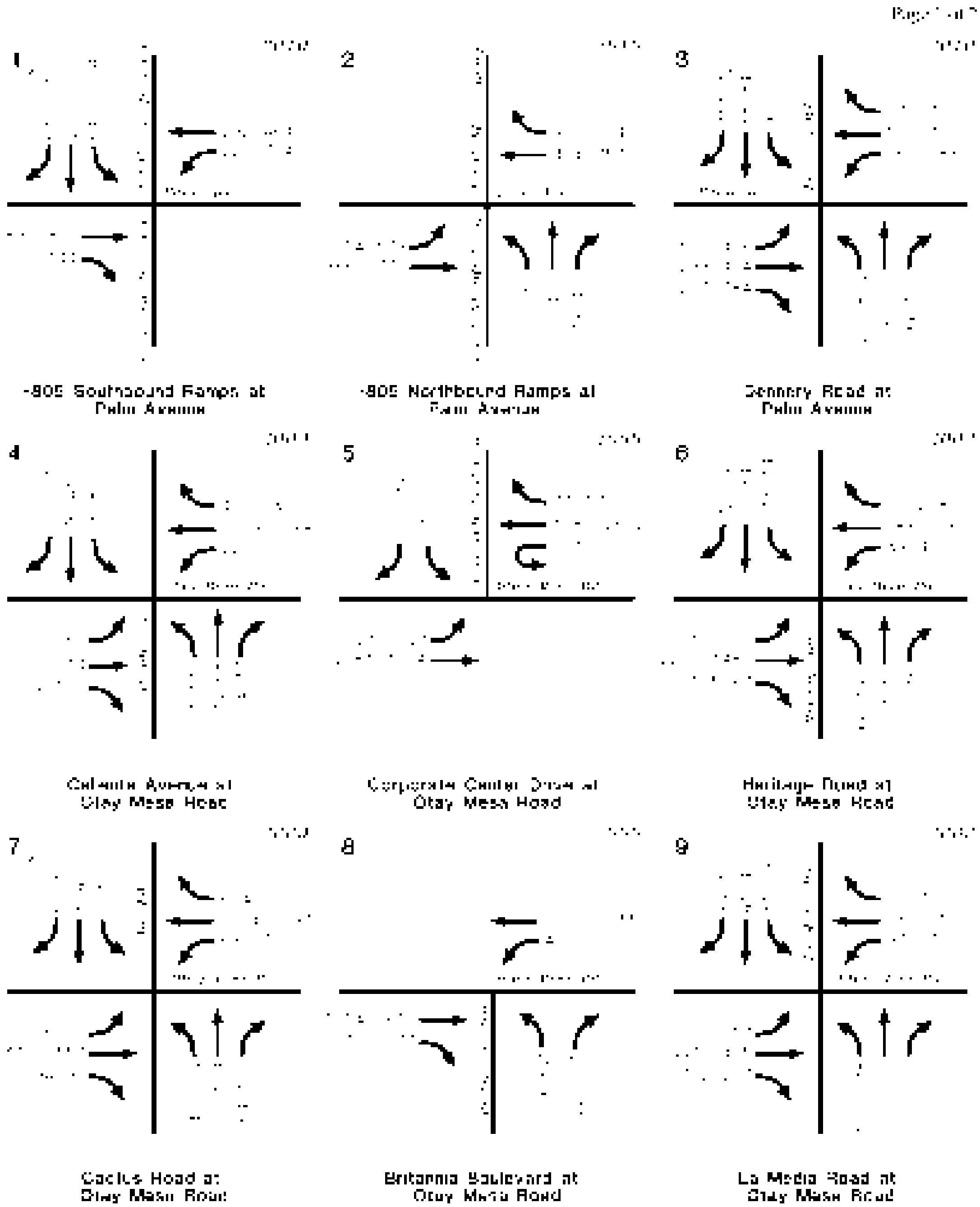


FIGURE 3-3
Existing Lane Configurations

N
NO SCALE



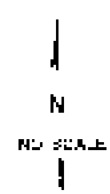


FIGURE 3-4
Existing AM/PM Peak Hour Traffic Volumes

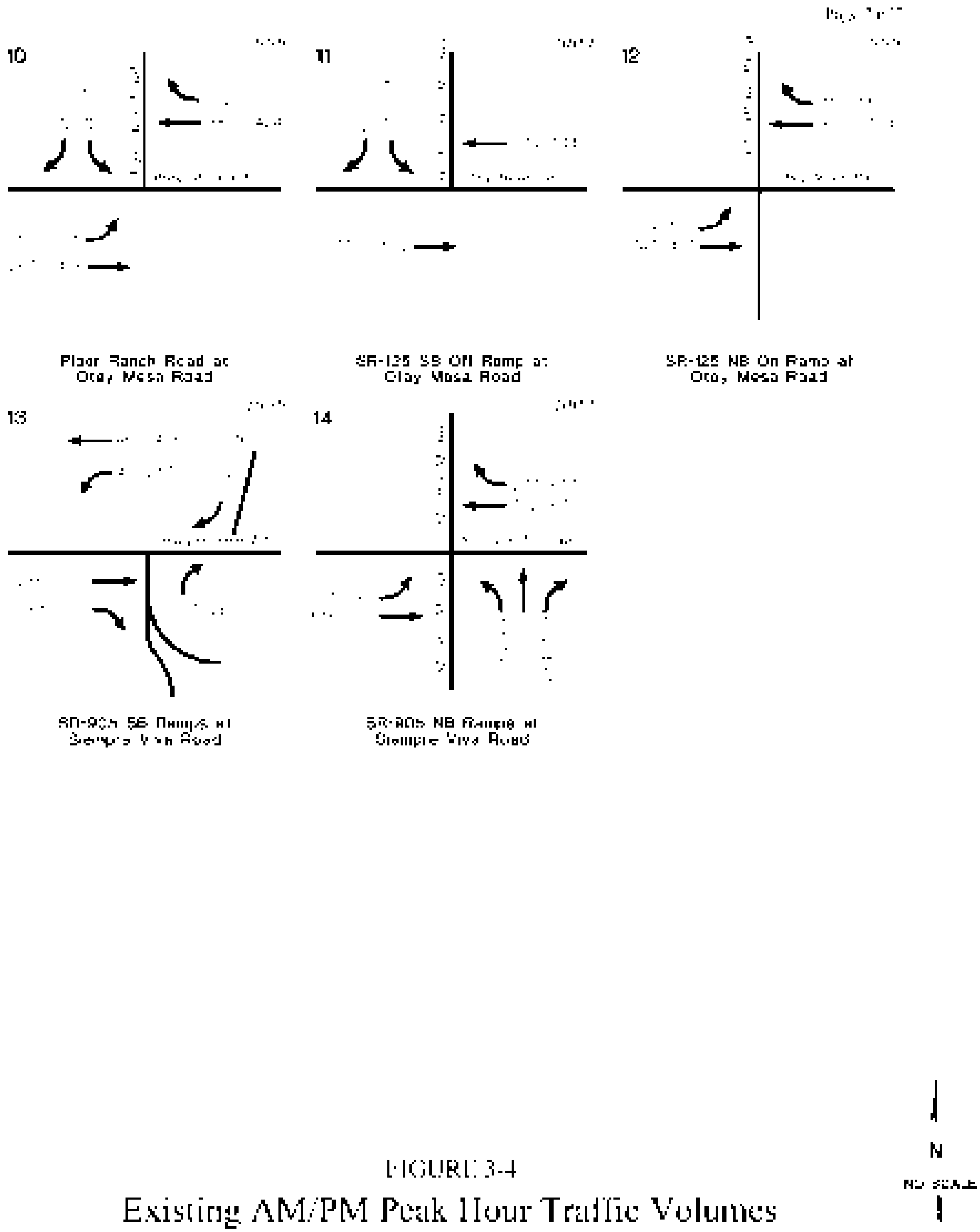


FIGURE 3-4
Existing AM/PM Peak Hour Traffic Volumes

TABLE 3-3

Existing 2010 Intersection Levels of Service

		AM Peak Hour		PM Peak Hour	
Intersection		**CD**	**LOS**	**CD**	**LOS**
1	Palm Ave. / I-805 SB Ramps	27.5	C	45.4	D
2	Palm Ave. / I-805 NB Ramps	33.4	C	51.0	D
3	Palm Ave. / Dennery Rd.	34.9	C	37.9	D
4	Otay Mesa Rd. / Caliente Ave.	44.4	D	40.2	D
5	Otay Mesa Rd. / Corporate Center Dr.	35.7	D	35.0	D
6	Otay Mesa Rd. / Heritage Rd.	60.5	E	42.6	D
7	Otay Mesa Rd. / Cactus Rd.	33.4	C	31.6	C
8	Otay Mesa Rd. / Britannia Blvd.	7.3	A	11.4	B
9	Otay Mesa Rd. / La Media Rd.	15.8	B	43.2	D
10	Otay Mesa Rd. / Piper Ranch Rd.	8.3	A	9.4	A
11	Otay Mesa Rd. / SR-125 SB Off-Ramp.	7.6	A	3.7	A
12	Otay Mesa Rd. / SR-125 NB On-Ramp	0.8	A	3.2	A
13A	Siempre Viva Rd. / SR-905 SB Ramps	16.1	B	11.6	B
13B	SR-905 SB Off Ramp to WB Siempre Viva Rd. ①	14.3	B	14.4	B
14	Siempre Viva Rd. / SR-905 NB Ramps	14.5	B	14.6	B

Legend

Note: All locations signalized, except 13B.

CD = Control Delay in seconds
LOS = Level of Service

① = Stop sign facing SB to WB traffic. LOS is for the SB to WB righ-turn.

Control Delay	LOS
0.0 - 10.0	A
10.1 - 20.0	B
20.1 - 35.0	C
35.1 - 55.0	D
55.1 - 80.0	E
Over 80.0	F

Source: 2000 Highway Capacity Manual

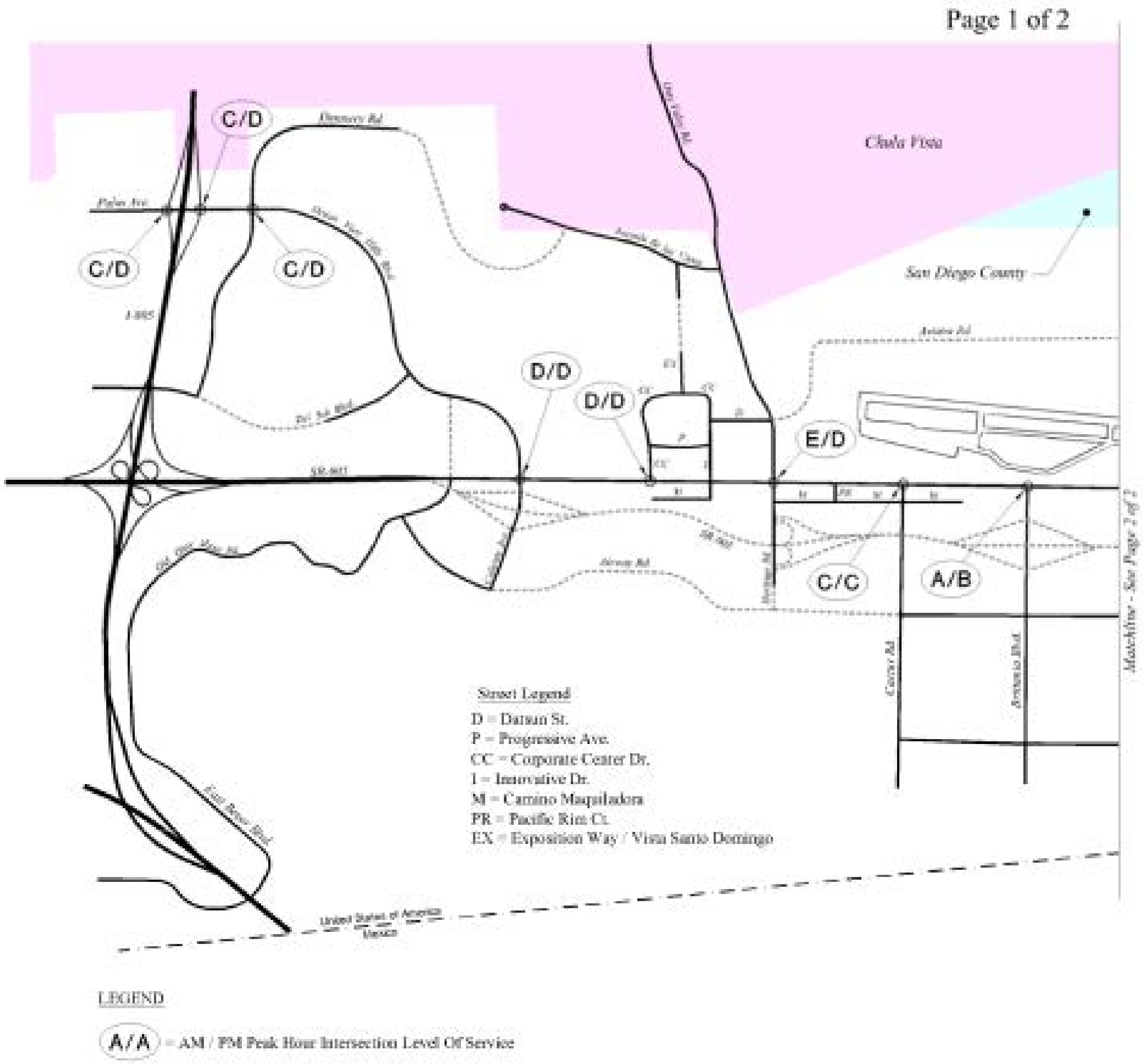


FIGURE 3-5

Existing AM/PM Intersection Levels of Service

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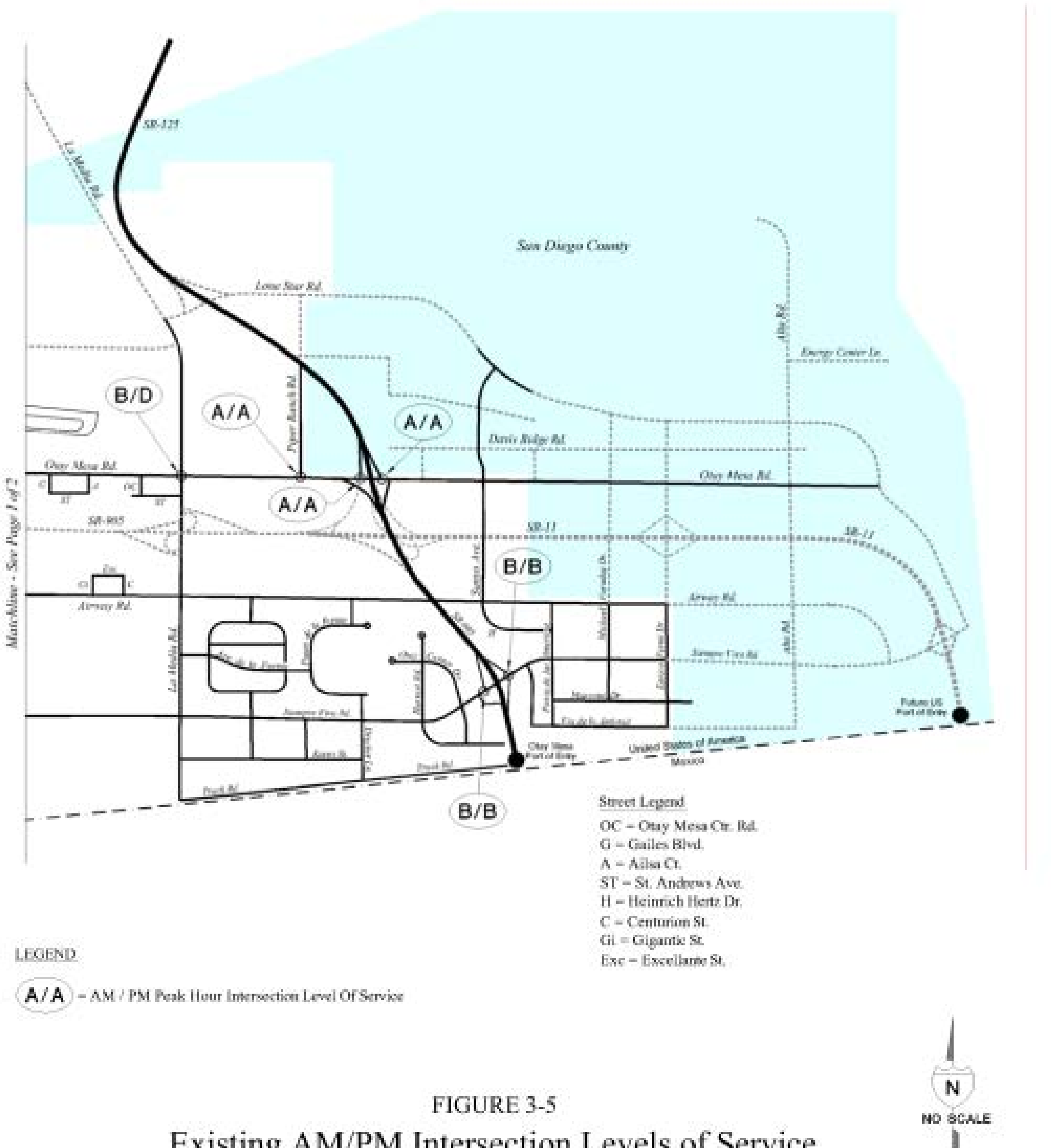


FIGURE 3-5

Existing AM/PM Intersection Levels of Service

4.0 OVERVIEW

The two land use scenarios, the Adopted Community Plan and Land Use Scenario 3B, analyzed for this study include different levels of land use intensity of future residential, commercial (retail and office), and industrial uses. Some of the principal ideas portrayed in the scenario 3B land use include multiple land uses to induce interaction with one another to create a single interconnected community. In both project scenarios, residential development would be concentrated in the western portion of Otay Mesa with some new residential areas located in other areas of the community. Different from the Adopted Community Plan a mixed-use designation – which typically allows residential, office, retail, recreational and/or civic uses - has been applied in areas of the community for the Scenario 3B land use.

No Project Scenario/Adopted Community Plan: The adopted Otay Mesa Community Plan concentrates residential development in the western third of Otay Mesa with industrial uses planned for the central and eastern portions of the community. The original 1981 land use map anticipated the development of 18,200 dwelling units in Otay Mesa. However, a 1997 community plan amendment to incorporate the Multiple Species Conservation Program (MSCP) reduced the potential residential build-out units resulting in 12,206 currently being anticipated by the Otay Mesa Community Plan. The traffic forecast for this alternative assumed 5,776,000 square feet of commercial uses and 64,465,000 square feet of industrial uses. The buildout of this plan would generate a total of 1,165,103 average daily vehicle trips.

Land Use Scenario 3B With La Media Road: Approximately 18,774 dwelling units could be developed under this plan by increasing the housing unit yield in the southwestern residential areas, creating Community Villages south of Airway Road, west of Cactus Road and in an area south of SR-905 and west of Britannia Boulevard. This plan would retain industrial and commercial uses between Otay Mesa

Road and SR-905. The traffic forecast for this alternative assumed 3,917,000 square feet of commercial uses and 54,461,000 square feet of industrial uses. A cross border facility is included in this plan. The buildout of this plan would generate 1,045,025 average daily vehicle trips.

The City of Chula Vista is preparing a General Plan Amendment, anticipated in Spring 2012, that would delete the La Media Road bridge crossing the Otay River Valley from their General Plan, and has deleted this project from their facilities financing plan. Therefore, the "With La Media Road" connection to Chula Vista is no longer a viable alternative.

Land Use Scenario 3B Without La Media Road: The Adopted Community Plan includes the extension of La Media Road north of Lone Star Road to cross the Otay River Valley on a bridge. However, the City of Chula Vista has indicated that they will be deleting this crossing from their General Plan Circulation Element. The Scenario 3B land use assumptions remain unchanged, but the segment of La Media Road crossing the Otay River Valley has been deleted for this analysis.

5.0 NO PROJECT

5.1 Assumed Land Use and Transportation Network

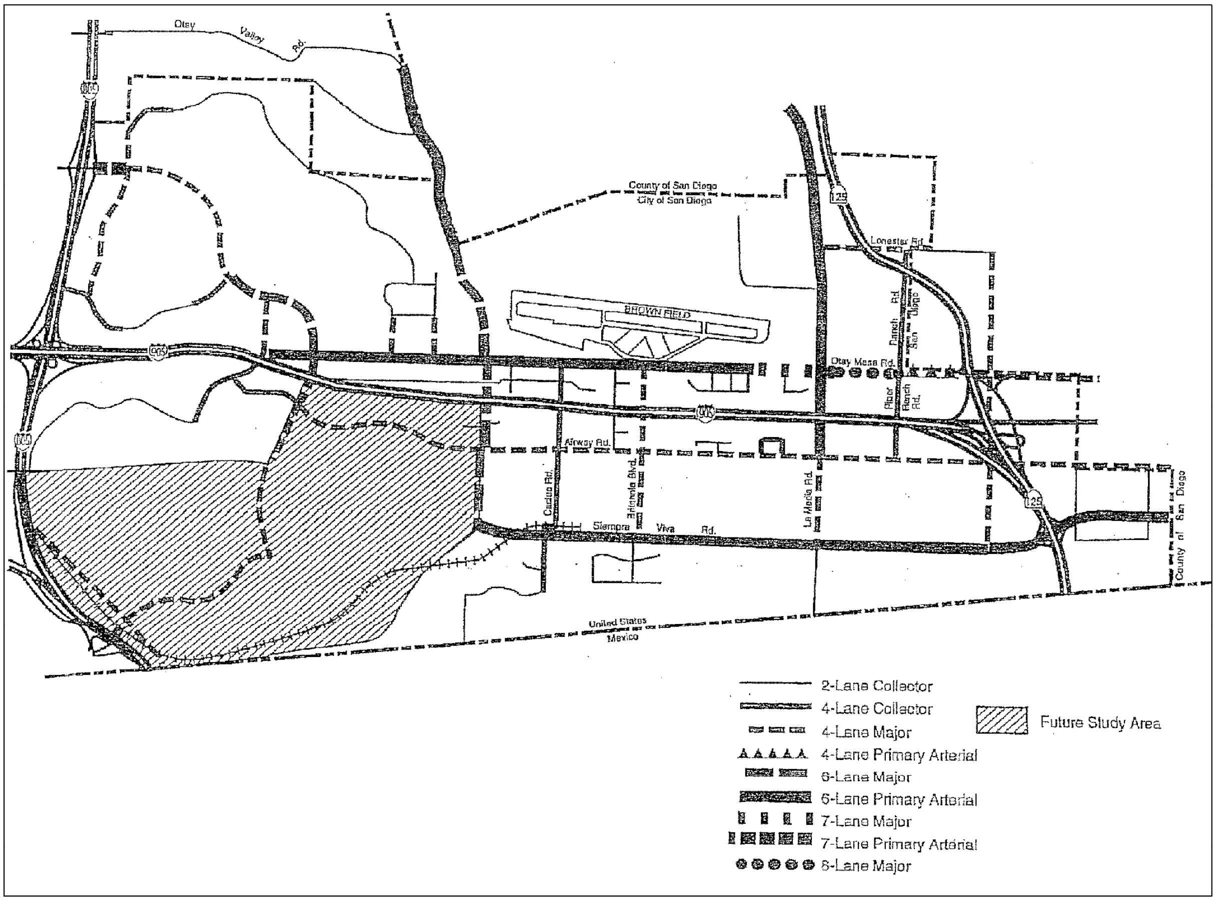
The circulation element roadways and land use for this scenario remains consistent with the existing adopted Otay Mesa Community Plan (November 23, 1999), shown in **Figure 5-1**. Adopted updates on land uses and transportation improvements as of 2004 were also included in this scenario. **Appendix B** includes the detailed land uses assumed in the traffic model for this scenario. Under this scenario, the circulation network was updated in the transportation model to more accurately represent the latest amendments, additions and changes made to the street system since the latest Community Plan approval. Some of the updates from the latest Community Plan amendments include the following roadway additions to the traffic model circulation network. These roadway classifications are not necessarily the recommended classifications after the evaluation of the traffic model results for each scenario.

-Addition of Sanyo Avenue/Heinrich Hertz Drive as a four-lane collector, between Otay Mesa Road and Paseo De las Americas.

-Addition of Via de la Amistad as a two-lane Collector (without left turn lane), between Paseo de las Americas to Enrico Fermi Drive.

-Addition of Marconi Drive as a two-lane Collector (without left turn lane) from Paseo de las Americas east to Enrico Fermi Drive

-Deletion of Harvest Road from north of Airway Road to north of the SR-905 right of way.



SOURCE

City of San Diego Planning Department
Otay Mesa Existing Conditions Report
Approved November 23, 1999

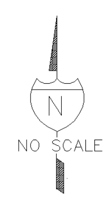


FIGURE 5-1

Adopted Circulation Plan

-Addition of Otay Center Drive as a four-lane Collector (without left turn lane) east from Harvest Road, south to Siempre Viva Road, and south of Siempre Viva Road to Custom House Plaza.

-Addition of Custom House Plaza as a four-lane Collector (without left turn lane) extending south from Siempre Viva Road and curving east to Otay Center Drive.

-Addition of Avenida de la Fuente, Avenida Costa Norte, Avenida Costa Sur, Avenida Costa Este, Avenida Blanca, and Avenida del Sol which form a self-contained street system as two-lane Collectors (without left turn lane) with access to Airway Road, La Media Road, and Siempre Viva Road.

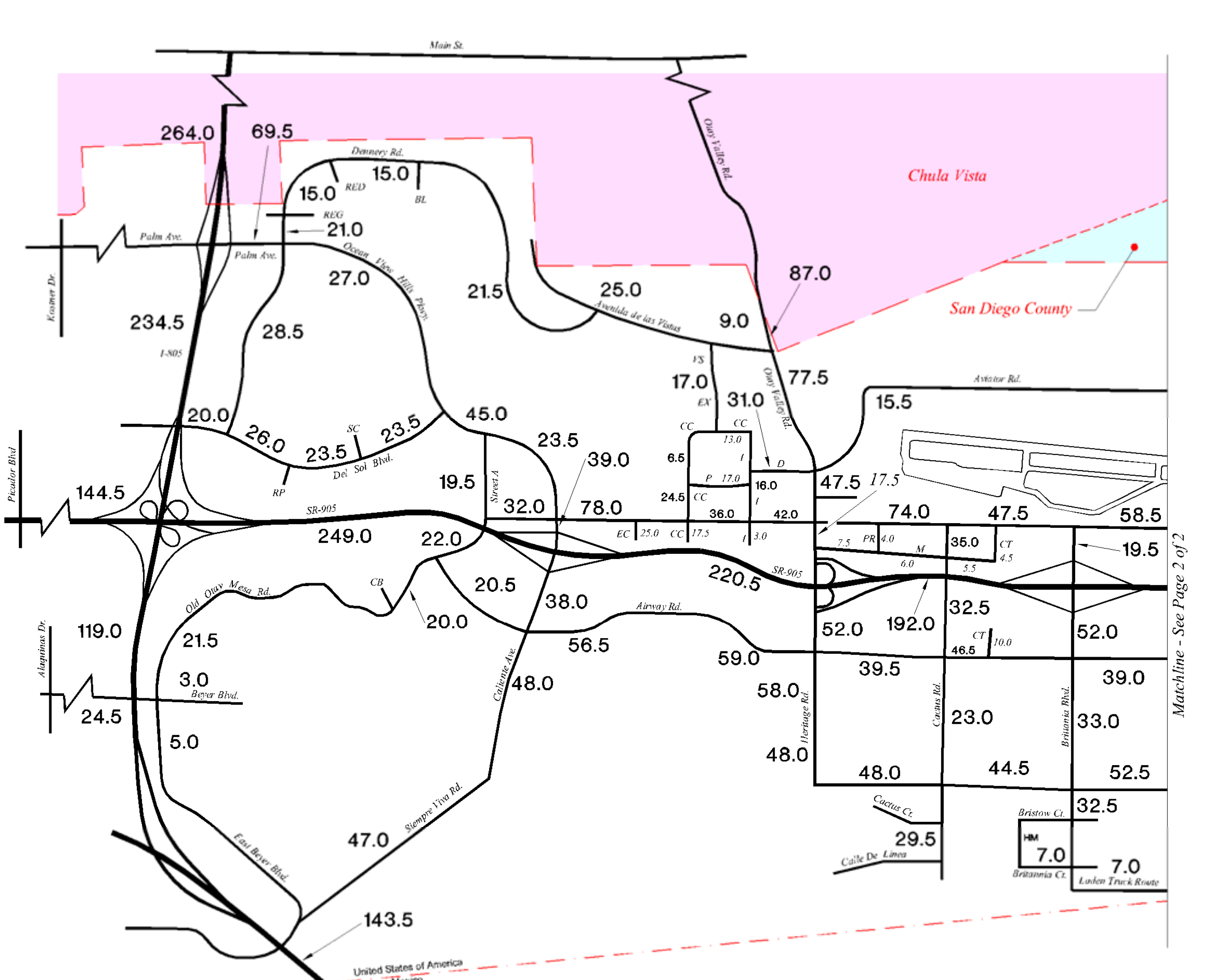
-Addition of Saint Andrews Avenue as a two-lane Collector (without left turn lane) connecting Otay Mesa Center Drive to La Media Road.

-Addition of Avenida de las Vistas as a two-lane Collector (without left turn lane)connecting to Otay Valley Road.

5.2 Segment Level of Service

Figure 5-2 shows the projected buildout average daily traffic trips generated on the street system due to the land uses assumed under the "No Project" scenario. **Table 5-1** indicates the roadway segment level of service for numerous roadway segments as a result of the projected average daily traffic and the capacity of the roadway. The highest forecasted volumes between circulation element roads were used for analysis. Also shown are recommended reclassifications of roadways. The initial "without mitigation"

Page 1 of 2



Street Legend

D = Datsun St.
P = Progressive Ave.
EC = Emerald Crest Dr.
CC = Corporate Center Dr.
I = Innovative Dr.
M = Camino Maquiladora
PR = Pacific Rim Ct.
EX = Exposition Way
CT = Continental St.
HM = Hixson Mesa Way

Street Legend cont.

VS = Vista Santo Domingo
REG = Regatta Ln.
RED = Red Coral Ln.
BL = Black Coral Ln.
CB = Crescent Bay Dr.
SC = Surf Crest Dr.
RP = Riviera Pointe St.

LEGEND

XXX.X = Community Plan (11-30-10 Run Date, Series 11) (ADT Shown In Thousands)

= City of San Diego Boundary

FIGURE 5-2

Buildout Community Plan Average Daily Traffic

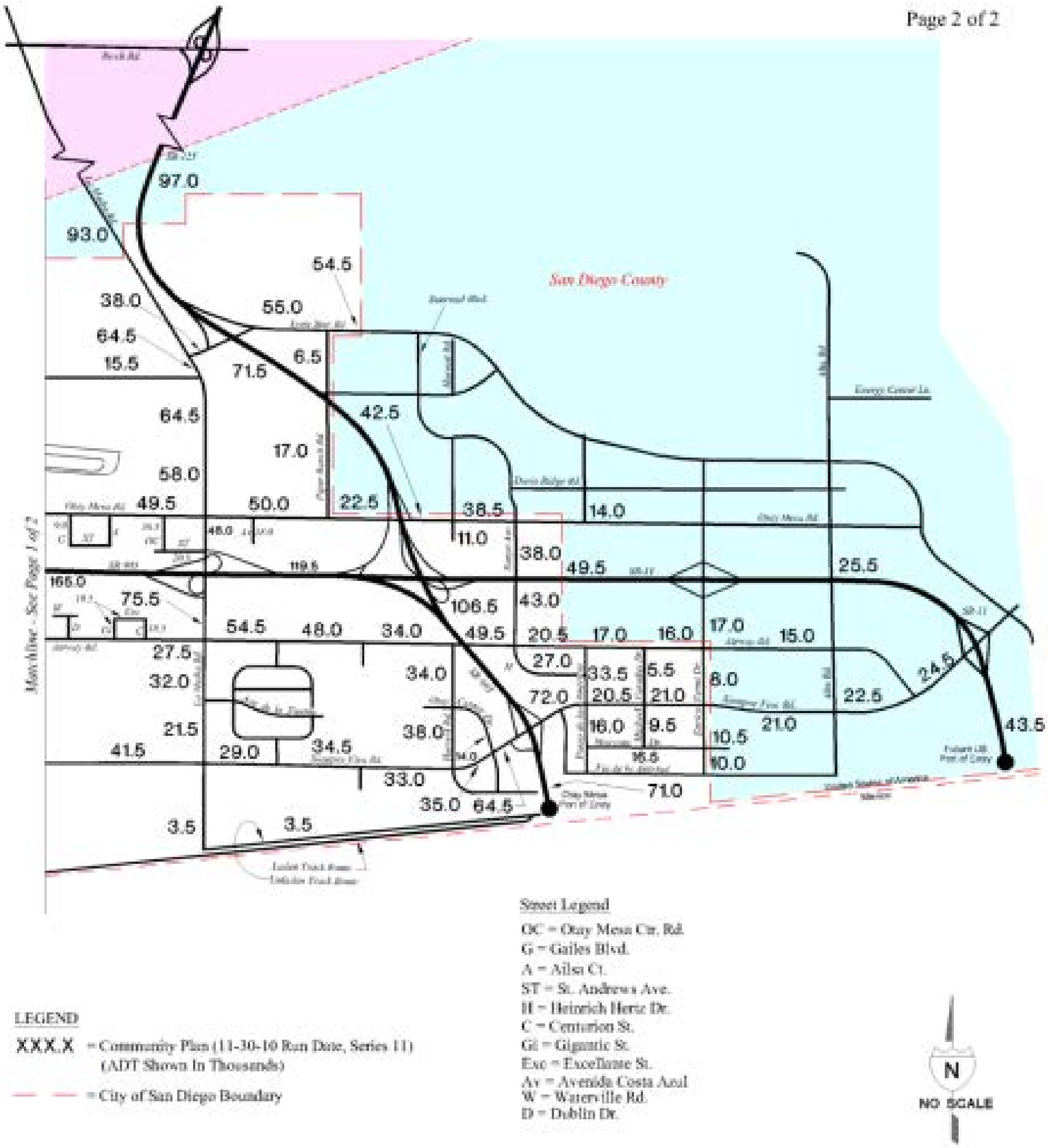


FIGURE 5-2
Buildout Community Plan Average Daily Traffic

TABLE 5-1

Buildout Adopted Community Plan

Average Daily Traffic & Levels of Service

Street	Segment	#	(1) Class	LOS E ADT (2)	Segment ADT	V/C	LOS	New Class	New V/C	NEW LOS	S?
Otay Mesa Road	Street A to Caliente Ave.	1	6-PA	60,000	32,000	0.53	B	6-M	0.64	C	N
	Caliente Ave. to Corporate Center Dr.	2	6-PA	60,000	78,000	1.30	F	N	-	-	Y
	Corporate Center Dr. to Innovative Dr.	3	6-PA	60,000	36,000	0.60	C	N	-	-	N
	Innovative Dr. to Heritage Rd.	4	6-PA	60,000	42,000	0.70	C	N	-	-	N
	Heritage Rd. to Cactus Rd.	5	6-PA	60,000	74,000	1.23	F	N	-	-	Y
	Cactus Rd. to Britannia Blvd.	6	6-PA	60,000	47,500	0.78	C	N	-	-	N
	Britannia Blvd. to Ailsa Ct.	7	6-PA	60,000	58,500	0.98	E	N	-	-	Y
	Ailsa Ct. to La Media Rd.	8	7-M	55,000	49,500	0.90	E	6-PA	0.83	C	N
	La Media Rd. to Piper Ranch Rd.	9	8-M	70,000	50,000	0.71	C	6-PA	0.83	C	N
	Piper Ranch Rd. to SR-125	10	4-P	45,000	22,500	0.50	C	6-PA	0.38	A	N
	SR-125 to Harvest Rd.	11	4-M	40,000	42,500	1.06	F	6-PA	0.71	C	N
	Harvest Rd. to Sanyo Ave.	12	4-M	40,000	38,500	0.96	E	6-PA	0.64	C	N
	Sanyo Ave. to Enrico Fermi Dr.	13	4-M	40,000	14,000	0.35	A	6-PA	0.23	A	N
Airway Road	Old Otay Mesa Rd. to Caliente Ave.	14	4-CL	30,000	20,500	68.00	D	N	-	-	N
	Caliente Ave. to Heritage Rd.	15	4-M	40,000	59,000	1.48	F	6-PA	0.98	E	Y
	Heritage Rd. to Cactus Rd.	16	4-M	40,000	39,500	0.99	E	6-M	0.79	C	N
	Cactus Rd. to Britannia Blvd.	17	4-M	40,000	46,500	1.16	F	6-M	0.93	E	Y
	Britannia Blvd. to La Media Rd.	18	4-M	40,000	39,000	0.98	E	6-M	0.78	C	N
	La Media Rd. to Harvest Rd.	19	4-M	40,000	54,500	1.36	F	6-M	1.09	F	Y
	Harvest Rd. to Sanyo Ave.	20	4-M	40,000	49,500	1.24	F	6-M	0.99	E	Y
	Sanyo Ave. to Paseo de las Americas	21	4-M	40,000	20,500	0.51	B	N	-	-	N
	Paseo de las Americas to Michael Faraday Dr.	22	4-M	40,000	17,000	0.43	B	N	-	-	N
	Michael Faraday Dr. to Enrico Fermi Dr.	23	4-M	40,000	16,000	0.40	B	N	-	-	N
	Enrico Fermi Dr. to Siempre Viva Rd.*	24	4-M	40,000	15,000	0.38	A	N	-	-	N
Siempre Viva Road	Caliente Ave. to East Beyer Blvd.	25	4-M	40,000	47,000	1.18	F	N	-	-	Y
	Heritage Rd. to Cactus Rd.	26	6-PA	60,000	48,000	0.80	C	N	-	-	N
	Cactus Rd. to Britannia Blvd.	27	6-PA	60,000	44,500	0.74	C	N	-	-	N
	Britannia Blvd. to La Media Rd.	28	6-PA	60,000	52,500	0.88	D	N	-	-	N
	La Media Rd. to Harvest Rd.	29	6-PA	60,000	34,500	0.58	B	N	-	-	N
	Harvest Rd. to Otay Center Dr.	30	6-PA	60,000	35,000	0.58	B	N	-	-	N
	Otay Center Dr. to SR-905	31	6-PA	60,000	64,500	1.08	F	N	-	-	Y
	SR-905 to Paseo de las Americas	32	6-PA	60,000	72,000	1.20	F	N	-	-	Y
	Paseo de las Americas to Michael Faraday Dr.	33	4-M	40,000	20,500	0.51	B	N	-	-	N
	Michael Faraday Dr. to Enrico Fermi Dr.	34	4-M	40,000	21,000	0.53	B	N	-	-	N
	Enrico Fermi Dr. to SR-11*	35	4-M	40,000	21,000	0.53	B	N	-	-	N

*Segment in County of San Diego

= Segment Number

(1) = Current Community Plan Classification, unless footnotes (3) or (4) apply.

(2) = Source: City of San Diego Traffic Impact Study Manual, Table 2.

(3) = Add to Circulation Plan.

(4) = Functional classification shown, not currently classified.

S? = Significant impact, Yes (Y) or No (N).

N = New classification is not proposed.

New LOS = LOS after change in classification.

Y = Shading indicates a significant impact.

Legend

8-M = 8-lane Major Arterial

7-PA = 7-lane Primary Arterial

7-M = 7-lane Major Arterial

6-PA = 6-lane Primary Arterial

6-M = 6-lane Major Arterial

5-M = 5-lane Major Arterial (3SB / 2NB)

4-P = 4-lane Primary Arterial

4-M = 4-lane Major Arterial

4-CL = 4-lane Collector (with continuous left turn lane)

4-C = 4-lane Collector (without continuous left turn lane)

Page 2 of 4

TABLE 5-1 (Continued)

Buildout Adopted Community Plan

Average Daily Traffic & Levels of Service

Street	Segment	#	(1) Class	LOS E ADT (2)	Segment ADT	V/C	LOS	New Class	New V/C	NEW LOS	S?
Palm Avenue	I-805 to Dennery Rd.	37	7-PA	65,000	69,500	1.07	F	N	-	-	Y
Ocean View Hills Parkway	Dennery Rd. to Del Sol Blvd.	38	4-M	40,000	27,000	0.68	C	N	-	-	N
	Del Sol Blvd. to Street "A"	39	6-M	50,000	45,000	0.90	D	N	-	-	N
	Street "A" to Otay Mesa Rd.	40	6-M	50,000	23,500	0.47	B	N	-	-	N
Caliente Avenue	Otay Mesa Rd. to SR-905	41	6-M	50,000	39,000	0.78	C	6-PA	0.65	C	N
	SR-905 to Airway Rd.	42	6-M	50,000	38,000	0.76	C	6-PA	0.63	C	N
	Airway Rd. to Siempre Viva Rd.	43	4-M	40,000	48,000	1.20	F	6-M	0.96	E	Y
Beyer Boulevard	Alaquinas Dr. to Old Otay Mesa Rd.	44	4-M	40,000	24,500	0.61	C	N	-	-	N
	Old Otay Mesa Rd. to East End	45	4-M	40,000	3,000	0.08	A	2-CL	0.2	A	N
Heritage Road/ Otay Valley Road	Main St. to Avenida De Las Vistas**	46	6-PA	60,000	87,000	1.45	F	N	-	-	Y
	Avenida De Las Vistas to Datsun St.	47	6-M	50,000	77,500	1.55	F	6-PA	1.29	F	Y
	Datsun St. to Otay Mesa Rd.	48	6-M	50,000	47,500	0.95	E	6-PA	0.79	C	N
	Otay Mesa Rd. to SR-905	49	6-M	50,000	17,500	0.35	A	6-PA	0.29	A	N
	SR-905 to Airway Rd.	50	6-M	50,000	52,000	1.04	F	6-PA	0.87	D	N
	Airway Rd. to Siempre Viva Rd.	51	6-M	50,000	58,000	1.16	F	6-PA	0.97	E	Y
Cactus Road	Otay Mesa Rd. to Airway Rd.	52	4-CL	30,000	35,000	1.16	F	4-M	0.88	D	N
	Airway Rd. to Siempre Viva Rd.	53	4-CL	30,000	23,000	0.77	D	N	-	-	N
	Siempre Viva Rd. to South End	54	4-CL	30,000	29,500	0.98	E	N	-	-	Y
Britannia Boulevard	Otay Mesa Rd. to SR-905	55	4-M	40,000	19,500	0.49	B	6-PA	0.33	A	N
	SR-905 to Airway Rd.	56	4-M	40,000	52,000	1.30	F	6-PA	0.87	D	N
	Airway Rd. to Siempre Viva Rd.	57	4-M	40,000	33,000	0.83	D	6-M	0.66	C	N
	Siempre Viva Rd. to South End	58	2-C	8,000	32,500	4.01	F	4-M	0.81	D	N
La Media Road	Birch Rd. to Lone Star Rd.**	59	6-PA	60,000	93,000	1.55	F	N	-	-	Y
	Lone Star Rd. to Aviator Rd.	60	6-PA	60,000	64,500	1.08	F	N	-	-	Y
	Aviator Rd. to Otay Mesa Rd.	61	6-PA	60,000	64,500	1.08	F	N	-	-	Y
	Otay Mesa Rd. to SR-905	62	6-PA	60,000	48,000	0.80	C	N	-	-	N
	SR-905 to Airway Rd.	63	6-PA	60,000	75,500	1.26	E	N	-	-	Y
	Airway Rd. to Siempre Viva Rd.	64	4-M	40,000	32,000	0.81	D	5-M	0.71	C	N
Harvest Road	South of Otay Mesa Rd.	65	4-M	40,000	11,000	0.28	A	2-CL	0.73	D	N
	Airway Rd. to Otay Center Dr.	66	4-M	40,000	34,000	0.85	D	N	-	-	N
	Otay Center Dr. to Siempre Viva Rd.	67	4-M	40,000	38,000	0.95	E	N	-	-	Y

*Segment in County of San Diego

Note: There is no segment #36.

**Segment in Chula Vista

= Segment Number

(1) = Current Community Plan Classification, unless footnotes (3) or (4) apply.

(2) = Source: City of San Diego Traffic Impact Study Manual, Table 2.

(3) = Add to Circulation Plan.

(4) = Functional classification shown, not currently classified.

S? = Significant impact, Yes (Y) or No (N).

N = New classification is not proposed.

New LOS = LOS after change in classification.

Y = Shading indicates a significant impact.

Legend

8-M = 8-lane Major Arterial

7-PA = 7-lane Primary Arterial

7-M = 7-lane Major Arterial

6-PA = 6-lane Primary Arte

6-M = 6-lane Major Arterial

5-M = 5-lane Major Arterial (3SB / 2NB)

4-P = 4-lane Primary Arterial

4-M = 4-lane Major Arterial

4-CL = 4-lane Collector (with continuous left turn lane)

4-C = 4-lane Collector (without continuous left turn lane)

TABLE 5-1 (Continued)

Buildout Adopted Community Plan

Average Daily Traffic & Levels of Service

Street	Segment	#	(1)Class	LOS E ADT (2)	Segment ADT	V/C	LOS	New Class	New V/C	NEW LOS	S?
Enrico Fermi Drive	SR-11 to Airway Rd.*	68	4-M	40,000	17,000	0.43	B	N	-	-	N
	Airway Rd. to SiempreViva Rd.	69	4-M	40,000	8,000	0.20	A	4-CL	0.27	A	N
	Siempre Viva Rd. to Via de la Amistad	70	4-M	40,000	10,500	0.26	A	4-CL	0.35	B	N
Lone Star Road	La Media Rd. to SR-125	71	4-M	40,000	38,000	0.95	E	6-PA	0.63	C	N
	SR-125 to Piper Ranch Rd.	72	4-M	40,000	55,000	1.38	F	6-PA	0.92	D	N
	Piper Ranch Rd. to City / County Boundary	73	4-M	40,000	54,500	1.36	F	6-PA	0.91	D	N
Aviator Road	Heritage Rd. to La Media Rd. (3)	74	2-C	8,000	15,500	1.94	F	4-CL	0.52	C	N
Dennery Road	Palm Ave. to Del Sol Blvd.	75	4-M	40,000	28,500	0.71	C	N	-	-	N
	Palm Ave. to Regatta Ln.	76	4-M	40,000	21,000	0.53	B	N	-	-	N
	Regatta Ln. to Red Coral Ln.	77	4-CL	30,000	15,000	0.50	C	N	-	-	N
	Red Coral Ln. to Black Coral Ln.	78	2-CL	15,000	15,000	1.00	E	N	-	-	Y
	Black Coral Ln. to East End	79	2-CN	10,000	21,500	2.15	F	N	-	-	Y
Avendia De Las Vistas	Otay Valley Rd. to Vista Santo Domingo	80	2-CN	10,000	9,000	0.90	D	N	-	-	N
	Vista Santo Domingo to Dennery Rd.	81	2-CN	10,000	25,000	2.50	F	N	-	-	Y
Del Sol Boulevard	Ocean View Hills Pkwy. to Surf Crest Dr.	82	4-CL	30,000	23,500	0.78	D	N	-	-	N
	Surf Crest Dr. to Riviera Pointe	83	2-CN	10,000	26,000	2.60	F	N	-	-	Y
	Riviera Pointe to Dennery Rd.	84	2-CL	15,000	26,000	1.73	F	N	-	-	Y
	Dennery Rd. to I-805	85	4-CL	30,000	20,000	0.66	C	N	-	-	N
Street A	Ocean View Hills Pkwy. to Otay Mesa Rd.	86	4-M	40,000	19,500	0.49	B	N	-	-	N
Old Otay Mesa Road	Otay Mesa Rd. to Airway Rd.	87	4-CL	30,000	22,000	0.73	D	N	-	-	N
	Airway Rd. to Crescent Bay Dr.	88	4-CL	30,000	20,000	0.67	C	N	-	-	N
	Crescent Bay Dr. to Beyer Blvd.	89	2-C	8,000	21,500	2.69	F	N	-	-	Y
Emerald Crest Drive	Otay Mesa Rd. to South End (3)	90	4-CL	30,000	25,000	0.83	D	N	-	-	N
Corporate Center Drive	South End to Otay Mesa Rd. (3)	91	4-CL	30,000	17,500	0.58	C	N	-	-	N
	Otay Mesa Rd. to Progressive Ave.	92	4-CL	30,000	24,500	0.82	D	N	-	-	N
	Progressive Ave. to Innovative Dr.	93	2-C	8,000	13,000	1.63	F	2-CL	0.87	D	N
Innovative Drive	Otay Mesa Rd. to Corporate Center Dr.	94	4-CL	30,000	16,000	0.53	C	N	-	-	N
Piper Ranch Road	Lone Star Rd. to Otay Mesa Rd.	96	4-CL	30,000	17,000	0.57	C	N	-	-	N

*Segment in County of San Diego

= Segment Number

(1) = Current Community Plan Classification, unless footnotes (3) or (4) apply.

(2) = Source: City of San Diego Traffic Impact Study Manual, Table 2.

(3) = Add to Circulation Plan.

(4) = Functional classification shown, not currently classified.

S? = Significant impact, Yes (Y) or No (N).

N = New classification is not proposed.

New LOS = LOS after change in classification.

Y = Shading indicates a significant impact.

Legend

8-M = 8-lane Major Arterial

7-PA = 7-lane Primary Arterial

7-M = 7-lane Major Arterial

6-PA = 6-lane Primary Arterial

6-M = 6-lane Major Arterial

5-M = 5-lane Major Arterial (3SB / 2NB)

4-P = 4-lane Primary Arterial

4-M = 4-lane Major Arterial

4-CL = 4-lane Collector (with continuous left turn lane)

4-C = 4-lane Collector (without continuous left turn lane)

TABLE 5-1 (Continued)

Buildout Adopted Community Plan

Average Daily Traffic & Levels of Service

Street	Segment	#	(1)Class	LOS E ADT (2)	Segment ADT	V/C	LOS	New Class	New V/C	New LOS	S?
Sanyo Avenue	Otay Mesa Rd. to Airway Rd. (4)	97	4-C	15,000	43,000	2.87	F	4-M	1.08	F	Y
Heinrich Hertz Drive	Airway Rd. to Paseo de las Americas (4)	98	2-CL	15,000	27,000	1.80	F	N	-	-	Y
Paseo de las Americas	Airway Rd. to Siempre Viva Rd.	99	2-C	8,000	33,500	4.18	F	4-M	0.84	D	N
	Siempre Viva Rd. to Marconi Dr.	100	2-C	8,000	16,000	2.00	F	4-CL	0.53	C	N
Marconi Drive	Paseo de las Americas to Enrico Fermi Dr.	101	2-C	8,000	16,500	2.06	F	2-CL	1.10	F	Y
Otay Center Drive	Harvest Rd. to Siempre Viva Rd. (4)	102	4-C	15,000	14,000	0.93	E	4-CL	0.47	B	N
Michael Faraday Drive	Airway Rd. to Siempre Viva Rd. (4)	103	2-CL	15,000	9,500	0.63	C	N	-	-	N
	Siempre Viva Rd. to Marconi Dr. (4)	104	2-CL	15,000	5,500	0.37	B	N	-	-	N
St. Andrews Avenue	Otay Mesa Center Rd. To La Media Rd.	105	2-C	8,000	20,500	2.56	F	4-CL	0.68	D	N
Gailes Boulevard	Otay Mesa Rd. to St. Andrews Ave.	107	2-C	8,000	9,000	1.13	F	4-C	0.60	C	N
Camino Maquiladora	Heritage Rd. to Pacific Rim Ct.	108	2-C	8,000	7,500	0.94	E	N	-	-	Y
	Pacific Rim Ct. to Cactus Rd.	109	2-C	8,000	6,000	0.75	D	N	-	-	N
	Cactus Rd. to Continental St.	110	2-C	8,000	5,500	0.69	D	N	-	-	N
Pacific Rim Court	Otay Mesa Rd. to Camino Maquiladora	111	2-C	8,000	4,000	0.50	A	N	-	-	N
Progressive Avenue	Corporate Center Dr. to Innovative Dr.	112	2-C	8,000	17,000	2.13	F	N	-	-	Y
Otay Mesa Center Road	Otay Mesa Rd. to St. Andrews Ave.	113	2-C	8,000	36,500	4.56	F	4-M	0.91	E	Y
Datsun Drive	Innovative Dr. to Heritage Rd. (4)	114	2-C	8,000	31,000	3.88	F	4-CL	1.03	F	Y
Avenida Costa Azul	Otay Mesa Rd. to St. Andrews Ave.(3)	115	2-CL	15,000	18,000	1.20	F	4-CL	0.60	C	N
Excellante Street	Airway Rd. to Gigantic St.	116	4-C	15,000	19,500	1.30	F	N	-	-	Y
Gigantic Street	Excellante St. to Centurion St.	117	4-C	15,000	19,500	1.30	F	N	-	-	Y
Centurion Street	Airway Rd. to Gigantic St.	118	4-C	15,000	18,500	1.23	F	N	-	-	Y
Exposition Way / Vista Santo Domingo	Avenida De Las Vistas to Corporate Center Dr. (4)	119	2-CN	10,000	17,000	1.70	F	N	-	-	Y
Continental Street	South of Otay Mesa Rd.	120	2-C	8,000	4,500	0.56	C	N	-	-	N
	North of Airway Rd.	121	2-CL	15,000	10,000	0.67	C	N	-	-	N

*Segment in County of San Diego
\# = Segment Number

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(4) = Functional classification shown, not currently classified.

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Legend

8-M = 8-lane Major Arterial
7-PA = 7-lane Primary Arterial
7-M = 7-lane Major Arterial
6-PA = 6-lane Primary Arterial
6-M = 6-lane Major Arterial
5-M = 5-lane Major Arterial (3SB / 2NB)
4-P = 4-lane Primary Arterial
4-M = 4-lane Major Arterial
4-CL = 4-lane Collector (with continuous left turn lane)
4-C = 4-lane Collector (without continuous left turn lane)
2-CL = 2-lane Collector (with continuous left turn lane)
2-CN = 2-lane Collector (no fronting property)
2-C = 2-lane Collector (without continuous left turn lane)

classification of roadways is based on the existing functional classification. Or, if the street did not exist in the existing conditions assessment, or if analyzing the projected volumes on the existing facility would not be meaningful because it would not be possible to carry those volumes on the existing sized facility due to its capacity, then the Adopted Community Plan classification was used. Failing roadway segments at level of service “E” or “F” with significant traffic impacts are summarized below. All other roadway segments are projected to operate at a level of service “D” or better, without significant traffic impacts

Otay Mesa Road

-Caliente Avenue to Corporate Center Drive: level of service “F”.

-Heritage Road to Cactus Road: level of service “F”.

-Britannia Boulevard to Ailsa Court: level of service “E”.

A reclassification of these segments from a six lane Primary Arterial to eight lanes is not recommended. Widening to eight lanes would be costly, and intersections would be wider and less pedestrian friendly. Right turn only lanes at intersections are recommended to be lengthened to serve as auxiliary lanes between intersections. Without reclassification the significant impact would remain unmitigated.

-Ailsa Court to La Media Road: level of service “E”.

This segment is currently classified as a seven lane Major Arterial. A reclassification to a six lane Primary Arterial is recommended. As the property on the south side is redeveloped, parking and access will be restricted. The significant impact would be mitigated by this reclassification.

- Piper Ranch Road to State Route 125 Northbound Ramp intersection: level of service “C”.

A reclassification from a four lane Primary Arterial to a six lane Primary Arterial is recommended. Segments to the west and to the east are recommended to be six lanes. To maintain traffic lane continuity and to reduce congestion that could be caused by merging lanes, a continuous six lane roadway is recommended.

-State Route 125 Northbound Ramp intersection to Harvest Road: level of service “F”.

A reclassification to a six lane Primary Arterial is recommended. There are few driveways and developed parcels along this segment so restricting parking and access would have a minimal impact. The level of service would improve from “F” to “C”, and the significant impact would be fully mitigated.

-Harvest Road to Sanyo Avenue: level of service “E”.

A reclassification from a four lane Major Arterial to six lane Primary Arterial is recommended. There are few driveways and developed parcels along this segment so restricting parking and access would have a minimal impact. The significant impact would be mitigated by this reclassification. A reclassification to a six lane Primary Arterial is recommended for the entire length of Otay Mesa Road east of Sanyo Avenue to match the six lane classification within the County of San Diego, and maintain consistency in lane configurations.

Airway Road

-Airway Road is classified as a four lane Major Arterial from Caliente Avenue to the east City limit. The segments between Caliente Avenue and Sanyo Road are expected to be at levels of service “E” or “F”, and with significant traffic impacts.

The segment between Caliente Avenue and Heritage Road would have the highest volume along these segments. A reclassification to a six lane Primary Arterial for this segment is recommended. This reclassification results in improving the level of service from “F” to “E”, however, the significant impact would remain unmitigated. This segment includes a bridge crossing an open space canyon so that a six lane bridge would be costly and an eight lane bridge obviously more costly, so is not recommended.

Of the remaining six segments between Heritage Road and Sanyo Avenue, a reclassification to a six lane Major Arterial is recommended. A Primary Arterial reclassification is not recommended since restricting parking and access would possibly discourage full development of adjacent light industrial uses. Two of the six significant impacts to segments would be mitigated and four would be partially mitigated.

<u>Siempre Viva Road</u>

-Caliente Avenue to East Beyer Boulevard: level of service "F".

This segment of Siempre Viva Road would extend through the MSCP open space area. Retaining the four lane major arterial classification rather than reclassifying to six lanes would minimize costs and infringement into the MSCP area. The significant impact would remain unmitigated.

-Segments from Otay Center Drive to Paseo de las Americas: level of service "F".

A reclassification from six to eight lanes is not recommended since a costly widening of the SR-905 / Siempre Viva Road interchange would be needed. The significant impact to these segments would be unmitigated.

<u>Palm Avenue</u>

-I-805 to Dennery Road: level of service "F".

Both sides of this segment are built out, with medical offices and commercial to the north and a major shopping center to the south. In addition considerable residential development exists nearby to the east, north, and south. A reclassification to eight lanes is not recommended since a widening would be costly and a wider roadway would be less pedestrian friendly. In addition a FBA / PFFP project will widen the I-805 overcrossing adding lanes to the northbound ramp intersection. Ramp intersection levels of service are expected to be acceptable at level of service "D" with completion of this project, through buildout of the community. However, the segment significant impact would be unmitigated.

<u>Caliente Avenue</u>

-Otay Mesa Road to Airway Road:

Although not at level of service "E" or "F", Caliente Avenue between Otay Mesa Road and Airway Road is recommended to be reclassified from a six lane Major Arterial to a six lane Primary Arterial, restricting access and parking adjacent to the closely spaced intersections, including SR-905 on and off ramp intersections with Caliente Avenue.

-Caliente Avenue between Airway Road and Siempre Viva Road: level of service "F".

A reclassification from a four lane to a six lane Major Arterial is recommended. This segment extends through a future residential area so that a Prime Arterial restricting access is not recommended. The significant impact would be only partially mitigated.

Heritage Road / Otay Valley Road

-Otay Valley Road between Main Street in Chula Vista and Avenida de las Vista: level of service “F”.

A reclassification to more than the current six lane Primary Arterial would be a decision to be made by the City of Chula Vista. A wider roadway and bridge over the Otay River Valley would be costly and increase environmental impacts to the Otay River Valley and is not recommended. The significant impact to this segment would be unmitigated.

-Avenida de las Vistas to Datsun Street: level of service “F”.

A reclassification from a six lane Major Arterial to a six lane Primary Arterial is recommended. A wider classification would be costly to construct and is not recommended. The segment significant impact would be partially mitigated.

-Datsun Street to Otay Mesa Road: level of service “F”.

A reclassification from a six lane Major Arterial to a six lane Primary Arterial is recommended. There are few developed driveways along this segment so that restricting parking and access would have minimal impacts to adjacent parcels. The segment significant impact would be mitigated.

-Otay Mesa Road to SR-905 is expected to operate acceptably as a six lane Major Arterial.

There will be close spacing between intersections from Datsun Street, crossing Otay Mesa Road, through the SR-905 interchange, and to Airway Road. A reclassification to a six lane Primary Arterial restricting parking and access is recommended for the entire length of Heritage Road. However, segment significant impacts south of Airway Road would be only partially mitigated.

-SR-905 to Airway Road: level of service “F”.

A reclassification to a six lane Primary Arterial mitigates the significant segment impact.

-Airway Road to Siempre Viva Road: level of service “F”.

A reclassification to a six lane Primary Arterial does not fully mitigate the significant segment impact. A wider roadway would be costly and is not recommended.

Cactus Road

- Otay Mesa Road to Airway Road: level of service “F”.

A reclassification to a four lane Major Arterial is recommended. The significant segment impact would be mitigated.

- Siempre Viva Road to the southend: level of service “E”.

A higher classification than the current four lane collector is not recommended. This extension will serve local traffic only, not through traffic. The significant segment impact would be unmitigated.

Britannia Boulevard

- SR-905 to Airway Road: level of service “F”.

Britannia Boulevard has been constructed with six lanes between Otay Mesa Road and the SR-905 eastbound ramps, and five lanes between the eastbound ramps and Airway Road. The Cross Border Facility project includes reclassifying and construction of this segment to six lanes as project mitigation. The SR-905 on and off ramp intersections are closely spaced so that parking and access should be restricted along these segments.

In addition Britannia Boulevard will also be the designated truck route for southbound laden trucks between SR-905 and the planned truck road parallel to the border.

Therefore, a reclassification to a six lane Primary Arterial is recommended for the segments between Otay Mesa Road and Airway Road. Between Airway Road and Siempre Viva Road, a six lane Major Arterial is recommended. The significant impact to these segments would be mitigated.

- Siempre Viva Road to Southend: level of service “F”.

A reclassification to a four lane Major Arterial is recommended. The significant impact to this segment would be mitigated.

La Media Road

-Birch Road to Lone Star Road: level of service "F".

The City of Chula Vista is planning to remove the segment of La Media Road crossing the Otay River Valley within Chula Vista from the City of Chula Vista General Plan Circulation Element. However, the traffic volumes for this segment for this scenario are based on including this segment in the traffic model. Due to the need to constraint a lengthy bridge through the Otay River Valley, the cost of this segment may be prohibitive so that a reclassification from six lanes to a wider roadway is not recommended. The significant impact to this segment would be unmitigated.

-Lone Star Road to Otay Mesa Road: level of service "F".

Construction as an eight lane facility rather than six lanes would require encroachment into environmentally sensitive land and the Brown Field Airport on the west side, and is not recommended. The segment significant impact would be unmitigated.

- SR-905 to Airway Road: level of service "F".

The addition of lanes to this currently classified six lane Primary Arterial would require a costly modification to the SR-905 interchange and is not recommended. The segment significant impact would be unmitigated.

- Airway Road to Siempre Viva Road: level of service "D".

The northerly segment is recommended to be classified as a five lane Major Arterial. Three southbound lanes would transition to two lanes, with two northbound lanes. The southerly segment would remain as currently classified, a four lane Major Arterial.

Harvest Road

- Otay Center Drive to Siempre Viva Road: level of service “E”.

A reclassification from a four lane Major Arterial is not recommended for this segment. Widening to six lanes would not be cost effective. The significant impact to this segment would be unmitigated.

Lone Star Road

- La Media Road to SR-125: level of service “E”.
- SR-125 to City / County Boundary: level of service “F”

A reclassification to a six lane Primary Arterial is recommended. The significant segment impact would be mitigated.

Aviator Road

- Heritage Road to La Media Road: level of service “F”.

This segment is recommended to be added to the circulation element as a four lane Collector (without left turn lane). The significant segment impact would be mitigated.

Dennery Road

-Red Coral Lane to Black Coral Lane: level of service “E”.

-Black Coral Lane to East End: level of service “F”.

This street is completely constructed adjacent to residential areas.

A reclassification is not recommended. Retaining a two lane Collector (with left turn lane) classification between Red Coral and Black Coral Lanes, and a two lane Collector (with no fronting property) from Black Coral Lane to the east end would discourage speeding and through traffic not destined to the adjacent residential developments. The significant segment impact would be unmitigated.

Avenida De Las Vistas

- Vista Santo Domingo to Dennery Road: level of service “F”.

A reclassification is not recommended. This street is fully constructed and has adjacent single family residences. Retaining a two lane Collector (without fronting property) classification would discourage speeding and through traffic not destined to the adjacent residential developments. The significant segment impact would be unmitigated.

<u>Del Sol Boulevard</u>

- Surf Crest Drive to Riviera Pointe: level of service "F".

This segment will pass through environmentally sensitive lands and is on a slope. Retaining the two lane Collector (without fronting property) classification would minimize impacts to the MSCP land and discourage speeding and through traffic not destined to the adjacent residential development.

- Riviera Pointe to Dennery Road: level of service "E**".**

This segment is fully constructed and surrounded by environmentally sensitive land and single family development. A reclassification to four lanes is not recommended. This significant segment would be unmitigated.

<u>Old Otay Mesa Road</u>

- Crescent Bay Drive to Beyer Boulevard: level of service "F".

This segment of Old Otay Mesa Road is situated on a steep, rocky hillside that would be costly to widen. Therefore, no reclassification is recommended. The significant segment impact would remain unmitigated.

Corporate Center Drive

- Progressive Avenue to Innovative Drive: level of service "F".

A reclassification is not recommended. This street is fully constructed with adjacent developments. Retaining a two lane industrial Collector (without left turn lane) classification would discourage through traffic not destined to / from the adjacent uses. The significant segment impact would be unmitigated.

Sanyo Avenue

- Otay Mesa Road to Airway Road: level of service "F".

This segment is constructed as a four lane Collector (without left turn lane) and is to be added to the circulation plan. Widening to a four lane Major Arterial width would adversely affect adjacent development, but minor widening to accommodate a central left turn lane and a reclassification to a four lane Collector (with left turn lane) is recommended. The segment significant impact would remain significant and unmitigated.

Heinrich Hertz Drive

- Airway Road to Paseo de las Americas: level of service "E".

This segment is constructed as a two lane Collector with left turn lanes at intersections and is to be added to the circulation plan as a two lane Collector (with left turn lane). Widening to a four lane Major Arterial would adversely affect adjacent properties. The segment significant impact would remain significant and unmitigated.

Paseo De Las Americas

- Airway Road to Siempre Viva Road: level of service "F".
- Siempre Viva Road to Marconi Drive: level of service "F".

These segments are currently classified as a two lane Collector but are fully constructed with four lanes, including raised medians from Heinrich Hertz Drive to Siempre Viva Road and from Siempre Viva Road to Via de la Amistad. A reclassification to a four lane Major Arterial is recommended for the segment north of Siempre Viva Road and four lane Collector (with left turn lane) south of Siempre Viva Road. The significant segment impacts would be mitigated.

Marconi Drive

- Paseo de las Americas to Enrico Fermi Drive: level of service "F".

This segment is constructed as a two lane industrial Collector, and is wide enough to be striped with two lanes and a continuous central left turn lane. Widening to a four lane Collector width would adversely affect adjacent properties. A two lane Collector (with left turn lane) classification is recommended. Although this restriping would add capacity, the segment significant impact would remain significant and unmitigated.

St. Andrews Avenue

- Otay Mesa Center Road to La Media Road: level of service “F”.

Although currently classified as a two lane Collector, this segment is constructed with four lanes. The segment significant impact would be mitigated with a change in classification to a four lane Collector (with left turn lane).

Gailes Boulevard

- Otay Mesa Road to St. Andrews Avenue: level of service “F”.

This street is constructed with four lanes and a raised median. A reclassification from a two lane Collector to a four lane Collector (without two-way left turn lane) is recommended and would mitigate the significant segment impact.

Camino Maquiladora

- Heritage Road to Pacific Rim Ct.: level of service “E”.

This segment serves adjacent industrial uses, but has diverted traffic from Otay Mesa Road. This segment is not meant to be a through traffic by-pass route and is not recommended for reclassification. The significant segment impact would be unmitigated.

Progressive Avenue

- Corporate Center Drive to Innovative Drive: level of service “F”.

This segment is constructed as a two lane industrial Collector (without left turn lane) and serves adjacent industrial uses, but has diverted traffic from Heritage Road. This segment is not meant to be a through traffic by-pass route. A reclassification to four lanes is not recommended. The significant segment impact would remain unmitigated.

Otay Mesa Center Road

- Otay Mesa Road to St. Andrews Avenue: level of service “F”.

This segment is classified as a two lane Collector but is constructed with four lanes without a two way left turn lane. A reclassification to a four lane Major Arterial is recommended. The significant segment impact would be mitigated.

Datsun Street

- Innovative Drive to Heritage Road: level of service “F”.

This segment is planned to serve the adjacent industrial uses, but has high volumes due to traffic diverted from Heritage Road. This segment is not meant to be a through traffic by-pass route. A classification as a four lane Collector (with left turn lane) is recommended, rather than a four lane Major Arterial. The significant segment impact would remain unmitigated.

<u>Avenida Costa Azul</u>

- Otay Mesa Road to St. Andrews Avenue: level of service “E”.

Add to circulation plan as a four lane Collector (with left turn lane). The significant segment impact would be mitigated by this classification.

<u>Excellante Street / Gigantic Street / Centurion Street</u>

- All segments at level of service “F”.

These streets are fully constructed four lane Collector (without left turn lane) loop streets that will serve adjacent development. No reclassification is recommended. The significant segment impacts would remain unmitigated.

<u>Exposition Way / Vista Santo Domingo</u>

- Avenida de las Vistas to Corporate Center Drive: level of service “F”.

This segment has high volumes due to diverted traffic from Otay Valley Road. Vista Santo Domingo is constructed as a two lane Collector (no fronting property) within a residential area and is not meant to be a by-pass route for through traffic, so that retaining this classification would discourage speeding, and through traffic not destined for the adjacent residential neighborhoods. A reclassification is not recommended. The significant segment impact would remain unmitigated.

Figure 5-3 shows recommended roadway classifications for the “No Project” buildout Community Plan scenario.

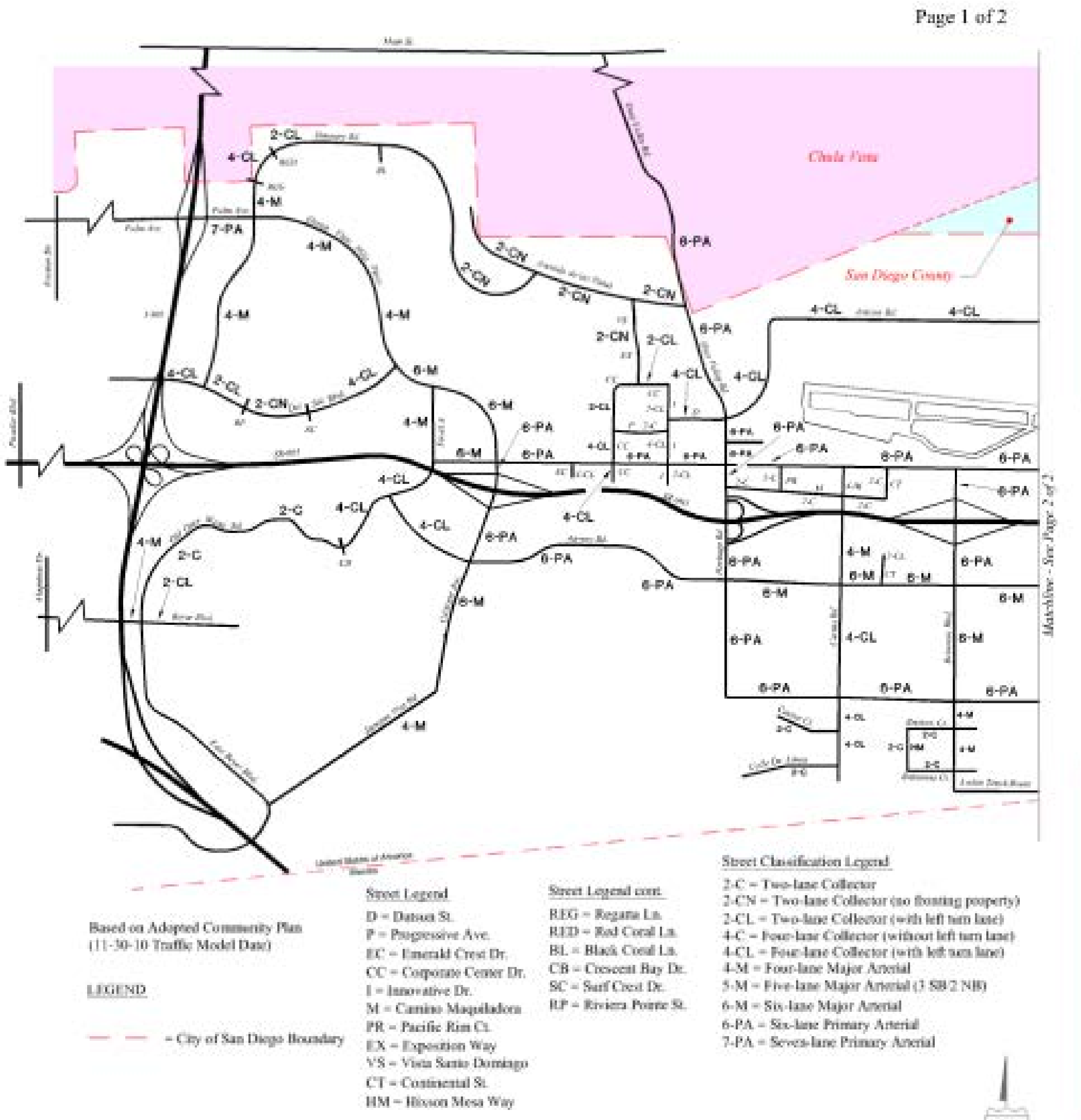

FIGURE 5-3
Adopted Community Plan Land Use Scenario
With Proposed Roadway Classification Recommendations

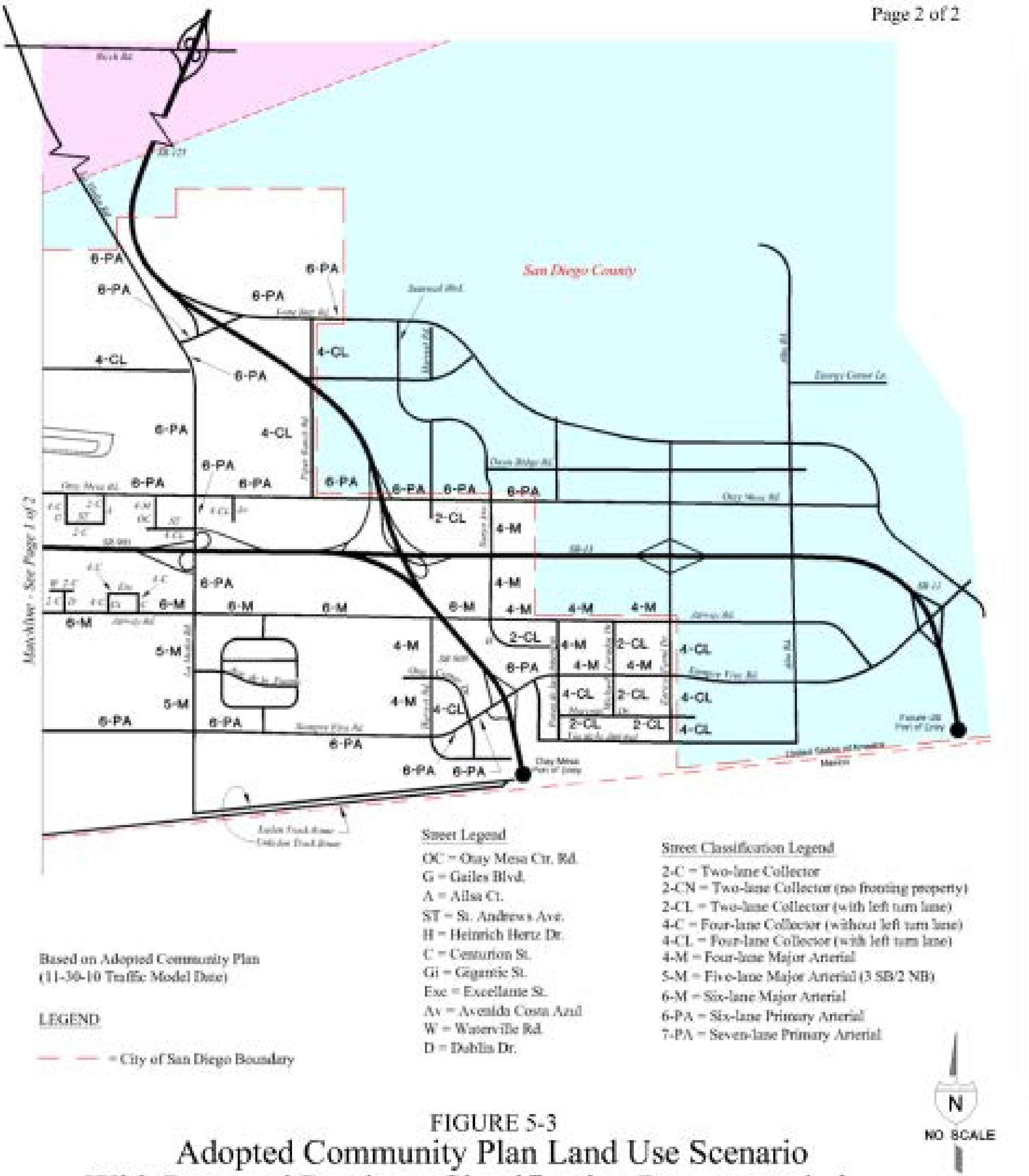

FIGURE 5-3
Adopted Community Plan Land Use Scenario
With Proposed Roadway Classification Recommendations

5.3 Freeway Levels of Service

Table 5-2 lists freeway segments evaluated for the "No Project" buildout Community Plan scenario.

Segments of Interstate 805 north of State Route 905 are projected to be significantly impacted by Otay Mesa Community Plan and regional cumulative traffic. With existing lanes and an additional northbound auxillary lane currently being constructed between SR-905 and Palm Avenue, the segment of I-805 north of SR-905 are expected to be at level of service "F". The Adopted SANDAG 2050 Regional Transportation Plan (RTP) includes two managed lanes on I-805 in each direction north of SR-905. With these additional lanes, the segment of I-805 between Main Street and Palm Avenue would be at level of service "E". The segment between Palm Avenue and SR-905 would be at level of service "D" during peak hours.

State Route 905 is assumed with six lanes and auxillary lanes as is being constructed by Caltrans. Impacts would be significant and unmitigated between Picador Boulevard and La Media Road. State Route 905 has been designed so that median High Occupancy Vehicle (HOV) lanes could be installed in the future, but are not currently planned or funded by Caltrans. The addition of HOV lanes would provide partial mitigation for local and regional cumulative impacts, but would not provide acceptable levels of service.

Table 5-2-A shows freeway levels of service with HOV lanes added to segments at level of service "F".

TABLE 5-2

Buildout Adopted Community PlanFreeway Segment Levels of Service

Segment		Lanes (1-Way)	Cap.	ADT (1)	Peak Hour %(5)	Direction Split(5)	(6) Truck Factor	Peak Volume	V/C	LOS (2)
SR-905	Picador Blvd. to I-805 (3)	2 + AUX	6,300	144,500	0.08	0.6	0.90	7,707	1.22	F0
	I-805 to Caliente Ave. (4)	3 + CL	8,650	253,500	0.08	0.6	0.90	13,520	1.56	F3
	Caliente Ave. to Heritage Rd.	3	7,050	224,000	0.08	0.6	0.90	11,947	1.68	F3
	Heritage Rd. to Britannia Blvd.	3	7,050	193,000	0.08	0.6	0.90	10,293	1.46	F3
	Britannia Blvd. to La Media Rd.	3	7,050	167,000	0.08	0.6	0.90	8,907	1.26	F1
	La Media Rd. to SR-125	3	7,050	121,000	0.08	0.6	0.90	6,453	0.92	E
	SR-125 to Siempre Viva Rd.	3	7,050	103,000	0.08	0.6	0.90	5,493	0.78	C
	Siempre Viva Rd. to Border	3	7,050	64,500	0.08	0.6	0.90	3,440	0.48	B
I-805	Main St. to Palm Ave.	4	9,400	263,000	0.08	0.6	0.90	14,027	1.49	F3
	Palm Ave. to SR-905	4	9,400	232,500	0.08	0.6	0.90	12,400	1.32	F1
	SR-905 to I-5	4	9,400	107,500	0.08	0.6	0.90	5,733	0.60	B
	I-5 to Border	6	14,100	127,500	0.08	0.6	0.90	6,800	0.48	B
SR-125	Birch Rd. to Lone Star Rd.	4 (Toll)	9,700	102,500	0.08	0.6	0.90	5,467	0.56	E
	Lone Star Rd. to SR-905	4 (Toll)	9,700	76,000	0.08	0.6	0.90	4,053	0.42	C
SR – 11	SR-905 to Enrico Fermi Dr.	2	4,700	50,500	0.08	0.6	0.90	2,693	0.57	B
	Enrico Fermi Dr. to Siempre Viva Rd	2	4,700	25,000	0.08	0.6	0.90	1,333	0.28	A
	Siempre Viva Rd. to Border	2	4,700	39,500	0.08	0.6	0.90	2,107	0.45	B

Legend

Cap = Capacity of Segment
Mainlane Cap. @ 2,350 VPHPL
Auxillary Lane Cap. @ 1,800 VPHPL
HOV Lane Cap. @ 1,600 VPHPL
Climbing Lane Cap. @ 1,500 VPHPL

ADT = Average Daily Traffic

V/C = Volume to Capacity Ratio

LOS = Level of Service

Direction Split = % of Peak Hour in Peak Direction

Truck Factor = Represents Capacity Reduction for Heavy Vehicles

Note:

(1) Year 2030 Forecast Volume, Average Daily Traffic Volume (9-30-10 Run Date, Series 11)

(2) Caltrans District 11 LOS Estimation Procedures, See Table 2-3

(3) = 2 Mainlanes + Auxillary Lane

(4) = EB: 3 Mainlanes + Climbing Lane
WB: 3 Mainlanes + Auxillary Lane

(5) = Source:Caltrans Traffic Volumes, Peak Hour Volume Data (existing average for I-805 & SR-905).

(6) Highway Capacity Manual (2000) EQN. (3-2); assume 10% trucks plus RV's.

F = Shading indicates a significant impact.

TABLE 5-2-A

Buildout Adopted Community Plan

Freeway Segment Levels of Service

(With HOV Lanes Added To LOS F Segments)

Segment		ADD HOV	Lanes (1Way)	Cap.	ADT (1)	Peak Hour %(5)	Direction Split (5)	(6) Truck Factor	Peak Volume	V/C	LOS (2)
SR-905	Picador Blvd. to I-805 (3)	+H	2 + AUX	8,100	144,500	0.08	0.6	0.90	7,707	0.95	E
	I-805 to Caliente Ave. (4)	+H	3 + CL	10,150	249,000	0.08	0.6	0.90	13,280	1.31	F1
	Caliente Ave. to Heritage Rd.	+H	3	8,650	220,500	0.08	0.6	0.90	11,760	1.36	F2
	Heritage Rd. to Britannia Blvd.	+H	3	8,650	192,000	0.08	0.6	0.90	10,240	1.18	F0
	Britannia Blvd. to La Media Rd.	+H	3	8,650	165,000	0.08	0.6	0.90	8,800	1.02	F0
I-805	Main St. to Palm Ave,	+2H	4+AUX	14,400	264,000	0.08	0.6	0.90	14,080	0.98	E
	Palm Ave. to SR-905	+2H	4+AUX	14,400	234,500	0.08	0.6	0.90	12,507	0.87	D

Legend

Cap = Capacity of Segment
Mainlane Cap. @ 2,350 VPHPL
Auxillary Lane Cap. @ 1,800 VPHPL
HOV Lane Cap. @ 1,600 VPHPL
Climbing Lane Cap. @ 1,500 VPHPL

ADT = Average Daily Traffic

V/C = Volume to Capacity Ratio

LOS = Level of Service

Direction Split = % of Peak Hour in Peak Direction

Truck Factor = Represents Capacity Reduction for Heavy Vehicles

F = Shading indicates a significant impact.

+H = Add HOV lane in each direction.
+2H = Add two HOV lanes in each direction.

Note:

(1) Buildout Forecast Volume, Average Daily Traffic Volume (11-30-10 Run Date, Series 11)

(2) Caltrans District 11 LOS Estimation Procedures, See Table 2-3

(3) = 2 Mainlanes + Auxillary Lane

(4) = EB: 3 Mainlanes + Climbing Lane
WB: 3 Mainlanes + Auxillary Lane

(5) = Source:Caltrans Traffic Volumes, Peak Hour Volume Data (existing average for I-805 & SR-905).

(6) Highway Capacity Manual (2000) EQN. (3-2); assume 10% trucks plus RV's.

SR-905 HOV lanes are not currently in the Regional Transportation Plan and are not funded.

5.4 Intersection Levels of Service

Table 5-3 shows the "No Project" buildout Community Plan scenario intersection levels of service with and without recommended mitigation. **Figure 5-4** is the intersection number key showing locations of the listed intersections.

Intersection lane configurations without mitigation are assumed to be as shown in the City of San Diego Street Design Manual for the roadway classification at the intersection approaches. All intersections will be signalized. Lane configurations at intersections with mitigation identified are included in **Appendix B**. Also included are peak hour volumes at each intersection and intersection levels of service worksheets.

Mitigation beyond the lane configurations required in the City of San Diego Street Design Manual or at freeway ramps is recommended at 45 of 53 intersections evaluated.

Of the 53 intersections evaluated, 46 intersections are expected to be at level of service "E" or "F" during the AM peak hour and 48 during the PM peak hour. With feasible mitigation, 35 intersections would remain to operate unacceptably in the AM peak hour and ~~36~~ 37 intersections would remain to operate unacceptably in the PM peak hour. Several interchange intersections that can be designed for acceptable levels of service are included as significantly impacted due to upstream queues extending through the intersection causing increased delay and a degraded level of service, as footnoted in Table 5-3. **Table 5-4** shows lane configurations at each intersection and also shows lanes to be added after mitigation.

The SR-905 interchanges at Caliente Avenue and at La Media Road are recommended for major improvements. The Caltrans designs of these interchanges are based on forecasts of future traffic from the build out of only approximately fifty percent of Otay Mesa land uses. The Heritage Road interchange currently does not have a final, funded design, so that the lane configurations at the ramp intersections included in this report should be incorporated into the final design.

TABLE 5-3

Buildout Adopted Community Plan
Intersection Levels of Service

		Without Mitigation				With Mitigation			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
	Intersection	CD	LOS	CD	LOS	CD	LOS	CD	LOS
1	Palm Ave. / I-805 SB Ramps	64.8	E	111.7	F	36.6	D	71.5	E
2	Palm Ave. / I-805 NB Ramps	167.1	F	172.8	F	5.6	A	8.9	(1) A
3	Palm Ave. / Dennery Rd.	36.0	D	69.4	E	-	-	-	-
4	Otay Mesa Rd. / Caliente Ave.	359.8	F	201.6	F	236.3	F	102.0	F
5	Caliente Ave. / SR-905 WB Ramps	154.1	F	162.7	F	64.7	E	57.4	E
6	Caliente Ave. / SR-905 EB Ramps	225.9	F	214.7	F	92.9	F	56.8	E
7	Caliente Ave. / Airway Rd.	347.1	F	510.6	F	326.2	F	396.2	F
8	Caliente Ave. / Siempre Viva Rd.	86.4	F	82.0	F	-	-	-	-
9	Otay Mesa Rd. / Heritage Rd.	350.5	F	286.1	F	285.8	F	155.8	F
10	Heritage Rd. / SR-905 WB Ramps	36.8	(1) D	240.9	F	14.6	B	13.2	B
11	Heritage Rd. / SR-905 EB Ramps	64.3	E	127.7	F	50.4	(1) D	(1) 45.7	(1) D
12	Heritage Rd. / Airway Rd.	457.0	F	555.0	F	143.3	F	225.6	F
13	Heritage Rd. / Siempre Viva Rd.	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
14	Otay Mesa Rd. / Cactus Rd.	481.3	F	302.6	F	249.9	F	166.0	F
15	Airway Rd. / Cactus Rd.	212.3	F	319.4	F	115.2	F	100.7	F
16	Siempre Viva Rd. / Cactus Rd.	269.6	F	290.1	F	127.9	F	108.2	F
17	Otay Mesa Rd. / Britannia Blvd.	63.8	E	72.0	E	24.0	(1) C	54.1	(1) D
18	Britannia Blvd. / SR-905 WB Ramps	191.8	F	298.2	F	46.7	(1) D	187.9	F
19	Britannia Blvd. / SR-905 EB Ramps	290.0	F	283.7	F	276.0	F	124.5	F
20	Britannia Blvd. / Airway Rd.	453.3	F	490.5	F	218.1	F	206.7	F
21	Siempre Viva Rd. / Britannia Blvd.	502.4	F	494.6	F	208.2	F	302.3	F
22	Otay Mesa Rd. / La Media Rd.	484.5	F	495.7	F	148.3	F	128.0	F

Note: #13 is a right angle intersection (as assumed in the traffic model) with only two approaches.

Legend

CD = Control Delay

LOS = Level of Service

(1) = Vehicle queues may extend through this intersection from an upstream intersection so that the peak hour level of service would be degraded due to vehicles blocking this intersection.

F = Shading indicates a significant impact.

TABLE 5-3 (Continued)

Buildout Adopted Community Plan
Intersection Levels of Service

		Without Mitigation				With Mitigation			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
Intersection		CD	LOS	CD	LOS	CD	LOS	CD	LOS
23	La Media Rd. / SR-905 WB Ramps	257.6	F	335.2	F	117.7	F	195.7	F
24	La Media Rd. / SR-905 EB Ramps	319.2	F	224.8	F	218.5	F	157.6	F
25	La Media Rd. / Airway Rd.	786.8	F	654.3	F	236.9	F	338.7	F
26	La Media Rd. / Siempre Viva Rd.	303.0	F	238.6	F	90.6	F	102.7	F
27	La Media Rd. / Lone Star Rd.	547.7	F	755.8	F	399.5	F	492.2	F
28	Lone Star Rd. / SR-125 SB Off Ramp	52.4	(1) D	14.4	(1) B	-	-	-	-
29	Lone Star Rd. / SR-125 NB On Ramp	3.3	(1) A	7.2	(1) A	-	-	-	-
30	Lone Star Rd. / Piper Ranch Rd.	67.5	E	15.4	B	43.2	D	15.2	B
31	Otay Mesa Rd. / Piper Ranch Rd.	274.0	F	284.6	F	89.7	F	165.7	F
32	Otay Mesa Rd. / SR-125 SB Off Ramp	40.2	(1) D	7.9	(1) A	16.5	(1) B	7.3	A
33	Otay Mesa Rd. / SR-125 NB On Ramp	3.3	(1) A	14.9	(1) B	-	-	-	-
34	Otay Mesa Rd. / Harvest Rd.	132.3	F	87.2	F	34.1	C	41.9	(1) D
35	Siempre Viva Rd. / Otay Center Dr.	298.0	F	471.8	F	235.5	F	225.9	F
36	Siempre Viva Rd. / SR-905 SB to EB Ramp	149.3	F	248.1	F	-	-	-	-
36A	Siempre Viva Rd. / SR-905 SB to WB Ramp	(2) 4,196	F	(2) 899.3	F	292.5	F	40.4	(1) D
37	Siempre Viva Rd. / SR-905 NB Ramps	150.8	F	431.7	F	144.1	F	355.8	F
38	Siempre Viva Rd. / Paseo de las Americas	648.7	F	751.0	F	352.0	F	430.7	F
39	Dennery Rd. / Del Sol Blvd.	104.7	F	72.2	E	-	-	-	-
40	Ocean View Hills Pkwy. / Del Sol Blvd.	172.7	F	192.2	F	68.2	E	132.4	F
41	Ocean View Hills Pkwy. / Street A	162.6	F	258.4	F	49.8	D	51.9	D
42	Old Otay Mesa Rd. / Beyer Blvd.	623.1	F	638.2	F	47.7	D	46.0	D
43	Otay Mesa Rd. / Corporate Center Dr.	146.2	F	125.8	F	103.7	F	96.5	F
44	Otay Mesa Rd. / Innovative Dr.	96.4	F	64.8	E	82.8	F	36.2	D

Legend

CD = Control Delay

LOS = Level of Service

(1) = Vehicle queues may extend through this intersection from an upstream intersection so that the peak hour level of service would be degraded due to vehicles blocking this intersection.

(2) Unsignalized: SB to WB Right Turn at LOS F (AM and PM Peak Hours);

F = Shading indicates a significant impact.

TABLE 5-3 (Continued)

Buildout Adopted Community Plan
Intersection Levels of Service

		Without Mitigation				With Mitigation			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
Intersection		CD	LOS	CD	LOS	CD	LOS	CD	LOS
45	Harvest Rd. / Airway Rd.	41.1	D	238.9	F	38.1	D	101.5	F
46	Harvest Rd. / Siempre Viva Rd.	239.9	F	230.4	F	203.8	F	221.1	F
47	Otay Mesa Rd. / Sanyo Ave.	296.7	F	424.5	F	109.9	F	113.5	F
48	Airway Rd. / Sanyo Ave.	740.3	F	371.4	F	178.8	F	131.1	F
49	Paseo de las Americas / Heinrich Hertz Dr.	(3) 196.9	F	(3) 440.2	F	10.4	B	15.0	B
50	Paseo de las Americas / Marconi Dr.	(4) 57.8	F	(4) 268.1	F	4.6	A	60.6	E
51	Heritage Rd. / Otay Valley Rd. / Datsun St.	531.8	F	676.7	F	181.3	F	290.3	F
52	Aviator Rd. / La Media Rd.	159.9	F	79.4	E	102.4	F	54.4	D
53	Otay Valley Rd. / Avenida De Las Vistas	850.4	F	361.8	F	-	-	-	-

Note: Control delay results should be considered unreliable at delay values higher than two times the LOS E value of 80.0 seconds.

Legend
CD = Control Delay
LOS = Level of Service
(3) Unsignalized: Northbound Left, Eastbound Left and Right Turns at LOS F (AM and PM Peak Hours)
(4) Unsignalized: Southbound Left, Westbound Left Turns at LOS F (AM Peak Hour);
Westbound Right Turn at LOS F (PM Peak Hour).
For unsignalized intersections, LOS F is at greater than 50.0 seconds delay / vehicle.
F = Shading indicates a significant impact.

Control Delay	LOS
0.0 - 10.0	A
10.1 - 20.0	B
20.1 - 35.0	C
35.1 - 55.0	D
55.1 - 80.0	E
Over 80.0	F
Source: 2000 Highway Capacity Manual	

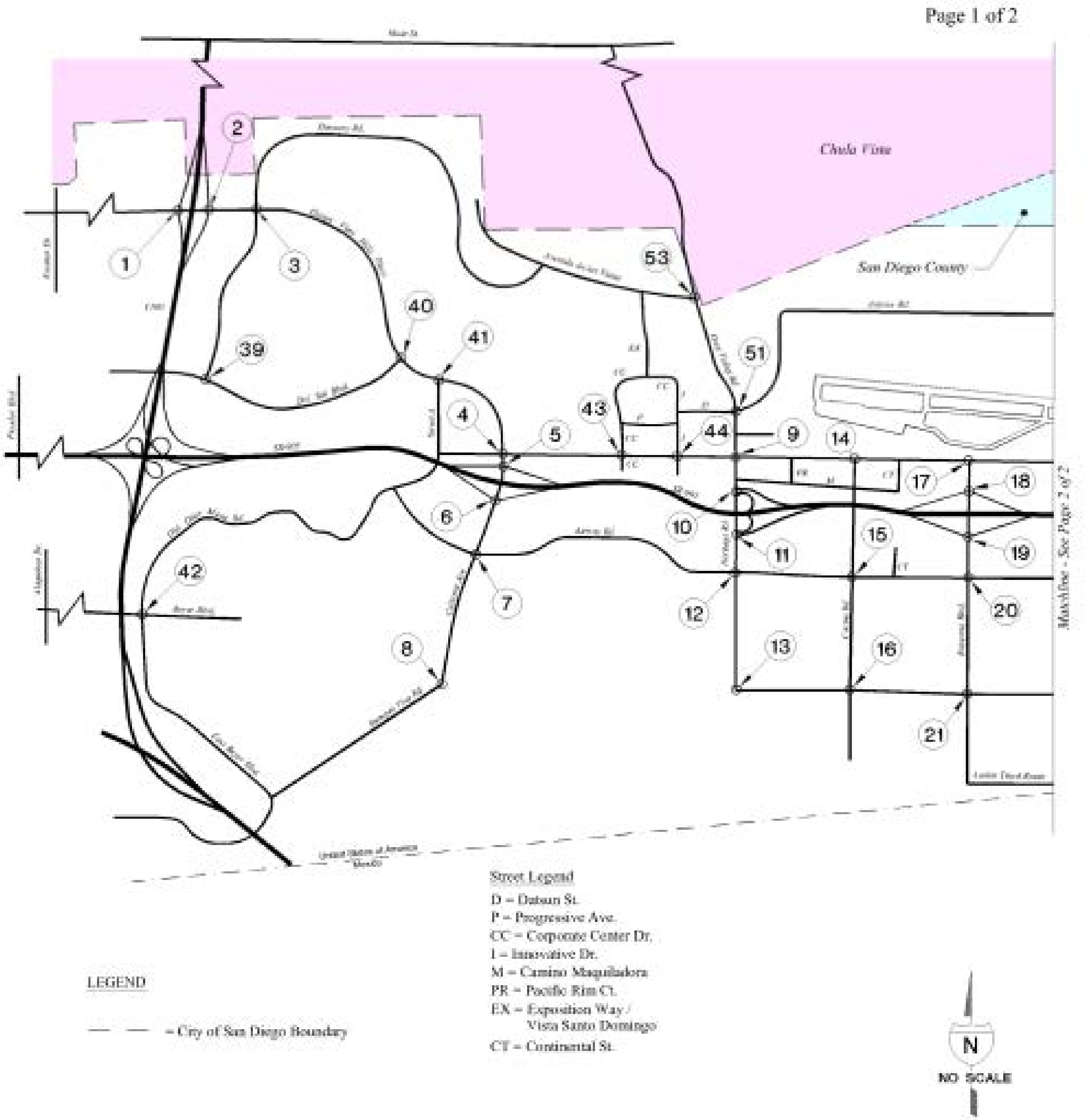

FIGURE 5-4
Adopted Community Plan
Intersection Number Key

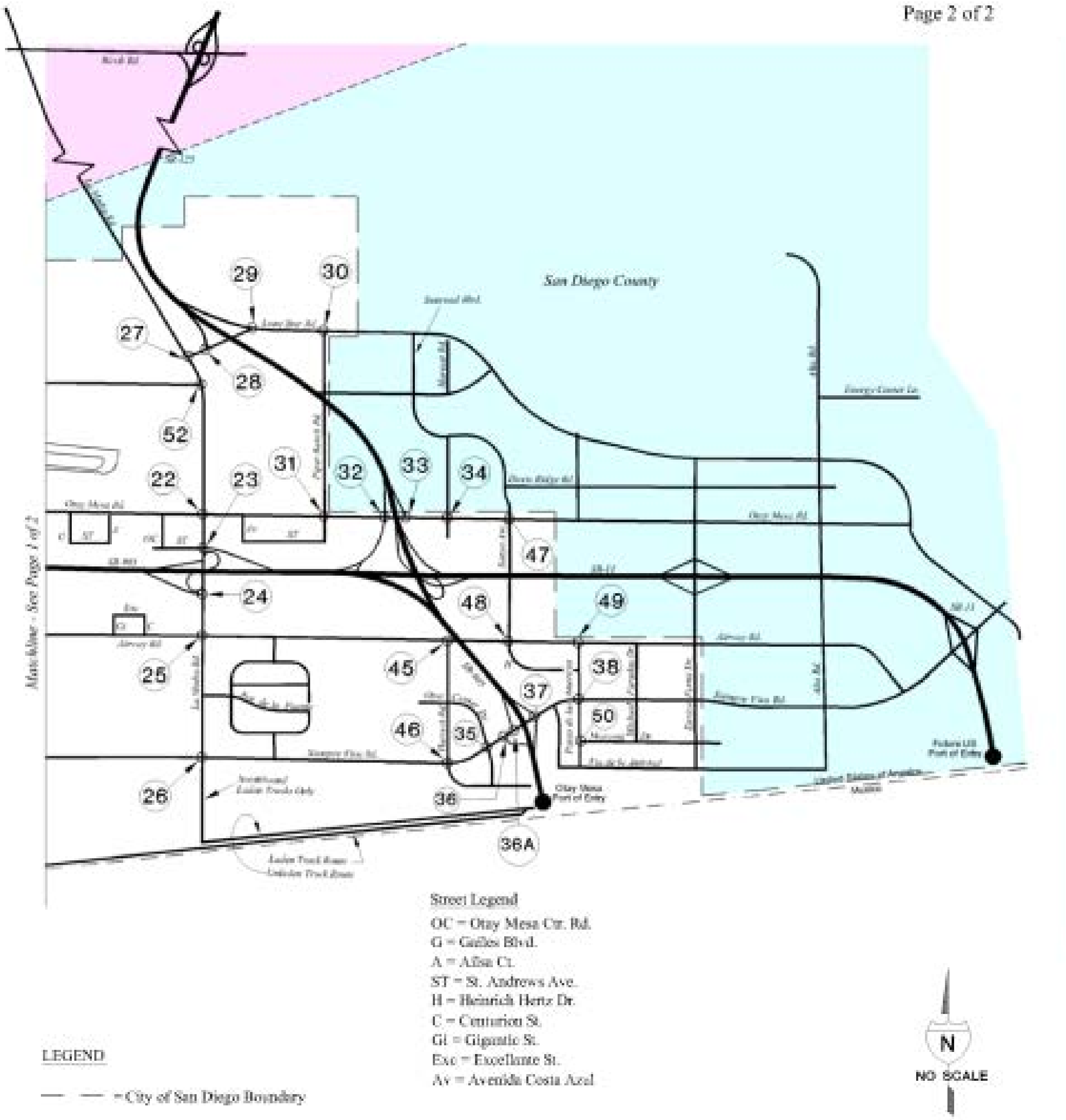

FIGURE 5-4
Adopted Community Plan
Intersection Number Key

TABLE 5-4

Intersection Mitigation Buildout Adopted Community Plan

		Without Mitigation												With Mitigation											
		NB			SB			EB			WB			NB			SB			EB			WB		
	Intersection	L	T	R	L	T	R	L	T	R	L	T	R	L	T	R	L	T	R	L	T	R	L	T	R
1	Palm Ave. / I-805 SB Ramps				1	1*	1		2	1	2	2					1	1*	2		2	1	2	2	
2	Palm Ave. / I-805 NB Ramps	S	1*	1				2	2			2	1	1	1*	1					3	1		3	2
3	Palm Ave. / Dennery Rd.	3	1	S	2	2	1	2	3	1	2	3	1												
4	Otay Mesa Rd. / Caliente Ave.	2	3	S	2	3	S	2	3	1	2	3	1	2	3	1	2	3	S	2	3	1	2	3	1
5	Caliente Ave. / SR-905 WB Ramps	1	3			3*	S				S	1	1	2	3			3	1				S	1	1
6	Caliente Ave. / SR-905 EB Ramps		3	S	1	3		1	1*	S					3	1	2	3		1	1*	1			
7	Caliente Ave. / Airway Rd.	2	3	S	2	3	S	2	2	S	2	2	1	2	3	1	2	3	S	2	2	1	2	2	1
8	Caliente Ave. / Siempre Viva Rd.				1		2	2	1			1	1												
9	Otay Mesa Rd. / Heritage Rd.	2	3	S	2	3	S	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	2
10	Heritage Rd. / SR-905 WB Ramps		3	S	2	3					S		2		3	2	2	3					S		2
11	Heritage Rd. / SR-905 EB Ramps		3	S	2	3					2		S		3	1	2	3					2		1
12	Heritage Rd. / Airway Rd.	2	3	S	2	3	S	2	3	S	2	3	S	2	3	1	2	3	2	2	3	2	2	3*	1
13	Heritage Rd. / Siempre Viva Rd.				2								2												
14	Otay Mesa Rd. / Cactus Rd.	2	1*	1	1	1	S	1	3	S	2	3	S	2	1*	1	1	1	S	1	3	2	2	3	1
15	Airway Rd. / Cactus Rd.	2	2	S	2	2	S	2	3	S	2	3	S	2	2	1	2	2*	1	2	3*	1	2	3	1
16	Siempre Viva Rd. / Cactus Rd.	2	2	S	2	2	S	2	3	S	2	3	S	2	2	1	2	2	1	2	3	1	2	3	2
17	Otay Mesa Rd. / Britannia Blvd.	2		2					3	S	2	3		2		2					3	1	2	3	
18	Britannia Blvd. / SR-905 WB Ramps	2	3			3	S				1	1*	1	2	3			3*	1				1	1*	1
19	Britannia Blvd. / SR-905 EB Ramps		3	S	2	3		S	1	2					3	2	2	3		S	1	2			
20	Britannia Blvd. / Airway Rd.	2	3	S	2	3	S	2	3	S	2	3	S	2	3	2	2	3	2	2	3	1	2	3	2
21	Siempre Viva Rd. / Britannia Blvd.	2	2	S	2	2	S	2	3	S	2	3	S	2	2	1	2	2	2	2	3	2	2	3	2
22	Otay Mesa Rd. / La Media Rd.	2	3	S	2	3	S	2	3	S	2	3	S	2	3	2	2	3	2	2	3	2	2	3	2

Legend
L = left turn lanes
T = through lanes
R = right turn lanes
S = shared lane

*** Notes:**
#1-SB through is shared LTR wihtout mitigation; shared LT with mitigation.
#2-NB through is shared LTR.
#4-WB lanes are restriped for 2T-2R.
#5-SB is 2T-TR-R without mitigation.
#6-EB through is shared LTR without mitigation, shared LT with mitigation.
#12-WB through has shared TR.
#14-NB through is shared TR.
#15-SB through is shared TR.
#15-EB through is shared TR.
#18-WB through is shared TR without mitigation..
#18-WB through is shared LTR with mitigation.
#18-SB RT lanes added, 3rd lane restriped for shared TR.

1 Highlighted indicates added lane mitigation or revised lane assignment by restriping, as noted.

TABLE 5-4 (Continued)

Intersection Mitigation Buildout Adopted Community Plan

		Without Mitigation												With Mitigation											
		NB			SB			EB			WB			NB			SB			EB			WB		
	Intersection	L	T	R	L	T	R	L	T	R	L	T	R	L	T	R	L	T	R	L	T	R	L	T	R
23	La Media Rd. / SR-905 WB Ramps	2	2	1		3	1	S	1	1	1	1*	1	2	3	1		3	1	1		1	1	1*	1
24	La Media Rd. / SR-905 EB Ramps	2	3			2	1	2		2				2	3			3	1	2		2			
25	La Media Rd. / Airway Rd.	2	2	S	2	3	S	2	3	S	2	3	S	2	2	1	2	3	2	2	3	1	2	3	2
26	La Media Rd. / Siempre Viva Rd.				2	2	S	2	3			3	S				2	1	2	2	3			3	2
27	La Media Rd. / Lone Star Rd.	2	3	S	2	3	S	1	1	1	2	3	S	2	3	1	2	3	1	1	1	1	2	1*	2*
28	Lone Star Rd. / SR-125 SB Off Ramp				2		2		3			3													
29	Lone Star Rd. / SR-125 NB On Ramp							2	3			3	2												
30	Lone Star Rd. / Piper Ranch Rd.	2		1					3	S	1	3		2		1					3	1	1	3	
31	Otay Mesa Rd. / Piper Ranch Rd.	1	2	S	1	2	S	2	3	S	2	3	S	2	1	1*	2	1	2*	2	3	1	2	3	1
32	Otay Mesa Rd. / SR-125 SB Off Ramp				1	1*	1		3			3					1	1*	1		3			3	
33	Otay Mesa Rd. / SR-125 NB On Ramp							2	3			3	2												
34	Otay Mesa Rd. / Harvest Rd.	1	1	S	1	1	S	1	3	S	1	3	S	2	1	S	1	1	S	1	3	1	1	3	1
35	Siempre Viva Rd. / Otay Center Dr.	1	1	S	1	2	S	1	3	S	1	3	S	1	1	1	2	1	1	2	3	1	2	3	1
36	Siempre Viva Rd. / SR-905 SB to EB Ramp			2					3	S	2	3													
36A	Siempre Viva Rd. / SR-905 SB to WB Ramp						1					3							2					3	
37	Siempre Viva Rd. / SR-905 NB Ramps	S	1	2				2	3			3*	1	S	1	2				2	3			3	2
38	Siempre Viva Rd. / Paseo de las Americas	1	2	S	1	2	S	1	3	1	1	3	S	1	1*	1*	1	1	2	2	3	1	1	3	1
39	Dennery Rd. / Del Sol Blvd.				1		1	1	2			2	S												
40	Ocean View Hills Pkwy. / Del Sol Blvd.	2	3	S	1	2	S	1	1	1	1	1	S	2	3	S	1	2	1	1*	1*	1	1	1	S
41	Ocean View Hills Pkwy. / Street A	1	1	1	1	1	S	1	3	S	1	3	S	2	1	1	1	1	S	1	3	2	1	3	S
42	Old Otay Mesa Rd. / Beyer Blvd.	1	1	S	1	1	S	2	2	1	2	2	S	1	1	S	1	1	1	2	2	1	2	2	S
43	Otay Mesa Rd. / Corporate Center Dr.	2	1	S	1	1*	1	2	3	S	2	3	1	2	1	S	2	1*	1	2	3	1	2	3	1
44	Otay Mesa Rd. / Innovative Dr.	1	1	S	1	1*	1	2	3	S	2	3	1	1	1	S	2	1*	1	2	3	S	2	3	1

Legend
L = left turn lanes
T = through lanes
R = right turn lanes
S = shared lane

***Notes:**
#23-WB middle lane is shared LT.
#27-WB lanes restriped for 2L-T-2R.
#31-NB lanes restriped for 2L-1T-Add R.
#31-SB lanes restriped for 2L-1T-Add 2R.
#32-SB middle lane L without mitigation, shared LR with mitigation.
#37-WB lanes striped for 2T-TR-R.
#38-NB lanes restriped for L-LT-R.
#40-EB lanes restriped for L-LT-R.
#43-SB middle lane is shared TR.
#44-SB middle lane is shared TR.

1 Highlighted indicates added lane mitigation or revised lane assignment by restriping, as noted.

TABLE 5-4 (Continued)

Intersection Mitigation Buildout Adopted Community Plan

		Without Mitigation												With Mitigation											
		NB			SB			EB			WB			NB			SB			EB			WB		
Intersection		L	T	R	L	T	R	L	T	R	L	T	R	L	T	R	L	T	R	L	T	R	L	T	R
45	Harvest Rd. / Airway Rd.	2		1					3	S	2	3		2		1					3	1	2	3	
46	Harvest Rd. / Siempre Viva Rd.	1	2	S	2	2	S	2	3	S	2	3	S	1	2	S	2	2	1	2	3	S	2	3	1
47	Otay Mesa Rd. / Sanyo Ave.	1	2	S	1	2	S	2	3	S	2	3	S	2	1	1	1	1	1	2	3	2	2	3	1
48	Airway Rd. / Sanyo Ave.	1	2	S	1	2	S	2	3	S	2	2	S	2	2	1	2	2	2	2	2	2	2	2	1
49	Paseo de las Americas / Heinrich Hertz Dr.	1	2			2	S	1		1				2	2			2	S	1		2			
50	Paseo de las Americas / Marconi Dr.		2	S	1	2					1		1		2	S	2	2					1		1
51	Heritage Rd. / Otay Valley Rd.	2	3	S	2	3	S	1	2	S	1	2	S	2	3	1	2	3	2	2	2	1	2	2	1
52	Aviator Rd. / La Media Rd.	2	3			3	S	2		1				2	3			3	1	2		1			
53	Otay Valley Rd. / Avenida De Las Vistas	1	3	S	1	3	S	1	1	S	1	1	1												

Legend
L = left turn lanes
T = through lanes
R = right turn lanes
S = shared lane
1 Highlighted indicates added lane mitigation or revised lane assignment by restriping, as noted.

Provided below is a summary of mitigation recommended at the interchanges and major intersections. Some intersection impacts are not proposed to be fully mitigated, usually because it would require excessively wide intersections and turning lanes and non-standard intersection configurations.

#1 & #2. I-805 Southbound and Northbound Ramps / Palm Avenue – The Otay Mesa P.F.F.P includes a bridge widening project at this location. The preliminary design includes a third through lane in each direction, an additional westbound right turn lane (total of two), northbound off- ramp widening for an additional lane (total of three), southbound off-ramp widening for an additional lane (total of four), and the addition of a fourth eastbound lane and a loop on-ramp in the southeast quadrant.

#4. Caliente Avenue / Otay Mesa Road – At this intersection of two six-lane Primary Arterials, a separate right turn only lane in the northbound direction is recommended. Although the northbound right turn volumes are expected to be high enough to warrant dual right turns, this intersection is near San Ysidro High School and in the interest of pedestrian safety and convenience, the dual right turns are not recommended.

#5. Caliente Avenue / SR-905 Westbound Ramps – Overcrossing widening to accommodate northbound dual left turn lanes is recommended. Additionally, a single southbound right turn only lane is recommended. Caliente Avenue is a school pedestrian route to the San Ysidro High School. Although the southbound right turn volumes are expected to be high enough to warrant dual right turn lanes, the dual right turns are not recommended.

#6. Caliente Avenue / SR-905 Eastbound Ramps - Overcrossing widening to accommodate dual northbound left turn lanes at the SR-905 westbound ramps also should extend through this intersection, accommodating dual southbound left-turn lanes. A separate northbound right turn lane is recommended. Ramp widening in the eastbound direction for an added right turn lane is recommended. Although the eastbound right turn volumes are expected to be high enough to warrant dual right turn lanes, the dual right turn lanes are not recommended on this pedestrian route to San Ysidro High School.

#7. Caliente Avenue at Airway Road - Separate right turn only lanes are recommended in the eastbound, northbound, and westbound directions. Although the northbound and westbound right turn volumes are expected to be high enough to warrant dual right turn lanes, the dual right turn lanes are not recommended on this pedestrian route to San Ysidro High School.

#9. Heritage Road / Otay Mesa Road - Separate right turn only lanes are recommended in the northbound and southbound directions. Existing right turn lanes are in place eastbound and westbound. A second westbound right turn lane is recommended.

#10. Heritage Road / SR-905 Westbound Ramps - Two right turn only lanes are recommended in the northbound direction onto the westbound on-ramp.

#11. Heritage Road / SR-905 Eastbound Ramps - A separate right turn lane in the northbound direction to the eastbound on-ramp, plus an added right turn lane in the westbound direction on the eastbound off-ramp are recommended.

#12. Heritage Road / Airway Road – Dual right turn lanes are recommended in the southbound and eastbound directions. Separate single right turn lanes are recommended in the northbound and westbound directions. The westbound #3 lane should be a shared through / right turn lane.

#14. Cactus Road / Otay Mesa Road - Dual right turn lanes in the eastbound direction, and one right turn lane in the westbound direction are recommended.

#15. Cactus Road / Airway Road - Dual right turn lanes in the westbound direction, and single right turn lanes are recommended in the south, north, and eastbound directions. The outer through lane eastbound and southbound are recommended to be shared through / right lanes.

#16. Cactus Road / Siempre Viva Road - Dual right turn lanes in the westbound direction and single right turn lanes are recommended in the south, north, and eastbound directions.

#17. Britannia Boulevard / Otay Mesa Road - A single right turn only lane in the eastbound direction is recommended.

#18. Britannia Boulevard / SR-905 Westbound Ramps - A single southbound right turn lane, and also restriping the third southbound through lane as an optional through / right turn is recommended. Restriping the westbound middle lane for a shared left / through / right turn lane is recommended.

#19. Britannia Boulevard / SR-905 Eastbound Ramps - Dual right turn lanes northbound are recommended.

#20. Britannia Boulevard / Airway Road - Dual right turn lanes in the north, south, and westbound directions, and a single right turn lane in the eastbound direction are recommended.

#21. Britannia Boulevard / Siempre viva Road - Dual right turn lanes in the east, west, and southbound directions, and a single right turn lane in the northbound direction are recommended.

#22. La Media Road / Otay Mesa Road – Dual right turn lanes are recommended at all approaches.

#23. La Media Road / SR-905 Westbound Ramps – The Caltrans design for the SR-905 / La Media Road interchange is based on future traffic estimates from the build out of only approximately fifty percent of Otay Mesa land uses and improvements will be needed to accommodate full build out. It is recommended that the eastbound through movement be eliminated so that the northbound right turn to the SR-905 westbound on-ramp can be a continuous movement, without a conflicting movement at the traffic signal. Only a pedestrian signal would cause this traffic to stop. Additionally a third northbound through lane is recommended. These recommended improvements would require widening in the northbound direction along La Media Road.

#24. La Media Road / SR-905 Eastbound Ramps - The addition of a third southbound through lane is recommended. This improvement would require widening La Media Road in the southbound direction.

#25. La Media Road / Airway Road - The addition of dual right turn lanes westbound and southbound, and single right turn lanes eastbound and northbound are recommended.

#26. La Media Road / Siempre Viva Road - The addition of dual right turn lanes westbound, and one right turn lane southbound are recommended. The southbound lanes should be stiped for two lefts / one through / two right turn lanes. The southbound through lane will be restricted to unladen trucks destined to the Border Truck Road.

#27. La Media Road / Lone Star Road - Northbound and southbound right turn lanes are recommended. The three westbound through lanes are recommended to be striped for one through and two right turn lanes.

#30. Piper Ranch Road / Lone Star Road – An eastbound right turn lane is recommended.

#31. Piper Ranch Road / Otay Mesa Road – Single right turn lanes in the east, west, and northbound directions are recommended. Southbound, two right turn lanes are recommended.

#32. SR-125 Southbound Off-Ramp / Otay Mesa Road – No additional lanes are recommended, but restriping the southbound middle lane for optional left / right turns is recommended.

#34. Harvest Road / Otay Mesa Road – Additional east and westbound right turn lanes are recommended. An additional northbound left turn lane is also recommended.

#35. Otay Center Drive / Siempre Viva Road - Added lanes for right turns are recommended at all approaches. Dual left turn lanes are recommended east, west, and southbound.

#36 -36A. SR-905 Southbound Ramps / Siempre Viva Road – The SR-905 southbound off-ramp to westbound Siempre Viva Road is recommended to be signalized, and widened for an additional southbound right turn lane.

#37. SR-905 Northbound Ramps / Siempre Viva Road – A second westbound right turn lane is recommended.

#38. Paseo de las Americas / Siempre Viva Road - Added westbound and southbound right turns are recommended, plus an eastbound left turn lane. The northbound lanes should be restriped for one left, one left /through, one right turn lane.

#40. Ocean View Hills Parkway / Del Sol Boulevard - One added southbound right turn lane is recommended. The eastbound through lane should be restriped for optional left turns / through.

#41. Ocean View Hills Parkway / Street "A" - Eastbound dual right turn lanes and an added northbound left turn lane are recommended.

#42. Old Otay Mesa Road / Beyer Boulevard - A southbound right turn lane is recommended.

#43. Otay Mesa Road / Corporate Center Drive - Northbound and southbound added left turn lanes, and a separate eastbound right turn lane are recommended.

#44. Otay Mesa Road / Innovative Drive - A second southbound left turn lane is recommended.

#45. Airway Road / Harvest Road - An eastbound right turn lane is recommended.

#46. Harvest Road / Siempre viva Road - Separate right turn lanes are recommended westbound and southbound.

#47. Otay Mesa Road / Sanyo Avenue - Eastbound dual right turn lanes, and single right turn lanes northbound and westbound are recommended. Restriping northbound lanes for dual left turns plus one through lane is recommended.

#48. Airway Road / Sanyo Avenue - Dual right turn lanes in the eastbound direction are recommended, to be provided by widening for one lane and restriping the third through lane for right turns only. Added single right turn lanes northbound and westbound are recommended. Northbound and southbound added lanes for dual left turns are recommended.

#49. Paseo de las Americas / Heinrich Hertz Drive - The installation of traffic signal and widening for an added northbound left turn lane and an eastbound right turn lane are recommended.

#50. Paseo de las Americas / Marconi Drive - The installation of a traffic signal and adding a southbound left turn lane are recommended.

#51. Heritage Road / Otay Valley Road - Dual right turn lanes southbound, and single right turn lanes at the other approaches are recommended. East and westbound dual left turn lanes are recommended.

#52. La Media Road / Aviator Road - A southbound right turn lane is recommended.

5.5 Ramp Meter Operations

Table 5-5 shows buildout ramp meter operations at all the freeway on-ramps within the study area.

The likely most restrictive ramp meter rate as provided by Caltrans was used for this evaluation.

Regional SANTEC / ITE Traffic Impact Study Guidelines state that levels of service does not apply to ramp meters, but that ramp meter delays above 15 minutes are considered excessive. Of the 28 hours ramps meters were evaluated during AM and PM peak hours, ramp meter delays above 15 minutes would occur at six locations during the AM peak hour and at eleven locations during the PM peak hour.

Ramp meter delays above 15 minutes are considered significant impacts if downstream freeways are operating at level of service "E" or "F". The following six ramp locations would be significantly impacted using this significance criteria:

- I-805 / Palm Avenue Northbound (From Westbound) (AM and PM);
- SR-905 / Caliente Avenue Westbound on-ramp (AM and PM);
- SR-905 / Heritage Road Westbound on-ramp (PM);
- SR-905 / Britannia Boulevard Westbound on-ramp (AM and PM);
- SR-905 / Britannia Boulevard Eastbound on-ramp (PM);
- SR-905 / La Media Road Westbound on-ramp (AM and PM).

The freeway on-ramps evaluated would have ramp lengths from 650 feet to 1,200 feet. Assuming two lanes at the ramp meters, six locations would have queues exceeding the ramp storage length during the AM peak hour, and at eleven locations during the PM peak hour, as footnoted in Table 5-5.

TABLE 5-5

Buildout Community Plan Ramp Meter Operations

Most Restrictive Meter Rate						
Location		Demand** (Veh/Hr)	Meter Rate* (Veh/Hr)	Excess Demand	Delay (Min)	Queue (Feet)
AM	I-805 / Palm Avenue Northbound (From Westbound)	1,505	960	545	34.1	13,625 (E)
PM	I-805 / Palm Avenue Northbound (From Westbound)	1,620	960	660	41.3	16,500 (E)
AM	I-805 / Palm Avenue Northbound (From Eastbound)	725	960	None	None	None
PM	I-805 / Palm Avenue Northbound (From Eastbound)	595	960	None	None	None
PM	I-805 / Palm Avenue Southbound	690	960	None	None	None

Most Restrictive Meter Rate						
Location		Demand** (Veh/Hr)	Meter Rate* (Veh/Hr)	Excess Demand	Delay (Min)	Queue (Feet)
AM	SR-905 / Caliente Avenue Westbound	1,780	960	820	51.2	20,500 (E)
PM	SR-905 / Caliente Avenue Westbound	1,895	960	935	58.4	23,375 (E)
AM	SR-905 / Caliente Avenue Eastbound	480	960	None	None	None
PM	SR-905 / Caliente Avenue Eastbound	480	960	None	None	None

.						
Location		Demand** (Veh/Hr)	Meter Rate* (Veh/Hr)	Excess Demand	Delay (Min)	Queue (Feet)
AM	SR-905 / Heritage Road Westbound	850	960	None	None	None
PM	SR-905 / Heritage Road Westbound	2,130	960	1,170	73.1	29,250 (E)
AM	SR-905 / Heritage Road Eastbound	300	960	None	None	None
PM	SR-905 / Heritage Road Eastbound	510	960	None	None	None

Most restrictive meter rate used, per Caltrans
** = Total hourly volume entering from both directions.
(E) = Exceeds ramp storage length.

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TABLE 5-5

Buildout Community Plan Ramp Meter Operations

Most Restrictive Meter Rate						
Location		**Demand** (Veh/Hr)**	**Meter Rate* (Veh/Hr)**	**Excess Demand**	**Delay (Min)**	**Queue (Feet)**
AM	SR-905 / Britannia Blvd. Westbound	1,200	960	240	15.0	6,000 (E)
PM	SR-905 / Britannia Blvd. Westbound	3,205	960	2,245	140.3	56,125 (E)
AM	SR-905 / Britannia Blvd. Eastbound	450	960	None	None	None
PM	SR-905 / Britannia Blvd. Eastbound	1,350	960	390	24.4	9,750 (E)

Most Restrictive Meter Rate						
Location		**Demand** (Veh/Hr)**	**Meter Rate* (Veh/Hr)**	**Excess Demand**	**Delay (Min)**	**Queue (Feet)**
AM	SR-905 / La Media Road Westbound	1,705	960	745	46.6	18,625 (E)
PM	SR-905 / La Media Road Westbound	3,610	960	2,650	165.6	66,250 (E)
AM	SR-905 / La Media Road Eastbound	700	960	None	None	None
PM	SR-905 / La Media Road Eastbound	1,720	960	760	47.8	19,000 (E)

Most Restrictive Meter Rate						
Location		**Demand** (Veh/Hr)**	**Meter Rate* (Veh/Hr)**	**Excess Demand**	**Delay (Min)**	**Queue (Feet)**
AM	SR-905 / Siempre Viva Rd. Northbound	1,365	960	405	25.3	10,125 (E)
PM	SR-905 / Siempre Viva Rd. Northbound	5,225	960	4,265	266.6	106,375 (E)
AM	SR-905 / Siempre Viva Rd. Southbound	850	960	None	None	None
PM	SR-905 / Siempre Viva Rd. Southbound	1,655	960	695	43.4	17,375 (E)

***** = Most restrictive meter rate used, per Caltrans.
** = Total hourly volume entering from both directions.
(E) = Exceeds ramp storage length.

TABLE 5-5

Buildout Community Plan Ramp Meter Operations

Most Restrictive Meter Rate						
Location		Demand ** (Veh/Hr)	Meter Rate* (Veh/Hr)	Excess Demand	Delay (Min)	Queue (Feet)
AM	SR-125 / Otay Mesa Rd. Northbound	865	960	None	None	None
PM	SR-125 / Otay Mesa Rd. Northbound	2,265	960	1,305	81.6	32,625 (E)

Most Restrictive Meter Rate						
Location		Demand* (Veh/Hr)	Meter Rate* (Veh/Hr)	Excess Demand	Delay (Min)	Queue (Feet)
AM	SR-125 / Lone Star Rd. Northbound	1,220	960	260	16.2	6,500 (E)
PM	SR-125 / Lone Star Rd. Northbound	2,000	960	1,040	65.0	26,000 (E)

*** =** Most restrictive meter rate used, per Caltrans.
** = Total hourly volume entering from both directions.
Excess Demand X 60MIN = Delay (Minutes)
Meter Rate
(E) = Exceeds ramp storage length.

Note: Experience shows that the theoretical queue length derived by this analysis often does not materialize. Motorists, after a brief time of adjustment, seek alternative travel paths if available, or alternative times of arrival at the meter. The effect is to approximately minimize total trip time by seeking out the best combinations of route and departure time at the beginning of the trip. This causes at least two important changes in the pattern on arriving traffic at ramp meters. First, the peak period is spread out with some traffic arriving earlier and some traffic arriving later than predicted. Second, a significant proportion of the predicted arriving traffic will use another ramp with shorter queues, use another freeway, or stay on surface streets.

Ramp meter queues are also tabulated, but there are no performance criteria regarding excessive queues in the Regional Traffic Impact Study Guidelines. However, the guidelines state the following:

"Experience shows that the theoretical queue length derived by this analysis often does not materialize. Motorists, after a brief time of adjustment, seek alternative travel paths if available or alternative times of arrival at the meter. The effect is to approximately minimize total trip time by seeking out the best combinations of route and departure time at the beginning of the trip. This causes at least two important changes in the pattern on arriving at ramp meters. First, the peak period is spread out with some traffic arriving earlier and some traffic arriving later than predicted. Second, a significant proportion of the predicted arriving traffic will use another ramp with shorter queues, [if available], use another freeway, or stay on surface streets."

5.6 Freeway Interchange Queue Analysis

A queue analysis was prepared at the interchange ramps within the study area, and queue lengths without intersection mitigation are shown in **Table 5-6,** while **Table 5-7** shows queue lengths with mitigation.

There are no intersection queue length performance criteria within the Regional SANTEC / ITE Traffic Impact Study Guidelines. This queue analysis was provided to primarily evaluate whether interchanges could accommodate the projected traffic volumes and then compare the three scenarios evaluated in this report.

Of the 164 queues evaluated without mitigation, during AM and PM peak hours, 91 are expected to be of excess length for the vehicle storage available between these closely spaced intersections at freeway interchange ramps. With intersection mitigation, 192 queues were evaluated and 78 are expected to be of excess length, extending through the adjacent intersection.

Table 5-6

Adopted Community Plan

Buildout Queue Analysis Without Mitigation

Queue Locations North / South	AM Peak Hour													
Location	Queue Length Per Lane			Distance Between Intersections	Excess Queue (Feet)			Queue Length Per Lane			Distance Between Intersections	Excess Queue (Feet)		
	Southbound			Southbound	Southbound			Northbound			Northbound	Northbound		
	RT	TH	LT		RT	TH	LT	LT	TH	RT		LT	TH	RT
Otay Mesa Rd. / Caliente Ave.	-	-	-	-	-	-	-	370	4,100	-	450	None	3,650	-
Caliente Ave. / SR-905 WB Ramps	1,383	1,808	-	450	933	1,358	-	1,588	2,725	-	450	1,138	2,275	-
Caliente Ave. / SR-905 EB Ramps	-	173	590	450	-	None	140	-	2,375	-	300	-	2,075	-
Caliente Ave. / Airway Rd.	-	525	2,800	300	-	225	2,500	-	-	-	-	-	-	-
Otay Mesa Rd. / Heritage Rd.	-	-	-	-	-	-	-	310	1,053	-	750	None	303	-
Heritage Rd. / SR-905 WB Ramps	-	160	218	750	-	None	None	-	1,858	-	750	-	1,108	-
Heritage Rd. / SR-905 EB Ramps	-	825	168	750	-	75	None	-	1,920	-	750	-	1,170	-
Heritage Rd. / Airway Rd.	-	3,825	2,078	750	-	3,075	1,328	-	-	-	-	-	-	-
Otay Mesa Rd. / Britannia Blvd.	-	-	-	-	-	-	-	430	-	688	900	None	-	None
Britannia Blvd. / SR-905 WB Ramps	540	1,163	-	900	None	263	-	1,010	198	-	450	560	None	-
Britannia Blvd. / SR-905 EB Ramps	-	1,068	300	450	-	618	None	-	1,595	-	900	-	695	-
Britannia Blvd. / Airway Rd.	-	3,670	2,428	900	-	2,770	1,528	-	-	-	-	-	-	-
Otay Mesa Rd. / La Media Rd.	-	-	-	-	-	-	-	2,423	3,375	-	450	1,973	2,225	-
La Media Rd. / SR-905 WB Ramps	105	2,900	-	450	None	2,450	-	248	5,100	4,275	900	None	4,200	3,375
La Media Rd. / SR-905 EB Ramps	63	6,975	-	900	None	6,075	-	510	2,208	-	900	None	1,308	-
La Media Rd. / Airway Rd.	-	5,500	4,375	900	-	4,600	3,475	-	-	-	-	-	-	-

Note: Based on 95th percentile back of queue. 25 FT. per vehicle.
TH = Through Lanes
LT = Left Turn Lane
RT = Right Turn Lane

Table 5-6

Adopted Community Plan

Buildout Queue Analysis Without Mitigation

Queue Locations North / South	PM Peak Hour													
Location	Queue Length Per Lane			Distance Between Intersections	Excess Queue (Feet)			Queue Length Per Lane			Distance Between Intersections	Excess Queue (Feet)		
	Southbound			Southbound	Southbound			Northbound			Northbound	Northbound		
	RT	TH	LT		RT	TH	LT	LT	TH	RT		LT	TH	RT
Otay Mesa Rd. / Caliente Ave.	-	-	-	-	-	-	-	638	2,750	-	450	188	2,300	-
Caliente Ave. / SR-905 WB Ramps	685	1,505	-	450	235	1,055	-	4,325	1,970	-	450	3,875	1,520	-
Caliente Ave. / SR-905 EB Ramps	-	238	498	450	-	None	48	-	2,900	-	300	-	2,600	-
Caliente Ave. / Airway Rd.	-	1,120	1,415	300	-	820	1,115	-	-	-	-	-	-	-
Otay Mesa Rd. / Heritage Rd.	-	-	-	-	-	-	-	358	490	-	750	None	None	-
Heritage Rd. / SR-905 WB Ramps	-	140	458	750	-	None	None	-	4,700	-	750	-	3,950	-
Heritage Rd. / SR-905 EB Ramps	-	143	163	750	-	None	None	-	3,750	-	750	-	3,000	-
Heritage Rd. / Airway Rd.	-	2,040	408	750	-	1,290	None	-	-	-	-	-	-	-
Otay Mesa Rd. / Britannia Blvd.	-	-	-	-	-	-	-	628	-	None	900	None	-	None
Britannia Blvd. / SR-905 WB Ramps	1,115	1,370	-	900	215	470	-	5,675	65	-	450	5,225	None	-
Britannia Blvd. / SR-905 EB Ramps	-	75	408	450	-	None	None	-	5,625	-	900	-	4,725	-
Britannia Blvd. / Airway Rd.	-	1,650	990	900	-	750	90	-	-	-	-	-	-	-
Otay Mesa Rd. / La Media Rd.	-	-	-	-	-	-	-	1,090	2,875	-	450	640	2,425	-
La Media Rd. / SR-905 WB Ramps	453	2,875	-	450	3	2,425	-	863	2,205	11,175	900	None	1,305	10,275
La Media Rd. / SR-905 EB Ramps	375	4,725	-	900	None	3,825	-	1,260	2,850	-	900	360	1,950	-
La Media Rd. / Airway Rd.	-	1,025	3,225	900	-	125	2,325	-	-	-	-	-	-	-

Note: Based on 95th percentile back of queue. 25 FT. per vehicle.
TH = Through Lanes
LT = Left Turn Lane
RT = Right Turn Lane

Table 5-6

Adopted Community Plan

Buildout Queue Analysis Without Mitigation

Queue Locations East / West	AM Peak Hour													
Location	Queue Length Per Lane			Distance Between Intersections	Excess Queue (Feet)			Queue Length Per Lane			Distance Between Intersections	Excess Queue (Feet)		
	Eastbound			Eastbound	Eastbound			Westbound			Westbound	Westbound		
	RT	TH	LT		RT	TH	LT	LT	TH	RT		LT	TH	RT
Palm Ave. / I-805 SB Ramps	-	-	-	-	-	-	-	228	103	-	600	None	None	-
Palm Ave. / I-805 NB Ramps	-	308	763	600	-	None	163	-	305	5,175	1,000	-	None	4,175
Palm Ave. Dennery Rd.	395	448	613	1,000	None	None	None	-	-	-	-	-	-	-
Siempre Viva Rd. / Otay Center Dr.	-	-	-	-	-	-	-	1,558	6,425	-	600	958	5,825	-
Siempre Viva Rd. / SR-905 SB Ramps	-	1,440	-	300	-	1,140	-	575	-	-	600	None	None	-
Siempre Viva Rd. / SR-905 NB Ramps	-	2,925	1,543	600	-	2,325	943	-	2,650	905	1,150	-	1,500	None
Siempre Viva Rd. / Paseo de las Americas	3,450	1,183	10,350	1,150	2,300	33	9,200	-	-	-	-	-	-	-
La Media Rd. / Lone Star Rd.	-	-	-	-	-	-	-	785	753	-	300	485	453	-
Lone Star Rd. / SR-125 SB Off Ramp	-	1,788	-	300	-	1,488	-	-	208	-	500	-	None	-
Lone Star Rd. / SR-125 NB On Ramp	-	-	93	500	-	-	None	-	160	305	600	-	None	None
Lone Star Rd. / Piper Ranch Rd.	-	2,900	-	600	-	2,300	-	-	-	-	-	-	-	-
Otay Mesa Rd. / Piper Ranch Rd.	-	-	-	-	-	-	-	210	845	-	2,000	None	None	-
Otay Mesa Rd. / SR-125 SB Off Ramp	-	408	-	2,000	-	None	-	-	195	-	500	-	None	-
Otay Mesa Rd. / SR-125 NB On Ramp	-	-	63	500	-	-	None	-	250	203	700	-	None	None
Otay Mesa Rd. / Harvest Rd.	-	3,100	195	700	-	2,400	None	-	-	-	-	-	-	-

Note: Based on 95th percentile back of queue. 25 FT. per vehicle.
TH = Through Lanes
LT = Left Turn Lane
RT = Right Turn Lane

Table 5-6

Adopted Community Plan

Buildout Queue Analysis Without Mitigation

Queue Locations East / West	PM Peak Hour													
Location	**Queue Length Per Lane**			**Distance Between Intersections**	**Excess Queue (Feet)**			**Queue Length Per Lane**			**Distance Between Intersections**	**Excess Queue (Feet)**		
	Eastbound			**Eastbound**	**Eastbound**			**Westbound**			**Westbound**	**Westbound**		
	RT	**TH**	**LT**		**RT**	**TH**	**LT**	**LT**	**TH**	**RT**		**LT**	**TH**	**RT**
Palm Ave. / I-805 SB Ramps	-	-	-	-	-	-	-	503	278	-	600	None	None	-
Palm Ave. / I-805 NB Ramps	-	940	518	600	-	340	None	-	783	3,930	1,000	-	None	2,930
Palm Ave. Dennery Rd.	2,383	678	923	1,000	1,383	None	None	-	-	-	-	-	-	-
Siempre Viva Rd. / Otay Center Dr.	-	-	-	-	-	-	-	3,375	885	-	600	2,775	285	-
Siempre Viva Rd. / SR-905 SB Ramps	-	5,950	-	300	-	5,650	-	2,193	-	-	600	1,593	None	-
Siempre Viva Rd. / SR-905 NB Ramps	-	648	6,600	600	-	None	6,000	-	3,875	5,675	1,150	-	2,725	4,525
Siempre Viva Rd. / Paseo de las Americas	648	405	9,325	1,150	None	None	8,175	-	-	-	-	-	-	-
-														
La Media Rd. / Lone Star Rd.	-	-	-	-	-	-	-	493	3,575	-	300	193	3,275	-
Lone Star Rd. / SR-125 SB Off Ramp	-	115	-	300	-	None	-	-	288	-	500	-	None	-
Lone Star Rd. / SR-125 NB On Ramp	-	-	203	500	-	-	None	-	220	898	600	-	None	298
Lone Star Rd. / Piper Ranch Rd.	-	283	-	600	-	None	-	-	-	-	-	-	-	-
Otay Mesa Rd. / Piper Ranch Rd.	-	-	-	-	-	-	-	58	1,613	-	2,000	None	None	-
Otay Mesa Rd. / SR-125 SB Off Ramp	-	275	-	2,000	-	None	-	-	143	-	500	-	None	-
Otay Mesa Rd. / SR-125 NB On Ramp	-	-	470	500	-	-	None	-	123	1,308	700	-	None	608
Otay Mesa Rd. / Harvest Rd.	-	798	88	700	-	98	None	-	-	-	-	-	-	-

Note: Based on 95th percentile back of queue. 25 FT. per vehicle.
TH = Through Lanes
LT = Left Turn Lane
RT = Right Turn Lane

Table 5-7

Adopted Community Plan

Buildout Queue Analysis With Mitigation

Queue Locations North / South	AM Peak Hour													
Location	Queue Length Per Lane			Distance Between Intersections	Excess Queue (Feet)			Queue Length Per Lane			Distance Between Intersections	Excess Queue (Feet)		
	Southbound			Southbound	Southbound			Northbound			Northbound	Northbound		
	RT	TH	LT		RT	TH	LT	LT	TH	RT		LT	TH	RT
Otay Mesa Rd. / Caliente Ave.	-	-	-	-	-	-	-	370	400	7,680	450	None	None	7,380
Caliente Ave. / SR-905 WB Ramps	2,925	500	-	450	428	50	-	765	450	-	450	315	None	-
Caliente Ave. / SR-905 EB Ramps	-	155	243	450	-	None	140	-	1,748	268	300	-	1,448	None
Caliente Ave. / Airway Rd.	-	525	2,600	300	-	225	2,500	-	-	-	-	-	-	-
Otay Mesa Rd. / Heritage Rd.	-	-	-	-	-	-	-	310	315	735	750	None	None	None
Heritage Rd. / SR-905 WB Ramps	-	160	218	750	-	None	None	-	638	70	750	-	None	None
Heritage Rd. / SR-905 EB Ramps	-	825	168	750	-	75	None	-	1,600	170	750	-	650	None
Heritage Rd. / Airway Rd.	195	2,300	2,078	750	None	1,550	1,328	-	-	-	-	-	-	-
Otay Mesa Rd. / Britannia Blvd.	-	-	-	-	-	-	-	430	-	688	900	None	-	None
Britannia Blvd. / SR-905 WB Ramps	513	485	-	900	None	None	-	1,010	133	-	450	560	None	-
Britannia Blvd. / SR-905 EB Ramps	-	1,068	300	450	-	618	None	-	1,093	180	900	-	193	None
Britannia Blvd. / Airway Rd.	1,528	2,290	3,650	900	628	1,390	2,750	-	-	-	-	-	-	-
Otay Mesa Rd. / La Media Rd.	-	-	-	-	-	-	-	2,423	1,355	585	450	1,973	905	135
La Media Rd. / SR-905 WB Ramps	105	2,900	-	450	None	2,450	-	248	2,448	-	900	None	1,548	-
La Media Rd. / SR-905 EB Ramps	63	4,000	-	900	None	3,100	-	510	2,208	-	900	None	1,308	-
La Media Rd. / Airway Rd.	2,098	2,278	4,550	900	1,198	1,378	3,650	-	-	-	-	-	-	-

Note: Based on 95th percentile back of queue. 25 FT. per vehicle.
TH = Through Lanes
LT = Left Turn Lane
RT = Right Turn Lane

Table 5-7

Adopted Community Plan

Buildout Queue Analysis With Mitigation

Queue Locations North / South	PM Peak Hour													
Location	**Queue Length Per Lane**			**Distance Between Intersections**	**Excess Queue (Feet)**			**Queue Length Per Lane**			**Distance Between Intersections**	**Excess Queue (Feet)**		
	Southbound			**Southbound**	**Southbound**			**Northbound**			**Northbound**	**Northbound**		
	RT	**TH**	**LT**		**RT**	**TH**	**LT**	**LT**	**TH**	**RT**		**LT**	**TH**	**RT**
Otay Mesa Rd. / Caliente Ave.	-	-	-	-	-	-	-	700	483	3,225	450	250	33	2,775
Caliente Ave. / SR-905 WB Ramps	588	600	-	450	12	150	-	1,455	1,785	-	450	1,005	1,335	-
Caliente Ave. / SR-905 EB Ramps	-	328	305	450	-	None	None	-	1,870	248	300	-	1,570	None
Caliente Ave. / Airway Rd.	-	1,268	2,800	300	-	968	2,500	-	-	-	-	-	-	-
Otay Mesa Rd. / Heritage Rd.	-	-	-	-	-	-	-	358	158	545	750	None	None	None
Heritage Rd. / SR-905 WB Ramps	-	160	218	750	-	None	None	-	563	498	750	-	None	None
Heritage Rd. / SR-905 EB Ramps	-	138	173	750	-	None	None	-	2,525	73	750	-	1,775	None
Heritage Rd. / Airway Rd.	1,038	403	400	750	288	None	None	-	-	-	-	-	-	-
Otay Mesa Rd. / Britannia Blvd.	-	-	-	-	-	-	-	628	-	None	900	None	-	None
Britannia Blvd. / SR-905 WB Ramps	643	1,010	-	900	None	110	-	4,875	63	-	450	4,425	None	-
Britannia Blvd. / SR-905 EB Ramps	-	75	408	450	-	None	None	-	2,900	560	900	-	2,000	None
Britannia Blvd. / Airway Rd.	368	745	990	900	None	None	90	-	-	-	-	-	-	-
Otay Mesa Rd. / La Media Rd.	-	-	-	-	-	-	-	1,090	1,195	415	450	640	745	None
La Media Rd. / SR-905 WB Ramps	453	2,875	-	450	3	2,425	-	883	340	-	900	None	None	-
La Media Rd. / SR-905 EB Ramps	375	2,625	-	900	None	1,725	-	1,260	2,850	-	900	360	1,950	-
La Media Rd. / Airway Rd.	120	360	3,225	900	None	None	2,325	-	-	-	-	-	-	-

Note: Based on 95th percentile back of queue. 25 FT. per vehicle.
TH = Through Lanes
LT = Left Turn Lane
RT = Right Turn Lane

Table 5-7

Adopted Community Plan

Buildout Queue Analysis With Mitigation

Queue Locations East / West	AM Peak Hour													
Location	Queue Length Per Lane			Distance Between Intersections	Excess Queue (Feet)			Queue Length Per Lane			Distance Between Intersections	Excess Queue (Feet)		
	Eastbound			Eastbound	Eastbound			Westbound			Westbound	Westbound		
	RT	TH	LT		RT	TH	LT	LT	TH	RT		LT	TH	RT
Palm Ave. / I-805 SB Ramps	-	-	-	-	-	-	-	253	103	-	600	None	None	-
Palm Ave. / I-805 NB Ramps	288	138	-	600	None	None	-	-	38	53	1,000	-	None	None
Palm Ave. Dennery Rd.	395	448	613	1,000	None	None	None	-	-	-	-	-	-	-
Siempre Viva Rd. / Otay Center Dr.	-	-	-	-	-	-	-	473	5,900	43	600	None	5,300	None
Siempre Viva Rd. / SR-905 SB Ramps	-	1,440	-	300	-	1,140	-	575	-	-	600	None	None	-
Siempre Viva Rd. / SR-905 NB Ramps	-	2,925	1,543	600	-	2,325	943	-	2,525	388	1,150	-	1,375	None
Siempre Viva Rd. / Paseo de las Americas	3,500	1,183	4,250	1,150	2,350	33	3,100	-	-	-	-	-	-	-
La Media Rd. / Lone Star Rd.	-	-	-	-	-	-	-	785	430	283	300	485	130	None
Lone Star Rd. / SR-125 SB Off Ramp	-	1,788	-	300	-	1,488	-	-	208	-	500	-	None	-
Lone Star Rd. / SR-125 NB On Ramp	-	-	93	500	-	-	None	-	80	305	600	-	None	None
Lone Star Rd. / Piper Ranch Rd.	35	2,475	-	600	None	1,875	-	-	-	-	-	-	-	-
Otay Mesa Rd. / Piper Ranch Rd.	-	-	-	-	-	-	-	210	475	110	2,000	None	None	None
Otay Mesa Rd. / SR-125 SB Off Ramp	-	408	-	2,000	-	None	-	-	195	-	500	-	None	-
Otay Mesa Rd. / SR-125 NB On Ramp	-	-	63	500	-	-	None	-	250	203	700	-	None	None
Otay Mesa Rd. / Harvest Rd.	270	1,715	195	700	None	1,015	None	-	-	-	-	-	-	-

Note: Based on 95th percentile back of queue. 25 FT. per vehicle.
TH = Through Lanes
LT = Left Turn Lane
RT = Right Turn Lane

Table 5-7

Adopted Community Plan

Buildout Queue Analysis With Mitigation

Queue Locations East / West	PM Peak Hour													
Location	Queue Length Per Lane			Distance Between Intersections	Excess Queue (Feet)			Queue Length Per Lane			Distance Between Intersections	Excess Queue (Feet)		
	Eastbound			Eastbound	Eastbound			Westbound			Westbound	Westbound		
	RT	TH	LT		RT	TH	LT	LT	TH	RT		LT	TH	RT
Palm Ave. / I-805 SB Ramps	-	-	-	-	-	-	-	553	250	-	600	None	None	-
Palm Ave. / I-805 NB Ramps	208	268	-	600	None	None	-	-	80	670	1,000	-	None	None
Palm Ave. Dennery Rd.	2,383	678	923	1,000	1,383	None	None	-	-	-	-	-	-	-
Siempre Viva Rd. / Otay Center Dr.	-	-	-	-	-	-	-	1,153	315	190	600	553	None	None
Siempre Viva Rd. / SR-905 SB Ramps	-	5,950	-	300	-	5,650	-	2,193	-	-	600	1,593	None	-
Siempre Viva Rd. / SR-905 NB Ramps	-	303	6,600	600	-	None	6,000	-	875	5,375	1,150	-	None	4,225
Siempre Viva Rd. / Paseo de las Americas	668	405	3,900	1,150	None	None	2,750	-	-	-	-	-	-	-
La Media Rd. / Lone Star Rd.	-	-	-	-	-	-	-	493	103	4,025	300	193	None	3,725
Lone Star Rd. / SR-125 SB Off Ramp	-	115	-	300	-	None	-	-	288	-	500	-	None	-
Lone Star Rd. / SR-125 NB On Ramp	-	-	203	500	-	-	None	-	220	898	600	-	None	298
Lone Star Rd. / Piper Ranch Rd.	35	223	-	600	None	None	-	-	-	-	-	-	-	-
Otay Mesa Rd. / Piper Ranch Rd.	-	-	-	-	-	-	-	58	1,240	40	2,000	None	None	None
Otay Mesa Rd. / SR-125 SB Off Ramp	-	275	-	2,000	-	-	-	-	143	-	500	-	None	-
Otay Mesa Rd. / SR-125 NB On Ramp	-	-	470	500	-	-	None	-	123	1,308	700	-	None	608
Otay Mesa Rd. / Harvest Rd.	55	530	88	700	None	None	None	-	-	-	-	-	-	-

Note: Based on 95th percentile back of queue. 25 FT. per vehicle.
TH = Through Lanes
LT = Left Turn Lane
RT = Right Turn Lane

6.0 SCENARIO 3B WITH LA MEDIA ROAD

6.1 3B Scenario Assumed Land Use and Transportation Network

The 3B Scenario land use would allow up to 18,774 dwelling units compared to 12,206 within the Adopted Community Plan. The traffic forecast for this alternative assumed 3,917,000 square feet of commercial uses and 54,461,000 square feet of industrial uses. The buildout of this plan would generate 1,045,025 average daily vehicle trips. The circulation element roadways for this alternative include those assumed in the Adopted Community Plan, No Project scenario. The major change is the extension of Beyer Boulevard to the east from the current existing roadway, and connecting with the southerly extension of Caliente Avenue. Siempre Viva Road is extended southwest of Caliente Avenue, but is disconnected from intersecting with East Beyer Boulevard in San Ysidro.

6.2 Segment Level of Service

Figure 6-1 shows the projected buildout average daily traffic trips generated on the street system due to the land uses assumed under the 3B With La Media Road land use and street network. **Table 6-1** indicates the roadway segment level of service for numerous roadway segments as a result of the projected average daily traffic and the capacity of the roadway. The highest forecasted volumes between circulation element roads were used for analysis. Also shown are recommended reclassifications of roadways. The initial "without mitigation" classification of roadways is based on the existing functional classifications. Or,if the street did not exist in the existing conditions assessment, or if analyzing the projected volumes on the existing facility would not be meaningful because it would not be possible to carry those volumes on the existing sized facility due to its capacity, then the Adopted Community Plan

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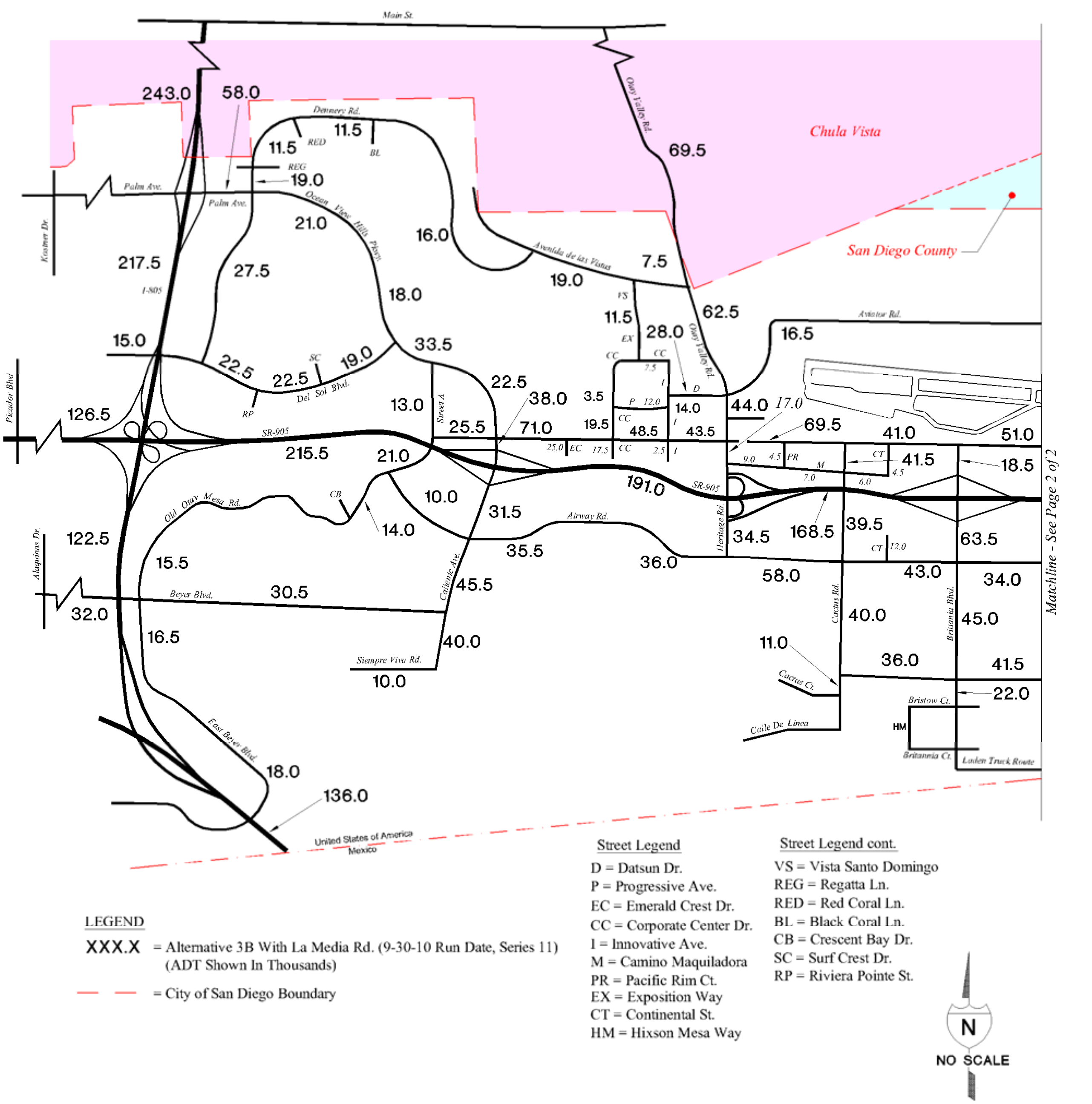
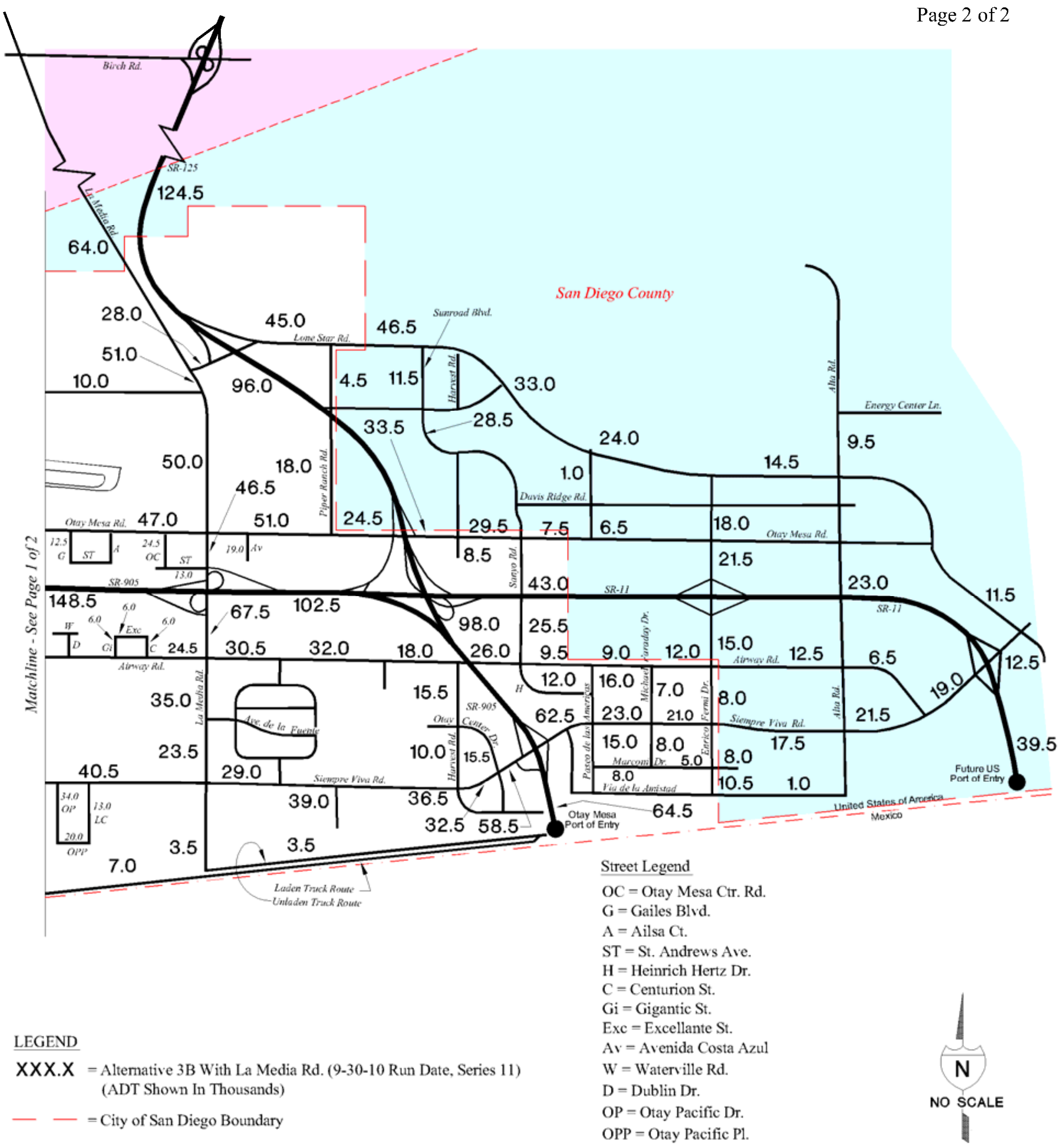


FIGURE 6-1

Scenario 3B With La Media Road Average Daily Traffic



Street Legend
OC = Otay Mesa Ctr. Rd.
G = Gailes Blvd.
A = Ailsa Ct.
ST = St. Andrews Ave.
H = Heinrich Hertz Dr.
C = Centurion St.
Gi = Gigantic St.
Exc = Excellante St.
Av = Avenida Costa Azul
W = Waterville Rd.
D = Dublin Dr.
OP = Otay Pacific Dr.
OPP = Otay Pacific Pl.
LC = Las Califorias Dr.

LEGEND
XXX.X = Alternative 3B With La Media Rd. (9-30-10 Run Date, Series 11) (ADT Shown In Thousands)
— — = City of San Diego Boundary

FIGURE 6-1

Scenario 3B With La Media Road Average Daily Traffic

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TABLE 6-1

Buildout Scenario 3B With La Media Road

Average Daily Traffic & Levels of Service

Street	Segment	#	(1) Class	LOS E ADT (2)	Segment ADT	V/C	LOS	New Class	New V/C	NEW LOS	S?
Otay Mesa Road	Street A to Caliente Ave.	1	6-PA	60,000	25,500	0.43	B	6-M	0.64	C	N
	Caliente Ave. to Corporate Center Dr.	2	6-PA	60,000	71,000	1.18	F	N	-	-	Y
	Corporate Center Dr. to Innovative Dr.	3	6-PA	60,000	48,500	0.81	C	N	-	-	N
	Innovative Dr. to Heritage Rd.	4	6-PA	60,000	43,500	0.73	C	N	-	-	N
	Heritage Rd. to Cactus Rd.	5	6-PA	60,000	69,500	1.16	F	N	-	-	Y
	Cactus Rd. to Britannia Blvd.	6	6-PA	60,000	41,000	0.68	C	N	-	-	N
	Britannia Blvd. to Ailsa Ct.	7	6-PA	60,000	51,000	0.85	D	N	-	-	N
	Ailsa Ct. to La Media Rd.	8	7-M	55,000	47,000	0.85	D	6-PA	0.78	C	N
	La Media Rd. to Piper Ranch Rd.	9	8-M	70,000	51,000	0.73	C	6-PA	0.85	D	N
	Piper Ranch Rd. to SR-125	10	4-P	45,000	24,500	0.54	C	6-PA	0.41	A	N
	SR-125 to Harvest Rd.	11	4-M	40,000	33,500	0.84	D	6-PA	0.56	C	N
	Harvest Rd. to Sanyo Ave.	12	4-M	40,000	29,500	0.74	C	6-PA	0.49	C	N
	Sanyo Ave. to Enrico Fermi Dr.	13	4-M	40,000	7,500	0.19	A	6-PA	0.13	A	N
Airway Road	Old Otay Mesa Rd. to Caliente Ave.	14	4-CL	30,000	10,000	0.25	A	N	-	-	N
	Caliente Ave. to Heritage Rd.	15	4-M	40,000	36,000	0.90	E	N	-	-	Y
	Heritage Rd. to Cactus Rd.	16	4-M	40,000	58,000	1.45	F	6-PA	0.97	E	Y
	Cactus Rd. to Britannia Blvd.	17	4-M	40,000	43,000	1.07	F	6-M	0.86	D	N
	Britannia Blvd. to La Media Rd.	18	4-M	40,000	34,000	0.85	D	N	-	-	N
	La Media Rd. to Harvest Rd.	19	4-M	40,000	32,000	0.80	D	N	-	-	N
	Harvest Rd. to Sanyo Ave.	20	4-M	40,000	26,000	0.65	C	N	-	-	N
	Sanyo Ave. to Paseo de las Americas	21	4-M	40,000	9,500	0.24	A	N	-	-	N
	Paseo de las Americas to Michael Faraday Dr.	22	4-M	40,000	9,000	0.23	A	N	-	-	N
	Michael Faraday Dr. to Enrico Fermi Dr.	23	4-M	40,000	12,000	0.30	A	N	-	-	N
	Enrico Fermi Dr. to Siempre Viva Rd.*	24	4-M	40,000	12,500	0.31	A	N	-	-	N
Siempre Viva Road	Caliente Ave. to West Terminus	25	4-M	40,000	10,000	0.25	A	2-CL	0.67	C	N
	Cactus Rd. to Britannia Blvd.	27	6-PA	60,000	36,000	0.60	C	N	-	-	N
	Britannia Blvd. to La Media Rd.	28	6-PA	60,000	41,500	0.69	C	N	-	-	N
	La Media Rd. to Harvest Rd.	29	6-PA	60,000	39,000	0.65	C	N	-	-	N
	Harvest Rd. to Otay Center Dr.	30	6-PA	60,000	32,500	0.54	B	N	-	-	N
	Otay Center Dr. to SR-905	31	6-PA	60,000	58,500	0.98	E	N	-	-	Y
	SR-905 to Paseo de las Americas	32	6-PA	60,000	62,500	1.04	F	N	-	-	Y
	Paseo de las Americas to Michael Faraday Dr.	33	4-M	40,000	23,000	0.58	C	N	-	-	N
	Michael Faraday Dr. to Enrico Fermi Dr.	34	4-M	40,000	21,000	0.53	B	N	-	-	N
	Enrico Fermi Dr. to SR-11*	35	4-M	40,000	17,500	0.44	B	N	-	-	N

*Segment in County of San Diego

Note: There is no segment #26 with this alternative.

= Segment Number

(1) = Current Community Plan Classification, unless footnotes (3) or (4) apply.

(2) = Source: City of San Diego Traffic Impact Study Manual, Table 2.

(3) = Add to Circulation Plan.

(4) = Functional classification shown, not currently classified.

S? = Significant impact, Yes (Y) or No (N).

New LOS = LOS after change in classification.

F = Shading indicates a significant impact.

Legend

8-M = 8-lane Major Arterial
7-PA = 7-lane Primary Arterial
7-M = 7-lane Major Arterial
6-PA = 6-lane Primary Arterial
6-M = 6-lane Major Arterial
5-M = 5-lane Major Arterial (3SB /2NB)
4-P = 4-lane Primary Arterial
4-M = 4-lane Major Arterial
4-CL = 4-lane Collector (with continuous left turn lane)
4-C = 4-lane Collector (without continuous left turn lane)
2-CL = 2-lane Collector (with continuous left turn lane)
2-CN = 2-lane Collector (no fronting property)
2-C = 2-lane Collector (without continuous left turn lane)

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TABLE 6-1 (Continued)

Buildout Scenario 3B With La Media Road

Average Daily Traffic & Levels of Service

Street	Segment	#	(1) Class	LOS E ADT (2)	Segment ADT	V/C	LOS	New Class	New V/C	NEW LOS	S?
Palm Avenue	I-805 to Dennery Rd.	37	7-PA	65,000	58,000	0.89	D	N	-	-	N
Ocean View Hills Parkway	Dennery Rd. to Del Sol Blvd.	38	4-M	40,000	21,000	0.53	B	N	-	-	N
	Del Sol Blvd. to Street “A”	39	6-M	50,000	33,500	0.67	C	N	-	-	N
	Street “A” to Otay Mesa Rd.	40	6-M	50,000	22,500	0.45	B	N	-	-	N
Caliente Avenue	Otay Mesa Rd. to SR-905	41	6-M	50,000	38,000	0.76	C	6-PA	0.50	B	N
	SR-905 to Airway Rd.	42	6-M	50,000	31,500	0.63	C	6-PA	0.53	B	N
	Airway Rd. to Beyer Blvd.	43	4-M	40,000	45,500	1.14	F	6-M	0.91	E	Y
	Beyer Blvd. to Siempre Viva Rd.	43A	4-M	40,000	41,000	1.03	F	N	-	-	Y
Beyer Boulevard	Alaquinas Dr. to Old Otay Mesa Rd.	44	4-M	40,000	32,000	0.80	D	N	-	-	N
	Old Otay Mesa Rd. to Caliente Ave (3)	45	4-M	40,000	30,500	0.76	C	N	-	-	N
Heritage Road/ Otay Valley Road	Main St. to Avenida De Las Vistas**	46	6-PA	60,000	69,500	1.16	F	N	-	-	Y
	Avenida De Las Vistas to Datsun St.	47	6-M	50,000	62,500	1.25	F	6-PA	1.04	F	Y
	Datsun St. to Otay Mesa Rd.	48	6-M	50,000	44,000	0.88	D	6-PA	0.73	C	N
	Otay Mesa Rd. to SR-905	49	6-M	50,000	17,000	0.34	B	6-PA	0.28	A	N
	SR-905 to Airway Rd.	50	6-M	50,000	34,500	0.69	C	6-PA	0.58	B	N
Cactus Road	Otay Mesa Rd. to Airway Rd.	52	4-CL	30,000	41,500	1.38	F	4-M	1.04	F	Y
	Airway Rd. to Siempre Viva Rd.	53	4-CL	30,000	40,000	1.33	F	4-M	1.00	E	Y
	Siempre Viva Rd. to South End	54	2-CL	15,000	11,000	0.73	D	N	-	-	N
Britannia Boulevard	Otay Mesa Rd. to SR-905	55	4-M	40,000	18,500	0.46	B	6-PA	0.31	A	N
	SR-905 to Airway Rd.	56	4-M	40,000	63,500	1.59	F	6-PA	1.06	F	Y
	Airway Rd. to Siempre Viva Rd.	57	4-M	40,000	45,000	1.10	F	6-M	0.90	D	N
	Siempre Viva Rd. to South End	58	2-C	8,000	22,000	2.75	F	4-CL	0.73	D	N
La Media Road	Birch Rd. to Lone Star Rd.**	59	6-PA	60,000	64,000	1.07	F	N	-	-	Y
	Lone Star Rd. to Aviator Rd.	60	6-PA	60,000	51,000	0.85	D	N	-	-	N
	Aviator Rd. to Otay Mesa Rd.	61	6-PA	60,000	50,000	0.83	C	N	-	-	N
	Otay Mesa Rd. to SR-905	62	6-PA	60,000	46,500	0.78	C	N	-	-	N
	SR-905 to Airway Rd.	63	6-PA	60,000	67,500	1.13	F	N	-	-	Y
	Airway Rd. to Siempre Viva Rd.	64	4-M	40,000	35,000	0.88	D	5-M	0.78	D	N
Harvest Road	South of Otay Mesa Rd.	65	4-M	40,000	8,500	0.21	A	2-CL	0.57	A	N
	Airway Rd. to Otay Center Dr.	66	4-M	40,000	15,500	0.39	B	4-CL	0.52	C	N
	Otay Center Dr. to Siempre Viva Rd.	67	4-M	40,000	10,000	0.25	A	4-CL	0.33	A	N

*Segment in County of San Diego

**Segment in Chula Vista

= Segment Number

(1) = Current Community Plan Classification, unless footnotes (3) or (4) apply.

(2) = Source: City of San Diego Traffic Impact Study Manual, Table 2.

(3) = Add to Circulation Plan.

(4) = Functional classification shown, not currently classified.

S? = Significant impact, Yes (Y) or No (N).

New LOS = LOS after change in classification.

F = Shading indicates a significant impact.

Note: There is no segment # 51 with this alternative. Segment #36 was deleted.

Legend

8-M = 8-lane Major Arterial
7-PA = 7-lane Primary Arterial
7-M = 7-lane Major Arterial
6-PA = 6-lane Primary Arterial
6-M = 6-lane Major Arterial
5-M = 5-lane Major Arterial (3SB /2NB)
4-P = 4-lane Primary Arterial
4-M = 4-lane Major Arterial
4-CL = 4-lane Collector (with continuous left turn lane)
4-C = 4-lane Collector (without continuous left turn lane)
2-CL = 2-lane Collector (with continuous left turn lane)
2-CN = 2-lane Collector (no fronting property)
2-C = 2-lane Collector (without continuous left turn lane)

TABLE 6-1 (Continued)

Buildout Scenario 3B With La Media Road

Average Daily Traffic & Levels of Service

Street	Segment	#	(1)Class	LOS E ADT (2)	Segment ADT	V/C	LOS	New Class	New V/C	NEW LOS	S?
Enrico Fermi Drive	SR-11 to Airway Rd.*	68	4-M	40,000	15,000	0.38	A	N	-	-	N
	Airway Rd. to SiempreViva Rd.	69	4-M	40,000	8,000	0.20	A	4-CL	0.27	A	N
	Siempre Viva Rd. to Via de la Amistad	70	4-M	40,000	10,500	0.26	A	4-CL	0.35	B	N
Lone Star Road	La Media Rd. to SR-125	71	4-M	40,000	28,000	0.70	C	N	-	-	N
	SR-125 to Piper Ranch Rd.	72	4-M	40,000	45,000	1.13	F	6-PA	0.75	C	N
	Piper Ranch Rd. to City / County Boundary	73	4-M	40,000	46,500	1.16	F	6-PA	0.78	C	N
Aviator Road	Heritage Rd. to La Media Rd. (3)	74	2-C	8,000	16,500	2.06	F	4-CL	0.55	C	N
Dennery Road	Palm Ave. to Del Sol Blvd.	75	4-M	40,000	27,500	0.69	C	N	-	-	N
	Palm Ave. to Regatta Ln.	76	4-M	40,000	19,000	0.48	B	N	-	-	N
	Regatta Ln. to Red Coral Ln.	77	4-CL	30,000	11,500	0.38	B	N	-	-	N
	Red Coral Ln. to Black Coral Ln.	78	2-CL	15,000	11,500	0.78	D	N	-	-	N
	Black Coral Ln. to East End	79	2-CN	10,000	16,000	1.60	F	N	-	-	Y
Avendia De Las Vistas	Otay Valley Rd. to Vista Santo Domingo	80	2-CN	10,000	7,500	0.75	C	N	-	-	N
	Vista Santo Domingo to Dennery Rd.	81	2-CN	10,000	19,000	1.90	F	N	-	-	Y
Del Sol Boulevard	Ocean View Hills Pkwy. to Surf Crest Dr.	82	4-CL	30,000	19,000	0.63	C	N	-	-	N
	Surf Crest Dr. to Riviera Pointe	83	2-CN	10,000	22,500	2.25	F	N	-	-	Y
	Riviera Pointe to Dennery Rd.	84	2-CL	15,000	22,500	1.47	F	N	-	-	Y
	Dennery Rd. to I-805	85	4-CL	30,000	15,000	0.50	C	N	-	-	N
Street A	Ocean View Hills Pkwy. to Otay Mesa Rd.	86	4-M	40,000	13,000	0.33	A	N	-	-	N
Old Otay Mesa Road	Otay Mesa Rd. to Airway Rd.	87	4-CL	30,000	21,000	0.70	D	N	-	-	N
	Airway Rd. to Crescent Bay Dr.	88	4-CL	30,000	14,000	0.47	B	N	-	-	N
	Crescent Bay Dr. to Beyer Blvd.	89	2-C	8,000	15,500	1.94	F	N	-	-	Y
Emerald Crest Drive	Otay Mesa Rd. to South End (3)	90	4-CL	30,000	25,000	0.83	D	N	-	-	N
Corporate Center Drive	South End to Otay Mesa Rd. (3)	91	4-CL	30,000	17,500	0.58	C	N	-	-	N
	Otay Mesa Rd. to Progressive Ave.	92	4-CL	30,000	19,500	0.65	C	N	-	-	N
	Progressive Ave. to Innovative Dr.	93	2-C	8,000	8,500	1.06	F	2-CL	0.57	C	N
Innovative Drive	Otay Mesa Rd. to Corporate Center Dr.	94	4-CL	30,000	14,000	0.47	B	N	-	-	N
Piper Ranch Road	Lone Star Rd. to Otay Mesa Rd.	96	4-CL	30,000	18,000	0.60	C	N	-	-	N

*Segment in County of San Diego

(1) = Current Community Plan Classification, unless footnotes (3) or (4) apply.

(2) = Source: City of San Diego Traffic Impact Study Manual, Table 2.

(3) = Add to Circulation Plan.

(4) = Functional classification shown, not currently classified.

S? = Significant impact, Yes (Y) or No (N).

New LOS = LOS after change in classification.

F = Shading indicates a significant impact.

Legend

8-M = 8-lane Major Arterial
7-PA = 7-lane Primary Arterial
7-M = 7-lane Major Arterial
6-PA = 6-lane Primary Arterial
6-M = 6-lane Major Arterial
5-M = 5-lane Major Arterial (3SB /2NB)
4-P = 4-lane Primary Arterial
4-M = 4-lane Major Arterial
4-CL = 4-lane Collector (with continuous left turn lane)
4-C = 4-lane Collector (without continuous left turn lane)
2-CL = 2-lane Collector (with continuous left turn lane)
2-CN = 2-lane Collector (no fronting property)
2-C = 2-lane Collector (without continuous left turn lane)

TABLE 6-1 (Continued)

Buildout Scenario 3B With La Media Road

Average Daily Traffic & Levels of Service

Street	Segment	#	(1)Class	LOS E ADT (2)	Segment ADT	V/C	LOS		New Class	New V/C	New LOS	S?
Sanyo Avenue	Otay Mesa Rd. to Airway Rd. (4)	97	4-C	15,000	25,500	1.70	F		4-CL	0.85	E	Y
Heinrich Hertz Drive	Airway Rd. to Paseo de las Americas (4)	98	2-CL	15,000	11,000	0.73	D		N	-	-	N
Paseo de las Americas	Airway Rd. to Siempre Viva Rd.	99	2-C	8,000	16,000	2.00	F		4-CL	0.53	C	N
	Siempre Viva Rd. to Marconi Dr.	100	2-C	8,000	15,000	1.88	F		4-CL	0.50	C	N
Marconi Drive	Paseo de las Americas to Enrico Fermi Dr.	101	2-C	8,000	8,000	1.00	E		2-CL	0.53	C	N
Otay Center Drive	Harvest Rd. to Siempre Viva Rd. (4)	102	4-C	15,000	15,500	1.03	F		4-CL	0.52	C	N
Michael Faraday Drive	Airway Rd. to Siempre Viva Rd. (4)	103	2-CL	15,000	7,000	0.47	B		N	-	-	N
	Siempre Viva Rd. to Marconi Dr. (4)	104	2-CL	15,000	8,000	0.53	C		N	-	-	N
St. Andrews Avenue	Otay Mesa Center Rd. To La Media Rd.	105	2-C	8,000	13,000	1.30	F		4-CL	0.43	B	N
Gailes Boulevard	Otay Mesa Rd. to St. Andrews Ave.	107	2-C	8,000	12,500	1.56	F		4-C	0.83	D	N
Camino Maquiladora	Heritage Rd. to Pacific Rim Ct.	108	2-C	8,000	9,000	1.13	F		N	-	-	Y
	Pacific Rim Ct. to Cactus Rd.	109	2-C	8,000	7,000	0.88	E		N	-	-	Y
	Cactus Rd. to Continental St.	110	2-C	8,000	6,000	0.75	D		N	-	-	N
Pacific Rim Court	Otay Mesa Rd. to Camino Maquiladora	111	2-C	8,000	4,500	0.56	C		N	-	-	N
Progressive Avenue	Corporate Center Dr. to Innovative Dr.	112	2-C	8,000	12,000	1.50	F		N	-	-	Y
Otay Mesa Center Road	Otay Mesa Rd. to St. Andrews Ave.	113	2-C	8,000	24,500	3.01	F		4-CL	0.82	D	N
Datsun Street	Innovative Dr. to Heritage Rd. (3)	114	2-C	8,000	28,000	3.50	F		4-CL	0.93	E	Y
Avenida Costa Azul	Otay Mesa Rd. to St. Andrews Ave.(3)	115	2-CL	15,000	19,000	1.27	F		4-CL	0.63	B	N
Excellante Street	Airway Rd. to Gigantic St.	116	4-C	15,000	6,000	0.40	B		2-C	0.75	D	N
Gigantic Street	Excellante St. to Centurion St.	117	4-C	15,000	6,000	0.40	B		2-C	0.75	D	N
Centurion Street	Airway Rd. to Gigantic St.	118	4-C	15,000	6,000	0.40	B		2-C	0.75	D	N
Exposition Way / Vista Santo Domingo	Avenida De Las Vistas to Corporate Center Dr. (4)	119	2-CN	10,000	11,500	1.15	F		N	-	-	Y
Continental Street	South of Otay Mesa Rd.	120	2-C	8,000	4,500	0.56	C		N	-	-	N
	North of Airway Rd.	121	2-CL	15,000	10,000	0.67	C		N	-	-	N

*Segment in County of San Diego

\# = Segment Number

(1) = Current Community Plan Classification, unless footnotes (3) or (4) apply.

(2) = Source: City of San Diego Traffic Impact Study Manual, Table 2.

(3) = Add to Circulation Plan.

(4) = Functional classification shown, not currently classified.

S? = Significant impact, Yes (Y) or No (N).

New LOS = LOS after change in classification.

F = Shading indicates a significant impact.

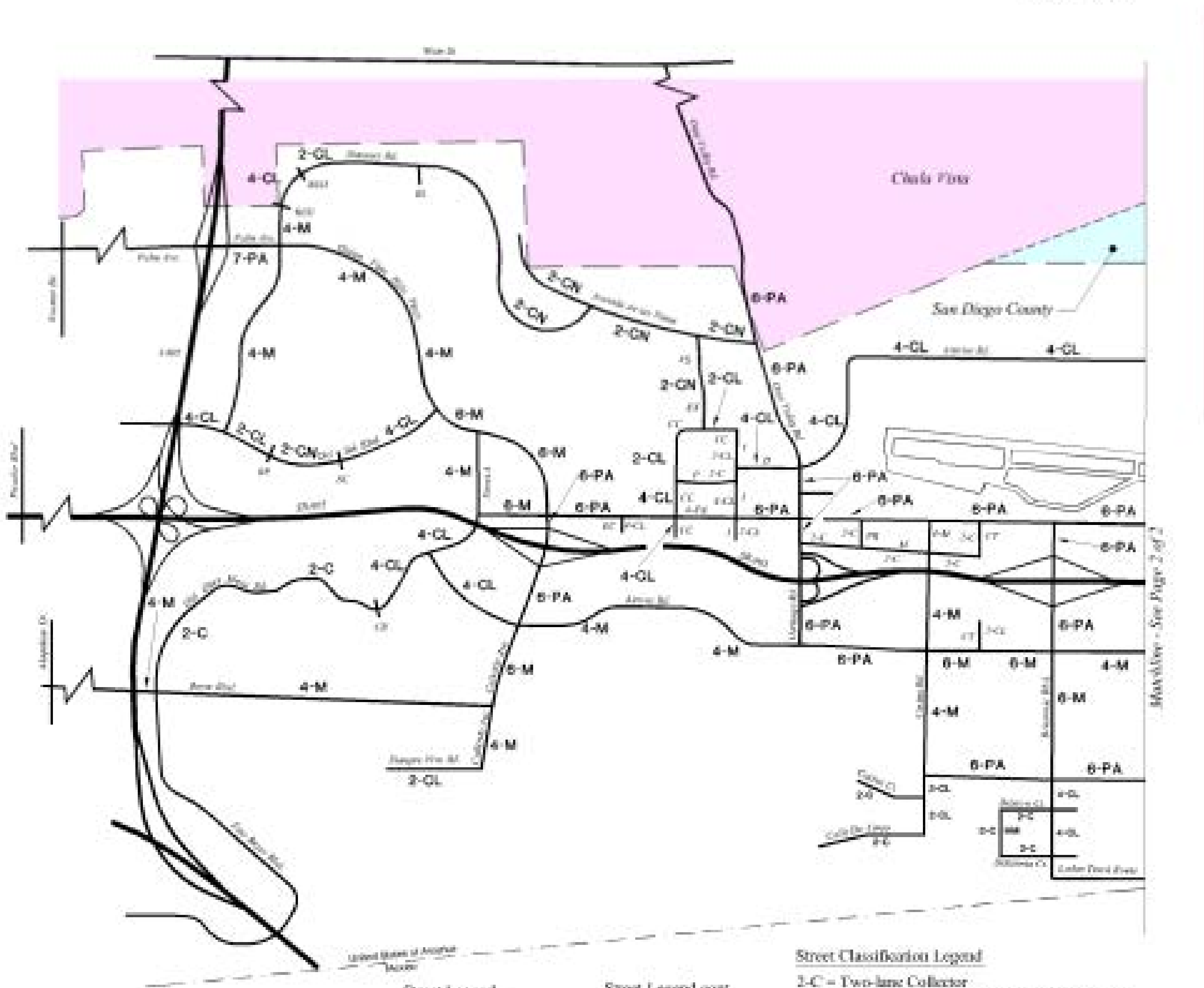
Legend

8-M = 8-lane Major Arterial
7-PA = 7-lane Primary Arterial
7-M = 7-lane Major Arterial
6-PA = 6-lane Primary Arterial
6-M = 6-lane Major Arterial
5-M = 5-lane Major Arterial (3SB /2NB)
4-P = 4-lane Primary Arterial
4-M = 4-lane Major Arterial
4-CL = 4-lane Collector (with continuous left turn lane)
4-C = 4-lane Collector (without continuous left turn lane)
2-CL = 2-lane Collector (with continuous left turn lane)
2-CN = 2-lane Collector (no fronting property)
2-C = 2-lane Collector (without continuous left turn lane)

Classification was used. Failing roadway segments at level of service “E’ or “F” with significant traffic impacts are summarized below. All other roadway segments are projected to operate at a level of service “D” or better, without significant traffic impacts.

Figure 6-2 shows recommended roadway classifications for the 3B With La Media Road scenario.

Page 1 of 2



Based on Alternative 3B With La Media Rd.
(9-30-10 Run Date, Series 11)

LEGEND

— — = City of San Diego Boundary

Street Legend

D = Duncan St.
P = Progressive Ave.
EC = Emerald Crest Dr.
CC = Corporate Center Dr.
I = Innovative Dr.
M = Camino Maquiladora
PR = Pacific Rim Ct.
EX = Exposition Way
VS = Vista Santo Domingo
CT = Continental St.
HM = Hixson Mesa Way

Street Legend cont.

REG = Regatta Ln.
RED = Red Coral Ln.
BL = Black Coral Ln.
CB = Crescent Bay Dr.
SC = Surf Crest Dr.
RP = Riviera Pointe St.

Street Classification Legend

2-C = Two-lane Collector
2-CN = Two-lane Collector (no fronting property)
2-CL = Two-lane Collector (with left turn lane)
4-C = Four-lane Collector (without left turn lane)
4-CL = Four-lane Collector (with left turn lane)
4-M = Four-lane Major Arterial
5-M = Five-lane Major Arterial (3 SB/2 NB)
6-M = Six-lane Major Arterial
6-PA = Six-lane Primary Arterial
7-PA = Seven-lane Primary Arterial

N
NO SCALE

FIGURE 6-2
Scenario 3B With La Media Road Land Use Scenario
With Proposed Roadway Classification Recommendations

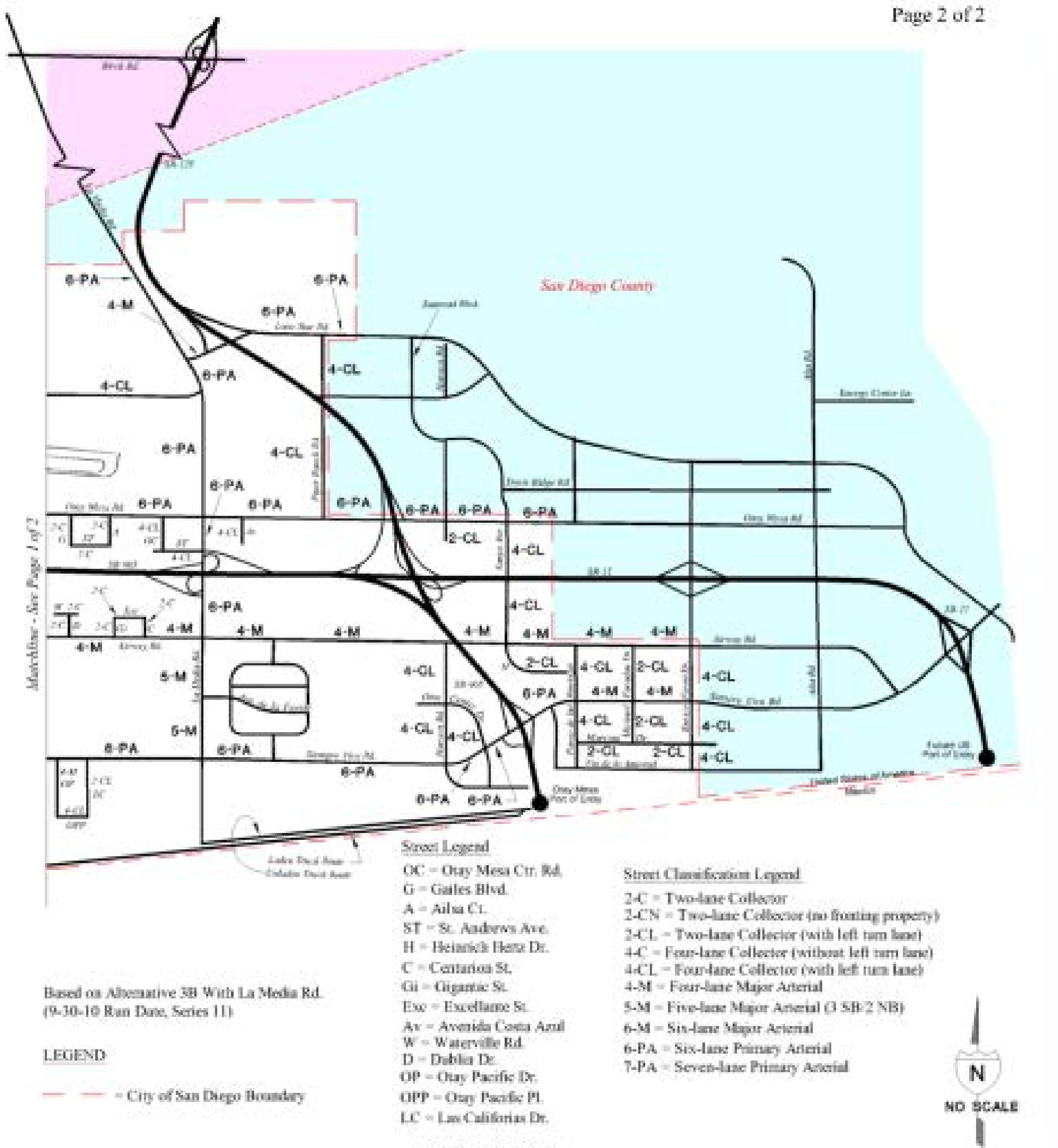


FIGURE 6-2

Scenario 3B With La Media Road Land Use Scenario
With Proposed Roadway Classification Recommendations

Otay Mesa Road

- Caliente Avenue to Corporate Center Drive: level of service “F”.
- Heritage Road to Cactus Road: level of service “F”.

A reclassification of these segments from a six lane Primary Arterial to eight lanes is not recommended. Widening to eight lanes would be costly, and intersections would be wider and less pedestrian friendly. Right turn only lanes at intersections are recommended to be lengthened to serve as auxiliary lanes between intersections. Without reclassification the significant impact would remain unmitigated.

The seven lane Major and eight lane Major Arterial classification for segments between Ailsa Court and Piper Ranch Road are recommended for a reclassification to a six lane Primary Arterial, restricting parking and access. The impact would be less than significant. These reclassifications are recommended for consistency in lane configurations along Otay Mesa Road.

- Piper Ranch Road to Enrico Fermi Drive:

A reclassification to a six lane Primary Arterial is recommended. There are few driveways and few developed parcels along these segments so that restricting parking and access would have a minimal impact. The levels of service are acceptable through these segments, but the County of San Diego classification is six lanes east of Enrico Fermi Drive, and it is advisable to maintain a continuous classification through these segments to maintain consistency in lane configurations.

Airway Road

- Caliente Avenue to Heritage Road: level of service “E”.

This segment is slightly (2.9%) over the level of service “D” volumes for a four lane Major Arterial. This segment includes a bridge crossing an open space canyon so that a six lane bridge would be costly and affect the environment more than four lanes. A six lane reclassification is not recommended. However the significant segment impact would be unmitigated.

- Heritage Road to Cactus Road: level of service “F”.
- Cactus Road to Britannia Boulevard: level of service “F”.

A reclassification to a six lane Primary Arterial is recommended beginning west of the Heritage Road intersection, so six through lanes can be provided through the intersection in the east and westbound directions, and extending to Cactus Road. The Heritage Road to Cactus Road segment significant impact would be unmitigated. However, added right turn lanes at intersections would enhance the segment capacity. The Cactus Road to Britannia Boulevard segment would be mitigated with a reclassification to a six lane Major Arterial.

Siempre Viva Road

- Otay Center Drive to SR-905: level of service “E”.
-SR-905 to Paseo de las Americas: level of service “F”

A reclassification from six to eight lanes is not recommended since a costly widening of the SR-905 / Siempre Viva Road interchange would be needed. The significant impact to these segments would be unmitigated.

<u>Caliente Avenue</u>

- Otay Mesa Road to Airway Road:

Although not at level of service “E” or “F”, these segments are recommended to be reclassified from a six lane Major Arterial to a six lane Primary Arterial, restricting access and parking adjacent to the closely spaced intersections, including SR-905 on and off tamp intersections with Caliente Avenue.

- Airway Road to Beyer Boulevard: level of service “F”.

A reclassification from a four lane to a six lane Major Arterial is recommended. This segment extends through a future residential area so that a Primary Arterial restricting access is not recommended. The significant segment impact would be only partially mitigated.

- Beyer Boulevard to Siempre Viva Road: level of service “F”.

No reclassification is recommended since this segment extends into a future residential area that will need to be designed with Collector loop streets for acceptable access, and local traffic will have additional access to Beyer Boulevard.

<u>Heritage Road / Otay Valley Road</u>

- Otay Valley Road between Main Street in Chula Vista and Avenida de las Vistas: level of service “F”.

A reclassification to more than the current six lane Primary Arterial would be a decision to be made by the City of Chula Vista. A wider roadway and bridge over the Otay River Valley would be costly and increase environmental impacts to the Otay River Valley and is not recommended. The significant impact to this segment would be unmitigated.

- Avenida de las Vistas to Datsun Street: level of service “F”.

A reclassification from a six lane Major Arterial to a six lane Primary Arterial is recommended. A wider classification would be costly to construct and is not recommended. There are few developed driveways along this segment so that restricting parking and access would have minimal impacts to adjacent parcels. The significant segment impact would be only partially mitigated.

- Datsun Street to Airway Road: acceptable levels of service.

A reclassification to a six lane Primary Arterial is recommended, restricting access and parking through these closely spaced intersections, including the SR-905 on and off ramp intersections with Heritage Road.

Cactus Road

- Otay Mesa Road to Airway Road: level of service “F”.
- Airway Road to Siempre Viva Road: level of service “F”.

A reclassification to a four lane Major Arterial is recommended. A higher six lane classification is not recommended. This roadway will extend through the mixed-use village area and excessive through traffic should be discouraged. The significant segment impacts would only be partially mitigated.

Britannia Boulevard

-SR-905 to Airway Road: level of service “F”.

-Airway Road to Siempre viva Road: level of service “F”.

Britannia Boulevard has been constructed as six lanes between Otay Mesa Road and the SR-905 eastbound ramps, and five lanes between the eastbound ramps and Airway Road. The Cross-Border Facility project includes reclassifying and construction of this segment to six lanes as project mitigation. The SR-905 on and off ramp intersections are closely spaced so that parking and access should be restricted along these segments.

In addition, Britannia Boulevard will also be the designated truck route for southbound laden trucks between SR-905 and the planned truck route parallel to the border.

Therefore, a reclassification to a six lane Primary Arterial is recommended for the segments between Otay Mesa Road and Airway Road. Significant segment impacts would not be fully mitigated. The segment between Airway Road and Siempre Viva Road is recommended as a six lane Major Arterial. The significant segment impact would be fully mitigated.

- Siempre Viva Road to South End: level of service “F”.

A reclassification from two to four lane Collector (with left turn lane) is recommended. The significant segment impact would be mitigated.

La Media Road

- Birch Road to Lone Star Road: level of service “F”.

The City of Chula Vista is planning to remove the segment of La Media Road crossing the Otay River Valley within Chula Vista from the City of Chula Vista General Plan Circulation Element. However, the traffic volumes for this segment for this scenario are based on including this segment in the traffic model. Due to the need to construct a lengthy bridge through the Otay River Valley, the cost of this segment may be prohibitive so that a reclassification from six lanes to a wider roadway than six lanes is not recommended. Without reclassification the significant segment impact would be unmitigated.

-SR-905 to Airway Road: level of service "F".

The addition of lanes to this currently classified six lane Primary Arterial would require a costly modification to the SR-905 interchange and is not recommended. The significant segment impact would be unmitigated.

Lone Star Road

- SR-125 to Piper Ranch Road: level of service "F".
- Piper Ranch Road to City / County Boundary: level of service 'F".

A reclassification to a six lane Primary Arterial is recommended from west of the SR-125 southbound off-ramp to the City / County Boundary. The significant segment impact would be mitigated.

Aviator Road

- Heritage Road to La Media Road: level of service "F".

This segment is recommended to be added to the circulation element as a four lane Collector (with left turn lane). Future volumes would be accommodated without a significant segment impact.

Dennery Road

-Black Coral Lane to East End: level if service “F”.

A reclassification is not recommended. Retaining a two lane Collector (no fronting property) classification would discourage speeding and through traffic not destined to the adjacent residential developments. The significant segment impact would be unmitigated.

Avenida de las Vistas

-Otay Valley Road to Vista Santo Domingo: level of service “E”.
-Vista Santo Domingo to Dennery Road: level of service “F”.

A reclassification is not recommended. This street is fully constructed and has adjacent single family residences. Retaining a two lane Collector (no fronting property) classification would discourage speeding and through traffic not destined to the adjacent residential developments. The significant segment impacts would be unmitigated.

Del Sol Boulevard

- Surf Crest Drive to Riviera Pointe: level of service “F”.

This segment will pass through environmentally sensitive lands and is on a slope. Retaining the two lane Collector (no fronting property) classification would minimize impacts to the MSCP land and discourage speeding and though traffic not destined to the adjacent residential development.

-Riviera Pointe to Dennery Road: level of service “F”.

This segment is fully constructed and surrounded by environmentally sensitive land and single family development. A reclassification to four lanes is not recommended. The significant segment impact would be unmitigated.

The two lane segment crossing the MSCP canyon is expected to minimally impact the open space, so that four lanes are not recommended. The significant segment impact would not be mitigated.

Old Otay Mesa Road

- Crescent Bay Drive to Beyer Boulevard: level of service “F”.

This segment is situated on a steep, rocky hillside that would be costly to widen. Therefore, no reclassification is recommended. The significant segment impact would remain unmitigated.

Corporate Center Drive

-Progressive Avenue to Innovative Drive: level of service “F”.

This segment is fully constructed with adjacent developments, as a two lane industrial Collector (without left turn lane). A reclassification as a two lane Collector (with left turn lane) is recommended. The significant impact would be mitigated with restriping for a central left turn lane.

Sanyo Avenue

-Otay Mesa Road to Airway Road: level of service “F”.

This segment is constructed as a four lane Collector (without left turn lane) and is to be added to the circulation plan. Widening to a four lane Major Arterial width would adversely affect adjacent development, but minor widening to accommodate a central left turn lane and a classification as a four lane Collector (with left turn lane) is recommended. The significant segment impact would remain unmitigated.

Paseo de las Americas

-Airway Road to Siempre Viva Road: level of service “F”.
-Siempre Viva Road to Marconi Drive: level of service “F”.

These segments are currently classified as a two lane Collector (with left turn lane) but are constructed fully with four lanes. A reclassification to a four lane Collector roadway is recommended. The reclassification would mitigate the significant segment impacts.

Marconi Drive

-Paseo de las Americas to Enrico Fermi Drive: level of service “E”.

This segment is fully constructed as a two lane industrial Collector, and is wide enough to be striped with two lanes and a continuous central left turn lane. The significant segment impact would be mitigated with the reclassification to a two lane Collector (with left turn lane).

Otay Center Drive

-Harvest Road to Siempre Viva Road: level of service “F”.

This segment is constructed as a four lane Collector (without left turn lane). A reclassification to four lane Collector (with left turn lane is recommended). The significant segment impact would be mitigated.

St. Andrews Avenue

-Otay Mesa Center Road to La Media Road: level of service “F”.

Currently constructed with four lanes, and classified as a two lane Collector, reclassification to a four-lane Collector (with left turn lane) is recommended. The significant segment impact would be mitigated.

Gailes Boulevard

-Otay Mesa Road to St. Andrews Avenue: level of service “F”.

This street is constructed with four lanes and a raised median. A reclassification from a two lane Collector to four lane Collector (without left turn lanes) is recommended. The significant segment impact would be mitigated.

Camino Maquiladora

-Heritage Road to Pacific Rim Court: level of service “F”
-Pacific Rim Court to Cactus Road: level of service “E”.

These segments serve adjacent industrial uses, but have diverted traffic from Otay Mesa Road. These segments are not mean to be through traffic by-pass routes and are not recommended for reclassification. The significant segment impacts would be unmitigated.

Progressive Avenue

-Corporate Center Drive to Innovative Drive: level of service “F”.

This segment is constructed as a two lane industrial Collector and serves adjacent industrial uses, but has diverted traffic from Heritage Road. This segment is not meant as a through traffic by-pass route and is not recommended for reclassification. The significant impact would be unmitigated.

Otay Mesa Center Road

-Otay Mesa Road to St. Andrews Avenue: levels of service “F”.

This segment is classified as a two lane Collector, but is constructed with four lanes. A reclassification to a four lane Collector (with left turn lane) mitigates the significant segment impact.

Datsun Street

- Innovative Drive to Heritage Road: level of service “F”.

This segment is planned to serve the adjacent industrial uses, but has high volumes due to traffic diverted from Heritage Road. This segment is not meant to be a through traffic bypass route. A classification as a four lane Collector (with left turn lane) is recommended, rather than a four lane Major Arterial. The significant segment impact would be unmitigated.

Avenida Costa Azul

-Otay Mesa Road to St. Andrews Avenue: level of service “F”.

Add to circulation plan as a four lane Collector (with left turn lane). The significant segment impact would be mitigated by this classification.

Exposition Way / Vista Santo Domingo

-Avenida de las Vistas to Corporate Center Drive: level of service “F”.

This segment has high volumes due to diverted traffic from Otay Valley Road.

Vista Santo Domingo is constructed as a two lane Collector (no fronting property) within a residential area and is not meant to be a by-pass route for through traffic so that retaining this classification would discourage speeding and through traffic not destined for the adjacent residential neighborhoods.. A reclassification is not recommended.

6.3 Freeway Levels of Service

Table 6-2 lists freeway segments evaluated for the 3B With La Media Road scenario, without possible future HOV lanes.

Segments of Interstate 805 and State Route 905 are projected to be significantly impacted by Otay Mesa Community Plan and regional cumulative traffic.

Impacts to Interstate 805 between State Route 905 and Main Street would remain significant and unmitigated without the assumption of High Occupancy Vehicle (HOV) lanes installed, and a northbound auxiliary lane installed with I-805 / SR-905 interchange improvements.

However, the Adopted SANDAG 2050 Regional Transportation Plan includes two managed lanes in each direction on I-805 north of SR-905. With the addition of these managed lanes, peak hour levels of service would be at “D” on I-805 segments between SR-905 and Main Street.

State Route 905 is assumed with six lanes. Impacts would be significant and unmitigated between Picador Boulevard and Britannia Boulevard. State Route 905 has been designed so that median HOV lanes could be installed in the future, but are not currently planned or funded by Caltrans. The addition of HOV lanes would provide partial mitigation for local and regional cumulative impacts, but would not provide acceptable levels of service, except between I-805 and Britannia Boulevard. **Table 6-2-A** shows freeway levels of service after HOV lanes are added to segments at level of service “F”.

6.4 Intersection Levels of Service

Table 6-3 shows the 3B With La Media Road scenario intersection levels of service with and without recommended mitigation.

Intersection lane configurations without mitigation are assumed to be as shown in the City of San Diego Street Design Manual for the roadway classification at the intersection approaches. Lane configurations with mitigation identified are included in **Appendix C**. Also included are peak hour volumes at each intersection and intersection levels of service worksheets.

TABLE 6-2

Buildout Scenario 3B With La Media Road Freeway Segment Levels of Service

	Segment	Lanes (1-Way)	Cap.	ADT (1)	Peak Hour %(5)	Direction Split(5)	(6) Truck Factor	Peak Volume	V/C	LOS (2)
SR-905	Picador Blvd. to I-805 (3)	2 + AUX	6,500	126,500	0.08	0.6	0.90	6,747	0.96	E
	I-805 to Caliente Ave. (4)	3 + CL	8,550	215,500	0.08	0.6	0.90	11,493	1.63	F3
	Caliente Ave. to Heritage Rd.	3	7,050	191,000	0.08	0.6	0.90	10,187	1.44	F2
	Heritage Rd. to Britannia Blvd.	3	7,050	168,500	0.08	0.6	0.90	8,987	1.27	F1
	Britannia Blvd. to La Media Rd.	3	7,050	148,500	0.08	0.6	0.90	7,920	1.12	F0
	La Media Rd. to SR-125	3	7,050	102,500	0.08	0.6	0.90	5,467	0.78	C
	SR-125 to Siempre Viva Rd.	3	7,050	98,000	0.08	0.6	0.90	5,227	0.74	C
	Siempre Viva Rd. to Border	3	7,050	64,500	0.08	0.6	0.90	3,440	0.49	B
I-805	Main St. to Palm Ave.	4+AUX	11,200	243,000	0.08	0.6	0.90	12,960	1.16	F0
	Palm Ave. to SR-905	4+AUX	11,200	217,500	0.08	0.6	0.90	11,600	1.04	F0
	SR-905 to I-5	4	9,400	122,500	0.08	0.6	0.90	6,533	0.70	C
	I-5 to Border	6	14,100	136,000	0.08	0.6	0.90	7,253	0.51	B
SR-125	Birch Rd. to Lone Star Rd.	4 (Toll)	9,400	124,500	0.08	0.6	0.90	6,640	0.71	C
	Lone Star Rd. to SR-905	4 (Toll)	9,400	96,000	0.08	0.6	0.90	5,120	0.54	B
SR – 11	SR-905 to Enrico Fermi Dr.	2	4,700	43,000	0.08	0.6	0.90	2,293	0.49	B
	Enrico Fermi Dr. to Siempre Viva Rd.	2	4,700	23,000	0.08	0.6	0.90	1,227	0.26	A
	Siempre Viva Rd. to Border	2	4,700	39,500	0.08	0.6	0.90	2,107	0.48	B

Legend

Cap = Capacity of Segment
Mainlane Cap. @ 2,350 VPHPL
Auxillary Lane Cap. @ 1,800 VPHPL
HOV Lane Cap. @ 1,600 VPHPL
Climbing Lane Cap. @ 1,500 VPHPL

ADT = Average Daily Traffic

V/C = Volume to Capacity Ratio

LOS = Level of Service

Direction Split = % of Peak Hour in Peak Direction

Truck Factor = Represents Capacity Reduction for Heavy Vehicles

F = Shading indicates a significant impact.

Note:

(1) Buildout Forecast Volume, Average Daily Traffic Volume (9-30-10 Run Date, Series 11)

(2) Caltrans District 11 LOS Estimation Procedures, See Table 2-3

(3) = 2 Mainlanes + Auxillary Lane

(4) = EB: 3 Mainlanes + Climbing Lane
WB: 3 Mainlanes + Auxillary Lane

(5) = Source:Caltrans Traffic Volumes Peak Hour Volume Data (existing average for I-805 & SR-905).

(6) = Highway Capacity Manual (2000) EQN. (3-2);Assume 10% trucks plus RV's.

TABLE 6-2-A

Scenario 3B With La Media Road Freeway Segment Levels of Service

(With HOV Lanes Added To LOS F Segments)

Segment		ADD HOV	Lanes (1Way)	Cap.	ADT (1)	Peak Hour %(5)	Direction Split (5)	(6) Truck Factor	Peak Volume	V/C	LOS (2)
SR-905	Picador Blvd. to I-805 (3)	+H	2 + AUX	8,100	126,500	0.08	0.6	0.90	6,747	0.83	D
	I-805 to Caliente Ave. (4)	+H	3 + CL	10,150	215,500	0.08	0.6	0.90	11,493	1.13	F1
	Caliente Ave. to Heritage Rd.	+H	3	8,650	191,000	0.08	0.6	0.90	10,187	1.18	F2
	Heritage Rd. to Britannia Blvd.	+H	3	8,650	168,500	0.08	0.6	0.90	8,987	1.04	F0
	Britannia Blvd. to La Media Rd.	+H	3	8,650	148,500	0.08	0.6	0.90	7,920	.92	D
I-805	Main St. to Palm Ave,	+2H	4+AUX	14,400	243,000	0.08	0.6	0.90	12,960	0.90	D
	Palm Ave. to SR-905	+2H	4+AUX	14,400	217,500	0.08	0.6	0.90	11,600	0.81	D

Legend

Cap = Capacity of Segment
Mainlane Cap. @ 2,350 VPHPL
Auxillary Lane Cap. @ 1,800 VPHPL
HOV Lane Cap. @ 1,600 VPHPL
Climbing Lane Cap. @ 1,500 VPHPL

ADT = Average Daily Traffic

V/C = Volume to Capacity Ratio

LOS = Level of Service

Direction Split = % of Peak Hour in Peak Direction

Truck Factor = Represents Capacity Reduction for Heavy Vehicles

F = Shading indicates a significant impact.

+H = Add HOV lane in each direction.
+2H = Add two HOV lanes in each direction.

Note:

(1) Buildout Forecast Volume, Average Daily Traffic Volume (09-30-10 Run Date, Series 11)

(2) Caltrans District 11 LOS Estimation Procedures, See Table 2-3

(3) = 2 Mainlanes + Auxillary Lane

(4) = EB: 3 Mainlanes + Climbing Lane
WB: 3 Mainlanes + Auxillary Lane

(5) = Source:Caltrans Traffic Volumes, Peak Hour Volume Data (existing average for I-805 & SR-905).

(6) Highway Capacity Manual (2000) EQN. (3-2); assume 10% trucks plus RV's.

SR-905 HOV lanes are not currently in the Regional Transportation Plan, and are not funded.

TABLE 6-3

Buildout Scenario 3B With La Media Road Intersection Levels of Service

		Without Mitigation				With Mitigation			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
Intersection		CD	LOS	CD	LOS	CD	LOS	CD	LOS
1	Palm Ave. / I-805 SB Ramps	47.2	D	48.6	D	24.6	C	34.5	C
2	Palm Ave. / I-805 NB Ramps	107.7	F	113.9	F	18.7	B	29.3	C
3	Palm Ave. / Dennery Rd.	34.2	C	67.8	E	-	-	-	-
4	Otay Mesa Rd. / Caliente Ave.	279.2	F	139.5	F	220.6	F	82.1	F
5	Caliente Ave. / SR-905 WB Ramps	74.6	E	41.8	(1) D	35.6	(1) D	32.5	(1) C
6	Caliente Ave. / SR-905 EB Ramps	140.2	F	146.5	F	48.6	D	66.0	E
7	Caliente Ave. / Airway Rd.	240.9	F	204.3	F	184.8	F	181.9	F
8	Caliente Ave. / Beyer Blvd.	238.6	F	411.5	F	173.5	F	111.6	F
9	Otay Mesa Rd. / Heritage Rd.	289.6	F	283.7	F	236.0	F	192.8	F
10	Heritage Rd. / SR-905 WB Ramps	65.1	E	100.4	F	18.7	(1) B	27.8	(1) C
11	Heritage Rd. / SR-905 EB Ramps	127.9	F	86.8	F	34.2	(1) C	23.4	(1) C
12	Heritage Rd. / Airway Rd.	146.3	F	378.4	F	62.6	E	79.5	E
13	Heritage Rd. / Siempre Viva Rd.	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
14	Otay Mesa Rd. / Cactus Rd.	391.1	F	265.8	F	118.3	F	185.5	F
15	Airway Rd. / Cactus Rd.	344.9	F	430.8	F	167.4	F	284.9	F
16	Siempre Viva Rd. / Cactus Rd.	43.4	D	119.2	F	42.2	D	108.7	F
17	Otay Mesa Rd. / Britannia Blvd.	113.5	F	125.7	F	68.2	E	51.5	D
18	Britannia Blvd. / SR-905 WB Ramps	239.4	F	452.4	F	61.0	E	417.5	F
19	Britannia Blvd. / SR-905 EB Ramps	357.3	F	237.6	F	306.7	F	69.9	E
20	Britannia Blvd. / Airway Rd.	622.3	F	611.5	F	187.7	F	236.4	F
21	Siempre Viva Rd. / Britannia Blvd.	378.7	F	345.5	F	164.3	F	168.3	F
22	Otay Mesa Rd. / La Media Rd.	391.8	F	448.0	F	128.5	F	107.5	F

Legend
CD = Control Delay
LOS = Level of Service
(1) = Vehicle queues may extend through this intersection from an upstream intersection so that the peak hour level of service would be degraded due to vehicles blocking this intersection.

F = Shading indicates a significant impact.

TABLE 6-3 (Continued)

Buildout Scenario 3B With La Media Road Intersection Levels of Service

		Without Mitigation				With Mitigation			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
Intersection		CD	LOS	CD	LOS	CD	LOS	CD	LOS
23	La Media Rd. / SR-905 WB Ramps	242.0	F	134.1	F	96.6	F	94.4	F
24	La Media Rd. / SR-905 EB Ramps	255.5	F	81.6	F	167.4	F	47.5	(1) D
25	La Media Rd. / Airway Rd.	508.2	F	573.5	F	191.4	F	283.3	F
26	La Media Rd. / Siempre Viva Rd.	252.3	F	115.3	F	93.6	F	44.0	D
27	La Media Rd. / Lone Star Rd.	90.1	F	115.9	F	43.0	D	80.6	F
28	Lone Star Rd. / SR-125 SB Off Ramp	23.0	(1) C	13.6	(1) B	-	-	-	-
29	Lone Star Rd. / SR-125 NB On Ramp	3.4	(1) A	7.8	(1) A	-	-	-	-
30	Lone Star Rd. / Piper Ranch Rd.	10.8	B	9.2	A	-	-	-	-
31	Otay Mesa Rd. / Piper Ranch Rd.	140.7	F	218.6	F	57.6	E	84.8	F
32	Otay Mesa Rd. / SR-125 SB Off Ramp	48.9	D	7.1	A	19.0	B	6.2	A
33	Otay Mesa Rd. / SR-125 NB On Ramp	3.2	A	8.0	A	-	-	-	-
34	Otay Mesa Rd. / Harvest Rd.	54.6	D	132.3	F	10.7	B	32.4	C
35	Siempre Viva Rd. / Otay Center Dr.	262.9	F	322.7	F	74.1	E	91.0	F
36	Siempre Viva Rd. / SR-905 SB to EB Ramp	28.2	(1) C	137.1	F	-	-	-	-
36A	Siempre Viva Rd. / SR-905 SB to WB Ramp	(2) 2,531	F	(2) 204.1	F	366.4	F	16.2	B
37	Siempre Viva Rd. / SR-905 NB Ramps	47.4	(1) D	250.4	F	39.4	(1) D	238.0	F
38	Siempre Viva Rd. / Paseo de las Americas	190.2	F	367.1	F	78.5	E	158.1	F
39	Dennery Rd. / Del Sol Blvd.	53.6	(1) D	53.2	D	-	-	-	-
40	Ocean View Hills Pkwy. / Del Sol Blvd.	71.4	E	67.1	E	50.4	D	54.3	D
41	Ocean View Hills Pkwy. / Street A	48.2	D	63.2	E	37.7	D	34.1	C
42	Old Otay Mesa Rd. / Beyer Blvd.	392.8	F	399.1	F	197.4	F	185.6	F
43	Otay Mesa Rd. / Corporate Center Dr.	119.3	F	184.6	F	78.6	E	140.6	F
44	Otay Mesa Rd. / Innovative Dr.	114.5	F	110.5	F	113.8	F	91.4	F

Legend
CD = Control Delay
LOS = Level of Service
(1) = Vehicle queues may extend through this intersection from an upstream intersection so that the peak hour level of service would be degraded due to vehicles blocking this intersection.

(2) = Unsignalized: SB to WB right turn at LOS F (AM and PM Peak Hours)

F = Shading indicates a significant impact.

TABLE 6-3 (Continued)

Buildout Scenario 3B With La Media Road Intersection Levels of Service

		Without Mitigation				With Mitigation			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
Intersection		CD	LOS	CD	LOS	CD	LOS	CD	LOS
45	Harvest Rd. / Airway Rd.	117.5	F	13.8	B	43.9	D	13.5	B
46	Harvest Rd. / Siempre Viva Rd.	67.2	E	67.6	E	32.2	C	49.4	D
47	Otay Mesa Rd. / Sanyo Ave.	284.4	F	265.5	F	81.9	F	63.5	E
48	Airway Rd. / Sanyo Ave.	225.6	F	229.8	F	49.7	D	38.6	D
49	Paseo de las Americas / Heinrich Hertz Dr.	(3) 988.3	F	(3) 231.4	F	26.0	C	14.2	B
50	Paseo de las Americas / Marconi Dr.	(4) 983.1	F	(4) 147.8	F	18.5	B	26.4	C
51	Heritage Rd. / Otay Valley Rd./ Datsun St.	443.8	F	564.4	F	138.0	F	239.1	F
52	Aviator Rd. / La Media Rd.	62.3	E	27.5	C	26.0	C	13.6	B
53	Otay Valley Rd. / Avenida De Las Vistas	659.8	F	291.3	F	-	-	-	-

Note: Control delay results should be considered unreliable at delay values higher than two times the LOS E value of 80.0 seconds.

Legend
CD = Control Delay
LOS = Level of Service
(3) Unsignalized:Eastbound left turn at LOS F (AM peak hour); Eastbound left and right turns at LOS F (PM peak hour).
(4) Unsignalized: Westbound left turn at LOS F (AM and PM peak hours);Westbound right turn at LOS F (PM peak hour).

Control Delay	LOS
0.0 - 10.0	A
10.1 - 20.0	B
20.1 - 35.0	C
35.1 - 55.0	D
55.1 - 80.0	E
Over 80.0	F

Source: 2000 Highway Capacity Manual

Of the 53 intersections evaluated, 40 intersections are expected to be at levels of service "E" or "F" during the AM peak hour and 43 during the PM peak hour. With feasible mitigation, 27 intersections would remain to operate unacceptably in the AM peak hour and 29 intersections would remain to operate unacceptably in the PM peak hour. **Table 6-4** shows lane configurations at each intersections and also shows lanes to be added after mitigation.

The SR-905 interchange at Caliente Avenue and La Media Road are recommended for major improvements for all alternatives. The Caltrans designs of these interchanges are based on forecasts of future traffic from the build out of only approximately fifty percent of Otay Mesa land uses. The Heritage Road interchange currently does not have a final, funded design, so that the lane configurations at the ramp intersections included in this report should be incorporated into the final design.

Provided below is a summary of mitigation recommended at the interchanges and major intersections. Some intersection impacts are not proposed to be fully mitigated, usually because it would require excessively wide intersections and turning lanes and non-standard intersection coonfigurations.

#2. I-805 Northbound Ramps / Palm Avenue – The Otay Mesa P.F.F.P includes a bridge widening project at this location. The preliminary design includes a third through lane in each direction, an additional westbound right turn lane (total of two), northbound off- ramp widening for an additional lane (total of three), southbound off-ramp widening for an additional lane (total of four), and the addition of a fourth eastbound lane and a loop on-ramp in the southeast quadrant.

#4. Caliente Avenue / Otay Mesa Road – At this intersection of two six-lane Primary Arterials, a separate right turn only lane in the northbound direction is recommended. Although the northbound right turn volumes are expected to be high enough to warrant dual right turns, this intersection is near San Ysidro High School and in the interest of pedestrian safety and convenience, the dual right turn lanes are not recommended.

TABLE 6-4

Buildout 3B With La Media Road Intersection Mitigation

		Without Mitigation												With Mitigation											
		NB			SB			EB			WB			NB			SB			EB			WB		
	Intersection	L	T	R	L	T	R	L	T	R	L	T	R	L	T	R	L	T	R	L	T	R	L	T	R
1	Palm Ave. / I-805 SB Ramps				1	1*	1		2	1	2	2					1	1*	2		2	1	2	2	
2	Palm Ave. / I-805 NB Ramps	S	1*	1				2	2			2	1	1	1*	1					3	1		3	2
3	Palm Ave. / Dennery Rd.	3	1	S	2	2	1	2	3	1	2	3	1												
4	Otay Mesa Rd. / Caliente Ave.	2	3	S	2	3	S	2	3	1	2	3	1	2	3	1	2	3	S	2	3	1	2	3	1
5	Caliente Ave. / SR-905 WB Ramps	1	3			3	S				S	1	1	2	3			3	1				S	1	1
6	Caliente Ave. / SR-905 EB Ramps		3	S	1	3		1	1*	S					3	1	2	3		1	1*	1			
7	Caliente Ave. / Airway Rd.	2	3	S	2	3	S	2	2	S	2	2	1	2	3	1	2	3	S	2	2	1	2	2	1
8	Caliente Ave. / Beyer Blvd.	2	2	S	2	3	S	2	2	S	1	1	1	2	2	S	2	2	2	2	2	1	1	1	1
9	Otay Mesa Rd. / Heritage Rd.	2	3	S	2	3	S	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	2
10	Heritage Rd. / SR-905 WB Ramps		3	S	2	3					S		2		3	2	2	3					S		2
11	Heritage Rd. / SR-905 EB Ramps		3	S	2	3					2		S		3	1	2	3					2		1
12	Heritage Rd. / Airway Rd.				2		1	2	3		2	3	S				2		1	2	3			3	2
13	Heritage Rd. / Siempre Viva Rd.																								
14	Otay Mesa Rd. / Cactus Rd.	2	1*	1	1	1	S	1	3	S	2	3	S	2	1*	1	1	1	S	1	3	2	2	3	1
15	Airway Rd. / Cactus Rd.	2	2	S	2	2	S	2	3	S	2	3	S	2	2	1	2	2*	1	2	3*	1	2	3	2
16	Siempre Viva Rd. / Cactus Rd.		2	S	2	2					2		2		2	1	2	2					2		2
17	Otay Mesa Rd. / Britannia Blvd.	2	1	1	1	1	S	1	3	S	2	3	S	2	1*	1	1	1	S	1	3	1	2	3	1
18	Britannia Blvd. / SR-905 WB Ramps	2	3			3	S				1	1	1	2	3			3*	1				1	1*	1
19	Britannia Blvd. / SR-905 EB Ramps		3	S	2	3		S	1	2					3	2	2	3		S	1	2			
20	Britannia Blvd. / Airway Rd	2	3	S	2	3	S	2	3	S	2	2	S	2	3	1	2	3	2	2	3	1	2	2	2
21	Siempre Viva Rd. / Britannia Blvd.	2	2	S	2	2	S	2	3	S	2	3	S	2	2	1	2	2	2	2	3	1	2	3	2
22	Otay Mesa Rd. / La Media Rd.	2	3	S	2	3	S	2	3	S	2	3	S	2	3	2	2	3	2	2	3	2	2	3	2

Legend
L = left turn lanes
T = through lanes
R = right turn lanes
S = shared lane

*** Notes:** #1-SB through is shared LTR without mitigation; shared LT with mitigation.
#2-NB through is shared LTR.
#5-SB is 2T-TR-R without mitigation.
#6-EB through is shared LTR without mitigation;shared LT with mitigation.
#14 - NB through is shared TR.
#15-SB through is shared TR.
#15-EB through is shared TR.
#17-NB through is shared TR.
#18- SB add right turn lane; 3rd SB lane striped for shared TR; WB through restriped for LTR.

1 Highlighted indicates added lane mitigation or revised lane assignment by restriping, as noted.

TABLE 6-4 (Continued)

Buildout 3B With La Media Road Intersection Mitigation

		Without Mitigation												With Mitigation											
		NB			SB			EB			WB			NB			SB			EB			WB		
Intersection		L	T	R	L	T	R	L	T	R	L	T	R	L	T	R	L	T	R	L	T	R	L	T	R
23	La Media Rd. / SR-905 WB Ramps	2	2	1		3	1	S	1	1	1	1*	1	2	3	1		3	1	1		1	1	1*	1
24	La Media Rd. / SR-905 EB Ramps	2	3			2	1	2		2				2	3			3	1	2		2			
25	La Media Rd. / Airway Rd.	2	2	S	2	3	S	2	2	S	2	2	S	2	2	1	2	3	2	2	2	1	2	2	2
26	La Media Rd. / Siempre Viva Rd.				2	2	S	2	3			3	S				2	1*	2*	2	3			3	2
27	La Media Rd. / Lone Star Rd.		3	S	2	3					2	2	S		3	1	2	3					2		2*
28	Lone Star Rd. / SR-125 SB Off Ramp				2		2		3			3													
29	Lone Star Rd. / SR-125 NB On Ramp							2	3			3	2												
30	Lone Star Rd. / Piper Ranch Rd.	2		1					3	S	2	3													
31	Otay Mesa Rd. / Piper Ranch Rd.	1	2	S	1	2	S	2	3	S	2	3	S	2	1	1	2	1	2	2	3	1	2	3	1
32	Otay Mesa Rd. / SR-125 SB Off Ramp				2		1		3			3					1	1*	1						
33	Otay Mesa Rd. / SR-125 NB On Ramp							2	3			3	2												
34	Otay Mesa Rd. / Harvest Rd.	1	1	S	1	1	S	1	3	S	1	3	S	2	1	S	1	1	S	1	3	1	1	3	S
35	Siempre Viva Rd. / Otay Center Dr.	1	1	S	1	2	S	1	3	S	1	3	S	1	1	1	2	1	1	2	3	1	2	3	1
36	Siempre Viva Rd. / SR-905 SB to EB Ramp			2					3	S	2	3													
36A	Siempre Viva Rd. / SR-905 SB to WB Ramp						1					3							2					3	
37	Siempre Viva Rd. / SR-905 NB Ramps	S	1	2				2	3			3	1	S	1	2				2	3			3	2
38	Siempre Viva Rd. / Paseo de las Americas	1	2	S	1	2	S	1	3	1	1	3	S	1	1*	1*	1	1	2	2	3	1	1	3	1
39	Dennery Rd. / Del Sol Blvd.				1		1	1	2			2	S												
40	Ocean View Hills Pkwy. / Del Sol Blvd.	2	3	S	1	2	S	1	1	1	1	1	S	2	3	S	1	2	1	1*	1*	1	1	1	S
41	Ocean View Hills Pkwy. / Street A	1	1	1	1	1	S	1	3	S	1	3	S	2	1	1	1	1	S	1	3	1	1	3	S
42	Old Otay Mesa Rd. / Beyer Blvd.	1	1	S	1	1	S	2	2	1	2	2	S	1	1	1	1	1	1	2	2	1	2	2	S
43	Otay Mesa Rd. / Corporate Center Dr.	2	1	S	1	1	1	2	3	S	2	3	1	2	1	S	2	1*	1	2	3	1	2	3	1
44	Otay Mesa Rd. / Innovative Dr.	1	1	S	1	1	1	2	3	S	2	3	1	1	1	S	2	1*	1	2	3	S	2	3	1

Legend
L = left turn lanes
T = through lanes
R = right turn lanes
S = shared lane

***Notes:** #23-WB middle lane is shared LT.
#26-SB lanes restriped for 1T-2R lanes.
#27-WB lanes restriped for 2R lanes.
#32-SB middle lane is striped for shared LR.
#38-NB lanes restriped for L-LT-R.
#40-EB lanes restriped for L-LT-R.
#43-SB is 2L-TR-R.
#44-SB is 2L-TR-R.

1 Highlighted indicates added lane mitigation or revised lane assignment by restriping, as noted.

TABLE 6-4 (Continued)

Buildout 3B With La Media Road Intersection Mitigation

		Without Mitigation												With Mitigation											
		NB			SB			EB			WB			NB			SB			EB			WB		
Intersection		L	T	R	L	T	R	L	T	R	L	T	R	L	T	R	L	T	R	L	T	R	L	T	R
45	Harvest Rd. / Airway Rd.	2		1					2	S	2	2		2		1					2	1	2	2	
46	Harvest Rd. / Siempre Viva Rd.	1	2	S	1	2	S	2	3	S	2	3	S	1	2	S	2	2	1	2	3	S	2	3	1
47	Otay Mesa Rd. / Sanyo Ave.	1	2	S	1	2	S	2	3	S	2	3	S	2	1	1	1	1	1	2	3	2	2	3	1
48	Airway Rd. / Sanyo Ave.	1	2	S	1	2	S	2	2	S	2	2	S	2	2	1	2	2	2	2	2	2	2	2	1
49	Paseo de las Americas / Heinrich Hertz Dr.	1	2			2	S	1		1				2	2			2	S	1		1			
50	Paseo de las Americas / Marconi Dr.		2	S	1	2					1		1		2	S	2	2					1		1
51	Heritage Rd. / Otay Valley Rd.	2	3	S	2	3	S	1	2	S	1	2	S	2	3	1	2	3	2	2	2	1	2	2	1
52	Aviator Rd. / La Media Rd.	2	3			3	S	2		1				2	3			3	1	2		1			
53	Otay Valley Rd. / Avenida De Las Vistas	1	3	S	1	3	S	1	1	S	1	1	1												

Legend
L = left turn lanes
T = through lanes
R = right turn lanes
S = shared lane
1 Highlighted indicates added lane mitigation or revised lane assignment by restriping, as noted.

#5. Caliente Avenue / SR-905 Westbound Ramps – Overcrossing widening to accommodate northbound dual left turn lanes is recommended. Additionally, a single southbound right turn only lane is recommended. Caliente Avenue is a school pedestrian route to the San Ysidro High School. Although southbound right turn volumes are expected to be high enough to warrant right turn lanes, the dual right turn lanes are not recommended.

#6. Caliente Avenue / SR-905 Eastbound Ramps - Overcrossing widening to accommodate dual northbound left turn lanes at the SR-905 westbound ramps also should extend through this intersection, accommodating dual southbound left-turn lanes. A separate northbound right turn lane and ramp widening for an additional eastbound right turn lane are recommended. Although the eastbound right turn volumes are expected to be high enough for dual right turn lanes, the dual right turn lanes are not recommended on this pedestrian route to San Ysidro High School.

#7. Caliente Avenue at Airway Road - Separate right turn only lanes are recommended in the eastbound, northbound, and westbound directions. Although the northbound and westbound right turn volumes are expected to be high enough to warrant dual right turn lanes, the dual right turn lanes are not recommended on this pedestrian route to San Ysdiro High School.

#8. Caliente Avenue at Beyer Boulevard - Dual right turn lanes southbound to westbound are recommended. A separate eastbound right turn lane is recommended.

#9. Heritage Road / Otay Mesa Road - Separate right turn only lanes are recommended in the northbound and southbound directions. Existing right turn lanes are in place eastbound and westbound. A second westbound right turn lane is recommended.

<u>#10. Heritage Road / SR-905 Westbound Ramps</u> - Two right turn only lanes are recommended in the northbound direction onto the westbound on-ramp.

<u>#11. Heritage Road / SR-905 Eastbound Ramps</u> - A separate right turn lane in the northbound direction to the eastbound on-ramp, plus an additional lane in the westbound direction on the eastbound off-ramp are recommended.

<u>#12. Heritage Road / Airway Road</u> – Dual right turn lanes are recommended in the westbound direction.

<u>#14. Cactus Road / Otay Mesa Road</u> - Dual right turn lanes in the eastbound direction, and one in the westbound direction are recommended.

<u>#15. Cactus Road / Airway Road</u> - Dual right turn lanes in the westbound direction, and single right turn lanes are recommended in the south, north, and eastbound directions. A shared through / right turn lane is recommended southbound and eastbound.

<u>#16. Cactus Road / Siempre Viva Road</u> - Dual right turn lanes in the westbound direction and a single right turn lane are recommended in the northbound direction.

<u>#17. Britannia Boulevard / Otay Mesa Road</u> - A single right turn only lane in the eastbound and westbound directions are recommended.

<u>#18. Britannia Boulevard / SR-905 Westbound Ramps</u> - A single southbound right turn lane, and also restriping the third southbound through lane as an optional through / right turn are recommended. The middle lane in the westbound direction is recommended to be restriped for a shared left / through / right movement.

<u>#19. Britannia Boulevard / SR-905 Eastbound Ramps</u> - Dual right turn lanes northbound are recommended.

<u>#20. Britannia Boulevard / Airway Road</u> - Dual right turn lanes in the south and westbound directions, and a single right turn lane in the eastbound and northbound directions are recommended.

<u>#21. Britannia Boulevard / Siempre viva Road</u> - Dual right turn lanes in the west, and southbound directions, and a single right turn lane in the eastbound and northbound directions are recommended.

<u>#22. La Media Road / Otay Mesa Road</u> – Dual right turn lanes are recommended at all approaches.

<u>#23. La Media Road / SR-905 Westbound Ramps</u> - It is recommended that the eastbound through movement be eliminated so that the northbound right turn to the SR-905 westbound on-ramp can be a continuous movement, without a conflicting movement at the traffic signal. Only a pedestrian signal would cause this traffic to stop. Additionally a third northbound through lane is recommended. These recommended improvements would require widening in the northbound direction along La Media Road.

<u>#24. La Media Road / SR-905 Eastbound Ramps</u> - The addition of a third southbound through lane is recommended. This improvement would require widening La Media Road in the southbound direction.

#25. La Media Road / Airway Road - The addition of dual right turn lanes westbound and southbound, and single right turn lanes eastbound and northbound are recommended.

#26. La Media Road / Siempre Viva Road - The addition of dual right turn lanes westbound, and one right turn lane southbound are recommended. The southbound lanes should be striped for two lefts / one through / two right turn lanes. The southbound through lane will be restricted to unladen trucks destined to the Border Truck Road.

#27. La Media Road / Lone Star Road - A northbound right turn lane is recommended. The westbound through lanes are recommended to be striped for two left and two right turn lanes.

#31. Piper Ranch Road / Otay Mesa Road – Single right turn lanes in the east, west, and northbound directions are recommended. Southbound, two right turn lanes are recommended. Southbound lanes should be striped for two left / one through / two right turn lanes.

#32. SR-125 Southbound Off-Ramp / Otay Mesa Road – No additional lanes are recommended, but restriping the southbound middle lane for optional left-right turns is recommended.

#34. Harvest Road / Otay Mesa Road – An additional eastbound right turn lane is recommended. An additional northbound left turn lane is also recommended.

#35. Otay Center Drive / Siempre Viva Road - Added lanes for single right turn lanes are recommended at all approaches. Dual left turn lanes are recommended east, west, and southbound.

#36 – 36A. SR-905 Southbound Ramps / Siempre Viva Road - The SR-905 southbound off-ramp to westbound Siempre Viva Road is recommended to be signalized, and widened for an additional southbound turn lane.

#37. SR-905 Northbound Ramps / Siempre Viva Road – A second westbound right turn lane is recommended.

#38. Paseo de las Americas / Siempre Viva Road - Added westbound and southbound right turn lanes are recommended, plus an eastbound left turn lane. The northbound lanes should be restriped for one left, one left / through, one right turn lane. The southbound lanes should be restriped for one left / one through / two right turn lanes.

#40. Ocean View Hills Parkway / Del Sol Boulevard - One added southbound right turn lane is recommended. The eastbound through lane should be restriped for optional left turns / through.

#41. Ocean View Hills Parkway / Street "A" - An eastbound single right turn lane and an added northbound left turn lane are recommended.

#42. Old Otay Mesa Road / Beyer Boulevard - Northbound and southbound right turn lanes are recommended.

#43. Otay Mesa Road / Corporate Center Drive - Northbound and southbound added left turn lanes, and a separate eastbound right turn lane are recommended. The southbound through lane should be striped as a shared through / right turn lane.

#44. Otay Mesa Road / Innovative Drive - A second southbound left turn lane is recommended. The southbound through lane should be striped as a shared through / right turn lane.

#45. Airway Road / Harvest Road - An eastbound right turn lane is recommended.

#46. Harvest Road / Siempre viva Road - Separate right turn lanes are recommended westbound and southbound. An additional southbound left turn lane is recommended.

#47. Otay Mesa Road / Sanyo Avenue - Eastbound dual right turn lanes, and single right turn lanes northbound and westbound are recommended. Restriping northbound lanes for dual left turns plus one through lane is recommended.

#48. Airway Road / Sanyo Avenue - Dual right turn lanes in the eastbound and southbound directions are recommended. Single right turn lanes northbound and westbound are recommended. Northbound and southbound added lanes for dual left turns are recommended.

#49. Paseo de las Americas / Heinrich Hertz Drive - The installation of a traffic signal and widening for an added northbound left turn lane are recommended.

#50. Paseo de las Americas / Marconi Drive - The installation of a traffic signal and adding a southbound left turn lane are recommended.

#51. Heritage Road / Otay Valley Road - Dual right turn lanes southbound, and single right turn lanes at the other approaches are recommended. East and westbound dual left turn lanes are recommended.

#52. La Media Road / Aviator Road - A southbound right turn lane is recommended.

6.5 Ramp Meter Operations

Table 6-5 shows buildout ramp meter operations at all freeway on-ramps within the study area.

The likely most restrictive ramp meter rate as provided by Caltrans was used for this evaluation.

Regional SANTEC / ITE Traffic Impact Study Guidelines state that levels of service does not apply to ramp meters, but that ramp meter delays above 15 minutes are considered excessive. Of the 28 hours ramp meters were evaluated during the AM and PM peak hours, ramp meter delays above 15 minutes would occur at five locations during the AM peak hour and at eleven locations during the PM peak hour.

Ramp meter delays above 15 minutes are considered significant impacts if downstream freeways are operating at level of service “E” or “F”. The following five ramp locations would be significantly impacted using this significance criteria:

- SR-905 / Caliente Avenue Westbound on-ramp (AM and PM);
- SR-905 / Heritage Road Westbound on-ramp (AM and PM);
- SR-905 / Britannia Boulevard Westbound on-ramp (AM and PM);
- SR-905 / Britannia Boulevard Eastbound on-ramp (PM);
- SR-905 / La Media Road Westbound on-ramp (AM and PM).

The freeway on-ramps evaluated would have ramp lengths from 650 feet to 1,200 feet. Assuming two lanes at the ramp meters, seven locations would have queues exceeding the ramp storage during the AM peak hour, and at eleven locations during the PM peak hour.

There are no performance criteria regarding excessive queues in the regional guidelines. However, the guidelines state the following:

TABLE 6-5

Buildout Alternate 3B With La Media Road Ramp Meter Operations

Most Restrictive Meter Rate						
Location		**Demand****	**Meter Rate* (Veh/Hr)**	**Excess Demand**	**Delay (Min)**	**Queue (Feet)**
AM	I-805 / Palm Avenue Northbound (From Westbound)	1,250	960	290	18.1	7,250 (E)
PM	I-805 / Palm Avenue Northbound (From Westbound)	1,345	960	385	24.1	9,625 (E)
AM	I-805 / Palm Avenue Northbound (From Eastbound)	655	960	None	None	None
PM	I-805 / Palm Avenue Northbound (From Eastbound)	540	960	None	None	None
AM	I-805 / Palm Avenue Southbound	455	960	None	None	None
PM	I-805 / Palm Avenue Southbound	645	960	None	None	None

Most Restrictive Meter Rate						
Location		**Demand****	**Meter Rate* (Veh/Hr)**	**Excess Demand**	**Delay (Min)**	**Queue (Feet)**
AM	SR-905 / Caliente Avenue Westbound	1,740	960	780	48.75	19,500 (E)
PM	SR-905 / Caliente Avenue Westbound	1,535	960	575	35.9	14,375(E)
AM	SR-905 / Caliente Avenue Eastbound	400	960	None	None	None
PM	SR-905 / Caliente Avenue Eastbound	400	960	None	None	None

Most Restrictive Meter Rate						
Location		**Demand****	**Meter Rate* (Veh/Hr)**	**Excess Demand**	**Delay (Min)**	**Queue (Feet)**
AM	SR-905 / Heritage Road Westbound	1,135	960	175	10.9	4,375 (E)
PM	SR-905 / Heritage Road Westbound	2,515	960	1,555	97.2	38,875 (E)
AM	SR-905 / Heritage Road Eastbound	360	960	None	None	None
PM	SR-905 / Heritage Road Eastbound	800	960	None	None	None

*=Most restrictive meter rate used by Caltrans.
**=Total hourly volume entering from both directions.
(E) = Exceeds ramp storage length.

TABLE 6-5 (Cont.)

Buildout Alternate 3B With La Media Road Ramp Meter Operations

Most Restrictive Meter Rate						
Location		Demand** (Veh/Hr)	Meter Rate* (Veh/Hr)	Excess Demand	Delay (Min)	Queue (Feet)
AM	SR-905 / Britannia Blvd. Westbound	1,350	960	390	24.4	9,750 (E)
PM	SR-905 / Britannia Blvd. Westbound	3,340	960	2,380	148.8	59,500(E)
AM	SR-905 / Britannia Blvd. Eastbound	710	960	None	None	None
PM	SR-905 / Britannia Blvd. Eastbound	1,400	960	440	27.5	11,000 (E)

Most Restrictive Meter Rate						
Location		Demand** (Veh/Hr)	Meter Rate* (Veh/Hr)	Excess Demand	Delay (Min)	Queue (Feet)
AM	SR-905 / La Media Road Westbound	1,950	960	990	61.9	24,750 (E)
PM	SR-905 / La Media Road Westbound	2,860	960	1,900	118.8	47,500 (E)
AM	SR-905 / La Media Road Eastbound	1,000	960	40	2.5	1,000
PM	SR-905 / La Media Road Eastbound	1,950	960	990	61.9	24,750 (E)

Most Restrictive Meter Rate						
Location		Demand** (Veh/Hr)	Meter Rate* (Veh/Hr)	Excess Demand	Delay (Min)	Queue (Feet)
AM	SR-905 / Siempre Viva Rd. Northbound	1,180	960	220	13.8	5,500 (E)
PM	SR-905 / Siempre Viva Rd. Northbound	3,440	960	2,480	155.0	62,000 (E)
AM	SR-905 / Siempre Viva Rd. Southbound	750	960	None	None	None
PM	SR-905 / Siempre Viva Rd. Southbound	1,660	960	700	43.8	17,500 (E)

*=Most restrictive meter rate used by Caltrans.
**=Total hourly volume entering from both directions.
(E) = Exceeds ramp storage length.

TABLE 6-5

Buildout Alternate 3B With La Media Road Ramp Meter Operations

Most Restrictive Meter Rate						
Location		Demand** (Veh/Hr)	Meter Rate* (Veh/Hr)	Excess Demand	Delay (Min)	Queue (Feet)
AM	SR-125 / Otay Mesa Rd. Northbound	1,680	960	720	45.0	18,000 (E)
PM	SR-125 / Otay Mesa Rd. Northbound	2,455	960	1,490	93.1	37,250 (E)

Most Restrictive Meter Rate						
Location		Demand** (Veh/Hr)	Meter Rate* (Veh/Hr)	Excess Demand	Delay (Min)	Queue (Feet)
AM	SR-125 / Lone Star Rd. Northbound	850	960	None	None	None
PM	SR-125 / Lone Star Rd. Northbound	3,615	960	2,655	165.9	66,375 (E)

* Most restrictive meter rate used, per Caltrans.
** = Total hourly volume entering from both directions.
Excess Demand X 60MIN = Delay (Minutes)
Meter Rate
(E) = Exceeds ramp storage length.

Note: Experience shows that the theoretical queue length derived by this analysis often does not materialize. Motorists, after a brief time of adjustment, seek alternative travel paths if available, or alternative times of arrival at the meter. The effect is to approximately minimize total trip time by seeking out the best combinations of route and departure time at the beginning of the trip. This causes at least two important changes in the pattern on arriving traffic at ramp meters. First, the peak period is spread out with some traffic arriving earlier and some traffic arriving later than predicted. Second, a significant proportion of the predicted arriving traffic will use another ramp with shorter queues, use another freeway, or stay on surface streets.

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6.6 <u>Freeway Interchange Queue Analysis</u>

A queue analysis was prepared at the interchange ramps within the study area, and queue lengths without intersection mitigation are shown in **Table 6-6,** while **Table 6-7** shows queue lengths with mitigation.

There are no intersection queue intersection queue length performance criteria within the Regional SANTEC / ITE Traffic Impact Study Guidelines. This queue analysis was provided to primarily evaluate whether interchanges could accommodate the projected traffic volumes and then compare the three scenarios evaluated in this report.

Of the 164 queues evaluated without intersection mitigation, during AM and PM peak hours, 77 are expected to be of excess length for the vehicle storage available between these closely spaced intersections at freeway interchange ramps for this scenario. With intersection mitigation, 188 queues were evaluated and 67 are expected to be of excess length, extending through the adjacent intersection.

Table 6-6

Alternative 3B With La Media Road Without Mitigation

Buildout Queue Analysis

Queue Locations North / South	AM Peak Hour															
Location	Queue Length Per Lane			Distance Between Intersections	Excess Queue (Feet)			Queue Length Per Lane			Distance Between Intersections	Excess Queue (Feet)				
	Southbound			Southbound	Southbound			Northbound			Northbound	Northbound				
	RT	TH	LT		RT	TH	LT	LT	TH	RT		LT	TH	RT		
Otay Mesa Rd. / Caliente Ave.	-	-	-	-	-	-	-	200	3,475	-	450	None	3,025	-		
Caliente Ave. / SR-905 WB Ramps	-	1,073	-	450	-	625	-	2,015	1,743	-	450	1,565	1,293	-		
Caliente Ave. / SR-905 EB Ramps	-	118	480	450	-	None	30	-	1,403	-	300	-	1,103	-		
Caliente Ave. / Airway Rd.	-	350	1,478	300	-	50	1,178	-	-	-	-	-	-	-		
Otay Mesa Rd. / Heritage Rd.	-	-	-	-	-	-	-	235	2,038	-	750	None	1,288	-		
Heritage Rd. / SR-905 WB Ramps	-	30	325	750	-	None	None	-	2,020	-	750	-	1,270	-		
Heritage Rd. / SR-905 EB Ramps	-	130	80	750	-	None	None	-	2,038	-	750	-	1,288	-		
Heritage Rd. / Airway Rd.	245	-	2,775	750	None	-	2,025	-	-	-	-	-	-	-		
Otay Mesa Rd. / Britannia Blvd.	-	-	-	-	-	-	-	713	1,120	1,238	900	None	220	338		
Britannia Blvd. / SR-905 WB Ramps	725	678	-	900	None	None	-	1,255	253	-	450	855	None	-		
Britannia Blvd. / SR-905 EB Ramps	-	1,233	328	450	-	783	None	-	2,750	-	900	-	1,850	-		
Britannia Blvd. / Airway Rd.	-	7,600	1,795	900	-	6,700	895	-	-	-	-	-	-	-		
Otay Mesa Rd. / La Media Rd.	-	-	-	-	-	-	-	1,633	3,050	-	450	1,183	2,600	-		
La Media Rd. / SR-905 WB Ramps	118	2,078	-	450	None	1,628	-	120	2,950	1,093	900	None	2,050	193		
La Media Rd. / SR-905 EB Ramps	95	5,925	-	900	None	2,375	-	1,088	1,093	-	900	188	193	-		
La Media Rd. / Airway Rd.	-	4,750	3,275	900	-	3,850	2,375	-	-	-	-	-	-	-		

Note: Based on 95th percentile back of queue. 25 FT. per vehicle.
TH = Through Lanes
LT = Left Turn Lane
RT = Right Turn Lane

Table 6-6

Alternative 3B With La Media Road Without Mitigation

Buildout Queue Analysis

Queue Locations North / South	PM Peak Hour													
Location	Queue Length Per Lane			Distance Between Intersections	Excess Queue (Feet)			Queue Length Per Lane			Distance Between Intersections	Excess Queue (Feet)		
	Southbound			Southbound	Southbound			Northbound			Northbound	Northbound		
	RT	TH	LT		RT	TH	LT	LT	TH	RT		LT	TH	RT
Otay Mesa Rd. / Caliente Ave.	-	-	-	-	-	-	-	610	1,785	-	450	160	1,335	-
Caliente Ave. / SR-905 WB Ramps	-	1,073	-	450	-	623	-	1,548	1,158	-	450	1,098	708	-
Caliente Ave. / SR-905 EB Ramps	-	110	415	450	-	None	None	-	1,303	-	300	-	1,008	-
Caliente Ave. / Airway Rd.	-	1,398	598	300	-	1,098	298	-	-	-	-	-	-	-
Otay Mesa Rd. / Heritage Rd.	-	-	-	-	-	-	-	228	608	-	750	None	None	-
Heritage Rd. / SR-905 WB Ramps	-	98	1,208	750	-	None	458	-	2,200	-	750	-	1,450	-
Heritage Rd. / SR-905 EB Ramps	-	313	425	750	-	None	None	-	2,145	-	750	-	1,395	-
Heritage Rd. / Airway Rd.	63	-	2,975	750	None	-	2,225	-	-	-	-	-	-	-
Otay Mesa Rd. / Britannia Blvd.	-	-	-	-	-	-	-	460	483	433	900	None	None	None
Britannia Blvd. / SR-905 WB Ramps	1,313	890	-	900	413	None	-	6,950	35	-	450	6,500	None	-
Britannia Blvd. / SR-905 EB Ramps	-	138	268	450	-	None	None	-	3,650	-	900	-	4,750	-
Britannia Blvd. / Airway Rd.	-	1,808	1,230	900	-	None	330	-	-	-	-	-	-	-
Otay Mesa Rd. / La Media Rd.	-	-	-	-	-	-	-	790	3,100	-	450	340	2,650	-
La Media Rd. / SR-905 WB Ramps	295	2,675	-	450	None	2,225	-	305	3,000	3,400	900	None	2,100	2,500
La Media Rd. / SR-905 EB Ramps	585	2,650	-	900	None	1,750	-	1,663	1,113	-	900	763	213	-
La Media Rd. / Airway Rd.	-	2,333	873	900	-	1,433	None	-	-	-	-	-	-	-

Note: Based on 95th percentile back of queue. 25 FT. per vehicle.
TH = Through Lanes
LT = Left Turn Lane
RT = Right Turn Lane

Table 6-6

Alternative 3B With La Media Road Without Mitigation

Buildout Queue Analysis

Queue Locations East / West	AM Peak Hour													
Location	Queue Length Per Lane			Distance Between Intersections	Excess Queue (Feet)			Queue Length Per Lane			Distance Between Intersections	Excess Queue (Feet)		
	Eastbound			Eastbound	Eastbound			Westbound			Westbound	Westbound		
	RT	TH	LT		RT	TH	LT	LT	TH	RT		LT	TH	RT
Palm Ave. / I-805 SB Ramps	-	-	-	-	-	-	-	183	50	-	600	None	None	-
Palm Ave. / I-805 NB Ramps	-	188	615	600	-	None	15	-	240	3,600	1,000	-	None	2,600
Palm Ave. Dennery Rd.	395	208	493	1,000	None	None	None	-	-	-	-	-	-	-
Siempre Viva Rd. / Otay Center Dr.	-	-	-	-	-	-	-	960	5,050	-	600	360	4,450	-
Siempre Viva Rd. / SR-905 SB Ramps	-	678	-	300	-	378	-	348	-	-	600	None	-	-
Siempre Viva Rd. / SR-905 NB Ramps	-	475	730	600	-	None	130	-	590	1,395	1,150	-	None	275
Siempre Viva Rd. / Paseo de las Americas	2,125	1,095	3,775	1,150	975	None	2,625	-	-	-	-	-	-	-
La Media Rd. / Lone Star Rd.	-	-	-	-	-	-	-	220	-	140	300	None	-	None
Lone Star Rd. / SR-125 SB Off Ramp	-	623	-	300	-	323	-	-	185	-	500	-	None	-
Lone Star Rd. / SR-125 NB On Ramp	-	-	78	500	-	-	None	-	143	313	600	-	None	None
Lone Star Rd. / Piper Ranch Rd.	-	790	-	600	-	190	-	-	-	-	-	-	-	-
Otay Mesa Rd. / Piper Ranch Rd.	-	-	-	-	-	-	-	148	1,613	-	2,000	None	None	-
Otay Mesa Rd. / SR-125 SB Off Ramp	-	500	-	2,000	-	None	-	-	110	-	500	-	None	-
Otay Mesa Rd. / SR-125 NB On Ramp	-	-	128	500	-	-	None	-	270	60	700	-	None	None
Otay Mesa Rd. / Harvest Rd.	-	2,225	195	700	-	1,525	None	-	-	-	-	-	-	-

Note: Based on 95th percentile back of queue. 25 FT. per vehicle.
TH = Through Lanes
LT = Left Turn Lane
RT = Right Turn Lane

Table 6-6

Alternative 3B With La Media Road Without Mitigation

Buildout Queue Analysis

Queue Locations East / West	PM Peak Hour														
Location	Queue Length Per Lane			Distance Between Intersections	Excess Queue (Feet)			Queue Length Per Lane			Distance Between Intersections	Excess Queue (Feet)			
	Eastbound			Eastbound	Eastbound			Westbound			Westbound	Westbound			
	RT	TH	LT		RT	TH	LT	LT	TH	RT		LT	TH	RT	
Palm Ave. / I-805 SB Ramps	-	-	-	-	-	-	-	508	50	-	600	None	None	-	
Palm Ave. / I-805 NB Ramps	-	373	473	600	-	None	None	-	548	4,175	1,000	-	None	3,175	
Palm Ave. Dennery Rd.	2,383	300	710	1,000	1,383	None	None	-	-	-	-	-	-	-	
Siempre Viva Rd. / Otay Center Dr.	-	-	-	-	-	-	-	830	803	-	600	230	203	-	
Siempre Viva Rd. / SR-905 SB Ramps	-	3,500	-	300	-	3,200	-	1,435	-	-	600	835	-	-	
Siempre Viva Rd. / SR-905 NB Ramps	-	88	4,200	600	-	None	3,600	-	2,625	2,283	1,150	-	1,475	1,133	
Siempre Viva Rd. / Paseo de las Americas	393	445	2,280	1,150	None	None	1,130	-	-	-	-	-	-	-	
-															
La Media Rd. / Lone Star Rd.	-	-	-	-	-	-	-	345	-	1,550	300	45	-	1,250	
Lone Star Rd. / SR-125 SB Off Ramp	-	130	-	300	-	None	-	-	153	-	500	-	None	-	
Lone Star Rd. / SR-125 NB On Ramp	-	-	348	500	-	-	None	-	83	543	600	-	None	None	
Lone Star Rd. / Piper Racnh Rd.	-	300	-	600	-	None	-	-	-	-	-	-	-	-	
Otay Mesa Rd. / Piper Ranch Rd.	-	-	-	-	-	-	-	295	2,215	-	2,000	None	215	-	
Otay Mesa Rd. / SR-125 SB Off Ramp	-	320	-	2,000	-	None	-	-	200	-	500	-	None	-	
Otay Mesa Rd. / SR-125 NB On Ramp	-	-	330	500	-	-	None	-	535	485	700	-	None	None	
Otay Mesa Rd. / Harvest Rd.	-	250	50	700	-	None	None	-	-	-	-	-	-	-	

Note: Based on 95th percentile back of queue. 25 FT. per vehicle.
TH = Through Lanes
LT = Left Turn Lane
RT = Right Turn Lane

Table 6-7

Alternative 3B With La Media Road With Mitigation

Buildout Queue Analysis

Queue Locations North / South	AM Peak Hour													
Location	Queue Length Per Lane			Distance Between Intersections	Excess Queue (Feet)			Queue Length Per Lane			Distance Between Intersections	Excess Queue (Feet)		
	Southbound			Southbound	Southbound			Northbound			Northbound	Northbound		
	RT	TH	LT		RT	TH	LT	LT	TH	RT		LT	TH	RT
Otay Mesa Rd. / Caliente Ave.	-	-	-	-	-	-	-	200	138	8,100	450	None	None	7,650
Caliente Ave. / SR-905 WB Ramps	1,323	343	-	450	873	None	-	583	1,463	-	450	133	1,012	-
Caliente Ave. / SR-905 EB Ramps	-	185	200	450	-	None	None	-	1,258	223	300	-	958	None
Caliente Ave. / Airway Rd.	-	350	1,478	300	-	50	1,178	-	-	-	-	-	-	-
Otay Mesa Rd. / Heritage Rd.	-	-	-	-	-	-	-	228	348	223	750	None	None	None
Heritage Rd. / SR-905 WB Ramps	-	30	225	750	-	None	None	-	280	1,525	750	-	None	775
Heritage Rd. / SR-905 EB Ramps	-	130	130	750	-	None	None	-	1,083	135	750	-	333	None
Heritage Rd. / Airway Rd.	168	-	2,650	750	None	-	1,900	-	-	-	-	-	-	-
Otay Mesa Rd. / Britannia Blvd.	-	-	-	-	-	-	-	713	1,120	1,238	900	None	220	338
Britannia Blvd. / SR-905 WB Ramps	418	578	-	900	None	None	-	780	130	-	450	330	None	-
Britannia Blvd. / SR-905 EB Ramps	-	1,323	328	450	-	873	None	-	1,583	440	900	-	683	None
Britannia Blvd. / Airway Rd.	1,795	3,200	1,795	900	895	2,300	895	-	-	-	-	-	-	-
Otay Mesa Rd. / La Media Rd.	-	-	-	-	-	-	-	1,633	1,048	600	450	1,183	598	250
La Media Rd. / SR-905 WB Ramps	118	2,070	-	450	None	1,620	-	120	1,038	-	900	None	138	-
La Media Rd. / SR-905 EB Ramps	95	3,275	-	900	None	2,375	-	1,088	1,093	-	900	188	193	-
La Media Rd. / Airway Rd.	1,370	1,805	3,275	900	470	905	2,375	-	-	-	-	-	-	-

Note: Based on 95th percentile back of queue. 25 FT. per vehicle.
TH = Through Lanes
LT = Left Turn Lane
RT = Right Turn Lane

Table 6-7

Alternative 3B With La Media Road With Mitigation

Buildout Queue Analysis

Queue Locations North / South	PM Peak Hour													
Location	Queue Length Per Lane			Distance Between Intersections	Excess Queue (Feet)			Queue Length Per Lane			Distance Between Intersections	Excess Queue (Feet)		
	Southbound			Southbound	Southbound			Northbound			Northbound	Northbound		
	RT	TH	LT		RT	TH	LT	LT	TH	RT		LT	TH	RT
Otay Mesa Rd. / Caliente Ave.	-	-	-	-	-	-	-	610	370	1,760	450	160	None	1,310
Caliente Ave. / SR-905 WB Ramps	978	483	-	450	528	33	-	390	1,158	-	450	None	708	-
Caliente Ave. / SR-905 EB Ramps	-	230	188	450	-	None	None	-	1,173	263	300	-	878	None
Caliente Ave. / Airway Rd.	-	1,398	598	300	-	1,098	298	-	-	-	-	-	-	-
Otay Mesa Rd. / Heritage Rd.	-	-	-	-	-	-	-	228	348	223	750	None	None	None
Heritage Rd. / SR-905 WB Ramps	-	98	1,208	750	-	None	458	-	280	1,525	750	-	None	775
Heritage Rd. / SR-905 EB Ramps	-	313	425	750	-	None	None	-	1,083	135	750	-	333	None
Heritage Rd. / Airway Rd.	63	-	2,975	750	None	-	2,225	-	-	-	-	-	-	-
Otay Mesa Rd. / Britannia Blvd.	-	-	-	-	-	-	-	460	483	433	900	None	None	None
Britannia Blvd. / SR-905 WB Ramps	385	870	-	900	None	None	-	6,950	35	-	450	6,500	None	-
Britannia Blvd. / SR-905 EB Ramps	-	138	268	450	-	None	None	-	2,700	820	900	-	1,800	None
Britannia Blvd. / Airway Rd.	565	603	1,230	900	None	None	330	-	-	-	-	-	-	-
Otay Mesa Rd. / La Media Rd.	-	-	-	-	-	-	-	790	1,085	600	450	340	635	250
La Media Rd. / SR-905 WB Ramps	295	2,675	-	450	None	2,225	-	305	990	-	900	None	90	-
La Media Rd. / SR-905 EB Ramps	585	1,310	-	900	None	410	-	1,663	1,113	-	900	760	213	-
La Media Rd. / Airway Rd.	288	888	850	900	None	None	None	-	-	-	-	-	-	-

Note: Based on 95th percentile back of queue. 25 FT. per vehicle.
TH = Through Lanes
LT = Left Turn Lane
RT = Right Turn Lane

Table 6-7

Alternative 3B With La Media Road With Mitigation

Buildout Queue Analysis

Queue Locations East / West	AM Peak Hour														
Location	Queue Length Per Lane			Distance Between Intersections	Excess Queue (Feet)			Queue Length Per Lane			Distance Between Intersections	Excess Queue (Feet)		
	Eastbound			Eastbound	Eastbound			Westbound			Westbound	Westbound		
	RT	TH	LT		RT	TH	LT	LT	TH	RT		LT	TH	RT
Palm Ave. / I-805 SB Ramps	-	-	-	-	-	-	-	228	78	-	600	None	None	-
Palm Ave. / I-805 NB Ramps	315	128	-	600	None	None	-	-	40	283	1,000	-	None	None
Palm Ave. Dennery Rd.	395	208	493	1,000	None	None	None	-	-	-	-	-	-	-
Siempre Viva Rd. / Otay Center Dr.	-	-	-	-	-	-	-	308	2,750	1,878	600	None	2,150	1,278
Siempre Viva Rd. / SR-905 SB Ramps	-	678	-	300	-	378	-	348	-	-	600	None	-	-
Siempre Viva Rd. / SR-905 NB Ramps	-	475	730	600	-	None	130	-	538	518	1,150	-	None	None
Siempre Viva Rd. / Paseo de las Americas	2,170	1,095	1,138	1,150	1,020	None	None	-	-	-	-	-	-	-
La Media Rd. / Lone Star Rd.	-	-	-	-	-	-	-	220	-	140	300	None	-	None
Lone Star Rd. / SR-125 SB Off Ramp	-	623	-	300	-	323	-	-	185	-	500	-	None	-
Lone Star Rd. / SR-125 NB On Ramp	-	-	78	500	-	-	None	-	143	513	600	-	None	None
Lone Star Rd. / Piper Ranch Rd.	-	790	-	600	-	190	-	-	-	-	-	-	-	-
Otay Mesa Rd. / Piper Ranch Rd.	-	-	-	-	-	-	-	148	958	85	2,000	None	None	None
Otay Mesa Rd. / SR-125 SB Off Ramp	-	500	-	2,000	-	None	-	-	110	-	500	-	None	-
Otay Mesa Rd. / SR-125 NB On Ramp	-	-	128	500	-	-	None	-	270	60	700	-	None	None
Otay Mesa Rd. / Harvest Rd.	225	470	195	700	None	None	None	-	-	-	-	-	-	-

Note: Based on 95th percentile back of queue. 25 FT. per vehicle.
TH = Through Lanes
LT = Left Turn Lane
RT = Right Turn Lane

Table 6-7

Alternative 3B With La Media Road With Mitigation

Buildout Queue Analysis

Queue Locations East / West	PM Peak Hour													
Location	**Queue Length Per Lane**			**Distance Between Intersections**	**Excess Queue (Feet)**			**Queue Length Per Lane**			**Distance Between Intersections**	**Excess Queue (Feet)**		
	Eastbound			**Eastbound**	**Eastbound**			**Westbound**			**Westbound**	**Westbound**		
	RT	**TH**	**LT**		**RT**	**TH**	**LT**	**LT**	**TH**	**RT**		**LT**	**TH**	**RT**
Palm Ave. / I-805 SB Ramps	-	-	-	-	-	-	-	553	195	-	600	None	None	-
Palm Ave. / I-805 NB Ramps	173	198	-	600	None	None	-	-	75	338	1,000	-	None	None
Palm Ave. Dennery Rd.	2,383	300	710	1,000	1,383	None	None	-	-	-	-	-	-	-
Siempre Viva Rd. / Otay Center Dr.	-	-	-	-	-	-	-	280	610	28	600	None	10	None
Siempre Viva Rd. / SR-905 SB Ramps	-	3,500	-	300	-	3,200	-	1,435	-	-	600	835	-	-
Siempre Viva Rd. / SR-905 NB Ramps	-	88	4,200	600	-	None	3,600	-	910	2,900	1,150	-	None	1,750
Siempre Viva Rd. / Paseo de las Americas	403	445	748	1,150	None	None	None	-	-	-	-	-	-	-
-														
La Media Rd. / Lone Star Rd.	-	-	-	-	-	-	-	345	-	1,550	300	45	-	1,250
Lone Star Rd. / SR-125 SB Off Ramp	-	130	-	300	-	None	-	-	153	-	500	-	None	-
Lone Star Rd. / SR-125 NB On Ramp	-	-	348	500	-	-	None	-	83	543	600	-	None	None
Lone Star Rd. / Piper Ranch Rd.	-	300	-	600	-	None	-	-	-	-	-	-	-	-
Otay Mesa Rd. / Piper Ranch Rd.	-	-	-	-	-	-	-	295	1,715	45	2,000	None	None	None
Otay Mesa Rd. / SR-125 SB Off Ramp	-	320	-	2,000	-	None	-	-	200	-	500	-	None	-
Otay Mesa Rd. / SR-125 NB On Ramp	-	-	315	500	-	-	None	-	535	485	700	-	None	None
Otay Mesa Rd. / Harvest Rd.	60	453	50	700	None	None	None	-	-	-	-	-	-	-

Note: Based on 95th percentile back of queue. 25 FT. per vehicle.
TH = Through Lanes
LT = Left Turn Lane
RT = Right Turn Lane

7.0 SCENARIO 3B WITHOUT LA MEDIA ROAD

7.1 3B Scenario Assumed Land Use and Transportation Network

The 3B Without La Media Road scenario land use assumptions are the same as 3B With La Media Road, allowing 18,774 dwelling units compared to 12,206 within the Adopted Community Plan. The traffic forecast for this alternative assumed 3,917,000 square of commercial uses and 54,461,000 square feet of industrial uses. The buildout of this plan would generate 1,045,025 average daily vehicle trips. The circulation element roadways for this alternative include those assumed in the 3B With La Media Road scenario, with only one change. The street network change compared to 3B With La Media Road is the deletion of the La Media Road connector across the Otay River Valley between Birch Road in Chula Vista and Lone Star Road in San Diego.

7.2 Segment Level of Service

Roadway segment levels of service are similar to 3B With La Media Road, except along La Media Road north of Otay Mesa Road, and Otay Mesa Road east of La Media Road. **Figure 7-1** shows the projected buildout average daily traffic trips generated on the street system due to the land uses assumed under the 3B Without La Media Road land use and street network. The traffic model average daily traffic volume plots from which the volumes shown in this figure are taken are in Appendix D, for reference. Also in the appendix is documentation if volume adjustments made to several segments. **Table 7-1** indicates the roadway segment level of service for numerous roadway segments as a result of the projected average daily traffic and the capacity of the roadway. The highest forecasted volumes between circulation

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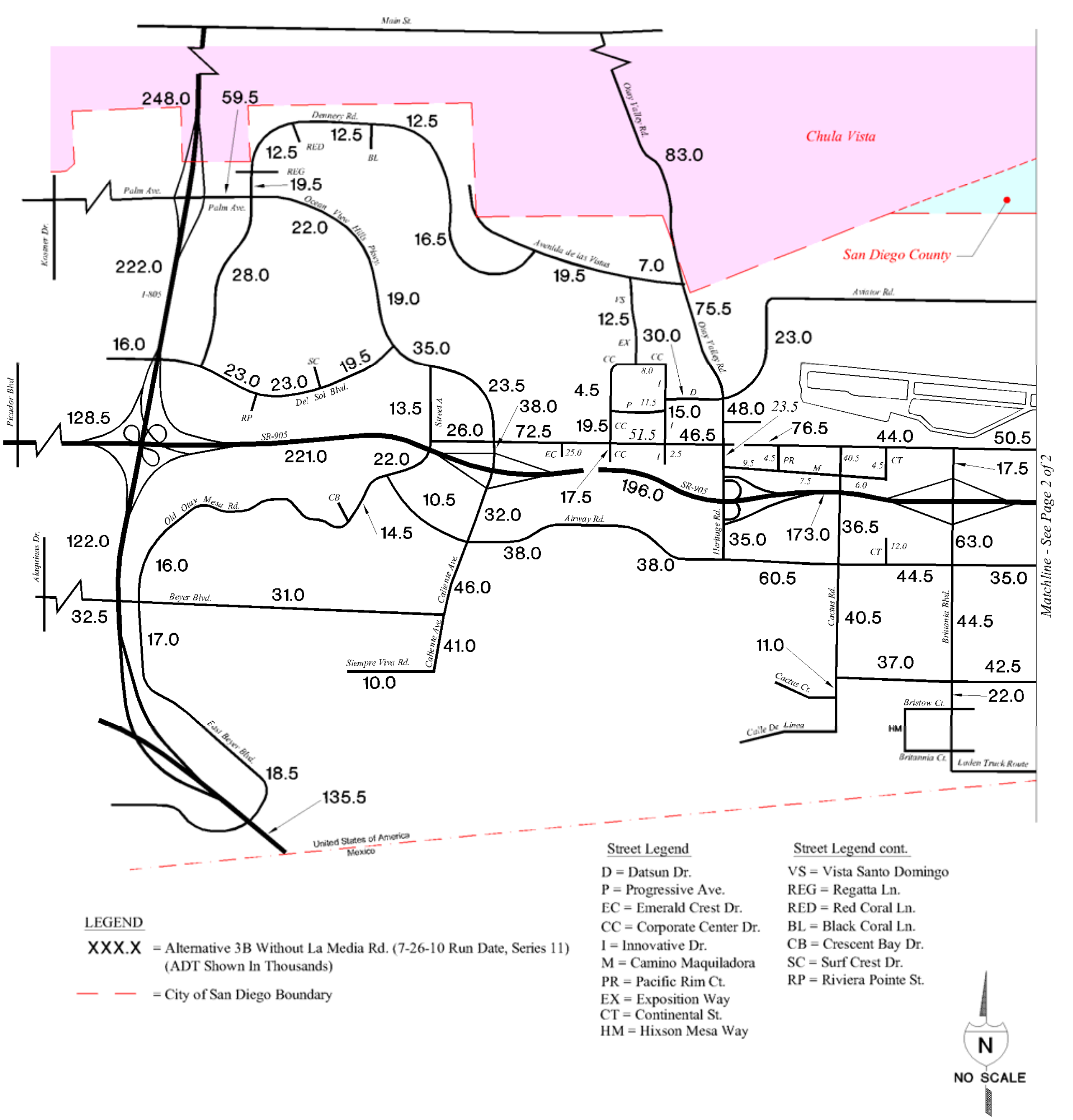

FIGURE 7-1

Scenario 3B Without La Media Road Average Daily Traffic

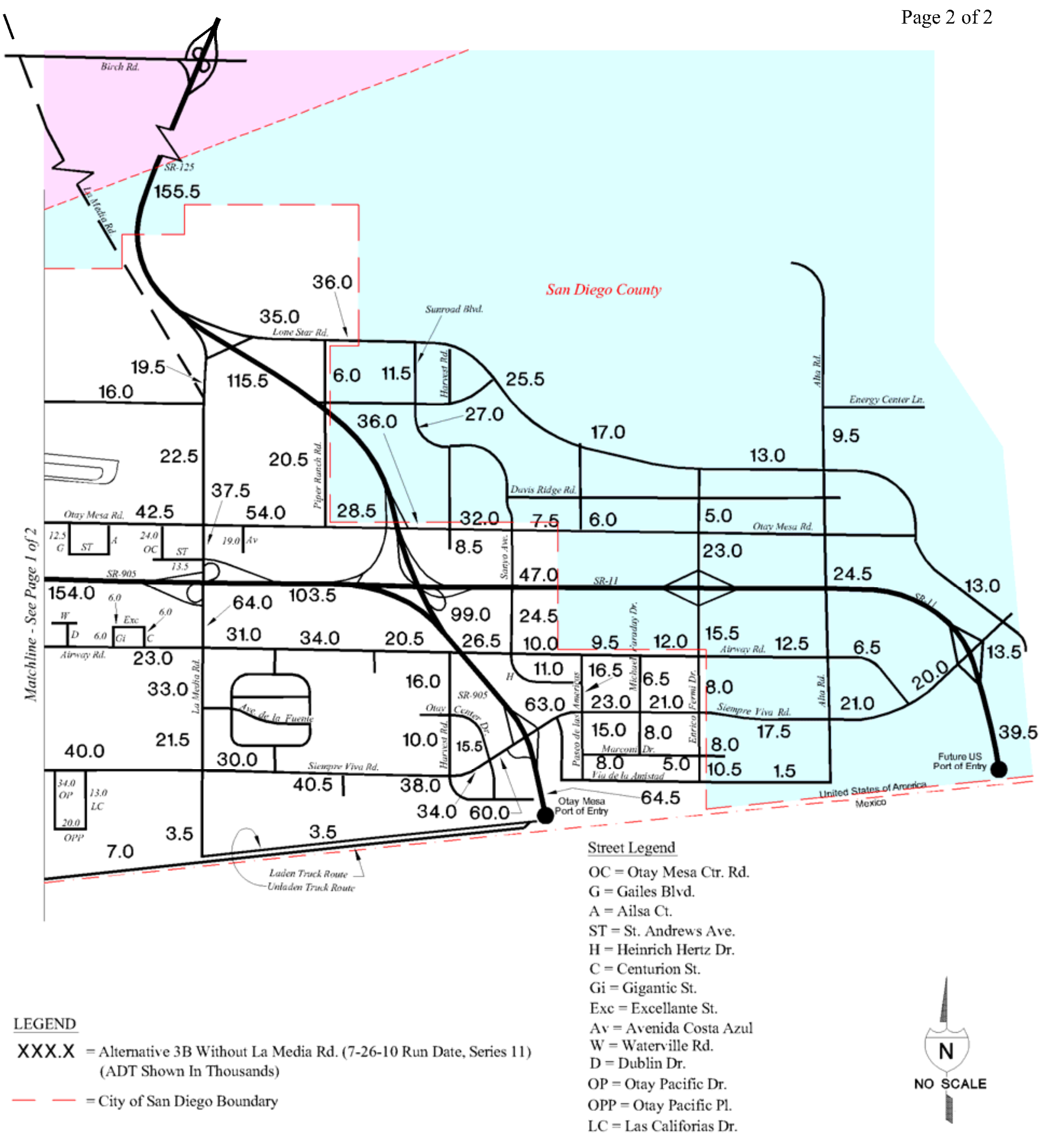

FIGURE 7-1

Scenario 3B Without La Media Road Average Daily Traffic

TABLE 7-1

Buildout Scenario 3B Without La Media Rd.

Average Daily Traffic & Level of Service

Street	Segment	#	(1) Class	LOS E ADT (2)	Segment ADT	V/C	LOS	New Class	New V/C	NEW LOS	S?
Otay Mesa Road	Street A to Caliente Ave.	1	6-PA	60,000	26,000	0.43	B	6-M	0.52	B	N
	Caliente Ave. to Corporate Center Dr.	2	6-PA	60,000	72,500	1.21	F	N	-	-	Y
	Corporate Center Dr. to Innovative Dr.	3	6-PA	60,000	51,500	0.86	D	N	-	-	N
	Innovative Dr. to Heritage Rd.	4	6-PA	60,000	46,500	0.78	C	N	-	-	N
	Heritage Rd. to Cactus Rd.	5	6-PA	60,000	76,500	1.28	F	N	-	-	Y
	Cactus Rd. to Britannia Blvd.	6	6-PA	60,000	44,000	0.73	C	N	-	-	N
	Britannia Blvd. to Ailsa Ct.	7	6-PA	60,000	50,500	0.84	D	N	-	-	N
	Ailsa Ct. to La Media Rd.	8	7-M	55,000	42,500	0.77	C	6-PA	0.71	C	N
	La Media Rd. to Piper Ranch Rd.	9	8-M	70,000	54,000	0.77	C	6-PA	0.90	D	N
	Piper Ranch Rd. to SR-125	10	4-P	45,000	28,500	0.63	C	6-PA	0.48	B	N
	SR-125 to Harvest Rd.	11	4-M	40,000	36,000	0.90	E	6-PA	0.60	C	N
	Harvest Rd. to Sanyo Ave.	12	4-M	40,000	32,000	0.80	D	6-PA	0.53	B	N
	Sanyo Ave. to Enrico Fermi Dr.	13	4-M	40,000	7,500	0.19	A	6-PA	0.13	A	N
Airway Road	Old Otay Mesa Rd. to Caliente Ave.	14	4-CL	30,000	10,500	0.35	A	N	-	-	N
	Caliente Ave. to Heritage Rd.	15	4-M	40,000	38,000	0.95	E	N	-	-	Y
	Heritage Rd. to Cactus Rd.	16	4-M	40,000	60,500	1.52	F	6-PA	1.01	F	Y
	Cactus Rd. to Britannia Blvd.	17	4-M	40,000	44,500	1.11	F	6-M	0.89	D	N
	Britannia Blvd. to La Media Rd.	18	4-M	40,000	35,000	0.88	D	N	-	-	N
	La Media Rd. to Harvest Rd.	19	4-M	40,000	34,000	0.85	D	N	-	-	N
	Harvest Rd. to Sanyo Ave.	20	4-M	40,000	26,500	0.66	C	N	-	-	N
	Sanyo Ave. to Paseo de las Americas	21	4-M	40,000	10,000	0.25	A	N	-	-	N
	Paseo de las Americas to Michael Faraday Dr.	22	4-M	40,000	9,500	0.24	A	N	-	-	N
	Michael Faraday Dr. to Enrico Fermi Dr.	23	4-M	40,000	12,000	0.30	A	N	-	-	N
	Enrico Fermi Dr. to Siempre Viva Rd.*	24	4-M	40,000	12,500	0.31	A	N	-	-	N
Siempre Viva Road	Caliente Ave. to West Terminus	25	4-M	40,000	10,000	0.25	A	2-CL	0.67	C	N
	Cactus Rd. to Britannia Blvd.	27	6-PA	60,000	37,000	0.62	C	N	-	-	N
	Britannia Blvd. to La Media Rd.	28	6-PA	60,000	42,500	0.71	C	N	-	-	N
	La Media Rd. to Harvest Rd.	29	6-PA	60,000	40,500	0.68	C	N	-	-	N
	Harvest Rd. to Otay Center Dr.	30	6-PA	60,000	34,000	0.57	B	N	-	-	N
	Otay Center Dr. to SR-905	31	6-PA	60,000	60,000	1.00	E	N	-	-	Y
	SR-905 to Paseo de las Americas	32	6-PA	60,000	63,000	1.05	F	N	-	-	Y
	Paseo de las Americas to Michael Faraday Dr.	33	4-M	40,000	23,000	0.58	C	N	-	-	N
	Michael Faraday Dr. to Enrico Fermi Dr.	34	4-M	40,000	21,000	0.53	B	N	-	-	N
	Enrico Fermi Dr. to SR-11*	35	4-M	40,000	17,500	0.44	B	N	-	-	N

*Segment in County of San Diego

Note: There is no segment #26 with this alternative.

= Segment Number

(1) = Current Community Plan Classification, unless footnotes (3) or (4) apply.

(2) = Source: City of San Diego Traffic Impact Study Manual, Table 2.

(3) = Add to Circulation Plan.

(4) = Functional classification shown, not currently classified.

S? = Significant impact, Yes (Y) or No (N).

New LOS = LOS after change in classification.

F = Shading indicates a significant impact.

Legend

8-M = 8-lane Major Arterial
7-PA = 7-lane Primary Arterial
7-M = 7-lane Major Arterial
6-PA = 6-lane Primary Arterial
6-M = 6-lane Major Arterial
5-M = 5-lane Major Arterial (3SB /2NB)
4-P = 4-lane Primary Arterial
4-M = 4-lane Major Arterial
4-CL = 4-lane Collector (with continuous left turn lane)
4-C = 4-lane Collector (without continuous left turn lane)
2-CL = 2-lane Collector (with continuous left turn lane)
2-CN = 2-lane Collector (no fronting property)
2-C = 2-lane Collector (without continuous left turn lane)

TABLE 7-1 (Continued)

Buildout Scenario 3B Without La Media Rd.

Average Daily Traffic & Level of Service

Street	Segment	#	(1) Class	LOS E ADT (2)	Segment ADT	V/C	LOS	New Class	New V/C	New LOS	S?
Palm Ave.	I-805 to Dennery Rd.	37	7-PA	65,000	59,500	0.92	D	N	-	-	N
Ocean View Hills Parkway	Dennery Rd. to Del Sol Blvd.	38	4-M	40,000	22,000	0.55	C	N	-	-	N
	Del Sol Blvd. to Street "A"	39	6-M	50,000	35,000	0.70	C	N	-	-	N
	Street "A" to Otay Mesa Rd.	40	6-M	50,000	23,500	0.42	B	N	-	-	N
Caliente Avenue	Otay Mesa Rd. to SR-905	41	6-M	50,000	38,000	0.76	C	6-PA	0.63	C	N
	SR-905 to Airway Rd.	42	6-M	50,000	32,000	0.64	C	6-PA	0.53	B	N
	Airway Rd. to Beyer Blvd.	43	4-M	40,000	46,000	1.15	F	6-M	0.92	E	Y
	Beyer Blvd. to Siempre Viva Rd.	43A	4-M	40,000	41,000	1.03	F	N	-	-	Y
Beyer Boulevard	Alaquinas Dr. to Old Otay Mesa Rd.	44	4-M	40,000	32,500	0.81	D	N	-	-	N
	Old Otay Mesa Rd. to Caliente Ave. (3)	45	4-M	40,000	31,000	0.78	D	N	-	-	N
Heritage Road/ Otay Valley Road	Main St. to Avenida De Las Vistas**	46	6-PA	60,000	83,000	1.38	F	N	-	-	Y
	Avenida De Las Vistas to Datsun St.	47	6-M	50,000	75,500	1.51	F	6-PA	1.26	F	Y
	Datsun St. to Otay Mesa Rd.	48	6-M	50,000	48,000	0.96	E	6-PA	0.80	C	N
	Otay Mesa Rd. to SR-905	49	6-M	50,000	23,500	0.47	B	6-PA	0.39	A	N
	SR-905 to Airway Rd.	50	6-M	50,000	35,000	0.70	C	6-PA	0.58	B	N
Cactus Road	Otay Mesa Rd. to Airway Rd.	52	4-CL	30,000	40,500	1.35	F	4-M	1.01	F	Y
	Airway Rd. to Siempre Viva Rd.	53	4-CL	30,000	40,500	1.35	F	4-M	1.01	F	Y
	Siempre Viva Rd. to South End	54	2-CL	15,000	11,000	0.73	D	N	-	-	N
Britannia Boulevard	Otay Mesa Rd. to SR-905	55	4-M	40,000	17,500	0.44	B	6-PA	0.29	A	N
	SR-905 to Airway Rd.	56	4-M	40,000	63,000	1.58	F	6-PA	1.05	F	Y
	Airway Rd. to Siempre Viva Rd.	57	4-M	40,000	44,500	1.11	F	6-M	0.89	D	N
	Siempre Viva Rd. to South End	58	2-C	8,000	22,000	2.75	F	4-CL	0.73	D	N
La Media Road	Birch Rd. to Lone Star Rd.**	59	6-PA	60,000	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Lone Star Rd. to Aviator Rd.	60	6-PA	60,000	19,500	0.33	A	4-M	0.49	B	N
	Aviator Rd. to Otay Mesa Rd.	61	6-PA	60,000	22,500	0.38	A	4-M	0.56	C	N
	Otay Mesa Rd. to SR-905	62	6-PA	60,000	37,500	0.63	C	N	-	-	N
	SR-905 to Airway Rd.	63	6-PA	60,000	64,000	1.06	F	N	-	-	Y
	Airway Rd. to Siempre Viva Rd.	64	4-M	40,000	33,000	0.83	D	5-M	0.73	C	N
Harvest Road	South of Otay Mesa Rd.	65	4-M	40,000	8,500	0.21	A	2-CL	0.57	C	N
	Airway Rd. to Otay Center Dr.	66	4-M	40,000	16,000	0.40	B	4-CL	0.53	C	N
	Otay Center Dr. to Siempre Viva Rd.	67	4-M	40,000	10,000	0.25	A	4-CL	0.33	A	N

*Segment in County of San Diego

**Segment in Chula Vista

= Segment Number

(1) = Current Community Plan Classification, unless footnotes (3) or (4) apply.

(2) = Source: City of San Diego Traffic Impact Study Manual, Table 2.

(3) = Add to Circulation Plan.

(4) = Functional classification shown, not currently classified.

S? = Significant impact, Yes (Y) or No (N).

New LOS = LOS after change in classification.

F = Shading indicates a significant impact.

Note: There is no segment #51 with this alternative.
Segment #36 was deleted.

Legend

8-M = 8-lane Major Arterial
7-PA = 7-lane Primary Arterial
7-M = 7-lane Major Arterial
6-PA = 6-lane Primary Arterial
6-M = 6-lane Major Arterial
5-M = 5-lane Major Arterial (3SB /2NB)
4-P = 4-lane Primary Arterial
4-M = 4-lane Major Arterial
4-CL = 4-lane Collector (with continuous left turn lane)
4-C = 4-lane Collector (without continuous left turn lane)
2-CL = 2-lane Collector (with continuous left turn lane)
2-CN = 2-lane Collector (no fronting property)
2-C = 2-lane Collector (without continuous left turn lane)

TABLE 7-1 (Continued)

Buildout Scenario 3B Without La Media Rd.

Average Daily Traffic & Level of Service

Street	Segment	#	(1)Class	LOS E ADT (2)	Segment ADT	V/C	LOS	New Class	New V/C	New LOS	S?
Enrico Fermi Drive	SR-11 to Airway Rd.*	68	4-M	40,000	15,500	0.62	B	N	-	-	N
	Airway Rd. to SiempreViva Rd.	69	4-M	40,000	8,000	0.20	A	4-CL	0.27	A	N
	Siempre Viva Rd. to Via de la Amistad	70	4-M	40,000	10,500	0.26	A	4-CL	0.35	B	N
Lone Star Road	SR-125 to Piper Ranch Rd.	72	4-M	40,000	35,000	0.88	D	6-PA	0.58	B	N
	Piper Ranch Rd. to City / County Boundary	73	4-M	40,000	36,000	0.90	E	6-PA	0.60	C	N
Aviator Road	Heritage Rd. to La Media Rd. (3)	74	2-C	8,000	23,000	2.88	F	4-CL	0.77	D	N
Dennery Road	Palm Ave. to Del Sol Blvd.	75	4-M	40,000	28,000	0.70	C	N	-	-	N
	Palm Ave. to Regatta Ln.	76	4-M	40,000	19,500	0.49	B	N	-	-	N
	Regatta Ln. to Red Coral Ln.	77	4-CL	30,000	12,500	0.42	B	N	-	-	N
	Red Coral Ln. to Black Coral Ln.	78	2-CL	15,000	12,500	0.83	D	N	-	-	N
	Black Coral Ln. to East End	79	2-CN	10,000	16,500	1.65	F	N	-	-	Y
Avendia De Las Vistas	Otay Valley Rd. to Vista Santo Domingo	80	2-CN	10,000	7,000	0.70	C	N	-	-	N
	Vista Santo Domingo to Dennery Rd.	81	2-CN	10,000	19,500	1.95	F	N	-	-	Y
Del Sol Boulevard	Ocean View Hills Pkwy. to Surf Crest Dr.	82	4-CL	30,000	19,500	0.65	C	N	-	-	N
	Surf Crest Dr. to Riviera Pointe	83	2-CN	10,000	23,000	2.30	F	N	-	-	Y
	Riviera Pointe to Dennery Rd.	84	2-CL	15,000	23,000	1.53	F	N	-	-	Y
	Dennery Rd. to I-805	85	4-CL	30,000	16,000	0.53	C	N	-	-	N
Street A	Ocean View Hills Pkwy. to Otay Mesa Rd.	86	4-M	40,000	13,500	0.34	A	N	-	-	N
Old Otay Mesa Road	Otay Mesa Rd. to Airway Rd.	87	4-CL	30,000	22,000	0.73	D	N	-	-	N
	Airway Rd. to Crescent Bay Dr.	88	4-CL	30,000	14,500	0.48	C	N	-	-	N
	Crescent Bay Dr. to Beyer Blvd.	89	2-C	8,000	16,000	2.00	F	N	-	-	Y
Emerald Crest Dr.	Otay Mesa Rd. to South End (3)	90	4-CL	30,000	25,000	0.83	D	N	-	-	N
Corporate Center Drive	South End to Otay Mesa Rd. (3)	91	4-CL	30,000	17,500	0.58	C	N	-	-	N
	Otay Mesa Rd. to Progressive Ave.	92	4-CL	30,000	19,500	0.65	C	N	-	-	N
	Progressive Ave. to Innovative Dr.	93	2-C	8,000	8,000	1.00	E	2-CL	0.53	C	N
Innovative Drive	Otay Mesa Rd. to Corporate Center Dr.	94	4-CL	30,000	15,000	0.50	C	N	-	-	N
Piper Ranch Road	Lone Star Rd. to Otay Mesa Rd.	96	4-CL	30,000	20,500	0.68	D	N	-	-	N

*Segment in County of San Diego

Note: There is no segment #71 with this alternative.

= Segment Number

(1) = Current Community Plan Classification, unless footnotes (3) or (4) apply.

(2) = Source: City of San Diego Traffic Impact Study Manual, Table 2.

(3) = Add to Circulation Plan.

(4) = Functional classification shown, not currently classified.

S? = Significant impact, Yes (Y) or No (N).

New LOS = LOS after change in classification.

F = Shading indicates a significant impact.

Legend

8-M = 8-lane Major Arterial

7-PA = 7-lane Primary Arterial

7-M = 7-lane Major Arterial

6-PA = 6-lane Primary Arterial

6-M = 6-lane Major Arterial

5-M = 5-lane Major Arterial (3SB /2NB)

4-P = 4-lane Primary Arterial

4-M = 4-lane Major Arterial

4-CL = 4-lane Collector (with continuous left turn lane)

4-C = 4-lane Collector (without continuous left turn lane)

2-CL = 2-lane Collector (with continuous left turn lane)

2-CN = 2-lane Collector (no fronting property)

2-C = 2-lane Collector (without continuous left turn lane)

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TABLE 7-1 (Continued)

Buildout Scenario 3B Without La Media Rd.

Average Daily Traffic & Level of Service

Street	Segment	#	Class	LOS E ADT (2)	Segment ADT	V/C	LOS	New Class	New V/C	NEW LOS	S?
Sanyo Avenue	Otay Mesa Rd. to Airway Rd. (4)	97	4-C	15,000	24,500	1.63	F	4-CL	0.82	D	N
Heinrich Hertz Drive	Airway Rd. to Paseo de las Americas (4)	98	2-CL	15,000	12,000	0.80	D	N	-	-	N
Paseo de las Americas	Airway Rd. to Siempre Viva Rd.	99	2-C	8,000	16,500	2.06	F	4-CL	0.55	C	N
	Siempre Viva Rd. to Marconi Dr.	100	2-C	8,000	15,000	1.88	F	4-CL	0.50	C	N
Marconi Drive	Paseo de las Americas to Enrico Fermi Dr.	101	2-C	8,000	8,000	1.00	E	2-CL	0.53	C	N
Otay Center Drive	Harvest Rd. to Siempre Viva Rd. (4)	102	4-C	15,000	15,500	1.03	F	4-CL	0.52	C	N
Michael Faraday Drive	Airway Rd. to Siempre Viva Rd. (4)	103	2-CL	15,000	6,500	0.43	B	N	-	-	N
	Siempre Viva Rd. to Marconi Dr. (4)	104	2-CL	15,000	8,000	0.53	C	N	-	-	N
St. Andrews Avenue	Otay Mesa Center Rd. to La Media Rd.	105	2-C	8,000	13,500	1.69	F	4-CL	0.45	C	N
Gailes Boulevard	Otay Mesa Rd. to St. Andrews Ave.	107	2-C	8,000	12,500	1.56	F	4-C	0.83	D	N
Camino Maquiladora	Heritage Rd. to Pacific Rim Ct.	108	2-C	8,000	9,500	1.19	F	N	-	-	Y
	Pacific Rim Ct. to Cactus Rd.	109	2-C	8,000	7,500	0.94	E	N	-	-	Y
	Cactus Rd. to Continental St.	110	2-C	8,000	6,000	0.75	D	N	-	-	N
Pacific Rim Court	Otay Mesa Rd. to Camino Maquiladora	111	2-C	8,000	4,500	0.56	C	N	-	-	N
Progressive Avenue	Corporate Center Dr. to Innovative Dr.	112	2-C	8,000	11,500	1.44	F	N	-	-	Y
Otay Mesa Center Road	Otay Mesa Rd. to St. Andrews Ave.	113	2-C	8,000	24,000	1.60	F	4-CL	0.80	D	N
Datsun Street	Innovative Dr. to Heritage Rd. (3)	114	2-C	8,000	30,000	3.75	F	4-CL	1.00	E	Y
Avenida Costa Azul	Otay Mesa Rd. to St. Andrews Ave. (3)	115	2-CL	15,000	19,000	1.27	F	4-CL	0.63	B	N
Excellante Street	Airway Rd. to Gigantic St.	116	4-C	15,000	6,000	0.40	B	2-C	0.75	D	N
Gigantic Street	Excellante St. to Centurion St.	117	4-C	15,000	6,000	0.40	B	2-C	0.75	D	N
Centurion Street	Airway Rd. to Gigantic St.	118	4-C	15,000	6,000	0.40	B	2-C	0.75	D	N
Exposition Way / Vista Santo Domingo	Avenida De Las Vistas to Corporate Dr. (4)	119	2-CN	10,000	12,500	1.25	F	N	-	-	Y
Continental Street	South of Otay Mesa Rd.	120	2-C	8,000	4,500	0.56	C	N	-	-	N
	North of Airway Rd.	121	2-CL	15,000	12,000	0.80	D	N	-	-	N

*Segment in County of San Diego

= Segment Number

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F = Shading indicates a significant impact.

Legend

8-M = 8-lane Major Arterial

7-PA = 7-lane Primary Arterial

7-M = 7-lane Major Arterial

6-PA = 6-lane Primary Arterial

6-M = 6-lane Major Arterial

5-M = 5-lane Major Arterial (3SB /2NB)

4-P = 4-lane Primary Arterial

4-M = 4-lane Major Arterial

4-CL = 4-lane Collector (with continuous left turn lane)

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2-CL = 2-lane Collector (with continuous left turn lane)

2-CN = 2-lane Collector (no fronting property)

2-C = 2-lane Collector (without continuous left turn lane)

element roads were used for analysis. Also shown are recommended reclassifications of roadways. The initial "without mitigation" classification of roadways is based on the existing functional classification. Or, if the street did not exist in the existing conditions assessments, or if analyzing the projected volumes on the existing facility would not be meaningful because it would not be possible to carry those volumes on the existing sized facility due to its capacity, then the Adopted Community Plan classification was used. Failing roadway segments at level of service "E' or "F" with significant traffic impacts are summarized below. All other roadway segments are projected to operate at a level of service "D" or better, without significant traffic impacts.

Figure 7-2 shows recommended roadway classifications for the 3B Without La Media Road scenario.

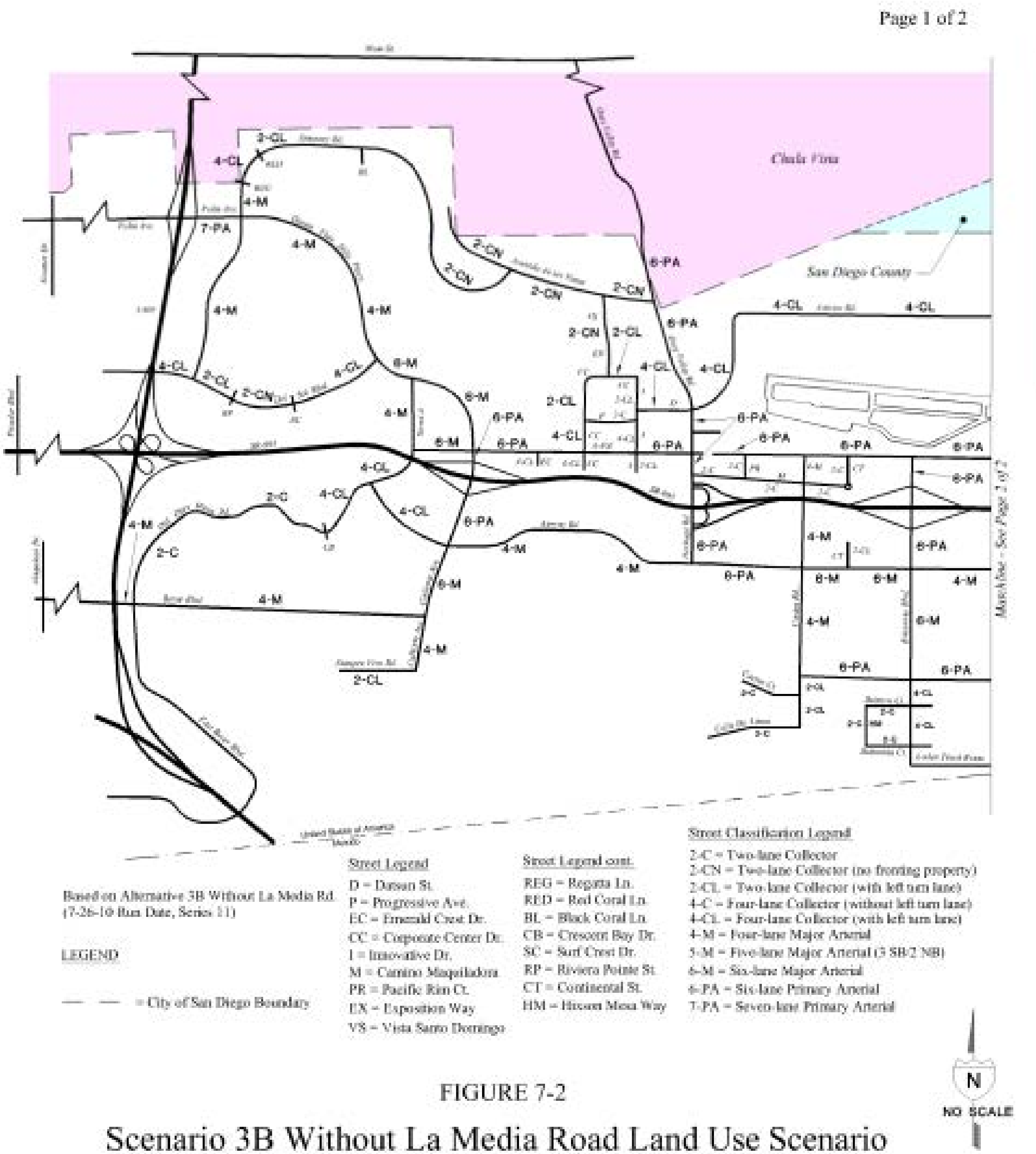

FIGURE 7-2

Scenario 3B Without La Media Road Land Use Scenario
With Proposed Roadway Classification Recommendations

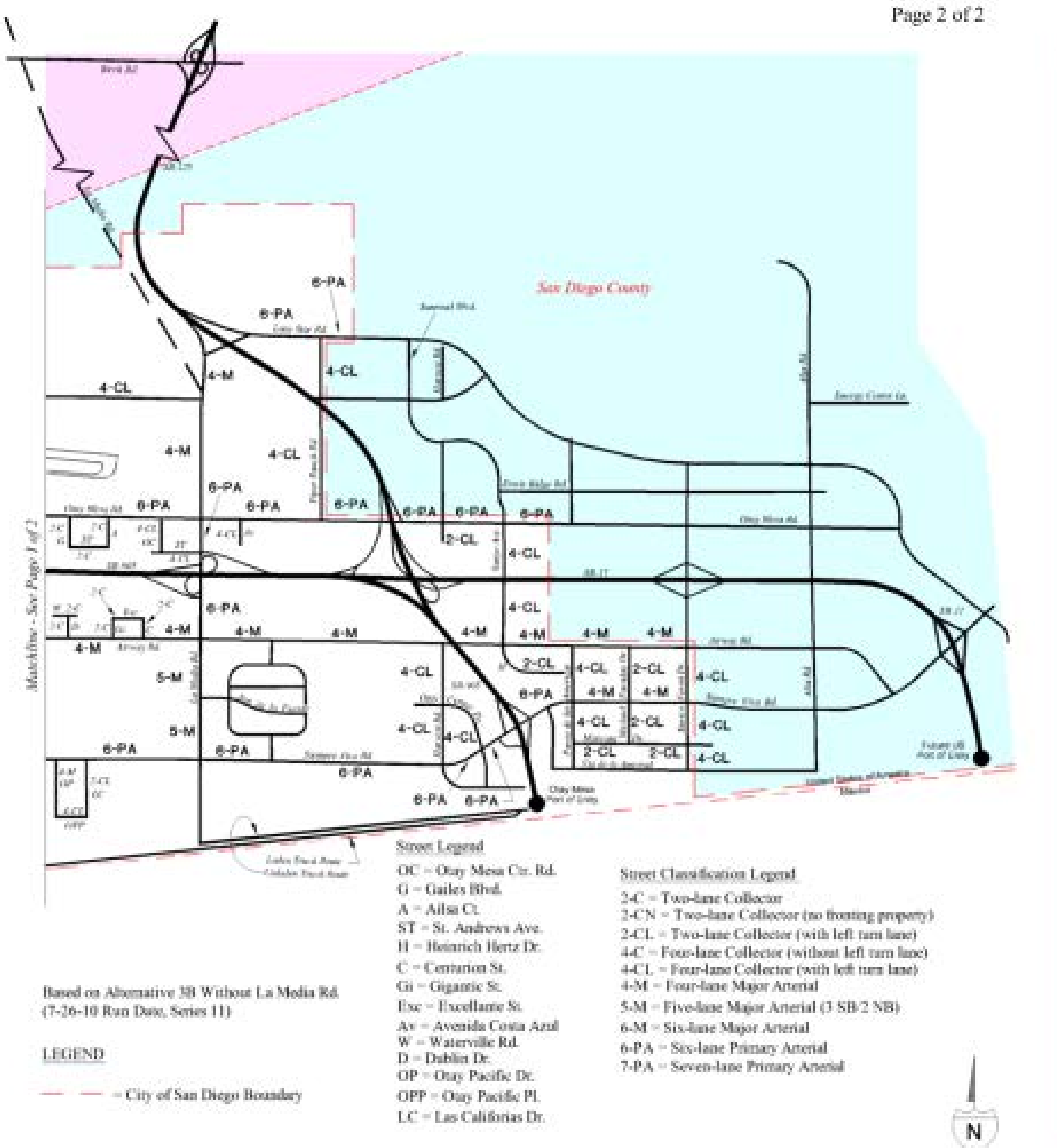

FIGURE 7-2

Scenario 3B Without La Media Road Land Use Scenario
With Proposed Roadway Classification Recommendations

Roadway Segment Impacts and Mitigation

Otay Mesa Road

- Caliente Avenue to Corporate Center Drive: level of service “F”.

- Heritage Road to Cactus Road: level of service “F”.

A reclassification of these segments from a six lane Primary Arterial to eight lanes is not recommended. Widening to eight lanes would be costly, could cause additional traffic conflicts, and intersections would be wider and less pedestrian friendly. Right turn only lanes at intersections are recommended to be lengthened to serve as auxiliary lanes between intersections. Without reclassification the significant impact would remain unmitigated.

The seven lane Major and eight lane Major Arterial classification for segments between Ailsa Court and Piper Ranch Road are recommended for a reclassification to a six lane Primary Arterial, restricting parking and access. The impact would be less than significant. These reclassifications are recommended for consistency in lane configurations along Otay Mesa Road.

- State Route 125 southbound ramp intersection to Harvest Road: level of service “E”.

A reclassification to a six lane Primary Arterial is recommended. There are few driveways and few developed parcels along these segments so that restricting parking and access would have a minimal impact. The level of service would improve from “E” to “C”, and the significant impacts would be fully mitigated.

The County of San Diego has a six lane classification of Otay Mesa Road east of Enrico Fermi Drive. A continuous six lane Primary Arterial classification is recommended to extend to the City / County boundary to maintain consistency in lane configurations.

Airway Road

- Caliente Avenue to Heritage Road: level of service “E”.

This segment is slightly (8.6%) over the level of service “D” volumes for a four lane Major Arterial. This segment includes a bridge crossing an open space canyon so that a six lane bridge would be costly and affect the environment more than four lanes. A six lane reclassification is not recommended. However, the significant segment impact would be unmitigated.

- Heritage Road to Cactus Road: level of service “F”.
- Cactus Road to Britannia Boulevard: level of service “F”.

A reclassification to a six lane Primary Arterial is recommended beginning west of the Heritage Road intersection, so six through lanes can be provided through the intersection in the east and westbound directions, and extending to Cactus Road. The Heritage Road to Cactus Road segment significant impact would be unmitigated even with this six-lane reclassification. Added right turn lanes at intersections would enhance the segment capacity. The Cactus Road to Britannia Boulevard segment would be mitigated with a reclassification to a six lane Major Arterial.

Siempre Viva Road

- Otay Center Drive to SR-905: level of service “E”.

-SR-905 to Paseo de las Americas: level of service “F”

A reclassification from six to eight lanes is not recommended since a costly widening of the SR-905 / Siempre Viva Road interchange would be needed. The significant impact to these segments would be unmitigated.

Caliente Avenue

- Otay Mesa Road to Airway Road:

Although not at level of service "E" or "F", these segments are recommended to be reclassified from a six lane Major Arterial to a six lane Primary Arterial, restricting access and parking adjacent to the closely spaced intersections, including the SR-905 on and off ramp intersections with Caliente Avenue.

-Airway Road to Beyer Boulevard: level of service "F".

A reclassification from a four lane to a six lane Major Arterial is recommended. This segment extends through a future residential area so that a Primary Arterial restricting access is not recommended. The significant segment impact would be only partially mitigated.

- Beyer Boulevard to Siempre Viva Road: level of service "F".

No reclassification is recommended since this segment extends into a future residential area that will need to be designed with collector loop streets for acceptable access, and local traffic will have additional access to Beyer Boulevard.

Heritage Road / Otay Valley Road

- Otay Valley Road between Main Street in Chula Vista and Avenida de las Vistas: level of service “F”.

A reclassification to more than the current six lane Primary Arterial would be a decision to be made by the City of Chula Vista. A wider roadway and bridge over the Otay River Valley would be costly and increase environmental impacts to the Otay River Valley and is not recommended. The significant impact to this segment would be unmitigated.

- Avenida de las Vistas to Datsun Street: level of service “F”.

A reclassification from a six lane Major Arterial to a six lane Primary Arterial is recommended. A wider classification would be costly to construct and is not recommended. There are few developed driveways along this segment so that restricting parking and access would have minimal impacts to adjacent parcels. The significant segment impact would be only partially mitigated.

-Datsun Street to Airway Road: acceptable levels of service.

A reclassification to a six lane Primary Arterial is recommended, restricting access and parking through these closely spaced intersections, including the SR-905 on and off ramp intersections with Heritage Road.

Cactus Road

- Otay Mesa Road to Airway Road: level of service “F”.
- Airway Road to Siempre Viva Road: level of service “F”.

A reclassification to a four lane Major Arterial is recommended. A higher six lane classification is not recommended. This roadway will extend through the mixed-use village area and excessive through traffic should be discouraged. The significant segment impacts would only be partially mitigated.

Britannia Boulevard

-SR-905 to Airway Road: level of service "F".

Britannia Boulevard has been constructed as six lanes between Otay Mesa Road and the SR-905 eastbound ramps, and five lanes between the eastbound ramps and Airway Road. The Cross-Border Facility project includes reclassifying and construction of this segment to six lanes as project mitigation. The SR-905 on and off ramp intersections are closely spaced so that parking and access should be restricted along these segments.

In addition, Britannia Boulevard will also be the designated truck route for southbound laden trucks between SR-905 and the planned truck route parallel to the border.

Therefore, a reclassification to a six lane Primary arterial is recommended for the segments between Otay Mesa Road and Airway Road. The segment between Airway Road and Siempre Viva Road is recommended as a six lane Major Arterial. Segment impacts would be mitigated south of Airway Road, but not on the segment between SR-905 and Airway Road. Additional right-turn lanes would enhance the capacity of this segment.

- Siempre Viva Road to South End: level of service "F".

A reclassification from two to four lane Collector (with left turn lane) is recommended. The significant segment impact would be mitigated.

La Media Road

- Birch Road to Lone Star Road: deleted with this alternative.

The City of Chula Vista is planning to remove the segment of La Media Road crossing the Otay River Valley within Chula Vista from the City of Chula Vista General Plan Circulation Element, so this segment was deleted from the Otay Mesa Community Plan traffic model street network for this alternative. The traffic volumes analyzed in this scenario were based on deleting this segment in the traffic model.

-Lone Star Road to Otay Mesa Road:

Due to the deletion of the connection of La Media Road crossing the Otay River Valley, the volumes on these segments are reduced so that a reclassification from a six lane Primary Arterial to a four lane Major Arterial is recommended.

-SR-905 to Airway Road: level of service “F”.

The addition of lanes to this currently classified six lane Primary Arterial would require a costly modification to the SR-905 / La Media Road interchange and is not recommended. The significant segment impact would be unmitigated.

-Airway Road to Siempre Viva Road: level of service “D”.

The segment south of Airway Road is recommended to be classified as a five lane Major Arterial, three southbound lanes and two northbound lanes to accommodate southbound unladen trucks on this designated route from SR-905 to the Border Truck Road providing access to the eastern border crossing. The southbound lanes would transition to two lanes north of Siempre Viva Road.

Lone Star Road

- Piper Ranch Road to City / County Boundary: level of service ‘E”.

Segments from SR-125 to the City / County Boundary are recommended to be classified as a six lane Primary Arterial to be consistent with the County of San Diego classification. A reclassification to a six lane Primary Arterial is recommended from west of the SR-125 southbound off-ramp to the City / County Boundary. The significant segment impact would be mitigated.

Aviator Road

- Heritage Road to La Media Road: level of service “F”.

This segment is recommended to be added to the circulation element as a four lane Collector (with left turn lane). Future volumes would be accommodated without a significant segment impact.

Dennery Road

-Black Coral Lane to East End: level of service “F”.

A reclassification is not recommended. Retaining a two lane Collector (no fronting property) classification would discourage speeding and through traffic not destined to the adjacent residential developments. The significant segment impact would be unmitigated.

Avenida de las Vistas

-Otay Valley Road to Vista Santo Domingo: level of service “E”.

-Vista Santo Domingo to Dennery Road: level of service “F”.

A reclassification is not recommended. This street is fully constructed and has adjacent single family residences. Retaining a two lane Collector (no fronting property) classification would discourage speeding and through traffic not destined to the adjacent residential developments. The significant segment impacts would be unmitigated.

Del Sol Boulevard

- Surf Crest Drive to Riviera Pointe: level of service “F”.

This segment will pass through environmentally sensitive lands and is on a slope. Retaining the two lane Collector (no fronting property) classification would minimize impacts to the MSCP land and discourage speeding and through traffic not destined to the adjacent residential developments.

-Riviera Pointe to Dennery Road: level of service “F”.

This segment is fully constructed and surrounded by environmentally sensitive land and single family development. A reclassification to four lanes is not recommended. The significant segment impact would be unmitigated.

Old Otay Mesa Road

- Crescent Bay Drive to Beyer Boulevard: level of service “F”.

This segment is situated on a steep, rocky hillside that would be costly to widen. Therefore, no reclassification is recommended. The significant segment impact would remain unmitigated.

Corporate Center Drive

-Progressive Avenue to Innovative Drive: level of service “E”.

This segment is fully constructed with adjacent developments, as a two lane industrial Collector (without left turn lane). A reclassification as a two lane Collector (with left turn lane) is recommended. The significant impact would be mitigated with restriping for a central left turn lane.

Sanyo Avenue

-Otay Mesa Road to Airway Road: level of service “F”.

This segment is constructed as a four lane Collector (without left turn lane) and is to be added to the circulation plan. Widening to a four lane Major Arterial width would adversely affect adjacent development, but minor widening to accommodate a central left turn lane and a classification as a four lane Collector (with left turn lane) is recommended. The significant segment impact would be mitigated with this widening.

Paseo de las Americas

-Airway Road to Siempre Viva Road: level of service “F”.

-Siempre Viva Road to Marconi Drive: level of service “F”.

These segments are currently classified as a two lane Collector but are constructed fully with four lanes. A reclassification to four lane Collector (with left turn lane) is recommended. This reclassification would mitigate the significant segment impacts.

Marconi Drive

-Paseo de las Americas to Enrico Fermi Drive: level of service “E”.

This segment is fully constructed as a two lane industrial Collector, and is wide enough to be striped with two lanes and a continuous central left turn lane. The significant segment impact would be mitigated with the reclassification to a two lane Collector (with left turn lane).

Otay Center Drive

-Harvest Road to Siempre Viva Road: level of service “F”.

This segment is constructed as a four lane Collector (without left turn lane). A reclassification to a four lane Collector (with left turn lane) is recommended. The significant segment impact would be mitigated.

St. Andrews Avenue

-Otay Mesa Center Road to La Media Road: level of service “F”.

Currently classified as a two lane Collector, this segment is constructed as a four lane Collector. A reclassification to a four lane Collector (with left turn lane) is recommended. The significant impact would be mitigated.

Gailes Boulevard

-Otay Mesa Road to St. Andrews Avenue: level of service “F”.

This street is constructed with four lanes and a raised median. A reclassification from a two lane Collector to four lane Collector (without left turn lanes) is recommended. The significant segment impact would be mitigated.

Camino Maquiladora

-Heritage Road to Pacific Rim Court: level of service “F”
-Pacific Rim Court to Cactus Road: level of service “E”.

These segments serve adjacent industrial uses but have diverted traffic from Otay Mesa Road. These segments are not mean to be through traffic by-pass routes, and are not recommended for reclassification. The significant segment impacts would be unmitigated.

Progressive Avenue

-Corporate Center Drive to Innovative Drive: level of service “F”.

This segment is constructed as a two lane industrial Collector and serves adjacent industrial uses, but has diverted traffic from Heritage Road. This segment is not meant as a through traffic by-pass route and is not recommended for reclassification. The significant impact would be unmitigated.

Otay Mesa Center Road

-Otay Mesa Road to St. Andrews Avenue: levels of service “F”.

This segment is classified as a two lane Collector, but is constructed with four lanes. A reclassification to a four lane Collector (with left turn lane) mitigates the significant segment impact.

Datsun Street

- Innovative Drive to Heritage Road: level of service “F”.

This segment is planned to serve the adjacent industrial uses, but has high volumes due to traffic diverted from Heritage Road. This segment is not meant to be a through traffic bypass route. A classification as a four lane Collector (with left turn lane) is recommended, rather than a four lane Major Arterial. The significant segment impact would be unmitigated.

Avenida Costa Azul

-Otay Mesa Road to South End: level of service “F”.

Add to circulation plan as a four lane Collector (with left turn lane). The significant segment impact would be mitigated by this classification.

Exposition Way / Vista Santo Domingo

-Avenida de las Vistas to Corporate Center Drive: level of service “F”.

This segment has high volumes due to diverted traffic from Otay Valley Road. Vista Santo Domingo is constructed as a two lane Collector within a residential area and is not meant to be a by-pass route for through traffic so that retaining this classification would discourage speeding and through traffic not destined for the adjacent residential neighborhood. A reclassification is not recommended.

7.3 Freeway Levels of Service

Table 7-2 lists freeway segments evaluated for the 3B Without La Media Road scenario.

Segments of Interstate 805 and State Route 905 are projected to be significantly impacted by Otay Mesa Community Plan and regional cumulative traffic.

Impacts to Interstate 805 between State Route 905 and Main Street would remain significant and unmitigated without the assumption of High Occupancy (HOV) lanes installed, and a northbound auxiliary lane installed with I-805 / SR-905 interchange improvements.

However, the adopted SANDAG 2050 Regional Transportation Plan includes two managed lanes in each direction on I-805 north of SR-905. With the addition of these managed lanes, peak hour levels of service would be at “D” on I-805 segments between SR-905 and Main Street.

State Route 905 is assumed with six lanes. Impacts would be significant and unmitigated between Picador Boulevard and Britannia Boulevard. State Route 905 has been designed so that median HOV lanes could be installed in the future, but are not currently planned or funded by Caltrans.

TABLE 7-2

Scenario 3B Freeway Segment Levels of Service
Without La Media Road

Segment		Lanes (1-Way)	Cap.	ADT (1)	Peak Hour %(5)	Direction Split(5)	(6) Truck Factor	Peak Volume	V/C	LOS (2)
SR-905	Picador Blvd. to I-805 (3)	2 + AUX	6,500	128,500	0.08	0.6	0.90	6,853	1.05	F0
	I-805 to Caliente Ave. (4)	3 + CL	8,550	221,000	0.08	0.6	0.90	11,787	1.38	F2
	Caliente Ave. to Heritage Rd.	3	7,050	196,000	0.08	0.6	0.90	10,453	1.48	F3
	Heritage Rd. to Britannia Blvd.	3	7,050	173,000	0.08	0.6	0.90	9,227	1.31	F1
	Britannia Blvd. to La Media Rd.	3	7,050	154,000	0.08	0.6	0.90	8,213	1.16	F0
	La Media Rd. to SR-125	3	7,050	103,500	0.08	0.6	0.90	5,520	0.78	C
	SR-125 to Siempre Viva Rd.	3	7,050	99,000	0.08	0.6	0.90	5,280	0.75	C
	Siempre Viva Rd. to Border	3	7,050	64,500	0.08	0.6	0.90	3,440	0.49	B
I-805	Main St. to Palm Ave.	4+AUX	11,200	248,000	0.08	0.6	0.90	13,227	1.18	F0
	Palm Ave. to SR-905	4+AUX	11,200	222,000	0.08	0.6	0.90	11,840	1.06	F0
	SR-905 to I-5	4	9,400	122,000	0.08	0.6	0.90	6,507	0.69	C
	I-5 to Border	6	14,100	135,500	0.08	0.6	0.90	7,227	0.51	B
SR-125	Birch Rd. to Lone Star Rd.	4 (Toll)	9,400	155,500	0.08	0.6	0.90	8,293	0.88	D
	Lone Star Rd. to SR-905	4 (Toll)	9,400	115,500	0.08	0.6	0.90	6,160	0.66	C
SR – 11	SR-905 to Enrico Fermi Dr.	2	4,700	47,000	0.08	0.6	0.90	2,507	0.53	B
	Enrico Fermi Dr. to Siempre Viva Rd	2	4,700	24,500	0.08	0.6	0.90	1,307	0.28	A
	Siempre Viva Rd. to Border	2	4,700	39,500	0.08	0.6	0.90	2,107	0.45	B

Legend

Cap = Capacity of Segment
Mainlane Cap. @ 2,350 VPHPL
Auxillary Lane Cap. @ 1,800 VPHPL
HOV Lane Cap. @ 1,600 VPHPL
Climbing Lane Cap. @ 1,500 VPHPL

ADT = Average Daily Traffic

V/C = Volume to Capacity Ratio

LOS = Level of Service

Direction Split = % of Peak Hour in Peak Direction

Truck Factor = Represents Capacity Reduction for Heavy Vehicles

F = Shading indicates a significant impact.

Note:

(1) Buildout Forecast Volume, Average Daily Traffic Volume (7-26-10 Run Date, Series 11)

(2) Caltrans District 11 LOS Estimation Procedures, See Table 2-3

(3) = 2 Mainlanes + Auxillary Lane

(4) = EB: 3 Mainlanes + Climbing Lane
WB: 3 Mainlanes + Auxillary Lane

(5) = Source:Caltrans Traffic Volumes, Peak Hour Volume Data (existing average for I-805 & SR-905).

(6) Highway Capacity Manual (2000) EQN. (3-2); assume 10% trucks plus RV's.

TABLE 7-2-A

Scenario 3B Without La Media Road Freeway Segment Levels of Service

(With HOV Lanes Added To LOS F Segments)

Segment		ADD HOV	Lanes (1Way)	Cap.	ADT (1)	Peak Hour %(5)	Direction Split (5)	(6) Truck Factor	Peak Volume	V/C	LOS (2)
SR-905	Picador Blvd. to I-805 (3)	+H	2 + AUX	8,100	128,500	0.08	0.6	0.90	6,853	0.83	D
	I-805 to Caliente Ave. (4)	+H	3 + CL	10,150	221,000	0.08	0.6	0.90	11,787	1.13	F0
	Caliente Ave. to Heritage Rd.	+H	3	8,650	196,000	0.08	0.6	0.90	10,453	1.18	F0
	Heritage Rd. to Britannia Blvd.	+H	3	8,650	173,000	0.08	0.6	0.90	9,227	1.04	F0
	Britannia Blvd. to La Media Rd.	+H	3	8,650	154,000	0.08	0.6	0.90	8,213	.92	D
I-805	Main St. to Palm Ave,	+2H	4+AUX	14,400	248,000	0.08	0.6	0.90	13,227	0.92	D
	Palm Ave. to SR-905	+2H	4+AUX	14,400	222,000	0.08	0.6	0.90	11,840	0.82	D

Legend

Cap = Capacity of Segment
Mainlane Cap. @ 2,350 VPHPL
Auxillary Lane Cap. @ 1,800 VPHPL
HOV Lane Cap. @ 1,600 VPHPL
Climbing Lane Cap. @ 1,500 VPHPL

ADT = Average Daily Traffic

V/C = Volume to Capacity Ratio

LOS = Level of Service

Direction Split = % of Peak Hour in Peak Direction

Truck Factor = Represents Capacity Reduction for Heavy Vehicles

F = Shading indicates a significant impact.

+H = Add HOV lane in each direction.

+2H = Add two HOV lanes in each direction.

Note:

(1) Buildout Forecast Volume, Average Daily Traffic Volume (07-26-10 Run Date, Series 11)

(2) Caltrans District 11 LOS Estimation Procedures, See Table 2-3

(3) = 2 Mainlanes + Auxillary Lane

(4) = EB: 3 Mainlanes + Climbing Lane
WB: 3 Mainlanes + Auxillary Lane

(5) = Source:Caltrans Traffic Volumes, Peak Hour Volume Data (existing average for I-805 & SR-905).

(6) Highway Capacity Manual (2000) EQN. (3-2); assume 10% trucks plus RV's.

SR-905 HOV lanes are not currently in the Regional Transportation Plan, and are not funded.

The addition of HOV lanes would provide partial mitigation for local and regional cumulative impacts, but would not provide acceptable levels of service between I-805 and Britannia Boulevard. **Table 7-2-A** shows freeway levels of service after HOV lanes are added to segments at level of service “F”.

7.4 Intersection Levels of Service

Table 7-3 shows the 3B Without La Media Road scenario intersection levels of service without and with recommended mitigation.

Intersection lane configurations without mitigation are assumed to be as shown in the City of San Diego Street Design Manual for the roadway classification at the intersection approaches. Lane configurations with mitigation identified are included in the Executive Summary and **Appendix D**. Also included in Appendix D are peak hour volumes at each intersection, intersection levels of service worksheets, and descriptions of how peak hour volumes were determined.

There are 29 locations with existing traffic signals, 26 of which are recommended for modification. All other intersections are also recommended for signalization. A listing of existing traffic signals and volume warrants for future intersections are also included in Appendix D.

TABLE 7-3

Buildout Scenario 3B Without La Media Road Intersection Levels of Service

		Without Mitigation				With Mitigation			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
Intersection		CD	LOS	CD	LOS	CD	LOS	CD	LOS
1	Palm Ave. / I-805 SB Ramps	48.9	D	51.3	D	24.8	C	35.7	D
2	Palm Ave. / I-805 NB Ramps	116.1	F	122.6	F	4.6	A	5.5	A
3	Palm Ave. / Dennery Rd.	33.5	C	67.2	E	-	-	-	-
4	Otay Mesa Rd. / Caliente Ave.	263.5	F	146.0	F	205.9	F	87.2	F
5	Caliente Ave. / SR-905 WB Ramps	83.1	F	43.2	(1) D	34.0	(1) C	34.0	(1) C
6	Caliente Ave. / SR-905 EB Ramps	165.7	F	150.5	F	55.0	E	70.2	E
7	Caliente Ave. / Airway Rd.	228.5	F	223.0	F	143.0	F	200.5	F
8	Caliente Ave. / Beyer Blvd.	252.0	F	429.8	F	212.7	F	122.4	F
9	Otay Mesa Rd. / Heritage Rd.	367.5	F	257.4	F	272.0	F	161.2	F
10	Heritage Rd. / SR-905 WB Ramps	69.9	E	81.1	F	15.9	(1) B	28.4	(1) C
11	Heritage Rd. / SR-905 EB Ramps	113.0	F	86.4	F	39.5	(1) D	25.5	(1) C
12	Heritage Rd. / Airway Rd.	162.7	F	402.8	F	144.5	F	88.3	F
13	Heritage Rd. / Siempre Viva Rd.	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
14	Otay Mesa Rd. / Cactus Rd.	437.9	F	290.5	F	139.6	F	199.7	F
15	Airway Rd. / Cactus Rd.	361.5	F	437.7	F	188.6	F	306.2	F
16	Siempre Viva Rd. / Cactus Rd.	48.7	D	127.7	F	47.6	D	117.3	F
17	Otay Mesa Rd. / Britannia Blvd.	108.5	F	117.2	F	63.1	E	47.5	D
18	Britannia Blvd. / SR-905 WB Ramps	240.5	F	577.4	F	65.0	E	547.1	F
19	Britannia Blvd. / SR-905 EB Ramps	353.3	F	235.1	F	305.9	F	67.1	E
20	Britannia Blvd. / Airway Rd.	618.2	F	615.8	F	184.9	F	241.1	F
21	Siempre Viva Rd. / Britannia Blvd.	363.3	F	362.8	F	177.5	F	143.2	F
22	Otay Mesa Rd. / La Media Rd.	457.1	F	443.8	F	131.9	F	126.2	F

Legend
CD = Control Delay
LOS = Level of Service
(1) = Vehicle queues may extend through this intersection from an upstream intersection so that the peak hour level of service would be degraded due to vehicles blocking this intersection.
F = Shading indicates a significant impact.

TABLE 7-3 (Continued)

Buildout Scenario 3B Without La Media Road Intersection Levels of Service

		Without Mitigation				With Mitigation			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
Intersection		CD	LOS	CD	LOS	CD	LOS	CD	LOS
23	La Media Rd. / SR-905 WB Ramps	266.1	F	227.2	F	129.8	F	112.7	F
24	La Media Rd. / SR-905 EB Ramps	234.7	F	84.7	F	162.2	F	48.5	(1) D
25	La Media Rd. / Airway Rd.	496.6	F	507.9	F	182.5	F	212.5	F
26	La Media Rd. / Siempre Viva Rd.	244.0	F	112.1	F	81.6	F	37.1	D
27	La Media Rd. / Lone Star Rd.	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
28	Lone Star Rd. / SR-125 SB Off Ramp	63.6	E	96.8	F	-	-	-	-
29	Lone Star Rd. / SR-125 NB On Ramp	2.1	(1) A	147.8	F	-	-	-	-
30	Lone Star Rd. / Piper Ranch Rd.	8.1	A	9.3	(1) A	-	-	-	-
31	Otay Mesa Rd. / Piper Ranch Rd.	129.2	F	166.2	F	44.6	D	47.5	D
32	Otay Mesa Rd. / SR-125 SB Off Ramp	82.9	F	13.0	(1) B	30.4	C	11.0	(1) B
33	Otay Mesa Rd. / SR-125 NB On Ramp	4.8	A	22.0	C	-	-	-	-
34	Otay Mesa Rd. / Harvest Rd.	37.9	D	133.7	F	11.8	B	38.9	(1) D
35	Siempre Viva Rd. / Otay Center Dr.	276.0	F	213.0	F	83.0	F	85.4	F
36	Siempre Viva Rd. / SR-905 SB to EB Ramp	29.0	(1) C	146.2	F	-	-	-	-
36A	Siempre Viva Rd. / SR-905 SB to WB Ramp	(2) 2,641	F	(2) 205.7	F	382.0	F	16.3	(1) B
37	Siempre Viva Rd. / SR-905 NB Ramps	47.2	(1) D	262.7	F	39.3	(1) D	250.4	F
38	Siempre Viva Rd. / Paseo de las Americas	188.8	F	367.1	F	78.8	E	159.5	F
39	Dennery Rd. / Del Sol Blvd.	49.3	D	49.4	D	-	-	-	-
40	Ocean View Hills Pkwy. / Del Sol Blvd.	67.8	E	67.3	E	50.5	D	53.3	D
41	Ocean View Hills Pkwy. / Street A	48.2	D	57.9	E	35.5	D	34.6	C
42	Old Otay Mesa Rd. / Beyer Blvd.	381.2	F	396.5	F	194.3	F	181.8	F
43	Otay Mesa Rd. / Corporate Center Dr.	119.3	F	184.3	F	78.6	E	140.6	F
44	Otay Mesa Rd. / Innovative Dr.	114.4	F	108.9	F	113.7	F	89.8	F

Legend
CD = Control Delay
LOS = Level of Service
(1) = Vehicle queues may extend through this intersection from an upstream intersection so that the peak hour level of service would be degraded due to vehicles blocking this intersection.
(2) = Unsignalized: SB to WB right turn at LOS F (AM and PM Peak Hours)
F = Shading indicates a significant impact.

TABLE 7-3 (Continued)

Buildout Scenario 3B Without La Media Road Intersection Levels of Service

		Without Mitigation				With Mitigation			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
Intersection		CD	LOS	CD	LOS	CD	LOS	CD	LOS
45	Harvest Rd. / Airway Rd.	116.7	F	13.8	B	42.5	D	13.5	B
46	Harvest Rd. / Siempre Viva Rd.	76.6	E	69.2	E	28.7	C	51.5	D
47	Otay Mesa Rd. / Sanyo Ave.	263.3	F	276.6	F	106.7	F	89.0	F
48	Airway Rd. / Sanyo Ave.	225.6	F	229.8	F	49.7	D	38.6	D
49	Paseo de las Americas / Heinrich Hertz Dr.	(3) 988.3	F	(3) 244.6	F	8.9	A	13.0	B
50	Paseo de las Americas / Marconi Dr.	(4) 869.6	F	(4) 108.0	F	11.5	B	13.4	B
51	Heritage Rd. / Otay Valley Rd.	516.4	F	837.9	F	178.7	F	382.7	F
52	Aviator Rd. / La Media Rd.	105.1	F	38.0	D	27.7	C	18.3	B
53	Otay Valley Rd. / Avenida De Las Vistas	764.4	F	298.6	F	-	-	-	-

Note: Control delay results should be considered unreliable at delay volumes higher than two times the LOS E delay of 80.0 seconds.

Legend

CD = Control Delay

LOS = Level of Service

(3) Unsignalized: eastbound left turn at LOS F(AM Peak Hour);
eastbound left and right turns at LOS F (PM Peak Hour).

(4) Unsignalized: westbound left turn at LOS F (AM and PM Peak Hours);
westbound right turn at LOS F (PM Peak Hour).

F = Shading indicates a significant impact.

Control Delay	LOS
0.0 - 10.0	A
10.1 - 20.0	B
20.1 - 35.0	C
35.1 - 55.0	D
55.1 - 80.0	E
Over 80.0	F

Source: 2000 Highway Capacity Manual

Of the 52 intersections evaluated, 42 intersections are expected to be at levels of service "E" or "F" during the AM peak hour and 44 during the PM peak hour. With mitigation, 28 intersections would remain to operate unacceptably in the AM peak hour and 29 intersections would remain to operate unacceptably in the PM peak hour. Several interchange intersections that can be designed for acceptable levels of service are included as significantly impacted due to upstream queues extending through the intersection causing increased delay and a level of service "F", as footnoted in this table. **Table 7-4** shows lane configurations at each intersection and also shows lanes to be added after mitigation.

Intersection peak hour volumes, lane configurations with mitigation, and level of service worksheets are included in **Appendix D**.

The SR-905 interchanges at Caliente Avenue and at La Media Road are recommended for major improvements for all alternatives. The Caltrans designs of these interchanges are based on forecasts of future traffic from the build out of only approximately fifty percent of Otay Mesa land uses. The Heritage Road interchange currently does not have a final, funded design, so that the lane configurations at the ramp intersections included in this report should be incorporated into the final design.

Provided below is a summary of mitigation recommended at the interchanges and major intersections. Some intersection impacts are not proposed to be fully mitigated, usually because it would require excessively wide intersections and turning lanes and non-standard intersection configurations.

#1 & #2. I-805 Southbound and Northbound Ramps / Palm Avenue – The Otay Mesa P.F.F.P includes a bridge widening project at this interchange. The preliminary design includes a third through lane in each direction at the northbound ramps, an additional westbound right turn lane (total of two), northbound off-ramp widening for an additional lane (total of three), southbound off-ramp widening for an additional lane (total of four), and the addition of a fourth eastbound lane and a loop on-ramp in the southeast quadrant.

TABLE 7-4

Buildout 3B Without La Media Road Intersection Mitigation

		Without Mitigation												With Mitigation											
		NB			SB			EB			WB			NB			SB			EB			WB		
Intersection		L	T	R	L	T	R	L	T	R	L	T	R	L	T	R	L	T	R	L	T	R	L	T	R
1	Palm Ave. / I-805 SB Ramps				1	1*	1		2	1	2	2					1	1*	2		2	1	2	2	
2	Palm Ave. / I-805 NB Ramps	S	1*	1				2	2			2	1	1	1*	1					3	1		3	2
3	Palm Ave. / Dennery Rd.	3	1	S	2	2	1	2	3	1	2	3	1												
4	Otay Mesa Rd. / Caliente Ave.	2	3	S	2	3	S	2	3	1	2	3	1	2	3	1	2	3	S	2	3	1	2	3	1
5	Caliente Ave. / SR-905 WB Ramps	1	3			3	S				S	1	1	2	3			3	1				S	1	1
6	Caliente Ave. / SR-905 EB Ramps		3	S	1	3		1	1*	S					3	1	2	3		1	1*	1			
7	Caliente Ave. / Airway Rd.	2	3	S	2	3	S	2	2	S	2	2	1	2	3	1	2	3	S	2	2	1	2	2	1
8	Caliente Ave. / Beyer Blvd.	2	2	S	2	3	S	2	2	S	1	1	1	2	2	S	2	2	2	2	2	1	1	1	1
9	Otay Mesa Rd. / Heritage Rd.	2	3	S	2	3	S	2	3	1	2	3	1	2	3	1	2	3	1	2	3	1	2	3	2
10	Heritage Rd. / SR-905 WB Ramps		3	S	2	3					S		2		3	2	2	3					S		2
11	Heritage Rd. / SR-905 EB Ramps		3	S	2	3					2		S		3	1	2	3					2		1
12	Heritage Rd. / Airway Rd.				2		1	2	3		2	3	S				2		1	2	3			3	2
13	Heritage Rd. / Siempre Viva Rd.																								
14	Otay Mesa Rd. / Cactus Rd.	2	1*	1	1	1	S	1	3	S	2	3	S	2	1*	1	1	1	S	1	3	2	2	3	1
15	Airway Rd. / Cactus Rd.	2	2	S	2	2	S	2	3	S	2	3	S	2	2	1	2	2*	1	2	3*	1	2	3	2
16	Siempre Viva Rd. / Cactus Rd.		2	S	2	2					2		2		2	1	2	2					2		2
17	Otay Mesa Rd. / Britannia Blvd.	2	1*	1	1	1	S	1	3	S	2	3	S	2	1*	1	1	1	S	1	3	1	2	3	1
18	Britannia Blvd. / SR-905 WB Ramps	2	3			3	S				1	1	1	2	3			3*	1				1	1*	1
19	Britannia Blvd. / SR-905 EB Ramps		3	S	2	3		S	1	2					3	2	2	3		S	1	2			
20	Britannia Blvd. / Airway Rd	2	3	S	2	3	S	2	3	S	2	2	S	2	3	1	2	3	2	2	3	1	2	2	2
21	Siempre Viva Rd. / Britannia Blvd.	2	2	S	2	2	S	2	3	S	2	3	S	2	2	1	2	2	2	2	3	1	2	3	2
22	Otay Mesa Rd. / La Media Rd.	2	3	S	2	2	S	2	3	S	2	3	S	2	3	2	2	2	2	2	3	2	2	3	2

Legend
L = left turn lanes
T = through lanes
R = right turn lanes
S = shared lane

*** Notes:**
#1 - SB through is shared LTR without mitigation; shared LT with mitigation.
#2 - NB through is shared LTR.
#5 - SB is 2T-TR-R without mitigation.
#6 - EB through is shared LTR without mitigation; shared LT with mitigation.
#14 - NB through is shared TR.
#15 - SB through is shared TR.
#15 - EB through is shared TR.
#17 - NB through is shared TR.
#18 - 1 SB right turn lane added, 3rd lane restriped for optional TR; WB middle lane restriped for LTR.

1 Highlighted indicates added lane mitigation or revised lane assignment by restriping, as noted.

TABLE 7-4 (Continued)

Buildout 3B Without La Media Road Intersection Mitigation

		Without Mitigation												With Mitigation											
		NB			SB			EB			WB			NB			SB			EB			WB		
	Intersection	L	T	R	L	T	R	L	T	R	L	T	R	L	T	R	L	T	R	L	T	R	L	T	R
23	La Media Rd. / SR-905 WB Ramps	2	2	1		3	1	S	1	1	1	1*	1	2	3	1		3	1	1		1	1	1*	1
24	La Media Rd. / SR-905 EB Ramps	2	3			2	1	2		2				2	3			3	1	2		2			
25	La Media Rd. / Airway Rd.	2	2	S	2	3	S	2	2	S	2	2	S	2	2	1	2	3	2	2	2	1	2	2	2
26	La Media Rd. / Siempre Viva Rd.				2	2	S	2	3			3	S				2	1*	2*	2	3			3	2
27	La Media Rd. / Lone Star Rd.																								
28	Lone Star Rd. / SR-125 SB Off Ramp				2		2		3			3													
29	Lone Star Rd. / SR-125 NB On Ramp							2	3			3	2												
30	Lone Star Rd. / Piper Ranch Rd.	2		1					3	S	2	3													
31	Otay Mesa Rd. / Piper Ranch Rd.	1	2	S	1	2	S	2	3	S	2	3	S	2	1	1	2	1	2	2	3	1	2	3	1
32	Otay Mesa Rd. / SR-125 SB Off Ramp				2		1		3			3					1	1*	1		3			3	
33	Otay Mesa Rd. / SR-125 NB On Ramp							2	3			3	2												
34	Otay Mesa Rd. / Harvest Rd.	1	1	S	1	1	S	1	3	S	1	3	S	2	1	S	1	1	S	1	3	1	1	3	S
35	Siempre Viva Rd. / Otay Center Dr.	1	1	S	1	2	S	1	3	S	1	3	S	1	1	1	2	1	1	2	3	1	2	3	1
36	Siempre Viva Rd. / SR-905 SB to EB Ramp			2					3	S	2	3													
36A	Siempre Viva Rd. / SR-905 SB to WB Ramp						1					3							2					3	
37	Siempre Viva Rd. / SR-905 NB Ramps	S	1	2				2	3			3	1	S	1	2				2	3			3	2
38	Siempre Viva Rd. / Paseo de las Americas	1	2	S	1	2	S	1	3	1	1	3	S	1	1*	1*	1	1	2	2	3	1	1	3	1
39	Dennery Rd. / Del Sol Blvd.				1		1	1	2			2	S												
40	Ocean View Hills Pkwy. / Del Sol Blvd.	2	3	S	1	2	S	1	1	1	1	1	S	2	3	S	1	2	1	1*	1*	1	1	1	S
41	Ocean View Hills Pkwy. / Street A	1	1	1	1	1	S	1	3	S	1	3	S	2	1	1	1	1	S	1	3	1	1	3	S
42	Old Otay Mesa Rd. / Beyer Blvd.	1	1	S	1	1	S	2	2	1	2	2	S	1	1	1	1	1	1	2	2	1	2	2	S
43	Otay Mesa Rd. / Corporate Center Dr.	2	1	S	1	1*	1	2	3	S	2	3	1	2	1	S	2	1*	1	2	3	1	2	3	1
44	Otay Mesa Rd. / Innovative Dr.	1	1	S	1	1*	1	2	3	S	2	3	1	1	1	S	2	1*	1	2	3	S	2	3	1

Legend
L = left turn lanes
T = through lanes
R = right turn lanes
S = shared lane

Notes:
#23 - WB middle lane is shared LT.
#26 - SB lanes restriped for 1T-2R lanes.
#27 - WB lanes restriped for 2R lanes.
#32- SB middle lane is striped for shared LR.
#38 - NB lanes restriped for L-LT-R.
#40 - EB lanes restriped for L-LT-R.
#43 - SB lanes are 2L-TR-R.
#44 - SB lanes are 2L-TR-R.

1 Highlighted indicates added lane mitigation or revised lane assignment by restriping, as noted.

TABLE 7-4 (Continued)

Buildout 3B Without La Media Road Intersection Mitigation

		Without Mitigation												With Mitigation											
		NB			SB			EB			WB			NB			SB			EB			WB		
Intersection		L	T	R	L	T	R	L	T	R	L	T	R	L	T	R	L	T	R	L	T	R	L	T	R
45	Harvest Rd. / Airway Rd.	2		1					2	S	2	2		2		1					2	1	2	2	
46	Harvest Rd. / Siempre Viva Rd.	1	2	S	1	2	S	2	3	S	2	3	S	1	2	S	2	2	1	2	3	S	2	3	1
47	Otay Mesa Rd. / Sanyo Ave.	1	2	S	1	2	S	2	3	S	2	3	S	2	1	1	1	1	1	2	3	2	2	3	1
48	Airway Rd. / Sanyo Ave.	1	2	S	1	2	S	2	2	S	2	2	S	2	2	1	2	2	2	2	2	2	2	2	1
49	Paseo de las Americas / Heinrich Hertz Dr.	1	2			2	S	1		1				2	2			2	S	1		1			
50	Paseo de las Americas / Marconi Dr.		2	S	1	2					1		1		2	S	2	2					1		1
51	Heritage Rd. / Otay Valley Rd.	2	3	S	2	3	S	1	2	S	1	2	S	2	3	1	2	3	2	2	2	1	2	2	1
52	Aviator Rd. / La Media Rd.	2	2			2	S	2		1				2	2			2	1	2		1			
53	Otay Valley Rd. / Avenida De Las Vistas	1	3	S	1	3	S	1	1	S	1	1	1												

Legend
L = left turn lanes
T = through lanes
R = right turn lanes
S = shared lane
1 Highlighted indicates added lane mitigation or revised lane assignment by restriping, as noted.

#4. Caliente Avenue / Otay Mesa Road – At this intersection of two six-lane Primary Arterials, a separate right turn only lane in the northbound direction is recommended. Although the northbound right turn volumes are expected to be high enough to warrant dual right turns, this intersection is a pedestrian route to nearby San Ysidro High School. In the interest of school pedestrian safety and convenience, dual right turn lanes are not recommended.

#5. Caliente Avenue / SR-905 Westbound Ramps – Overcrossing widening to accommodate northbound dual left turn lanes is recommended. Additionally, a single southbound right turn only lane is recommended. Caliente Avenue is a school pedestrian route to the San Ysidro High School. Although southbound right turn volumes are expected to be high enough to warrant dual right turn lanes, the dual right turn lanes are not recommended. Vehicle queues from the upstream intersections are expected to extend through this intersection so that AM and PM peak hour levels of service will be at LOS "F".

#6. Caliente Avenue / SR-905 Eastbound Ramps - Overcrossing widening to accommodate dual northbound left turn lanes at the SR-905 westbound ramps also should extend through this intersection, accommodating dual southbound left-turn lanes. A separate northbound right turn lane and ramp widening for an additional eastbound right turn lane are recommended. Although the eastbound right turn lanes are expected to be high enough for dual right turn lanes, the dual right turn lanes are not recommended on this pedestrian route to San Ysidro High School.

#7. Caliente Avenue at Airway Road - Separate right turn only lanes are recommended in the eastbound, northbound, and westbound directions. Although the northbound and westbound right turn volumes are expected to be high enough to warrant dual right turn lanes, the dual right turn lanes are not recommended on this pedestrian route to San Ysidro High School.

#8. Caliente Avenue at Beyer Boulevard - Dual right turn lanes southbound to westbound are recommended. A separate eastbound right turn lane is recommended.

#9. Heritage Road / Otay Mesa Road - Separate right turn only lanes are recommended in the northbound and southbound directions. Existing right turn lanes are in place eastbound and westbound. A second westbound right turn lane is recommended.

#10. Heritage Road / SR-905 Westbound Ramps - Two right turn only lanes are recommended in the northbound direction onto the westbound on-ramp. The vehicle queue from an upstream intersection extends through this intersection so that the AM and PM peak hour level of service will be at LOS “F”.

#11. Heritage Road / SR-905 Eastbound Ramps - A separate right turn lane in the northbound direction to the eastbound on-ramp, plus an additional lane in the westbound direction on the eastbound off-ramp are recommended. The vehicle queue from an upstream intersection extends through this intersection so that the AM and PM peak hour level of service will be at LOS “F”.

#12. Heritage Road / Airway Road – Dual right turn lanes are recommended in the westbound direction.

#14. Cactus Road / Otay Mesa Road - Dual right turn lanes in the eastbound direction, and one in the westbound direction are recommended.

#15. Cactus Road / Airway Road - Dual right turn lanes in the westbound direction, and single right turn lanes are recommended in the south, north, and eastbound directions. A shared through / right turn lane is recommended southbound and eastbound.

#16. Cactus Road / Siempre Viva Road - Dual right turn lanes in the westbound direction and a single right turn lane are recommended in the northbound direction.

#17. Britannia Boulevard / Otay Mesa Road - A single right turn only lane in the eastbound and westbound directions are recommended.

#18. Britannia Boulevard / SR-905 Westbound Ramps - A single southbound right turn lane, and also restriping the third southbound through lane as an optional through / right turn are recommended. The middle lane in the westbound direction is recommended to be restriped for a shared left / through / right turn movement.

#19. Britannia Boulevard / SR-905 Eastbound Ramps - Dual right turn lanes northbound are recommended.

#20. Britannia Boulevard / Airway Road - Dual right turn lanes in the south and westbound directions, and a single right turn lane in the eastbound and northbound directions are recommended.

#21. Britannia Boulevard / Siempre viva Road - Dual right turn lanes in the west and southbound directions, and a single right turn lane in the eastbound and northbound directions are recommended.

#22. La Media Road / Otay Mesa Road – Dual right turn lanes are recommended at all approaches.

#23. La Media Road / SR-905 Westbound Ramps - It is recommended that the eastbound through movement be eliminated so that the northbound right turn to the SR-905 westbound on-ramp can be a continuous movement, without a conflicting movement at the traffic signal. Only a pedestrian signal would cause this traffic to stop. Additionally a third northbound through lane is recommended. These recommended improvements would require widening in the northbound direction along La Media Road.

#24. La Media Road / SR-905 Eastbound Ramps - The addition of a third southbound through lane is recommended. This improvement would require widening La Media Road in the southbound direction.

#25. La Media Road / Airway Road - The addition of dual right turn lanes westbound and southbound, and single right turn lanes eastbound and northbound are recommended.

#26. La Media Road / Siempre Viva Road - The addition of dual right turn lanes westbound, and one right turn lane southbound are recommended. The southbound lanes should be striped for two left turn lanes / one through / two right turn lanes. The southbound through lane will be restricted to unladen trucks destined to the Border Truck Road.

#31. Piper Ranch Road / Otay Mesa Road – Single right turn lanes in the east, west, and northbound directions are recommended. Southbound, two right turn lanes are recommended. Southbound lanes should be striped for two left / one through / two right turn lanes.

#32. SR-125 Southbound Off-Ramp / Otay Mesa Road – No additional lanes are recommended, but restriping the southbound middle lane for optional left-right turns is recommended. The vehicle queue form the upstream northbound on-ramp will extend through this intersection during the AM and PM peak hours so that the peak hour levels of service will be at LOS "F".

#34. Harvest Road / Otay Mesa Road – An additional eastbound right turn lane is recommended. An additional northbound left turn lane is also recommended.

#35. Otay Center Drive / Siempre Viva Road - Added lanes for right turns are recommended at all approaches. Dual left turn lanes are recommended east, west, and southbound.

#36 – 36A. SR-905 Southbound Ramps / Siempre Viva Road – The SR-905 southbound off-ramp to westbound Siempre Viva Road is recommended to be signalized, and widened for an additional southbound right turn lane.

#37. SR-905 Northbound Ramps / Siempre Viva Road – A second westbound right turn lane is recommended.

#38. Paseo de las Americas / Siempre Viva Road - Added westbound and southbound right turns are recommended, plus an eastbound left turn lane. The northbound lanes should be restriped for one left, one shared left /through, one right turn lane. The southbound lanes should be restriped for one left / one through / two right turn lanes.

#40. Ocean View Hills Parkway / Del Sol Boulevard - One added southbound right turn lane is recommended. The eastbound through lane should be restriped for optional left turns / through.

#41. Ocean View Hills Parkway / Street "A" - An eastbound single right turn lane and an added northbound left turn lane are recommended.

#42. Old Otay Mesa Road / Beyer Boulevard - Northbound and southbound right turn lanes are recommended.

#43. Otay Mesa Road / Corporate Center Drive - Northbound and southbound added left turn lanes, and a separate eastbound right turn lane are recommended. The southbound through lane should be striped as a shared through / right turn lane.

#44. Otay Mesa Road / Innovative Drive - A second southbound left turn lane is recommended. The southbound through lane should be striped as a shared through / right turn lane.

#45. Airway Road / Harvest Road - An eastbound right turn lane is recommended.

#46. Harvest Road / Siempre viva Road - Separate right turn lanes are recommended westbound and southbound. An additional southbound left turn lane is recommended.

#47. Otay Mesa Road / Sanyo Avenue - Eastbound dual right turn lanes, and single right turn lanes northbound and westbound are recommended. Restriping northbound lanes for dual left turns plus one through lane is recommended.

#48. Airway Road / Sanyo Avenue - Dual right turn lanes in the eastbound and southbound directions are recommended. Single right turn lanes northbound and westbound are recommended. Northbound and southbound added lanes for dual left turns are recommended.

#49. Paseo de las Americas / Heinrich Hertz Drive - The installation of a traffic signal and widening for an added northbound left turn lane are recommended.

#50. Paseo de las Americas / Marconi Drive - The installation of a traffic signal and adding a southbound left turn lane are recommended.

#51. Heritage Road / Otay Valley Road - Dual right turn lanes southbound, and single right turn lanes at the other approaches are recommended. East and westbound dual left turn lanes are recommended.

#52. La Media Road / Aviator Road - A southbound right turn lane is recommended.

7.5 Ramp Meter Operations

Table 7-5 shows buildout ramp meter operations at all freeway on-ramps within the study area.

The likely most restrictive ramp meter rate as provided by Caltrans was used for this evaluation.

Regional SANTEC / ITE Traffic Impact Study Guidelines state that levels of service does not apply to ramp meters, but that ramp meter delays above 15 minutes are considered excessive. Of the 28 peak hour ramp meters that were evaluated during the AM and PM peak hours, ramp meter delays above 15 minutes would occur at five locations during the AM peak hour and at eleven locations during the PM peak hour.

Ramp meter delays above 15 minutes are considered significant impacts if downstream freeways are operating at level of service "E" or "F". The following five ramp locations would be significantly impacted using this significance criteria:

- SR-905 / Caliente Avenue Westbound on-ramp (AM and PM);
- SR-905 / Heritage Road Westbound on-ramp (AM and PM);
- SR-905 / Britannia Boulevard Westbound on-ramp (AM and PM);
- SR-905 / Britannia Boulevard Eastbound on-ramp (PM);
- SR-905 / La Media Road Westbound on-ramp (AM and PM).

The freeway on-ramp lengths were estimated using preliminary design or aerial photos as included in Appendix D. The freeway on-ramps evaluated would have ramp lengths from 650 feet to 1,200 feet. Assuming two lanes at the ramp meters, seven locations would have queues exceeding the ramp storage during the AM peak hour and at eleven locations during the PM peak hour.

There are no performance criteria regarding excessive queues in the regional CMP guidelines. However, the guidelines state the following:

TABLE 7-5

Buildout Alternate 3B Without La Media Road Ramp Meter Operations

Most Restrictive Meter Rate						
Location		Demand** (Veh/Hr)	Meter Rate*	Excess Demand	Delay (Min)	Queue (Feet)
AM	I-805 / Palm Avenue Northbound (From Westbound)	1,280	960	320	20.0	8,000 (E)
PM	I-805 / Palm Avenue Northbound (From Westbound)	1,380	960	420	26.3	10,500 (E)
AM	I-805 / Palm Avenue Northbound (From Eastbound)	655	960	None	None	None
PM	I-805 / Palm Avenue Northbound (From Eastbound)	540	960	None	None	None
AM	I-805 / Palm Avenue Southbound	455	960	None	None	None
PM	I-805 / Palm Avenue Southbound	645	960	None	None	None

Most Restrictive Meter Rate						
Location		Demand** (Veh/Hr)	Meter Rate*	Excess Demand	Delay (Min)	Queue (Feet)
AM	SR-905 / Caliente Avenue Westbound	1,860	960	900	56.3	22,500 (E)
PM	SR-905 / Caliente Avenue Westbound	1,550	960	590	36.9	14,750(E)
AM	SR-905 / Caliente Avenue Eastbound	400	960	None	None	None
PM	SR-905 / Caliente Avenue Eastbound	400	960	None	None	None

Most Restrictive Meter Rate						
Location		Demand** (Veh/Hr)	Meter Rate*	Excess Demand	Delay (Min)	Queue (Feet)
AM	SR-905 / Heritage Road Westbound	1,135	960	175	10.9	4,375 (E)
PM	SR-905 / Heritage Road Westbound	2,550	960	1,590	99.4	39,750 (E)
AM	SR-905 / Heritage Road Eastbound	360	960	None	None	None
PM	SR-905 / Heritage Road Eastbound	800	960	None	None	None

*= Most restrictive meter rate used, per Caltrans.
** = Total hourly volume entering from both directions.
(E) = Exceeds ramp storage length.

TABLE 7-5

Buildout Alternate 3B Without La Media Road Ramp Meter Operations

Most Restrictive Meter Rate						
Location		**Demand** (Veh/Hr)**	**Meter Rate* (Veh/Hr)**	**Excess Demand**	**Delay (Min)**	**Queue (Feet)**
AM	SR-905 / Britannia Blvd. Westbound	1,350	960	390	24.4	9,750 (E)
PM	SR-905 / Britannia Blvd. Westbound	3,355	960	2,395	149.1	59,875 (E)
AM	SR-905 / Britannia Blvd. Eastbound	710	960	None	None	None
PM	SR-905 / Britannia Blvd. Eastbound	1,400	960	440	27.5	11,000 (E)

Most Restrictive Meter Rate						
Location		**Demand** (Veh/Hr)**	**Meter Rate* (Veh/Hr)**	**Excess Demand**	**Delay (Min)**	**Queue (Feet)**
AM	SR-905 / La Media Road Westbound	2,050	960	1,090	68.1	27,250 (E)
PM	SR-905 / La Media Road Westbound	3,025	960	2,065	129.0	51,625 (E)
AM	SR-905 / La Media Road Eastbound	1,000	960	40	2.5	1,000
PM	SR-905 / La Media Road Eastbound	1,950	960	990	61.8	24,750 (E)

Most Restrictive Meter Rate						
Location		**Demand** (Veh/Hr)**	**Meter Rate* (Veh/Hr)**	**Excess Demand**	**Delay (Min)**	**Queue (Feet)**
AM	SR-905 / Siempre Viva Rd. Northbound	1,185	960	225	14.1	5,625 (E)
PM	SR-905 / Siempre Viva Rd. Northbound	3,510	960	2,550	159.4	63,750 (E)
AM	SR-905 / Siempre Viva Rd. Southbound	750	960	None	None	None
PM	SR-905 / Siempre Viva Rd. Southbound	1,670	960	710	44.4	17,750 (E)

*= Most restrictive meter rate used, per Caltrans.
** = Total hourly volume entering from both directions.
(E) = Exceeds ramp storage length.

TABLE 7-5

Buildout Alternate 3B Without La Media Road Ramp Meter Operations

Most Restrictive Meter Rate						
Location		**Demand** (Veh/Hr)**	**Meter Rate* (Veh/Hr)**	**Excess Demand**	**Delay (Min)**	**Queue (Feet)**
AM	SR-125 / Otay Mesa Rd. Northbound	1,680	960	720	45.0	24,000 (E)
PM	SR-125 / Otay Mesa Rd. Northbound	2,455	960	1,495	93.4	37,375(E)

Most Restrictive Meter Rate						
Location		**Demand** (Veh/Hr)**	**Meter Rate* (Veh/Hr)**	**Excess Demand**	**Delay (Min)**	**Queue (Feet)**
AM	SR-125 / Lone Star Rd. Northbound	850	960	None	None	None
PM	SR-125 / Lone Star Rd. Northbound	3,615	960	2,655	166.0	66,375 (E)

*=Most restrictive meter rate used, per Caltrans.
** = Total hourly volume entering from both directions.
Excess Demand X 60MIN = Delay (Minutes)
Meter Rate
(E) = Exceeds ramp storage length.

Note: Experience shows that the theoretical queue length derived by this analysis often does not materialize. Motorists, after a brief time of adjustment, seek alternative travel paths if available, or alternative times of arrival at the meter. The effect is to approximately minimize total trip time by seeking out the best combinations of route and departure time at the beginning of the trip. This causes at least two important changes in the pattern on arriving traffic at ramp meters. First, the peak period is spread out with some traffic arriving earlier and some traffic arriving later than predicted. Second, a significant proportion of the predicted arriving traffic will use another ramp with shorter queues, use another freeway, or stay on surface streets.

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7.6 Freeway Interchange Queue Analysis

A queue analysis was prepared at the interchange ramps within the study area, and queue lengths without intersection mitigation are shown in **Table 7-6,** while **Table 7-7** shows queue lengths with mitigation.

This queue analysis was provided primarily to provide an indication of locations that might need queue storage enhancements such as extending right or left turn storage lengths, if feasible during design, and to ensure that any with queues exceeding standard turn pocket lengths was not reported as operating acceptably.

Of the 158 queues evaluated without intersection mitigation, during AM and PM peak hours, 80 are expected to be of excess length for the vehicle storage available between these closely spaced intersections at freeway interchange ramps. With intersection mitigation, 188 queues were evaluated and 63 are expected to be of excess length, extending through the adjacent intersection.

Table 7-6

Alternative 3B Without La Media Road Without Mitigation

Buildout Queue Analysis

Queue Locations North / South	AM Peak Hour														
Location	Queue Length Per Lane			Distance Between Intersections	Excess Queue (Feet)			Queue Length Per Lane			Distance Between Intersections	Excess Queue (Feet)			
	Southbound			Southbound	Southbound			Northbound			Northbound	Northbound			
	RT	TH	LT		RT	TH	LT	LT	TH	RT		LT	TH	RT	
Otay Mesa Rd. / Caliente Ave.	-	-	-	-	-	-	-	200	3,325	-	450	None	2,875	-	
Caliente Ave. / SR-905 WB Ramps	-	1,105	-	450	-	655	-	2,650	1,623	-	450	2,200	1,173	-	
Caliente Ave. / SR-905 EB Ramps	-	120	480	450	-	None	45	-	1,480	-	300	-	1,180	-	
Caliente Ave. / Airway Rd.	-	350	1,573	300	-	50	1,273	-	-	-	-	-	-	-	
Otay Mesa Rd. / Heritage Rd.	-	-	-	-	-	-	-	338	1,928	-	750	None	1,178	-	
Heritage Rd. / SR-905 WB Ramps	-	33	225	750	-	None	None	-	2,143	-	750	-	1,393	-	
Heritage Rd. / SR-905 EB Ramps	-	143	130	750	-	None	None	-	2,175	-	750	-	1,425	-	
Heritage Rd. / Airway Rd.	245	-	2,975	750	None	-	2,225	-	-	-	-	-	-	-	
Otay Mesa Rd. / Britannia Blvd.	-	-	-	-	-	-	-	665	990	1,085	900	None	90	185	
Britannia Blvd. / SR-905 WB Ramps	723	818	-	900	None	None	-	1,255	225	-	450	805	None	-	
Britannia Blvd. / SR-905 EB Ramps	-	1,160	328	450	-	710	None	-	2,575	-	900	-	1,675	-	
Britannia Blvd. / Airway Rd.	-	7,500	1,795	900	-	6,600	895	-	-	-	-	-	-	-	
Otay Mesa Rd. / La Media Rd.	-	-	-	-	-	-	-	1,633	3,250	-	450	1,183	2,800	-	
La Media Rd. / SR-905 WB Ramps	118	1,570	-	450	None	1,120	-	120	2,575	5,850	900	None	1,675	4,950	
La Media Rd. / SR-905 EB Ramps	95	5,050	-	900	None	4,150	-	1,088	880	-	900	188	None	-	
La Media Rd. / Airway Rd.	-	4,500	3,275	900	-	3,600	2,375	-	-	-	-	-	-	-	

Note: Based on 95th percentile back of queue. 25 FT. per vehicle.
TH = Through Lanes
LT = Left Turn Lane
RT = Right Turn Lane

Table 7-6

Alternative 3B Without La Media Road Without Mitigation

Buildout Queue Analysis

Queue Locations North / South	PM Peak Hour													
Location	Queue Length Per Lane			Distance Between Intersections	Excess Queue (Feet)			Queue Length Per Lane			Distance Between Intersections	Excess Queue (Feet)		
	Southbound			Southbound	Southbound			Northbound			Northbound	Northbound		
	RT	TH	LT		RT	TH	LT	LT	TH	RT		LT	TH	RT
Otay Mesa Rd. / Caliente Ave.	-	-	-	-	-	-	-	610	1,835	-	450	160	1,385	-
Caliente Ave. / SR-905 WB Ramps	-	1,078	-	450	-	628	-	1,540	1,195	-	450	1,098	745	-
Caliente Ave. / SR-905 EB Ramps	-	115	415	450	-	None	None	-	1,338	-	300	-	1,038	-
Caliente Ave. / Airway Rd.	-	1,630	485	300	-	1,330	185	-	-	-	-	-	-	-
.														
Otay Mesa Rd. / Heritage Rd.	-	-	-	-	-	-	-	323	543	-	750	None	None	-
Heritage Rd. / SR-905 WB Ramps	-	115	1,143	750	-	None	393	-	2,213	-	750	-	1,463	-
Heritage Rd. / SR-905 EB Ramps	-	213	328	750	-	None	None	-	2,273	-	750	-	1,523	-
Heritage Rd. / Airway Rd.	63	-	3,175	750	None	-	2,425	-	-	-	-	-	-	-
Otay Mesa Rd. / Britannia Blvd.	-	-	-	-	-	-	-	425	418	368	900	None	None	None
Britannia Blvd. / SR-905 WB Ramps	573	963	-	900	None	63	-	7,425	30	-	450	6,975	None	-
Britannia Blvd. / SR-905 EB Ramps	-	123	268	450	-	None	None	-	2,575	-	900	-	1,675	-
Britannia Blvd. / Airway Rd.	-	1,623	1,230	900	-	723	330	-	-	-	-	-	-	-
Otay Mesa Rd. / La Media Rd.	-	-	-	-	-	-	-	790	1,870	-	450	340	1,420	-
La Media Rd. / SR-905 WB Ramps	295	2,675	-	450	None	2,125	-	305	1,193	7,250	900	None	293	6,350
La Media Rd. / SR-905 EB Ramps	585	2,650	-	900	None	410	-	1,663	503	-	900	763	None	-
La Media Rd. / Airway Rd.	-	2,333	873	900	-	1,433	None	-	-	-	-	-	-	-

Note: Based on 95th percentile back of queue. 25 FT. per vehicle.
TH = Through Lanes
LT = Left Turn Lane
RT = Right Turn Lane

Table 7-6

Alternative 3B Without La Media Road Without Mitigation

Buildout Queue Analysis

Queue Locations East / West	AM Peak Hour													
Location	Queue Length Per Lane			Distance Between Intersections	Excess Queue (Feet)			Queue Length Per Lane			Distance Between Intersections	Excess Queue (Feet)		
	Eastbound			Eastbound	Eastbound			Westbound			Westbound	Westbound		
	RT	TH	LT		RT	TH	LT	LT	TH	RT		LT	TH	RT
Palm Ave. / I-805 SB Ramps	-	-	-	-	-	-	-	183	50	-	600	None	None	-
Palm Ave. / I-805 NB Ramps	-	623	670	600	-	23	70	-	240	5,775	1,000	-	None	4,775
Palm Ave. Dennery Rd.	395	215	493	1,000	None	None	None	-	-	-	-	-	-	-
Siempre Viva Rd. / Otay Center Dr.	-	-	-	-	-	-	-	960	5,250	-	600	360	4,650	-
Siempre Viva Rd. / SR-905 SB Ramps	-	683	-	300	-	383	-	348	-	-	600	None	None	-
Siempre Viva Rd. / SR-905 NB Ramps	-	475	743	600	-	None	143	-	590	1,395	1,150	-	None	245
Siempre Viva Rd. / Paseo de las Americas	-	2,125	3,775	1,150	-	975	2,625	-	-	-	-	-	-	-
Lone Star Rd. / SR-125 SB Off Ramp	-	-	-	-	-	-	-	290	-	-	500	None	-	-
Lone Star Rd. / SR-125 NB On Ramp	-	-	93	500	-	-	None	-	50	108	600	-	None	None
Lone Star Rd. / Piper Ranch Rd.	-	650	-	600	-	50	-	-	-	-	-	-	-	-
Otay Mesa Rd. / Piper Ranch Rd.	-	-	-	-	-	-	-	148	918	-	2,000	None	None	-
Otay Mesa Rd. / SR-125 SB Off Ramp	-	523	-	2,000	-	None	-	-	60	-	500	-	None	-
Otay Mesa Rd. / SR-125 NB On Ramp	-	-	495	500	-	-	None	-	133	223	700	-	None	None
Otay Mesa Rd. / Harvest Rd.	-	1,318	260	700	-	1,058	None	-	-	-	-	-	-	-

Note: Based on 95th percentile back of queue. 25 FT. per vehicle.
TH = Through Lanes
LT = Left Turn Lane
RT = Right Turn Lane

Table 7-6

Alternative 3B Without La Media Road Without Mitigation

Buildout Queue Analysis

Queue Locations East / West	PM Peak Hour													
Location	**Queue Length Per Lane**			**Distance Between Intersections**	**Excess Queue (Feet)**			**Queue Length Per Lane**			**Distance Between Intersections**	**Excess Queue (Feet)**		
	Eastbound			**Eastbound**	**Eastbound**			**Westbound**			**Westbound**	**Westbound**		
	RT	**TH**	**LT**		**RT**	**TH**	**LT**	**LT**	**TH**	**RT**		**LT**	**TH**	**RT**
Palm Ave. / I-805 SB Ramps	-	-	-	-	-	-	-	508	198	-	600	None	None	-
Palm Ave. / I-805 NB Ramps	-	398	473	600	-	None	None	-	548	4,400	1,000	-	None	3,400
Palm Ave. Dennery Rd.	2,383	323	710	1,000	1,383	None	None	-	-	-	-	-	-	-
Siempre Viva Rd. / Otay Center Dr.	-	-	-	-	-	-	-	830	808	-	600	230	208	-
Siempre Viva Rd. / SR-905 SB Ramps	-	3,675	-	300	-	3,375	-	1,435	-	-	600	835	None	-
Siempre Viva Rd. / SR-905 NB Ramps	-	88	4,425	600	-	None	3,825	-	2,625	2,283	1,150	-	1,475	1,133
Siempre Viva Rd. / Paseo de las Americas	-	393	2,280	1,150	-	None	1,130	-	-	-	-	-	-	-
-														
Lone Star Rd. / SR-125 SB Off Ramp	-	-	-	-	-	-	-	1,008	-	-	500	508	-	-
Lone Star Rd. / SR-125 NB On Ramp	-	-	3,100	500	-	-	2,600	-	285	2,750	600	-	None	2,150
Lone Star Rd. / Piper Ranch Rd.	-	75	-	600	-	None	-	-	-	-	-	-	-	-
Otay Mesa Rd. / Piper Ranch Rd.	-	-	-	-	-	-	-	280	1,635	-	2,000	None	None	-
Otay Mesa Rd. / SR-125 SB Off Ramp	-	218	-	2,000	-	None	-	-	138	-	500	-	None	-
Otay Mesa Rd. / SR-125 NB On Ramp	-	-	725	500	-	-	225	-	243	1,318	700	-	None	618
Otay Mesa Rd. / Harvest Rd.	-	205	120	700	-	None	None	-	-	-	-	-	-	-

Note: Based on 95th percentile back of queue. 25 FT. per vehicle.
TH = Through Lanes
LT = Left Turn Lane
RT = Right Turn Lane

Table 7-7

Alternative 3B Without La Media Road With Mitigation

Buildout Queue Analysis

Queue Locations North / South	AM Peak Hour													
Location	Queue Length Per Lane			Distance Between Intersections	Excess Queue (Feet)			Queue Length Per Lane			Distance Between Intersections	Excess Queue (Feet)		
	Southbound			Southbound	Southbound			Northbound			Northbound	Northbound		
	RT	TH	LT		RT	TH	LT	LT	TH	RT		LT	TH	RT
Otay Mesa Rd. / Caliente Ave.	-	-	-	-	-	-	-	200	138	2,875	450	None	None	2,425
Caliente Ave. / SR-905 WB Ramps	485	415	-	450	35	None	-	605	1,585	-	450	155	1135	-
Caliente Ave. / SR-905 EB Ramps	-	120	198	450	-	None	45	-	695	98	300	-	395	None
Caliente Ave. / Airway Rd.	-	350	1,573	300	None	50	1,273	-	-	-	-	-	-	-
Otay Mesa Rd. / Heritage Rd.	-	-	-	-	-	-	-	338	663	1,260	750	None	None	510
Heritage Rd. / SR-905 WB Ramps	-	33	225	750	-	None	None	-	548	470	750	-	None	None
Heritage Rd. / SR-905 EB Ramps	-	143	130	750	-	None	None	-	1,643	48	750	-	893	None
Heritage Rd. / Airway Rd.	245	-	2,975	750	None	-	2,225	-	-	-	-	-	-	-
Otay Mesa Rd. / Britannia Blvd.	-	-	-	-	-	-	-	665	990	1,085	900	None	90	185
Britannia Blvd. / SR-905 WB Ramps	368	548	-	900	None	None	-	1,255	225	-	450	805	None	-
Britannia Blvd. / SR-905 EB Ramps	-	1,160	328	450	-	710	None	-	688	440	900	-	None	none
Britannia Blvd. / Airway Rd.	3,000	3,125	1,795	900	2,100	2,225	895	-	-	-	-	-	-	-
Otay Mesa Rd. / La Media Rd.	-	-	-	-	-	-	-	1,633	970	873	450	1,183	520	423
La Media Rd. / SR-905 WB Ramps	118	1,570	-	450	None	1,120	-	120	855	-	900	None	None	-
La Media Rd. / SR-905 EB Ramps	48	2,675	-	900	None	1,775	-	1,088	880	-	900	188	None	-
La Media Rd. / Airway Rd.	1,370	1,615	3,275	900	470	715	2,375	-	-	-	-	-	-	-

Note: Based on 95th percentile back of queue. 25 FT. per vehicle.
TH = Through Lanes
LT = Left Turn Lane
RT = Right Turn Lane

Table 7-7

Alternative 3B Without La Media Road With Mitigation

Buildout Queue Analysis

Queue Locations North / South	PM Peak Hour													
Location	Queue Length Per Lane			Distance Between Intersections	Excess Queue (Feet)			Queue Length Per Lane			Distance Between Intersections	Excess Queue (Feet)		
	Southbound			Southbound	Southbound			Northbound			Northbound	Northbound		
	RT	TH	LT		RT	TH	LT	LT	TH	RT		LT	TH	RT
Otay Mesa Rd. / Caliente Ave.	-	-	-	-	-	-	-	610	370	353	450	160	None	None
Caliente Ave. / SR-905 WB Ramps	368	498	-	450	None	48	-	390	1,195	-	450	None	745	-
Caliente Ave. / SR-905 EB Ramps	-	115	188	450	-	None	None	-	985	228	300	-	685	None
Caliente Ave. / Airway Rd.	-	1,630	485	300	None	1,330	185	-	-	-	-	-	-	-
Otay Mesa Rd. / Heritage Rd.	-	-	-	-	-	-	-	323	310	233	750	None	None	None
Heritage Rd. / SR-905 WB Ramps	-	115	1,143	750	-	None	393	-	303	1,148	750	-	None	398
Heritage Rd. / SR-905 EB Ramps	-	213	328	750	-	None	None	-	1,200	138	750	-	450	None
Heritage Rd. / Airway Rd.	63	-	3,175	750	None	-	2,425	-	-	-	-	-	-	-
Otay Mesa Rd. / Britannia Blvd.	-	-	-	-	-	-	-	425	418	368	900	None	None	None
Britannia Blvd. / SR-905 WB Ramps	573	503	-	900	None	None	-	7,425	30	-	450	6,975	None	-
Britannia Blvd. / SR-905 EB Ramps	-	123	268	450	-	None	None	-	2,625	820	900	-	1,725	None
Britannia Blvd. / Airway Rd.	565	525	1,230	900	None	None	330	-	-	-	-	-	-	-
Otay Mesa Rd. / La Media Rd.	-	-	-	-	-	-	-	790	398	600	450	340	None	150
La Media Rd. / SR-905 WB Ramps	153	2,675	-	450	None	2,125	-	305	450	-	900	None	None	-
La Media Rd. / SR-905 EB Ramps	238	1,310	-	900	None	410	-	1,163	503	-	900	263	None	-
La Media Rd. / Airway Rd.	288	888	873	900	None	None	None	-	-	-	-	-	-	-

Note: Based on 95th percentile back of queue. 25 FT. per vehicle.
TH = Through Lanes
LT = Left Turn Lane
RT = Right Turn Lane

Table 7-7

Alternative 3B Without La Media Road With Mitigation

Buildout Queue Analysis

Queue Locations East / West	AM Peak Hour													
Location	Queue Length Per Lane			Distance Between Intersections	Excess Queue (Feet)			Queue Length Per Lane			Distance Between Intersections	Excess Queue (Feet)		
	Eastbound			Eastbound	Eastbound			Westbound			Westbound	Westbound		
	RT	TH	LT		RT	TH	LT	LT	TH	RT		LT	TH	RT
Palm Ave. / I-805 SB Ramps	-	-	-	-	-	-	-	228	78	-	600	None	None	-
Palm Ave. / I-805 NB Ramps	273	118	-	600	None	None	-	-	35	258	1,000	-	None	None
Palm Ave. Dennery Rd.	395	215	493	1,000	None	None	None	-	-	-	-	-	-	-
Siempre Viva Rd. / Otay Center Dr.	-	-	-	-	-	-	-	308	2,950	7,898	600	None	2,350	1,298
Siempre Viva Rd. / SR-905 SB Ramps	-	683	-	300	-	383	-	348	-	-	600	None	None	-
Siempre Viva Rd. / SR-905 NB Ramps	-	475	743	600	-	None	143	-	538	518	1,150	-	None	180
Siempre Viva Rd. / Paseo de las Americas	2,170	1,095	1,138	1,150	1,020	None	None	-	-	-	-	-	-	-
Lone Star Rd. / SR-125 SB Off Ramp	-	-	-	-	-	-	-	290	-	-	500	None	-	-
Lone Star Rd. / SR-125 NB On Ramp	-	-	93	500	-	-	None	-	50	108	600	-	None	None
Lone Star Rd. / Piper Ranch Rd.	-	650	-	600	-	50	None	-	-	-	-	-	-	-
Otay Mesa Rd. / Piper Ranch Rd.	-	-	-	-	-	-	-	148	523	103	2,000	None	None	None
Otay Mesa Rd. / SR-125 SB Off Ramp	-	523	-	2,000	-	None	-	-	60	-	500	-	None	-
Otay Mesa Rd. / SR-125 NB On Ramp	-	-	495	500	-	None	None	-	133	223	700	-	None	None
Otay Mesa Rd. / Harvest Rd.	225	313	260	700	None	None	None	-	-	-	-	-	-	-

Note: Based on 95th percentile back of queue. 25 FT. per vehicle.
TH = Through Lanes
LT = Left Turn Lane
RT = Right Turn Lane

Table 7-7

Alternative 3B Without La Media Road With Mitigation

Buildout Queue Analysis

Queue Locations East / West	PM Peak Hour													
Location	**Queue Length Per Lane**			**Distance Between Intersections**	**Excess Queue (Feet)**			**Queue Length Per Lane**			**Distance Between Intersections**	**Excess Queue (Feet)**		
	Eastbound			**Eastbound**	**Eastbound**			**Westbound**			**Westbound**	**Westbound**		
	RT	**TH**	**LT**		**RT**	**TH**	**LT**	**LT**	**TH**	**RT**		**LT**	**TH**	**RT**
Palm Ave. / I-805 SB Ramps	-	-	-	-	-	-	-	553	195	-	600	None	None	-
Palm Ave. / I-805 NB Ramps	168	205	-	600	None	None	-	-	75	345	1,000	-	None	None
Palm Ave. Dennery Rd.	2,383	323	710	1,000	1,383	None	None	-	-	-	-	-	-	-
Siempre Viva Rd. / Otay Center Dr.	-	-	-	-	-	-	-	280	615	35	600	None	15	None
Siempre Viva Rd. / SR-905 SB Ramps	-	3,675	-	300	-	3,375	-	1,435	-	-	600	835	None	-
Siempre Viva Rd. / SR-905 NB Ramps	-	88	4,425	600	-	None	3,825	-	910	2,900	1,150	-	None	1,750
Siempre Viva Rd. / Paseo de las Americas	403	445	748	1,150	None	None	None	-	-	-	-	-	-	-
-														
Lone Star Rd. / SR-125 SB Off Ramp	-	338	-	-	-	-	-	1,008	-	-	500	508	-	-
Lone Star Rd. / SR-125 NB On Ramp	-	-	3,100	500	-	-	1,615	-	285	2,750	600	-	None	2,150
Lone Star Rd. / Piper Ranch Rd.	-	75	-	600	-	None	None	-	-	-	-	-	-	-
Otay Mesa Rd. / Piper Ranch Rd.	-	-	-	-	-	-	-	268	1,220	55	2,000	None	None	None
Otay Mesa Rd. / SR-125 SB Off Ramp	-	218	-	2,000	-	None	-	-	138	-	500	-	None	-
Otay Mesa Rd. / SR-125 NB On Ramp	-	-	725	500	-	None	225	-	243	1,318	700	-	None	618
Otay Mesa Rd. / Harvest Rd.	60	370	120	700	None	None	None	-	-	-	-	-	-	-

Note: Based on 95th percentile back of queue. 25 FT. per vehicle.
TH = Through Lanes
LT = Left Turn Lane
RT = Right Turn Lane

8.0 COMPARISON OF SCENARIOS

8.1 Roadway Segments

The table below summarizes roadway segment levels of service for the three scenarios without and with reclassifications.

A comparison of segments at levels of service "E" or "F", indicate the comparative roadway congestion among three alternatives.

Before Reclassification of Segments			
	No Project	**3B With La Media Rd.**	**3B Without La Media Rd.**
Total Segments	118	118	117
LOS E	13	4	9
LOS F	46	37	32
Total (E+F)	**59**	**41**	**41**

After Reclassification of Segments			
	No Project	**3B With La Media Rd.**	**3B Without La Media Rd.**
LOS E	12	5	5
LOS F	26	21	19
Total (E+F)	**38**	**26**	**24**

The 3B With and Without La Media Road scenarios would be less congested overall compared to the No Project scenario when considering roadway segment levels of service at E and F. After reclassification of roadway segments, the No Project scenario would have 12 more segments at levels of service "E" and "F" than scenario 3B With La Media Road and 14 more segments than 3B Without La Media Road.

The No Project scenario would generate more average daily vehicle trips due to higher intensity, non-residential, industrial type uses than the 3B scenario. All three scenarios would have reduced levels of congestion if new development was assumed at lower average floor area ratios than were used to develop the land use intensity inputs for the Otay Mesa Community Plan Update traffic forecasts that were the basis for the evaluation of these land use scenarios.

Other methods to attempt to reduce roadway congestion are outlined in the City of San Diego General Plan Mobility Element Transportation Demand Management (TDM) section. As described in that section, TDM is a general term for strategies that assist in reducing the demand for single-occupant vehicle travel to increase the efficiency of existing transportation resources. Transportation Demand Strategies are primarily directed at weekday commuters and are structured to:

- Reduce single-occupant vehicle trips by encouraging alternative modes of travel such as carpooling, vanpooling, transit use, bicycling, and walking.

- Support the use of alternative modes of travel by encouraging on-site amenities, programs, and incentives such as the use of car sharing vehicles, bicycle lockers, food and child care services, guaranteed ride home programs, and commuter benefits for commercial and industrial uses.

- Alter the timing of travel to less congested time periods, through strategies such as alternative work schedules; or

- Reduce the number of commute trips through strategies such as telework, and alternative work schedules.

In order to reduce community wide roadway segment congestion it is recommended that the Otay Mesa Community Plan encourage the practice of Transportation Demand Management as development occurs.

The updated Otay Mesa Community Plan will provide for transit use, bicycle use, and pedestrian activity through the establishment of transit bus stops, bicycle routes and lanes, and appropriate pedestrian linkages.

8.2 Freeway Segment Levels of Service

The table below shows a comparison of freeway segment levels of service. A review of this table indicates that the 3B With La Media Road scenario is preferable based on levels of service E, F0, F1, F2, and F3.

	No Project	3B With La Media Rd.	3B Without La Media Rd.
LOS E	-	1	-
LOS F0	3	3	4
LOS F1	1	1	1
LOS F2	1	1	1
LOS F3	2	1	1
Total	**7**	**7**	**7**

The No Project scenario would have two segments at level of service "F3" indicating extremely severe congestion and delay, while the 3B scenario would only have one segment at level of service "F3". The 3B With La Media Road scenario would have one segment at level of service "E", while the other two scenarios would have none. Overall, the intensity and duration of delays would be less with the 3B With La Media Road scenario. The No Project scenario has a higher intensity land use generating more vehicle trips. The 3B Without La Media Road scenario, although at the same land use intensity as the 3B With La Media Road scenario, has one less connection to and from outside the Otay Mesa Community, the deletion of La Media Road north of Lone Star Road, so that traffic is diverted to other freeway segments.

The Adopted SANDAG 2050 Regional Transportation Plan includes two managed lanes on I-805 in each direction north of SR-905. The addition of these lanes would improve levels of service between SR-905 and Palm Avenue to level of service "D" for all three scenarios. The segment between Palm Avenue and Main Street would improve to level of service "D" for both of the 3B scenarios and to "E" for the No Project scenario. These added managed lanes should be considered partial mitigation for regional cumulative traffic impacts.

The implementation of Transportation Demand Management Plans for large development projects would also reduce, but not mitigate for, regional cumulative freeway impacts.

State Route 905 traffic impacts would be significant and unmitigated for all three scenarios. State Route 905 has been designed so that median High Occupancy Vehicle lanes could be installed in the future, but are not currently planned or funded by Caltrans. The addition of HOV lanes would provide partial mitigation for local and regional cumulative impacts but would not provide acceptable levels of service on segments of SR-905 projected to be at level of service "F", so that SR-905 traffic impacts would remain significant and unmitigated. The City of San Diego requested that HOV lanes on SR-905 be added to the Regional Transportation Plan as part of comments on the Draft 2050 RTP DEIR. The Unconstructed Network in the 2050 RTP includes 8 freeway lanes on SR-905.

8.3 Intersection Levels of Service

The table below shows a comparison of intersection levels of service among the three scenarios, before and after mitigation, with a tabulation at level of service "E" or "F"

	No Project (53 Total)		3B With La Media Rd. (53 Total)		3B Without La MediaRd. (52 Total)	
	AM	PM	AM	PM	AM	PM
LOS E, F Before Mitigation	46	48	40	43	42	44
LOS E, F After Mitigation	35	37	27	29	28	29

Without mitigation, the No Project alternatives would have 46 intersections operating unacceptably at LOS E or F during the AM peak hour, compared to 40 intersections operating unacceptably for the 3B With La Media Road, and 42 for the 3B Without La Media Road alternatives. During the PM peak hour the No Project alternative would have unacceptable intersection operations at 48 locations, compared to 43 locations for the 3B With La Media Road, and 44 for the Without La Media Road alternatives.

With mitigation recommended in this report, the No Project alternative would have 35 intersections operating unacceptably at LOS E or F during the AM peak hour, compared to 27 intersections for the 3B With La Media Road, and 28 for the 3B Without La Media Road alternatives. During the PM peak hour, the No Project alternative would have 37 intersections operating unacceptably compared to 29 intersections for the 3B With La Media Road alternative, and 29 intersections for the 3B Without La Media Road alternative, which has one less intersection.

High peak hour volumes at intersections are due to the combined peak hour characteristics of manufacturing, industrial park, business park, and office uses. The City of San Diego Trip Generation Manual (Table 1) includes peak hour factors that are used to convert average daily traffic volumes to peak hour volumes for different types of uses. That table shows that the predominant type of uses assumed in the Otay Mesa Community Plan have high peak hour percentages of average daily traffic, ranging from 12% for business park uses to 20% for manufacturing uses.

In addition, the directional peak hour inbound to outbound traffic ratio for peak hours is strong in one direction for these types of uses. Typically, for these uses, AM peak hour inbound traffic flows are 90% to 80% of the total peak hour traffic, while outbound traffic flows are typically 80% of the total PM peak hour traffic.

Since the central and eastern community is planned for primarily employment uses rather than residential uses, traffic volumes into and out of the community during peak hours are high in one direction rather than more balanced as they might be in a mixed use residential / employment type of setting, resulting in high peak hour intersection volumes.

Also contributing to high directional peak hour traffic flow is the influence of the County of San Diego East County Specific Plan, which has land use assumptions that are typically commercial and industrial types of uses with very little residential development planned.

The peak hour flows evaluated in this report are to be considered traffic "demand" volumes, based on the Trip Generation Manual peak hour characteristics for these types of uses, and the high intensity of the land uses assumed in the traffic model. These volumes may not materialize due to capacity constraints of the regional transportation facilities, but the mitigation recommendations in the report are unlikely to change considerably if peak hour volumes are tempered by regional peak spreading.

Although mitigation would probably not change with the spreading out of peak hour volumes, intersection delay could be reduced. The Otay Mesa Community Plan should encourage or require the preparation of a TDM plan for large projects during the development review process, as an effort to incrementally reduce peak hour traffic flows.

8.4 Overall Comparison

The higher land use intensities of the No Project scenario results in more unacceptable intersection levels of service, and subsequently more congestion and delay, than both of the 3B scenarios. The 3B scenarios have the same land use assumptions, but the 3B Without La Media Road scenario has more of a detrimental impact since traffic diverted from the deleted segment of La Media Road would divert to other roadway and freeway segment and incrementally increase peak hour traffic at some freeway interchanges and nearby intersections. However, the City of Chula Vista is preparing a General Plan amendment, anticipated in Spring 2012, that will delete the La Media Road bridge crossing the Otay River Valley from their General Plan, and has deleted this project from their facilities financing plan. Therefore, the "With La Media Road" connection to Chula Vista is no longer a viable alternative.

8.5 Ramp Meter Operations

Regional SANTEC / ITE Traffic Impact Study Guidelines state that levels of service does not apply to ramp meters, but that ramp meter delays above 15 minutes are considered excessive. The likely most restrictive ramp meter rate as provided by Caltrans was used for ramp meter evaluation for comparison of the three scenarios. Ramp meters were assumed at the on-ramps for the eight freeway interchanges within the study area.

Both ramp meter delay and estimated queues were tabulated. The high peak hour volume demand at freeway on-ramps evaluated in this report produce long delays and, in most cases, unrealistic ramp queue lengths. However, the guidelines include the following caution:

"Experience shows that the theoretical queue length derived by this analysis often does not materialize. Motorists, after a brief time of adjustment, seek alternative travel paths if available or alternative times of arrival at the meter. The effect is to approximately minimize total trip time by seeking out the best combinations of route and departure time at the beginning of the trip. This causes at least two important changes in the pattern on arriving at ramp meters. First, the peak period is spread out with some traffic arriving earlier and some traffic arriving later than predicted. Second, a significant proportion of the predicted arriving traffic will use another ramp with shorter queues, [if available], use another freeway, or stay on surface streets."

Accommodating ramp meter queues involves approach lane striping to appropriately store queued vehicles within the existing roadways. There are currently no on-ramp meters at the study area interchanges, so that appropriate measures to accommodate ramp meter queues should be applied during ramp meter design.

For purposes of evaluating the alternatives, the summary below shows a comparison of ramp meter delays and queues exceeding the available storage that were estimated in this report. Queue lengths are a total length of estimated queues made up of vehicles approaching the on-ramp from two directions.

ON-RAMP METER DELAYS AND QUEUES						
	No Project		3B With La Media Rd.		3B Without La MediaRd.	
	AM (1)	PM (1)	AM (1)	PM (1)	AM (1)	PM (1)
Delay Above 15 Minutes	6	11	5	11	5	11
(2) Exceed Ramp Storage	6	11	7	11	7	11

Note:
(1) A Toal of 14 On-Ramps Evaluated
Queue lengths exceeding ramp storage length.

The No Project alternative has 17 AM and PM delays above 15 minutes, while the other two alternatives are the same with 16 peak hour delays above 15 minutes. Of the 28 queues evaluated, the No Project scenario would have one less queue exceeding the ramp storage length, a total of 17 AM and PM queues out of 28 evaluated, compared to 18 for the 3B scenarios.

All three scenarios would benefit from efforts to lower peak hour volumes by implementation of Transportation Demand Management Plans, which are recommended to be encouraged or required of large projects during the development review process.

8.6 Freeway Interchange Queue Analysis

A queue analysis was prepared at the eight freeway interchanges within the study area. Vehicle queues within the interchange between ramp intersections and between ramps and adjacent surface street intersections were estimated. The Highway Capacity Manual intersection level of service analysis computer software includes a back-of-queue worksheet for the approaches to the evaluated intersection, and was used for the queue length estimates in this report. There are no intersection queue length performance criteria within the Regional SANTEC / ITE Traffic Impact Study Guidelines. This queue analysis was provided to primarily evaluate whether interchanges could accommodate the projected peak hour traffic volumes and then to compare the three scenarios evaluated in this report.

Queue lengths estimated at locations with high amounts of delay are unreliable since queue estimation is a complex issue and can not be accurately determined by the current software.

Mitigation for lengthy interchange queues should be limited to restriping for maximum turn lane lengths, possibly extending through adjacent upstream intersections, and by adding separate right turn lanes at the approaches to on-ramps when feasible.

The tabulation below shows queue lengths exceeding the storage available between intersections for each alternative, without and with intersection mitigation at certain locations. The mitigation assumed was that previously identified to improve intersection levels of service as determined for each scenario and is not meant specifically for queue length mitigation, although in some cases additional lanes at on-ramp approaches improves levels of service based on delay and, subsequently, shortens some queues.

As shown in this table:

QUEUES EXCEEDING AVAILABLE STORAGE						
	No Project		3B With La Media Rd.		3B Without La MediaRd.	
	AM	PM	AM	PM	AM	PM
Without Mitigation	46 (83)	46 (83)	41 (82)	38 (82)	40 (79)	40 (79)
With Mitigation	41 (96)	35 (96)	37 (94)	32 (94)	34 (94)	29 (94)

Note:
(xx) = Number of Queues Evaluated for Each Scenario

- The No Project scenario would have 92 AM and PM total queues exceeding the available storage between intersections out of 166 evaluated without mitigation, and 76 AM and PM total queues out of 192 evaluated with mitigation. More queues were evaluated with mitigation since in many cases right turn only lanes were added.

- The 3B With La Media Road scenario would have 79 AM and PM total queues exceeding the available storage between intersections out of 164 evaluated without mitigation, and 69 AM and PM total queues out of 188 evaluated with mitigation.

- The 3B Without La Media Road scenario would have 80 AM and PM total queues exceeding the available storage between intersections out of 158 evaluated without mitigation, and 63 AM and PM total queues out of 188 evaluated with mitigation.

The following summarizes the number of queues exceeding the available storage, with intersection mitigations for each scenario:

- No Project (78 queues);
- 3B With La Media Road (69 total queues);
- 3B Without La Media Road (63 total queues).

The implementation of Transportation Demand Management Plans for development projects could potentially reduce peak hour volumes incrementally and subsequently reduce queue lengths at freeway interchanges.

9.0 REFERENCES

1. San Diego Region Traffic Engineer's Council (SANTEC) and Institute of Transportation Engineers (ITE), California Border Section,

- Guidelines for Traffic Impact Studies (TIS) In The San Diego Regions, March 2, 2000 Final Draft

2. Transportation Research Board:

- 1997 Highway Capacity Manual Special Report, Washington, DC (2000 Update)

3. San Diego Association of Governments (SANDAG):

- 2030 Regional Transportation Plan, November 2007
- Draft 2050 Regional Transportation Plan, June 2011

4. City of San Diego:

- Traffic Impact Study Manual, July 1998
- City of San Diego General Plan, Mobility Element, March 2008
- Trip Generation Manual, Revised May 2003
- Street Design Manual 2002
- CEQA Significance Determination Thresholds, January 2011

10.0 URBAN SYSTEMS ASSOCIATES, INC. PREPARERS

Principal Engineer

Andrew P. Schlaefli; M.S. Civil Engineering, B.S. Civil Engineering
Registered Civil Engineer, Licensed Traffic Engineer

Project Manager

Sam P. Kab, II; Licensed Traffic Engineer TR#1602

Senior Technical Support, Graphics and Illustrations

Jacob D. Swim

Word Processing, Report Production and Compilation

Lisa Diaz

This report is site and time specific and is intended for a one-time use for this intended project under the conditions described as "Proposed Project". Any changes or delay in implementation may require re-analysis and re-consideration by the public agency granting approvals. California land development planning involves subjective political considerations as well as frequently re-interpreted principals of law as well as changes in regulations, policies, guidelines and procedures. Urban Systems and their professionals make no warrant, either express or implied, regarding our findings, recommendations, or professional advice as to the ability to successfully accomplish this land development project.

Traffic is a consequence of human behavior and as such is predictable only in a gross cumulative methodology of user opportunities, using accepted standards and following patterns of past behavior and physical constraints attempting to project into a future window of circumstances. Any counts or existing conditions cited are only as reliable as to the time and conditions under which they were recorded. As such the preparer of this analysis is unable to warrant, either express or implied, that any forecasts are statements of actual true conditions which will in fact exist at any future date.

Services performed by Urban Systems professionals resulting in this document are of a manner consistent with that level of care and skill ordinarily exercised by members of the profession currently practicing in the same locality under similar conditions. No other representation expressed or implied and no warranty or guarantee is included or intended in this report, document opinion or otherwise.

Any changes by others to this analysis or re-use of document at a later point in time or other location, without the express consent and concurrence of Urban Systems releases and relieves Urban Systems of any liability, responsibility or duty for subsequent questions, claims, or damages.

APPENDIX K

Service Letters and Responses

Otay Mesa CPU: Service LetterFrom: Saunders, Mark [MXSaunders@sandiego.gov]
Sent: Monday, November 15, 2010 6:53 PM
To: Sharon Wright-Harris
Cc: Whitfield, Pam
Subject: RE: Otay Mesa CPU: Service Letter

Follow Up Flag: Follow up
Flag Status: Green

Sharon,
See the following for the information requested:

- There are currently plans to build a 15,000 sq ft facility in the Otay Mesa/East community. However, land acquisition has not been obtained and funding is currently not available.
- There are currently no plans to close either Otay Mesa or San Ysidro branch libraries.
- Standards for determining library size, location and resources are based on the 2001 Guiding Principles for Library Facilities, which included the following: Minimum 15,000 square feet, at least one larger library facility in each Council District, service area radius of approximately 2 miles, service area population of 18,000 to 20,000, a minimum of two items per capita for library materials in branch libraries, and community service centers should be constructed at the larger libraries where feasible.
- Current facilities and staffing would not be adequate for the increased population noted for the project.

Thanks, Mark

From: Sharon Wright-Harris [mailto:swright@reconenvironmental.com]
Sent: Friday, October 22, 2010 1:10 PM
To: Saunders, Mark
Subject: Otay Mesa CPU: Service Letter

Hi Mark,
RECON is working on the Otay Mesa CPU EIR for the City of San Diego and we have another service letter request for you. Please see the attached files.
Many thanks,
Sharon Wright-Harris
Writer/Editor
RECON Environmental, Inc.
525 W. Wetmore, Suite 111
Tucson, Arizona 86705
P 520.325.9977 x206
F 520.293.3051

A Company of Specialists
<<servltr_library.doc>> <<Fig1.pdf>> <<Fig2.pdf>>

Otay Mesa CPU: Service letterFrom: Paul Woods [paul.woods@sweetwaterschools.org]
Sent: Thursday, November 18, 2010 5:52 PM
To: Sharon Wright-Harris
Cc: Robert Bradley; Alina Cruz; Carolyn Scholl (Carolyn.Scholl@cvesd.org)
Subject: RE: Otay Mesa CPU: Service letter

Follow Up Flag: Follow up
Flag Status: Green

Ms. Wright-Harris,

Regarding your letter of October 22, 2010 referencing the Otay Mesa Community Plan Update EIR

I would like to note that the Otay Mesa Community Plan is served by three school districts: Sweetwater Union High School District, Chula Vista Elementary School District and San Ysidro Elementary School District. The significance is that Chula Vista ESD is a K-6 district and San Ysidro ESD is a K-8 district. Therefore there are a few 7th and 8th graders in the northwest part of the Community Plan that will attend SUHSD middle schools.

The Community Plan is served primarily by San Ysidro High School. A small portion of the Community Plan is served by Montgomery Middle School (all middle school students not within SYESD) and another small portion (between Del Sol Blvd and the 805 and 905) is temporarily served by Montgomery High School.

At this time the only long range plan for new or expanded facilities is a future high school sited within the Otay Mesa Community Plan.

Current Enrollment (2010/11):
Montgomery Middle School: 875
Montgomery High School: 1,604.
San Ysidro High School: 2,412

Student generation rates are:
Single Family:
7-8 0.1066
9-12 0.2028

Single Family Attached
7-8 0.0635
9-12 0.1229

Multi-Family Attached
7-8 0.0780
9-12 0.2204

Capacities (State loading standards):
Montgomery Middle School: 1,170 students
Montgomery High School: 2,284 students (including temporary portables)
San Ysidro High School: 2,688 students (including temporary portables)

The Sweetwater Union High School District will have sufficient staff for new students generated by the development of the Community Plan because operational staff is funded by the state on a per student basis. Because of the current economic crisis, class sizes may be larger than they are this year but each student will have a teacher.

The Sweetwater Union High School District will NOT have sufficient facilities for new high school students generated by the development of the Community Plan. Although it appears that Montgomery High School has capacity, the California Department of Education (CDE) recommends no more than 1,400 students on that campus because of site size. Also the District places a high value on local schools and even though it appears that Montgomery High School could absorb more students, this would inevitably lead to having students that are very close to San Ysidro High School or a future high school being required to attend a school that is not only farther away but is not part of the Otay Mesa community.

Although it appears that San Ysidro High School has room for about 300 more students, that excess capacity is provided by temporary portables. The San Ysidro High School campus has a CDE recommended maximum capacity of 1,800 students.

The number of high school students potentially generated by development in the Community Plan will require two comprehensive high school sites and therefore the Sweetwater Union High School District request the identification of a new 50-acre high school site in the Community Plan.

We are very willing to meet with the planning staff to identify an appropriate site.

Sincerely,

Paul D. Woods
Director of Planning and Construction
Sweetwater Union High School District
1130 Fifth Av.
Chula Vista, CA 91911
www.sweetwaterschools.org
paul.woods@sweetwaterschools.org
619-691-5553
Fax 619-420-0339

From: Sharon Wright-Harris [mailto:swright@reconenvironmental.com]
Sent: Monday, November 15, 2010 10:21 AM
To: Paul Woods
Subject: Otay Mesa CPU: Service letter

Good morning,
Just wanted to check to see if you had any questions I could answer. We're hoping to wrap this up soon so we can get the document to the City.
Thanks,

Sharon Wright-Harris
Writer/Editor

THE CITY OF SAN DIEGO

IN REPLYING
PLEASE GIVE
OUR REF. NO.

December 20, 2010

Sharon Wright-Harris
c/o RECON
525 W. Wetmore Rd., Ste 111
Tucson, AZ 85705-5094

Dear Miss Wright-Harris:

Listed below are the Police Department's updated findings for the Environmental Impact Report for proposed Otay Mesa Community Plan (RECON Number 3957E)

Area Station

Police service for the Otay Mesa Community Plan will be provided by officers from Southern Division, located at 1120 27th Street, San Diego, CA 92154. Southern Division provides police services to the following communities: Tijuana River Valley, San Ysidro, Otay Mesa, Border, Egger Highlands, Nestor, Otay Mesa West, Palm City, and Ocean Crest.

Current Staffing / Officer Availability

Southern Division is currently staffed with 111 sworn personnel and two non-sworn personnel. The current patrol strength at Southern Division is 99 uniformed patrol officers. Officers work ten-hour work shifts, four days a week. Staffing is comprised of three shifts which operate from 6:00 a.m. - 4:00 p.m. (First Watch), 2:00 p.m.- Midnight (Second Watch) and from 9:00 p.m.- 7:00 a.m. (Third Watch). Using the department's minimum staffing guidelines, Southern Division currently deploys a minimum of 10 patrol officers on First Watch, 11 officers on Second Watch and seven officers on Third Watch.

The San Diego Police Department does not staff individual stations based on ratios of sworn officers per 1,000 population ratio. The goal citywide is to maintain 1.45 officers per 1,000 population ratio.

Current Response Times

The police department currently utilizes a five level priority calls dispatch system, which includes priority E (Emergency), one, two, three and four. The calls are prioritized by the phone dispatcher and routed to the radio operator for dispatch to the field units. The priority system is designed as a guide, allowing the phone dispatcher and the radio dispatcher discretion to raise or lower the call priority as necessary based on the information received. Priority "E" and priority one calls involve serious crimes in progress or those with a potential for injury.

The Otay Mesa Community Plan is currently located in the City of San Diego, within the boundaries of police Beat 713. The 2009 average response times for Beat 713 are 8.89 minutes for emergency calls, 16.37 minutes for priority one calls, 30.40 minutes for priority two calls, 62.28 minutes for priority three calls and 54.35 minutes for priority four calls.

The department's goal response times are seven minutes for emergency calls, 12 minutes for priority one calls, 30 minutes for priority two calls, 90 minutes for priority three calls and 90 minutes for priority four calls. The citywide average response times, for the same period, were 6.11 minutes for emergency calls, 11.73 minutes for priority one calls, 23.34 minutes for priority two calls, 63.70 minutes for priority three calls and 63.02 minutes for priority four calls during that same time period. The department strives to maintain the response time goals as one of various other measures used to assess the level of service to the community.

Potential Mitigation Measures to Response Time

The current budgeted staffing ratio for police officers to population is 1.45 officers per 1,000 residents based on 2010 estimate residential population of 1,376,173 and a budgeted strength of 1,991police officers (FY2011). The department goal is to have 1.45 officers per 1,000 residents. The ratio is calculated using the department total to take into account the support and investigative positions within the department. This ratio does not include the significant population increase resulting from employees who commute to work in the community or those visiting.

Gross and Net Additional Response Time Caused by Proposal

This project will likely add additional police related calls for service to the department. Therefore, without additional police officers it is likely that police response times will increase in the projected area.

Long-Term (Community Plan Build-Out) Post-Project Response Time

There are no current plans for additional police sub-stations in the immediate area. Police response times in this community will continue to increase with the build-out of other community plans and the increase of traffic generated by new growth. A Crime Prevention through Environmental Design Review (CPTED) is recommended by the police department to address general security concerns.

Sincerely,

MANNY GUADERRAMA
Captain

MG/mc

cc: Robert Kanaski, Assistant Chief, Special Operations
Albert Guaderrama, Captain, Southern Division

CCTR: 1914131211

CHULA VISTA ELEMENTARY SCHOOL DISTRICT

84 EAST "J" STREET • CHULA VISTA, CALIFORNIA 91910 • 619 425-9600

EACH CHILD IS AN INDIVIDUAL OF GREAT WORTH

January 4, 2011

RECEIVED
JAN 05 2011
RECON

Ms. Sharon Wright-Harris
Writer/Editor
Recon
1927 Fifth Avenue
San Diego, CA 92101-2358

RE: Otay Mesa Community Plan Update Environmental Impact Report (Recon Number 3957E)

Dear Ms. Wright-Harris:

Thank you for the opportunity to review the EIR for the above referenced project. Please be advised that a portion of this project is within the Chula Vista Elementary School District, which serves children from Kindergarten through Grade 6.

As the portion of the project that lies within the District boundary will not result in generation of additional students, the District does not identify any issue and has no comment on the proposed project.

The District requests a copy of an approved (stamped/signed) tentative map when/if the project is approved, in order to comply with Office of Public School Construction eligibility audit. Your assistance in this matter would be greatly appreciated.

Thank you again for the opportunity to review the Final EIR. If additional information is needed, please give our Facilities Planning Department a call at (619) 425-9600, Extension 1374.

Sincerely,

Carolyn Scholl
Facilities Planning Manager

1927 Fifth Avenue
San Diego, CA 92101-2358
P 619.308.9333 F 619.308.9334
www.recon-us.com

525 W. Wetmore Rd., Suite 111
Tucson, AZ 85705
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RECON

A Company of Specialists

October 22, 2010

Mr. Mark Saunders
Senior Management Analyst
San Diego Public Library
820 E Street
San Diego, CA 921010

Reference: Otay Mesa Community Plan Update Environmental Impact Report (RECON Number 3957E)

Dear Mr. Saunders:

RECON is preparing a program Environmental Impact Report (EIR) for the update of the Otay Mesa Community Plan proposed by the City of San Diego. Service letters were originally sent in 2006, and we are requesting updated information based on recent changes to the plan.

The plan area covers approximately 9,300 acres in the southern portion of San Diego County. The community is bordered by the San Ysidro and Otay Mesa-Nestor communities on the west, the City of Chula Vista and the Otay Valley Regional Park on the north, the County of San Deigo on the east, and the U.S./Mexico border and the City of Tijuana on the south (Figure 1).

The proposed project is a comprehensive update of the Otay Mesa Community Plan that was adopted in 1981. The update includes modifications to the various elements of the plan to incorporate current planning policies and practices in the city of San Diego, as well as to make the plan reflective of the substantial land use changes (e.g., adopted alignment of State Route [SR-905]) that have occurred over the last 30 years.

The project would re-designate land uses to increa the number of allowed residential units and reduce the acreage for industrial uses. New land use designations are proposed to allow the establishment of industrial centers, mixed commercial and residential uses, and, where appropriate, residential uses near industrial uses.

OTAY MESA COMMUNITY PLAN UPDATE
DRAFT PROJECTED BUILDOUT COMPARISON

Land Use Categories	Adopted Community Plan	Proposed Community Plan Update
Residential	1,258 ac	745 ac
Single family detached	4,800 dus	4,273 dus
Multi-family and attached	7,600 dus	14,501 dus
Residential Areas w/Village Centers	---	716 ac
Commercial	457 ac	320 ac
Industrial	2,885 ac	2,399 ac
Institutional	1,027 ac	1,163 ac
Parks/Open Space	2,594 ac	2,888 ac

SOURCE: City of San Diego Planning and Community Investment Department. July 10, 2010.
ac = acre; du = dwelling unit

The proposed land use plan is shown in the attached Figure 2.

Overall, the anticipated residential uses in the plan area would provide a minimum of 18,774 single-family and multi-family dwelling units. Assuming an average occupancy of 2.74 persons per household, the projected "worst-case" population for the project would be 51,441.

RECON is requesting the following information to assist in the preparation of the draft EIR:

- Plans for new or expanded facilities.
- Verification that the Otay-Nestor and San Ysidro branches would continue to serve the Otay Mesa Community Plan area.
- Standard for determining library size, location, and resources.
- Will the public library have sufficient staff and facilities?

I would greatly appreciate it if you could provide me with this information by **November 12, 2010**. Please feel free to contact me should you have any questions. I can be reached via email at swright@reconenvironmental.com or by phone at 520.325.9977.

Sincerely,

Sharon Wright-Harris
Writer/Editor

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RECON

A Company of Specialists

October 22, 2010

Mr. Paul Woods
Director of Planning and Construction
Sweetwater Union High School District
1130 Fifth Avenue
Chula Vista, CA 91911

Reference: Otay Mesa Community Plan Update Environmental Impact Report (RECON Number 3957E)

Dear Mr Woods:

RECON is preparing a program Environmental Impact Report (EIR) for the update of the Otay Mesa Community Plan proposed by the City of San Diego. Service letters were originally sent in 2006, and we are requesting updated information based on recent changes to the plan.

The plan area covers approximately 9,300 acres in the southern portion of San Diego County. The community is bordered by the San Ysidro and Otay Mesa-Nestor communities on the west, the City of Chula Vista and the Otay Valley Regional Park on the north, the County of San Deigo on the east, and the U.S./Mexico border and the City of Tijuana on the south (Figure 1).

The proposed project is a comprehensive update of the Otay Mesa Community Plan that was adopted in 1981. The update includes modifications to the various elements of the plan to incorporate current planning policies and practices in the city of San Diego, as well as to make the plan reflective of the substantial land use changes (e.g., adopted alignment of State Route [SR-905]) that have occurred over the last 30 years.

The project would re-designate land uses to increa the number of allowed residential units and reduce the acreage for industrial uses. New land use designations are proposed to allow the establishment of industrial centers, mixed commercial and residential uses, and, where appropriate, residential uses near industrial uses.

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The proposed land use plan is shown in the attached Figure 2.

Overall, the anticipated residential uses in the plan area would provide a minimum of 18,774 single-family and multi-family dwelling units. Assuming an average occupancy of 2.74 persons per household, the projected “worst-case” population for the project would be 51,441.

RECON is requesting the following information to assist in the preparation of the draft EIR:

- Plans for new or expanded facilities.

- Verification that the following school (and any additional schools) would continue to serve the Otay Mesa Community Plan area. Please include current enrollment, capacity, and student generation rate.

SWEETWATER UNION HIGH SCHOOL DISTRICT
OTAY MESA COMMUNITY PLANNING AREA

School	Grades	Enrollment	Enrollment Capacity	Student Generation Rate (student/du)
San Ysidro High School	9-12			

- Will the Sweetwater Union High School District have sufficient staff and facilities?

I would greatly appreciate it if you could provide me with this information by **November 12, 2010**. Please feel free to contact me should you have any questions. I can be reached via email at swright@reconenvironmental.com or by phone at 520.325.9977.

Sincerely,

Sharon Wright-Harris
Writer/Editor

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San Diego, CA 92101-2358
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525 W. Wetmore Rd., Suite 111
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RECON

A Company of Specialists

October 22, 2010

Ms. Martha Blake
San Diego Police Department
1401 Broadway Avenue, MS 700-A
San Diego, CA 92101

Reference: Otay Mesa Community Plan Update Environmental Impact Report (RECON Number 3957E)

Dear Ms. Blake:

RECON is preparing a program Environmental Impact Report (EIR) for the update of the Otay Mesa Community Plan proposed by the City of San Diego. Service letters were originally sent in 2006, and we are requesting updated information based on recent changes to the plan.

The plan area covers approximately 9,300 acres in the southern portion of San Diego County. The community is bordered by the San Ysidro and Otay Mesa-Nestor communities on the west, the City of Chula Vista and the Otay Valley Regional Park on the north, the County of San Deigo on the east, and the U.S./Mexico border and the City of Tijuana on the south (Figure 1).

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The project would re-designate land uses to increa the number of allowed residential units and reduce the acreage for industrial uses. New land use designations are proposed to allow the establishment of industrial centers, mixed commercial and residential uses, and, where appropriate, residential uses near industrial uses.

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RECON is requesting the following information to assist in the preparation of the draft EIR:

- Verification that the Southern Division would continue to serve the Otay Mesa Community Plan area.
- Number of sworn police officers and non-sworn personnel assigned to the service area.
- Number of personnel assigned to the service area that would be on duty during a normal 24-hour period.
- Standard for determining officer/resident ratio and response time goals.
- Existing number of sworn personnel per 1,000 residents.
- Existing average response times for Priority I and Priority II calls (please indicate year for statistics).
- Plans for new facilities.
- Will the San Diego Police Department have sufficient staffing and facilities to meet City standards?

I would greatly appreciate it if you could provide me with this information by **November 12, 2010**. Please feel free to contact me should you have any questions. I can be reached via email at swright@reconenvironmental.com or by phone at 520.325.9977.

Sincerely,

Sharon Wright-Harris
Writer/Editor

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RECON

A Company of Specialists

October 22, 2010

Ms. Susan Fahle
Assistant Superintendent Business Services and Support
Chula Vista Elementary School District
84 East J Street
Chula Vista, CA 91910

Reference: Otay Mesa Community Plan Update Environmental Impact Report (RECON Number 3957E)

Dear Ms. Fahle:

RECON is preparing a program Environmental Impact Report (EIR) for the update of the Otay Mesa Community Plan proposed by the City of San Diego. Service letters were originally sent in 2006, and we are requesting updated information based on recent changes to the plan.

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- Plans for new or expanded facilities.

- Verification that the following school (and any additional schools) would continue to serve the Otay Mesa Community Plan area. Please include current enrollment, capacity, and student generation rate.

CHULA VISTA ELEMENTARY SCHOOL DISTRICT
OTAY MESA COMMUNITY PLANNING AREA

School	Grades	Enrollment	Enrollment Capacity	Student Generation Rate (student/du)
Juarez Lincoln Accelerated				

- Will the Chula Vista Elementary School District have sufficient staff and facilities?

I would greatly appreciate it if you could provide me with this information by **November 12, 2010**. Please feel free to contact me should you have any questions. I can be reached via email at swright@reconenvironmental.com or by phone at 520.325.9977.

Sincerely,

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RECON

A Company of Specialists

October 22, 2010

Mr. Tom Silva
Interim Assistant Superintendent
San Ysidro School District, Business Office
4350 Otay Mesa Road
San Ysidro, CA 92173

Reference: Otay Mesa Community Plan Update Environmental Impact Report (RECON Number 3957E)

Dear Mr. Silva:

RECON is preparing a program Environmental Impact Report (EIR) for the update of the Otay Mesa Community Plan proposed by the City of San Diego. Service letters were originally sent in 2006, and we are requesting updated information based on recent changes to the plan.

The plan area covers approximately 9,300 acres in the southern portion of San Diego County. The community is bordered by the San Ysidro and Otay Mesa-Nestor communities on the west, the City of Chula Vista and the Otay Valley Regional Park on the north, the County of San Deigo on the east, and the U.S./Mexico border and the City of Tijuana on the south (Figure 1).

The proposed project is a comprehensive update of the Otay Mesa Community Plan that was adopted in 1981. The update includes modifications to the various elements of the plan to incorporate current planning policies and practices in the city of San Diego, as well as to make the plan reflective of the substantial land use changes (e.g., adopted alignment of State Route [SR-905]) that have occurred over the last 30 years.

The project would re-designate land uses to increa the number of allowed residential units and reduce the acreage for industrial uses. New land use designations are proposed to allow the establishment of industrial centers, mixed commercial and residential uses, and, where appropriate, residential uses near industrial uses.

OTAY MESA COMMUNITY PLAN UPDATE
DRAFT PROJECTED BUILDOUT COMPARISON

Land Use Categories	Adopted Community Plan	Proposed Community Plan Update
Residential	1,258 ac	745 ac
Single family detached	4,800 dus	4,273 dus
Multi-family and attached	7,600 dus	14,501 dus
Residential Areas w/Village Centers	---	716 ac
Commercial	457 ac	320 ac
Industrial	2,885 ac	2,399 ac
Institutional	1,027 ac	1,163 ac
Parks/Open Space	2,594 ac	2,888 ac

SOURCE: City of San Diego Planning and Community Investment Department. July 10, 2010.
ac = acre; du = dwelling unit

The proposed land use plan is shown in the attached Figure 2.

Overall, the anticipated residential uses in the plan area would provide a minimum of 18,774 single-family and multi-family dwelling units. Assuming an average occupancy of 2.74 persons per household, the projected "worst-case" population for the project would be 51,441.

RECON is requesting the following information to assist in the preparation of the draft EIR:

- Plans for new or expanded facilities.

- Verification that the following schools (and any additional schools) would continue to serve the Otay Mesa Community Plan area. Please include current enrollment, capacity, and student generation rates.

SAN YSIDRO SCHOOL DISTRICT
OTAY MESA COMMUNITY PLANNING AREA

School	Grades	Enrollment	Enrollment Capacity	Student Generation Rate (student/du)
La Mirada Elementary School	K-5			
Ocean View Hills	K-8			
Smythe Elementary School	K-5			
Sunset Elementary School	K-5			
Willow Elementary School	K-5			
San Ysidro Middle School	6-8			
Beyer Elementary School	K-5			

- Will the San Ysidro School District have sufficient staff and facilities?

I would greatly appreciate it if you could provide me with this information by **November 12, 2010**. Please feel free to contact me should you have any questions. I can be reached via email at swright@reconenvironmental.com or by phone at 520.325.9977.

Sincerely,

Sharon Wright-Harris
Writer/Editor

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San Diego, CA 92101-2358
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RECON

A Company of Specialists

October 22, 2010

Mr. Jose Lopez
Assistant Fire Marshal
San Diego Fire-Rescue Department
1010 Second Avenue, Suite 300
San Diego, CA 92101

Reference: Otay Mesa Community Plan Update Environmental Impact Report (RECON Number 3957E)

Dear Mr. Lopez:

RECON is preparing a program Environmental Impact Report (EIR) for the update of the Otay Mesa Community Plan proposed by the City of San Diego. Service letters were originally sent in 2006, and we are requesting updated information based on recent changes to the plan.

The plan area covers approximately 9,300 acres in the southern portion of San Diego County. The community is bordered by the San Ysidro and Otay Mesa-Nestor communities on the west, the City of Chula Vista and the Otay Valley Regional Park on the north, the County of San Deigo on the east, and the U.S./Mexico border and the City of Tijuana on the south (Figure 1).

The proposed project is a comprehensive update of the Otay Mesa Community Plan that was adopted in 1981. The update includes modifications to the various elements of the plan to incorporate current planning policies and practices in the city of San Diego, as well as to make the plan reflective of the substantial land use changes (e.g., adopted alignment of State Route [SR-905]) that have occurred over the last 30 years.

The project would re-designate land uses to increa the number of allowed residential units and reduce the acreage for industrial uses. New land use designations are proposed to allow the establishment of industrial centers, mixed commercial and residential uses, and, where appropriate, residential uses near industrial uses.

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RECON is requesting the following information to assist in the preparation of the draft EIR:

- Verification that the following stations would continue to serve the Otay Mesa Community Plan area.

Station No.	Number of Firefighters	Equipment
43		
6		
30		
29		

- Plans for new Otay Mesa facility.
- Standard for determining firefighter/resident ratio and response time goals.
- Existing number of firefighters per 1,000 residents.
- Existing average response times (please indicate year for statistics).
- Will the San Diego Fire Department have sufficient staffing and facilities to meet City standards?

I would greatly appreciate it if you could provide me with this information by **November 12, 2010**. Please feel free to contact me should you have any questions. I can be reached via email at swright@reconenvironmental.com or by phone at 520.325.9977.

Sincerely,

Sharon Wright-Harris
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RECON

A Company of Specialists

October 22, 2010

Mr. Jeff Harkness
City of San Diego
Parks and Recreation Department
202 C Street, MS 5A
San Diego, CA 92101-3860

Reference: Otay Mesa Community Plan Update Environmental Impact Report (RECON Number 3957E)

Dear Mr. Harkness:

RECON is preparing a program Environmental Impact Report (EIR) for the update of the Otay Mesa Community Plan proposed by the City of San Diego. Service letters were originally sent in 2006, and we are requesting updated information based on recent changes to the plan.

The plan area covers approximately 9,300 acres in the southern portion of San Diego County. The community is bordered by the San Ysidro and Otay Mesa-Nestor communities on the west, the City of Chula Vista and the Otay Valley Regional Park on the north, the County of San Deigo on the east, and the U.S./Mexico border and the City of Tijuana on the south (Figure 1).

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Overall, the anticipated residential uses in the plan area would provide a minimum of 18,774 single-family and multi-family dwelling units. Assuming an average occupancy of 2.74 persons per household, the projected “worst-case” population for the project would be 51,441.

RECON is requesting the following information to assist in the preparation of the draft EIR:

- Whether the Quimby Act applies to this project, and if so, please identify the established standard.
- Whether the parkland in the Otay Mesa Community Plan Area meets the City’s goals for usable parkland acreage per 1,000 residents.
- Based on the proposed development, how many acres of parkland is required based on the City’s goal for usable parkland acreage per 1,000 residents? If the proposed acreage is deficient, what would the required development impact fee payment be?
- Any other planning considerations that should be discussed in the EIR.

I would greatly appreciate it if you could provide me with this information by **November 12, 2010**. Please feel free to contact me should you have any questions. I can be reached via email at swright@reconenvironmental.com or by phone at 520.325.9977.

Sincerely,

Sharon Wright-Harris
Writer/Editor

APPENDIX L

Technical Infrastructure Study

Technical Infrastructure Study

Otay Mesa
Community Plan Update

May 2013

Prepared for:
City of San Diego
1222 First Street
San Diego, California 92101

Prepared by:

ATKINS

9275 Sky Park Court, Suite 200
San Diego, California 92123
Atkins Project No.: 100008335

Leanne Hammond, P.E.
Project Manager

Contents

Appendices

Tables

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Acronyms

City	City of San Diego
d/D	depth to diameter ratio
du/gac	dwelling units per gross acre
EIR	Environmental Impact Report
FCF	flow control facilities
gpcd	gallons per capita per day
gpd/ac	gallons per day per acre
Metro	Metropolitan Sewerage System
mgd	million gallons per day
OMCP	Otay Mesa Community Plan
OMTS	Otay Mesa Trunk Sewer
OVTS	Otay Valley Trunk Sewer
District	Otay Water District
RWCWRF	Ralph W. Chapman Water Reclamation Facility
SBWRP	South Bay Water Reclamation Plant
SDCWA	San Diego County Water Authority
SDG&E	San Diego Gas & Electric
TM	technical memorandum
WRMP	Water Resources Master Plan

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1.0 Introduction

The Otay Mesa community is a dynamic and rapidly developing area that encompasses approximately 9,300 acres in the southeastern portion of the City of San Diego (City). The community is bordered by the San Ysidro and Otay Mesa-Nestor communities on the west, the City of Chula Vista and the Otay Valley Regional Park on the north, the County of San Diego on the east and the US/Mexico border and the City of Tijuana on the south. It is envisioned that Otay Mesa will be a major employment center and home to a future population of 51,329 people. The City is currently updating the Otay Mesa Community Plan (OMCP), originally adopted in 1981, and the Otay Mesa Development District Ordinance zoning regulations. The intent of the update is to establish a framework for future development that will raise the standard of expectations for Otay Mesa and meet the housing demand projected for the City. The preferred land use proposal (Project) has been presented to the community and the City is proceeding with planning elements based the proposed Project.

The updated OMCP provides a long-range, comprehensive policy framework for growth and development in Otay Mesa over the next 20 to 30 years. Guided by citywide policy direction contained within the General Plan (adopted by the City Council on March 8, 2009), the updated community plan identifies a land use strategy with new land use designation proposals to create villages, activity centers and industrial/employment centers along major transportation corridors, while strengthening cultural and business linkages to Tijuana, Mexico via the Otay Mesa Port of Entry, as well as other enhancements to the existing planning area. The OMCP is consistent with the City's General Plan and includes the following nine elements: Land Use and Community Planning; Mobility; Urban Design; Economic Prosperity; Public Facilities, Services and Safety; Recreation; Historic Preservation; Noise; and Housing.

The purpose of this technical study is to provide a summary of wet utility (water, sewer and recycled water) requirements under the Project for the development of the OMCP Update Program Environmental Impact Report (EIR). The Project is being compared to the No Project alternative to determine what additional infrastructure may be required to support the proposed changes in land use. The No Project alternative is based on currently adopted master planning documents that conform to the 1981 OMCP. The project location shown in **Figure 1**. The OMCP Planning Area falls entirely within the municipal boundary of the City and the City is responsible for sewer service for the three drainage basins within the OMCP: Valley City, City East, and City West. However, for water and recycled water service, nearly half of the OMCP is within the purview of Otay Water District (District). The District's service area encompasses the eastern portion of the OMCP and a small notch on the north side of the OMCP. The maps showing the No Project land use plan and the Project are included as **Figures 2 and 3**, respectively.

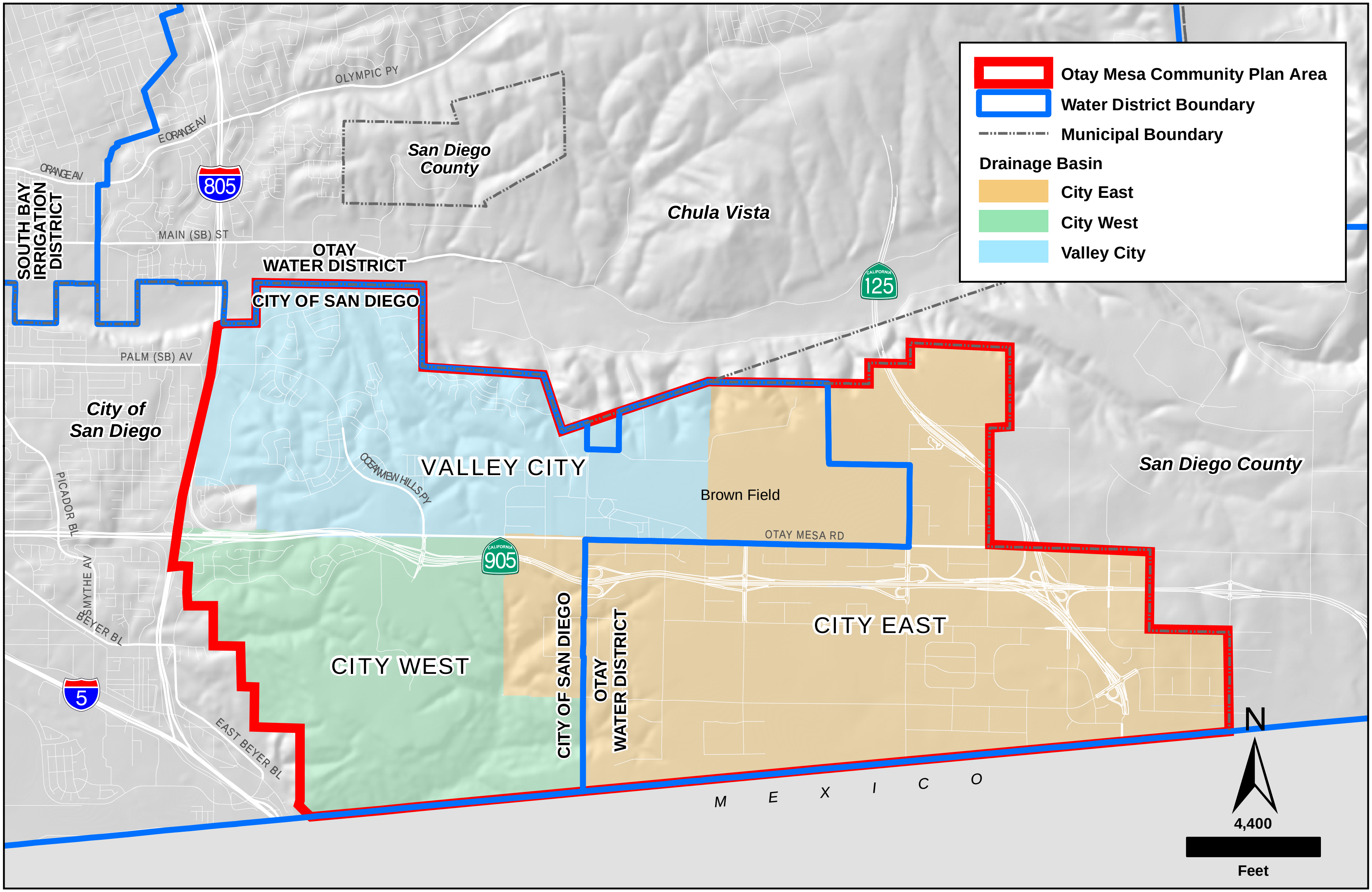
The currently adopted master planning documents for the OMCP Planning Area include:

- *1999 South San Diego-Otay Mesa Water Study*,
- *2004 Otay Mesa Trunk Sewer Master Plan and Alignment Study,*

- *2010 Otay Water District Water Resources Master Plan Update (revised 2013)*,
- *2009 Otay Mesa Trunk Sewer Refinement and Phasing Report*
- *2009 Otay Master Plan Optimization Baseline Report*

These documents and their associated certified environmental planning documents provide a benchmark for infrastructure planning in the OMCP. However, some of the design standards used in the master planning documents are out of date and the population/density assumptions have changed. So, in order to compare the Project with the No Project alternative, the infrastructure requirements for the No Project alternative had to be re-evaluated to conform to the City's current water, sewer and recycled water design guides and the current population/density assumptions, as referenced herein. Most notable, the water and sewer forecasts from the 1999 South San Diego-Otay Mesa Water Study (1999 Study) and the 2004 Otay Mesa Trunk Sewer Master Plan, respectively, were conservative and subsequently revised in more recent studies. The 2009 Otay Master Plan Optimization Baseline Report (2009 Baseline Report) revised facility improvement phasing as compared to the 1999 Study and this study recommends that as facilities are designed for future development that the City update pump station sizing capacity needs for the Princess Park and Ocean View Hills pump stations based on the revised water use noted in the 2009 Baseline Report.

This technical study identifies impacts and improvements necessary to provide potable water, recycled water, and sewer service for the OMCP Update under the No Project condition as well as the Project.



Project Location

Figure 1

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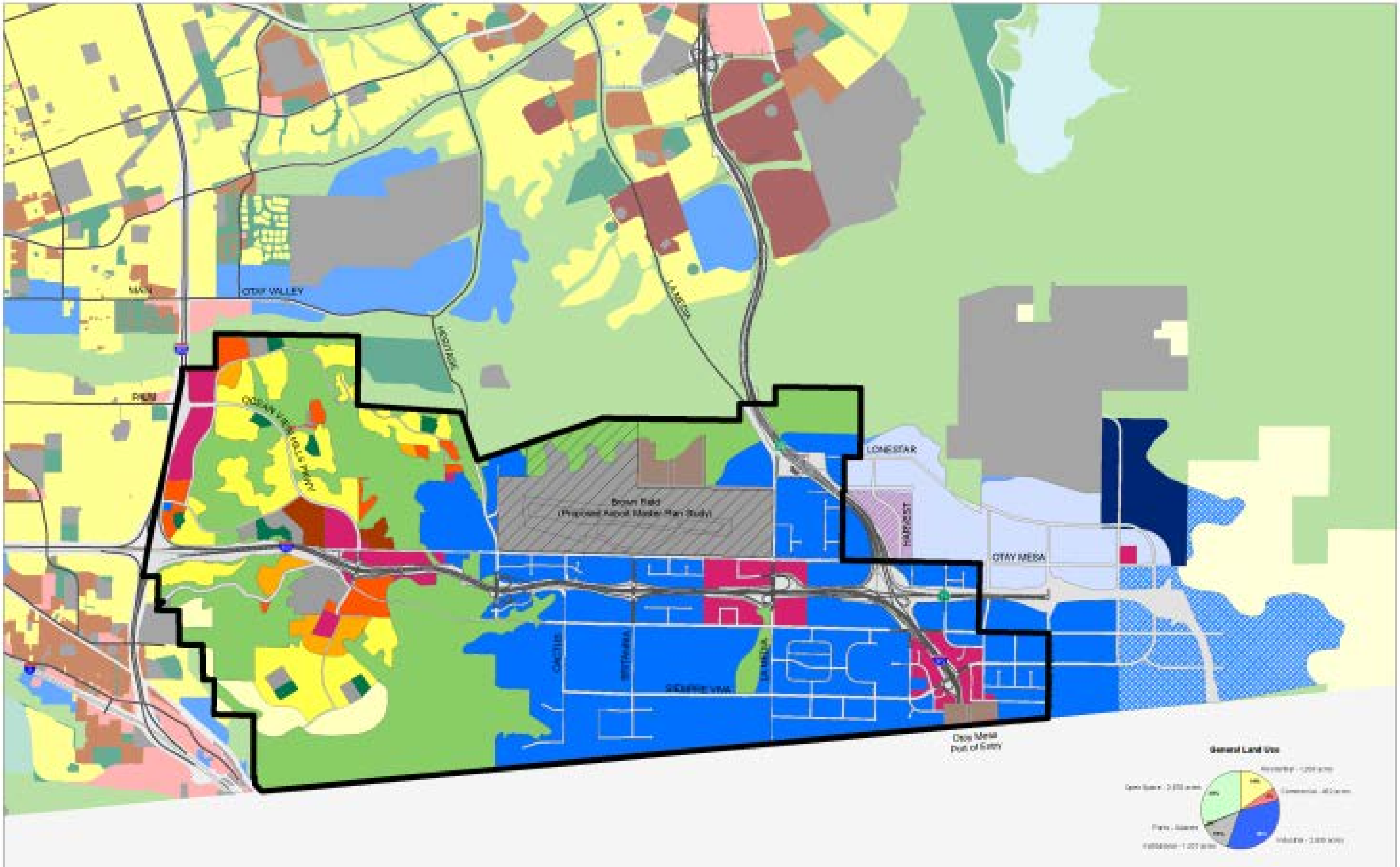
ATKINS



THE CITY OF SAN DIEGO
CITY PLANNING & COMMUNITY INVESTMENT

Otay Mesa Community Plan Update No Project Alternative

General Land Use Categories

Parks, Open Space, and Institutional
- Open Space
- Parks
- Institutional

Village Centers
- Neighborhood Village 15 - 29 du/ac
- Community Village 30 - 45 du/ac

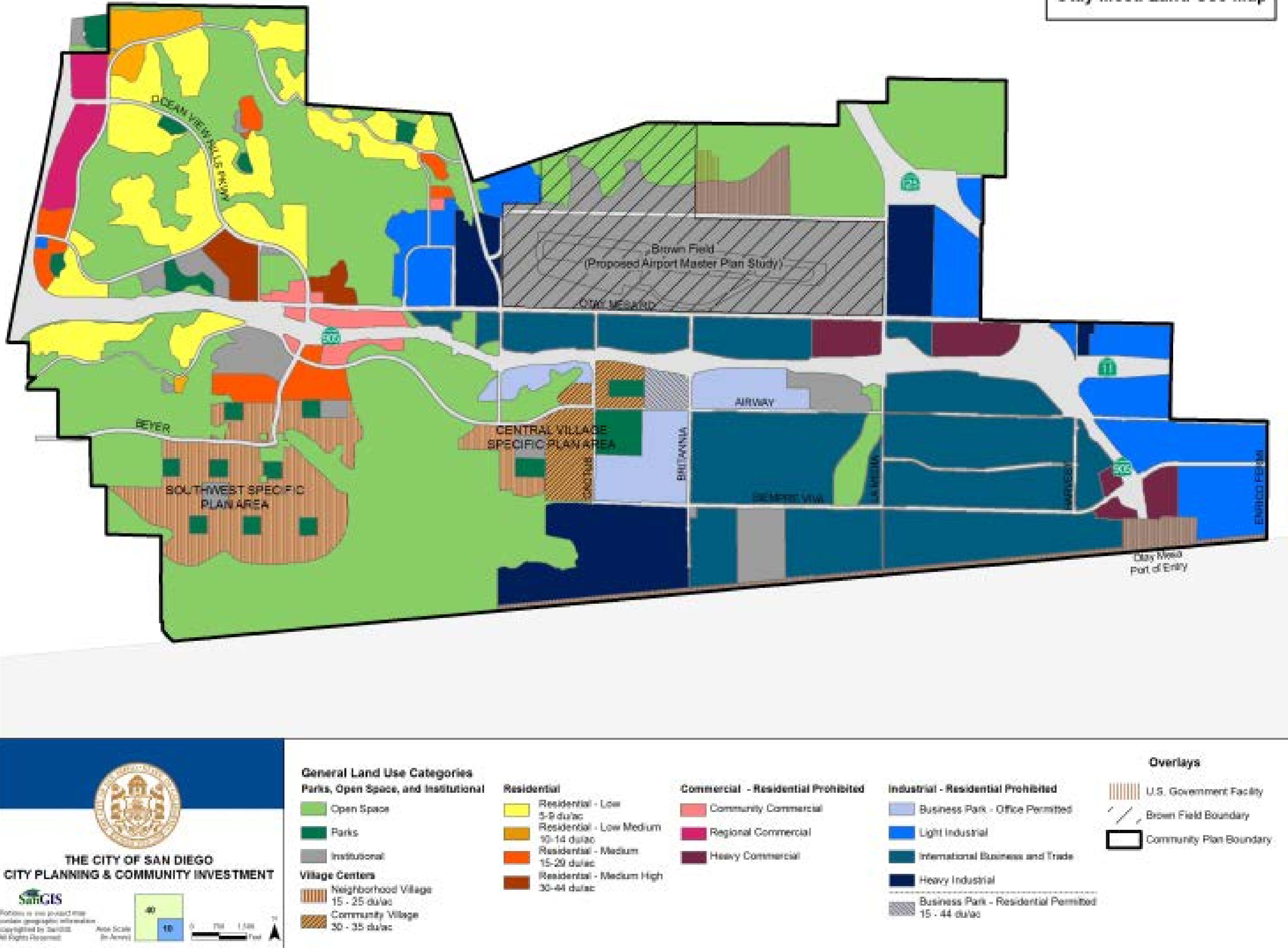
Residential
- Residential - Very Low 0-4 du/ac
- Residential - Low 5-9 du/ac
- Residential - Low Medium 10-14 du/ac
- Residential - Medium 15-29 du/ac
- Residential - Medium High 30-44 du/acre

Commercial - Residential Prohibited
- Neighborhood Commercial
- Community Commercial
- Regional Commercial
- Heavy Commercial
- Visitor Commercial
- Office Commercial - Residential Permitted

Industrial - Residential Prohibited
- Business Park - Office Permitted
- Technology Park
- Light Industrial
- International Business and Trade
- Heavy Industrial
- Business Park - Residential Permitted 15 - 60 du/ac

Overlays
- U. S. Government Facility
- Brown Field Boundary
- Community Plan Boundary

Figure 2-1
Otay Mesa Land Use Map



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2.0 Existing Infrastructure and Planning Documents

Since the adoption of the 1981 OMCP, master planning documents and improvement projects have been developed for the area. This section provides a summary of the current infrastructure within the OMCP area and the currently approved master planning documents for water, sewer, and recycled water facilities.

2.1 Existing Water Facilities and Planning Documents

Water service to the OMCP is provided by two agencies: the City serves the western portion of the planning area, and the District serves the eastern portion, generally east of Heritage Road. Both agencies are members of the San Diego County Water Authority (SDCWA), which is responsible for importing water to the San Diego region. In this southern part of the region, the SDCWA delivers both potable and raw (untreated) water via the Second San Diego County Aqueduct.

Raw water delivered via Pipeline No. 3 and locally collected water in the City's Lower Otay Reservoir are treated at the City's Otay Water Treatment Plant (WTP) and is the City's primary supply in this area.

Pipeline No. 4 delivers potable water to the District and is the District's primary supply. The District recently negotiated an agreement with Helix Water District to provide for a water supply delivery of 12 mgd on-peak, and 16 mgd off-peak. The District anticipates transitioning its use of the Helix Water District supply to more of a baseload use at delivery rates of up to its 16 mgd off-peak entitlements. The District will reduce its use of the SDCWA Pipeline No. 4 FCF connection (Otay 13 FCF), while maintaining full redundant capacity in these connections.

The following paragraphs describe both the City's and the District's existing water facilities. **Figure 4** provides a schematic of the potable water system hydraulic profile.

City Existing Water Facilities

The water treated at the 40-mgd Otay WTP is conveyed westerly via two pipelines. The 54-inch diameter Otay Third Pipeline and the 40-inch diameter Otay Second Pipeline both parallel the north side of Otay River Valley and connect to the South San Diego Reservoir. The South San Diego Reservoir is a 15 million gallon reservoir that is used as a control point for the downstream hydraulic gradeline in the South San Diego water system. This reservoir feeds the Otay Second Pipeline and the South San Diego Pipelines No. 1 and No. 2.

The South San Diego Pipelines include 6-miles of parallel 33-inch and 48-inch diameter transmission mains extending from the South San Diego Reservoir west to Interstate 805 and serves the South San Diego-Otay Mesa area. This pipeline feeds the Otay Mesa Pump Station (7,550 gpm), located off of Otay Valley Road, which pumps water to the Otay Mesa 680 Pressure Zone serving the Brown Field area of Otay Mesa. An emergency intertie with the

District is located along the south side of Otay Mesa Road, west of Heritage Road, and has a capacity of approximately 5,000 gpm.

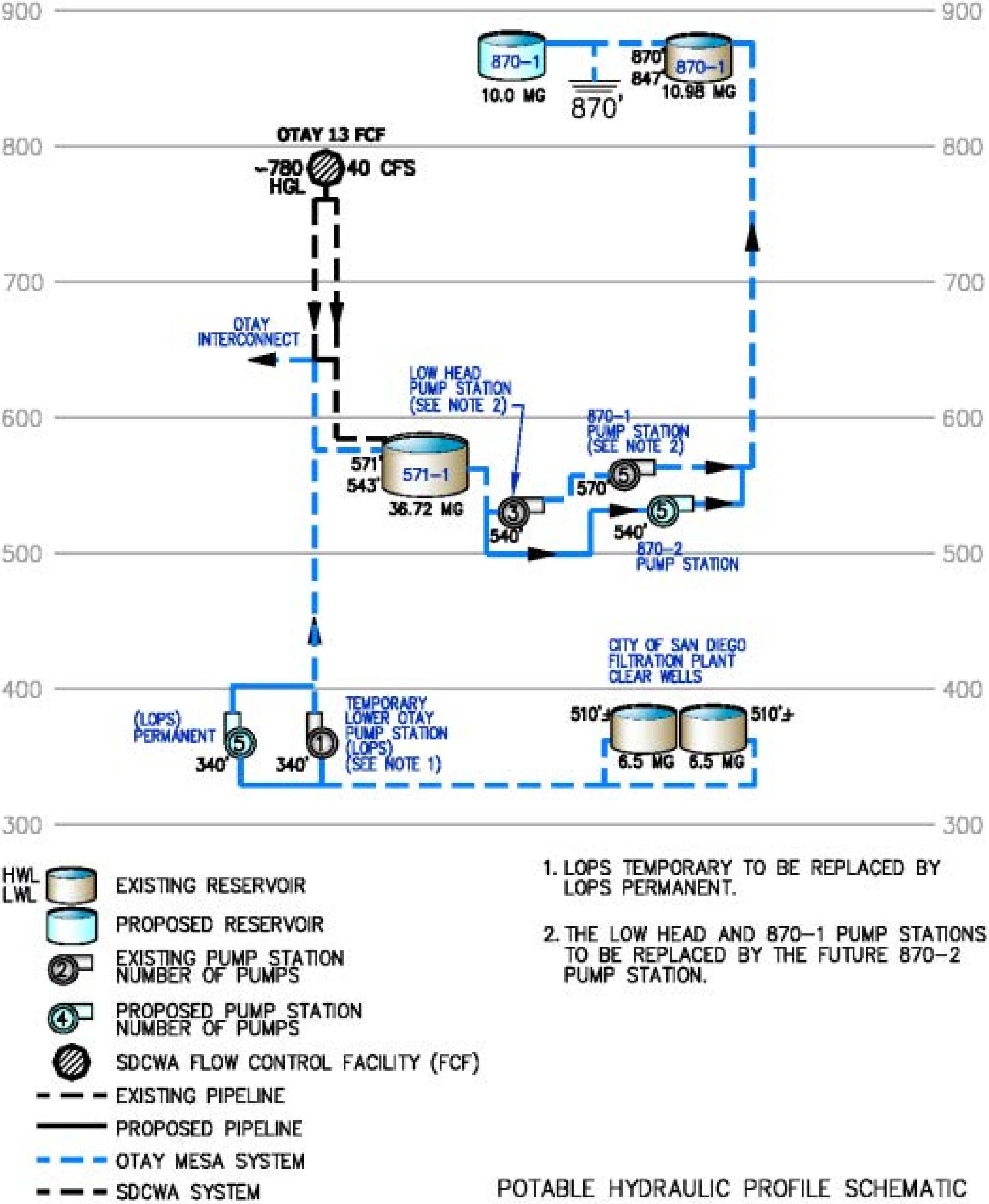
Water facilities within the 680 Zone include a 24-inch water line extending from the Otay Mesa Pump Station south in Otay Valley Road and Heritage Road to Otay Mesa Road. The 24-inch pipeline extends west in Otay Mesa Road. A 30-inch pipeline extends north from Otay Mesa Road along Ocean View Hills Parkway to the Ocean View Hills Pump Station, which, along with the Princess Park Pump Station, is also supplied by the South San Diego Pipelines. While the three pump stations all serve the Otay Mesa area, the Otay Mesa Pump Station is the primary facility because it receives water from a higher pressure zone and is more energy-efficient to operate.

In 1999, the *South San Diego-Otay Mesa Water Study* (1999 Study) was developed to provide water master planning for the region. Based on the 1994 City Water Design Guide, the study recommended two additional pump stations to serve the developing Otay Mesa area. The construction of the two pump stations has been completed: the Princess Park Pump Station provides 380 gpm of capacity to pump water from the 490 Zone west of I-805 to the Princess Park Development and the Ocean View Hills Pump Station provides 2,000 gpm of capacity to pump water from the 490 Zone along Ocean View Hills Parkway to serve the Ocean View Hills community. These pump stations were designed for future capacity upgrades as the Otay Mesa area developed. The 1999 Study also determined that no new storage would be required within the 680 Zone.

Based on projected land uses for future development, the 1999 Study estimated an ultimate average water demand of 12.68 mgd for the Otay Mesa service area and recommended a backbone piping network, ranging in size from 12-inch to 24-inch diameter pipes, within the 680 Zone.

In 2009, the City retained Optimatics to prepare the *Otay Master Plan Optimization Baseline Report (*2009 Baseline Report*)*, which reviewed the hydraulic performance of the Otay Water Treatment Plant service area in response to future (2030) demands and emergency outages. The report considered replacement of aging infrastructure in the OMCP area and recommended priority replacement or upgrade projects to address system deficiencies.

The 2009 Baseline Report used population projections from SANDAG Series 11 data to prepare potable water demand projections through 2030. For the OMCP Planning Area, the 2009 Baseline Report projected an average demand of 5.09 mgd, which is inconsistent with the 1999 Study due to changes in demand methodology and updated development projections for the area. The 2009 Baseline Report evaluated the City's facilities based on current approved land uses and the City has referred to the facility improvement recommendations when developing their CIP project list. This study will use the analysis and recommendations of the 2009 Baseline Report as the basis for the No Project condition.



1. LOPS TEMPORARY TO BE REPLACED BY LOPS PERMANENT.
2. THE LOW HEAD AND 870-1 PUMP STATIONS TO BE REPLACED BY THE FUTURE 870-2 PUMP STATION.

POTABLE HYDRAULIC PROFILE SCHEMATIC

FIGURE 4

H:\Waterres\011 SanD\100008335 OMCPU\Report Infrastr\8335-PotableSystemSchematic.dwg 5/21/13

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District Existing Water Facilities

The District receives potable water from Pipeline No. 4 of the Second San Diego County Aqueduct (Second SD Aqueduct) that are owned and operated by SDCWA. Pipeline No. 4 delivers potable water treated at the Metropolitan Skinner WTP located in Riverside County. Pipeline No. 4 is the District's primary supply system. SDCWA has multiple flow control facilities (FCFs) or connections to Pipeline No. 4 that feed into the District's water system. During normal operations, most of the District's potable demand is currently met with water from Pipeline No. 4 at FCF 13. The District anticipates transitioning its use of the Helix Water District supply to use up to 16 mgd of off-peak entitlements

There continues to be slow absorption of industrial land on Otay Mesa in the City and County of San Diego. The transmission and distribution system is fairly robust, in that many of the pipelines were originally constructed to serve large agriculture demands.

The eastern portion of Otay Mesa that lies within the District is served by the 870 Pressure Zone. Water to this area is provided from the District's 571-1 Reservoir, which has a capacity of 36.7 million gallons. The 13,400 gpm 870-1 Roll Pump Station pumps water, via parallel 30-inch transmission mains, from the 571-1 Reservoir to the 870-1 Reservoir, which has a capacity of 11 million gallons. Water is then transported via a 30-inch pipeline south in Alta Road and connects to a network of pipelines ranging in size from 30-inch to 8-inch serving development in eastern Otay Mesa.

The District's *2010 Water Resources Master Plan Update, revised 2013* (2010 WRMP) established water demand criteria within the District based on historic water demands as well as industry standard water use criteria. Based on approved land uses, represented by the No Project scenario, the area within the OMCP was assumed to be zoned primarily for industrial uses and the District used an industrial water demand factor of 893 gallons per day per acre (gpd/ac).

The 2010 WRMP was revised in 2013 to include recently approved and adopted developments. The 2010 WRMP also incorporated increased demands for the OMCP, acknowledging that the Project was the preferred alternative for the OMCP planning documents. The 2010 WRMP estimated ultimate potable demands for the OMCP Project within the District to be 4.70 mgd and recycled water demands to be 0.68 mgd.

2.2 Existing Sewer Facilities and Planning Documents

Existing sewer facilities in the study area include the Otay Mesa collection system, the Otay Valley Trunk Sewer (OVTS) system, and Metropolitan Sewerage System (Metro) facilities. The Metro facilities include the San Ysidro Interceptor, the South Metro Interceptor, and the City's wastewater treatment facilities. The proposed Otay Mesa Trunk Sewer (OMTS) collection system is planned to provide expanded sewer service to Otay Mesa to accommodate projected growth. These facilities, shown in **Figure 5**, are discussed in detail below.

Otay Mesa Sewer Collection System

Wastewater from existing development in the eastern portion of the Otay Mesa drainage basin is collected via sewer mains ranging in size from 6-inch to 33-inch and conveyed to a 30-inch main in Siempre Viva Road that flows westerly to the Pump Station 23T on Cactus Road. Existing wet weather flows from the eastern Otay Mesa Sewer Collection System averaged approximately 1.2 mgd in 2009.

Pump Station 23T has a capacity of 3.0 mgd and pumps the wastewater north in Cactus and Heritage Roads to the Otay Valley Trunk Sewer. This pump station and force main, which were installed in 1985 and funded by the Otay International Center (OIC) development under a reimbursement agreement with the City, were constructed as temporary facilities to be used until the proposed OMTS was constructed. The proposed OMTS is planned to redirect sewage collected at an upgraded Pump Station 23T east toward I-805, south of Otay Mesa Road, relieving capacity in the Otay Valley Trunk Sewer.

In 2004, the *Otay Mesa Trunk Sewer Master Plan and Alignment Study* (2004 Sewer Master Plan) was adopted by the City Council. Subsequent to the 2004 Sewer Master Plan, the *OMTS Project Refinement and Phasing Report* was prepared by Atkins (formerly PBS&J) (2009 OMTS Refinement Report). While the unit flow generation rates used in the 2004 Sewer Master Plan differ from those assumed in the 2009 OMTS Refinement Report, the ultimate projected flows from Otay Mesa are consistent with those used in City facility planning. The 2009 OMTS Refinement Report updated criteria for the phased development of a major trunk sewer system that would serve the Otay Mesa community and divert wastewater from the OVTS, which was reaching capacity.

The 2004 Sewer Master Plan used approved sewer studies for properties that were already built or had approved final or tentative maps. For undeveloped parcels, the 2004 Sewer Master Plan used an ultimate sewer flow generation rate of 5,000 gallons per day per net acre. This rate was understood to be the City's maximum density rate for industrial development, the predominant existing land use within Otay Mesa. Accommodating future sewer flows at this rate across every undeveloped parcel in Otay Mesa, however, implied huge infrastructure commitments. A compromise was reached with the City to also evaluate 1,500 gpd/ac which was representative of flows generated by similarly zoned, existing development within Otay Mesa. Planned phasing of the OMTS (designated as Phase 2 improvements) was therefore based on the buildout sewer flow of 1,500 gpd/ac, representing development of the area, under existing zoning conditions, at an average density.

The 2009 OMTS Refinement Report used existing District meter data to identify over 1,000 acres of industrial properties in City's eastern Otay Mesa area. The lot sizes served varied from less than one acre to 40 acres and water meter sizes ranged from ¾-inch to 4-inches in size. Annual water use data for these properties indicate that the average use for these properties is 800 gpd/ac. Of the 276 water meters evaluated, two thirds used less than 1,000 gpd/ac.

To calculate a sewage generation rate from water use rates, a standard average return to sewer percentage is applied. Typical return-to-sewer rates are in the range of 60 to 75 percent, depending on the extent of outdoor uses of water. In the District's service area, irrigation meters are typically separate and were not included in the evaluation. Therefore, the higher return to sewer rate is assumed for this area and the average sewer generation rate was estimated to be 75 percent of the water demand of 800 gpd/ac, or 600 gpd/ac of sewage generation for industrial development.

The 2009 OMTS Refinement Report projected average flow rates for each land use category. Light and General industrial categories were used to identify land used for warehousing and distribution and manufacturing and processing. A typical sewer generation rate for these land use type is 865 gpd/ac, based on analysis of approved land uses from the 2009 OMTS Refinement Report. It was determined that border crossing facilities of similar size to the one proposed in Otay Mesa generated approximately 580 gpd/ac of wastewater. The mixed industrial and business park areas were comparable to those areas surveyed, including warehousing and distribution, which typically produce higher flows. Consequently, unit generation rates of 1,000 gpd/ac and 1,500 gpd/ac were assumed, respectively.

For buildout conditions, the OMCP Update flows will be based on the compromised unit generation rate of 1,500 gpd/ac. However, when site specific developments occur, site specific sewer studies will be required. The site specific sewer flows will be compared to the 1,500 gpd/ac compromise unit generation rate and, if required, the phasing of the OMTS will be adjusted/updated.

The OMTS wastewater collection system, as defined in the 2004 Sewer Master Plan and the 2009 OMTS Refinement Report, is a multi-phased pump station and pipeline project that will split flows between the Otay Valley Trunk Sewer and the San Ysidro Interceptor. The proposed phased system improvements required to complete the OMTS Project are shown in **Figure 5**.

Portions of the OMTS have been constructed and include the 27-inch to 30-inch diameter gravity sewer in Siempre Viva Road. Flows conveyed in this sewer are pumped on an interim basis to the existing Otay Valley Trunk Sewer system located north of the Otay Mesa Specific Planning Area via Sewer Pump Station 23T (SPS 23T) located at Siempre Viva and Cactus Roads. A 42-inch gravity sewer in Old Otay Mesa Road has been constructed and temporarily connects to an existing 10-inch sewer main in Old Otay Mesa Road until future upgrades are constructed.

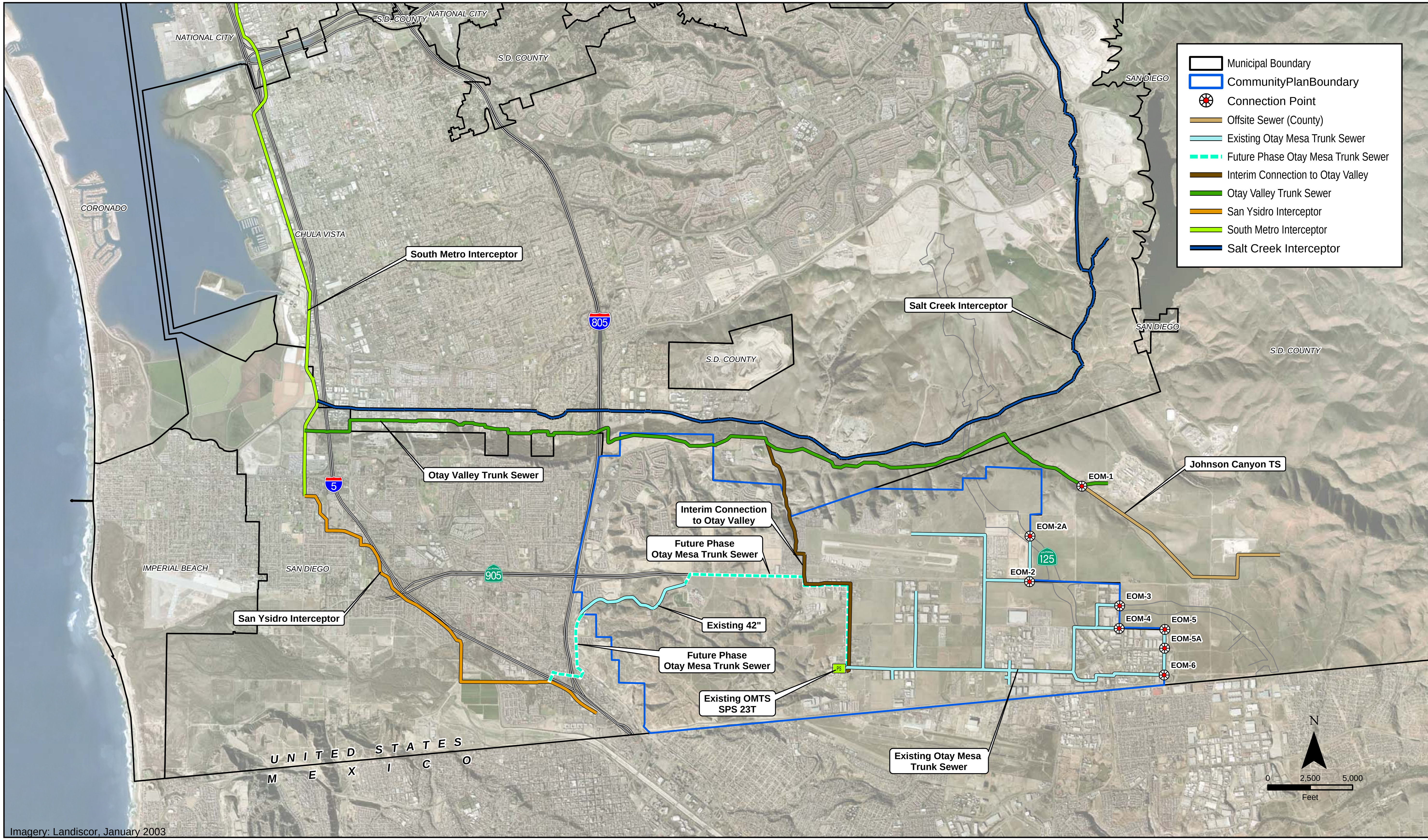
The 2009 OMTS Refinement Report determined that the existing pump station SPS 23T can be expanded and retrofitted to accommodate up to 8 mgd of flows. Phase 1 proposed to bring SPS 23T into compliance with the City's Design Guide for permanent pump stations. This involves adding emergency storage and a redundant force main. The 8,000 foot redundant force main will be a 24-inch pipeline that connects to the effluent piping manifold within the pump station and be routed north on Cactus Road, connecting to Otay Valley Trunk Sewer at Heritage Road. This pipeline will accommodate flows through 2030 and has the ability to serve the residential component of the Otay Mesa Community Plan Update Project. The pipeline will pass beneath the planned extension of SR-905, which is currently under construction and anticipated to be in place by 2015. Caltrans' design of the SR-905 across Cactus Road includes pipeline sleeves to accommodate additional force mains from SPS 23T.

The 2009 OMTS Refinement Report noted that SPS 23T is capable of pumping up to 3 mgd. By adding a single pump to this pump station and improving the electrical and control systems, the pumping capacity would be increased to 5 mgd, however, because of the Heritage Road bottleneck, the system would be limited to 4.3 mgd of capacity.

The threshold capacity of the OVTS system in Heritage Road is 4.3 mgd. By 2025, when flows from the SPS 23T approach 4 mgd, the OMTS must be operational so that flows can be diverted from the OVTS. These facilities include the diversion structure at the intersection of Otay Mesa and Heritage Roads, dual 24-inch force mains and a 24-inch gravity main that connects to the 42-inch gravity sewer that was constructed in 2005. The force main extension conveys the wastewater from the diversion structure west in Otay Mesa Road, through a low point in the road and back up to an elevation where the flow can continue by gravity. The existing 16-inch force main will continue to convey flows to the OVTS, while the new 24-inch force main extension will convey flows to OMTS via the gravity main in Otay Mesa Road, and allow the City the flexibility to divert flows from OVTS to OMTS at the diversion structure.

In order to provide full redundancy of the existing 8,000 feet of 16-inch force main, it is necessary to replace a portion of this force main with a 24-inch force main to improve the SPS 23T hydraulics and operation. Approximately, 3,600 feet of 24-inch force main is required to increase pumping capacity to 5 mgd. This also will require the installation of the fourth pumping unit.

To accommodate residential flows, the gravity main required size is a 24-inch pipeline. The continuing gravity main is routed west and then south beneath the SR-905 freeway expansion. Caltrans' design of the SR-905 in this location includes pipeline sleeves to accommodate this pipeline. Because the design of the SR-905 required significant cuts in the existing grade in this area, the gravity main is over 40 feet deep on the north side of SR-905 to match invert elevation of the connection point.



CITY OF SAN DIEGO
REGIONAL SEWER SYSTEM
FIGURE 5

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ATKINS

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The construction of a gravity main in Old Otay Mesa Road replaces an existing 10-inch pipeline that currently connects the south end of the 42-inch gravity main to the San Ysidro Interceptor Sewer collection system and will be required when flows exceed 4 mgd. This pipeline will convey flows from SPS 23T as well as flows from the City's south Otay Mesa area. In order to convey up to 12.5 mgd, the required pipeline diameter increases to a 30-inch pipeline. The connection to the San Ysidro collection system is anticipated to occur at Center Street. The existing pipelines beneath the I-805 freeway overpass in this location were determined to be sufficient to convey up to 12.5 mgd, thus no tunneling beneath the freeway and trolley tracks is required.

Phase 4 includes the addition of a new pump at the existing pump station and replacing the remaining section of 16-inch force main with a 24-inch force main to bring the total capacity of SPS 23T to 8 mgd to accommodate residential flows.

Community Facilities District

The Otay Mesa Trunk Sewer Refinement and Phasing Report recommended several sewer system upgrades in the Otay Mesa sewer basin to mitigate for capacity constraints in the near term due to contracted capacity and to meet increased flows through the year 2030. Figure 9 of this report illustrates the proposed sewer infrastructure designed to enhance pumping and conveyance capabilities from the City's Otay Mesa Sewer Pump Station 23T to the west to a connection to the existing San Ysidro Trunk Sewer. Completion of these projects would substantially complete the Otay Mesa Trunk sewer system and relieve capacity in Otay Valley. No improvements are recommended in the Otay Valley sewer system as that trunk system was built to handle build-out gravity flows.

Since the primary benefit area is development on Otay Mesa, both the County and City developers have joined forces to develop a financing option to ensure that backbone sewer facilities are constructed in a timely manner with development. As a result a task force or finance committee has been developed to work with a financial specialist and legal counsel and the City to implement an assessment district known as a CFD to collect property assessments to fund sewer system upgrades.

A CFD is a special district formed by a sponsoring local government agency for the purpose of financing the acquisition, construction, operation and maintenance of the public infrastructure benefiting the planned community. The CFD has the legal authority to levy and collect a special tax, to use that revenue to finance specified facilities and services, and to borrow money by issuing bonds or incurring debt to assist with financing the facilities.

Based on the committee's work to date approximately $20 million in future capital upgrades have been indentified and confirmed by the City through the year 2030 to serve development in both the City and County.

Otay Valley Trunk Sewer System

The existing 27-inch OVTS conveys wastewater from the Otay Valley drainage basin from as far east as the Donovan Correctional Facility, west to the City's Metro system. This trunk sewer also temporarily conveys the wastewater generated in east Otay Mesa via SPS 23T and 48T, as described in the previous paragraph. The eastern portions of the OVTS were constructed and funded under reimbursement agreements with the City. It is operated and maintained by MWWD. The 7.3 mile long gravity main extends from Heritage Road, east along Otay Valley Road to I-805 and within existing roads north of the Otay River between I-805 and its connection to the South Metro Interceptor.

Metro Facilities

The Metro serves the Greater San Diego population of 2.3 million from 16 cities and districts generating an average of 175 million gallons per day (mgd) of wastewater. The system has region-wide treatment capacity of 255 mgd, and peak wet weather flows are currently approaching the peak system hydraulic capacity of 450 mgd. The MWWD treats the wastewater generated in the 450 square mile area, which includes the South Bay and Otay Mesa areas along the U.S.-Mexico International Border. The following sewer facilities are owned and operated by MWWD and are a part of the Metro Sewer Collection System:

- *South Metro Interceptor* – Wastewater from the South Bay area is conveyed via Metro's 72-inch South Metro Interceptor north to the Metro's regional wastewater treatment facility, the Point Loma Wastewater Treatment Plant via Metro's Pump Station No. 2. The South Metro Interceptor collects wastewater from the San Ysidro Interceptor to the south, the Otay Valley Trunk Sewer to the east and a number of trunk sewers from the City of Chula Vista.

- *San Ysidro Interceptor* – Metro's San Ysidro Interceptor collects wastewater from the South Bay area, west of I-805. The upstream end of the interceptor is located west of the I-5 and I-805 merge, just north of the border crossing. The 30 to 42-inch pipeline conveys wastewater north along the west side on I-5 to its connection with the South Metro Interceptor. The Grove Avenue Pump Station intercepts a portion of the wastewater flow from the San Ysidro Interceptor and redirects "skimmed flow" south to the newly operational South Bay Water Reclamation Plant (SBWRP) via a 30-inch force main. The gravity sewer main in Old Otay Mesa Road serves the western-most portion of the OMCP and delivers wastewater flows to the San Ysidro Interceptor.

- *Point Loma Wastewater Treatment Plant* – The Point Loma Wastewater Treatment Plant is located at the tip of Point Loma on the ocean side of the entrance to San Diego Bay. It treats up to 175 mgd of wastewater from the entire Metro service area, including the South Bay and Otay Mesa drainage basins. The plant has an average treatment capacity of 240 mgd. The wastewater is treated to an advanced primary level and discharged via a deep ocean outfall. Flow from the South Bay is pumped to Point Loma via Pump Station No. 2, located on Harbor Drive near the airport.

- *South Bay Water Reclamation Plant* – The SBWRP is located at the intersection of Dairy Mart and Monument Roads in the Tijuana River Valley, adjacent to the International Boundary and Water Commission's International Wastewater Treatment Plant. The SBWRP currently accepts approximately 8 mgd of wastewater conveyed via the Grove Avenue Pump Station for treatment and reuse. The plant has a design capacity of 15 mgd and treats the wastewater to a tertiary level for reuse. Excess secondary treated recycled water is disposed of via the South Bay Land and Ocean Outfall.

2.3 Existing Recycled Water Facilities and Planning Documents

The District currently serves recycled water to customers within its Central Area System, south of the Sweetwater Reservoir and west of the Otay Lakes Reservoirs from its 1.3 mgd Ralph W. Chapman Water Reclamation Facility (RWCWRF). The District also receives recycled water from the City's SBWRP serves customers within the City, District, and County of San Diego. Recycled water from the SBWRP is used by the D A schematic of the system's hydraulic profile is provided in **Figure 6**.

To serve the District's recycled water customers, Title 22 effluent from the RWCWRF is pumped 3.4 miles to two lined and covered reservoirs, the 12-mg 927-1 (Pond No. 1) and the 16.3-mg 927-2 (Pond No. 4). The recycled water pump station at the RWCWRF consists of 5 pumps and has a total capacity of 3,500 gpm with a firm capacity of 2,600 gpm. Firm capacity is defined as the total capacity less the capacity of the largest pump in the pump station. The largest pump is designated as a standby unit that is used as the backup pump unit in the event that any other units out of service. The 3.4-mile, 14-inch diameter force main delivers recycled water to the 927-1 and 927-2 reservoirs which have high water elevations of 944 and 927 feet, respectively, and provide forebay storage for the District's recycled water system.

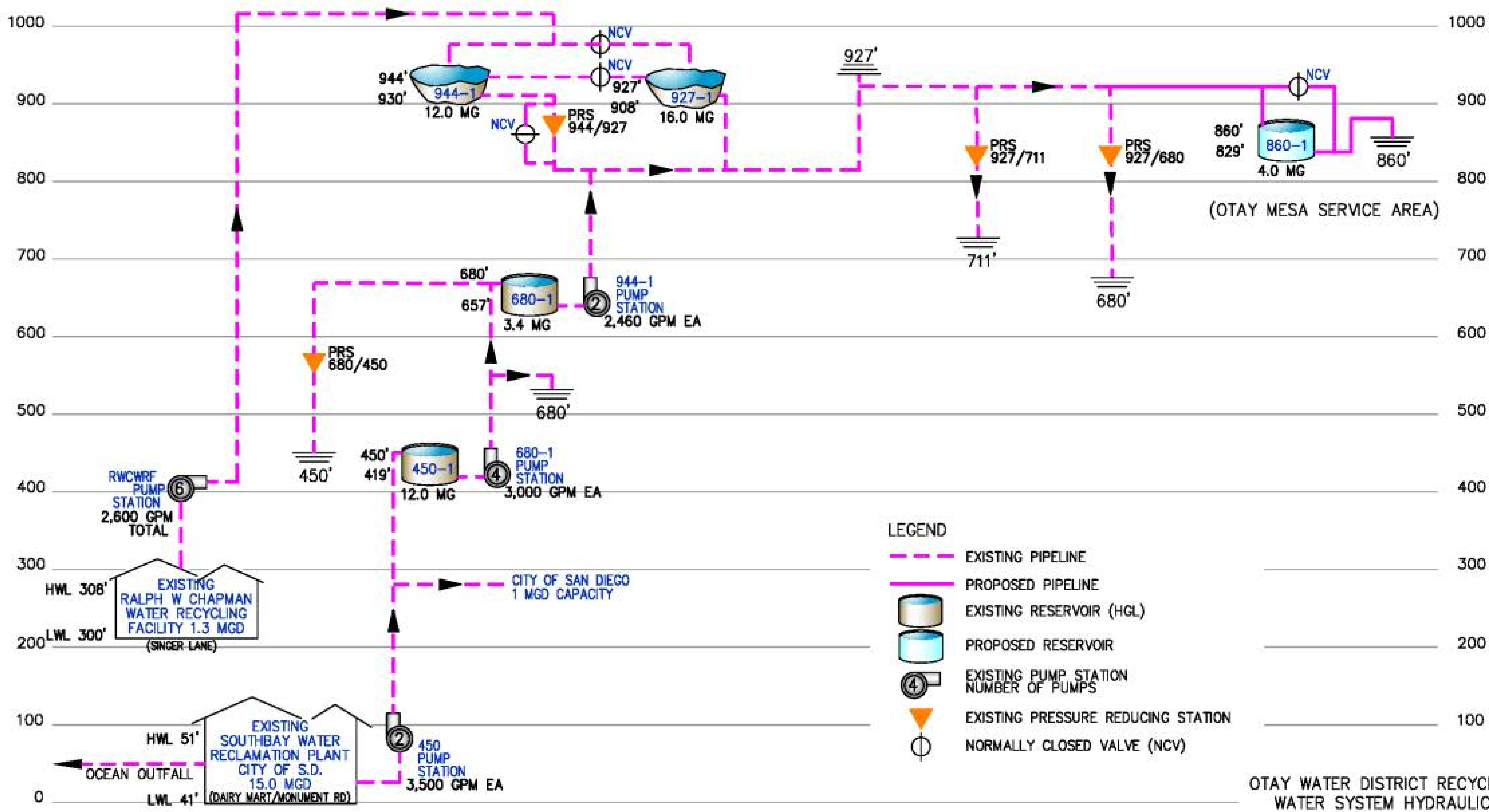
A 20-inch recycled transmission main extends south from the two reservoirs approximately 13,000 feet to Otay Lakes Road. This 20-inch main supplies the recycled water to all the existing recycled water meters connected to the recycled water system. Additional transmission mains exist in Otay Lakes Road, Telegraph Canyon Road, EastLake Parkway, Hunte Parkway, East H Street and Olympic Parkway.

In 2007, the District completed a major transmission project that allows recycled water produced at the City's SBWRP to be conveyed to and distributed within the District. The recycled water pump station at the SBWRP pumps recycled water via a 30-inch transmission main to the District's 12-mg 450-1 Reservoir. This reservoir functions primarily as a supply regulating reservoir and pump station forebay for the 680-1 Pump Station, which provides recycled water to the 680 and 927 Pressure Zones within the Central Area. The 16.5-mgd 680-1 pump station is located at the 450-1 Reservoir site and pumps recycled water via a 16-inch transmission main to the 680-1 Reservoir. The 3.4-mg 680-1 Reservoir was constructed as a dual purpose land use effort and is located beneath the basketball courts at Sunset View Park in Chula Vista. The 927-1 Pump Station, with a capacity of 10.55 mgd, conveys water from the 680 PZ to the 927

PZ, via a 16-inch transmission main. At this time, there are no plans to provide recycled water service to the OMCP Planning Area within the City.

Otay Mesa is a growing part of the District service area with significant planned industrial development, including a third Border Crossing by the Federal Government. As part of their planning, developers in Otay Mesa have anticipated that recycled water would become available and have been constructing separate recycled water distribution pipelines within the systems for over twenty years. The District's *2010 WRMP Update* plans for expansion of the recycled water into the Otay Mesa area. Based on primarily industrial land use zoning for the area and using an average annual irrigation demand factor of 2.41 acre-feet per acre per year, the District estimated a recycled water demand of 1.5 mgd. It is the intent of the District to continue to construct the system of reservoirs, pump stations, and transmission mains that will incorporate these distribution pipelines into a complete delivery system. The District anticipates a future connection to the Otay Mesa area to parallel Alta Road near the District's eastern boundary. A new 4-mg 860-1 Reservoir would be located adjacent to the County's East Mesa Detention Center. These facilities were included in the District's 2010 Capital Improvement Program. **Figure 7** shows the ultimate recycled water facilities within the District.

The City currently has no plans to expand their recycled water distribution system within Otay Mesa. The City and District have an agreement that the District will provide recycled water service in their service area, which includes a portion of San Diego. The limits of the recycled water system will be based on what is economical to construct and operate as well as recycled water production from the SBWRP.



SOURCE: OTAY WATER DISTRICT

OTAY WATER DISTRICT RECYCLED WATER SYSTEM HYDRAULIC PROFILE SCHEMATIC

FIGURE 6

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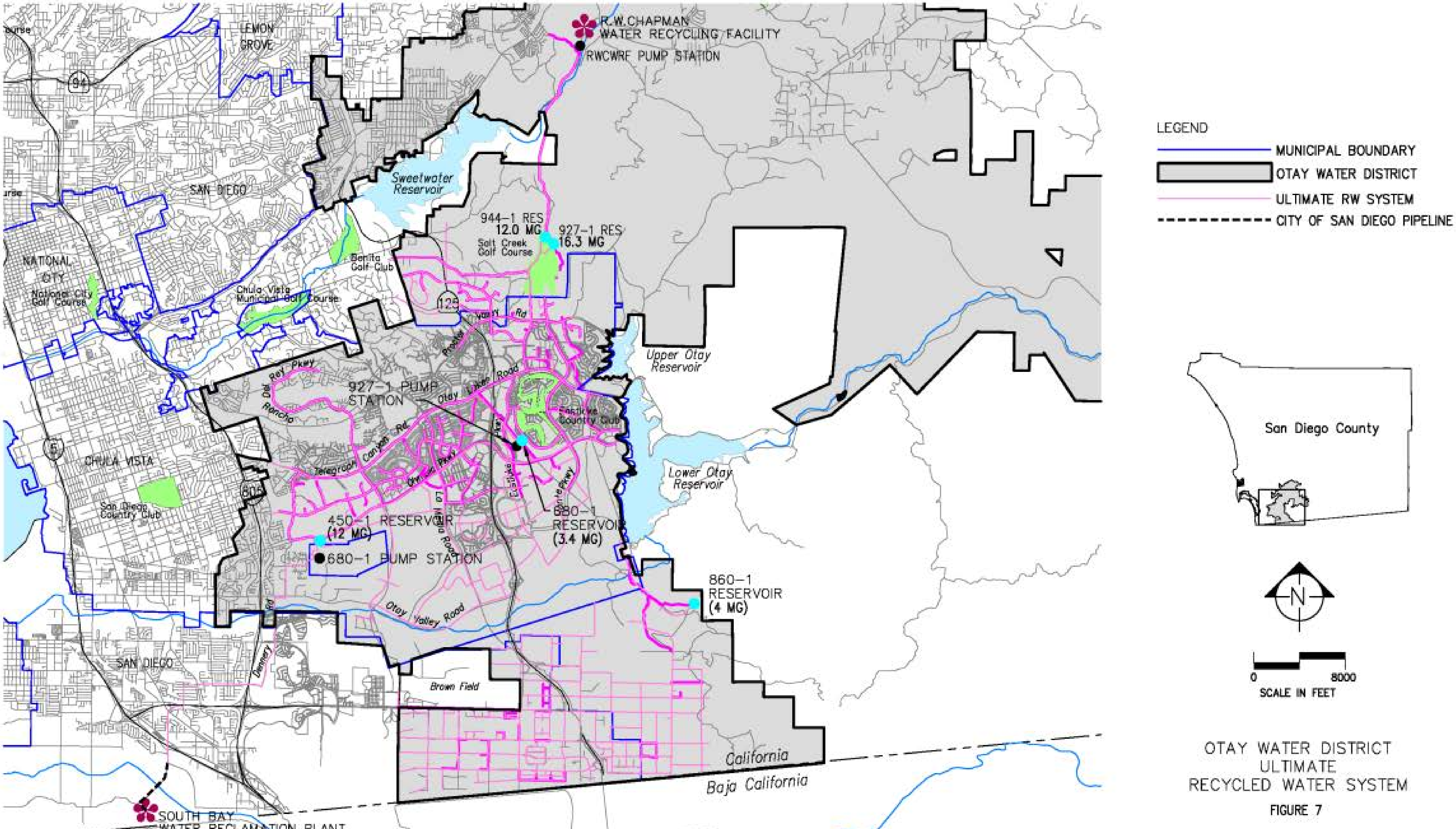

OTAY WATER DISTRICT
ULTIMATE
RECYCLED WATER SYSTEM

FIGURE 7

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3.0 Description of the Project Land Use Plan

The OMCP Update defines land use types within six major categories: Industrial; Commercial; Residential; Parks/Open Space; Institutional; and Village Centers. As shown in **Table 1**, the currently adopted Community Plan, also known as the No Project alternative, is largely comprised of industrial and park/open space land uses. The City's proposed OMCP Update Project slightly reduces the amount of proposed industrial development and increases the amount of multi-family residential development, including the addition of a mixed use Village Center development concept.

Table 1 Land Uses Associated with Proposed Alternatives

Land Use Categories	No Project	Project
Residential	1,258 ac	757 ac
Single family detached	4,800 DU	4,273 DU
Multi-family and attached	7,600 DU	14,501 DU
Residential Areas w/ Village Centers	--	726 ac
Commercial	457 ac	317 ac
International Business and Trade (IBT)	0 ac	1,310 ac
Industrial	2,885 ac	1,116 ac
Institutional	1,027 ac	1,166 ac
Parks and Open Space	2,595 ac	2,910 ac
Right-of-Way	1,098 ac	1,019 ac
Total	**9,320 ac**	**9,320 ac**

New land use designations in the Project are proposed to allow the establishment of industrial centers, mixed commercial and residential uses, and, where appropriate, residential uses near industrial uses. Modified industrial and commercial land use designations also are included that are similar to the industrial intensity found in the adopted community plan. The International Business and Trade (IBT) would be the dominant industrial land use in this scenario. Other features of the Project include:

- Increasing housing unit yield in the southwestern residential areas
- A distribution of land uses that provides sufficient capacity for a variety of uses, facilities, and services needed to serve Otay Mesa
- Distinct villages that include places to live, work and recreate
- A variety of housing types including workforce housing in close proximity to jobs
- Diversified commercial uses that serve local, community and regional needs
- Adequate institutional resources that serve the needs of the community
- A land use pattern that is compatible with existing and planned airport operations
- Border facilities that facilitate the safe and efficient movement of passengers and cargo

4.0 Development of Water Demand and Sewer Flow Projections

The OMCP falls entirely within the municipal boundary of the City and the City is responsible for sewer service to the entire area. However, for water and recycled water service, nearly half of the OMCP is within the purview of the District. This split requires the examination of planning criteria from both entities.

To project water and recycled water demands and sewer flows from new development, several types of planning criteria are typically defined: land use density criteria (dwelling units per acre); employment density criteria (employees per acre); population criteria (persons per dwelling unit); and unit flow generation criteria (gallons per person per day otherwise known as gallons per capita per day (gpcd)). In the following subsections, the City and District planning criteria are presented. Because the Project being proposed in the OMCP Update does not exactly match the land use categories defined in the City or District criteria, a methodology for applying these criteria to the OMCP is developed herein. Because the OMCP is such a large development within the City, existing adopted master planning documents are associated with it, and it lies within the boundaries of two water purveyors, standard planning criteria may not apply and local consideration is given when developing density criteria and unit water and sewer demands. These issues are examined below.

4.1 Water Planning Criteria

4.1.1 City Planning Criteria

The City Public Utilities Department has developed standard unit use factors for residential and employee designations. The unit use factors are presented in this document for the purposes of projecting water demands for the OMCP Update. The water demands for the City-served potion of the OMCP area are calculated as described below:

City Residential

Projected water demands for residential uses in the City water service portions of the OMCP will be calculated on a per person basis, using City Planning's housing projections (see below) and persons-per-household (PPH) data for Single Family Residential (SFR) and Multi-Family Residential (MFR) housing units in the OMCP area. The unit use factors represent the citywide average:

- SFR population: **150 gpd**
- MFR population: **90 gpd**

PPH data will be set using City Planning's recent survey data. As part of the OMCP plan development process, the City had Source Point conduct a survey in the existing housing stock in Otay Mesa and the Otay Ranch area to profile household sizes for both SFR and MFR units. The resulting profiles were:

- SFR PPH: **3.98**
- MFR PPH: **3.45**

City Non-Residential

Projected water demands for non-residential uses in the City water service portions of the OMCP are calculated on a unit use per employee basis. Employee counts are per City Planning's data sets. The unit use factor represents the citywide average:

- Per employee: **60 gpd**

SANDAG determined employment densities based on a regional average of employees per acre for each land use type and applied that to existing land uses and densities. City staff then utilized the employment rates provided by SANDAG to calculate the projected 2030 employment population estimates for the Project and the No Project alternative.

The OMCP Update contains land use designations that do not have associated SANDAG employment densities. City staff established density ranges for these designations as listed below:

- International Business and Trade: The International Business and Trade (IBT) land use designation combines uses permitted in both the Business Park and Light Industrial designations. The designation allows for single- and multi-tenant office, research and development, light manufacturing, and storage and distribution uses. In the Project, IBT designated lands cover a significant portion of the community, nearly 1,300 acres. The employment yield from the allowable uses varies significantly. Because there is no rate established for IBT in the Series 12 employment data, City staff established a blended rate based on the uses modeled in the traffic analysis.

    - IBT = 30 employees per acre, per City Planning analysis

- Heavy Commercial: The Heavy Commercial land use designation allows for retail sales, commercial services, office uses, and heavier commercial uses such as wholesale, distribution, storage, and vehicular sales and services.

    - Heavy Commercial = 16 employees per acre, per City Planning analysis

4.1.2 District Planning Criteria

Water use projections for the District-served portions of the OMCP area utilize the District's standard water projection methodology and unit use factors as contained in its 2009 Water Resources Master Plan (WRMP). The WRMP established unit use factors for single and multi-family residential units, industrial, institutional and commercial land uses, and park irrigation uses, as summarized below:

- Single Family Residential = **500 gpd per dwelling unit**
- Multi-Family Residential = **300 gpd per dwelling unit**
- Commercial/Office = **1,785 gpd per acre**
- Industrial = **893 gpd per acre**
- Institutional = **1,785 gpd per acre**
- Parks = **2,155 gpd per acr**e

The OMCP Update introduced a new land use designation, the IBT, which is made up of both industrial and commercial uses. As previously explained, the City determined that the IBT land use would have an employment density of 30 employees per acre. The District has requested that the City evaluate the IBT water demands within the District service area using the same methodology as the City, which applies a unit use factor to non-residential land uses of 60 gpd per employee:

- IBT = 1,800 gpd per acre

4.2 Sewer Planning Criteria

Average wastewater flow rates are estimated by multiplying the gross acreage of one or more parcels by a characteristic unit generation rate corresponding to the existing or planned land use of the parcels. Previous planning studies for Otay Mesa have used standard generation rates specified in either the County or City's design guidelines.

Wastewater flows are highly variable for different types of industrial or commercial developments. For example, the wastewater generation rate for a warehouse is typically 500 gpd/ac or less, which varies greatly from the generation rate for a manufacturing facility, which may be as high as 5,000 gpd/ac. The previous 2004 OTMS Master Plan used a design factor of 5,000 gpd/ac for industrial land use. The 2009 OMTS Refinement Report used water billing data for similar properties in the Otay Mesa area, including neighboring properties served by the County of San Diego (County), to determine more realistic sewer generation factors. A compromise was reached with the City to also evaluate 1,500 gpd/ac which was representative of flows generated by similarly zoned, existing development within Otay Mesa. Planned phasing of the OMTS (designated as Phase 2 improvements) was therefore based on the buildout sewer flow of 1,500 gpd/ac, representing development of the area, under existing zoning conditions, at an average density.

The OMCP Update sewer flows will be based on the compromised unit generation rate of 1,500 gpd/ac. However, when site specific developments occur, site specific sewer studies will be required. The site specific sewer flows will be compared to the 1,500 gpd/ac compromise unit generation rate and, if required, the phasing of the OMTS will be adjusted/updated.

For the purposes of this study, the IBT land use in the Project will be evaluated at the Industrial generation rate of 865 gpd/ac. Residential demands are based on 80 gpcd for sewer and household density factors developed by the City (3.98 PPH for SFR and 3.45 PPH for MFR).

4.3 Recycled Water Planning Criteria

The *City Water CIP Guidelines and Standards Book 7 Recycled Water* does not define typical recycled water demand factors, but typical irrigation demands in the San Diego County area range from 2.0 to 4.5 acre feet per acre per year. In their 2010 WRMP Update, the District compares recycled water demand factors used in various local studies, as well as actual data. Based on their recycled water use data from 1992 through 2002, the District estimates that the average recycled water demand for all irrigation land use categories is 2.41 acre feet per acre per year (2,155 gpd/ac), except for golf courses, which use 4.0 acre feet per acre per year. In addition, the District also defines the percentage of each land use category to be irrigated. This percentage is applied to the gross acreages of each land use category, except for street, roadway or freeway landscaping where the actual landscape irrigation area is used. The percentages are defined in **Table 2**, below.

Table 2 District Criteria for Irrigation Percentages

Land Use Category	% of Gross Acreage Irrigated
Multi-Family	15
Commercial	10
Industrial	5
IBT	10
Institutional	20
Park	100

Source: District 2010 WRMP Update

Because the District has considerable experience in planning for and serving recycled water in this part of the County, these criteria are considered to be applicable to all of the OMCP Planning Area and are used in estimating recycled water demands in this report.

It should be noted that in using the City's criteria for potable water demand, the potential for recycled water is not considered. Therefore, any estimate of recycled water should be subtracted from potential potable water estimates when considering water supply issues for the community. Except for SFR land use, the District unit water demand does not include outdoor water use, assuming recycled water will be used. The City's unit demands for water do include outdoor water use.

5.0 Projected Water and Sewer Demands

Water and sewer demand criteria, as discussed in Section 4.0, was used for comparing the impact of the OMCP Project land use plan to the No Project condition. As directed by City and District staff, the OMCP criteria has been applied across the OMCP Planning Area according to water agency jurisdiction. This provides consistent and across-the-board estimates of water demand, which are appropriate for this level of planning. These projections are shown in **Tables 3 and 4**, below.

From these tables, a comparison of the master planning documents and the updated No Project alternative can be made**.** In **Table 3**, the comparison of water demand projections shows that the No Project scenario projects a total of 8.56 mgd of water demand for the OMCP. The Project estimates 10.95 mgd of water demand, or an increase of 2.39 mgd from the No Project alternative.

In **Table 4,** the comparison of wastewater flow projections are shown similar to potable water demand projections. When compared to the No Project alternative (10.18 mgd), the Project projections of 11.22 mgd estimate an increase of 1.04 mgd in wastewater flows.

To evaluate the differences in infrastructure associated with the Project demand projections in Section 6.0, the use of the 2030 projections was assumed to be a reasonable yet conservative long-term planning approach consistent with the adopted planning documents.

As the City currently has no plans to install recycled water infrastructure within the OMCP Planning Area, it is necessary to assume that potable water will be used for irrigation uses when evaluating the potable water distribution system for the No Project and Project land uses within the City. It is reasonable to assume that potable water will be initially used for irrigation until the recycled water distribution system is built and sufficient sewer flows are available to produce adequate supplies to meet the recycled water demands. Potable water demands for the District have been reduced to account for the potable water reduction factor when using recycled water for irrigation.

Table 3 OMCP Update Projected 2030 Water Demands

	Count	Population	Unit Demand	Water Demand (mgd)
No Project				
City				
SFR	4,800 units	19,102	150 gpd/person	2.87
MFR	7,600 units	26,221	90 gpd/person	2.36
Commercial/Office	207 acres	11,112 employees	60 gpd/employee	0.67
Industrial	278 acres			
IBT	0 acres			
Institutional	982 acres			
Parks	64 acres			
City Total				**5.89**
District				
SFR	0 units	-	500 gpd/DU	0
MFR	0 units	-	255 gpd/DU	0
Commercial/Office	250 acres	-	1,607 gpd/acre	0.40
Industrial	2,607 acres	-	848 gpd/acre	2.21
IBT	0 acres	-	1,620 gpd/acre	0.00
Institutional	45 acres	-	1,428 gpd/acre	0.06
Parks	0 acres	-	0 gpd/acre	0.00
District Total				**2.67**
Total No Project				**8.56**
Project				
City				
SFR	4,273 units	17,007	150 gpd/person	2.55
MFR	9,255 units	31,930	90 gpd/person	2.87
Commercial/Office	175 acres	13,758 employees	60 gpd/employee	0.83
Industrial	239 acres			
IBT	24 acres			
Institutional	946 acres			
Parks	97 acres			
City Total				**6.25**
District				
SFR	0 units	-	500 gpd/DU	0
MFR	5,246 units	18,099	255 gpd/DU	1.34
Commercial/Office	142 acres	-	1,607 gpd/acre	0.23
Industrial	876 acres	-	848 gpd/acre	0.74
IBT	1,286 acres	-	1,620 gpd/acre	2.08
Institutional	220 acres	-	1,428 gpd/acre	0.31
Parks	61 acres	-	0 gpd/acre	0.00
District Total				**4.70**
Total Project				**10.95**

Table 4 OMCP Update Projected 2030 Wastewater Generation

	Count	Population	Unit Demand	Average Flow (mgd)
No Project				
City				
SFR	4,800 units	19,102	80 gpd/person	1.53
MFR	7,600 units	26,221	80 gpd/person	2.10
Commercial/Office	207 acres		1,500 gpd/acre	0.31
Industrial	278 acres		1,500 gpd/acre	0.42
IBT	0 acres	11,112 employees	1,500 gpd/acre	0.00
Institutional	982 acres		1,500 gpd/acre	1.47
Parks	64 acres		0 gpd/acre	0.00
City Total				5.83
District				
SFR	0 units	-	80 gpd/person	0
MFR	0 units	-	80 gpd/person	0
Commercial/Office	250 acres	-	1,500 gpd/acre	0.38
Industrial	2,607 acres	-	1,500 gpd/acre	3.91
IBT	0 acres	-	1,500 gpd/acre	0.00
Institutional	45 acres	-	1,500 gpd/acre	0.07
Parks	0 acres	-	0 gpd/acre	0.00
District Total				4.35
Total No Project				10.18
Project				
City				
SFR	4,273 units	17,007	80 gpd/person	1.36
MFR	9,255 units	31,930	80 gpd/person	2.55
Commercial/Office	175 acres		1,500 gpd/acre	0.26
Industrial	239 acres		1,500 gpd/acre	0.36
IBT	24 acres	13,758 employees	1,500 gpd/acre	0.04
Institutional	946 acres		1,500 gpd/acre	1.42
Parks	97 acres		0 gpd/acre	0.00
City Total				5.99
District				
SFR	0 units	-	80 gpd/person	0
MFR	5,246 units	18,099	80 gpd/person	1.45
Commercial/Office	142 acres	-	1,500 gpd/acre	0.21
Industrial	876 acres	-	1,500 gpd/acre	1.31
IBT	1,286 acres	-	1,500 gpd/acre	1.93
Institutional	220 acres	-	1,500 gpd/acre	0.33
Parks	61 acres	-	0 gpd/acre	0.00
District Total				5.23
Total Project				**11.22**

5.1 Recycled Water Demands

Both the City and District produce recycled water for use in the Southern San Diego area. Currently, the District operates a 1.2-mgd reclamation plant and has an agreement to purchase up to 6 mgd of recycled water from the City. The City has the capability of producing up to 15 mgd of recycled water at its South Bay Water Reclamation Facility. The District's 2010 WRMP projects recycled water use within Otay Mesa and lays out a grid system of pipelines for service to the area. The City currently has no specific plans for constructing facilities to convey recycled water to its Otay Mesa service area; however, developers in this area will be conditioned by the City to install onsite recycled water facilities. Based on discussions with City staff, it was assumed that recycled water will be conveyed to the City's service area within the District's water service boundaries via the District's recycled water facilities.

Table 5 provides a summary of irrigated acres and average day recycled water demands projected for the land use plans. The total estimated irrigated acres is 494 acres in the No Project alternative and 736 acres in the Project.

The District's 2010 WRMP included recycled water projections for the OMCP Update.

If recycled water use is assumed to be required by both the City and District in the OMCP area, the projected water demands for this area should be reduced accordingly. **Table 3** provided the projected potable water demands for the OMCP. The unit water demands used to project water demands included outdoor irrigation demands within the City service area; however, unit demands for areas within the District included accommodation for recycled water demands. If the projected water demands are reduced to accommodate for the projected recycled water demands, the required future potable water supply requirements for the OMCP could be reduced. **Table 6** provides a summary of potable water demands for each of the land use alternatives for the OMCP, assuming recycled water, not potable water, is used for outdoor irrigation demands.

As mentioned above, however, the potable water system for the City in this study was evaluated assuming that no recycled water supply was available.

Table 5 Average Day Recycled Water Demand Projection Comparison

	Gross Acreage	Percent Irrigated	Irrigated Acreage	Unit Demand	Recycled Water Demand (mgd)
No Project					
City					
SFR	1,027 acres	0%	0 acres	2,155 gpd/acre	0.00
MFR	231 acres	15%	35 acres	2,155 gpd/acre	0.07
Commercial/Office	207 acres	10%	21 acres	2,155 gpd/acre	0.04
Industrial	278 acres	5%	14 acres	2,155 gpd/acre	0.03
IBT	0 acres	10%	0 acres	2,155 gpd/acre	0.00
Institutional	982 acres	20%	196 acres	2,155 gpd/acre	0.42
Parks	64 acres	100%	64 acres	2,155 gpd/acre	0.14
City Total			**330 acres**		**0.71**
District					
SFR	0 acres	0%	0 acres	2,155 gpd/acre	0.00
MFR	0 acres	15%	0 acres	2,155 gpd/acre	0.00
Commercial/Office	250 acres	10%	25 acres	2,155 gpd/acre	0.05
Industrial	2,607 acres	5%	130 acres	2,155 gpd/acre	0.28
IBT	0 acres	10%	0 acres	2,155 gpd/acre	0.00
Institutional	45 acres	20%	9 acres	2,155 gpd/acre	0.02
Parks	0 acres	100%	0 acres	2,155 gpd/acre	0.00
District Total			**164 acres**		**0.35**
Total No Project			**494 acres**		**1.06**
Project					
City					
SFR	637 acres	0%	0 acres	2,155 gpd/acre	0.00
MFR	655 acres	15%	98 acres	2,155 gpd/acre	0.21
Commercial/Office	175 acres	10%	17 acres	2,155 gpd/acre	0.04
Industrial	239 acres	5%	12 acres	2,155 gpd/acre	0.03
IBT	24 acres	10%	2 acres	2,155 gpd/acre	0.00
Institutional	946 acres	20%	189 acres	2,155 gpd/acre	0.41
Parks	97 acres	100%	97 acres	2,155 gpd/acre	0.21
City Total			**415 acres**		**0.89**
District					
SFR	0 acres	0%	0 acres	2,155 gpd/acre	0.00
MFR	191 acres	15%	29 acres	2,155 gpd/acre	0.06
Commercial/Office	142 acres	10%	14 acres	2,155 gpd/acre	0.03
Industrial	876 acres	5%	44 acres	2,155 gpd/acre	0.09
IBT	1,286 acres	10%	129 acres	2,155 gpd/acre	0.28
Institutional	220 acres	20%	44 acres	2,155 gpd/acre	0.09
Parks	61 acres	100%	61 acres	2,155 gpd/acre	0.13
District Total			**321 acres**		**0.68**
Total Project			**671 acres**		**1.57**

Table 6 Water Demand Projection Comparison with City Recycled Water Demands Deducted

	Count	Population	Potable Water Demand (mgd)	Recycled Water Demand (mgd)	Reduced Potable Water Demand (mgd)
No Project					
City					
SFR	4,800 units	19,102	2.87	0.00	2.87
MFR	7,600 units	26,221	2.36	0.07	2.29
Commercial/Office	207 acres	11,112 employees	0.67	0.63	0.04
Industrial	278 acres				
IBT	0 acres				
Institutional	982 acres				
Parks	64 acres				
City Total					**5.20**
District					
SFR	0 units	-	N/A		0.00
MFR	0 units	-			0.00
Commercial/Office	250 acres	-			0.40
Industrial	2,607 acres	-			2.21
IBT	0 acres	-			0.00
Institutional	45 acres	-			0.06
Parks	0 acres	-			0.00
District Total					**2.67**
Total No Project					**7.87**
Project					
City					
SFR	4,273 units	17,007	2.55	0.00	2.55
MFR	9,255 units	31,930	2.87	0.21	2.66
Commercial/Office	175 acres	13,758 employees	0.83	0.69	0.14
Industrial	239 acres				
IBT	24 acres				
Institutional	946 acres				
Parks	97 acres				
City Total					**5.35**
District					
SFR	0 units	-	N/A		0.00
MFR	5,246 units	18,099			1.34
Commercial/Office	142 acres	-			0.23
Industrial	876 acres	-			0.74
IBT	1,286 acres	-			2.08
Institutional	220 acres	-			0.31
Parks	61 acres	-			0.00
District Total					**4.70**
Total Project					**10.05**

6.0 Approach to Comparison of Utilities

In order to compare the Project with the No Project alternative, master planning documents were assumed to evaluate ultimate conditions under the No Project scenario. For each utility, existing and proposed infrastructure deficiencies and improvements were noted. Any identified improvements under the No Project alternative were subsequently considered as the minimum required improvements for the assessment of the Project. The identified impacts and improvements for the Project are defined as compared to the No Project alternative, not the adopted master plan documents.

As previously noted, the potable water system was analyzed using water demands without any reduction for potential recycled water supplies since irrigation of turf areas will most likely be irrigated using potable water until the recycled water distribution system is constructed to serve the OMCP area. The recycled water distribution system was evaluated independently and compared with the anticipated improvements associated with the proposed ultimate recycled water system, as provided by the District.

6.1 Water System Analysis

Assessment of the OMCP water distribution system involved the analysis of two independent water systems: the City system and the District system.

City Potable Water System

The City's Otay Mesa service area was evaluated and reviewed in the *Otay Master Plan Optimization Baseline Report* (Baseline Report, Optimatics, May 2009). Optimatics received a SynerGEE water model from the City, which was set up to run a 24-hour extended period simulation.

As previously described, the City's Otay Mesa service area is large and does not contain any storage outside the South San Diego Reservoir and the Otay WTP clearwells. Supply to this area comes from the Otay WTP and the area is served by three pump stations and several pressure reducing stations. Pump station capacity is considered to be the total pumping capacity of the pump station with the largest pump out of service. The pump stations include:

- Otay Mesa Pump Station – (2) 695-gpm pumps, (3) 3,080-gpm pumps; 7,550 gpm capacity
- Ocean View Hills Pump Station – (2) 1,000-gpm pumps, (1) 3,000-gpm pump; 2,000 gpm capacity
- Princess Park Pump Station – (2) 380-gpm pumps, (1) 1,500-gpm pump not in service, (2) 3,100-gpm pumps not in service; 380 gpm current capacity

District Potable Water System

The District's water system model was updated in October 2008 as part of the 2008 WRMP and again in November 2010 as part of the 2010 WRMP Update. The model includes existing facilities and improvements anticipated to meet the District's ultimate water demands. The locations of the demands in the District model were grouped at just a few nodes throughout the system. The District model includes several planned water pipelines that are proposed to cross SR-125, SR-11, and SR-905 that are critical to the operation of the District water system. Based on conversations with the District, it is assumed for purposes of this analysis that these facilities will be installed prior to construction of these roadways, or sleeves will be installed when the freeways are built to allow construction of these mains to occur at a later date. The planned water distribution system, including the highway crossings, was used as the basis for evaluating the No Project condition and the Project.

For both the City and District potable water systems, the following design criteria was used as a guideline for determining potential improvement projects. However, specific recommended improvements were made based on engineering judgment to determine which pipe improvements would provide the greatest benefit to the system based on velocity, headloss per thousand feet, total headloss, location, and length of pipe.

Table 7 Potable Water Design Criteria

Criteria	Value
Maximum Velocity	15 fps
Maximum Headloss per Thousand Feet	10 feet/1000 feet
Maximum Total Headloss	15 feet
Minimum Pressure	40 psi
Maximum Pressure	150 psi

No Project Analysis

Both the City's Baseline Report and the District's 2008 WRMP included demands for the OMCP Update under the No Project alternative, which is based on currently approved land uses. The City's Baseline Report recommended the following backbone infrastructure improvements within Otay Mesa:

A. Upgrade the Otay Mesa Pump Station to 11,500 gpm to meet ultimate demands. Additional capacity may also be installed at Ocean View Hills and Princess Park Pump Stations to meet the No Project demands of the OMCP Update, or an addition 1,000 gpm pumping capacity may be added to the Otay Mesa Pump Station.

B. Install 12,380 feet of new 20-inch pipe between the South San Diego Reservoir and the Otay Mesa Pump Station or replace the 33-inch South San Diego Pipeline #1 with a new 48-inch pipe for redundancy.

C. Install 2,400 feet of new 24-inch pipe in Otay Mesa Road between Hawken Drive and Crescent Bay Drive to provide redundancy in Otay Mesa and allow the Princess Park pump station to supply the 680 PZ.

Additional developer-driven projects to improve service and provide redundancy in the Otay Mesa area are as follows:

D. Install 2,080 feet of new 16-inch pipe to provide redundant service between Otay Mesa Road and Beyer Boulevard.
E. Install 2,500 feet of new 16-inch pipe to extend service in Airway Road and provide redundancy in the 680 PZ. The City may upsize this pipe as part of the Otay Mesa Road 24-inch water main replacement project.

The identified impacts and improvements for Otay Mesa are in response to projected growth within the Otay Mesa service area as a whole and not specific to the increase in potable water demands from the OMCP Update. The identified water system improvements are shown on **Figure 8**.

In the District system, the 2008 WRMP did not identify pumping deficiencies within the OMCP area. The District has adequate pumping capacity to serve the OMCP under the No Project scenario. A 10-mg 870-2 Reservoir is recommended to be constructed to provide capacity for projected ultimate storage requirements. The proposed site for the 870-2 Reservoir is adjacent to the existing 870-1 Reservoir. Although portions of the buildout distribution system have yet to be constructed, the 2010 WRMP assumed these pipelines would be installed by developers. No upgrades to the sizes or locations of these pipelines are anticipated.

Project

The City's Baseline Report did not evaluate alternative demand scenarios for the OMCP area, such as the Project. In the District's 2010 WRMP, demands for the OMCP area were revised to include increased potable water demands from the Project.

The identified impacts and improvements for Otay Mesa under the No Project scenario are not capacity-based deficiencies. The Project will increase potable water demands in the City service area by only 0.36 mgd, which is not a significant increase to warrant transmission main upgrades. Any identified improvements under the No Project alternative are considered as the minimum required improvements for the assessment of the Project; installing an additional 750 gpm of pumping capacity at the Otay Mesa pump station would provide sufficient capacity to serve the additional demands of the OMCP.

The 2010 WRMP did not identify storage or pumping deficiencies under ultimate conditions in addition to projects identified under the No Project condition. The District has adequate storage and pumping capacity to serve the future Project demands of the OMCP. As new developments move forward, the District may require individual projects to submit detailed hydraulic studies.

6.2 Sewer System Analysis

The sewer collection system in the OMCP was analyzed in the 2009 OMTS Refinement Report using the InfoWorks computer software package (Wallingford Software, Version 4.5). InfoWorks is a dynamic modeling tool that computes the time-varying water surface profile in each reach of the modeled sewer, subject to diurnal wastewater loading and rainfall-derived inflow and infiltration. The model is capable of simulating fixed and variable speed pumps, diversions and other hydraulic structures. The OMTS model included the Otay Valley drainage basin and trunk sewer collection system, as well as the San Ysidro drainage basin and interceptor, up to the connection to the 72-inch South Metro Interceptor, as one integrated collection system. As part of the 2009 OMTS Refinement Report, the build out condition was modeled for the Otay Mesa area. Based on that model, new facilities and improvements to the existing collection system were recommended, as shown in **Figure 9**. A phased upgrade of the existing of SPS 23T was recommended so that additional capacity could be added as needed, as well as improvements necessary to meet the design guidelines for permanent pump stations. The phasing plan called for incremental capacity beginning with 4 mgd, increasing to 8 mgd at buildout capacity. It is anticipated that a new Otay Mesa sewer pump station will be required when the capacity at SPS 23T exceeds 8 mgd.

In order to evaluate the No Project and Project alternatives in this study, demand projections were compared to the projections and assumptions made in the 2004 Sewer Master Plan and 2009 OMTS Refinement Report.

No Project Analysis

The 2009 OMTS Refinement Report included sewer flows for the OMCP based on currently approved land uses, which is the basis for the No Project alternative. The 2009 OMTS Refinement Report recommended the following OMTS phased improvements:

A. Upgrade SPS 23T from temporary to permanent status by adding 0.25 mg emergency storage and upgrade pumping capacity to 4.3 mgd (8 mgd build-out).

B. Upgrade SPS 23T from temporary to permanent status by installing 8,000 feet of 24-inch force main from SPS 23T to Heritage Road.

C. Install diversion structure to split sewer flows between the OMTS and the OVTS, which gives the City more flexibility in operating the system and defers costly improvements to the San Ysidro Trunk Sewer.

D. Install 8,000 feet dual 24-inch force main along Otay Mesa Road from diversion structure to gravity sewer.

E. Replace 3,600 feet of 16-inch force main with 24-inch force main from SR-905 to diversion structure.

F. Install 2,800 feet of 20-inch gravity main along Otay Mesa Road from force main to existing 42-inch gravity main.

G. Install 5,000 feet of 24-inch gravity main from existing 42-inch gravity main to existing 24-inch San Ysidro Trunk Sewer.

In addition to the phased projects identified in the 2009 OMTS Refinement Report, two new sewer pump stations are still required to serve the Otay Mesa western area—the Bauchmann Sewer Pump Station and the South Otay Mesa Sewer Pump Station. The identified sewer system improvements are shown on **Figure 10**.

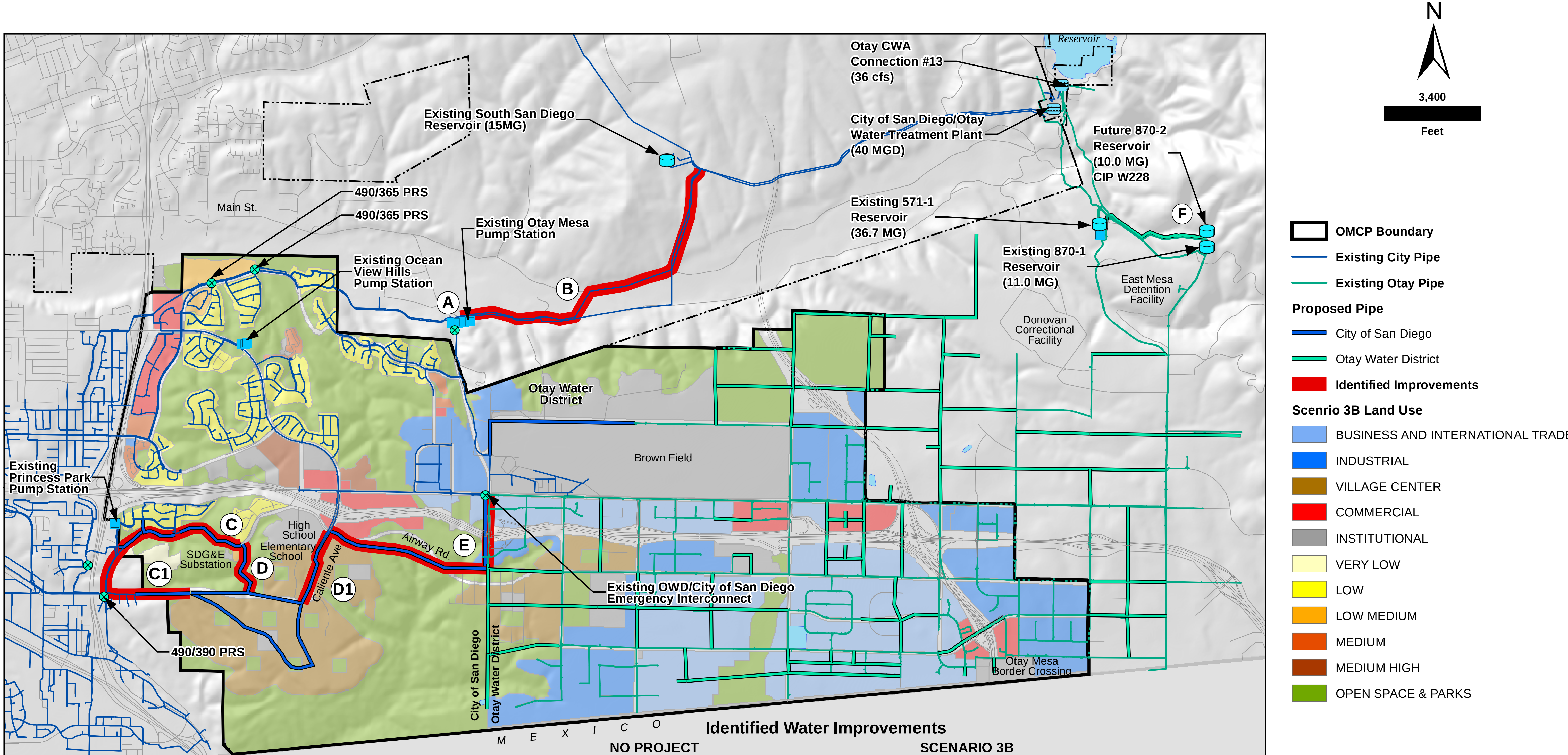
Project

The identified improvements under the No Project alternative are considered the minimum required improvements for the assessment of the Project. The increased flows from the Project will not require any additional capacity of SPS 23T beyond 8 mgd, as noted in the 2009 OMTS Refinement Report, but may alter the phased improvements for capacity at SPS 23T and build-out sizing of sewer pipelines.

3A. Increase emergency storage at SPS 23T to 0.50 mg.

3F. Upsize 20-inch to 20-inch gravity main along Otay Mesa Road from force main to existing 42-inch gravity main.

3G. Upsize 24-inch to 30-inch gravity main from existing 42-inch gravity main to existing 24-inch San Ysidro Trunk Sewer.



Identified Water Improvements

NO PROJECT

- (A) Otay Mesa Pump Station Replacement & Capacity Upgrade
- (B) South San Diego Pipeline Replacement (Parallel 20" or 48")
- (C) 24" Complete 680 PZ Loop
- (C1) Alternate 24" 680 PZ Alignment
- (D) Redundant Pipeline
- (D1) Alternate Alignment for Redundant Pipeline
- (E) Airway Road Water Service Extension (16" or 24" replacement)
- (F) Install 10-mg 870-2 District Reservoir

SCENARIO 3B

- (A) Install Additional 750 gpm Capacity at Otay Mesa Pump Station

Note: Identified improvements under the No Project alternative are considered as the minimum required improvements for the assessment of the Scenario 3B land use alternative.

Identified
Water System Improvements

Figure 8

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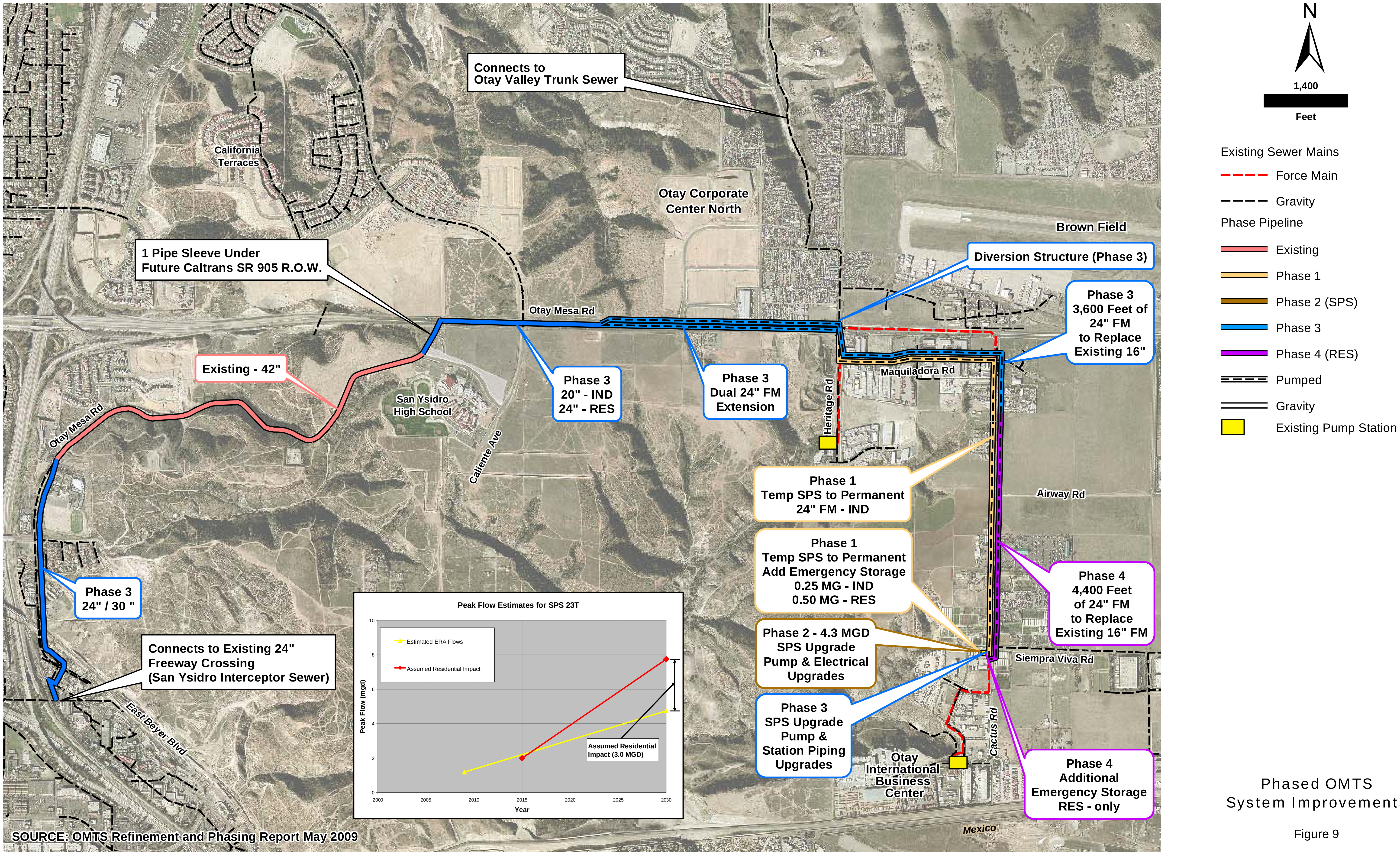

Phased OMTS
System Improvements

Figure 9

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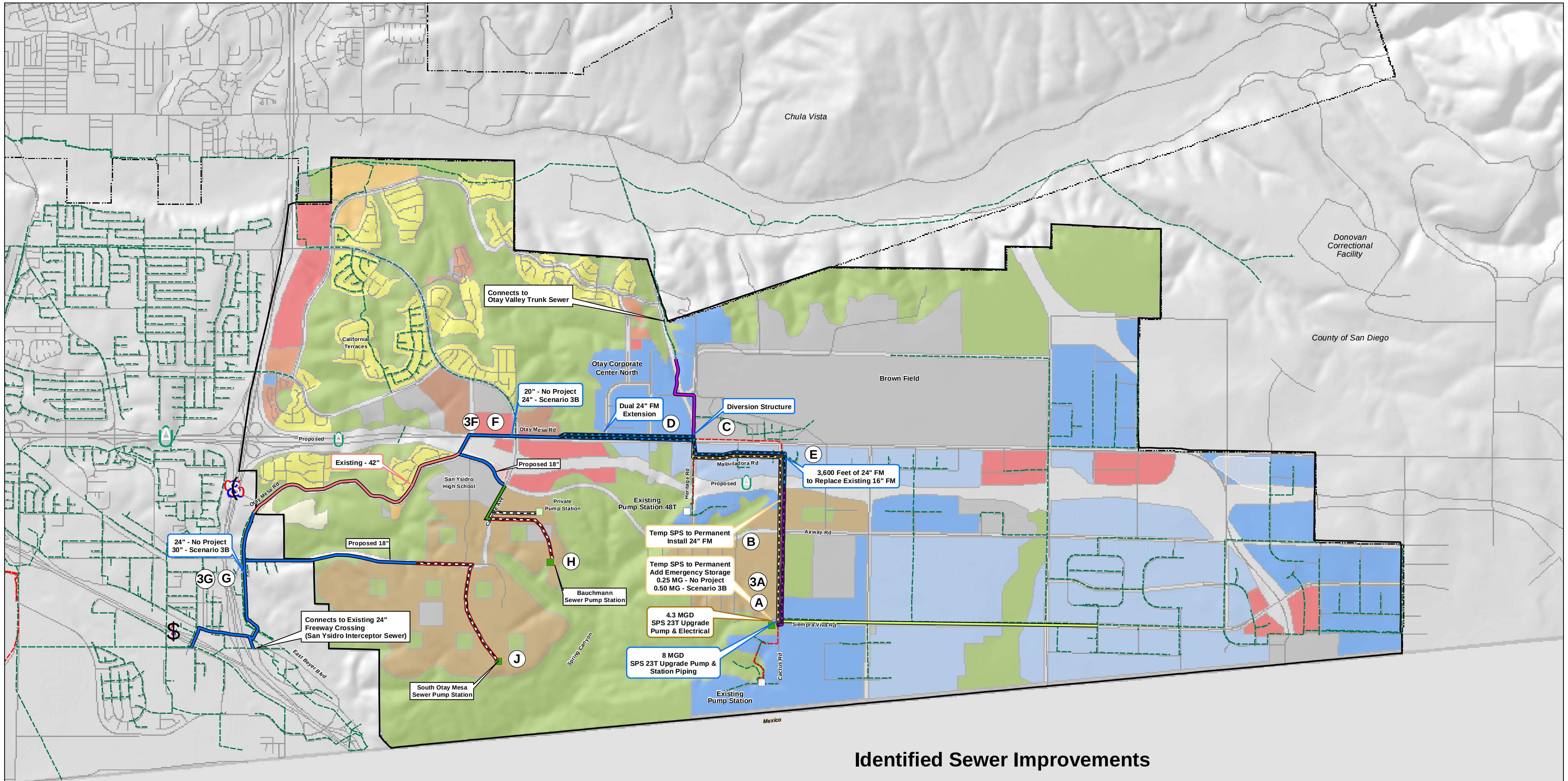

N

3,500

Feet

OMCP Boundary

Existing Gravity Main

Existing Force Main

Phase Pipeline

Existing

Phase 1

Phase 2 (SPS)

Phase 3

Phase 4 (RES)

Pumped

Gravity

Existing Pump Station

Private Pump Station

Proposed Pump Station

Scenrio 3B Land Use

BUSINESS AND INTERNATIONAL TRADE

INDUSTRIAL

VILLAGE CENTER

COMMERCIAL

INSTITUTIONAL

VERY LOW

LOW

LOW MEDIUM

MEDIUM

MEDIUM HIGH

OPEN SPACE & PARKS

Identified Sewer Improvements

NO PROJECT

- (A) Upgrade SPS 23T to permanent SPS – emergency storage & capacity
- (B) Upgrade SPS 23T to permanent SPS – 24-inch force main
- (C) Diversion Structure
- (D) Dual 24-inch force main
- (E) Replace 16-inch force main with 24-inch forcemain
- (F) Install 20-inch gravity main
- (G) Install 24-inch gravity main
- (H) Bauchmann Sewer Pump Station and Forcemain
- (J) South Otay Mesa Sewer Pump Station and Forcemain

SCENARIO 3B

- (3A) Increase SPS 23T emergency storage
- (3F) Upsize 20-inch to 24-inch
- (3G) Upsize 24-inch to 30-inch

Note: Identified improvements under the No Project alternative are considered as the minimum required improvements for the assessment of the Scenario 3B land use alternative.

Identified Sewer System Improvements

Figure 10

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6.3 Recycled Water System Analysis

Recycled water service in the OMCP is planned to be provided by the District only. Although the City produces recycled water, it has no distribution system in the western side of the OMCP that lies within its service area. Because the City has no current plans to expand their distribution system in this area, recycled water service to the western side of Otay Mesa would likely require expansion of the District recycled water system to the west along Otay Mesa Road and then north and south along Ocean View Hills Parkway. When the South Bay Plant was constructed an agreement was formed between the District and the City whereby the District would serve City customers. Reclaimed water facilities are already in place in some areas within the northwest quadrant of the OMCP area, such as along Ocean View Hills Parkway; however, there is currently no distribution system in the western side of the OMCP area. Recycled water service to the western side of Otay Mesa would likely require a connection to the District's recycled water system with a main to the west along Otay Mesa Road. An agreement between the District and the City would have to be negotiated to provide transportation of reclaimed water in the Districts facilities should capacity ever become available.

The District's recycled water system model was updated as part of the 2010 WRMP. The model includes existing facilities and improvements anticipated to meet the District's ultimate recycled water demands as projected in their 2010 WRMP. The District model also includes several planned recycled water pipelines that are proposed to cross SR-125, SR-11, and SR-905 and that are critical to the operation of the District's recycled water system. Based on conversations with the District, it is assumed for purposes of this analysis that these facilities will be installed prior to construction of these roadways, or sleeves will be installed when the freeways are built to allow construction of these mains to occur at a later date. The planned recycled water distribution system, including the highway crossings, was used as the basis for evaluating the alternatives in this study.

No Project Analysis

The District's 2008 WRMP evaluated ultimate recycled water supply, storage, and pumping conditions, which would be comparable to the No Project scenario. The OMCP is within the District's 860 Pressure Zone (PZ), which will ultimately be supplied from a new 860-1 Reservoir located near the County Prison through planned 30-inch diameter transmission mains. The new 860-1 Reservoir is recommended to serve the 860 PZ and will be supplied directly through the 927 PZ from the north. The District's current CIP includes the 4-mg 860-1 Reservoir. Although the analysis in the 2008 WRMP notes a need for approximately 2 mg of additional storage, the ultimate capacity of the 860-1 Reservoir of 4 mg is recommended due to the potential variability of recycled water use in Otay Mesa. Recycled water use has been assumed for outdoor irrigation in the 2008 WRMP; however, industrial users could potentially increase recycled water demand in this PZ with indoor, dual-plumbed facilities.

It is possible to temporarily operate the 860 PZ off the 927 PZ without use of the 860-1 Reservoir until demands in Otay Mesa increase and funding can be secured for the tank. Additional analysis may be required to determine the exact timing of the proposed reservoir.

Project

In the District's 2010 WRMP, demands for the OMCP area were revised to include increased potable water demands from the Project.

The 2010 WRMP did not identify additional storage or pumping deficiencies under ultimate conditions, beyond improvements recommended in the 2008 WRMP. The District has adequate storage and pumping capacity to serve the future Project demands of the OMCP within the District's jurisdiction. As new developments move forward, the District may require individual projects to submit detailed hydraulic studies.

7.0 Summaries and Conclusions

In this technical infrastructure study, the Project is being compared to the No Project alternative to determine what additional infrastructure may be required to support the proposed changes in land use. The No Project condition is based on currently adopted master planning documents that conform to the 1981 OMCP. These Master Plans (the *1999 South San Diego-Otay Mesa Water Study*, the *2008 District Water Resources Master Plan and 2010 Update (revised 2013)*, and the *2004 Otay Mesa Trunk Sewer Master Plan and Alignment Study and 2009 Refinement Report, and the 2009 Baseline Report*) and their associated certified environmental planning documents provide a benchmark for infrastructure planning in the OMCP area. However, some of the design standards used in the master planning documents are out of date and the population/density assumptions have been changed. So, in order to compare the Project with the No Project Condition, the infrastructure requirements for the No Project Condition were evaluated to conform to the City's current water, sewer and recycled water design guides and the current population/density assumptions.

In the previous sections, this technical study outlined the approach toward evaluating identified impacts and improvements necessary to provide water, recycled water and sewer service for the OMCP area under the No Project condition and to accommodate increased demands from the Project. The identified impacts are summarized in the following sections.

7.1 Summary of Water Improvements

The improvements associated with the water system serving the OMCP under the alternative land use scenarios, previously shown on Figure 8, are summarized in **Table 8**, below.

As shown in **Table 8**, backbone improvements are required to existing and planned water facilities to implement the No Project condition and corresponding water demands. Within the OMCP area, future development requires the construction of new pipeline to provide redundant water service to the OMCP area and complete service looping, as well as upgraded capacity at the Otay Mesa Pump Station. Prior planning studies, such as the *1999 South San Diego-Otay Mesa Water Study,* planned that all peak demands and fire flows would be provided by a combination of the three pump stations.

Within the District, no identified improvements were located within the OMCP area; however, a new reservoir will provide adequate storage to meet buildout demands.

7.2 Summary of Sewer Improvements

The improvements associated with the City's sewer system serving the OMCP area under the alternative land use scenarios, previously shown on **Figure 9**, are summarized in **Table 9,** below.

Table 8 Summary of Identified Water System Improvements

Land Use Alternative	Improvement Identification No.	Facility	Location	Description of Improvement
No Project	A	Otay Mesa Pump Station Replacement & Upgrade Capacity	Outside of the OMCP, within the City	Upgrade the Otay Mesa Pump Station to 11,500 gpm to meet ultimate demands. Additional capacity may also be installed at Ocean View Hills and Princess Park Pump Stations.
	B	33" South San Diego pipeline replacement (Parallel 20" or 48")	Outside of the OMCP, within the City	Install 12,380 feet of new 20-inch pipe between the South San Diego Reservoir and the Otay Mesa Pump Station or replace the 33-inch South San Diego Pipeline #1 with a new 48-inch pipe for redundancy.
	C	Complete 24" 680 PZ loop	Within the OMCP, within the City	Install 2,400 feet of new 24-inch pipe in Otay Mesa Road between Hawken Drive and Crescent Bay Drive to provide redundancy in Otay Mesa and allow the Princess Park pump station to supply the 680 PZ.
	C1	Alternate 680 PZ alignment	Within the OMCP, within the City	Alternate alignment to provide redundancy to 680 PZ.
	D	Redundant Pipeline	Within the OMCP, within the City	Install 2,080 feet of new 16-inch pipe to provide redundant service between Otay Mesa Road and Beyer Boulevard.
	D1	Alternate Alignment for Redundant Pipeline	Within the OMCP, within the City	Alternate alignment to provide redundancy to 680 PZ.
	E	Airway Road Water Service Extension	Within the OMCP, within the City	Install 2,500 feet of new 16" or 24" pipe in Airway Road, between Heritage Road and Caliente Avenue serve future City area to the east and provide alternative alignment for 24-inch Otay Mesa Road pipeline replacement. Timing of this project may be based on Airway Road extension. As an alternative, the area just west of Heritage Road could be served by the District.
	F	New 10-mg 870-2 Reservoir	Outside of the OMCP, within the District	Install 10-mg 870-2 Reservoir to provide capacity to satisfy projected buildout storage requirements. The proposed site for the 870-2 Reservoir is adjacent to the existing 870-1 Reservoir.
3B	3A	Otay Mesa Pump Station Upgrade Capacity	Outside of the OMCP, within the City	Add 750-gpm pump to increase capacity of pump station.

Table 9 Summary of Identified Sewer System Improvements

Land Use Alternative	Improvement Identification No.	Facility	Location	Description of Improvement
No Project	A	Upgrade SPS 23T to permanent SPS – emergency storage & capacity	Within the OMCP	Upgrade SPS 23T from temporary to permanent status by adding 0.25 mg emergency storage and upgrade pumping capacity to 4.3 mgd (8 mgd build-out).
	B	Upgrade SPS 23T to permanent SPS – 24-inch force main	Within the OMCP	Upgrade SPS 23T from temporary to permanent status by installing 8,000 feet of 24-inch force main from SPS 23T to Heritage Road.
	C	Diversion Structure	Within the OMCP	Install diversion structure to split sewer flows between the OMTS and the OVTS, which gives the City more flexibility in operating the system and defers costly improvements to the San Ysidro Trunk Sewer.
	D	Dual 24-inch force main	Within the OMCP	Install 8,000 feet dual 24-inch force main along Otay Mesa Road from diversion structure to gravity sewer.
	E	Replace 16-inch force main with 24-inch force main	Within the OMCP	Replace 3,600 feet of 16-inch force main with 24-inch force main from SR-905 to diversion structure.
	F	Install 20-inch gravity main	Within the OMCP	Install 2,800 feet 20-inch gravity main along Otay Mesa Road from force main to existing 42-inch gravity main.
	G	Install 24-inch gravity main	Outside the OMCP	Install 5,000 feet 24-inch gravity main from existing 42-inch gravity main to existing 24-inch San Ysidro Trunk Sewer.
	H	Bauchmann Sewer Pump Station and Force main	Within the OMCP	Install future pump station to accommodate new residential development.
	J	South Otay Mesa Sewer Pump Station and Force main	Within the OMCP	Install future pump station to accommodate new residential development.
3B	3A	Increase SPS 23T emergency storage	Within the OMCP	Increase emergency storage at SPS 23T to 0.50 mg.
	3F	Upsize 20-inch to 24-inch	Within the OMCP	Upsize 20-inch to 20-inch gravity main along Otay Mesa Road from force main to existing 42-inch gravity main.
	3G	Upsize 24-inch to 30-inch	Outside the OMCP	Upsize 24-inch to 30-inch gravity main from existing 42-inch gravity main to existing 24-inch San Ysidro Trunk Sewer.

These improvements are not considered significant as the 2004 OMTS Sewer Master Plan and 2009 OMTS Refinement Report identified these improvements as potentially required in future phases to accommodate build-out wastewater generation from the area.

7.3 Summary of Recycled Water Improvements

The recycled water analysis assumed that the City's recycled water demands would be served by wheeling recycled water through the District's recycled water service, delivering recycled water from the east through an extension of the District's recycled water pipeline in Otay Mesa Road. The planned facilities identified in the 2008 WRMP and 2010 WRMP are sufficient to serve the No Project and Project demands. If the City decides in the future to serve their jurisdiction without using the District's distribution system, the system should be reevaluated.

7.4 Final Conclusions

The water, sewer and recycled water distribution and collection systems are adequate, with some minor improvements identified, to serve the No Project condition and the proposed Project.

APPENDIX A

Development Summary Tables

2/17/2011

Otay Mesa Draft Scenario 3B Development Summary Table

http://www.sandiego.gov/planning/community/profiles/otaymesa/cpu/

Otay Mesa Draft Scenario 3B Summary Table					
	SF Units	MF Units	Total Units	Total Pop	Park Acres
Northwest Area	2,873	4,775	7,648	27,908	51
Southwest Village	1,400	4,480	5,880	21,028	59
Central Village	-	5,246	5,246	18,099	51
TOTAL	**4,273**	**14,501**	**18,774**	**67,035**	**161**

Land Use Categories	**Draft Scenario 3B**
Residential	757
Village Centers	721
Commercial	318
Industrial	2,432
Institutional	1,165
Parks	161
Open Space	2,752
Right of Way	1,023
	9,329
SF Detached	4,273
MF and attached	14,501
Total	18,774

ZONE	TAZ Acres	DESIGTN	Acres	Water	Area	SF Units	MF Units	HH Pop	Emp Pop
4429	506.18	INSTITUTIONAL	12.14	City	NW	-	-	-	109
4443	482.55	INSTITUTIONAL	2.54	City	NW	-	-	-	-
4460	177.94	INSTITUTIONAL	8.29	City	NW	-	-	-	8
4472	940.42	INSTITUTIONAL	773.22	City	BF	-	-	-	773
4505	142.15	INSTITUTIONAL	29.80	City	NW	-	-	-	268
4526	159.90	INSTITUTIONAL	22.82	City	SW	-	-	-	160
4546	142.90	INSTITUTIONAL	4.21	City	SW	-	-	-	-
4558	196.87	INSTITUTIONAL	0.00	City	SW	-	-	-	-
4561	469.20	INSTITUTIONAL	12.15	City	SW	-	-	-	109
4578	388.64	INSTITUTIONAL	9.58	City	SW	-	-	-	86
4608	102.71	INSTITUTIONAL	0.04	City	BF	-	-	-	-
4609	65.10	INSTITUTIONAL	60.82	City	BF	-	-	-	61
4610	74.50	INSTITUTIONAL	46.48	City	SW	-	-	-	325
4611	71.73	INSTITUTIONAL	0.02	City	SW	-	-	-	-
4460	177.94	LIGHT INDUSTRIAL	36.04	City	NW	-	-	-	778
4467	238.74	LIGHT INDUSTRIAL	0.03	City	NW	-	-	-	1
4497	170.98	LIGHT INDUSTRIAL	100.65	City	NW	-	-	-	2,172
4499	143.27	LIGHT INDUSTRIAL	2.42	City	NW	-	-	-	52
4522	68.97	LIGHT INDUSTRIAL	21.75	City	NW	-	-	-	469
4608	102.71	LIGHT INDUSTRIAL	69.40	City	BF	-	-	-	1,498
4429	506.18	LOW	157.60	City	NW	985	820	6,749	-
4443	482.55	LOW	196.05	City	NW	1,046	224	4,936	-
4467	238.74	LOW	71.26	City	NW	447	445	3,314	-
4496	102.60	LOW	4.57	City	NW	-	1,016	3,505	-
4499	143.27	LOW	37.79	City	NW	123	630	2,663	-
4505	142.15	LOW	0.46	City	NW	-	-	-	-
4517	210.41	LOW	47.79	City	NW	501	32	2,104	-
4526	159.90	LOW	0.02	City	SW	-	-	-	-
4558	196.87	LOW	40.93	City	SW	205	-	815	-
4561	469.20	LOW	120.20	City	SW	841	-	3,349	-
4578	388.64	LOW	52.24	City	SW	261	-	1,040	-
4611	71.73	LOW	2.25	City	SW	-	-	-	-
4429	506.18	LOW MEDIUM	15.43	City	NW	-	-	-	-
4467	238.74	LOW MEDIUM	5.65	City	NW	-	-	-	-
4517	210.41	LOW MEDIUM	31.11	City	NW	-	-	-	-
4558	196.87	LOW MEDIUM	29.42	City	SW	-	412	1,421	-
4561	469.20	LOW MEDIUM	0.12	City	SW	-	2	6	-
4611	71.73	LOW MEDIUM	30.33	City	SW	-	425	1,465	-
4429	506.18	MEDIUM	28.80	City	NW	-	-	-	-
4431	85.03	MEDIUM	0.46	City	NW	-	-	-	-
4443	482.55	MEDIUM	13.10	City	NW	-	-	-	-
4464	83.75	MEDIUM	0.30	City	NW	-	-	-	-
4467	238.74	MEDIUM	13.34	City	NW	-	-	-	-
4496	102.60	MEDIUM	11.02	City	NW	-	-	-	-
4499	143.27	MEDIUM	30.12	City	NW	-	-	-	-
4520	52.10	MEDIUM	0.91	City	NW	-	-	-	-
4526	159.90	MEDIUM	56.93	City	SW	-	1,651	5,695	-
4546	142.90	MEDIUM	2.49	City	SW	-	72	249	-
4558	196.87	MEDIUM	0.01	City	SW	-	0	0	-
4608	102.71	MEDIUM	4.68	City	BF	-	145	500	-
4610	74.50	MEDIUM	0.14	City	SW	-	-	-	-
4496	102.60	MEDIUM HIGH	23.02	City	NW	-	-	-	-
4505	142.15	MEDIUM HIGH	45.03	City	NW	-	1,578	5,444	-
4511	42.49	MEDIUM HIGH	0.21	City	NW	-	-	-	-
4429	506.18	OPEN SPACE	165.41	City	NW	-	-	-	-
4431	85.03	OPEN SPACE	0.00	City	NW	-	-	-	-
4443	482.55	OPEN SPACE	253.18	City	NW	-	-	-	-
4460	177.94	OPEN SPACE	30.34	City	NW	-	-	-	-
4467	238.74	OPEN SPACE	130.78	City	NW	-	-	-	-
4472	940.42	OPEN SPACE	155.69	City	BF	-	-	-	-
4496	102.60	OPEN SPACE	58.22	City	NW	-	-	-	-
4497	170.98	OPEN SPACE	68.04	City	NW	-	-	-	-
4499	143.27	OPEN SPACE	24.27	City	NW	-	-	-	-

ZONE	TAZ Acres	DESIGTN	Acres	Water	Area	SF Units	MF Units	HH Pop	Emp Pop
4505	142.15	OPEN SPACE	23.44	City	NW	-	-	-	-
4517	210.41	OPEN SPACE	59.64	City	NW	-	-	-	-
4520	52.10	OPEN SPACE	0.28	City	NW	-	-	-	-
4520	52.10	OPEN SPACE	0.00	City	NW	-	-	-	-
4521	38.42	OPEN SPACE	4.49	City	NW	-	-	-	-
4522	68.97	OPEN SPACE	23.97	City	NW	-	-	-	-
4526	159.90	OPEN SPACE	47.08	City	SW	-	-	-	-
4546	142.90	OPEN SPACE	100.39	City	SW	-	-	-	-
4558	196.87	OPEN SPACE	110.81	City	SW	-	-	-	-
4561	469.20	OPEN SPACE	230.51	City	SW	-	-	-	-
4578	388.64	OPEN SPACE	246.65	City	SW	-	-	-	-
4608	102.71	OPEN SPACE	12.90	City	BF	-	-	-	-
4610	74.50	OPEN SPACE	24.14	City	SW	-	-	-	-
4611	71.73	OPEN SPACE	36.19	City	SW	-	-	-	-
4429	506.18	PARKS	13.03	City	NW	-	-	-	26
4443	482.55	PARKS	6.78	City	NW	-	-	-	14
4467	238.74	PARKS	7.97	City	NW	-	-	-	16
4499	143.27	PARKS	4.95	City	NW	-	-	-	10
4505	142.15	PARKS	15.11	City	NW	-	-	-	30
4561	469.20	PARKS	8.21	City	SW	-	-	-	16
4578	388.64	PARKS	7.80	City	SW	-	-	-	16
4431	85.03	REGIONAL COMMERCIAL - NO RESIDENTIAL	30.62	City	NW	-	-	-	980
4464	83.75	REGIONAL COMMERCIAL - NO RESIDENTIAL	57.79	City	NW	-	-	-	1,849
4467	238.74	REGIONAL COMMERCIAL - NO RESIDENTIAL	0.24	City	NW	-	-	-	8
4496	102.60	REGIONAL COMMERCIAL - NO RESIDENTIAL	1.87	City	NW	-	-	-	60
4497	170.98	REGIONAL COMMERCIAL - NO RESIDENTIAL	0.00	City	NW	-	-	-	0
4499	143.27	REGIONAL COMMERCIAL - NO RESIDENTIAL	0.01	City	NW	-	-	-	0
4511	42.49	REGIONAL COMMERCIAL - NO RESIDENTIAL	38.37	City	NW	-	-	-	280
4520	52.10	REGIONAL COMMERCIAL - NO RESIDENTIAL	25.27	City	NW	-	-	-	184
4520	52.10	REGIONAL COMMERCIAL - NO RESIDENTIAL	0.00	City	NW	-	-	-	0
4520	52.10	REGIONAL COMMERCIAL - NO RESIDENTIAL	0.01	City	NW	-	-	-	0
4521	38.42	REGIONAL COMMERCIAL - NO RESIDENTIAL	21.95	City	NW	-	-	-	160
4522	68.97	REGIONAL COMMERCIAL - NO RESIDENTIAL	2.95	City	NW	-	-	-	22
4526	159.90	REGIONAL COMMERCIAL - NO RESIDENTIAL	3.84	City	SW	-	-	-	28
4558	196.87	REGIONAL COMMERCIAL - NO RESIDENTIAL	13.85	City	SW	-	-	-	443
4608	102.71	REGIONAL COMMERCIAL - NO RESIDENTIAL	2.55	City	BF	-	-	-	19
4611	71.73	REGIONAL COMMERCIAL - NO RESIDENTIAL	2.51	City	SW	-	-	-	80
4429	506.18	RIGHT-OF-WAY	23.47	City	NW	-	-	-	-
4431	85.03	RIGHT-OF-WAY	9.28	City	NW	-	-	-	-
4443	482.55	RIGHT-OF-WAY	10.89	City	NW	-	-	-	-
4460	177.94	RIGHT-OF-WAY	2.62	City	NW	-	-	-	-
4464	83.75	RIGHT-OF-WAY	23.54	City	NW	-	-	-	-
4467	238.74	RIGHT-OF-WAY	9.46	City	NW	-	-	-	-
4472	940.42	RIGHT-OF-WAY	11.15	City	BF	-	-	-	-
4496	102.60	RIGHT-OF-WAY	3.89	City	NW	-	-	-	-
4497	170.98	RIGHT-OF-WAY	2.29	City	NW	-	-	-	-
4499	143.27	RIGHT-OF-WAY	43.67	City	NW	-	-	-	-
4505	142.15	RIGHT-OF-WAY	28.32	City	NW	-	-	-	-
4507	187.56	RIGHT-OF-WAY	1.18	City	NW	-	-	-	-
4511	42.49	RIGHT-OF-WAY	3.91	City	NW	-	-	-	-
4517	210.41	RIGHT-OF-WAY	71.07	City	NW	-	-	-	-
4520	52.10	RIGHT-OF-WAY	25.62	City	NW	-	-	-	-
4520	52.10	RIGHT-OF-WAY	0.01	City	NW	-	-	-	-
4521	38.42	RIGHT-OF-WAY	11.99	City	NW	-	-	-	-
4522	68.97	RIGHT-OF-WAY	20.31	City	NW	-	-	-	-
4526	159.90	RIGHT-OF-WAY	29.20	City	SW	-	-	-	-
4546	142.90	RIGHT-OF-WAY	6.15	City	SW	-	-	-	-
4558	196.87	RIGHT-OF-WAY	1.69	City	SW	-	-	-	-
4561	469.20	RIGHT-OF-WAY	2.60	City	SW	-	-	-	-
4578	388.64	RIGHT-OF-WAY	1.95	City	SW	-	-	-	-
4608	102.71	RIGHT-OF-WAY	13.15	City	BF	-	-	-	-
4609	65.10	RIGHT-OF-WAY	4.29	City	BF	-	-	-	-
4610	74.50	RIGHT-OF-WAY	3.74	City	SW	-	-	-	-

ZONE	TAZ Acres	DESIGTN	Acres	Water	Area	SF Units	MF Units	HH Pop	Emp Pop
4611	71.73	RIGHT-OF-WAY	0.42	City	SW	-	-	-	-
4546	142.90	VERY LOW	29.54	City	SW	59	-	235	-
4558	196.87	VERY LOW	0.16	City	SW	-	-	-	-
4561	469.20	VERY LOW	95.21	City	SW	190	-	758	-
4578	388.64	VERY LOW	70.42	City	SW	141	-	561	-
4463	184.29	INSTITUTIONAL	7.33	OWD		-	-	-	7
4580	68.50	INSTITUTIONAL	27.64	OWD		-	-	-	1,327
4581	111.66	INSTITUTIONAL	0.00	OWD		-	-	-	-
4584	53.22	INSTITUTIONAL	0.00	OWD		-	-	-	-
4606	3.65	INSTITUTIONAL	3.65	OWD		-	-	-	175
4607	6.68	INSTITUTIONAL	6.68	OWD		-	-	-	321
4450	200.79	LIGHT INDUSTRIAL	52.36	OWD		-	-	-	1,130
4463	184.29	LIGHT INDUSTRIAL	60.81	OWD		-	-	-	1,313
4479	303.37	LIGHT INDUSTRIAL	172.80	OWD		-	-	-	3,730
4524	82.25	LIGHT INDUSTRIAL	53.63	OWD		-	-	-	1,158
4525	80.01	LIGHT INDUSTRIAL	56.58	OWD		-	-	-	1,221
4527	80.39	LIGHT INDUSTRIAL	58.98	OWD		-	-	-	1,273
4528	82.36	LIGHT INDUSTRIAL	0.20	OWD		-	-	-	4
4529	40.49	LIGHT INDUSTRIAL	0.08	OWD		-	-	-	2
4530	96.52	LIGHT INDUSTRIAL	49.51	OWD		-	-	-	1,069
4531	106.32	LIGHT INDUSTRIAL	59.26	OWD		-	-	-	1,279
4532	79.52	LIGHT INDUSTRIAL	56.62	OWD		-	-	-	1,222
4545	157.54	LIGHT INDUSTRIAL	45.16	OWD		-	-	-	975
4547	80.41	LIGHT INDUSTRIAL	64.47	OWD		-	-	-	1,392
4548	80.95	LIGHT INDUSTRIAL	60.98	OWD		-	-	-	1,316
4549	79.02	LIGHT INDUSTRIAL	0.00	OWD		-	-	-	0
4550	39.86	LIGHT INDUSTRIAL	0.01	OWD		-	-	-	0
4551	121.73	LIGHT INDUSTRIAL	76.64	OWD		-	-	-	1,654
4560	316.66	LIGHT INDUSTRIAL	162.83	OWD		-	-	-	3,515
4562	160.88	LIGHT INDUSTRIAL	151.35	OWD		-	-	-	3,267
4563	162.24	LIGHT INDUSTRIAL	155.48	OWD		-	-	-	3,356
4564	161.45	LIGHT INDUSTRIAL	112.74	OWD		-	-	-	2,433
4565	177.81	LIGHT INDUSTRIAL	149.10	OWD		-	-	-	3,218
4566	144.46	LIGHT INDUSTRIAL	128.42	OWD		-	-	-	2,772
4567	55.77	LIGHT INDUSTRIAL	6.45	OWD		-	-	-	139
4569	68.58	LIGHT INDUSTRIAL	13.96	OWD		-	-	-	301
4570	69.39	LIGHT INDUSTRIAL	56.01	OWD		-	-	-	1,209
4580	68.50	LIGHT INDUSTRIAL	0.54	OWD		-	-	-	12
4581	111.66	LIGHT INDUSTRIAL	94.08	OWD		-	-	-	2,031
4584	53.22	LIGHT INDUSTRIAL	28.49	OWD		-	-	-	615
4586	370.62	LIGHT INDUSTRIAL	110.09	OWD		-	-	-	2,376
4587	159.34	LIGHT INDUSTRIAL	147.05	OWD		-	-	-	3,174
4588	140.96	LIGHT INDUSTRIAL	132.13	OWD		-	-	-	2,852
4589	124.27	LIGHT INDUSTRIAL	119.67	OWD		-	-	-	2,583
4590	192.94	LIGHT INDUSTRIAL	170.98	OWD		-	-	-	3,690
4607	6.68	LIGHT INDUSTRIAL	0.00	OWD		-	-	-	0
4450	200.79	OPEN SPACE	133.65	OWD		-	-	-	-
4463	184.29	OPEN SPACE	87.31	OWD		-	-	-	-
4545	157.54	OPEN SPACE	90.62	OWD		-	-	-	-
4549	79.02	OPEN SPACE	6.27	OWD		-	-	-	-
4560	316.66	OPEN SPACE	146.80	OWD		-	-	-	-
4564	161.45	OPEN SPACE	41.68	OWD		-	-	-	-
4586	370.62	OPEN SPACE	254.63	OWD		-	-	-	-
4592	74.73	OPEN SPACE	0.01	OWD		-	-	-	-
4602	52.83	OPEN SPACE	0.26	OWD		-	-	-	-
4528	82.36	REGIONAL COMMERCIAL - NO RESIDENTIAL	59.47	OWD		-	-	-	434
4529	40.49	REGIONAL COMMERCIAL - NO RESIDENTIAL	17.25	OWD		-	-	-	126
4530	96.52	REGIONAL COMMERCIAL - NO RESIDENTIAL	0.00	OWD		-	-	-	0
4545	157.54	REGIONAL COMMERCIAL - NO RESIDENTIAL	0.27	OWD		-	-	-	9
4548	80.95	REGIONAL COMMERCIAL - NO RESIDENTIAL	0.00	OWD		-	-	-	0
4549	79.02	REGIONAL COMMERCIAL - NO RESIDENTIAL	43.77	OWD		-	-	-	319
4550	39.86	REGIONAL COMMERCIAL - NO RESIDENTIAL	30.40	OWD		-	-	-	222
4567	55.77	REGIONAL COMMERCIAL - NO RESIDENTIAL	31.55	OWD		-	-	-	230

ZONE	TAZ Acres	DESIGTN	Acres	Water	Area	SF Units	MF Units	HH Pop	Emp Pop
4569	68.58	REGIONAL COMMERCIAL - NO RESIDENTIAL	30.26	OWD		-	-	-	221
4580	68.50	REGIONAL COMMERCIAL - NO RESIDENTIAL	27.17	OWD		-	-	-	198
4581	111.66	REGIONAL COMMERCIAL - NO RESIDENTIAL	0.00	OWD		-	-	-	0
4584	53.22	REGIONAL COMMERCIAL - NO RESIDENTIAL	10.24	OWD		-	-	-	75
4606	3.65	REGIONAL COMMERCIAL - NO RESIDENTIAL	0.00	OWD		-	-	-	0
4450	200.79	RIGHT-OF-WAY	13.97	OWD		-	-	-	-
4463	184.29	RIGHT-OF-WAY	28.75	OWD		-	-	-	-
4479	303.37	RIGHT-OF-WAY	71.61	OWD		-	-	-	-
4524	82.25	RIGHT-OF-WAY	28.62	OWD		-	-	-	-
4525	80.01	RIGHT-OF-WAY	23.43	OWD		-	-	-	-
4527	80.39	RIGHT-OF-WAY	21.41	OWD		-	-	-	-
4528	82.36	RIGHT-OF-WAY	22.69	OWD		-	-	-	-
4529	40.49	RIGHT-OF-WAY	23.16	OWD		-	-	-	-
4530	96.52	RIGHT-OF-WAY	47.01	OWD		-	-	-	-
4531	106.32	RIGHT-OF-WAY	47.06	OWD		-	-	-	-
4532	79.52	RIGHT-OF-WAY	22.90	OWD		-	-	-	-
4545	157.54	RIGHT-OF-WAY	21.49	OWD		-	-	-	-
4547	80.41	RIGHT-OF-WAY	15.93	OWD		-	-	-	-
4548	80.95	RIGHT-OF-WAY	19.97	OWD		-	-	-	-
4549	79.02	RIGHT-OF-WAY	28.99	OWD		-	-	-	-
4550	39.86	RIGHT-OF-WAY	9.45	OWD		-	-	-	-
4551	121.73	RIGHT-OF-WAY	45.10	OWD		-	-	-	-
4560	316.66	RIGHT-OF-WAY	7.03	OWD		-	-	-	-
4562	160.88	RIGHT-OF-WAY	9.53	OWD		-	-	-	-
4563	162.24	RIGHT-OF-WAY	6.76	OWD		-	-	-	-
4564	161.45	RIGHT-OF-WAY	7.03	OWD		-	-	-	-
4565	177.81	RIGHT-OF-WAY	28.71	OWD		-	-	-	-
4566	144.46	RIGHT-OF-WAY	16.04	OWD		-	-	-	-
4567	55.77	RIGHT-OF-WAY	17.77	OWD		-	-	-	-
4569	68.58	RIGHT-OF-WAY	24.36	OWD		-	-	-	-
4570	69.39	RIGHT-OF-WAY	12.02	OWD		-	-	-	-
4580	68.50	RIGHT-OF-WAY	13.14	OWD		-	-	-	-
4581	111.66	RIGHT-OF-WAY	16.61	OWD		-	-	-	-
4584	53.22	RIGHT-OF-WAY	14.49	OWD		-	-	-	-
4586	370.62	RIGHT-OF-WAY	5.90	OWD		-	-	-	-
4587	159.34	RIGHT-OF-WAY	12.28	OWD		-	-	-	-
4588	140.96	RIGHT-OF-WAY	8.83	OWD		-	-	-	-
4589	124.27	RIGHT-OF-WAY	4.60	OWD		-	-	-	-
4590	192.94	RIGHT-OF-WAY	21.96	OWD		-	-	-	-
4592	74.73	VERY LOW	0.02	OWD		-	-	-	-
Totals	39847.41		9302.47			4,800	7,451	44,810	71,056

District	SF Units	MF Units	HH Pop	Emp Pop
City	4800	7451	44810	11112
OWD	0	0	0	59943
Total	**4800**	**7451**	**44810**	**71056**

TAZ	TAZ_Acres	DESIGTN	LU_Acres	Water
4521	38.42	BUSINESS AND INTERNATIONAL TRADE	0.49	City
4522	68.97	BUSINESS AND INTERNATIONAL TRADE	23.81	City
4496	102.60	COMMUNITY COMMERCIAL - NO RESIDENTIAL	2.46	City
4505	142.15	COMMUNITY COMMERCIAL - NO RESIDENTIAL	0.00	City
4511	42.49	COMMUNITY COMMERCIAL - NO RESIDENTIAL	18.44	City
4520	52.10	COMMUNITY COMMERCIAL - NO RESIDENTIAL	23.32	City
4521	38.42	COMMUNITY COMMERCIAL - NO RESIDENTIAL	19.90	City
4522	68.97	COMMUNITY COMMERCIAL - NO RESIDENTIAL	0.01	City
4526	159.90	COMMUNITY COMMERCIAL - NO RESIDENTIAL	19.07	City
4608	102.71	COMMUNITY COMMERCIAL - NO RESIDENTIAL	2.98	City
4608	102.71	HEAVY INDUSTRIAL	65.25	City
4472	940.42	HEAVY INDUSTRIAL	0.01	City
4431	85.03	INSTITUTIONAL	5.80	City
4443	482.55	INSTITUTIONAL	3.05	City
4460	177.94	INSTITUTIONAL	4.90	City
4505	142.15	INSTITUTIONAL	30.71	City
4505	142.15	INSTITUTIONAL	0.00	City
4511	42.49	INSTITUTIONAL	18.24	City
4526	159.90	INSTITUTIONAL	22.23	City
4546	142.90	INSTITUTIONAL	2.02	City
4558	196.87	INSTITUTIONAL	8.48	City
4561	469.20	INSTITUTIONAL	11.68	City
4608	102.71	INSTITUTIONAL	0.02	City
4609	65.10	INSTITUTIONAL	59.09	City
4610	74.50	INSTITUTIONAL	29.92	City
4472	940.42	INSTITUTIONAL	749.59	City
4460	177.94	LIGHT INDUSTRIAL	38.15	City
4497	170.98	LIGHT INDUSTRIAL	90.49	City
4499	143.27	LIGHT INDUSTRIAL	2.33	City
4499	143.27	LIGHT INDUSTRIAL	0.00	City
4608	102.71	LIGHT INDUSTRIAL	5.01	City
4472	940.42	LIGHT INDUSTRIAL	0.18	City
4429	506.18	LOW	159.60	City
4443	482.55	LOW	192.96	City
4443	482.55	LOW	0.07	City
4467	238.74	LOW	71.35	City
4496	102.60	LOW	4.74	City
4496	102.60	LOW	0.00	City
4499	143.27	LOW	33.11	City
4505	142.15	LOW	0.00	City
4517	210.41	LOW	87.11	City
4517	210.41	LOW	0.02	City
4429	506.18	LOW MEDIUM	61.34	City
4431	85.03	LOW MEDIUM	0.02	City
4546	142.90	LOW MEDIUM	2.03	City
4610	74.50	LOW MEDIUM	0.86	City
4429	506.18	MEDIUM	0.00	City
4443	482.55	MEDIUM	13.38	City
4467	238.74	MEDIUM	7.25	City
4467	238.74	MEDIUM	0.00	City
4499	143.27	MEDIUM	29.57	City
4499	143.27	MEDIUM	0.00	City
4608	102.71	MEDIUM	4.72	City
4496	102.60	MEDIUM HIGH	21.68	City
4505	142.15	MEDIUM HIGH	43.35	City
4526	159.90	NEIGHBORHOOD VILLAGE	40.87	City
4558	196.87	NEIGHBORHOOD VILLAGE	70.33	City
4561	469.20	NEIGHBORHOOD VILLAGE	241.49	City
4578	388.64	NEIGHBORHOOD VILLAGE	137.44	City
4610	74.50	NEIGHBORHOOD VILLAGE	13.31	City
4611	71.73	NEIGHBORHOOD VILLAGE	31.57	City
4429	506.18	OPEN SPACE	163.68	City
4431	85.03	OPEN SPACE	3.83	City
4443	482.55	OPEN SPACE	255.94	City

4443	482.55	OPEN SPACE	0.07	City
4450	200.79	OPEN SPACE	185.17	City
4460	177.94	OPEN SPACE	31.58	City
4467	238.74	OPEN SPACE	140.36	City
4467	238.74	OPEN SPACE	0.00	City
4496	102.60	OPEN SPACE	69.17	City
4496	102.60	OPEN SPACE	0.00	City
4497	170.98	OPEN SPACE	69.32	City
4499	143.27	OPEN SPACE	26.56	City
4505	142.15	OPEN SPACE	21.37	City
4505	142.15	OPEN SPACE	0.00	City
4517	210.41	OPEN SPACE	57.07	City
4517	210.41	OPEN SPACE	0.02	City
4520	52.10	OPEN SPACE	0.28	City
4521	38.42	OPEN SPACE	4.10	City
4522	68.97	OPEN SPACE	24.11	City
4526	159.90	OPEN SPACE	44.23	City
4546	142.90	OPEN SPACE	111.50	City
4558	196.87	OPEN SPACE	108.01	City
4561	469.20	OPEN SPACE	182.16	City
4578	388.64	OPEN SPACE	239.00	City
4608	102.71	OPEN SPACE	8.32	City
4610	74.50	OPEN SPACE	27.95	City
4611	71.73	OPEN SPACE	31.45	City
4472	940.42	OPEN SPACE	156.45	City
4429	506.18	PARKS	5.89	City
4431	85.03	PARKS	13.48	City
4443	482.55	PARKS	3.94	City
4467	238.74	PARKS	6.87	City
4499	143.27	PARKS	4.90	City
4505	142.15	PARKS	15.43	City
4558	196.87	PARKS	5.75	City
4561	469.20	PARKS	22.30	City
4578	388.64	PARKS	12.20	City
4611	71.73	PARKS	5.75	City
4431	85.03	REGIONAL COMMERCIAL - NO RESIDENTIAL	29.12	City
4464	83.75	REGIONAL COMMERCIAL - NO RESIDENTIAL	59.31	City
4499	143.27	REGIONAL COMMERCIAL - NO RESIDENTIAL	0.01	City
4429	506.18	RIGHT-OF-WAY	25.32	City
4431	85.03	RIGHT-OF-WAY	15.91	City
4443	482.55	RIGHT-OF-WAY	13.21	City
4450	200.79	RIGHT-OF-WAY	14.45	City
4460	177.94	RIGHT-OF-WAY	2.35	City
4464	83.75	RIGHT-OF-WAY	24.38	City
4467	238.74	RIGHT-OF-WAY	12.79	City
4467	238.74	RIGHT-OF-WAY	0.00	City
4496	102.60	RIGHT-OF-WAY	4.55	City
4497	170.98	RIGHT-OF-WAY	11.17	City
4499	143.27	RIGHT-OF-WAY	46.63	City
4499	143.27	RIGHT-OF-WAY	0.00	City
4505	142.15	RIGHT-OF-WAY	31.30	City
4511	42.49	RIGHT-OF-WAY	5.81	City
4517	210.41	RIGHT-OF-WAY	66.09	City
4520	52.10	RIGHT-OF-WAY	28.50	City
4521	38.42	RIGHT-OF-WAY	13.93	City
4522	68.97	RIGHT-OF-WAY	21.04	City
4526	159.90	RIGHT-OF-WAY	33.50	City
4546	142.90	RIGHT-OF-WAY	3.44	City
4558	196.87	RIGHT-OF-WAY	4.30	City
4561	469.20	RIGHT-OF-WAY	11.45	City
4608	102.71	RIGHT-OF-WAY	16.42	City
4609	65.10	RIGHT-OF-WAY	6.01	City
4610	74.50	RIGHT-OF-WAY	2.45	City
4611	71.73	RIGHT-OF-WAY	2.96	City
4472	940.42	RIGHT-OF-WAY	33.94	City

4546	142.90	VERY LOW	23.81	City	
4524	82.25	BUSINESS AND INTERNATIONAL TRADE	59.88	OWD	IBT
4525	80.01	BUSINESS AND INTERNATIONAL TRADE	56.51	OWD	IBT
4527	80.39	BUSINESS AND INTERNATIONAL TRADE	65.58	OWD	IBT
4528	82.36	BUSINESS AND INTERNATIONAL TRADE	17.78	OWD	IBT
4529	40.49	BUSINESS AND INTERNATIONAL TRADE	18.06	OWD	IBT
4529	40.49	BUSINESS AND INTERNATIONAL TRADE	0.00	OWD	IBT
4530	96.52	BUSINESS AND INTERNATIONAL TRADE	0.00	OWD	IBT
4530	96.52	BUSINESS AND INTERNATIONAL TRADE	0.00	OWD	IBT
4550	39.86	BUSINESS AND INTERNATIONAL TRADE	32.50	OWD	IBT
4551	121.73	BUSINESS AND INTERNATIONAL TRADE	78.49	OWD	IBT
4563	162.24	BUSINESS AND INTERNATIONAL TRADE	152.48	OWD	IBT
4564	161.45	BUSINESS AND INTERNATIONAL TRADE	108.83	OWD	IBT
4565	177.81	BUSINESS AND INTERNATIONAL TRADE	163.48	OWD	IBT
4566	144.46	BUSINESS AND INTERNATIONAL TRADE	129.83	OWD	IBT
4567	55.77	BUSINESS AND INTERNATIONAL TRADE	35.47	OWD	IBT
4584	53.22	BUSINESS AND INTERNATIONAL TRADE	27.15	OWD	IBT
4588	140.96	BUSINESS AND INTERNATIONAL TRADE	125.25	OWD	IBT
4589	124.27	BUSINESS AND INTERNATIONAL TRADE	49.57	OWD	IBT
4590	192.94	BUSINESS AND INTERNATIONAL TRADE	164.98	OWD	IBT
4590	192.94	BUSINESS AND INTERNATIONAL TRADE	0.02	OWD	IBT
4606	3.65	BUSINESS AND INTERNATIONAL TRADE	0.01	OWD	IBT
4607	6.68	BUSINESS AND INTERNATIONAL TRADE	0.02	OWD	IBT
4545	157.54	BUSINESS PARK	36.18	OWD	Commercia
4548	80.95	BUSINESS PARK	66.65	OWD	Commercia
4548	80.95	BUSINESS PARK	0.00	OWD	Commercia
4549	79.02	BUSINESS PARK	8.59	OWD	Commercia
4562	160.88	BUSINESS PARK	53.09	OWD	Commercia
4562	160.88	BUSINESS PARK	0.00	OWD	Commercia
4547	80.41	BUSINESS PARK - RESIDENTIAL	25.38	OWD	Res
4545	157.54	COMMUNITY COMMERCIAL - NO RESIDENTIAL	0.41	OWD	Commercia
4525	80.01	COMMUNITY VILLAGE	0.01	OWD	Res
4545	157.54	COMMUNITY VILLAGE	10.89	OWD	Res
4547	80.41	COMMUNITY VILLAGE	30.43	OWD	Res
4560	316.66	COMMUNITY VILLAGE	73.60	OWD	Res
4562	160.88	COMMUNITY VILLAGE	0.58	OWD	Res
4586	370.62	COMMUNITY VILLAGE	0.00	OWD	Res
4528	82.36	HEAVY COMMERCIAL	44.40	OWD	Commercia
4529	40.49	HEAVY COMMERCIAL	0.00	OWD	Commercia
4529	40.49	HEAVY COMMERCIAL	0.00	OWD	Commercia
4530	96.52	HEAVY COMMERCIAL	49.44	OWD	Commercia
4530	96.52	HEAVY COMMERCIAL	0.00	OWD	Commercia
4567	55.77	HEAVY COMMERCIAL	8.58	OWD	Commercia
4580	68.50	HEAVY COMMERCIAL	27.65	OWD	Commercia
4581	111.66	HEAVY COMMERCIAL	0.45	OWD	Commercia
4584	53.22	HEAVY COMMERCIAL	10.81	OWD	Commercia
4606	3.65	HEAVY COMMERCIAL	0.00	OWD	Commercia
4479	303.37	HEAVY INDUSTRIAL	90.37	OWD	Industrial
4531	106.32	HEAVY INDUSTRIAL	7.88	OWD	Industrial
4586	370.62	HEAVY INDUSTRIAL	86.66	OWD	Industrial
4587	159.34	HEAVY INDUSTRIAL	144.77	OWD	Industrial
4463	184.29	INSTITUTIONAL	0.78	OWD	Institutiona
4548	80.95	INSTITUTIONAL	0.00	OWD	Institutiona
4548	80.95	INSTITUTIONAL	0.00	OWD	Institutiona
4549	79.02	INSTITUTIONAL	40.47	OWD	Institutiona
4560	316.66	INSTITUTIONAL	12.05	OWD	Institutiona
4562	160.88	INSTITUTIONAL	56.38	OWD	Institutiona
4580	68.50	INSTITUTIONAL	31.01	OWD	Institutiona
4581	111.66	INSTITUTIONAL	6.78	OWD	Institutiona
4584	53.22	INSTITUTIONAL	4.71	OWD	Institutiona
4586	370.62	INSTITUTIONAL	9.21	OWD	Institutiona
4587	159.34	INSTITUTIONAL	9.18	OWD	Institutiona
4588	140.96	INSTITUTIONAL	10.43	OWD	Institutiona
4589	124.27	INSTITUTIONAL	9.60	OWD	Institutiona
4590	192.94	INSTITUTIONAL	18.72	OWD	Institutiona

4606	3.65	INSTITUTIONAL	3.64	OWD	Institutiona
4607	6.68	INSTITUTIONAL	6.66	OWD	Institutiona
4479	303.37	LIGHT INDUSTRIAL	90.33	OWD	Industrial
4531	106.32	LIGHT INDUSTRIAL	53.15	OWD	Industrial
4532	79.52	LIGHT INDUSTRIAL	61.39	OWD	Industrial
4569	68.58	LIGHT INDUSTRIAL	52.82	OWD	Industrial
4570	69.39	LIGHT INDUSTRIAL	59.08	OWD	Industrial
4580	68.50	LIGHT INDUSTRIAL	3.80	OWD	Industrial
4581	111.66	LIGHT INDUSTRIAL	99.01	OWD	Industrial
4560	316.66	NEIGHBORHOOD VILLAGE	49.73	OWD	
4463	184.29	OPEN SPACE	153.84	OWD	OS
4545	157.54	OPEN SPACE	87.19	OWD	OS
4549	79.02	OPEN SPACE	6.38	OWD	OS
4560	316.66	OPEN SPACE	158.59	OWD	OS
4564	161.45	OPEN SPACE	45.53	OWD	OS
4586	370.62	OPEN SPACE	274.69	OWD	OS
4589	124.27	OPEN SPACE	60.77	OWD	OS
4547	80.41	PARKS	10.53	OWD	Parks
4560	316.66	PARKS	10.11	OWD	Parks
4562	160.88	PARKS	40.63	OWD	Parks
4562	160.88	PARKS	0.00	OWD	Parks
4463	184.29	RIGHT-OF-WAY	29.63	OWD	ROW
4479	303.37	RIGHT-OF-WAY	59.63	OWD	ROW
4524	82.25	RIGHT-OF-WAY	22.37	OWD	ROW
4525	80.01	RIGHT-OF-WAY	23.49	OWD	ROW
4527	80.39	RIGHT-OF-WAY	14.81	OWD	ROW
4528	82.36	RIGHT-OF-WAY	20.18	OWD	ROW
4529	40.49	RIGHT-OF-WAY	22.42	OWD	ROW
4529	40.49	RIGHT-OF-WAY	0.00	OWD	ROW
4530	96.52	RIGHT-OF-WAY	42.66	OWD	ROW
4530	96.52	RIGHT-OF-WAY	0.00	OWD	ROW
4531	106.32	RIGHT-OF-WAY	43.32	OWD	ROW
4532	79.52	RIGHT-OF-WAY	16.86	OWD	ROW
4545	157.54	RIGHT-OF-WAY	22.88	OWD	ROW
4547	80.41	RIGHT-OF-WAY	14.06	OWD	ROW
4548	80.95	RIGHT-OF-WAY	14.30	OWD	ROW
4548	80.95	RIGHT-OF-WAY	0.00	OWD	ROW
4549	79.02	RIGHT-OF-WAY	23.58	OWD	ROW
4550	39.86	RIGHT-OF-WAY	7.36	OWD	ROW
4551	121.73	RIGHT-OF-WAY	43.24	OWD	ROW
4560	316.66	RIGHT-OF-WAY	12.58	OWD	ROW
4562	160.88	RIGHT-OF-WAY	10.20	OWD	ROW
4562	160.88	RIGHT-OF-WAY	0.00	OWD	ROW
4563	162.24	RIGHT-OF-WAY	9.77	OWD	ROW
4564	161.45	RIGHT-OF-WAY	7.09	OWD	ROW
4565	177.81	RIGHT-OF-WAY	14.33	OWD	ROW
4566	144.46	RIGHT-OF-WAY	14.63	OWD	ROW
4567	55.77	RIGHT-OF-WAY	11.72	OWD	ROW
4569	68.58	RIGHT-OF-WAY	15.59	OWD	ROW
4570	69.39	RIGHT-OF-WAY	6.13	OWD	ROW
4580	68.50	RIGHT-OF-WAY	6.04	OWD	ROW
4581	111.66	RIGHT-OF-WAY	3.70	OWD	ROW
4584	53.22	RIGHT-OF-WAY	10.55	OWD	ROW
4586	370.62	RIGHT-OF-WAY	0.06	OWD	ROW
4587	159.34	RIGHT-OF-WAY	5.38	OWD	ROW
4588	140.96	RIGHT-OF-WAY	5.29	OWD	ROW
4589	124.27	RIGHT-OF-WAY	4.33	OWD	ROW
4590	192.94	RIGHT-OF-WAY	9.24	OWD	ROW
4590	192.94	RIGHT-OF-WAY	0.02	OWD	ROW
			9,315.51		

District	SF Units	MF Units	HH Pop	Emp Pop
City	4273	9255	48936	13758
OWD	0	5246	18099	N/A
Total	4800	7451	44810	

APPENDIX M-1

Water Supply Assessment Report

THE CITY OF SAN DIEGO

M E M O R A N D U M

DATE: October 11, 2011

TO: Cecilia Gallardo, Assistant Deputy Director, Development Services Department

FROM: John Minhas, Assistant Engineer, Public Utilities Department

SUBJECT: Water Supply Assessment Report (WSA) for the Otay Mesa Community Plan Update (Project No. 30330)

In response to your request, please find attached the approved WSA for the Otay Mesa Community Plan Update.

The Public Utilities Department prepared this WSA to assess whether sufficient water supplies are or will be available to meet the projected water demands of the project. The findings verify that there is sufficient water supply to serve existing demands, projected demands of the project, and future water demands within the Department's service area in normal and dry year forecasts during a 20-year projection.

Should there be any comments on the WSA at the conclusion of the public review process of the EIR, please forward them for our review and comment.

If you have any questions, please call me at (619) 533-5454.

John Minhas

John Minhas

JM

Attachment: Water Supply Assessment Report

cc: Ray Palmucci, Deputy City Attorney
Myra Herrmann, Senior Planner, Development Services Department
George Adrian, Principal Water Resources Specialist, Public Utilities Department
RMS 6.8.4

WATER SUPPLY ASSESSMENT REPORT

Otay Mesa Community Plan Update
(Project # 30330)

Prepared by:

City of San Diego Public Utilities Department

Approved by:

________________________ 10-05-11

Roger Bailey, Director of Public Utilities Date

Prepared: September 2011

City of San Diego Public Utilities Department
Water Supply Assessment Report

Otay Mesa Community Plan Update

Table of Contents

Section 1 - Purpose

On January 1, 2002, Senate Bill 610 (SB 610) and Senate Bill 221 (SB 221) took effect. The intent of SB 610 and SB 221 was to improve the link between information on water supply availability and certain land use decisions made by cities and counties. Under SB 610 (codified in the Water Code beginning at Section 10910), a water supply assessment (WSA) must be furnished to cities and counties for inclusion in any environmental documentation of projects (defined in the Water Code) that propose to construct 500 or more residential units, or that will use an amount of water equivalent to what would be used by 500 residential units, and are subject to the California Environmental Quality Act (CEQA). Under SB 221, approval by a city or county of certain residential subdivisions requires an affirmative written verification of sufficient water supply or water supply verification (WSV).

Not every project that is subject to the requirements of SB 610 is also subject to the mandatory water verification of SB 221 (e.g., if there is no subdivision map approval). Conversely, not every project that is subject to the requirements of SB 221 must also obtain a SB 610 water supply assessment.

A foundational document for compliance for both SB 610 and SB 221 is the Urban Water Management Plan (UWMP) of the relevant water agency. Both of these statutes repeatedly identify the UWMP as a planning document that can be used by a water supplier to meet the standards set forth in both statutes. Thorough and complete UWMPs will allow water suppliers to use UWMPs as a foundation to fulfill the specific requirements of these two statutes. Cities, counties, water districts, property owners and developers will all be able to utilize this document when planning for and proposing new projects. It is critical that cities, counties and water suppliers work closely when developing and updating these planning documents. The City of San Diego's 2010 UWMP, which is used as the basis for this Report (WSA), was adopted by the San Diego City Council in June 2011.

The City of San Diego Development Services Department (DSD) requested that the City of San Diego Public Utilities Department (Public Utilities Department) prepare the Report as part of the environmental review of the Otay Mesa Community Plan Update (Plan Update). A more detailed description of the Plan Update is provided in Section 2 of this Report. This Report evaluates water supplies that are or will be available during normal, single-dry year, and multiple-dry water years during a 20-year projection to meet the projected demands of the Plan Update, in addition to existing and planned future water demands of the Public Utilities Department. This Report provides an assessment of the availability of sufficient water supplies for the Plan Update only and does not constitute approval of the Plan Update.

This Report includes, among other information, identification of existing water supply entitlements, water rights, water service contracts, or agreements relevant to the identified water supply for the Plan Update and quantities of water received in prior years pursuant to these entitlements, rights, contracts and agreements.

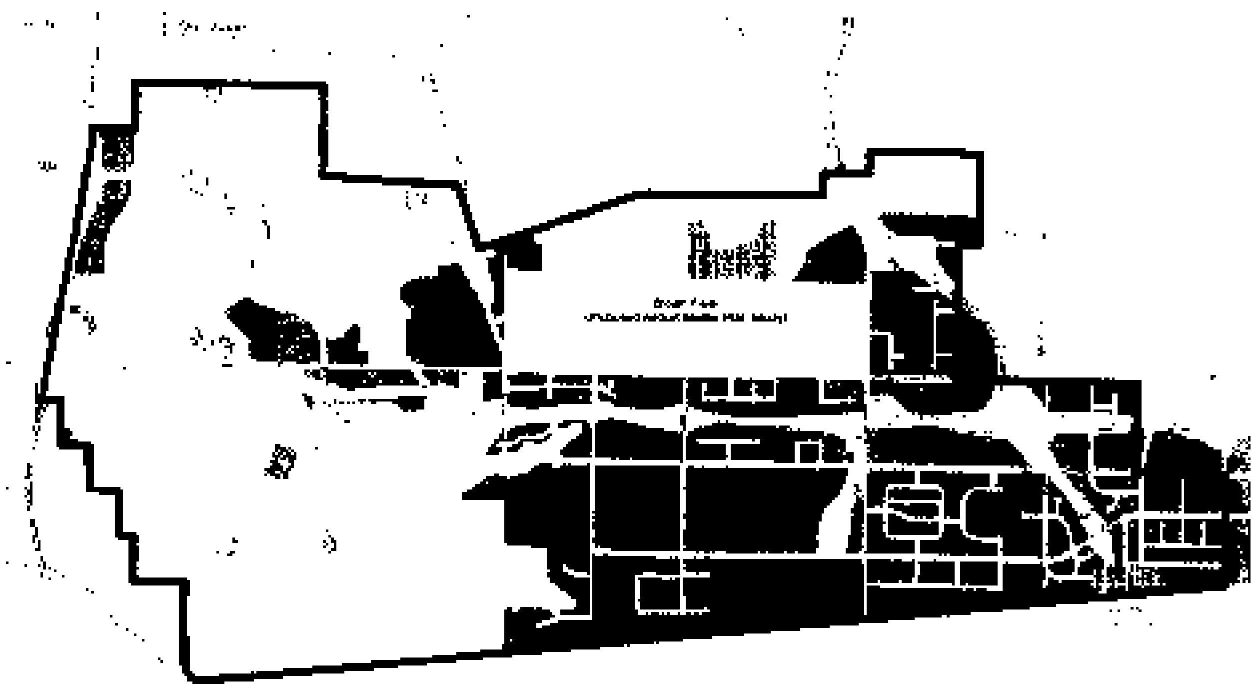
This Report has been prepared in compliance with the requirements under SB 610 by the Public Utilities Department, in consultation with DSD, the San Diego County Water Authority (Water Authority) and the Metropolitan Water District of Southern California (MWD).

Section 2 - Project Description

The proposed Project is a comprehensive update of the City's Otay Mesa Community Plan (OMCP) as adopted in 1981. The update includes modifications to the various elements of the plan to incorporate current planning policies and practices in the City of San Diego, as well as to make the plan reflective of the substantial land use changes that have occurred over the last 28 years.

The Otay Mesa community encompasses approximately 9,300 acres in the southeastern portion of the City of San Diego. The community is bordered by San Ysidro and Otay Mesa-Nestor communities on the west, the City of Chula Vista and the Otay Valley Regional Park on the north, the County of San Diego on the east and the US/Mexico border and the City of Tijuana on the south. Approximately 4,900 acres are served by the City's Public Utilities Department, with the remaining 4,400 acres served by Otay Water District. This Report provides analysis of the portions of the OMCP being served by the Public Utilities Department as required by SB 610.

FIGURE 2-1
OTAY MESA COMMUNITY PLAN



The updated OMCP would provide a long-range, comprehensive policy framework for growth and development in Otay Mesa over the next 20 to 30 years. Guided by citywide policy direction contained within the General Plan (adopted by the City Council on March 8, 2009), the updated community plan will identify a land use strategy with new land use designation proposals to create villages, activity centers and industrial/employment centers along major transportation corridors, while strengthening cultural and business linkages to Tijuana, Mexico via the Otay Mesa Port of entry, as well as other enhancements to the existing planning area. The Plan Update would anticipate land use designations that support a fully integrated circulation system which includes, but is not limited to, high frequency transit and/or public transportation. The Plan Update will be consistent with and implement the City's General Plan.

DSD has requested the Public Utilities Department to evaluate land use Scenario 3B of the Plan Update for this Report:

Land Use Scenario 3B

Scenario 3B would re-designate land uses to increase the number of allowed residential units and reduce the acreage for industrial uses. New land use designations are proposed to allow the establishment of industrial centers, mixed commercial and residential uses, and, where appropriate, residential uses near industrial uses. Modified industrial and commercial land use designations also are included that are similar to the industrial intensity found in the adopted community plan. This alternative proposes 1,373 single-family units, 9,555 multi-family units and 15,758 employees within the portion served by the City's Public Utilities Department.

Section 3 - Findings

Water Assessment

This Report identifies that the water demand projections for the Plan Update, as proposed, are included in the regional water resource planning documents of the Water Authority and MWD. Current and future water supplies, as well as actions necessary to develop the future water supplies, have been identified. This Report demonstrates that there will be sufficient water supplies available during normal, single-dry year, and multiple-dry water years during a 20-year projection to meet the projected demands of the Plan Update, in addition to existing and planned future water demands of the Public Utilities Department. Although the Plan Update does not meet the definition of a project as defined in Water Code section 10912, the City of San Diego Office of the City Attorney has opined that where a community plan update includes a rezone of a parcel or parcels and will allow development to occur ministerially, and that development falls within the Water Code definition of a project, a WSA must be prepared for the Project.

Based on a normal water supply year, the estimated water supply projected in five-year increments for a 20 year projection will meet the City's projected water demand of 240,477 acre feet[1] (AF) in 2015 to 298,860 AF in 2035 (**Table 6-5**). Based on a single-dry year forecast (**Table 6-7**), the estimated water supply will meet the projected water demand of 318,586 AF (2035). Based on a multiple-dry year, third year supply (**Table 6-8**), the estimated water supply will meet the projected demands of 281,466 AF (2015), 302,004 AF (2020); 321,166 AF (2025), 334,720 AF (2030); and 346,823 AF (2035).

The Water Authority's 2010 UWMP provides for a comprehensive planning analysis at a regional level and includes water use associated with accelerated forecasted residential development as part of its municipal and industrial sector demand projections. These housing units were identified by the San Diego Association of Government (SANDAG) in the course of its regional housing needs assessment, but are not yet included in existing general land use plans of local jurisdictions. The demand associated with accelerated forecasted growth is intended to account for SANDAG's land use development currently projected to occur between 2035 and 2050, but has the likely potential to occur on an accelerated schedule. SANDAG estimates that this accelerated residential development could occur within the planning horizon of the Water Authority's 2010 UWMP update. These units are not yet included in local jurisdictions' general plans, so their projected demands are incorporated at a regional level. When necessary, this additional demand increment, termed Accelerated Forecasted Growth, can be used by member agencies to meet the demands of development projects not identified in the general land use plans.

The SANDAG Series 12 2050 Regional Growth Forecast (SANDAG Series 12 Forecast) did not include the level of development of the proposed Project for the 20-year planning horizon required by SB 610 and SB 221. The difference between the planned and proposed water demands of the Project can be accounted for in the Water Authority's 2010 UWMP accelerated forecasted growth

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[1] An acre-foot of water equals 325,851 gallons, which is enough water for two average families of four for one year.

demand increment. As documented in the Water Authority's 2010 UWMP, the Water Authority is planning to meet future and existing demands which include the demand increment associated with the accelerated forecasted growth. The Water Authority will also assist its member agencies in tracking the certified EIRs provided by the agencies that include water supply assessments that utilize the accelerated forecasted growth demand increment, to demonstrate adequate supplies for the development. In addition, the next update of the demand forecast for the Water Authority's 2015 UWMP will be based on SANDAG's most recently updated forecast, which will include the Project.

As demonstrated in **Table 3-1** of this Report, which has been prepared by the Public Utilities Department in compliance with the requirements of SB 610 and using the City's and Water Authority's 2010 UWMP, which are based on SANDAG Series 12 Forecast, there is sufficient water planned to supply the Plan Update's estimated annual average usage. The estimated annual water usage for the Plan Update was calculated using the demand numbers from land use Scenario 3B. The projected water demands of the Plan Update are estimated at 5,563 acre feet per year (AFY). Per the City of San Diego 2010 UWMP, the planned water demand of the Otay Mesa Community Plan is 5,393 AFY. The remaining portion of the estimated 170 AFY is accounted for through the Accelerated Forecasted Growth demand increment of the Water Authority's 2010 UWMP. Therefore, based on the findings from the City's 2010 UWMP and the Water Authority's 2010 UWMP, this Plan Update will result in no unanticipated demands.

TABLE 3-1
OTAY MESA COMMUNITY PLAN WATER DEMAND ANALYSIS

	Planned Water Demands for OMCP per the 2010 UWMP	
Single family[1]	*4,010 units*	*1,967 Acre Feet per Year (AFY)*
Multi family[2]	*8,487 units*	*2,340 AFY*
Employees[3]	*16,149*	*1,086 AFY*
Total Planned		***5,393 AFY***
	Projected Water Demands for the Plan Update	
	Land Use Scenario 3B	
Single family	*4,773 units*	*1,869 AFY*
Multi family	*9,255 units*	*2,769 AFY*
Employees	*13,758*	*925 AFY*
Total Projected		***5,563 AFY***
	Net Water Demands	
Projected		***5,563 AFY***
Planned – City of San Diego 2010 UWMP		***5,393 AFY***
Planned from Water Authority's Accelerated Forecasted Growth		***170 AFY***
Net Unanticipated Demands		***0***

Table 3-1 Notes:

1. 116 gallons per person per day is the City's acceptable standard for single-family water consumption. The SANDAG Series 12 forecast projects a residential occupancy of 3.42 persons per household and a vacancy rate of 1.6% for single-family units in 2035.
2. 80 gallons per person per day is the City's acceptable standard for multi-family water consumption. The SANDAG Series 12 forecast projects a residential occupancy of 3.12 persons per household and a vacancy rate of 3.3% for multi-family units in 2035.
3. The utilization of 60 gallons per person per day is the City's acceptable standard for employment water use.

Conclusion

In summary, these findings substantiate that there is sufficient water supply planned to serve this Plan Update's future water demands within the Public Utilities Department service area in normal, single dry year, and multiple dry water year forecasts.

Therefore, this Report concludes that the proposed level of water use for this Plan Update is within the regional water resource planning documents of the Water Authority and MWD. Current and future water supplies, as well as the actions necessary to develop these supplies, have been identified in the water resources planning documents of the Public Utilities Department, the Water Authority, and MWD to serve the projected demands of the Plan Update in addition to existing and planned future water demands of the Public Utilities Department.

Section 4 - City of San Diego Public Utilities Department

The City of San Diego (City) purchased its initial water system in 1901 from the privately owned San Diego Water & Telephone Company. Since then, continual expansion of the water system has been required to meet the demands of the growing population of the City. To meet the demand, the Public Utilities Department purchased a number of reservoirs between 1913 and 1935 to supplement local water supplies. Despite low annual precipitation for the area (approximately 10 inches per year), these reservoirs supplied the City's growing demands until 1940.

The need to import water emerged with the increased demand generated by the presence of the United States Navy before and up to World War II, and the ensuing population boom. As a result, the Public Utilities Department and other local retail water distributors formed the Water Authority in 1944 for the purpose of purchasing Colorado River water from MWD. The Public Utilities Department and other local retail water distributors began receiving imported water from the Colorado River in 1947.

Today, the Public Utilities Department treats and delivers more than 200,000 AFY of water to more than 1.3 million residents. The water system extends over 404 square miles, including 342 square miles in the City. The Public Utilities Department potable water system serves the City of San Diego and certain surrounding areas, including both retail and wholesale customers. The Plan Update is located within the Public Utilities Department service area.

In addition to delivering potable water the City has a recycled water program. Its objectives are to optimize the use of local water supplies, lessen the reliance on imported water and free up capacity in the potable system. Recycled water provides the City a dependable, year-round, locally produced and controlled water resource.

4.1 Overview of Potable System Facilities

The water system consists primarily of nine raw water storage facilities with over 408,000 AF of storage capacity, three water treatment plants, 31 treated water storage facilities, and more than 3,213 miles of transmission and distribution lines.

The Public Utilities Department maintains and operates nine local surface raw water storage facilities, which are connected directly or indirectly to the City's water treatment operations. The Lower Otay, Barrett, and Morena Reservoirs (135,349 AF total capacity) service the Otay Water Treatment Plant in south San Diego; the El Capitan, San Vicente, Sutherland, and Lake Murray Reservoirs (236,511 AF total capacity) service the Alvarado Water Treatment Plant in central San Diego, and the Miramar Reservoir (6,682 AF total capacity) services the Miramar Water Treatment Plant in north San Diego. Lake Hodges Reservoir has a total capacity of 30,251 AF and is connected to Olivenhain Reservoir, which is owned by Water Authority and Olivenhain Municipal Water District. The connection provides the City the ability to access 20,000 AF of water in Hodges Reservoir via the Water Authority's delivery system.

The Public Utilities Department maintains and operates three water treatment plants with a combined total rated capacity of 294.4 million gallons per day (MGD). The Miramar Water

Treatment Plant (Miramar WTP), originally constructed in 1962, has a rated capacity of 140 MGD with the ability to increase to 215 MGD in the future with further approval from the State of California Department of Public Health (CDHP) based upon a future treatment process study (High Filtration Rate Study) that is yet to be performed. Current and short term (5 years) forecasted demands indicate no current need to increase the plants rated capacity from 140 MGD to 215 MGD. The required study to increase the rated capacity to 215 MGD will be performed in anticipation and as required to ensure future demands are met. The Miramar WTP generally serves the City's geographical area north of the San Diego River (north San Diego). The Alvarado Water Treatment Plant (Alvarado WTP), operational since 1951, had an initial capacity rating of 66 MGD. Several hydraulic improvements to the Alvarado WTP were constructed in the mid-1970s to increase the plant's capacity to 120 MGD. Upon completion of ongoing upgrades and improvements and approval of the operations plan by the CDHP, the rated capacity of the Alvarado WTP is anticipated to increase to 200 MGD. The Alvarado WTP generally serves the geographical area from National City to the San Diego River (central San Diego). The Otay Water Treatment Plant (Otay WTP) was originally constructed in 1940, and has a current rated capacity of 34.4 MGD, which meets current and short term forecasted demands. The Otay WTP has hydraulic capacity to increase to 40 MGD in the future. In order to do so, approval is required, similar to the process mentioned above for the Miramar WTP. The Otay WTP generally serves the geographical area bordering Mexico (south San Diego) and parts of the southeastern portion of central San Diego. Currently, the Otay WTP is in the process of being upgraded to include a third set of flocculation and sedimentation basins, filter piping and media improvements.

The Public Utilities Department maintains and operates 31 treated water storage facilities including steel tanks, standpipes, concrete tanks and rectangular concrete reservoirs, with capacities varying from less than one to 35 million gallons.

The water system consists of more than 3,213 miles of pipelines, including transmission lines up to 84 inches in diameter and distribution lines as small as four inches in diameter. Transmission lines are pipelines with larger diameters that convey raw water to the water treatment plants and convey treated water from the water treatment plants to the treated water storage facilities. Distribution lines are pipelines with smaller diameters that directly service the retail users connected to a meter. In addition, the Public Utilities Department maintains and operates 49 water pump stations that deliver treated water from the water treatment plants to approximately 274,000 metered service connections in over 127 different pressure zones. The Public Utilities Department also maintains several emergency connections to and from neighboring water agencies, including the Santa Fe Irrigation District (Miramar WTP), the City of Poway, Olivenhain Municipal Water District (Miramar WTP), the Cal-American Water Company (Alvarado and Otay WTP's), the Sweetwater Authority (Otay WTP) and the Otay Water District (Otay WTP).

4.2 Overview of Recycled System Facilities

The City of San Diego built the North City Water Reclamation Plant (NCWRP) and the South Bay Water Reclamation Plant (SBWRP) to treat wastewater to a level approved for irrigation, manufacturing, and other non-potable purposes.

The NCWRP provides recycled water to businesses, golf courses, homeowner associations, and other users in the northern service area of the City; as well as the City of Poway and the

Olivenhain Municipal Water District. The NCWRP currently treats 22.5 MGD of wastewater, although the Plant has an ultimate treatment capability of 30 MGD. In CY 2010, an average of 6.2 MGD of the wastewater flows were treated to a tertiary level and beneficially reused. During dry months, the beneficial reuse of recycled water has peaked at 11.6 MGD. The Public Utilities Department maintains and operates the North City recycled water distribution system which consists of 83 miles of recycled water pipeline, two reservoirs, and two pump stations.

In July 2006 SBWRP began production of recycled water with service to the International Boundary and Water Commission (IBWC). Recycled water production at South Bay expanded in May 2007 when the Otay Water District began taking deliveries. The SBWRP currently treats approximately 10 MGD of wastewater, although the Plant has an ultimate treatment capability of 15 MGD. In CY 2010, an average of 3.9 MGD of the wastewater flows were treated to a tertiary level and beneficially reused. During dry months, the beneficial reuse of recycled water has peaked at 7.93 MGD. Winter beneficial reuse from SBWRP is approximately 3 MGD. The Public Utilities Department maintains and operates the South Bay recycled water distribution system which consists of 3000 feet of recycled water pipeline, one storage tank, and one pump station.

Section 5 Existing and Projected Supplies

The Public Utilities Department relies on imported water as its major water supply source, and is a member public agency of the Water Authority. The Water Authority is a member agency of MWD. The statutory relationships between the Water Authority and its member agencies, and MWD and its member agencies, respectively, establish the scope of the Public Utilities Department's entitlements to water from these two agencies. Due to the Public Utilities Department's reliance on these two agencies, this Report relies and includes information on the existing and projected supplies, supply programs, and related projects of the Water Authority and MWD.

The City of San Diego relies on the long-term water resources planning documents of the Water Authority and MWD to support the work on this Report. These documents are available at the following websites and contacts:

San Diego County Water Authority

http://www.sdcwa.org/2010-urban-water-management-plan

Dana Friehauf, Principal Water Resources Specialist (858) 522-6749

Metropolitan Water District of Southern California

http://www.mwdh2o.com/mwdh2o/pages/yourwater/ywater01.html#RUWMP

MWD staff, (213) 217-6000

The Water Authority and MWD are actively pursuing programs and projects to diversify their water supply resources. A description of these efforts as well as the challenges facing the Water Authority and MWD can be found in the San Diego County Water Authority Official Statement, dated January 21, 2010, relating to Water Revenue Bonds 2010B, and MWD's Official Statement dated June 8, 2011, relating to Water Revenue Refunding Bonds, 2011 Series B. These Official Statements are available at the following websites[1]:

http://www.sdcwa.org/sites/default/files/files/finance-investor/2010Bond.pdf

http://www.mwdh2o.com/mwdh2o/pages/finance/statement.html

A brief overview of MWD and the Water Authority, including the Public Utilities Department relationship to these agencies, is included below.

A description of local surface and local recycled water supplies available to the Public Utilities Department can be found is Section 5.4 of this Report.

[1] This information is current at the time this document was prepared.

5.1 Metropolitan Water District of Southern California

MWD was created in 1928, under authority of the Metropolitan Water District Act (California Statutes 1927, Chapter 429, as reenacted in 1969 as Chapter 209, as amended) (the "MWD Act"). MWD's primary purpose is to provide a supplemental supply of wholesale water for domestic and municipal uses to its constituent agencies. The MWD service area comprises approximately 5,200 square miles and includes portions of the six counties of Los Angeles, Orange, Riverside, San Bernardino, San Diego and Ventura. There are 26 member agencies of MWD, consisting of 14 cities, 11 municipal water districts and the Water Authority. A Board of Directors, currently numbering 37 members, governs MWD. Each constituent agency has at least one representative on the MWD Board. Representation and voting rights are based upon the assessed valuation of property within each constituent agency. The Water Authority has four members on the MWD Board. The total population of the MWD service area is currently estimated at approximately 19 million.

MWD's existing water supplies have been historically sufficient to meet demands within the service area of MWD during years of normal precipitation. Although MWD plans and manages reserve supplies to account for normal occurrences of drought conditions, regulatory restrictions, including but not limited to restrictions under the Federal and California Endangered Species Acts, have placed limitations on MWD's ability to provide water to its member agencies. In the future, population growth, regulatory restrictions, increased competition for low-cost water supplies, and other factors such as climate change could impact MWD's ability to supply its member agencies even in normal years.

MWD Water Supply

MWD's two major sources of water are from the Colorado River and the State Water Project (SWP).

Colorado River Water: The Colorado River was MWD's original source of water after MWD's establishment in 1928. The Colorado River Aqueduct, which is owned and operated by MWD, is 242 miles long, starting at Lake Havasu and terminating at Lake Mathews in Riverside County.

Under applicable laws, agreements and treaties governing the use of water from the Colorado River, California is entitled to use 4.4 million acre-feet of Colorado River water annually, plus one-half of any surplus that may be available for use collectively in Arizona, California and Nevada as declared on an annual basis by the United States Secretary of the Interior. Under the priority system that governs the distribution of Colorado River water made available to California, MWD holds the fourth priority right of 550,000 acre feet per year and a fifth priority right of 662,000 acre-feet per year. MWD's fourth priority right is within California's basic annual apportionment of 4.4 million acre-feet; however, the fifth priority right is outside of this entitlement and therefore is not considered a firm supply of water.

Several fish species and other wildlife species either directly or indirectly have the potential to affect Colorado River operations, thus changing the amount of water deliveries to the Colorado River Aqueduct. A number of species that are on either "endangered" or "threatened" lists under the federal and/or California endangered species acts ("ESAs") are present in the area of the Lower Colorado River. MWD and other stakeholder agencies have developed a multi-species conservation program that allows MWD to obtain federal and state permits for any incidental take of protected species resulting from current and future water and power operations of its Colorado River facilities and to minimize any uncertainty from additional listings of endangered species.

State Water Project: The SWP is owned by the State of California and operated by the State Department of Water Resources ("DWR"). The SWP transports Feather River water stored in and released from Oroville Dam and unregulated flows diverted directly from the San Francisco Bay/Sacramento-San Joaquin Delta Estuary ("Bay-Delta") south via the California Aqueduct to four delivery points near the northern and eastern boundaries of MWD. The total length of the California Aqueduct is 444 miles. MWD is one of 29 agencies that have long-term contracts for water service from DWR, but is the largest agency in terms of the number of people it serves, the share of SWP water to which it is entitled, and the total amount of annual payments made to DWR. MWD's contract with DWR provides for the ultimate delivery of 1,911,400 acre-feet per year (46 percent of the total SWP entitlement). MWD also retains a "call" on 100,000 acre-feet per year on water transferred to the Coachella Valley Water District and the Desert Water Agency, if needed, so long as it pays for the financial obligations associated with the water during the call period. The SWP was originally intended to meet demands of 4.2 million acre-feet per year. Initial SWP facilities were completed in the early 1970s, and it was envisioned that additional facilities would be constructed as contractor demands increased. Several factors, including public opposition, increased costs, and increased non-SWP demands for limited water supplies, combined to delay the construction of additional facilities.

The quantity of SWP water available for delivery each year is controlled by hydrology, environmental and operational considerations. In addition to its importance to urban and agricultural water users, the Bay-Delta is of critical ecological importance. The Bay-Delta is the largest estuary on the West Coast of the United States and provides habitat for more than 750 plant and animal species. One hundred fifty years of human activity have contributed to the destruction of habitat, the decline of several estuarine and anadromous fish species, and the deterioration of water quality. These activities include increasing water demands from urban and agricultural uses, the dredging and filling of tidal marshes, the construction of levees, urban runoff, agricultural drainage, runoff from abandoned mines, and the introduction of non-native species, thus affecting the supply and reliability of this source. Since 2008, layers of new pumping restrictions have been put in place to address the migration pattern of various fish species. Delta pumping restrictions now exist in nine out of twelve months of the year. The result is a loss of supply of approximately 30 percent in an average year.

5.2 San Diego County Water Authority

The Water Authority's service area lies within the foothill and coastal areas of the westerly third of San Diego County, encompassing 952,208 acres (1,488 square miles). When the Water Authority was established in 1944, its service area consisted of 94,707 acres. Growth has primarily resulted from the addition and annexation of additional service areas by member agencies. The City of San Diego, with 210,726 acres, is the largest service area within the Water Authority's total service area. Of the total population of San Diego County, 97 percent live within the Water Authority's service area. The City of San Diego represents approximately 45 percent of the total population of the Water Authority's service area.

The Water Authority's service area is a semi-arid region where historically the natural occurrence of water from rainfall and groundwater provides a firm water supply for only a small portion of the water needs of the current population. Since 1990, the Water Authority has provided an average of 85 percent of the water supply within its service area. As a wholesaling entity, the Water Authority has no retail customers, but serves only its member agencies.

The Water Authority's mission is to provide its service area a safe and reliable water supply. Historically, the principal source of supply for the Water Authority's service area has been water purchased by the Water Authority from MWD for sale to the Water Authority's member agencies. However, drought conditions and population growth in the Water Authority's service area have highlighted the need for diversification of the Water Authority's water supply. Therefore, consistent with its mission statement, the Water Authority has actively pursued a strategy of supply diversification that includes the acquisition and importation of additional water supplies, the development of additional local water supply projects and augmentation of its water supply via local and regional water storage capacity. Water supplies utilized within the Water Authority service area originate from two sources: (1) water imported by the Water Authority and (2) local supplies (such as local runoff, groundwater, recycled water and, prospectively seawater desalination). Since 1990, local supplies have grown to constitute 15 percent of the Water Authority's water supply, and the Water Authority has implemented programs and supported new technologies in order to assist its member agencies in increasing this percentage. Although MWD remains the Water Authority's largest source of imported water, recent years have also seen the diversification of the Water Authority's sources of imported water through core and spot water transfers with other agencies.

The Quantification Settlement Agreement (QSA) for the Colorado River was completed in October 2003. This historic agreement was enacted to provide California the means to implement water transfers and supply programs that will allow California to live within the state's 4.4 million acre-foot basic annual apportionment of Colorado River water. The QSA also commits the state to a restoration path for the environmentally sensitive Salton Sea and provides full mitigation for these water supply programs.

Specific programs under the QSA that directly benefits the Water Authority include the San Diego County Water Authority-Imperial Irrigation District water transfer agreement, which will provide up to 200,000 acre-feet of water a year through water conservation measures in Imperial Valley. The QSA also allows for the transfer of water conserved from the concrete lining of portions of the previously earthen All-American and Coachella Canals from the Imperial Irrigation District. The canal lining projects reduce the loss of water that occurs through seepage. The Water Authority will annually receive 77,700 acre-feet of this conserved water.

The QSA intended to assure California up to 75 years of stability in its Colorado River water supplies. In February 2010, Sacramento County Superior Court Judge Roland Candee invalidated the QSA on grounds that a provision in the contract failed to cap the State of California's Salton Sea environmental mitigation fees. The MWD, IID, Water Authority, the State and others have appealed various aspects of the court's ruling, which has been stayed pending outcome of the appeal. If the ruling stands, it could delay the implementation of programs authorized under the QSA or result in increased costs or other adverse impacts. The impact, if any, which the ruling might have on water supplies, cannot be adequately determined at this time.

The Water Authority has encouraged development of additional local water supply projects such as water recycling and groundwater projects through the award of Local Water Supply Development ("LWSD") incentives of up to $200 per acre-foot for recycled water and groundwater produced and beneficially reused within the Water Authority's service area. The purpose of the Water Authority's LWSD program is to promote the development of cost-effective water recycling and groundwater projects that prevent or reduce a demand for imported water and improve regional water supply reliability. The LWSD Program reimburses member agencies for all or a portion of the difference between the actual per acre-foot cost of producing recycled water and the revenue generated by the LWSD participant through the sale of that acre-foot of recycled water (not to exceed $200 per acre-foot). In February 2008, the program was expanded to include funding for local brackish and seawater desalination projects.

5.3 2009 Comprehensive Water Package

On November 4, 2009, the California State Legislature passed a comprehensive package of water legislation (the "2009 State Water Legislation") that included five bills (four of which were subsequently signed by Governor Schwarzenegger) addressing California's statewide water situation, with particular emphasis on the Bay-Delta. The 2009 State Water Legislation includes, among other things, a 20 percent water conservation mandate for most localities in the State by 2020, new regulations regarding voluntary monitoring of groundwater levels by localities, and an $11.1 billion State general obligation bond measure. The 2009 State Water Legislation also created two new governmental agencies – the Delta Stewardship Council and the Sacramento-San Joaquin Delta Conservancy. The Delta Stewardship Council is charged with developing and implementing a Delta Plan, which would include the Bay Delta Conservation Plan, upon meeting certain conditions. The Sacramento-San Joaquin Delta Conservancy will implement ecosystem restoration activities in the Bay-Delta. In addition, the 2009 State Water Legislation includes legislation addressing unauthorized Bay-Delta water diversions. At this time, it is not known what effect the 2009 State Water Legislation will have on future water supplies.

The $11.1 billion State general obligation bond measure originally set to be presented to the voters for their approval in 2010 would provide funding for projects and programs throughout the State and in the Bay-Delta. Major categories of bond funding would include statewide water system operational improvements, Bay Delta sustainability, water supply reliability, conservation and watershed protection, groundwater protection, water quality improvements, and water recycling and water conservation.

On August 9, 2010, the California Legislature voted to postpone the water bond to the 2012 general elections. The decision was made since the state was facing a massive budget deficit and the chances of the bond passing by a general vote were slim. Postponing the bond required amendment of the water bond legislation. Governor Schwarzenegger affirmed that delaying the bond will not impact other parts of the 2009 water legislation. Supporters of the bond say that the delay will help lawmakers eliminate any imperfections in the bond.

Additional information regarding the 2009 Comprehensive Water Package can be found at the following website: http://www.sdcwa.org/

5.4 Public Utilities Department

The Public Utilities Department currently purchases approximately 85 to 90 % of its water from the Water Authority, which supplies the water (raw and treated) through two aqueducts consisting of five pipelines. While the Public Utilities Department imports a majority of its water, it uses three local supply sources to meet or offset potable demands: local surface water, conservation, and recycled water.

The availability of sufficient imported and regional water supplies to serve existing and planned uses within the Public Utilities Department service area is demonstrated in the prior discussion on the water supply reliability of MWD and the Water Authority. The City has been receiving water from the Water Authority since 1947 and during the last 20 years the City has purchased between 100,000 and 228,000 AFY. For Calendar Year 2010, water purchases totaled approximately 180,488 AF. Depending upon demands, growth and the success of local water supply initiatives, this could remain somewhat constant or increase up to a projected maximum of 298,868 AFY in 2035 during normal years. For the purpose of this analysis the maximum is used.

5.4.1 Demonstrating the Availability of Sufficient Supplies

Imported Supplies

Section 5, subdivision 11 of the County Water Authority Act states that the Water Authority "as far as practicable, shall provide each of its member agencies with adequate supplies of water to meet their expanding and increasing needs." Depending on local weather and supply conditions, the Water Authority provides between 75 to 95 percent of the total supplies used by its 24 member agencies. As mentioned in Section 4, the Public Utilities Department and other local retail water distributors formed the Water Authority in 1944 for the purpose of purchasing Colorado River water from the MWD.

Local Surface Water Supplies

The Public Utilities Department maintains and operates nine local surface raw water storage facilities which are connected directly or indirectly to water treatment operations. In the San Diego region approximately 13 percent of the local precipitation produces surface runoff to streams that supply Public Utilities Department reservoirs. Approximately half of this run-off is used for the municipal water supply, while the remainder evaporates during reservoir storage. In very wet years, the run-off remainder may spill over the reservoir dams and return to the Pacific Ocean. Average rainfall produces less than half of the average runoff in San Diego. The local climate requires about average rainfall to saturate the soils sufficiently for significant surface run off to occur. Therefore, most of the run-off to reservoirs is produced in years with much greater than average rainfall. Some flooding may occur even during average or below average rainfall years if the annual rainfall is concentrated in a few intense storms.

The use of local water is affected by availability and water resource management policies. The Public Utilities Department's policy is to use local water first to reduce imported water purchases and costs. The Public Utilities Department also operates emergency and seasonal storage programs in conjunction with its policy.

The purpose of emergency storage is to increase the reliability of the imported water aqueduct system. This is accomplished by maintaining an accessible amount of stored water that could provide an uninterrupted supply of water to the City's water treatment facilities should an interruption to the supply of imported water occur. The management of reservoirs is guided by Council Policy 400-04, which outlines the City's Emergency Water Storage Program. The policy mandates that the Public Utilities Department store sufficient water in active, available storage to meet six-tenths of the normal annual (7.2 months) City water demand requirements (conservation is not included). Active, available storage is that portion of the water that is above the lowest usable outlet of each reservoir.

The monthly emergency storage requirement changes from month to month and is based on the upcoming seven months water demand. This results in a seasonally fluctuating emergency storage requirement, generally peaking in May and reaching its minimum in October. This seasonally fluctuating requirement makes a portion of the required emergency storage capacity available for impounding or seasonal storage.

The purpose of seasonal storage is to increase imported water supply. This is done by storing surplus imported water in the wet winter season for use during the dry summer season. This may also be accomplished by increased use of imported water in lieu of local water in the winter when local water may be saved in reservoirs or groundwater basins for summer use. In addition to increased water yield, this type of seasonal operation also reduces summer peaking on the imported water delivery system.

Conservation

The Public Utilities Department's Water Conservation Program is effective in promoting permanent water savings. Established by the City Council in 1985, the Water Conservation Program now accounts for over 34,880 AF of potable water savings per year. This savings has been achieved by creating a water conservation ethic, adopting programs, policies and ordinances designed to promote water conservation practices, and implementing comprehensive public information and education campaigns.

The City offers a broad range of conservation methods to help meet the needs of our residential and commercial water customers. These include:

- Rebate programs for high efficiency toilets, washing machines and commercial water saving devices
- Survey programs
- Regulations
- Landscape and irrigation efficiency
- Public Education and Outreach

Research conducted by the City, the Water Authority, and the Water Research Foundation has shown that more than half of residential water-use is outdoors. Therefore, the City has added outdoor conservation programs to focus on water efficient landscaping and irrigation management which provide the best opportunity to achieve significant water savings.

Tools and services available and being developed for customers include:

- Commercial and Residential Water Use Survey Programs — account for all water-use, determine leaks, and check irrigation systems for proper function and uniform coverage. Residential surveys average 15% water savings, while commercial surveys, depending on type of facility, can achieve 15% to 25% water savings. The current focus is on multi-family surveys.

- Nationally recognized Landscape Watering Calculator — an on-line tool that creates watering schedules based on landscaping features, soil type, and weather data. The Calculator is very popular and those who have used it are impressed with its ease of use. MWD has adapted this tool and it is available throughout Southern California.

- Water Resources Landscape Database — another tool used to create water budgets and manage irrigation using aerial photographs, GIS maps, weather data, etc. This service has generated significant water savings in City parks, freeway landscapes, schools, and homeowner associations.

- New programs in place include incentives to install water efficient irrigation equipment and evapo-transpiration controllers (smart irrigation clocks that use weather data to set watering schedules) as well as incentives to replace turf with sustainable landscapes.

In addition to offering landscape water conservation programs to existing customers, the Public Utilities Department is also working closely with the City's Planning and Development Services Departments to incorporate water conservation requirements in the City's General Plan and permitting process. This will ensure that new communities and properties will also have water efficient landscapes.

Planning to increase water conservation is an ongoing process. The aforementioned water conservation programs undergo periodic reevaluation to ensure the realization of forecasted savings. Additionally, changes in water conservation technologies may require reassessment of long-range plans. The Public Utilities Department continues to work with proven water conservation programs, while including irrigation management programs to maximize water savings. The Public Utilities Department regularly examines new technologies and annually checks progress towards conservation goals. The Public Utilities Department continues to work collaboratively with MWD and the Water Authority to formulate new conservation initiatives.

<u>Drought Management</u>

In response to the Governor's Executive Order in 2008, the Mayor declared a water shortage emergency for the City of San Diego under Municipal Code and implemented a "Level 1 Voluntary Compliance – Water Watch" and called for redoubling of efforts aimed to achieve voluntary water reduction. Also in 2008, the Mayor directed the Public Utilities Department to review the City's existing Emergency Water Regulations and propose amendments with the goal of improving the City's response to water shortage conditions. The review resulted in a series of amendments to the existing Municipal Code which established year-round water waste prohibitions, provided clear water shortage "triggers" for moving from one drought response level to another, provided clear targets for achieving water use reductions, and provided an updated penalty and hardship variance process which governs the application and enforcement of the emergency water restrictions. These amendments became effective January 14, 2009. On April 27, 2009 the City Council adopted a "Level 2 – Drought Alert". Level 2 consists of additional mandatory water use restrictions. These restrictions became effective on June 1, 2009. In FY 2011, an unusually heavy snow and rainfall season brought California's water storage levels way up after three drought years. Following the footsteps of DWR, MWD and the Water Authority, the San Diego City Council decided to end mandatory water use restrictions in May 2011. The move did not affect several water-waste restrictions that remain permanent year-round.

Recycled Water Supplies

Recycled water is produced from wastewater processed at two water reclamation plants owned and operated by the City of San Diego: North City and South Bay. In CY 2010, financial incentives from the sale of recycled water resulted in nearly $2.3 million in savings towards imported water purchases. The financial incentives are a result of local water resources development agreements with MWD and Water Authority.

In 2010, the beneficial reuse of the recycled water was 11,317 AF: 6,948 AF from the North City Water Reclamation Plant and 4,369 AF from the South Bay Plant. Proactive marketing activities targeting existing irrigation customers, to encourage them to convert their cooling systems to recycled water, coupled with outreach efforts to connect new customers have been successful, as recycled water meter connections have increased over 25% (2007 figures compared to 2010). On December 31, 2007, 406 retail meters were connected to the distribution system and as of December 31, 2010, 511 retail meters are connected. Major retail customers include the City of San Diego Park & Recreation Department, CalTrans, University of California at San Diego, Black Mountain Ranch HOA, Santa Luz Golf Course, the City of San Diego Metro Biosolids Center, Miramar Marine Corps Air Station Golf Course, and the IBWC. The City also provides recycled water to 4 wholesale connections. The majority of customers use the recycled water for irrigation purposes.

By the end of CY 2011, the Public Utilities Department, in cooperation with the Park & Recreation Department, will have completed thirteen parkland/street median irrigation system conversions to recycled water. The retrofits are funded in part by reimbursement grants from the Bureau of Reclamation, MWD and San Diego Gas & Electric.

<u>Public Utilities Department's Capital Improvement Program</u>

The Public Utilities Department reevaluates the projects contained in the Capital Improvements Program (CIP) and the timing thereof periodically. Changes to the CIP are made to reflect changing priorities within the water system and occur as a result of project scope changes, date revisions, project sequencing, and operational considerations. The Public Utilities Department expended approximately $1.1 billion from July 1, 1998 through June 30, 2010 on CIP projects. Improvements included projects to upgrade and expand water treatment plants, rehabilitate raw and treated water storage facilities, construct major transmission pipelines, replace and/or upgrade existing pump stations, replace cast iron water mains citywide, expand the recycled water system, and other new supply initiatives. In February 2007, the City Council adopted increases for the next four fiscal years of 6% per year. These rate increases will provide needed revenue to continue funding the upgrade and expansion of the water system through the CIP in order to ensure a reliable water supply for all City residents. For the Fiscal Years ending June 30, 2008 through June 30, 2011, the Public Utilities Department plans to expend approximately $585 million on such improvements.

With the above program coming to a close, the Public Utilities Department initiated a facilities master plan in 2009 to identify long-term facility needs. Over 80 projects were identified through this master planning effort and will comprise the 2012-2032 CIP. Project scopes were based on findings primarily from facility condition assessments and system evaluations that identified areas in which hydraulic performance criteria cannot all be met. Council Policy 800-14 (CP 800-14) establishes a framework for prioritizing CIP projects, and it has been refined to reflect water-specific needs. The refined framework has provided a mechanism for objectively and consistently prioritizing over 80 recently-identified projects. CP 800-14 refinements were made with significant input from staff throughout the department as well as IROC (Independent Rates Oversight Committee). The list of prioritized projects, along with cost estimates and durations, will be the basis for 2012-2032 CIP.

Summary of Supplies

Historic imported water deliveries from the Water Authority to the Public Utilities Department and local surface water, conservation savings and recycled water deliveries are shown in **Table 5-1**.

Table 5-1
Historic Imported, Local and Recycled Water Demands*
Public Utilities Department

Fiscal Year	Imported Water (acre-feet)	Local Surface Water (acre-feet)	Conservation[1] (acre-feet)	Recycled Water (acre-feet)	Total[2] (acre-feet)
1990	233,158	22,500			255,658
1995	162,404	59,024	8,914	-	230,342
2000	207,874	39,098	17,410	3,250	267,632
2005	204,144	26,584	29,410	4,294	264,432
2010	188,337	13,117	34,317	12,173	247,944

[1]Conserved water results in savings and is not a direct supply.
[2]Total includes water supplied and conserved
*Includes retail and wholesale demands

5.4.2 Plans for Acquiring Additional Supplies

Future Supplies

In 2002, the City of San Diego City Council adopted the Long-Range Water Resources Plan 2002-2030 (Long Range Plan). This plan provides a decision-making framework for evaluating water supply options. The Long Range Plan identifies water conservation, water recycling, groundwater desalination, groundwater storage, ocean desalination, marine transport, water transfers, and imported supply from the Water Authority and MWD as potential near-term and long-term supplies. The Long Range Plan concluded that no single supply source would be sufficient to meet the City's future water demands, but a portfolio of supply options would reduce the dependence upon imported water over time.

The Public Utilities Department has begun work on updating the Long Range Plan and will have the update complete in 2012. The 2012 Long Range Plan will evaluate supply options such as water conservation, recycled water, groundwater storage, brackish groundwater desalination and indirect potable reuse. Conservation and water recycling have been implemented and will be increased. The Public Utilities Department is currently investigating the development of groundwater. Once these supplies are developed, and contracts, permits, and approvals obtained, these new supplies will be included in the UWMP.

Conservation

Future conservation supply development programs and technologies that may be pursued include:

1) Hot water circulating pump: This emerging water-savings technology reduces "warm-up" time for showers and other fixtures throughout the home. This system can save the average family approximately 2 gallons per use at the fixture.
2) "ShowerStart™": ShowerStart™ is an innovative device designed to be installed at the shower. This device has an internal temperature sensor and valve that works to stop the flow of water to a trickle once hot water has arrived at the fixture.
3) Flow restrictors: Flow restrictions for hospital sinks can reduce water waste during medical "scrubbing".

"Other" potential programs

- Special programs for dedicated landscape meters
- Landscape requirements and water budgets
- Tiered water rates to encourage water savings
- Retrofit multi-family meters with sub meters
- Retrofit mixed use commercial meters with separate irrigation meters

For the purposes of this Report, these enhanced conservation programs are not included as a resource to meet demands.

Recycled Water Study

The City of San Diego is currently conducting a Recycled Water Study. The purpose of this study is to identify opportunities to increase the usage of recycled water for potable and non-potable uses, the potential costs of implementing such opportunities, and to what extent such recycling could feasibly offload wastewater flows to the Point Loma Wastewater Treatment Plant (PLWTP).

The United States Environmental Protection Agency (USEPA) recently made a decision to grant the City San Diego a waiver to its National Pollutant Discharge Elimination System Permit. The waiver allows the City to continue to operate the PLWTP as an Advanced-Primary Treatment facility rather than requiring an upgrade to secondary treatment. Members of the environmental community (San Diego Coastkeeper and Surfrider Foundation) have traditionally opposed past permit waiver issuance in favor of urging higher level of water recycling. However, during the 2009 permit waiver process and in lieu of such opposition, San Diego Coastkeeper and the San Diego Chapter of Surfrider Foundation entered into a Cooperative Agreement with the City to conduct a Recycled Water Study. In accordance with the Agreement, both of these organizations will provide their support of the USEPA's decision to grant the waiver. The City's responsibility per the Agreement is to execute this study.

Additional goals of the study include identification and evaluation of recycling alternatives that would result in:

- The upgrade of the existing PLWTP to secondary treatment at the lowest possible cost.
- Maximizing water reclamation and to use recycled water to the fullest extent possible, including indirect potable reuse, non potable reuse and direct potable reuse.
- Evaluating opportunities to increase recycled water reuse via satellite facilities or via existing water reclamation plants. Evaluation will include detailed economic analysis that will consider potential capital and operation and maintenance savings on both the water and wastewater systems.

Groundwater

The City has several groundwater basins within its jurisdiction, including San Pasqual in the north; San Diego River System in the center of the City comprising the Mission Valley Basin and the El Monte/Santee Basin; the Tijuana River Valley Basin in the south; and the San Diego Formation, a large geological water bearing formation underlying the southwestern portion of San Diego County along the coast, roughly from the Mexican border to Mission Valley.

The groundwater from these basins is predominantly brackish. Improved technologies provide consideration of affordable water supply sources, such as brackish groundwater, that were not available a few decades ago. This supply source is a viable alternative and is part of the City's planning efforts. Local water supply projects, particularly groundwater exploration, benefit city rate payers, offer drought protection, and are locally controlled. The City is presently pursuing groundwater feasibility projects in San Pasqual, Mission Valley Basin, El Monte/Santee Basin, Tijuana River Valley Basin, and the San Diego Formation.

In the San Pasqual Basin, the San Pasqual Brackish Groundwater Desalination Project, which included a small scale demonstration project and looked at the feasibility of building a full-scale desalination facility in the lower western end of the San Pasqual basin, is complete. In addition, a planning study for San Pasqual Conjunctive Use that investigates the feasibility of storing and recovering raw water in the upper eastern portion of the San Pasqual basin has been completed. Identified in the report are percolation basins alternatives and project costs. The project team is focused on investigating the synergies between the potential full scale desalination facility and conjunctive use studies completed. Finally, efforts are in progress to implement basin recommendations and actions from the Council adopted 2007 San Pasqual Groundwater Management Plan (GMP).

The City is executing a feasibility study in the Mission Valley Basin, El Monte/Santee Basin, and the San Diego Formation known as the Pilot Production Wells Investigation. The goal of this investigation is to install a single production well in each of the basins to test the performance of the basin, evaluate potential environmental impacts, and assess appropriate treatment technologies for approximate two year duration while delivering the groundwater for beneficial use. At the end of the testing period, the City will decide whether to keep the wells in operation, expand the facilities, or shut down operations depending on the outcome of the investigation in each basin.

Separately, the City is examining the feasibility of using the Tijuana River Valley alluvial basin for aquifer storage and recovery (ASR) to seasonally store recycled water during the wet season, and extraction during the dry season to meet the service area peak demands for recycled water. A number of concerns will be addressed including: useable storage capacity of the alluvial aquifer, the injection or spreading of tertiary treated wastewater into a groundwater basin, potential lowering or mounding of the groundwater table near environmentally sensitive lands, potential of contributing to sea water intrusion, the mixing of native groundwater with recycled water when extracted for distribution, compliance with Basin Plan objectives, and potential impacts to neighboring Tijuana municipal supply wells.

<u>Water Purification Demonstration Project</u>

The City has implemented a Water Purification Demonstration Project to evaluate the feasibility of using advanced water purification (AWP) on recycled wastewater for eventual augmentation of supplies in a local reservoir. Reservoir water would undergo further treatment before being distributed as drinking water. The AWP Demonstration Facility will operate for 18 months. During the first 12 months of operation the advanced purified water will be frequently tested to determine the effectiveness of the treatment equipment in removing contaminants; the equipment will be monitored for flow and overall performance; operating data will be gathered and analyzed to refine operation and maintenance estimates for a full-scale system; tours are being conducted as part of the public outreach effort; a study of the San Vicente Reservoir will be conducted to establish residence time and short circuiting conditions of the AWP water in the reservoir and all necessary steps will be taken to ensure that the treatment process meets the requirements set by the CDHP. A Final Project Report for the Demonstration Project will be prepared and serve as a single document describing the results of the Demonstration Project for elected officials, regulators, and the public. The Demonstration Project is an essential step towards full implementation of the Indirect Potable Reuse/Reservoir Augmentation program. On November

18, 2008, the City Council approved a rate increase to fund the $11.8 million Demonstration Project. The rate increase went into effect on January 1, 2009 and ended in September 2010.

Water Transfers

Water transfers are agreements in which water supplies are transferred from the original point of origin or control to a new place of use. Transfers can offer flexibility and help ensure that the state's water resources are used effectively. While a myriad of rules surround transfers in California, water transfers are not currently considered as a supply resource as defined in SB 610 to meet projected demands. The Public Utilities Department is relying upon the Water Authority and MWD to pursue water transfers.

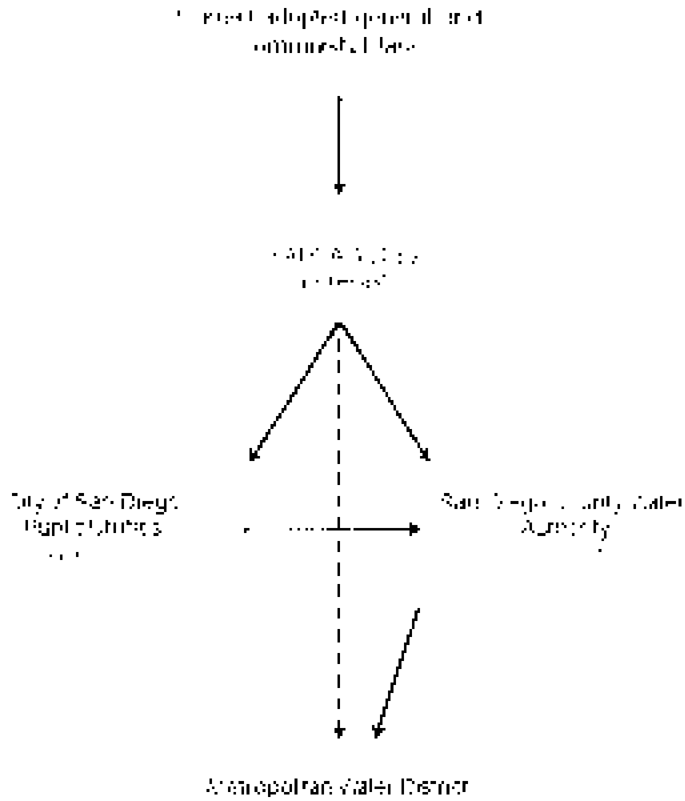
Section 6 - Projected Demands

Approximately every three years the Public Utilities Department calculates projected water demands within its service area for planning purposes. A computer model is used (IWR-MAIN) to break down water-use by major water-use sectors: Commercial, Industrial, Residential and Public uses. Using past water use data from the Public Utilities Department and demographic data provided by SANDAG, the model is able to correlate the data to determine sector water demands. Using this correlated data, future demographic data is used to project water demands. The model also accounts for water conservation, weather and water rate changes.

In addition to the Public Utilities Department, the Water Authority and MWD use regional growth forecasts to calculate projected water demands within their respective service areas. This provides for consistency between the retail and wholesale agencies projected water demands, thereby ensuring that adequate supplies are being planned for the Public Utilities Department's existing and future water users. The SANDAG forecasts are based on adopted community plan land use, but not citywide zoning. SANDAG forecasts the number of residents, dwelling units, and employees in an area, but not square footage, hotel rooms, or visitors (non-residents or non-employees). For urban areas the smallest forecast geography is typically at the block level, but for suburban and less developed area the forecast geography can be larger. SANDAG typically updates the regional growth forecast every three to four years. The Public Utilities Department water demand projections, based on the SANDAG Series 12 Forecast, are incorporated in the City's 2010 UWMP. These projections are then forwarded to the Water Authority for use in the preparation of their UWMP, which is further incorporated into MWD's UWMP to calculate the ultimate water demands of the region (see **Figure 6-1**).

The Public Utilities Department updates its UWMP every five years. The 2010 UWMP, originally scheduled for completion in December 2010, was completed and adopted in June 2011. The time extension granted for the completion of the 2010 UWMP was due to the new SBX7-7 reporting requirement that needed to be incorporated into the 2010 UWMP. SBX7-7, which is part of the 2009 Water Legislation, requires urban water agencies to reduce statewide per capita water consumption 20 percent by 2020.

FIGURE 6-1
WATER DEMAND PROJECTIONS



The demands from the 2010 UWMP are used throughout this Report. The historical and projected water demands for a normal year are shown in **Table 6-1**.

As part of the requirements for complying with SB 610, **Table 6-7** and **Table 6-8** show the single dry year and consecutive multiple dry year demands. All tables in this section are based on data from the 2010 UWMP.

TABLE 6-1
PAST, CURRENT, AND PROJECTED WATER DELIVERIES
(AFY)

2005					
Water Use Sector	Metered		Unmetered		Total Volume (AFY)
	# Accounts	Volume (AFY)	# Accounts	Volume (AFY)	
Single family	217,903	77,864	0	0	77,864
Multi-family	28,443	39,220	0	0	39,220
Commercial	14,468	33,089	0	0	33,089
Industrial	251	4,276	0	0	4,276
Institutional/Governmental	2,341	16,842	0	0	16,842
Landscape Irrigation	7,246	27,877	0	0	27,877
Total	270,733	199,178	0	0	199,178

Source: City of San Diego Public Utilities Report [illegible]

2010					
Water Use Sector	Metered		Unmetered		Total Volume (AFY)
	# Accounts	Volume (AFY)	# Accounts	Volume (AFY)	
Single family	220,562	62,367	0	0	62,367
Multi-family	28,361	36,324	0	0	36,324
Commercial	14,542	27,244	0	0	27,244
Industrial	186	2,325	0	0	2,325
Institutional/Governmental	2,321	13,774	0	0	13,774
Landscape Irrigation	7,327	20,257	0	0	20,257
Total	273,599	162,291	0	0	162,291

Source: City of San Diego Public Utilities Report [illegible]

Table 6-1, Continued

Water Use Sector	2015				
	Metered		Unmetered		Total Volume (AFY)
	# Accounts	Volume (AFY)	# Accounts	Volume (AFY)	
Single family	231,396	75,922	0	0	75,922
Multi-family	32,002	47,266	0	0	47,266
Commercial	14,376	31,617	0	0	31,617
Industrial	166	2,071	0	0	2,071
Institutional/Governmental	2,302	13,769	0	0	13,769
Landscape Irrigation	7,583	25,452	0	0	25,452
Total	287,587	195,698	0	0	195,698

Water Use Sector	2020				
	Metered		Unmetered		Total Volume (AFY)
	# Accounts	Volume (AFY)	# Accounts	Volume (AFY)	
Single family	236,639	79,992	0	0	79,992
Multi-family	37,330	56,700	0	0	56,700
Commercial	14,783	33,541	0	0	33,541
Industrial	186	2,157	0	0	2,157
Institutional/Governmental	2,302	13,772	0	0	13,772
Landscape Irrigation	7,969	27,247	0	0	27,247
Total	299,582	213,409	0	0	213,409

Water Use Sector	2025		2030		2035	
	Metered		Metered		Metered	
	# Accounts	Volume (AFY)	# Accounts	Volume (AFY)	# Accounts	Volume (AFY)
Single family	241,491	83,370	244,138	85,633	245,682	86,471
Multi-family	42,662	66,070	47,310	75,378	52,420	82,783
Commercial	14,681	34,012	14,100	33,116	13,853	32,740
Industrial	176	2,077	166	1,995	166	1,967
Institutional/Governmental	2,247	13,639	2,172	13,399	2,154	13,329
Landscape Irrigation	8,192	28,893	8,102	29,301	8,543	30,698
Total	308,505	228,081	315,634	238,772	321,337	247,988

Table 6-2 summarizes the current and planned water sources the City is relying on to meet future demands.

TABLE 6-2
PLANNED WATER SUPPLY SOURCES
(AFY)

Water Supply Sources	Wholesaler Supplied Volume (yes/no)	2015	2020	2025	2030	2035
San Diego County Water Authority	Yes	201,719	221,458	237,622	249,728	260,107
Supplier produced surface water (1)		29,000	29,000	29,000	29,000	29,000
Supplier produced groundwater		500	500	500	500	500
Transfers In		0	0	0	0	0
Exchanges In		0	0	0	0	0
Recycled Water (2)		9,253	9,253	9,253	9,253	9,253
Desalinated Water		0	0	0	0	0
Other		0	0	0	0	0
Total		240,472	260,211	276,375	288,481	298,860

Notes:

1. Current surface water estimates provided by City, 2011.
2. Recycled water includes recycled water sold to other agencies, data is from the City's NCWRP and SBWRP Summary of Recycled Customers provided by the City on April 22, 2011.

6.1 Sales to other Agencies

Potable

The City, through past agreements, sells treated water to the Cal-Am which provides water service to the cities of Coronado and Imperial Beach, City of Del Mar, and Naval Air Station North Island. The population of Naval Station North Island is located within the City of Coronado, whereas the other military bases that the City serves are within the City. The City also sells untreated water to Santa Fe Irrigation District and San Dieguito Water District. **Table 6-3** presents the water sales to other agencies.

Per the agreement between the City and Cal-Am, only local surface water is sold to Cal-Am to provide water to supply Cal-Am customers. A portion of City residents in the South Bay area are also served by Cal-Am and can be served by imported water as well. Per the agreement between the City and the City of Del Mar, the City takes deliveries of water, which the City of Del Mar purchases from the Water Authority, through the Second Aqueduct Connection at Miramar. This water is then treated at the City's Miramar WTP and transported to the City of Del Mar through several interconnections.

The City has agreements to provide surplus treated water to Otay Water District and untreated exchange water to Ramona Municipal Water District. These water deliveries occur infrequently and for short periods of time, and are therefore not shown in **Table 6-3**.

TABLE 6-3
SALES TO OTHER AGENCIES-POTABLE
(AFY)

Water Distributed	2005	2010	2015	2020	2025	2030	2035
California American Water Company	13,311	11,462	13,153	13,395	13,452	13,757	13,888
Santa Fe Irrigation District and San Dieguito Water District [a]	2,012	7,227	7,596	7,981	8,191	8,819	9,266
City of Del Mar [b]	1,324	1,058	1,112	1,168	1,228	1,290	1,356
Naval Air Station North Island	1,204	1,568	1,568	1,568	1,568	1,568	1,568
Total	14,515	13,030	14,721	14,963	15,020	15,325	15,556

Notes:

(a) Through a joint agreement, the City supplies raw water from local surface water supplies to Santa Fe Irrigation District/San Dieguito Water District, and treated water to the other agencies. This water supply is not reflected in total City water supplies as it is purchased from local surface water supply.

(b) City of Del Mar is not a customer of the City; the City is treating water for Del Mar that is provided by Water Authority.

Recycled and Non-Revenue Water

The City has three separate agreements to sell recycled water. Olivenhain Municipal Water District and the City of Poway are provided recycled water from the City's North City Water Reclamation Plant while Otay Water District receives recycled water from the City's South Bay Water Reclamation Plant.

Non-Revenue Water (NRW) is water that is unaccounted for or unbilled water consumption. Unaccounted for water can be attributed to unauthorized consumption, meter inaccuracies, data errors, leakage on mains, leakage and overflow at storage and leakage at service connections. Using metered demand and total City delivered values, NRW was computed as 9.0 percent in 2008. Water use for firefighting, line flushing and other authorized, but unbilled use is classified in the computation of NRW as unbilled consumption.

City staff deemed it reasonable to assume this percent system loss could be maintained in future years given the City's aggressive program of leak detection and repair. The City is going forward with an automated meter reading system that could improve billing accuracy, better quantify real versus apparent losses and identify customer leaks. Thus, NRW is held constant in the projections at 9.0 percent for forecast years. **Table 6-4** presents the City's additional water uses (recycled water) and NRW.

TABLE 6-4
ADDITIONAL WATER USES AND LOSSES
(AFY)

Water Use	2005	2010	2015	2020	2025	2030	2035
Recycled water	4,294	7,656	9,253	9,253	9,253	9,253	9,253
Non-revenue water	10,404	21,909	20,810	22,580	24,041	25,131	26,065
Total	14,698	29,565	30,063	31,839	33,294	34,384	35,318

Notes:

1. *Source for recycled water, 2005 from Table [illegible] of the City's 2005 Urban Water Management Plan. [illegible]*
2. *Recycled water [illegible]*
3. *Source for non-revenue water for 2005 [illegible] City of San Diego [illegible]*

Table 6-5 is a summary of and displays City's past water use from 2005 and 2010 with projected water use shown for 2015 thru 2035.

TABLE 6-5
TOTAL WATER-USE
(AFY)

Water Distributed	Total Water Use (AFY)						
	2005	2010	2015	2020	2025	2030	2035
Total Water Deliveries (Table 6-1)	199,178	162,291	195,688	213,409	228,061	238,772	247,986
Sales to Other Water Agencies (Table 6-3)	14,515	13,030	14,721	14,963	15,020	15,325	15,556
Additional Water Uses and Losses (Table 6-4)	14,698	29,565	30,063	31,839	33,294	34,384	35,318
Total	228,391	204,886	240,472	260,211	276,375	288,481	298,860

The analysis in **Table 6-6** below compares the projected normal water supply and customer demands from 2010 to 2035, in five-year increments.

TABLE 6-6
PROJECTED NORMAL SUPPLY AND DEMAND COMPARISON
(AFY)

	2015	2020	2025	2030	2035
Supply totals	240,472	260,211	276,375	288,481	298,860
Demand totals	240,472	260,211	276,375	288,481	298,860
Difference (supply minus demand)	0	0	0	0	0

6.2 Projected Single-Dry-Year Water Supply and Demand

Table 6-7 provides a comparison of a single dry year water supply with projected total water use over the next 25 years, in five-year increments. The City's demands in single dry years are projected to be higher similar in proportion to the increase in regional water demands projected in the Water Authority's 2010 UWMP. An increase in use for landscape irrigation accounts for most of the increase in demands. It is assumed that recycled water demands would not increase in single dry years. The wholesale water supplies from the Water Authority are assumed to increase to meet the difference between the City's increased water demands and reduced local water supplies.

TABLE 6-7
PROJECTED SINGLE DRY YEAR SUPPLY AND DEMAND COMPARISON
(AFY)

	2015	2020	2025	2030	2035
Supply totals	255,040	276,526	293,895	307,230	318,586
Demand totals	255,040	276,526	293,895	307,230	318,586
Difference (supply minus demand)	0	0	0	0	0

6.3 Projected Multiple-Dry-Year Water Supply and Demand

Table 6-8 compares the total water supply available in multiple dry water years with projected total water use over the next 25 years. The City's demands in multiple dry years are projected to be higher similar in proportion to the increase in regional water demands projected in Water Authority's 2010 UWMP. It is assumed that recycled water demands would not increase in multiple dry years. The wholesale water supplies from Water Authority are assumed to increase to meet the difference between the City's increased water demands and reduced local water supplies. Multiple dry year scenarios represent hot, dry weather periods which may generate urban water demands that are greater than normal. No extraordinary conservation measures are reflected in the demand projections. The recycled water supplies are assumed to experience no reduction in a dry year.

TABLE 6-8
PROJECTED SUPPLY AND DEMAND COMPARISON DURING MULTIPLE DRY YEAR PERIOD ENDING IN 2035
(AFY)

		Supply and Demand Comparison - Multiple Dry Year Events				
		2015	2020	2025	2030	2035
Multiple-dry year First year supply	Supply totals	257,587	278,451	296,319	309,230	320,382
	Demand totals	257,587	278,451	296,319	309,230	320,382
	Difference	0	0	0	0	0
Multiple-dry year Second year supply	Supply totals	267,323	288,723	306,726	320,467	332,038
	Demand totals	267,323	288,723	306,726	320,467	332,038
	Difference	0	0	0	0	0
Multiple-dry year Third year supply	Supply totals	281,466	303,004	322,166	334,720	346,823
	Demand totals	281,466	303,004	322,166	334,720	346,823
	Difference	0	0	0	0	0

Section 7 - Conclusion - Availability of Sufficient Supplies

The Plan Update is consistent with water demand assumptions in the regional water resource planning documents of MWD and the Water Authority. The Public Utilities Department receives the majority of its water supply from MWD through the Water Authority. In addition, MWD and the Water Authority have developed water supply plans to improve reliability and reduce dependence upon existing imported supplies. MWD's Regional Urban Water Management Plan and Integrated Resources Plan, the Water Authority's 2010 UWMP and annual water supply report include projects that meet long term supply needs through securing water from the State Water Project, Colorado River, local water supply development and recycled water.

The forecasted normal year water demands compared with projected supplies for the Public Utilities Department are shown in **Table 7-1**. This demonstrates that with existing supplies and implementation of the projects discussed in the three agencies's planning documents there will be adequate water supplies to serve all anticipated growth (existing and future planned uses) and development.

TABLE 7-1
PROJECTED SUPPLY AND DEMAND COMPARISON – NORMAL YEAR
(AFY)

	2015	2020	2025	2030	2035
Supply totals	240,472	260,211	276,375	288,481	298,860
Demand totals	240,472	260,211	276,375	288,481	298,860
Difference (supply minus demand)	0	0	0	0	0

Table 7-2 provides a comparison of a single dry year water supply with projected total water use over the next 25 years, in five year increments.

TABLE 7-2
PROJECTED SINGLE DRY YEAR SUPPLY AND DEMAND COMPARISON
(AFY)

	2015	2020	2025	2030	2035
Supply totals	255,040	276,526	293,895	307,230	318,586
Demand totals	255,040	276,526	293,895	307,230	318,586
Difference (suppy minus demand)	0	0	0	0	0

The multiple-dry year scenarios, within a 20-year projection, are shown in **Table 7-3**. This demonstrates that supplies will be adequate to meet all anticipated growth (existing and future planned uses) and development in multiple dry year periods.

TABLE 7-3
PROJECTED SUPPLY AND DEMAND COMPARISON DURING MULTIPLE DRY YEAR PERIOD ENDING IN 2035
(AFY)

		Supply and Demand Comparison – Multiple Dry Year Events				
		2015	2020	2025	2030	2035
Multiple-dry year First year supply	Supply totals	257,587	278,451	296,319	309,230	320,382
	Demand totals	257,587	278,451	296,319	309,230	320,382
	Difference	0	0	0	0	0
Multiple-dry year Second year supply	Supply totals	267,323	288,723	306,726	320,467	332,038
	Demand totals	267,323	288,723	306,726	320,467	332,038
	Difference	0	0	0	0	0
Multiple-dry year Third year supply	Supply totals	281,466	303,004	322,166	334,720	346,823
	Demand totals	281,466	303,004	322,166	334,720	346,823
	Difference	0	0	0	0	0

This Report demonstrates that there are sufficient water supplies over a 20-year planning horizon to meet the projected demands of the Plan Update as well as the existing and other planned development projects within the Public Utilities Department service area in normal, dry year, and multiple dry year forecasts. This Plan Update is proposing water demands which are included in the regional water resource planning documents of the Water Authority and MWD.

Source Documents

California Department of Water Resources (DWR), Progress on Incorporating Climate Change into Management of California's Water Resources, July 2006 Report

California Climate Change Center, 2006 Biennial Report: Our Changing Climate: Assessing the Risks to California, 2006

California Department of Water Resources Guidebook for Implementation of Senate Bill 610 and Senate Bill 221 of 2001, March 2011

DSD Memorandum - Request for assessment and project description, October 2010

MWD 2010 Regional Urban Water Management Plan

MWD Report on Metropolitan's Water Supplies: A Blueprint for Water Reliability, March 2003

MWD Integrated Resources Plan Update, Oct 2010

Water Authority 2010 Urban Water Management Plan

Water Authority Regional Water Facilities Master Plan, 2003

Water Department Long Range Water Resources Plan (2002-2030), December 2002

Public Utilities Department 2010 Urban Water Management Plan

Water Department The City of San Diego Subordinated Water Revenue Bonds, Series 2002, October 2002

APPENDIX M-2

Water Supply Assessment and Verification Report

OTAY WATER DISTRICT

WATER SUPPLY ASSESSMENT AND VERIFICATION REPORT

City of San Diego
Otay Mesa Community Plan Update

D0899-090154

Prepared by:

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Otay Water District
in consultation with
Atkins
and
San Diego County Water Authority

May 2013

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Executive Summary

The Otay Water District (Otay WD) prepared this Water Supply Assessment and Verification Report (WSA&V Report) at the request of the City of San Diego (City) for the Otay Mesa Community Plan (OMCP) Update project (Project).

Otay Mesa Community Plan Update Project Overview and Water Use

The City of San Diego proposes to update the 1981 OMCP and the Otay Mesa Development District Ordinance zoning regulations. The Otay Mesa community encompasses approximately 9,300 acres in the southeastern portion of the City of San Diego. Approximately 5,200 acres are served by the City, with the remaining 4,100 acres served by Otay WD. The community is bordered by the San Ysidro and Otay Mesa-Nestor communities on the west, the City of Chula Vista and the Otay Valley Regional Park on the north, the County of San Diego on the east and the US/Mexico border and the City of Tijuana on the south.

The Project will re-designate land uses to increase the number of allowed residential units and reduce the acreage for industrial uses. New land use designations are proposed to allow the establishment of industrial centers, mixed commercial and residential uses, and, where appropriate, residential uses near industrial uses. Modified industrial and commercial land use designations are also included that are similar to the industrial intensity found in the adopted community plan. The International Business and Trade would be the dominant industrial land use in this scenario. Other features of the Project include:

- Increasing housing unit yield in the southwestern residential areas
- Creating a village center in an area south of SR-905 and west of Britannia Boulevard
- Designating a corridor of Business Park-themed industrial uses along SR-905
- Seeking to enhance the image of the community along SR-905 with flex space and corporate office users flanking the freeway
- Encouraging outdoor storage and heavy industry uses to shift to the border area

The expected potable water demands to be served by the Otay WD for the Otay Mesa Community Plan Update is 4.70 million gallons per day (mgd) or about 5,273 acre feet per year (AFY) which is slightly less than what was projected in the District's 2010 Water Resources Master Plan Update (WRMP Update). The projected recycled water demand for the proposed project is approximately 0.68 mgd, or about 774 AFY, which represents approximately 13% of total project water demand.

Planned Imported Water Supplies

The San Diego County Water Authority (Water Authority) and the Metropolitan Water District (MWD) have an established process that ensures supplies are being planned to meet future growth. Any annexations and revisions to established land use plans are captured in the San Diego Association of Governments (SANDAG) updated forecasts for land use planning, demographics, and economic projections. SANDAG serves as the regional, intergovernmental planning agency that develops and provides forecast information. The Water Authority and MWD update their demand forecasts and supply needs based on the most recent SANDAG forecast approximately every five years to coincide with preparation of their Urban Water Management Plans (UWMP). Prior to the next forecast update, local jurisdictions may require water supply assessment and/or verification reports for proposed land developments that are not within the Otay WD, Water Authority, nor MWD jurisdictions (i.e. pending or proposed annexations) or that have revised land use plans than what is in the existing growth forecasts. Land areas with pending or proposed annexations or revised land use plans typically result in creating higher demand and supply requirements than anticipated. The Otay WD, Water Authority, and MWD next demand forecast, supply requirements and associated planning documents would then capture any increase or decrease in demands and required supplies as a result of annexations or revised land use planning decisions.

The California Urban Water Management Planning Act (Act), which is included in the California Water Code, requires all urban water suppliers within the state to prepare an UWMP and update it every five years. The purpose and importance of the UWMP has evolved since it was first required 25 years ago. State agencies and the public frequently use the document to determine if agencies are correctly planning to reliably meet future water demands. As such, UWMPs serve as an important element in documenting supply availability for the purpose of compliance with state laws, Senate Bills 610 and 221, linking water supply sufficiency to large land-use development approval. Agencies must also have a UWMP prepared, pursuant to the Act, in order to be eligible for state funding and drought assistance.

MWD's Integrated Resource Plan (IRP) identifies a mix of resources (imported and local) that, when implemented, will provide 100 percent reliability for full-service demands through the attainment of regional targets set for conservation, local supplies, State Water Project supplies, Colorado River supplies, groundwater banking, and water transfers. The MWD's 2010 update to the IRP (2010 IRP Update) includes a planning buffer supply intended to mitigate the risks associated with implementation of local and imported supply programs. The planning buffer identifies an additional increment of water that could potentially be developed if other supplies are not implemented as planned. As part of the implementation of the planning buffer, MWD periodically evaluates supply development to ensure that the region is not under or over developing supplies. Managed properly, the planning buffer will help ensure that the southern California region, including San Diego County, will have adequate water supplies to meet future demands.

Water supply agencies throughout California continue to face climatological, environmental, legal, and other challenges that impact water source supply conditions, such as the court rulings regarding the Sacramento-San Joaquin Delta issues and the recent drought impacting the western states. It is expected that challenges such as these will always be present. Regardless of the challenges, the regional water supply agencies, the Water Authority and MWD, along with Otay WD fully intend to have sufficient, reliable supplies to serve demands.

Section ES-5 of MWD's 2010 Regional Urban Water Management Plan (2010 RUWMP) states that MWD has supply capacities that would be sufficient to meet expected demands from 2015 through 2035. MWD has plans for supply implementation and continued development of a diversified resource mix including programs in the Colorado River Aqueduct, State Water Project, Central Valley Transfers, local resource projects, and in-region storage that enables the region to meet its water supply needs. MWD's 2010 RUWMP identifies potential reserve supplies in the supply capability analysis (Tables 2-9, 2-10, and 2-11), which could be available to meet unanticipated demands such as those related to the Otay Mesa Community Plan Update.

The County Water Authority Act, Section 5 subdivision 11, states that the Water Authority, "as far as practicable, shall provide each of its member agencies with adequate supplies of water to meet their expanding and increasing needs."

As part of the preparation of a written water supply assessment report, an agency's shortage contingency analysis should be considered in determining sufficiency of supply. Section 11 of the Water Authority's 2010 UWMP contains a detailed shortage contingency analysis that addresses a regional catastrophic shortage situation and drought management. The analysis demonstrates that the Water Authority and its member agencies, through the Emergency Response Plan, Emergency Storage Project, and Drought Management Plan (DMP) are taking actions to prepare for and appropriately handle an interruption of water supplies. The DMP, adopted in May 2006, provides the Water Authority and its member agencies with a series of potential actions to take when faced with a shortage of imported water supplies from MWD due to prolonged drought or other supply shortfall conditions. The actions will help the region avoid or minimize the impacts of shortages and ensure an equitable allocation of supplies.

Otay Water District Water Supply Development Program

In evaluating the availability of sufficient water supply, the Otay Mesa Community Plan Update proponents are required to participate in the development of alternative water supply project(s). This can be achieved through payment of the New Water Supply Fee adopted by the Otay WD Board in May 2010. These water supply projects are in addition to those identified as sustainable supplies in the current Water Authority and MWD UWMP, IRP, Master Plans, and other planning documents. The new water supply projects are in response to regional water supply issues. These projects are not currently developed and are in various stages of the planning process. A few examples of these alternative water supply projects are the Middle Sweetwater River Basin Groundwater Well project, the North District Recycled Water Supply Concept, the Rosarito Ocean Desalination Facility project, and the Rancho del Rey Groundwater Well project. The Water Authority and MWD next forecast and supply planning documents will capture any increase in water supplies resulting from new water resources developed by the Otay WD.

Findings

The WSA&V Report identifies and describes the processes by which water demand projections for the proposed Otay Mesa Community Plan Update will be fully included in the water demand and supply forecasts of the Urban Water Management Plans and other water resources planning documents of the Water Authority and MWD. Water supplies necessary to serve the proposed project demands, as well as existing and other projected future users, and the actions necessary and development status of these supplies, have been identified in the Otay Mesa Community Plan Update WSA&V Report and will be included in the future water supply planning documents of the Water Authority and MWD.

This WSA&V Report includes, among other information, an identification of existing water supply entitlements, water rights, water service contracts, water supply projects, or agreements relevant to the identified water supply needs for the proposed Otay Mesa Community Plan Update. The WSA&V Report demonstrates and documents that sufficient water supplies are planned for and are intended to be available over a 20-year planning horizon, under normal conditions and in single and multiple dry years to meet the projected demand of the proposed Otay Mesa Community Plan Update and the existing and other planned development projects to be served by the Otay WD.

Accordingly, after approval of a WSA&V Report for the Otay Mesa Community Plan Update by the Otay WD Board of Directors (Board), the WSA&V Report may be used to comply with the requirements of the legislation enacted by Senate Bills 610 and 221 as follows:

1. Senate Bill 610 Water Supply Assessment: The Otay WD Board approved WSA&V Report may be incorporated into the California Environmental Quality Act (CEQA) Environmental Impact Report (EIR) compliance process for the Otay Mesa Community Plan Update as a water supply assessment report consistent with the requirements of the legislation enacted by SB 610. The City, as lead agency under CEQA for the Otay Mesa Community Plan Update EIR amendment, may cite the approved WSA&V Report as evidence that a sufficient water supply is planned for and is intended to be made available to serve the Otay Mesa Community Plan Update.

2. Senate Bill 221 Water Supply Verification: The Otay WD Board approved WSA&V Report may be incorporated into the City's Tentative Map approval process for the Otay Mesa Community Plan Update as a water supply verification report, consistent with the requirements of the legislation enacted by SB 221. The City, within their process of approving the Otay Mesa Community Plan Update's Tentative Map, may cite the approved WSA&V Report as verification of intended sufficient water supply to serve the Otay Mesa Community Plan Update.

Section 1 - Purpose

The Otay Mesa community encompasses approximately 9,300 acres in the southeastern portion of the City of San Diego. Approximately 5,200 acres are served by the City, with the remaining 4,100 acres served by Otay WD. The community is bordered by the San Ysidro and Otay Mesa-Nestor communities on the west, the City of Chula Vista and the Otay Valley Regional Park on the north, the County of San Diego on the east and the US/Mexico border and the City of Tijuana on the south. The City requested that Otay WD prepare a WSA&V Report for the Otay Mesa Community Plan Update. The current Otay Mesa Community Plan Update description is provided in Section 3 of this WSA&V Report.

This WSA&V Report for the Otay Mesa Community Plan Update has been prepared by the Otay WD in consultation with Atkins, the San Diego County Water Authority, and the City pursuant to Public Resources Code Section 21151.9 and California Water Code Sections 10631, 10656, 10910, 10911, 10912, and 10915 referred to as Senate Bill (SB) 610 and Business and Professions Code Section 11010 and Government Code Sections 65867.5, 66455.3, and 66473.7 referred to as SB 221. The intent of SB 610 and SB 221 amended state law, effective January 1, 2002, is to improve the link between information on water supply availability and certain land use decisions made by cities and counties. SB 610 requires that the water purveyor of the public water system prepare a water supply assessment to be included in the CEQA environmental documentation and approval process of certain proposed projects. SB 221 requires affirmative written verification from the water purveyor of the public water system that sufficient water supplies will be available for certain residential subdivisions of property prior to approval of a tentative map. The requirements of SB 610 and SB 221 are being addressed by this WSA&V Report. The City requested that the water supply assessment and verification be prepared concurrently, since the requirements of SB610 and SB 221 are substantially similar.

This WSA&V Report evaluates water supplies that are planned to be available during normal, single dry year, and multiple dry water years during a 20-year planning horizon to meet existing demands, expected demands of the Otay Mesa Community Plan Update, and reasonably foreseeable planned future water demands served by Otay WD. The Otay WD Board of Directors (Board) approved WSA&V Report is planned to be used by the City in its evaluation of the Otay Mesa Community Plan Update under the CEQA and Tentative Map approval processes.

Section 2 - Findings

The Otay WD prepared this WSA&V Report at the request of the City for the Otay Mesa Community Plan Update project.

The Otay Mesa Community Plan Update is located within the jurisdictions of the Otay WD, the City, the Water Authority, and the MWD. To obtain permanent imported water supply service, land areas are required to be within the jurisdictions of the Otay WD, Water Authority, and MWD to utilize imported water supply.

The expected potable water demand for the Otay Mesa Community Plan Update is 4.7 mgd or about 5,273 AFY which is slightly less than what was projected in the District's 2010 WRMP Update. The projected recycled water demand for the Otay Mesa Community Plan Update is 0.68 mgd or 774 AFY, representing about 13% of the total Otay Mesa Community Plan Update water demand.

The Otay Mesa Community Plan Update development proponents are required to use recycled water for irrigation and other appropriate uses. The primary benefit of using recycled water is that it will offset the potable water demands by an estimated 774 AFY. The WRMP Update and the Otay WD 2010 Urban Water Management Plan (2010 UWMP) anticipated that the land area to be utilized for the Otay Mesa Community Plan Update would use both potable and recycled water.

The Water Authority and MWD have an established process that ensures supplies are being planned to meet future growth. Any annexations and revisions to established land use plans are captured in the SANDAG updated forecasts for land use planning, demographics, and economic projections. SANDAG serves as the regional, intergovernmental planning agency that develops and provides forecast information. The Water Authority and MWD update their demand forecasts and supply needs based on the most recent SANDAG forecast approximately every five years to coincide with preparation of their urban water management plans. Prior to the next forecast update, local jurisdictions may require water supply assessment and/or verification reports for proposed land developments that are not within the Otay WD, Water Authority, nor MWD jurisdictions (i.e. pending or proposed annexations) or that have revised land use plans than those used in the existing growth forecasts. Proposed land areas with pending or proposed annexations or revised land use plans typically result in creating higher demand and supply requirements than anticipated. The Otay WD, the Water Authority, and MWD next demand forecast and supply requirements and associated planning documents would then capture any increase or decrease in demands and required supplies as a result of annexations or revised land use planning decisions. The Otay Mesa Community Plan Update was included in SANDAG's Series 12 forecast that was accepted in 2010.

This process is utilized by the Water Authority and MWD to document the water supplies necessary to serve the demands of the proposed Otay Mesa Community Plan Update, along with existing and other projected future users, as well as the actions necessary to develop these supplies. This process ensures that the necessary demand and supply information is identified and incorporated within the water supply planning documents of the Water Authority and MWD.

The Otay WD 2010 UWMP included a water conservation component to comply with Senate Bill 7 of the Seventh Extraordinary Session (SBX 7-7), which became effective February 3, 2010. This new law is the water conservation component to the Delta legislation package, and seeks to achieve a 20 percent statewide reduction in urban per capita water use in California by December 31, 2020. Specifically, SBX 7-7 from this Extraordinary Session requires each urban retail water supplier to develop urban water use targets to help meet the 20 percent reduction goal by 2020 (20x2020), and an interim water reduction target by 2015.

Otay WD has adopted Method 1 to set its 2015 interim and 2020 water use targets. Method 1 requires setting the 2020 water use target to 80 percent of baseline per capita water use target as provided in the State's Draft 20x2020 Water Conservation Plan. The Otay WD 2015 target is 171 gallons per capita per day (gpcd) and the 2020 gpcd target at 80 percent of baseline is 152 gpcd.

The Otay WD's recent per capita water use has been declining to the point where current water use already meets the 2020 target for Method 1. This recent decline in per capita water use is largely due to drought water use restrictions, increased water costs, and economic conditions. However, Otay WD's effective water use awareness campaign and the enhanced conservation mentality of its customers will likely result in some degree of long-term carryover of these reduced consumption rates.

In evaluating the availability of sufficient water supply, the Otay Mesa Community Plan Update proponents are required to participate in the development of alternative water supply project(s). This can be achieved through payment of the New Water Supply Fee adopted by the Otay Water District Board in May 2010. These water supply projects are in addition to those identified as sustainable supplies in the current Water Authority and MWD UWMP, IRP, Master Plans, and other planning documents. The new water supply projects are in response to the regional water supply issues related to the Sacramento-San Joaquin Delta and the current ongoing western states drought conditions. These additional water supply projects are not currently developed and are in various stages of the planning process. A few examples of these alternative water supply projects include the Middle Sweetwater River Basin Groundwater Well project, the North District Recycled Water Supply Concept, the Rosarito Ocean Desalination Facility project, and the Rancho del Rey Groundwater Well project. The Water Authority and MWD next forecast and supply planning documents would capture any increase in water supplies resulting from any new water resources developed by the Otay WD.

Water supplies necessary to serve the demands of the proposed Otay Mesa Community Plan Update, along with existing and other reasonably foreseeable projected future users, as well as the actions necessary and the development status of these supplies, will be identified and included within the water supply planning documents of the Water Authority and MWD. This WSA&V Report demonstrates and verifies that, with development of the resources currently identified and those that may be additionally acquired; there are sufficient water supplies being planned for and/or being developed over the next 20-year planning horizon. These water supplies meet the projected demand of the proposed Otay Mesa Community Plan Update and the existing and other reasonably foreseeable planned development projects within the Otay WD.

This WSA&V Report includes, among other information, an identification of existing water supply entitlements, water rights, water service contracts, proposed water supply projects, or agreements relevant to the identified water supply needs for the proposed Otay Mesa Community Plan Update. This WSA&V Report incorporates by reference the current Urban Water Management Plans and other water resources planning documents of the Otay WD, the Water Authority, and MWD. The Otay WD prepared this WSA&V to verify and document that sufficient water supplies are being planned for and are intended to be acquired to meet projected water demands of the Otay Mesa Community Plan Update and the existing and other reasonably foreseeable planned development projects within the Otay WD for a 20-year planning horizon, in normal supply years, and in single dry and multiple dry years.

Based on a normal water supply year, the five-year increments for a 20-year projection indicate projected potable and recycled water supply is being planned for and is intended to be acquired to meet the estimated water demand targets of the Otay WD. These water demand targets are 44,883 AF in 2015 and increase to 56,614 AF in 2035 per the Otay WD 2010 UWMP. Based on dry year forecasts, the estimated water supply is also being planned for and is intended to be acquired to meet the projected water demand, during single dry and multiple dry year scenarios. On average, the dry-year demands are about 6.4 percent higher than the normal year demands. The Otay WD recycled water supply is assumed to be drought-proof and not subject to reduction during dry periods.

These findings demonstrate and verify that sufficient water supplies are being planned for and are intended to be acquired to serve the proposed Otay Mesa Community Plan Update and the existing and other reasonably foreseeable planned projects within the Otay WD in both normal and single and multiple dry year forecasts for a 20-year planning horizon.

Section 3 - Project Description

The Otay Mesa Community Plan Update project is located within the City of San Diego, California. Refer to Appendix A for a regional location map of the proposed project.

The Otay Mesa community encompasses approximately 9,300 acres in the southeastern portion of the City of San Diego. Approximately 5,200 acres are served by the City, with the remaining 4,100 acres served by Otay WD. The community is bordered by the San Ysidro and Otay Mesa-Nestor communities on the west, the City of Chula Vista and the Otay Valley Regional Park on the north, the County of San Diego on the east and the US/Mexico border and the City of Tijuana on the south.

The Project will re-designate land uses to increase the number of allowable residential units and reduce the acreage for industrial uses. New land use designations are proposed to allow the establishment of industrial centers, mixed commercial and residential uses, and, where appropriate, residential uses near industrial uses. Modified industrial and commercial land use designations also are included that are similar to the industrial intensity found in the adopted community plan. The International Business and Trade would be the dominant industrial land use in this scenario. Other features of the Project include:

- Increasing housing unit yield in the southwestern residential areas
- Creating a village center in an area south of SR-905 and west of Britannia Boulevard
- Designating a corridor of Business Park-themed industrial uses along SR-905
- Seeking to enhance the image of the community along SR-905 with flex space and corporate office users flanking the freeway
- Encouraging outdoor storage and heavy industry uses to shift to the border area

Table 1 illustrates the combination of land uses in the Otay Mesa Community Plan Update.

Table 1
Otay Mesa Community Plan Update Proposed Land Uses

	Total	**City**	**Otay WD**
Acreage	**9,320**	**5,190**	**4,130**
Residential	757	757	
Residential w/ Village Center	726	535	191
Commercial	317	175	142
Industrial	1,115	239	876
IBT	1,310	24	1,286
Institutional	1,166	946	220
Parks & Open Space	2,910	2,062	848
Right of Way	1,019	452	567
Housing Units	**18,774**		
SF	4,273	4,273	0
MF	14,501	9,255	5,246

Source: Otay Mesa Community Plan Update, Technical Infrastructure Study, May 2013

Refer to Appendix B for the proposed development plan of the Otay Mesa Community Plan Update.

The City has identified discretionary actions and/or permit approval requirements for the Otay Mesa Community Plan Update. The projected potable and recycled water demands and resulting water supply requirements associated with the Otay Mesa Community Plan Update have considered the discretionary actions and/or permit approvals and are incorporated into and used in this WSA&V Report. The water demands for the proposed Otay Mesa Community Plan Update are provided in Section 5 – Historical and Projected Water Demands.

Section 4 – Otay Water District

The Otay WD is a municipal water district formed in 1956 pursuant to the Municipal Water District Act of 1911 (Water Code §§ 71000 et seq.). The Otay WD joined the Water Authority as a member agency in 1956 to acquire the right to purchase and distribute imported water throughout its service area. The Water Authority is an agency responsible for the wholesale supply of water to its 24 public agency members in San Diego County.

The Otay WD currently relies on the Water Authority for 100 percent of its treated potable water supply. The Water Authority is the agency responsible for the supply of imported water into San Diego County through its membership in MWD. The Water Authority currently obtains the vast majority of its imported supply from MWD, but is in the process of diversifying its available supplies.

The Otay WD provides water service to residential, commercial, industrial, and agricultural customers, and for environmental and fire protection uses. In addition to providing water throughout its service area, Otay WD also provides sewage collection and treatment services to a portion of its service area known as the Jamacha Basin. The Otay WD also owns and operates the Ralph W. Chapman Water Reclamation Facility (RWCWRF) to produce recycled water. The RWCWRF has an effective treatment capacity of 1.2 mgd or about 1,300 AFY. On May 18, 2007 an additional source of recycled water supply of at least 6 mgd (approximately 6,720 AFY) became available to Otay WD from the City of San Diego's South Bay Water Reclamation Plant (SBWRP).

The Otay WD jurisdictional area is generally located within the south central portion of San Diego County and includes approximately 125 square miles. The Otay WD serves portions of the unincorporated communities of southern El Cajon, La Mesa, Rancho San Diego, Jamul, Spring Valley, Bonita, and Otay Mesa, the eastern portion of the City of Chula Vista and a portion of the City of San Diego on Otay Mesa. The Otay WD jurisdiction boundaries are roughly bounded on the north by the Padre Dam Municipal Water District, on the northwest by the Helix Water District, and on the west by the South Bay Irrigation District (Sweetwater

Authority) and the City of San Diego. The southern boundary of Otay WD is the international border with Mexico.

The planning area addressed in the Otay WD WRMP Update and the Otay WD 2010 UWMP includes the land within the jurisdictional boundary of the Otay WD and those areas outside of the present Otay WD boundaries considered to be in the Area of Influence of the Otay WD. Figure 2-1 within the Otay WD WRMP Update shows the jurisdictional boundary of the Otay WD and the Area of Influence. The planning area is approximately 143 square miles, of which approximately 125 square miles are within the Otay WD current boundaries and approximately 18 square miles are in the Area of Influence. The area east of Otay WD is rural and currently not within any water purveyor jurisdiction and potentially could be served by the Otay WD in the future if the need for imported water becomes necessary, as is the case for the Area of Influence.

The City of Chula Vista, the City of San Diego, and the County of San Diego are the three land use planning agencies within the Otay WD jurisdiction. Data on forecasts for land use planning, demographics, economic projections, population, and the future rate of growth within Otay WD were obtained from the SANDAG. SANDAG serves as the regional, intergovernmental planning agency that develops and provides forecast information through the year 2050. Population growth within the Otay WD service area is expected to increase from the 2010 figure of approximately 198,616 to an estimated 284,997 by 2035. Land use information used to develop water demand projections are based upon Specific or Sectional Planning Areas, the Otay Ranch General Development Plan/Sub-regional Plan, East Otay Mesa Specific Plan Area, San Diego County Community Plans, and City of San Diego Otay Mesa Community Plan, City of Chula Vista, and County of San Diego General Plans.

The Otay WD long-term historic growth rate has been approximately 4 percent. The growth rate has significantly slowed due to the current economic conditions and it is expected to slow as the inventory of developable land is diminished.

Climatic conditions within the Otay WD service area are characteristically Mediterranean near the coast, with mild temperatures year round. Inland areas are both hotter in summer and cooler in winter, with summer temperatures often exceeding 90 degrees and winter temperatures occasionally dipping to below freezing. Most of the region’s rainfall occurs during the months of December through March. Average annual rainfall is approximately 12.17 inches per year.

Historic climate data were obtained from the Western Regional Climate Center for Station 042706 (El Cajon). This station was selected because its annual temperature variation is representative of most of the Otay WD service area. While there is a station in the City of Chula Vista, the temperature variation at the City of Chula Vista station is more typical of a coastal environment than the conditions in most of the Otay WD service area.

4.1 Urban Water Management Plan

In accordance with the California Urban Water Management Planning Act and recent legislation, the Otay Water District Board adopted an UWMP in June 2011 and subsequently submitted the plan to the California Department of Water Resources (DWR). The Otay WD 2010 UWMP is currently being reviewed by DWR. As required by law, the Otay WD 2010 UWMP includes projected water supplies required to meet future demands through 2035. In accordance with Water Code Section 10910 (c)(2) and Government Code Section 66473.7 (c)(3), information from the Otay WD 2010 UWMP along with supplemental information from the Otay WD WRMP Update have been utilized to prepare this WSA&V Report and are incorporated herein by reference.

The state Legislature passed Senate Bill 7 as part of the Seventh Extraordinary Session (SBX 7-7) on November 10, 2009, which became effective February 3, 2010. This new law was the water conservation component to the Delta legislation package and seeks to achieve a 20 percent statewide reduction in urban per capita water use in California by December 31, 2020. Specifically, SBX 7-7 from this Extraordinary Session requires each urban retail water supplier to develop urban water use targets to help meet the 20 percent reduction goal by 2020 (20x2020), and an interim water reduction target by 2015.

The SBX 7-7 target setting process includes the following: (1) baseline daily per capita water use; (2) urban water use target; (3) interim water use target; (4) compliance daily per capita water use, including technical bases and supporting data for those determinations. In order for an agency to meet its 2020 water use target, each agency can increase its use of recycled water to offset potable water use and also increase its water conservation measures. The required water use targets for 2020 and an interim target for 2015 are determined using one of four target methods – each method has numerous methodologies. The 2020 urban water use target may be updated in a supplier's 2015 UWMP.

In 2015, urban retail water suppliers will be required to report interim compliance followed by actual compliance in 2020. Interim compliance is halfway between the baseline water use and 2020 target. Baseline, target, and compliance-year water use estimates are required to be reported in gallons per capita per day (gpcd).

Failure to meet adopted targets will result in the ineligibility of a water supplier to receive grants or loans administered by the State unless one (1) of two (2) exceptions is met. Exception one (1) states a water supplier may be eligible if they have submitted a schedule, financing plan, and budget to DWR for approval to achieve the per capita water use reductions. Exception two (2) states a water supplier may be eligible if an entire water service area qualifies as a disadvantaged community.

Otay WD has adopted Method 1 to set its 2015 interim and 2020 water use targets. Method 1 requires setting the 2020 water use target to 80 percent of baseline per capita water use target as provided in the State's Draft 20x2020 Water Conservation Plan. The Otay WD 2015 target is 171 gpcd and the 2020 gpcd target at 80 percent of baseline is 152 gpcd.

The Otay WD's recent per capita water use has been declining to the point where current water use already meets the 2020 target for Method 1. This recent decline in per capita water use is largely due to drought water use restrictions, increased water costs, and poor economic conditions. However, Otay WD's effective water use awareness campaign and the enhanced conservation mentality of its customers will likely result in some long-term carryover of these reduced consumption rates.

Section 5 – Historical and Projected Water Demands

The projected demands for Otay WD are based on Specific or Sectional Planning Areas, the Otay Ranch General Development Plan/Sub-regional Plan, the East Otay Mesa Specific Plan Area, San Diego County Community Plans, and City of San Diego Otay Mesa Community Plan, City of Chula Vista and County of San Diego General Plans. This land use information is also used by SANDAG as the basis for its most recent forecast data. This land use information is utilized in the preparation of the Otay WD WRMP Update and Otay WD 2010 UWMP to develop the forecasted demands and supply requirements.

In 1994, the Water Authority selected the Institute for Water Resources-Municipal and Industrial Needs (MAIN) computer model to forecast municipal and industrial water use for the San Diego region. The MAIN model uses demographic and economic data to project sector-level water demands (i.e. residential and non-residential demands). This econometric model has over a quarter of a century of practical application and is used by many cities and water agencies throughout the United States. The Water Authority's version of the MAIN model was modified to reflect the San Diego region's unique parameters and is known as CWA-MAIN.

The foundation of the water demand forecast is the underlying demographic and economic projections. In 1992, the Water Authority and SANDAG entered into a Memorandum of Agreement (MOA), in which the Water Authority agreed to use the SANDAG current regional growth forecast for water supply planning purposes. In addition, the MOA recognizes that water supply reliability must be a component of San Diego County's regional growth management strategy required by Proposition C, as passed by the San Diego County voters in 1988. The MOA ensures a strong linkage between local general plan land use forecasts and water demand projections and resulting supply needs for the San Diego region.

Consistent with the previous CWA-MAIN modeling efforts, on February 26, 2010, the SANDAG Board of Directors accepted the Series 12: 2050 Regional Growth Forecast. The 2050 Regional Growth Forecast will be used by SANDAG as the foundation for the next Regional Comprehensive Plan update. SANDAG forecasts also are used by local governments for planning, including the San Diego County Water Authority 2010 Urban Water Management Plan update. The City of San Diego Otay Mesa Community Plan Update was included in SANDAG's Series 12 regional growth forecast.

The municipal and industrial forecast also included an updated accounting of projected conservation savings based on projected regional implementation of the California Urban Water Conservation Council (CUWCC) Best Management Practices and SANDAG demographic information for the period 2010 through 2035. These savings estimates were then factored into the baseline municipal and industrial demand forecast.

A separate agricultural model, also used in prior modeling efforts, was used to forecast agricultural water demands within the Water Authority service area. This model estimates agricultural demand to be met by the Water Authority's member agencies based on agricultural acreage projections provided by SANDAG, crop distribution data derived from the Department of Water Resources and the California Avocado Commission, and average crop-type watering requirements based on California Irrigation Management Information System data.

The Water Authority and MWD update their water demand and supply projections within their jurisdictions utilizing the SANDAG most recent growth forecast to project future water demands. This provides for the important strong link between demand and supply projections to the land use plans of the cities and the county. This provides for consistency between the retail and wholesale agencies water demand projections, thereby ensuring that adequate supplies are and will be planned for the Otay WD existing and future water users. Existing land use plans, any revisions to land use plans, and annexations are captured in the SANDAG updated forecasts. The Water Authority and MWD will update their demand forecasts based on the SANDAG most recent forecast approximately every five years to coincide with preparation of their urban water management plans. Prior to the next forecast update, local jurisdictions may require water supply assessment and/or verification reports consistent with Senate Bills 610 and 221 for proposed land use developments that either have pending or proposed annexations into the Otay WD, Water Authority, and MWD or that have revised land use plans than originally anticipated. The Water Authority and MWD next forecast and supply planning documents would then capture any increase or decrease in demands caused by annexations or revised land use plans.

In evaluating the availability of sufficient water supply, the Otay Mesa Community Plan Update proponents are required to participate in the development of alternative water supply project(s). This can be achieved through payment of the New Water Supply Fee adopted by the Otay Water District Board in May 2010. These water supply projects are in addition to those identified as sustainable supplies in the current Water Authority and MWD UWMP, IRP, Master Plans, and other planning documents. These new water supply projects are in response to the regional water supply issues related to climatological, environmental, legal, and other challenges that impact water source supply conditions, such as the court rulings regarding the Sacramento-San Joaquin Delta and the current ongoing western states drought conditions. These new additional water supply projects are not currently developed and are in various stages of the planning process. A few examples of these alternative water supply projects include the Middle Sweetwater River Basin Groundwater Well project, the North District Recycled Water Supply Concept, the Rosarito Ocean Desalination Facility project, and the Rancho del Rey Groundwater Well project. The Water Authority and MWD next forecast and supply planning documents would capture any increase in water supplies resulting from any new water resources developed by the Otay WD.

In addition, MWD's 2010 Regional Urban Water Management Plan identified potential reserve supplies in the supply capability analysis (Tables 2-9, 2-10, and 2-11), which could be available to meet any unanticipated demands. The Water Authority and MWD's next forecast and supply planning documents would capture any increase in necessary supply resources resulting from any new water supply resources.

The Otay WD water demand projection methodology utilizes a component land use approach. This is done by applying representative values of water use to the acreage of each land use type and then aggregating these individual land use demand projections into an overall total demand for the Otay WD. This is called the water duty method, and the water duty is the amount of water used in acre-feet per acre per year. This approach is used for all the land use types except residential development where a demand per dwelling unit was applied. In addition, commercial and industrial water use categories are further subdivided by type including separate categories for golf courses, schools, jails, prisons, hospitals, etc. where specific water demands are established.

To determine water duties for the various types of land use, the entire water meter database of the Otay WD is utilized and sorted by the appropriate land use types. The metered consumption records are then examined for each of the land uses, and water duties are determined for the various types of residential, commercial, industrial, and institutional land uses. For example the water duty factors for commercial and industrial land uses are estimated using 1,785 and 893 gallons per day per acre, respectively. Residential water demand is established based on the same data but computed on a per-dwelling unit basis. The focus is to ensure that for each of the residential land use categories (very low, low, medium, and high densities), the demand criteria used is adequately represented based upon actual data. This method is used because residential land uses constitute a substantial percentage of the total developable planning area of the Otay WD.

The WRMP Update calculates potable water demand by taking the gross acreage of a site and applying a potable water reduction factor (PWRF), which is intended to represent the percentage of acreage to be served by potable water and that not served by recycled water for irrigation. For industrial land use, as an example, the PWRF is 0.95 (i.e., 95% of the site is assumed to be served by potable water, 5% of the site is assumed to be irrigated with recycled water). The potable net acreage is then multiplied by the unit demand factor corresponding to its respective land use. This approach is used in the WRMP Update for all the land use types except residential development where a demand per dwelling unit is applied. In addition, commercial and industrial water use categories are further subdivided by type including separate categories for golf courses, schools, jails, prisons, hospitals, etc. where specific water demands are allocated.

By applying the established water duties to the proposed land uses, the projected water demand for the entire Otay WD planning area at ultimate development is determined. Projected water demands for the intervening years were determined using growth rate projections consistent with data obtained from SANDAG and the experience of the Otay WD.

The historical and projected potable water demands for Otay WD are shown in Table 2.

Table 2
Historical and Projected Potable Water Fiscal Year Demands (AF)

Water Use Sectors	2005	2010	2015	2020	2025	2030	2035
Single Family	21,233	17,165	23,633	28,312	33,600	37,211	40,635
Multi-Family	3,095	3,605	3,444	4,126	4,897	5,423	5,922
Commercial &	1,657	2,243	1,844	2,209	2,622	2,904	3,171
Institutional &	2,262	1,867	2,518	3,017	3,580	3,965	4,330
Landscape	6,458	3,732	10,134	12,141	14,408	15,957	17,425
Other	2,426	584	2,700	3,235	3,839	4,252	4,643
Unaccounted for	547	23	608	729	865	958	1,046
Totals	**37,668**	**29,270**	**44,883**	**53,768**	**63,811**	**70,669**	**77,171**

Source: Otay Water District 2010 UWMP.

The historical and projected recycled water demands for Otay WD are shown in Table 3.

Table 3
Historical and Projected Recycled Water Fiscal Year Demands (AF)

Water Use Sector	2005	2010	2015	2020	2025	2030	2035
Landscape	4,090	4,000	4,400	5,000	5,800	6,800	8,000
Totals	**4,090**	**4,000**	**4,400**	**5,000**	**5,800**	**6,800**	**8,000**

Source: Otay Water District 2010 UWMP, Table 10.

Using the land use demand projection criteria as established in the Otay WD WRMP Update, the current projected potable water demand for the proposed Otay Mesa Community Plan Update is shown in Table 4, which totals approximately 4.70 mgd or about 5,273 AFY.

Table 4
Otay Mesa Community Plan Updated Potable Water Annual Average Demands

Location (Land Use)	Quantity	Unit Rate	Potable Water Factor	Net Potable Unit Rate	Average Demand (gpd)
Multi-Family Residential	5,246 units	300 gpd/unit	85%	255 gpd/unit	1,337,730
Commercial/Office	142 acres	1,785 gpd/acre	90%	1,607 gpd/acre	228,123
Industrial	876 acres	893 gpd/acre	95%	848 gpd/acre	743,155
IBT	1,286 acres	1,800 gpd/acre	90%	1,620 gpd/acre	2,083,320
Institutional	220 acres	1,785 gpd/acre	80%	1,428 gpd/acre	314,160
Total					4,706,488

The current projected recycled water demand for the proposed Otay Mesa Community Plan Update is provided in Table 5, which totals approximately 0.68 mgd or about 774 AFY, representing about 13% of total Otay Mesa Community Plan Update demand.

Table 5
Otay Mesa Community Plan Updated Recycled Water Average Demands

Location (Land Use)	Quantity	Recycled Water Factor	Net Recycled Acreage	Unit Rate	Average Demand (gpd)
Multi-Family Residential	191 acres	15%	29	2,155 gpd/acre	61,741
Commercial/Office	142 acres	10%	14	2,155 gpd/acre	30,601
Industrial	876 acres	5%	44	2,155 gpd/acre	94,389
IBT	1,286 acres	10%	129	2,155 gpd/acre	277,133
Institutional	220 acres	20%	44	2,155 gpd/acre	94,820
Parks	61 acres	100%	61	2,155 gpd/acre	131,455
Total			**321**		**690,139**

5.1 Demand Management (Water Conservation)

Demand management, or water conservation is a critical part of the Otay WD 2010 UWMP and its long term strategy for meeting water supply needs of the Otay WD customers. Water conservation, is frequently the lowest cost resource available to any water agency. The goals of the Otay WD water conservation programs are to:

- Reduce the demand for more expensive, imported water.
- Demonstrate continued commitment to the Best Management Practices (BMP).
- Ensure a reliable water supply.

The Otay WD is signatory to the Memorandum of Understanding (MOU) Regarding Urban Water Conservation in California, which created the California Urban Water Conservation Council (CUWCC) in 1991 in an effort to reduce California's long-term water demands. Water conservation programs are developed and implemented on the premise that water conservation increases the water supply by reducing the demand on available supply, which is vital to the optimal utilization of a region's water supply resources. The Otay WD participates in many water conservation programs designed and typically operated on a shared cost participation program basis among the Water Authority, MWD, and their member agencies. The demands shown in Tables 2 and 3 take into account implementation of water conservation measures within Otay WD.

As one of the first signatories to the MOU Regarding Urban Water Conservation in California, the Otay WD has made BMP implementation for water conservation the cornerstone of its conservation programs and a key element in its water resource management strategy. As a member of the Water Authority, Otay WD also benefits from regional programs performed on behalf of its member agencies. The BMP programs implemented by Otay WD and regional BMP programs implemented by the Water Authority that benefit all their member agencies are addressed in the Otay WD 2010 UWMP. In partnership with the Water Authority, the County of San Diego, City of San Diego, City of Chula Vista, and developers, the Otay WD water conservation efforts are expected to grow and expand. The resulting savings directly relate to additional available water in the San Diego County region for beneficial use within the Water Authority service area, including the Otay WD.

Additional conservation or water use efficiency measures or programs practiced by the Otay WD include the following:

- Supervisory Control and Data Acquisition System

  The Otay WD implemented and has operated for many years a Supervisory Control and Data Acquisition (SCADA) system to control, monitor, and collect data regarding the operation of the water system. The major facilities that have SCADA capabilities are the water flow control supply sources, transmission network, pumping stations, and water storage reservoirs. The SCADA system allows for many and varied useful functions. Some of these functions provide for operating personnel to monitor the water supply source flow rates, reservoir levels, turn on or off pumping units, etc. The SCADA system aids in the prevention of water reservoir overflow events and increases energy efficiency.

- Water Conservation Ordinance

California Water Code Sections 375 et seq. permit public entities which supply water at retail to adopt and enforce a water conservation program to reduce the quantity of water used by the people therein for the purpose of conserving water supplies of such public entity. The Otay WD Board of Directors established a comprehensive water conservation program pursuant to California Water Code Sections 375 et seq., based upon the need to conserve water supplies and to avoid or minimize the effects of any future shortage. A water shortage could exist based upon the occurrence of one or more of the following conditions:

1. A general water supply shortage due to increased demand or limited supplies.
2. Distribution or storage facilities of the Water Authority or other agencies become inadequate.
3. A major failure of the supply, storage, and distribution facilities of MWD, the Water Authority, and/or Otay WD.

The Otay WD water conservation ordinance finds and determines that the conditions prevailing in the San Diego County area require that the available water resources be put to maximum beneficial use to the extent to which they are capable, and that the waste or unreasonable use, or unreasonable method of use, of water be prevented and that the conservation of such water be encouraged with a view to the maximum reasonable and beneficial use thereof in the interests of the people of the Otay WD and for the public welfare.

Otay WD is currently engaged in a number of conservation and water use efficiency activities. Listed below are the current programs that are either on-going or were recently concluded:

- Residential Water Surveys: 1,349 completed since 1994
- Large Landscape Surveys: 194 completed since 1990
- Cash for Water Smart Plants Landscape Retrofit Program: over 217,600 square feet of turf grass replaced with water wise plants since 2003
- Rotating Nozzles Rebated: 3,170
- Residential Weather-Based Irrigation Controller (WBIC) Incentive Program: 231 distributed or rebated since 2004
- Residential High Efficiency Clothes Washers: 7,187 rebates since 1994
- Residential ULFT/HET Rebate Program: 22,376 rebates provided between 1991-2010
- Outreach Efforts to Otay WD Customers - the Otay WD promotes its conservation programs through staffing outreach events, bill inserts, articles in the Otay WD's quarterly customer Pipeline newsletter, direct mailings to Otay WD customers, the Otay WD's webpage and through the Water Authority's marketing efforts.
- School Education Programs- the Otay WD funds school tours of the Water Conservation Garden, co-funds Splash Labs, provides classroom water themed kits,

maintains a library of school age appropriate water themed books, DVDs, and videos, and runs both a school poster contest and a water themed photo contest.

- Water efficiency in new construction through Cal Green and the Model Water Efficient Landscape Ordinance
- Focus on Commercial/Institutional/Industrial through Promoting MWD's Save a Buck (Commercial) Program in conjunction with the Otay WD's own Commercial Process Improvement Program

As a signatory to the MOU Regarding Urban Water Conservation in California, the Otay WD is required to submit biannual reports that detail the implementation of current water conservation practices. The Otay WD voluntarily agreed to implement the fourteen water conservation Best Management Practices beginning in 1992. The Otay WD submits its report to the CUWCC every two years. The Otay WD BMP Reports for 2005 to 2010, as well as the BMP Coverage Report for 1999-2010, are included in the Otay WD 2010 UWMP.

The Otay Mesa Community Plan Update will implement the CUWCC Best Management Practices for water conservation such as installation of ultra low flow toilets, development of a water conservation plan, and potential beneficial use of recycled water, all of which are typical requirements of development projects within the City of San Diego.

Section 6 - Existing and Projected Supplies

The Otay WD currently does not have an independent raw or potable water supply source. The Otay WD is a member public agency of the Water Authority. The Water Authority is a member public agency of MWD. The statutory relationships between the Water Authority and its member agencies, and MWD and its member agencies, respectively, establish the scope of the Otay WD entitlement to water from these two agencies.

The Water Authority through two delivery pipelines, referred to as Pipeline No. 4 and the La Mesa Sweetwater Extension Pipeline, currently supply the Otay WD with 100 percent of its potable water. The Water Authority in turn, currently purchases the majority of its water from MWD. Due to the Otay WD reliance on these two agencies, this WSA&V Report includes referenced documents that contain information on the existing and projected supplies, supply programs, and related projects of the Water Authority and MWD. The Otay WD, Water Authority, and MWD are actively pursuing programs and projects to diversify their water supply resources.

The description of local recycled water supplies available to the Otay WD is also discussed below.

6.1 MWD Water District of Southern California 2005 Regional Urban Water Management Plan

In November 2010, MWD adopted its 2010 RUWMP. The 2010 RUWMP provides MWD's member agencies, retail water utilities, cities, and counties within its service area with, among other things, a detailed evaluation of the supplies necessary to meet future demands, and an evaluation of reasonable and practical efficient water uses, recycling, and conservation activities. During the preparation of the 2010 RUWMP, MWD also utilized the current SANDAG regional growth forecast in calculating regional water demands for the Water Authority service area.

6.1.1 Availability of Sufficient Supplies and Plans for Acquiring Additional Supplies

MWD is a wholesale supplier of water to its member public agencies and obtains its supplies from two primary sources: the Colorado River, via the Colorado River Aqueduct (CRA), which it owns and operates, and Northern California, via the State Water Project (SWP). The 2010 RUWMP documents the availability of these existing supplies and additional supplies necessary to meet future demands.

6.1.1.1 MWD Supplies

MWD's Integrated Resources Plan (IRP) identifies a mix of resources (imported and local) that, when implemented, will provide 100 percent reliability for full-service demands through the attainment of regional targets set for conservation, local supplies, State Water Project supplies, Colorado River supplies, groundwater banking, and water transfers. The 2010 update to the IRP (2010 IRP Update) includes a planning buffer supply intended to mitigate against the risks associated with implementation of local and imported supply programs. The planning buffer identifies an additional increment of water that could potentially be developed if other supplies are not implemented as planned. As part of implementation of the planning buffer, MWD periodically evaluates supply development to ensure that the region is not under or over-developing supplies. Managed properly, the planning buffer will help ensure that the southern California region, including San Diego County, will have adequate supplies to meet future demands.

In November 2010, MWD adopted its 2010 RUWMP in accordance with state law. The resource targets included in the preceding 2010 IRP Update serve as the foundation for the planning assumptions used in the 2010 RUWMP. MWD's 2010 RUWMP contains a water supply reliability assessment that includes a detailed evaluation of the supplies necessary to meet demands over a 25-year period in average, single dry year, and multiple dry year periods. As part of this process, MWD also uses the current SANDAG regional growth forecast in calculating regional water demands for the Water Authority's service area.

As stated in MWD's 2010 RUWMP, that plan may be used as a source document for meeting the requirements of SB 610 and SB 221 until the next scheduled update is completed in 2015. The 2005 RUWMP includes a "Justifications for Supply Projections" in Appendix A.3, that provides detailed documentation of the planning, legal, financial, and regulatory basis for including each source of supply in the plan. A copy of MWD's 2010 RUWMP can be found on the World Wide Web at the following site address:
http://www.mwdh2o.com/mwdh2o/pages/yourwater/RUWMP/RUWMP_2010.pdf

Water supply agencies throughout California continue to face climatological, environmental, legal, and other challenges that impact water source supply conditions, such as the court rulings regarding the Sacramento-San Joaquin Delta and the current western states drought conditions. Challenges such as these essentially always will be present. The regional water supply agencies, the Water Authority and MWD, along with Otay WD nevertheless fully intend to have sufficient, reliable supplies to serve demands.

6.1.2 MWD Capital Investment Plan

As part of MWD's annual budget approval process, a Capital Investment Plan is prepared. The cost, purpose, justification, status, progress, etc. of MWD's infrastructure projects to deliver existing and future supplies are documented in the Capital Investment Plan. The financing of these projects is addressed as part of the annual budget approval process.

MWD's Capital Investment Plan includes a series of projects identified from MWD studies of projected water needs, which, when considered along with operational demands on aging facilities and new water quality regulations, identify the capital projects needed to maintain infrastructure reliability and water quality standards, improve efficiency, and provide future cost savings. All projects within the Capital Investment Plan are evaluated against an objective set of criteria to ensure they are aligned with the MWD's goals of supply reliability and quality.

6.2 San Diego County Water Authority Regional Water Supplies

The Water Authority has adopted plans and is taking specific actions to develop adequate water supplies to help meet existing and future water demands within the San Diego region. This section contains details on the supplies being developed by the Water Authority. A summary of recent actions pertaining to development of these supplies includes:

- In accordance with the Urban Water Management Planning Act, the Water Authority adopted their 2010 UWMP in June 2011. The updated Water Authority 2010 UWMP identifies a diverse mix of local and imported water supplies to meet future demands. A copy of the updated Water Authority 2010 UWMP can be found on the internet at http://www.sdcwa.org/2010-urban-water-management-plan

- Deliveries of conserved agricultural water from the Imperial Irrigation District (IID) to San Diego County have increased annually since 2003, with 70,000 ac-ft of deliveries in Fiscal Year (FY) 2010. These quantities will increase annually to 200,000 AFY by 2021, and then remain fixed for the duration of the transfer agreement.

- As part of the October 2003 Quantification Settlement Agreement (QSA), the Water Authority was assigned MWD's rights to 77,700 AFY of conserved water from the All-American Canal (AAC) and Coachella Canal (CC) lining projects. Deliveries of this conserved water from the CC reached the region in 2007 and deliveries from the AAC reached the region in 2010. Expected supplies from the canal lining projects are considered verifiable Water Authority supplies.

Through implementation of the Water Authority and member agency planned supply projects, along with reliable imported water supplies from MWD, the region anticipates having adequate supplies to meet existing and future water demands.

To ensure sufficient supplies to meet projected growth in the San Diego region, the Water Authority uses the SANDAG most recent regional growth forecast in calculating regional water demands. The SANDAG regional growth forecast is based on the plans and policies of the land-use jurisdictions with San Diego County. The existing and future demands of the member agencies are included in the Water Authority's projections.

6.2.1 Availability of Sufficient Supplies and Plans for Acquiring Additional Supplies

The Water Authority currently obtains imported supplies from MWD, conserved water from the AAC and CC lining projects, and an increasing amount of conserved agricultural water from IID. Of the twenty-seven member agencies that purchase water supplies from MWD, the Water Authority is MWD's largest customer.

Section 135 of MWD's Act defines the preferential right to water for each of its member agencies. As calculated by MWD, the Water Authority's preferential right as of December 11, 2012 is 17.22 percent of MWD's supply, while the Water Authority accounted for approximately 25 percent of MWD's total revenue. Under preferential rights, MWD could allocate water without regard to historic water purchases or dependence on MWD. The Water Authority and its member agencies are taking measures to reduce dependence on MWD through development of additional supplies and a water supply portfolio that would not be jeopardized by a preferential rights allocation. MWD has stated, consistent with Section 4202 of its Administrative Code that it is prepared to provide the Water Authority's service area with adequate supplies of water to meet expanding and increasing needs in the years ahead. When and as additional water resources are required to meet increasing needs, MWD stated it will be prepared to deliver such supplies. In Section ES-5 of their 2010 RUWMP, MWD states that MWD has supply capacities that would be sufficient to meet expected demands from 2015 through 2035. MWD has plans for supply implementation and continued development of a diversified resource mix including programs in the Colorado River Aqueduct, State Water Project, Central Valley Transfers, local resource projects, and in-region storage that enables the region to meet its water supply needs.

The Water Authority has made large investments in MWD's facilities and will continue to include imported supplies from MWD in the future resource mix. As discussed in the Water Authority's 2010 UWMP, the Water Authority and its member agencies are planning to diversify the San Diego regions supply portfolio and reduce purchases from MWD.

As part of the Water Authority's diversification efforts, the Water Authority is now taking delivery of conserved agricultural water from IID and water saved from the AAC and CC lining projects. The CC lining project is complete and the Water Authority has essentially completed construction of the AAC lining project. Table 6 summarizes the Water Authority's supply sources with detailed information included in the sections to follow. Deliveries from MWD are also included in Table 6, which is further discussed in Section 6.1 above. The Water Authority's member agencies provided the verifiable local supply targets for groundwater, groundwater recovery, recycled water, and surface water, which are discussed in more detail in Section 5 of the Water Authority's 2010 UWMP.

Table 6
Projected Verifiable Water Supplies – Water Authority Service Area
Normal Year (AF)

Water Supply Sources	2015	2020	2025	2030	2035
Water Authority Supplies					
MWD Supplies	358,189	230,601	259,694	293,239	323,838
Water Authority/IID Transfer	100,000	190,000	200,000	200,000	200,000
AAC and CC Lining Projects	80,200	80,200	80,200	80,200	80,200
Proposed Regional Seawater Desalination (1)	0	56,000	56,000	56,000	56,000
Member Agency Supplies					
Surface Water	48,206	47,940	47,878	47,542	47,289
Water Recycling	38,660	43,728	46,603	48,278	49,998
Groundwater	11,710	11,100	12,100	12,840	12,840
Groundwater Recovery	10,320	15,520	15,520	15,520	15,520
Total Projected Supplies	**647,285**	**675,089**	**717,995**	**753,619**	**785,685**

Source: Water Authority 2010 Urban Water Management Plan – Table 9-1.
Note 1: On November 29, 2012, the Water Authority approved a water purchase agreement with Poseidon for 48,000 AFY with the right to purchase up to 56,000 AFY

Section 5 of the Water Authority's 2010 UWMP also includes a discussion on the local supply target for seawater desalination. Seawater desalination supplies represent a significant future local resource in the Water Authority's service area.

The Carlsbad Desalination Project (Project) is a fully-permitted seawater desalination plant and conveyance pipeline designed to provide a highly reliable local supply of up to 56,000 AFY for the region. In 2020, the Project would account for approximately 8% of the total projected regional supply and 30% of all locally generated water in San Diego County. If the project becomes operational in 2016, it will more than double the amount of local supplies developed in the region since 1991. The desalination plant itself will be fully financed, built, and operated by Poseidon. The Water Authority will purchase water from the plant under a water purchase agreement. The new pipeline connecting the desalination plant with the Water Authority's Second Aqueduct will be owned and operated by the Water Authority, but responsibility for design and construction will reside with Poseidon through a separate Design-Build Agreement. The Water Authority will be responsible for aqueduct improvements, including the relining and rehabilitation of Pipeline 3 to accept desalinated water under higher operating pressures, modifications to the San Marcos Vent that allows the flow of water between Pipelines 3 and 4, and improvements at the Twin Oaks Valley Water Treatment Plant necessary to integrate desalinated water into the Water Authority's system for optimal distribution to member agencies.

On July 22, 2010, the Board approved a Term Sheet between the Water Authority and Poseidon Resources that outlined the key terms and conditions that would be detailed and incorporated in a comprehensive Water Purchase Agreement (WPA). Beginning in October 2011 and under the direction of the Board's Carlsbad Desalination Project Advisory Group, staff began developing and negotiating with Poseidon a WPA consistent with the July 22, 2010 Board approved Term Sheet. The July 2010 Term Sheet also identified specific conditions precedent to Board consideration of the WPA. On November 29, 2012, the Water Authority Board adopted a resolution approving the Water Purchase Agreement (WPA).

The Water Authority's existing and planned supplies from the IID transfer and canal lining projects are considered "drought-proof" supplies and should be available at the yields shown in Table 6 in normal water year supply and demand assessment. Single dry year and multiple dry year scenarios are discussed in more detail in Section 9 of the Water Authority's 2010 UWMP.

As part of preparation of a written water supply assessment and/or verification report, an agency's shortage contingency analysis should be considered in determining sufficiency of supply. Section 11 of the Water Authority's 2010 UWMP contains a detailed shortage contingency analysis that addresses a regional catastrophic shortage situation and drought management. The analysis demonstrates that the Water Authority and its member agencies, through the Emergency Response Plan, Emergency Storage Project, and Drought Management Plan (DMP) are taking actions to prepare for and appropriately handle an interruption of water supplies. The DMP, adopted in May 2006, provides the Water Authority and its member agencies with a series of potential actions to take when faced with a shortage of imported water supplies from MWD due to prolonged drought or other supply shortfall conditions. The actions will help the region avoid or minimize the impacts of shortages and ensure an equitable allocation of supplies throughout the San Diego region.

6.2.1.1 Water Authority-Imperial Irrigation District Water Conservation and Transfer Agreement

The QSA was signed in October 2003, and resolves long-standing disputes regarding priority and use of Colorado River water and creates a baseline for implementing water transfers. With approval of the QSA, the Water Authority and IID were able to implement their Water Conservation and Transfer Agreement. This agreement not only provides reliability for the San Diego region, but also assists California in reducing its use of Colorado River water to its legal allocation.

On April 29, 1998, the Water Authority signed a historic agreement with IID for the long-term transfer of conserved Colorado River water to San Diego County. The Water Authority-IID Water Conservation and Transfer Agreement (Transfer Agreement) is the largest agriculture-to-urban water transfer in United States history. Colorado River water will be conserved by Imperial Valley farmers who voluntarily participate in the program and then transferred to the Water Authority for use in San Diego County.

Implementation Status

On October 10, 2003, the Water Authority and IID executed an amendment to the original 1998 Transfer Agreement. This amendment modified certain aspects of the 1998 Agreement to be consistent with the terms and conditions of the QSA and related agreements. It also modified other aspects of the agreement to lessen the environmental impacts of the transfer of conserved water. The amendment was expressly contingent on the approval and implementation of the QSA, which was also executed on October 10, 2003.

On November 5, 2003, IID filed a complaint in Imperial County Superior Court seeking validation of 13 contracts associated with the Transfer Agreement and the QSA. Imperial County and various private parties filed additional suits in Superior Court, alleging violations of CEQA, the California Water Code, and other laws related to the approval of the QSA, the water transfer, and related agreements. The lawsuits were coordinated for trial. The IID, Coachella Valley Water District, MWD, the Water Authority, and state are defending these suits and coordinating to seek validation of the contracts. In January 2010, a California Superior Court judge ruled that the QSA and 11 related agreements were invalid, because one of the agreements created an open-ended financial obligation for the state, in violation of California's constitution. The QSA parties appealed this decision and are continuing to seek validation of the contracts. The appeal is currently pending in the Third District Court of Appeal. A stay of the trial court judgment has been issued during the appeal. Implementation of the transfer provisions is proceeding during litigation.

Expected Supply

Deliveries into San Diego County from the transfer began in 2003 with an initial transfer of 10,000 AFY. The Water Authority received increasing amounts of transfer water each year, according to a water delivery schedule contained in the transfer agreement. In 2012, the Water Authority will receive 90,000 AF. The quantities will increase annually to 200,000 AFY by 2021 then remain fixed for the duration of the transfer agreement. The initial term of the Transfer Agreement is 45 years, with a provision that either agency may extend the agreement for an additional 30-year term.

During dry years, when water availability is low, the conserved water will be transferred under the IID Colorado River rights, which are among the most senior in the Lower Colorado River Basin. Without the protection of these rights, the Water Authority could suffer delivery cutbacks. In recognition for the value of such reliability, the 1998 contract required the Water Authority to pay a premium on transfer water under defined regional shortage circumstances. The shortage premium period duration is the period of consecutive days during which any of the following exist: 1) a Water Authority shortage; 2) a shortage condition for the Lower Colorado River as declared by the Secretary; and 3) a Critical Year. Under terms of the October 2003 amendment, the shortage premium will not be included in the cost formula until Agreement Year 16.

Transportation

The Water Authority entered into a water exchange agreement with MWD on October 10, 2003, to transport the Water Authority-IID transfer water from the Colorado River to San Diego County. Under the exchange agreement, MWD will take delivery of the transfer water through its Colorado River Aqueduct. In exchange, MWD will deliver to the Water Authority a like quantity and quality of water. The Water Authority will pay MWD’s applicable wheeling rate for each acre-foot of exchange water delivered. According to the water exchange agreement, MWD will make delivery of the transfer water for 35 years, unless the Water Authority elects to extend the agreement another 10 years for a total of 45 years.

Cost/Financing

The costs associated with the transfer are financed through the Water Authority’s rates and charges. In the agreement between the Water Authority and IID, the price for the transfer water started at $258 per acre-feet and increased by a set amount for the first seven years. In December 2009, the Water Authority and IID executed a fifth amendment to the water transfer agreement that sets the price per acre-feet for transfer water for calendar years 2010 through 2015, beginning at $405 per acre-feet in 2010 and increasing to $624 per acre-feet in 2015. For calendar years 2016 through 2034, the unit price will be adjusted using an agreed-upon index. The amendment also required the Water Authority to pay IID $6 million at the end of calendar year 2009 and another $50 million on or before October 1, 2010, provided that a transfer stoppage is not in effect as a result of a court order in the QSA coordinated cases. Beginning in

2035, either the Water Authority or IID can, if certain criteria are met, elect a market rate price through a formula described in the water transfer agreement.

The October 2003 exchange agreement between MWD and the Water Authority set the initial cost to transport the conserved water at $253 per acre-feet. Thereafter, the price is set to be equal to the charge or charges set by MWD's Board of Directors pursuant to applicable laws and regulation, and generally applicable to the conveyance of water by MWD on behalf of its member agencies. The transportation charge in 2010 was $314 per acre-feet.

The Water Authority is providing $10 million to help offset potential socioeconomic impacts associated with temporary land fallowing. IID will credit the Water Authority for these funds during years 16 through 45. In 2007, the Water Authority prepaid IID an additional $10 million for future deliveries of water. IID will credit the Water Authority for this up-front payment during years 16 through 30.

As part of implementation of the QSA and water transfer, the Water Authority also entered into an environmental cost sharing agreement. Under this agreement the Water Authority is contributing a total of $64 million to fund environmental mitigation projects and the Salton Sea Restoration Fund.

Written Contracts or Other Proof

The supply and costs associated with the transfer are based primarily on the following documents:

Agreement for Transfer of Conserved Water by and between IID and the Water Authority (April 29, 1998). This Agreement provides for a market-based transaction in which the Water Authority would pay IID a unit price for agricultural water conserved by IID and transferred to the Water Authority.

Revised Fourth Amendment to Agreement between IID and the Water Authority for Transfer of Conserved Water (October 10, 2003). Consistent with the executed Quantification Settlement Agreement (QSA) and related agreements, the amendments restructure the agreement and modify it to minimize the environmental impacts of the transfer of conserved water to the Water Authority.

Amended and Restated Agreement between MWD and Water Authority for the Exchange of Water (October 10, 2003). This agreement was executed pursuant to the QSA and provides for delivery of the transfer water to the Water Authority.

Environmental Cost Sharing, Funding, and Habitat Conservation Plan Development Agreement among IID, Coachella Valley Water District (CVWD), and Water Authority (October 10, 2003). This Agreement provides for the specified allocation of QSA-related environmental review, mitigation, and litigation costs for the term of the QSA, and for development of a Habitat Conservation Plan.

Quantification Settlement Agreement Joint Powers Authority Creation and Funding Agreement (October 10, 2003). The purpose of this agreement is to create and fund the QSA Joint Powers Authority and to establish the limits of the funding obligation of CVWD, IID, and Water Authority for environmental mitigation and Salton Sea restoration pursuant to SB 654 (Machado).

Fifth Amendment to Agreement Between Imperial Irrigation District and San Diego County Water Authority for Transfer of Conserved Water (December 21, 2009). This agreement implements a settlement between the Water Authority and IID regarding the base contract price of transferred water.

Federal, State, and Local Permits/Approvals

Federal Endangered Species Act Permit. The U.S. Fish and Wildlife Service (USFWS) issued a Biological Opinion on January 12, 2001, that provides incidental take authorization and certain measures required to offset species impacts on the Colorado River regarding such actions.

State Water Resources Control Board (SWRCB) Petition. SWRCB adopted Water Rights Order 2002-0016 concerning IID and Water Authority's amended joint petition for approval of a long-term transfer of conserved water from IID to the Water Authority and to change the point of diversion, place of use, and purpose of use under Permit 7643.

Environmental Impact Report (EIR) for Conservation and Transfer Agreement. As lead agency, IID certified the Final EIR for the Conservation and Transfer Agreement on June 28, 2002.

U. S. Fish and Wildlife Service Draft Biological Opinion and Incidental Take Statement on the Bureau of Reclamation's Voluntary Fish and Wildlife Conservation Measures and Associated Conservation Agreements with the California Water Agencies (12/18/02). The U. S. Fish and Wildlife Service issued the biological opinion/incidental take statement for water transfer activities involving the Bureau of Reclamation and associated with IID/other California water agencies' actions on listed species in the Imperial Valley and Salton Sea (per the June 28, 2002 EIR).

Addendum to EIR for Conservation and Transfer Agreement. IID as lead agency and Water Authority as responsible agency approved addendum to EIR in October 2003.

Environmental Impact Statement (EIS) for Conservation and Transfer Agreement. Bureau of Reclamation issued a Record of Decision on the EIS in October 2003.

CA Department of Fish and Game California Endangered Species Act Incidental Take Permit #2081-2003-024-006). The California Department of Fish and Game issued this permit

(10/22/04) for potential take effects on state-listed/fully protected species associated with IID/other California water agencies' actions on listed species in the Imperial Valley and Salton Sea (per the June 28, 2002 EIR).

<u>California Endangered Species Act (CESA) Permit.</u> A CESA permit was issued by California Department of Fish and Game (CDFG) on April 4, 2005, providing incidental take authorization for potential species impacts on the Colorado River.

6.2.1.2 All-American Canal and Coachella Canal Lining Projects

As part of the QSA and related contracts, the Water Authority was assigned MWD's rights to 77,700 AFY of conserved water from projects that will line the All-American Canal (AAC) and Coachella Canal (CC). The projects will reduce the loss of water that currently occurs through seepage, and the conserved water will be delivered to the Water Authority. This conserved water will provide the San Diego region with an additional 8.5 million AF over the 110-year life of the agreement.

Implementation Status

The CC lining project began in November 2004 and was completed in 2006. Deliveries of conserved water to the Water Authority began in 2007. The project constructed a 37-mile parallel canal adjacent to the CC. The AAC lining project was begun in 2005 and was completed in 2010. The lining project constructed a concrete-lined canal parallel to 24 miles of the existing AAC from Pilot Knob to Drop 3.

In July 2005, a lawsuit (*CDEM v United States,* Case No. CV-S-05-0870-KJD-PAL) was filed in the U. S. District Court for the District of Nevada on behalf of U.S. and Mexican groups challenging the lining of the AAC. The lawsuit, which names the Secretary of the Interior as a defendant, claims that seepage water from the canal belongs to water users in Mexico. California water agencies note that the seepage water is actually part of California's Colorado River allocation and not part of Mexico's allocation. The plaintiffs also allege a failure by the United States to comply with environmental laws. Federal officials have stated that they intend to vigorously defend the case.

Expected Supply

The AAC lining project makes 67,700 AF of Colorado River water per year available for allocation to the Water Authority and San Luis Rey Indian water rights settlement parties. The CC lining project makes 26,000 AF of Colorado River water each year available for allocation. The 2003 Allocation Agreement provides for 16,000 AFY of conserved canal lining water to be allocated to the San Luis Rey Indian Water Rights Settlement Parties. The remaining amount, 77,700 AFY, is to be available to the Water Authority, with up to an additional 4,850 AFY available to the Water Authority depending on environmental requirements from the CC lining project. For planning purposes, the Water Authority assumes that 2,500 AF of the 4,850 AF will be available each year for delivery, for a total of 80,200 AFY of that supply. According to the Allocation Agreement, IID has call rights to a portion (5,000 AFY) of the conserved water upon termination of the QSA for the remainder of the 110 years of the Allocation Agreement and upon satisfying certain conditions. The term of the QSA is for up to 75 years.

Transportation

The October 10, 2003, Exchange Agreement between the Water Authority and MWD also provides for the delivery of the conserved water from the canal lining projects. The Water Authority will pay MWD's applicable wheeling rate for each acre-foot of exchange water delivered. In the Agreement, MWD will deliver the canal lining water for the term of the Allocation Agreement (110 years).

Cost/Financing

Under California Water Code Section 12560 et seq., the Water Authority received $200 million in state funds for construction of the canal lining projects. In addition, $20 million was made available from Proposition 50 and $36 million from Proposition 84. The Water Authority was responsible for additional expenses above the funds provided by the state.

The rate to be paid to transport the canal lining water will be equal to the charge or charges set by MWD's Board of Directors pursuant to applicable law and regulation and generally applicable to the conveyance of water by MWD on behalf of its member agencies.

In accordance with the Allocation Agreement, the Water Authority will also be responsible for a portion of the net additional Operation, Maintenance, and Repair (OM&R) costs for the lined canals. Any costs associated with the lining projects as proposed, are to be financed through the Water Authority's rates and charges.

Written Contracts or Other Proof

The expected supply and costs associated with the lining projects are based primarily on the following documents:

<u>U.S. Public Law 100-675 (1988).</u> Authorized the Department of the Interior to reduce seepage from the existing earthen AAC and CC. The law provides that conserved water will be made available to specified California contracting water agencies according to established priorities.

<u>California Department of Water Resources - MWD Funding Agreement (2001).</u> Reimburse MWD for project work necessary to construct the lining of the CC in an amount not to exceed $74 million. Modified by First Amendment (2004) to replace MWD with the Authority. Modified by Second Amendment (2004) to increase funding amount to $83.65 million, with addition of funds from Proposition 50.

California Department of Water Resources - IID Funding Agreement (2001). Reimburse IID for project work necessary to construct a lined AAC in an amount not to exceed $126 million.

MWD - CVWD Assignment and Delegation of Design Obligations Agreement (2002). Assigns design of the CC lining project to CVWD.

MWD - CVWD Financial Arrangements Agreement for Design Obligations (2002). Obligates MWD to advance funds to CVWD to cover costs for CC lining project design and CVWD to invoice MWD to permit the Department of Water Resources to be billed for work completed.

Allocation Agreement among the United States of America, The MWD Water District of Southern California, Coachella Valley Water District, Imperial Irrigation District, San Diego County Water Authority, the La Jolla, Pala, Pauma, Rincon, and San Pasqual Bands of Mission Indians, the San Luis Rey River Indian Water Authority, the City of Escondido, and Vista Irrigation District (October 10, 2003). This agreement includes assignment of MWD's rights and interest in delivery of 77,700 AF of Colorado River water previously intended to be delivered to MWD to the Water Authority. Allocates water from the AAC and CC lining projects for at least 110 years to the Water Authority, the San Luis Rey Indian Water Rights Settlement Parties, and IID, if it exercises its call rights.

Amended and Restated Agreement between MWD and Water Authority for the Exchange of Water (October 10, 2003). This agreement was executed pursuant to the QSA and provides for delivery of the conserved canal lining water to the Water Authority.

Agreement between MWD and Water Authority regarding Assignment of Agreements related to the AAC and CC Lining Projects. This agreement was executed in April 2004 and assigns MWD's rights to the Water Authority for agreements that had been executed to facilitate funding and construction of the AAC and CC lining projects.

Assignment and Delegation of Construction Obligations for the Coachella Canal Lining Project under the Department of Water Resources Funding Agreement No. 4600001474 from the San Diego County Water Authority to the Coachella Valley Water District, dated September 8, 2004.

Agreement Regarding the Financial Arrangements between the San Diego County Water Authority and Coachella Valley Water District for the Construction Obligations for the Coachella Canal Lining Project, dated September 8, 2004.

Agreement No. 04-XX-30-W0429 Among the United States Bureau of Reclamation, the Coachella Valley Water District, and the San Diego County Water Authority for the Construction of the Coachella Canal Lining Project Pursuant to Title II of Public Law 100-675, dated October 19, 2004.

California Water Code Section 12560 et seq. This Water Code Section provides for $200 million to be appropriated to the Department of Water Resources to help fund the canal lining projects in furtherance of implementing California's Colorado River Water Use Plan.

California Water Code Section 79567. This Water Code Section identifies $20 million as available for appropriation by the California Legislature from the Water Security, Clean Drinking Water, Coastal, and Beach Protection Fund of 2002 (Proposition 50) to DWR for grants for canal lining and related projects necessary to reduce Colorado River water use. According to the Allocation Agreement, it is the intention of the agencies that those funds will be available for use by the Water Authority, IID, or CVWD for the AAC and CC lining projects.

California Public Resources Code Section 75050(b)(1). This section identifies up to $36 million as available for water conservation projects that implement the Allocation Agreement as defined in the Quantification Settlement Agreement.

Federal, State, and Local Permits/Approvals

AAC Lining Project Final EIS/EIR (March 1994). A final EIR/EIS analyzing the potential impacts of lining the AAC was completed by the Bureau of Reclamation (Reclamation) in March 1994. A Record of Decision was signed by Reclamation in July 1994, implementing the preferred alternative for lining the AAC. A re-examination and analysis of these environmental compliance documents by Reclamation in November 1999 determined that these documents continued to meet the requirements of the NEPA and the CEQA and would be valid in the future.

CC Lining Project Final EIS/EIR (April 2001). The final EIR/EIS for the CC lining project was completed in 2001. Reclamation signed the Record of Decision in April 2002. An amended Record of Decision has also been signed to take into account revisions to the project description.

Mitigation, Monitoring, and Reporting Program for Coachella Canal Lining Project, SCH #1990020408; prepared by Coachella Valley Water District, May 16, 2001.

Environmental Commitment Plan for the Coachella Canal Lining Project, approved by the US Bureau of Reclamation (Boulder City, NV) on March 4, 2003.

Environmental Commitment Plan and Addendum to the All-American Canal Lining Project EIS/EIR California State Clearinghouse Number SCH 90010472 (June 2004, prepared by IID).

Addendum to Final EIS/EIR and Amendment to Environmental Commitment Plan for the All-American Canal Lining Project (approved June 27, 2006, by IID Board of Directors).

6.2.1.3 Carlsbad Seawater Desalination Project

Development of seawater desalination in San Diego County will assist the region in diversifying its water resources, reduce dependence on imported supplies, and provide a new drought-proof, locally treated water supply. The Carlsbad Desalination Project is a fully-permitted seawater desalination plant and conveyance pipeline currently being developed by Poseidon, a private investor–owned company that develops water and wastewater infrastructure. The project, located at the Encina Power Station in Carlsbad, has been in development since 1998 and was incorporated into the Water Authority's 2003 Water Facilities Master Plan and 2010 UWMP. The Carlsbad Desalination Project has obtained all required permits and environmental clearances and, when completed, will provide a highly reliable local supply of 48,000 to 56,000 AFY for the region.

Implementation Status

The Project has obtained all required permits and environmental clearances, including the following:

- National Pollutant Discharge Elimination System (NPDES) Discharge Permit (Regional Water Quality Control Board)
- Conditional Drinking Water Permit (California Department of Health Services)
- State Lands Commission Lease (State Lands Commission)
- Coastal Development Permit (California Coastal Commission)

IDE Technologies, a worldwide leader in the design, construction, and operation of desalination plants, was selected by Poseidon to be the desalination process contractor for the Project.

On July 22, 2010, the Board approved a Term Sheet between the Water Authority and Poseidon Resources that outlined the key terms and conditions that would be detailed and incorporated in a comprehensive Water Purchase Agreement (WPA). Beginning in October 2011 and under the direction of the Board's Carlsbad Desalination Project Advisory Group, staff began developing and negotiating with Poseidon a WPA consistent with the July 22, 2010 Board approved Term Sheet. The July 2010 Term Sheet also identified specific conditions precedent to Board consideration of the WPA.

On November 29, 2012, the Water Authority Board adopted a resolution approving the Design-Build Agreement between the Water Authority and Poseidon. The Design-Build Agreement establishes the commercial and technical terms for implementation of the desalination product pipeline improvements. These improvements consist of an approximate 10-mile long, 54-inch diameter conveyance pipeline connecting the Desalination Plant to the Water Authority's Second Aqueduct. The pipeline will generally be constructed within improved streets in commercial and industrial areas in the cities of Carlsbad, Vista, and San Marcos. The Water Authority will own the Project Water Pipeline Improvements upon execution of the Design-Build Agreement, and upon completion and acceptance of construction, the Water Authority will assume operational control of all pipeline improvements.

Expected Supply

When completed, the Project will provide a highly reliable local supply of 48,000 to 56,000 AFY of supply for the region, available in both normal and dry hydrologic conditions. In 2020, the Project would account for approximately 8% of the total projected regional supply and 30% of all locally generated water in San Diego County. When the project becomes operational in 2016, it will more than double the amount of local supplies developed in the region since 1991.

Transportation

On November 29, 2012, the Water Authority Board adopted a resolution approving the Design-Build Agreement between the Water Authority and Poseidon. The Design-Build Agreement establishes the commercial and technical terms for implementation of the desalination product pipeline improvements. These improvements consist of an approximate 10-mile long, 54-inch diameter conveyance pipeline connecting the Desalination Plant to the Water Authority's Second Aqueduct. The pipeline will generally be constructed within improved streets in commercial and industrial areas in the cities of Carlsbad, Vista, and San Marcos. The Water Authority will own the Project Water Pipeline Improvements upon execution of the Design-Build Agreement, and upon completion and acceptance of construction, the Water Authority will assume operational control of all pipeline improvements.

The Water Authority will be responsible for aqueduct improvements, including the relining and rehabilitation of Pipeline 3 to accept desalinated water under higher operating pressures, modifications to the San Marcos Vent that allows the flow of water between Pipelines 3 and 4, and improvements at the Twin Oaks Valley Water Treatment Plant necessary to integrate desalinated water into the Water Authority's system for optimal distribution to member agencies.

Cost/Financing

The plant and the offsite pipeline will be financed through tax exempt government bonds issued for the Water Authority by the California Pollution Control Financing Authority (CPCFA). On November 29, 2012, the Water Authority Board adopted a resolution approving agreements to accomplish tax exempt project financing through the CPCFA.

A preliminary September 2012 unit cost estimate was \$2,300/AF. The Water Authority's water purchase costs will be financed through Water Authority rates and charges. Poseidon is financing the capital cost of the Project with a combination of private equity and tax-exempt Private Activity Bonds.

Written Contracts or Other Proof

The expected supply and costs associated with the Carlsbad Desalination Project are based primarily on the following documents:

Development Agreement between City of Carlsbad and Poseidon (October 2009). A Development Agreement between Carlsbad and Poseidon was executed on October 5, 2009

Agreement of Term Sheet between the Water Authority and Poseidon Resources (July 2010). The Water Authority approved the Term Sheet at its July 2010 Board Meeting. The Term Sheet outlines the terms and conditions of a future Water Purchase Agreement with Poseidon and allocates the resources to prepare the draft Water Purchase Agreement.

Federal, State, and Local Permits/Approvals

Carlsbad Desalination Project Final EIR
The City of Carlsbad, acting as lead agency for Carlsbad Seawater Desalination Plant and appurtenant facilities proposed by Poseidon (the "Project") prepared an Environmental Impact Report for the Project in compliance with the California Environmental Quality Act ("CEQA"), which the City of Carlsbad certified on June 13, 2006.
http://www.sdcwa.org/rwfmp-peir

The City of Carlsbad prepared an Addendum to the Carlsbad EIR ("Addendum") which was adopted on September 15, 2009, and reflects minor and immaterial design modifications to the Project site plan, appurtenant facilities, and water delivery pipeline network.
The environmental documents and permits are found at the following link:
http://www.carlsbad-desal.com/EIR.asp

The Water Authority, as a Responsible Agency under CEQA, adopted a resolution on November 29, 2012 approving a Second Addendum to the Carlsbad Precise Development Plan and Desalination Plant Final EIR and First Addendum that evaluates the environmental impacts of several proposed facility modifications that are necessary to allow for operational flexibility and efficiency in receiving and delivering desalination product water. These modifications include: a realignment of a portion of the approved desalination pipeline, the addition of chemical injection at the approved San Marcos Aqueduct Connection site, the relining of a portion of Pipeline 3, the addition of a pipeline and expanded flow control facility at Twin Oaks Valley Water Treatment Plant and a replacement of the San Marcos Vent on Pipeline 4. Impacts associated with the proposed modifications would not result in a new significant impact or substantial increase in the severity of impacts previously evaluated in the Carlsbad FEIR or the First Addendum. There are no substantial changes to the circumstances under which the project will be undertaken, and no new information of substantial importance that was not known and could not have been known when the FEIR was certified and the First Addendum was approved, and that have since been identified.

Therefore, the Second Addendum satisfies the CEQA requirements for the proposed project modifications.

Regional Water Facilities Master Plan EIR
On November 20, 2003, the Water Authority Board of Directors adopted Resolution No. 2003-34 certifying the Final Program Environmental Impact Report (State Clearinghouse No. 2003021052) for the Water Authority's Regional Water Facilities Master Plan Project (the "Master Plan EIR"), which evaluated, among other things, potential growth inducing impacts associated with new water supplies to the region including, but not limited to, up to 150 million gallons per day (mgd) of new supplies from seawater desalination. This certification included a 50 mgd plant located in the City of Carlsbad.
The environmental documents and permits are found at the following link:
http://www.sdcwa.org/rwfmp-peir

Sub regional Natural Community Conservation Plan/Habitat Conservation Plan (NCCP/HCP)
On December 8, 2010, the Board adopted Resolution No. 2010-18 certifying a Final environmental Impact Report/Environmental Impact Statement for the San Diego County Water Authority Subregional Natural Community Conservation Plan/Habitat Conservation Plan (State Clearinghouse No. 2003121012) (the "Habitat Conservation Plan EIR/EIS"), which Plan was implemented on December 28, 201.
The environmental documents and permits are found at the following link:
http://www.sdcwa.org/nccp-hcp

Twin Oaks Valley Water Treatment Plant EIR
On September 8, 2005, the Board adopted Resolution No. 2005-31 certifying a Final Environmental Impact Report for the Twin Oaks Valley Water Treatment Plant Project (State Clearinghouse No. 20040071034) (the "Twin Oaks EIR"), which project was constructed as a 100 MGD submerged membrane water treatment facility, including treated water holding tanks and distribution pipelines and other facilities, consistent with the conditions and mitigation measures included in the Twin Oaks EIR.
http://www.sdcwa.org/twin-oaks-valley-treatment-plant-final-eir

2010 Urban Water Management Plan
http://www.sdcwa.org/2010-urban-water-management-plan

Drinking Water Permit (October 2006). The California Department of Health Services approved the Conditional Drinking Water Permit on October 19, 2006.

Coastal Development Permit
The Project is fully permitted, with the California Coastal Commission issuing the following permits: Coastal Development Permit No. E-06-013, Energy Minimization and Greenhouse Gas Reduction Plan (December 2008), Marine Life Mitigation Plan (December 2008), Erosion Control Plan (November 2009), Landscaping Plan (September 2009), Lighting Plan (August 2009), Construction Plan (September 2009), and Water Pollution Control Plan

(September 2009); the California Department of Public Health issuing Conceptual Approval Letter dated October 19, 2006; the California Regional Water Quality Control Board issuing NPDES Permit No. CA0109223 and Notice of Intent to Discharge for Storm Water Associated with Construction Activities (WDID #9 37C361181); the City of Carlsbad issuing Redevelopment Permit RP 05-12(A), Specific Plan 144 with Amendment 144(J) SP 144(J), Habitat Management Plan Permit Amendment HMP 05-08(A), Precise Development Plan PDP 00-02(B), Mitigation Monitoring and Reporting Program for EIR 03-05(A), Development Agreement DA 05-01(A), Standard Urban Storm Water Mitigation Program (September 2009), and Coastal Development Permit 04-41; the State of California State Lands Commission issuing an Amendment of Lease PRC 8727.1 (August 2008).
The environmental documents and permits are found at the following link:
http://www.sdcwa.org/carlsbad-desalination-project-approved-permits-and-plans

State Lands Commission Lease Application (Amendment of Lease PRC 8727.1 August 2008). Amends lease of land by Cabrillo Power I LLC (Cabrillo) from the State Lands Commission for the lands where the project will be constructed. Cabrillo and Poseidon entered into agreement on July 1, 2003, authorizing Poseidon to use those lands to construct the project.

6.2.2 Water Authority Capital Improvement Program and Financial Information

The Water Authority's Capital Improvement Program (CIP) can trace its beginnings to a report approved by the Board in 1989 entitled, The Water Distribution Plan, and a Capital Improvement Program through the Year 2010. The Water Distribution Plan included ten projects designed to increase the capacity of the aqueduct system, increase the yield from existing water treatment plants, obtain additional supplies from MWD, and increase the reliability and flexibility of the aqueduct system. Since that time the Water Authority has made numerous additions to the list of projects included in its CIP as the region's infrastructure needs and water supply outlook have changed.

The current list of projects included in the CIP is based on the results of planning studies, including the 2005 UWMP and the 2002 Regional Water Facilities Master Plan. These CIP projects, which are most recently described in the Water Authority's Adopted Multi-Year Budget, include projects valued at $3.50 billion. These CIP projects are designed to meet projected water supply and delivery needs of the member agencies through 2035. The projects include a mix of new facilities that will add capacity to existing conveyance, storage, and treatment facilities, as well as repair and replace aging infrastructure:

- Asset Management – The primary components of the asset management projects include relining and replacing existing pipelines and updating and replacing metering facilities.

- New Facilities – These projects will expand the capacity of the aqueduct system, complete the projects required under the Quantification Settlement Agreement (QSA), and evaluate new supply opportunities.
- Emergency Storage Project – Projects remaining to be completed under the ongoing ESP include the San Vicente Dam Raise, the Lake Hodges projects, and a new pump station to extend ESP supplies to the northern reaches of the Water Authority service area.
- Other Projects – This category includes out-of-region groundwater storage, increased local water treatment plant capacity, and projects that mitigate environmental impacts of the CIP.

The Water Authority Board of Directors is provided a semi-annual and annual report on the status of development of the CIP projects. As described in the Water Authority's biennial budget, a combination of long and short term debt and cash (pay-as-you-go) will provide funding for capital improvements. Additional information is included in the Water Authority's biennial budget, which also contains selected financial information and summarizes the Water Authority's investment policy.

6.3 Otay Water District

The Otay WD 2010 Water Resources Master Plan Update and the 2010 Urban Water Management Plan contain comparisons of projected supply and demands through the year 2035. Projected potable water resources to meet planned demands as documented were planned to be supplied entirely with imported water received from the Water Authority. Recycled water resources to meet projected demands are planned to be supplied from local wastewater treatment plants. The Otay WD currently has no local supply of raw water, potable water, or groundwater resources.

The development and/or acquisition of potential groundwater, recycled water market expansion, and seawater desalination supplies by the Otay WD have evolved and are planned to occur in response to the regional water supply issues. These water supply projects are in addition to those identified as sustainable supplies in the current Water Authority and MWD UWMP, IRP, Master Plans, and other planning documents. These new additional water supply projects are not currently developed and are in various stages of the planning process. These local and regional water supply projects will allow for less reliance upon imported water and are considered a new water supply resource for the Otay WD.

The Otay WD expansion of the market areas for the use of recycled water within the watersheds upstream of the Sweetwater Reservoir, Otay Mesa, and the Lower Otay Reservoir will increase recycled water use and thus require less dependence on imported water for irrigation purposes.

The supply forecasts contained within this WSA&V Report do consider development and/or acquisition of potential groundwater, recycled water market expansion, and seawater desalination supplies by the Otay WD.

6.3.1 Availability of Sufficient Supplies and Plans for Acquiring Additional Supplies

The availability of sufficient potable water supplies and plans for acquiring additional potable water supplies to serve existing and future demands of the Otay WD is founded upon the preceding discussions regarding MWD's and the Water Authority's water supply resources and water supplies to be acquired by the Otay WD. Historic imported water deliveries from the Water Authority to Otay WD and recycled water deliveries from the Otay WD Ralph W. Chapman Water Reclamation Facility (RWCWRF) are shown in Table 7. Since the year 2000 through mid May 2007, recycled water demand has exceeded the recycled water supply capability typically in the summer months. The RWCWRF is limited to a maximum production of about 1,300 AFY. The recycled water supply shortfall had been met by supplementing with potable water into the recycled water storage system as needed by adding potable water supplied by the Water Authority. On May 18, 2007 an additional source of recycled water supply from the City of San Diego's South Bay Water Reclamation Plant (SBWRP) became available. The supply of recycled water from the SBWRP is a result of essentially completing construction and commencement of operations of the transmission, storage, and pump station systems necessary to link the SBWRP recycled water supply source to the existing Otay WD recycled water system.

Table 7
Historic Imported and Local Water Supplies
Otay Water District

Calendar Year	Imported Water (AF)	Recycled Water (AF)	Total (AF)
1980	12,558	0	12,558
1985	14,529	0	14,529
1990	23,200	0	23,200
1995	20,922	614	21,536
2000	29,901	948	30,849
2005	37,678	1,227	38,905
2010	29,270	4,090	33,270
2011	30,158	3,776	34,038
2012	31,268	4,155	35,423

Source: Otay Water District operational records.

6.3.1.1 Imported and Regional Supplies

The availability of sufficient imported and regional potable water supplies to serve existing and planned uses within Otay WD is demonstrated in the above discussion on MWD and the Water Authority's water supply reliability. The County Water Authority Act, Section 5 subdivision 11, states that the Water Authority "as far as practicable, shall provide each of its member agencies with adequate supplies of water to meet their expanding and increasing needs." The Water Authority provides between 75 to 95 percent of the total supplies used by its 24 member agencies, depending on local weather and supply conditions. In calendar year 2010 the supply to Otay WD was 29,270 AF of supply from the Water Authority. An additional 4,090 AF of recycled water came from the City of San Diego and from the District's Ralph W. Chapman Water Reclamation Facility. The demand for potable water within the Otay WD is expected to increase to about 77,177 AF by 2035 as per the Otay WD 2010 UWMP.

Potable Water System Facilities

The Otay WD continues to pursue diversification of its water supply resources to increase reliability and flexibility. The Otay WD also continues to plan, design, and construct potable water system facilities to obtain these supplies and to distribute potable water to meet customer demands. The Otay WD has successfully negotiated two water supply diversification agreements that enhance reliability and flexibility, which are briefly described as follows.

- The Otay WD entered into an agreement with the City of San Diego, known as the Otay Water Treatment Plant (WTP) Agreement. The Otay WTP Agreement provides for raw water purchase from the Water Authority and treatment by the City of San Diego at their Otay WTP for delivery to Otay WD. The supply system link to implement the Otay WTP Agreement to access the regions raw water supply system and the local water treatment plant became fully operational in August 2005. This supply link consists of the typical storage, transmission, pumping, flow measurement, and appurtenances to receive and transport the treated water to the Otay WD system. The City of San Diego obligation to supply 10 mgd of treated water under the Otay WTP Agreement is contingent upon there being available 10 mgd of surplus treatment capacity in the Otay WTP until such time as Otay WD pays the City of San Diego to expand the Otay WTP to meet the Otay WD future needs. In the event that the City of San Diego's surplus is projected to be less than 10 mgd the City of San Diego will consider and not unreasonably refuse the expansion of the Otay WTP to meet the Otay WD future needs. The Otay WTP existing rated capacity is 40 mgd with an actual effective capacity of approximately 34 mgd. The City of San Diego's typical demand for treated water from the Otay WTP is approximately 20 mgd. It is at the City of San Diego's discretion to utilize either imported raw water delivered by the Water Authority Pipeline No. 3 or local water stored in Lower Otay Reservoir for treatment to supply the Otay WD demand.

- The Otay WD entered into an agreement with the Water Authority, known as the East County Regional Treated Water Improvement Program (ECRTWIP Agreement). The ECRTWIP Agreement provides for transmission of raw water to the Helix WD R. M. Levy WTP for treatment and delivery to Otay WD. The supply system link to implement the ECRTWIP Agreement is complete allowing access to the regions raw water supply system and the local water treatment plant. This supply link consists of the typical transmission, pumping, storage, flow control, and appurtenances to receive and transport the potable water from the R. M. Levy WTP to Otay WD. The Otay WD is required to take a minimum of 10,000 AFY of treated water from the R.M. Levy WTP supplied from the regions raw water system.

Cost and Financing

The capital improvement costs associated with water supply and delivery are financed through the Otay WD water meter capacity fee, New Water Supply Fee, and user rate structures. The Otay WD potable water sales revenue are used to pay for the wholesale cost of the treated water supply and the operating and maintenance expenses of the potable water system facilities.

Written Agreements, Contracts, or Other Proof

The supply and cost associated with deliveries of treated water from the Otay WTP and the R.M. Levy WTP is based on the following documents.

<u>Agreement for the Purchase of Treated Water from the Otay Water Treatment Plant between the City of San Diego and the Otay Water District</u>. The Otay WD entered into an agreement dated January 11, 1999 with the City of San Diego that provides for 10 mgd of surplus treated water to the Otay WD from the existing Otay WTP capacity. The agreement allows for the purchase of treated water on an as available basis from the Otay WTP. The Otay WD pays the Water Authority at the prevailing raw water rate for raw water and pays the City of San Diego at a rate equal to the actual cost of treatment to potable water standards.

<u>Agreement between the San Diego County Water Authority and Otay Water District Regarding Implementation of the East County Regional Treated Water Improvement Program</u>. The ECRTWIP Agreement requires the purchase of at least 10,000 AFY of potable water from the Helix WD R.M. Levy WTP at the prevailing Water Authority treated water rate. The ECRTWIP Agreement is dated April 27, 2006.

<u>Agreement between the San Diego County Water Authority and Otay Water District for Design, Construction, Operation, and Maintenance of the Otay 14 Flow Control Facility Modification</u>. The Otay WD entered into the Otay 14 Flow Control Facility Modification Agreement dated January 24, 2007 with the Water Authority to increase the physical capacity of the Otay 14 Flow Control Facility. The Water Authority and Otay WD to 50% share the capital cost to expand its capacity from 8 mgd to 16 mgd.

Federal, State, and Local Permits/Approvals

The Otay WD acquired all the permits for the construction of the pipeline and pump station associated with the Otay WTP supply source and for the 640-1 and 640-2 water storage reservoirs project associated with the ECRTWIP Agreement through the typical planning, environmental approval, design, and construction processes.

The transmission main project constructed about 26,000 feet of a 36-inch diameter steel pipeline from the Otay 14 Flow Control Facility to the 640-1 and 640-2 Reservoirs project. The Otay 14 Flow Control Facility modification increased the capacity of the existing systems from 8 mgd to 16 mgd. CEQA documentation is complete for both projects. Construction of both of these projects was completed October 2010.

The City of San Diego and the Helix Water District are required to meet all applicable federal, state, and local health and water quality requirements for the potable water produced at the Otay WTP and the R.M. Levy WTP respectively.

6.3.1.2 Recycled Water Supplies

Wastewater collection, treatment, and disposal services provided by the Otay WD is limited to a relatively small area within what is known as the Jamacha Basin, located within the Middle Sweetwater River Basin watershed upstream of the Sweetwater Reservoir and downstream of Loveland Reservoir. Water recycling is defined as the treatment and disinfection of municipal wastewater to provide a water supply suitable for non-potable reuse. The Otay WD owns and operates the Ralph W. Chapman Water Reclamation Facility, which produces recycled water treated to a tertiary level for landscape irrigation purposes. The recycled water market area of the Otay WD is located primarily within the eastern area of the City of San Diego and on the Otay Mesa. The Otay WD distributes recycled water to a substantial market area that includes but is not limited to the U.S. Olympic Training Center, the EastLake Golf Course, and other development projects.

The Otay WD projects that annual average demands for recycled water will increase to 8,000 AFY by 2035. About 1,300 AFY of supply is generated by the RWCWRF, with the remainder planned to be supplied to Otay WD by the City of San Diego's SBWRP.

<u>North District Recycled Water Concept</u>

The Otay WD is a recognized leader in the use of recycled water for irrigation and other commercial uses. The Otay WD continues the quest to investigate all viable opportunities to expand the successful recycled water program into areas that are not currently served. One of these areas is in the portion of the service area designated as the North District, located within the Middle Sweetwater River Basin watershed upstream of the Sweetwater River. The close proximity of the recycled water markets in the North District to the Otay WD's source of recycled water, the RWCWRF, means that the distribution system to serve this area could be constructed relatively cost effectively. This makes the North District a logical location for the expansion of the Otay WD's recycled water system and market area.

The purpose of the North District Recycled Water System Development Project, Phase I Concept Study, is to identify the feasibility of using recycled water in the North District and to investigate and assess any limitations or constraints to its use. The Phase I study components of the North District Recycled Water Concept encompassed the preparation of six technical memorandums including the project definition, a discussion of the regulatory process, a discussion of the protection of the watershed that would be affected by recycled water use in the North District, identification of stakeholders, public outreach, and an implementation plan.

Several opportunities that could be realized with the implementation of the use of recycled water in the North District were identified. These include a reduction of demand on the potable water system and maximizing recycled water resources which in turn minimizes treated wastewater discharges to the local ocean outfall. Other opportunities are a possible partnership with Sweetwater Authority to monitor any benefits and impacts of increased recycled water use in the watershed and stakeholder outreach to resolve any water quality concerns and to retain consumer confidence. Also identified were two major constraints associated with the North District Recycled Water System Development Project. One constraint is the water quality objectives for the Middle Sweetwater Basin that will affect the effluent limitations for the recycled water produced at the RWCWRF. At this time, the effluent limit that is of concern is total nitrogen. An examination as to how the treatment process might be modified to enhance nitrogen removal and an action plan is being developed. The other major constraint is the cost of the infrastructure needed to convey and store recycled water in the North District. These costs are estimated to be in the range of $14 to $15 million dollars.

There are two additional phases proposed for the North District Recycled Water System Development Project. Phase II would include further investigation of the issues identified in Phase I as requiring further study. These include stakeholder outreach, regulatory issues, and facility planning. The third phase of the effort would include the facility planning, permitting, environmental compliance, design, and construction of the improvements necessary for delivery of recycled water to the North District markets.

The estimated amount of imported water saved at full implementation of the North District Recycled Water System Development Project is 1,200 AFY. This saved imported water could then be used to offset new potable water demands.

Recycled Water System Facilities

The Otay WD has and continues to construct recycled water storage, pumping, transmission, and distribution facilities to meet projected recycled water market demands. For nearly 20 years, millions of dollars of capital improvements have been constructed. The supply link consisting of a transmission main, storage reservoir, and a pump station to receive and transport the recycled water from the City of San Diego's SBWRP are complete and recycled water deliveries began on May 18, 2007.

Cost and Financing

The capital improvement costs associated with the recycled water supply and distribution systems are financed through the Otay WD water meter capacity fee and user rate structures. The Otay WD recycled water sales revenue, along with MWD and the Water Authority's recycled water sales incentive programs are used to help offset the costs for the wholesale purchase and production of the recycled water supply, the operating and maintenance expenses, and the capital costs of the recycled water system facilities.

Written Agreements, Contracts, or Other Proof

The supply and cost associated with deliveries of recycled water from the SBWRP is based on the following document.

<u>Agreement between the Otay Water District and the City of San Diego for Purchase of Reclaimed Water from the South Bay Water Reclamation Plant.</u> The agreement provides for the purchase of at least 6,721 AFY of recycled water from the SBWRP at an initial price of $350 per acre-foot. The Otay WD Board of Directors approved the final agreement on June 4, 2003 and the San Diego City Council approved the final agreement on October 20, 2003.

Federal, State, and Local Permits/Approvals

The Otay WD has in place an agreement with MWD for their recycled water sales incentive program for supplies from the RWCWRF and the SBWRP. Also, the Otay WD has in place an agreement with the Water Authority for their recycled water sales incentive program for supplies from the RWCWRF and the SBWRP. The Water Authority sales incentive agreement was approved by Water Authority on July 26, 2007 and by Otay WD on August 1, 2007. All permits for the construction of the recycled water facilities to receive, store, and pump the SBWRP supply have been acquired through the typical planning, environmental approval, design, and construction processes.

The California Regional Water Quality Control Board San Diego Region (RWQCB) "Master Reclamation Permit for Otay Water District Ralph W. Chapman Reclamation Facility" was adopted on May 9, 2007 (Order No. R9-2007-0038). This order establishes master reclamation requirements for the production, distribution, and use of recycled water in the Otay WD service area. The order includes the use of tertiary treated water produced and received from the City of San Diego's SBWRP. Recycled water received from and produced by the SBWRP is regulated by Regional Board Order No. 2000-203 and addenda. The City of San Diego is required to meet all applicable federal, state, and local health and water quality requirements for the recycled water produced at the SBWRP and delivered to Otay WD in conformance with Order No. 2000-203.

6.3.1.3 Potential Groundwater Supplies

The Otay WD 2010 UWMP, the WRMP Update, and the Otay WD March 2007 Integrated Water Resources Plan (2007 IRP) both contain a description of the development of potential groundwater supplies. Over the past several years, Otay WD has studied numerous potential groundwater supply options that have shown, through groundwater monitoring well activities, poor quality water and/or insufficient yield from the basins at a cost effective level. The Otay WD has a few capital improvement program projects that continue the quest to develop potential groundwater resources. Local Otay WD groundwater supply development is currently considered as a viable water supply resource to meet projected demands.

The development and/or acquisition of potential groundwater supply projects by the Otay WD have evolved and been resurrected in response to the regional water supply issues related to water source supply conditions. Local ground water supply projects will allow for less reliance upon imported water, achieve a level of independence of the regional wholesale water agencies, and diversify the Otay WD's water supply portfolio consistent the Otay WD 2007 IRP.

In recognition of the need to develop sufficient alternative water supplies, the Otay WD has taken the appropriate next steps towards development of production groundwater well projects.

There are three groundwater well projects that the Otay WD is actively pursuing to develop as new local water supplies. They are known as the Middle Sweetwater River Basin Groundwater Well, the Otay Mesa Lot 7 Groundwater Well, and the Rancho del Rey Groundwater Well.

Middle Sweetwater River Basin Groundwater Well

The Middle Sweetwater River Basin Groundwater Well is an additional water supply project that was thoroughly studied and documented in the 1990s. The Middle Sweetwater River Basin is located within the Sweetwater River watershed and that reach of the river extends from Sweetwater Reservoir to the upstream Loveland Reservoir. The next step in development of the Middle Sweetwater River Basin Groundwater Well is the implementation of a pilot well project. The ultimate objective of the Otay WD is to develop a groundwater well production system within the Middle Sweetwater River Basin capable of producing a sustainable yield of potable water as a local supply.

The purpose of the Middle Sweetwater River Basin Groundwater Well Pilot project is to identify the feasibility of developing a groundwater resource production system and then determine and assess any limitations or constraints that may arise. The Middle Sweetwater River Basin Groundwater Well Pilot Project will accomplish six primary goals:

- Update project setting
- Update applicable project alternatives analysis
- Prepare groundwater well pilot project implementation plan
- Construct and test pilot monitoring and extraction wells
- Provide recommendations regarding costs and feasibility to develop a groundwater well production system within the Middle Sweetwater River Basin capable of producing a sustainable yield of potable water
- Prepare groundwater well production project implementation plan and scope of work

The groundwater conjunctive use concept is described as the extraction of the quantity of water from the groundwater basin that was placed there by customers of the Otay Water District, Helix Water District, and Padre Dam Municipal Water District by means of their use of imported treated water that contributed to the overall volume of groundwater within the basin. An estimated quantity was developed to be approximately 12.5 percent of the total consumption of the Otay WD customers within that basin, as measured by water meters. In the 1994-1995 period, the quantity of water that was returned to the groundwater basin by Otay WD customers was estimated to be 810 AFY. Currently, that 12.5 percent quantity could be on the order of 1,000 AFY. A future scope of work will need to addresses this concept while considering further development of the groundwater basin as an additional supply resource. If it is deemed that a Middle Sweetwater River Basin Groundwater Well Production Project is viable then the consultant will develop and provide a groundwater well production project implementation plan, cost estimate, and related scope of work.

Further development of the groundwater basin to enhance the total groundwater production could be accomplished by the Otay WD by means of additional extraction of water from the basin that is placed there by means of either injection and/or spreading basins using imported untreated water as the resource supply. The existing La Mesa Sweetwater Extension Pipeline, owned by the Water Authority, once converted to an untreated water delivery system, could be the conveyance system to transport untreated water for groundwater recharge in support of this conjunctive use concept. These two distinct water resource supply conjunctive use concepts will be addressed so they may coexist and to allow for their development as separate phases.

The scope of work to complete Middle Sweetwater River Basin Groundwater Well Pilot Project consists of many major tasks and is to address the groundwater supply concepts outlined above. It is anticipated that the cost for the entire scope of work, will be on the order of $2,000,000, which includes a contingency and may take up to one and a half years to complete.

The primary desired outcome of the Middle Sweetwater River Basin Groundwater Well Pilot Project is for the engineering consultant to determine and make recommendations if it is financially prudent and physically feasible to develop a Phase I groundwater well production system within the Middle Sweetwater River Basin capable of producing a sustainable yield of up to 1,500 AFY of potable water for the Otay WD. If it is deemed that a Middle Sweetwater River Basin Groundwater Well Production Project is viable then the consultant will develop and provide a groundwater well production project implementation plan and related scope of work.

Otay Mesa Lot 7 Groundwater Well

In early 2001 the Otay WD was approached by a landowner representative about possible interest in purchasing an existing well or alternatively, acquiring groundwater supplied from the well located on Otay Mesa. The landowner, National Enterprises, Inc., reportedly stated that the well could produce 3,200 AFY with little or no treatment required prior to introducing the water into the Otay WD potable water system or alternatively, the recycled water system. In March 2001 authorization to proceed with testing of the Otay Mesa Lot 7 Groundwater Well was obtained and the Otay WD proceeded with the investigation of this potential groundwater supply opportunity.

The May 2001 Geoscience Support Services, Inc. completed for the Otay WD the preparation of a report entitled, "Otay Mesa Lot 7 Well Investigation," to assess the Otay Mesa Lot 7 Well. The scope of work included a geohydrologic evaluation of the well, analyses of the water quality samples, management and review of the well video log, and documentation of well pump testing. The primary findings, as documented in the report, formed the basis of the following recommendations:

- For the existing well to be use as a potable water supply resource, a sanitary seal must be installed in accordance with the CDPH guidelines.
- Drawdown in the well must be limited to avoid the possibility of collapsing the casing.
- Recover from drawdown from pumping is slow and extraction would need to be terminated for up to 2 days to allow for groundwater level recovery.
- The well water would need to be treated and/or blended with potable water prior to introduction into the potable water distribution system.

The existing Otay Mesa Lot 7 Well, based upon the above findings, was determined not to be a reliable municipal supply of potable water and that better water quality and quantity perhaps could be discovered deeper or at an alternative location within the San Diego Formation.

The Otay WD may still continue to pursue the Otay Mesa groundwater well opportunity with due consideration of the recommendations of the existing report. Based on the recommendations of the investigation report, a groundwater well production facility at Otay Mesa Lot 7 could realistically extract approximately 300 AFY.

Rancho del Rey Groundwater Well

In 1991, the McMillin Development Company drilled the Rancho del Rey Groundwater Well to augment grading water supplies for their Rancho del Rey development projects. Although the well was considered a "good producer," little was known regarding its water quality and sustainable yield because the water was used solely for earthwork (i.e. dust control and soil compaction). The well was drilled to 865 feet, with a finished depth of 830 feet and produced approximately 400 AFY of low quality water for four years until its use was discontinued in April 1995 when the well was no longer needed. McMillin notified the Otay WD of its intent to sell off the groundwater well asset.

In 1997, the Otay WD purchased an existing 7-inch well and the surrounding property on Rancho del Rey Parkway from the McMillin Company with the intent to develop it as a source of potable water. Treatment was required to remove salts and boron, among other constituents, using reverse osmosis membranes and ion exchange.

In 2000, having received proposals for the design and construction of a reverse osmosis treatment facility that far exceeded the allocated budget, the Board of Directors instructed staff to suspend the project until such time as it became economically viable.

In January 2010, citing the rising cost of imported water and the Otay WD's interest in securing its own water source for long-term supply reliability, the Board authorized Phase 1 for drilling and development of the Rancho del Rey Well.

On March 3, 2010, the Board adopted the Mitigated Negative Declaration for this project and a Notice of Determination was filed with the County of San Diego on March 5, 2010. In September 2010, a new 12-inch production well was drilled to a depth of 900 feet through the groundwater formation and into fractured bedrock. Testing showed the long-term yield of the new well to be 450 gpm, higher than previous studies had estimated. Separation Processes, Inc. (SPI), a highly qualified membrane treatment firm, was hired to conduct a detailed economic feasibility study to confirm that the annualized unit cost of the new water source was economically competitive with other sources. The economic study estimated the unit cost of water to be $1,500 to $2,000 per acre-feet for an alternative that utilizes a seawater membrane for treating both salts and boron. When compared with the current imported treated water rate from the Water Authority, and with the knowledge that this rate will continue to increase as MWD and the Water Authority raise their rates, the Rancho del Rey Well project appears to be economically viable.

The Otay WD is continuing to pursue the Rancho del Rey groundwater well opportunity with due consideration of the recommendations of the existing reports and plans to develop a groundwater well production facility to extract approximately 500 AFY. For water planning purposes, production of groundwater from the Rancho del Rey well is considered "additional planned" for local supplies. During preparation of this 2010 UWMP, the Otay WD has contracted for design services for the wellhead treatment facilities.

6.3.1.4 Otay Water District Desalination Project

The Otay WD is currently investigating the feasibility of purchasing desalinated water from a seawater reverse osmosis plant that is planned to be located in Rosarito, Mexico, known as the Otay Mesa Desalinated Water Conveyance System (Desalination) project. The treatment facility is intended to be designed, constructed, and operated in Mexico by a third party. The Otay WD's draft Desalination Feasibility Study, prepared in 2008, discusses the likely issues to be considered in terms of water treatment and monitoring, potential conveyance options within the United States from the international border to potential delivery points, and environmental, institutional, and permitting considerations for the Otay WD to import the Desalination project product water as a new local water supply resource.

While the treatment facility for the Desalination project will likely not be designed or operated by the Otay WD as the lead agency, it is important that the Otay WD maintain involvement with the planning, design, and construction of the facility to ensure that the implemented processes provide a product water of acceptable quality for distribution and use within the Otay WD's system as well as in other regional agencies' systems that may use the product water, i.e. City of San Diego, the Water Authority, etc. A seawater reverse osmosis treatment plant removes constituents of concern from the seawater, producing a water quality that far exceeds established United States and California drinking water regulations for most parameters, however, a two-pass treatment system may be required to meet acceptable concentrations of boron and chlorides, similar to the levels seen within the existing Otay WD supply sources. The Desalination Feasibility Study addresses product water quality that is considered acceptable for public health and distribution.

The Otay WD, or any other potential participating agencies, will be required to obtain approval from the CDPH in order to use the desalinated seawater as a water source. Several alternative approaches are identified for obtaining this approval. These alternatives vary in their cost and their potential of meeting CDPH approval.

The Rosarito Desalination Facility Conveyance and Disinfection System Project report addresses two supply targets for the desalinated water (i.e. local and regional). The local alternative assumes that only Otay WD would participate and receive desalinated water, while the regional alternative assumes that other regional and/or local agencies would also participate in the Rosarito project.

On November 3, 2010, the Otay WD authorized the General Manager to enter into an agreement with AECOM for the engineering design, environmental documentation, and the permitting for the construction of the conveyance pipeline, pump station, and disinfection facility to be constructed within the Otay WD. The supply target is assumed to be 50 mgd while the ultimate capacity of the plant will be 100 mgd.

The Otay WD is proceeding with negotiations among the parties to establish water supply resource acquisition terms through development of a Principles of Understanding document.

6.3.2 Otay WD Capital Improvement Program

The Otay WD plans, designs, constructs, and operates water system facilities to acquire sufficient supplies and to meet projected ultimate demands placed upon the potable and recycled water systems. In addition, the Otay WD forecasts needs and plans for water supply requirements to meet projected demands at ultimate build out. The necessary water facilities and water supply projects are implemented and constructed when development activities proceed and require service to achieve timely and adequate cost effective water service.

New water facilities that are required to accommodate the forecasted growth within the entire Otay WD service area are defined and described within the Otay WD WRMP Update. These facilities are incorporated into the annual Otay WD Six Year Capital Improvement Program (CIP) for implementation when required to support development activities. As major development plans are formulated and proceed through the land use jurisdictional agency approval processes, Otay WD prepares water system requirements specifically for the proposed development project consistent with the Otay WD WRMP Update. These requirements document, define, and describe all the potable water and recycled water system facilities to be constructed to provide an acceptable and adequate level of service to the proposed land uses, as well as the financial responsibility of the facilities required for service. The Otay WD funds the facilities identified as CIP projects. Established water meter capacity fees and user rates are collected to fund the CIP project facilities. The developer funds all other required water system facilities to provide water service to their project.

Section 7 – Conclusion: Availability of Sufficient Supplies

The Otay Mesa Community Plan Update is currently located within the jurisdictions of the Otay WD, Water Authority, and MWD. To obtain permanent imported water supply service, land areas are required to be within the jurisdictions of the Otay WD, Water Authority, and MWD to utilize imported water supply.

The Water Authority and MWD have an established process that ensures supplies are being planned to meet future growth. Any annexations and revisions to established land use plans are captured in SANDAG updated forecasts for land use planning, demographics, and economic projections. These forecasts include the City of San Diego Otay Mesa Community Plan Update that was included in SANDAG’s Series 12 Regional Growth Forecast. SANDAG serves as the regional, intergovernmental planning agency that develops and provides forecast information. The Water Authority and MWD update their demand forecasts and supply needs based on the most recent SANDAG forecast approximately every five years to coincide with preparation of their urban water management plans. Prior to the next forecast update, local jurisdictions with land use authority may require water supply assessment and/or verification reports for proposed land developments that are not within the Otay WD, Water Authority, or MWD jurisdictions (i.e. pending or proposed annexations) or that have revised land use plans with either lower or higher development intensities than reflected in the existing growth forecasts. Proposed land areas with pending or proposed annexations, or revised land use plans, typically result in the creation of higher demand and supply requirements than previously anticipated. The Otay WD, Water Authority, and MWD next demand forecast and supply requirements and associated planning documents would then capture any increase or decrease in demands and required supplies as a result of annexations or revised land use planning decisions.

MWD's Integrated Resources Plan (IRP) identifies a mix of resources (imported and local) that, when implemented, will provide 100 percent reliability for full-service demands through the attainment of regional targets set for conservation, local supplies, State Water Project supplies, Colorado River supplies, groundwater banking, and water transfers. The 2010 update to the IRP includes a planning buffer supply intended to mitigate against the risks associated with implementation of local and imported supply programs and for the risk that future demands could be higher than projected. The planning buffer identifies an additional increment of water that could potentially be developed when needed and if other supplies are not fully implemented as planned. As part of implementation of the planning buffer, MWD periodically evaluates supply development, supply conditions, and projected demands to ensure that the region is not under or over developing supplies. Managed properly, the planning buffer will help ensure that the southern California region, including San Diego County, will have adequate water supplies to meet long-term future demands.

In Section ES-5 of their 2010 RUWMP, MWD states that MWD has supply capacities that would be sufficient to meet expected demands from 2015 through 2035. MWD has plans for supply implementation and continued development of a diversified resource mix including programs in the Colorado River Aqueduct, State Water Project, Central Valley Transfers, local resource projects, and in-region storage that enables the region to meet its water supply needs. MWD's 2010 RUWMP identifies potential reserve supplies in the supply capability analysis (Tables 2-9, 2-10, and 2-11), which could be available to meet the unanticipated demands.

The County Water Authority Act, Section 5 subdivision 11, states that the Water Authority "as far as practicable, shall provide each of its member agencies with adequate supplies of water to meet their expanding and increasing needs."

As part of preparation of a written water supply assessment report, an agency's shortage contingency analysis should be considered in determining sufficiency of supply. Section 11 of the Water Authority's 2010 Updated UWMP contains a detailed shortage contingency analysis that addresses a regional catastrophic shortage situation and drought management. The analysis demonstrates that the Water Authority and its member agencies, through the Emergency Response Plan, Emergency Storage Project, Carlsbad Desalination Project, and Drought Management Plan (DMP) are taking actions to prepare for and appropriately handle an interruption of water supplies. The DMP, adopted in May 2006, provides the Water Authority and its member agencies with a series of potential actions to take when faced with a shortage of imported water supplies from MWD due to prolonged drought or other supply shortfall conditions. The actions will help the region avoid or minimize the impacts of shortages and ensure an equitable allocation of supplies.

The WSA&V Report identifies and describes the processes by which water demand projections for the proposed Otay Mesa Community Plan Update will be fully included in the water demand and supply forecasts of the Urban Water Management Plans and other water resources planning documents of the Water Authority and MWD. Water supplies necessary to serve the demands of the proposed Otay Mesa Community Plan Update, along with existing and other projected future users, as well as the actions necessary and status to develop these supplies, have been identified in the Otay Mesa Community Plan Update WSA&V Report and will be included in the future water supply planning documents of the Water Authority and MWD.

This WSA&V Report includes, among other information, an identification of existing water supply entitlements, water rights, water service contracts, water supply projects, or agreements relevant to the identified water supply needs for the proposed Otay Mesa Community Plan Update. This WSA&V Report assesses, demonstrates, and documents that sufficient water supplies are planned for and are intended to be available over a 20-year planning horizon, under normal conditions and in single and multiple dry years to meet the projected demand of the proposed Otay Mesa Community Plan Update and the existing and other planned development projects to be served by the Otay WD.

Table 8 presents the forecasted balance of water demands and required supplies for the Otay WD service area under average or normal year conditions. The total actual demand for FY 2010 was 33,270 AF. The demand for FY 2010 is 5,635 AF lower than the demand in FY 2005 of 38,905 AF. The drop in demand is a result of the unit price of water, the conservation efforts of users as a result of the prolonged drought, and the economy.

Table 9 presents the forecasted balance of water demands and supplies for the Otay WD service area under single dry year conditions. Table 9 presents the forecasted balance of water demands and supplies for the Otay WD service area under multiple dry year conditions for the three year period ending in 2018. The multiple dry year conditions for periods ending in 2023, 2028, and 2033 are provided in the Otay Water District 2010 UWMP. The projected potable demand and supply requirements shown the Tables 8 and 9 are from the Otay Water District 2010 UWMP. Hot, dry weather may generate urban water demands that are about 6.4 percent greater than normal. This percentage was utilized to generate the dry year demands shown in Table 9. The recycled water supplies are assumed to experience no reduction in a dry year.

Table 8
Projected Balance of Water Demands and Supplies Normal Year Conditions (AF)

Description	FY 2015	FY 2020	FY 2025	FY 2030	FY 2035
Demands					
Otay WD Demands	44,883	53,768	63,811	70,669	77,171
Additional Conservation Target	0	(7,447)	(13,996)	(17,895)	(20,557)
Total Demand	44,883	46,321	49,815	52,774	56,614
Supplies					
Water Authority Supply	40,483	41,321	44,015	45,974	48,614
Recycled Water Supply	4,400	5,000	5,800	6,800	8,000
Total Supply	44,883	46,321	49,815	52,774	56,614
Supply Surplus/(Deficit)	**0**	**0**	**0**	**0**	**0**

Table 9 presents the forecasted balance of water demands and supplies for the Otay WD service area under single dry year and multiple dry year conditions as from the Otay Water District 2010 UWMP.

Table 9
Projected Balance of Water Demands and Supplies
Single Dry and Multiple Dry Year Conditions (AF)

	Normal Year	Single Dry Year	Multiple Dry Years		
	FY 2011	FY 2012	FY 2013	FY 2014	FY 2015
Demands					
Otay WD Demands	37,176	41,566	43,614	46,385	50,291
Total Demand	37,176	41,566	43,614	46,385	50,291
Supplies					
Water Authority Supply	33,268	37,535	39,460	42,108	45,891
Recycled Water Supply	3,908	4,031	4,154	4,277	4,400
Total Supply	37,176	41,566	43,614	46,385	50,291
Supply Surplus/(Deficit)	**0**	**0**	**0**	**0**	**0**
District Demand totals with SBX7-7 conservation target achievement plus single dry year increase as shown. The Water Authority could implement its DMP. In this instances, the Water Authority may have to allocate supply shortages based on it equitable allocation methodology in its DMP.					

Dry year demands assumed to generate a 6.4% increase in demand over normal conditions for each year in addition to new demand growth.

Table 9 also presents the forecasted balance of water demands and supplies for the Otay WD service area under multiple dry year conditions for the three year period ending in 2015.

In evaluating the availability of sufficient water supply, the Otay Mesa Community Plan Update development proponents will be required to participate in the development of alternative water supply project(s). This can be achieved through payment of the New Water Supply Fee adopted by the Otay WD Board in May 2010. These water supply projects are in addition to those identified as sustainable supplies in the current Water Authority and MWD UWMP, IRP, Master Plans, and other planning documents. These new water supply projects are in response to the regional water supply issues related to climatological, environmental, legal, and other challenges that impact water source supply conditions, such as the court rulings regarding the Sacramento-San Joaquin Delta and the current ongoing western states drought conditions. These new additional water supply projects are not currently developed and are in various stages of the planning process. The Otay WD water supply development program includes but is not limited to projects such as the Middle Sweetwater River Basin Groundwater Well project, the North District Recycled Water Supply Concept, the Otay WD Desalination project, and the Rancho del Rey Groundwater Well project. The Water Authority and MWD's next forecasts and supply planning documents would capture any increase in water supplies resulting from any new water resources developed by the Otay WD.

The Otay WD acknowledges the ever-present challenge of balancing water supply with demand and the inherent need to possess a flexible and adaptable water supply implementation strategy that can be relied upon during normal and dry weather conditions. The responsible regional water supply agencies have and will continue to adapt their resource plans and strategies to meet climate, environmental, and legal challenges so that they may continue to provide water supplies to their service areas. The regional water suppliers, along with Otay WD, fully intend to maintain sufficient reliable supplies through the 20-year planning horizon under normal, single, and multiple dry year conditions to meet projected demand of the Otay Mesa Community Plan Update, along with existing and other planned development projects within the Otay WD service area.

This WSA&V Report assesses, demonstrates, and documents that sufficient water supplies are planned for and are intended to be acquired, as well as the actions necessary and status to develop these supplies, to meet projected water demands of the Otay Mesa Community Plan Update as well as existing and other reasonably foreseeable planned development projects within the Otay WD for a 20-year planning horizon, in normal and in single and multiple dry years.

Source Documents

Atkins, "Otay Mesa Community Plan Update - Technical Infrastructure Study, May 2013

City of San Diego, Otay Mesa Community Plan Update SB 610 and SB 221 Compliance request letter received May 30, 2013.

City of Chula Vista, "Otay Ranch General Development Plan/Sub-regional Plan, The Otay Ranch Joint Planning Project," October 1993 amended June 1996.

County of San Diego, "East Otay Mesa Specific Plan Area," adopted July 27, 1994.

Otay Water District, "2010 Water Resources Master Plan Update," revised May 2013.

Atkins and Otay Water District, "Otay Water District 2010 Urban Water Management Plan," June 2011.

Camp Dresser & McKee, Inc., "Otay Water District Integrated Water Resources Plan," March 2007

San Diego County Water Authority, "Urban Water Management Plan 2005 Update," November 2005 amended May 2007.

MWD Water District of Southern California, "Regional Urban Water Management Plan," November 2005.

Camp Dresser & McKee, Inc., "Rosarito Desalination Facility Conveyance and Disinfection System Project," June 21, 2010.

PBS&J, "Draft Otay Water District North District Recycled Water System Development Project, Phase I Concept Study," December 2008.

NBS Lowry, "Middle Sweetwater River System Study Water Resources Audit," June 1991.

Michael R. Welch, "Middle Sweetwater River System Study Alternatives Evaluation," May 1993.

Michael R. Welch, "Middle Sweetwater River Basin Conjunctive Use Alternatives," September 1994.

Geoscience Support Services, Inc., "Otay Mesa Lot 7 Well Investigation," May 2001.

Boyle Engineering Corporation, "Groundwater Treatment Feasibility Study Ranch del Ray Well Site," September 1996.

Agreement for the Purchase of Treated Water from the Otay Water Treatment Plant between the City of San Diego and the Otay Water District.

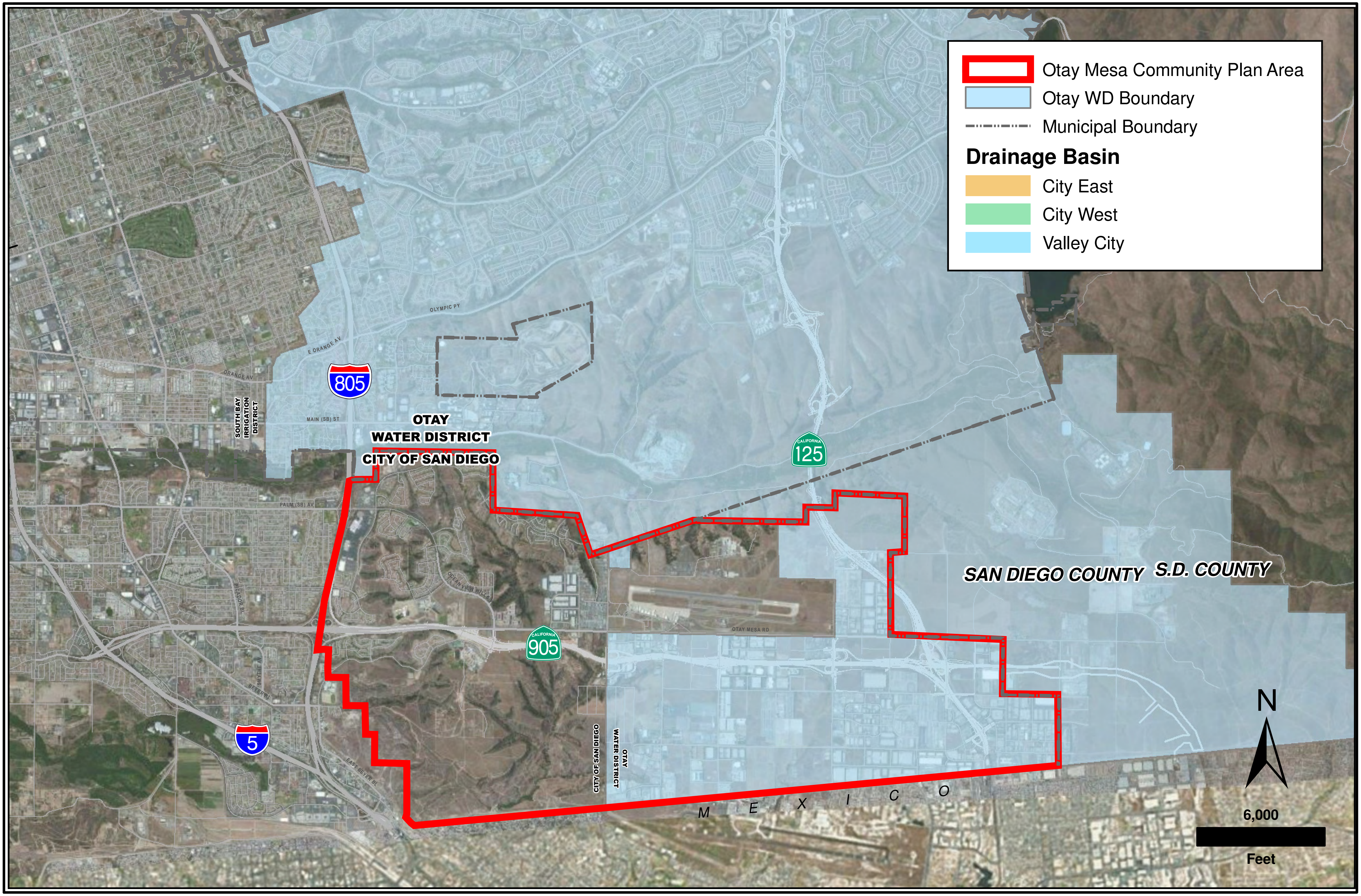
Agreement between the San Diego County Water Authority and Otay Water District regarding Implementation of the East County Regional Treated Water Improvement Program.

Agreement between the San Diego County Water Authority and Otay Water District for Design, Construction, Operation, and Maintenance of the Otay 14 Flow Control Facility Modification.

Agreement between the Otay Water District and the City of San Diego for Purchase of Reclaimed Water from the South Bay Water Reclamation Plant.

Appendix A

Otay Mesa Community Plan Update Regional Location Map



Project Location

Appendix A

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Appendix B

Otay Mesa Community Plan Update Proposed Development Plan

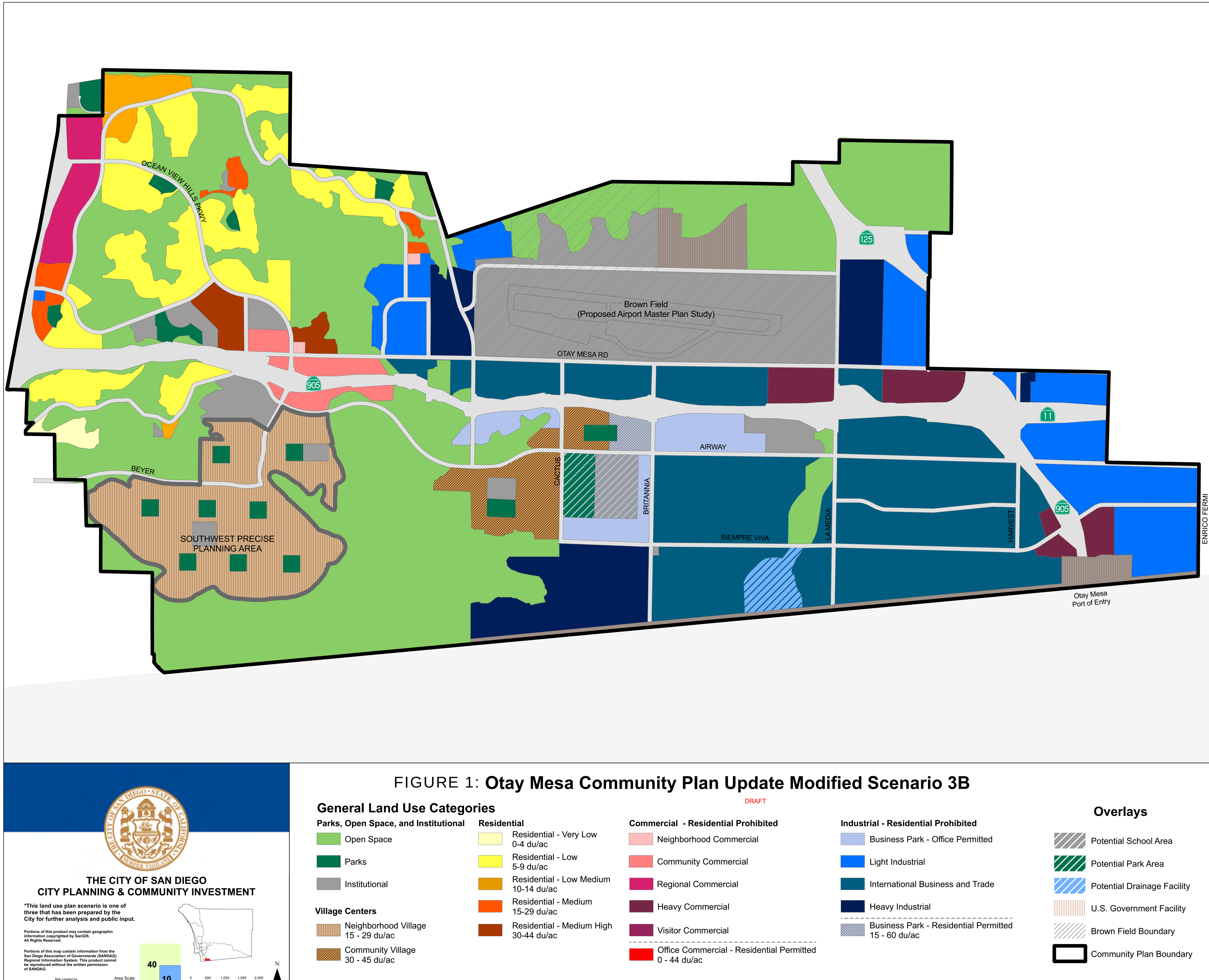

FIGURE 1: **Otay Mesa Community Plan Update Modified Scenario 3B**

DRAFT

APPENDIX N

Greenhouse Gas Emissions Report

RECON

Greenhouse Gas Analysis for the Otay Mesa Community Plan Update, City of San Diego Project No. 30330/304032 SCH No. 2004651076

Prepared for

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ATTACHMENTS

Acronyms

AB	Assembly Bill
AEP	Association of Environmental Professionals
APS	Alternative Planning Strategy
BAU	business-as-usual
CAFE	Corporate Average Fuel Economy
CalEEMod	California Emissions Estimator Model
CalEPA	California Environmental Protection Agency
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CCAP	Climate Change Action Plan
CCP	Cities for Climate Protection
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CF_4	tetrafluoromethane
CH_4	methane
CMAP	Climate Mitigation and Adaptation Plan
CO_2	carbon dioxide
CPAP	Climate Protection Action Plan
CPU	Community Plan Update
CPUC	California Public Utilities Commission
C&D	Construction and Demolition
DOT	Department of Transportation
du	dwelling unit
EMFAC	Emission Factors
EO	Executive Order
EPA	U.S. Environmental Protection Agency
EPIC	Energy Policy Initiative Center
GDP	gross domestic product
GHG	greenhouse gas
GWh	gigaWatt hour
GWP	global warming potential
HFC	hydrofluorocarbons
ICLEI	International Council for Local Environmental Initiatives
I-5	Interstate 5
LCFS	Low Carbon Fuel Standard
LEED	Leadership in Energy and Environmental Design
LGOP	Local Government Operations Protocol
$MMTCO_2E$	million metric tons of carbon dioxide equivalent
mpg	miles per gallon

MPO	Metropolitan Planning Organization
$MTCO_2E$	metric tons of carbon dioxide equivalent
MW	megaWatt
N_2O	nitrous oxide
ODS	ozone depleting substance
OMCP	Otay Mesa Community Plan
OMDD	Otay Mesa Development District
OPR	Office of Planning and Research
PFC	perfluorocarbon
POE	Port of Entry
RPS	Renewables Portfolio Standard
RTP	regional transportation plan
SANDAG	San Diego Association of Governments
SCP	Sustainable Community Program
SCS	Sustainable Communities Strategy
SDAPCD	San Diego Air Pollution Control District
SF_6	sulfur hexafluoride
SR-905	State Route 905
U.S. DOE	U.S. Department of Energy
VMT	vehicle miles traveled

Executive Summary

This report evaluates potential greenhouse gas (GHG) impacts associated with the Otay Mesa Community Plan Update (CPU). The Otay Mesa community planning area is located in the southern portion of the City of San Diego. The CPU is an update to the adopted 1981 Otay Mesa Community Plan. Approval of the CPU amends the General Plan and would establish land use designations and policies to guide future development consistent with the City's General Plan (2008a). The CPU expresses the General Plan policies through the provision of more site-specific recommendations.

The CPU encompasses a broad range of the land use designations defined in the General Plan and contains a more detailed description and distribution of land uses than the citywide General Plan. Land uses include residential with a variety of density ranges, village centers, commercial, industrial, open space, parks, and institutional.

This GHG analysis evaluates potential effects associated with cumulative greenhouse gas emissions generated by the CPU. In accordance with California Environmental Quality Act (CEQA) and City guidelines, this analysis evaluates the significance of the CPU in terms of (1) its contribution of GHGs to cumulative statewide emissions and (2) its consistency with local and state regulations, plans, and policies aimed at reducing GHG emissions.

With regard to the first CEQA question, i.e., to evaluate cumulative GHG emissions impacts, GHG emissions were calculated for the CPU using the California Emissions Estimator Model (CalEEMod), of March 2011. CalEEMod estimates GHG emissions from construction and operational emissions sources. Pursuant to City criteria, the estimated greenhouse gases for the CPU were evaluated relative to business-as-usual (BAU) emissions, and a determination was made as to whether or not buildout of the CPU would achieve a reduction equal to or greater than 28.3 percent relative to BAU.

It was calculated that the CPU BAU emissions would total 4,758,348 metric tons of carbon dioxide equivalent ($MTCO_2E$), while the CPU with GHG reductions accounted for would total 4,215,989 $MTCO_2E$ annually. This reduction of 542,359 $MTCO_2E$ each year would be due to regulations on auto and fuel manufacturers that would reduce vehicle emissions and to the recently updated Title 24 California Building Code that contains increased energy- and water-efficiency requirements that would reduce GHG emissions from those sources. With these GHG reductions, GHG emissions from the CPU would result in an 11.4 percent reduction in GHG emissions relative to BAU. This falls short of meeting the City's requirement of a minimum 28.3 percent reduction in GHG emissions relative to BAU. Without mitigation measures to reduce GHG emissions further, the

CPU's contribution of GHGs to statewide cumulative GHG emissions would be significant. While future development projects would be required to implement GHG emission reduction measures to the extent practical, the degree of future impacts and applicability, feasibility, and success of future mitigation measures cannot be adequately known for each specific future project at this program-level of analysis. Therefore, the impacts associated with the contribution of GHG emissions to cumulative statewide emissions would be considered significant and unavoidable at the program-level, even with adherence to the Mitigation Framework.

Additionally, the CPU would increase diversity of land uses through new mixed-use zoning and would increase residential and employment densities through higher density requirements. It would also increase transit accessibility by locating residential and employment uses in close proximity to each other and would improve walkability through traffic calming measures and other roadway and connectivity improvements. All of these CPU features and policies are consistent with General Plan policies, strategies in regional and state GHG-reduction plans and programs, and specified GHG-reduction measures. However, because project-level details are not known, there is the potential that projects would not meet the necessary City reduction goals put in place in order to achieve the reductions required by Assembly Bill (AB) 32. Therefore, impacts associated with conflicts with existing GHG reduction plans would be potentially significant. Future projects implemented in accordance with the CPU shall be required to demonstrate their avoidance of significant impacts related to long-term operational emissions. However, impacts would remain significant and unavoidable at the program-level, even with adherence to the Mitigation Framework.

1.0 Introduction

To evaluate the incremental effect of the Community Plan Update (CPU) on statewide emissions and global climate change, it is important to have a basic understanding of the nature of the global climate change problem.

1.1 Understanding Global Climate Change

Global climate change is a change in the average weather of the earth, which can be measured by wind patterns, storms, precipitation, and temperature. The earth's climate is in a state of constant flux with periodic warming and cooling cycles. Extreme periods of cooling are termed ice ages, which may then be followed by extended periods of warmth. For most of the earth's geologic history, these periods of warming and cooling have been the result of many complicated interacting natural factors that include: volcanic eruptions that spew gases and particles (dust) into the atmosphere; the amount of water, vegetation, and ice covering the earth's surface; subtle changes in the earth's orbit; and the amount of energy released by the sun (sun cycles). However, since the beginning of the Industrial Revolution around 1750, the average temperature of the earth has been increasing at a rate that is faster than can be explained by natural climate cycles alone.

With the Industrial Revolution came an increase in the combustion of carbon-based fuels such as wood, coal, oil, natural gas, and biomass. Industrial processes have also created emissions of substances not found in nature. This in turn has led to a marked increase in the emissions of gases shown to influence the world's climate. These gases, termed greenhouse gases, influence the amount of heat trapped in the earth's atmosphere. Because recently observed increased concentrations of greenhouse gases (GHGs) in the atmosphere are related to increased emissions resulting from human activity, the current cycle of global warming is generally believed to be largely due to human activity. Of late, the issue of global warming or global climate change has arguably become the most important and widely debated environmental issue in the United States and the world. Because it is the collective of human actions taking place throughout the world that contributes to climate change, it is quintessentially a global or cumulative issue.

1.2 Greenhouse Gases of Primary Concern

There are numerous GHGs, both naturally occurring and manmade. Table 1 summarizes some of the most common. Each GHG has variable atmospheric lifetime and global warming potential.

The atmospheric lifetime of the GHG is the average time the molecule stays stable in the atmosphere. Most GHGs have long atmospheric lifetimes, staying in the atmosphere hundreds or thousands of years. The potential of a gas to trap heat and warm the atmosphere is measured by its global warming potential (GWP). Specifically, GWP is defined as (U.S. Environmental Protection Agency [EPA] 2010):

> the cumulative radiative forcing—both direct and indirect effects—integrated over a period of time from the emission of a unit mass of gas relative to some reference gas.

The reference gas for establishing GWP is carbon dioxide (CO_2), which—as shown in Table 1—consequently has a GWP of 1. As an example, methane (CH_4), while having a shorter atmospheric lifetime than carbon dioxide, has a 100-year GWP of 21, which means that it has a greater global warming effect than carbon dioxide on a molecule-by-molecule basis.

Of the gases listed in Table 1, CO_2, CH_4, and nitrous oxide (N_2O) are produced by both biogenic (natural) and anthropogenic (human) sources. The remaining gases occur solely as the result of human processes. Hydrofluorocarbons (HFCs) are synthetic, man-made chemicals used as substitutes for ozone-depleting chlorofluorocarbons used in air conditioners and as refrigerants. Perfluorocarbons (PFCs) such as tetrafluoromethane (CF_4) are used primarily in aluminum production and semiconductor manufacture. Sulfur hexafluoride (SF_6) is used for insulation in electric power transmission and distribution equipment. HFCs, PFCs, and sulfur hexafluoride are not of primary concern to the CPU.

TABLE 1
GLOBAL WARMING POTENTIALS AND ATMOSPHERIC LIFETIMES (YEARS)

Gas	Atmospheric Lifetime	100-year GWP	20-year GWP	500-year GWP
CO_2	50–200	1	1	1
CH_4*	12±3	21	56	6.5
N_2O	120	310	280	170
HFC-23	264	11,700	9,100	9,800
HFC-32	5.6	650	2,100	200
HFC-125	32.6	2,800	4,600	920
HFC-134a	14.6	1,300	3,400	420
HFC-143a	48.3	3,800	5,000	1,400
HFC-152a	1.5	140	460	42
HFC-227ea	36.5	2,900	4,300	950
HFC-236fa	209	6,300	5,100	4,700
HFC-43-10mee	17.1	1,300	3,000	400
CF_4	50,000	6,500	4,400	10,000
C_2F_6	10,000	9,200	6,200	14,000
C_3F_8	2,600	7,000	4,800	10,100
C_4F_{10}	2,600	7,000	4,800	10,100
c-C_4F_8	3,200	8,700	6,000	12,700
C_5F_{12}	4,100	7,500	5,100	11,000
C_6F_{14}	3,200	7,400	5,000	10,700
SF_6	3,200	23,900	16,300	34,900

SOURCE: U.S. EPA 2010, Annex 6
GWP = global warming potential
CO_2 = carbon dioxide
CH_4 = methane
*The methane GWP includes the direct effects and those indirect effects due to the production of tropospheric ozone and stratospheric water vapor. The indirect effect due to the production of CO_2 is not included.
N_2O = nitrous oxide
HFC = hydrofluorocarbon
CF_4 = tetrafluoromethane
C_2F_6 = hexafluoroethane
C_3F_8 = octafluoropropane
C_4F_{10} = decafluorobutane
c-C_4F_8 = perfluorocyclobutane
C_5F_{12} = dodecafluoropentane
C_6F_{14} = perfluorohexane
SF_6 = sulfur hexafluoride

CO_2, CH_4 and N_2O are the GHGs of primary concern in this analysis. Carbon dioxide would be emitted by the CPU due to the combustion of fossil fuels in vehicles (including construction), from electricity generation and natural gas consumption, water use, and from solid waste disposal. Smaller amounts of methane and nitrous oxide would be emitted from the same CPU operations.

2.0 Project Description

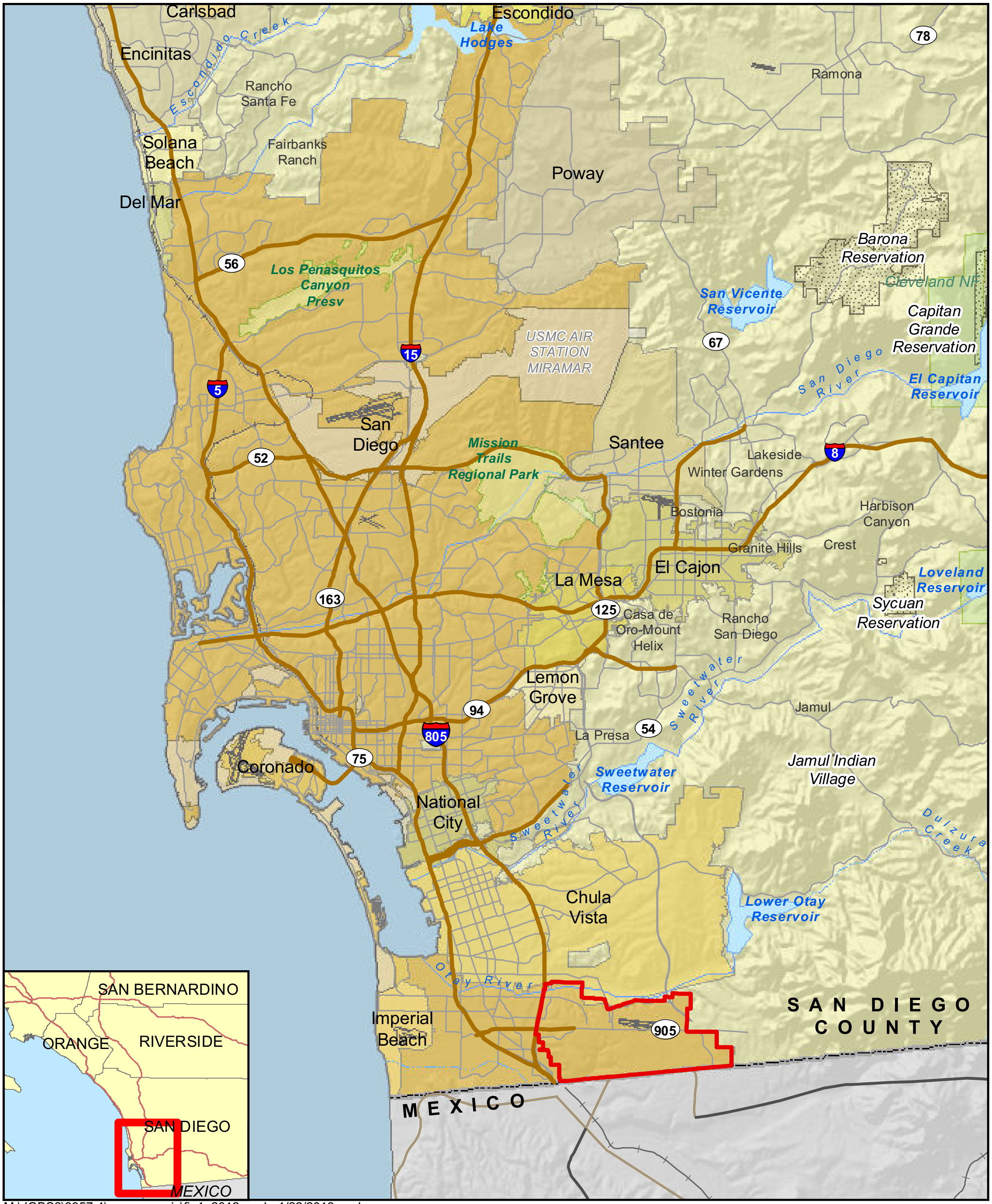
2.1 Project Overview

The CPU is an update to the adopted 1981 Otay Mesa Community Plan. The CPU provides goals and policies for future development within the CPU area. Approval of the CPU amends the General Plan. The concurrent Rezone would rescind the Otay Mesa Development District (OMDD) and update zoning regulations within the CPU area. Amendments to the Land Development Code (LDC) also would be required to create implementing zones for proposed commercial and industrial land use designations under the CPU.

Approval of the CPU would establish land use designations and policies to guide future development consistent with the City of San Diego's (City) General Plan (2008a). The CPU expresses the General Plan policies through the provision of more site-specific recommendations.

The CPU includes nine elements based on those promulgated in the City's General Plan, with goals and policies for each. The nine elements are: Land Use; Mobility; Urban Design; Economic Prosperity; Public Facilities, Services, and Safety; Recreation; Conservation; Noise; and Historic Preservation. Procedures for implementation of the goals and policies are also set forth.

Figure 1 shows the regional location of the CPU area. Figure 2 shows an aerial photograph of the CPU area and vicinity. Figure 3 shows the Adopted Otay Mesa Community Plan land uses within the CPU area. The CPU area is bounded by the City of Chula Vista (north), I-805 (west), International Border (south), and unincorporated San Diego County (east).



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Otay Mesa Community Plan Boundary

FIGURE 1

Regional Location of
Otay Mesa Community Plan Area

Image source: Copyright 2010 Aerials Express, All Rights Reserved (flown March 2010)

Otay Mesa Community Plan Boundary
Not A Part

RECON

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FIGURE 2

Aerial Photograph of CPU Area and Vicinity

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Map Source: City of San Diego Planning Department

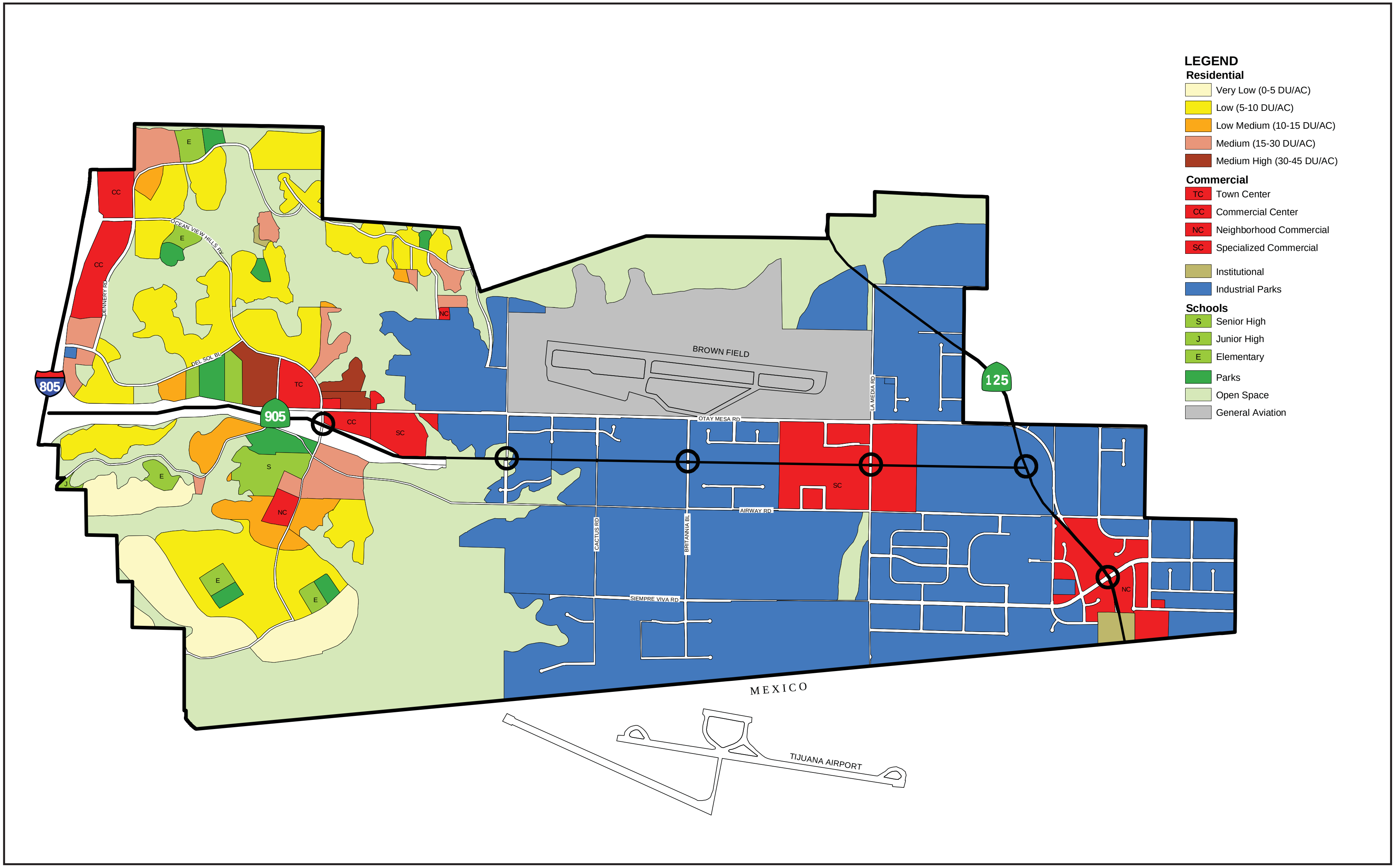

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FIGURE 3

Adopted Otay Mesa Community Plan Land Use Map

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2.2 Development Summary

The CPU encompasses a broad range of the land use designations defined in the General Plan and contains a more detailed description and distribution of land uses than the citywide General Plan. Land uses include residential with a variety of density ranges, village centers, commercial, industrial, open space, parks, and institutional. The existing Adopted Otay Mesa Community Plan and CPU land use distributions are summarized in Table 2. Figure 4 shows the CPU land uses.

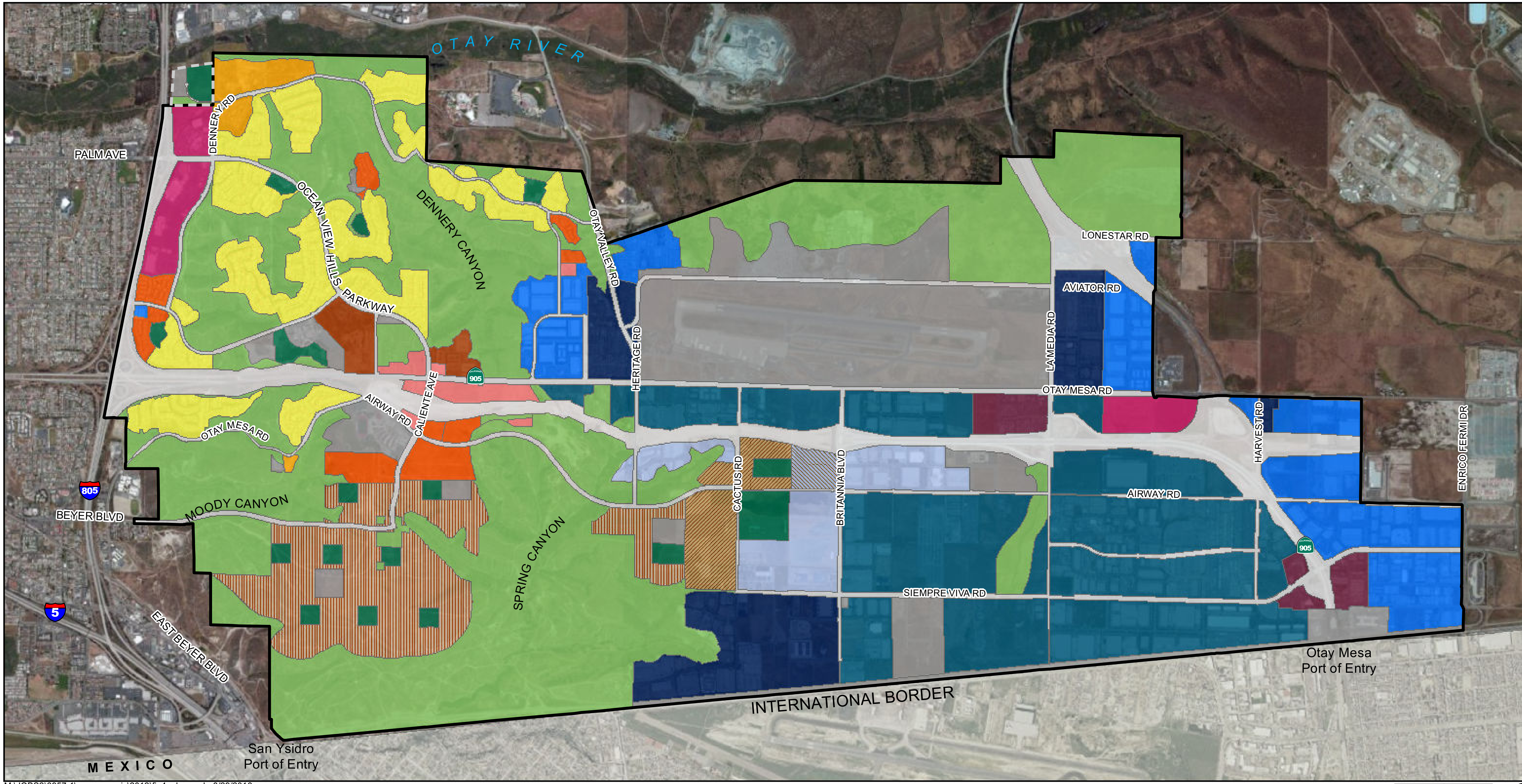
TABLE 2
OTAY MESA LAND USE DISTRIBUTION

Land Use	Adopted Otay Mesa Community Plan	CPU
Open Space	2,570 acres	2,748 acres
Residential	1,269 acres/12,400 du	757 acres/7,648 du
Commercial	452 acres	316 acres
Village Area		
Residential	0 acres	695 acres/11,126 du
Mixed Use	0 acres	30 acres
Industrial	2,839 acres	2,426 acres
Institutional	1,027 acres	1,165 acres
Parks	64 acres	161 acres
Right-of-way	1,098 acres	1,021 acres
TOTAL	**9,319 acres/12,400 du**	**9,319 acres/18,774 du**

CPU = Community Plan Update
du = dwelling unit(s)

Five districts interconnected through activities and infrastructure would help organize and form the community of Otay Mesa. The districts include:

- Northwest District, which generally comprises the existing development in the northwestern portion of Otay Mesa and seven Precise Planning Area neighborhoods: California Terraces, Dennery Ranch, Hidden Trails, Remington Hills, Riviera del Sol, Robinhood Ridge, and Santee Investments.
- Southwest District, which includes the area south of State Route 905 (SR-905) and west of Spring Canyon. This district would be primarily residential in nature, with a core mixed-use center including civic and neighborhood-serving commercial uses and services.
- Central District, which generally is the land along the Airway Road corridor. The Central district would comprise three primary areas: Central Village, Grand Park, and Education Complex.
- Airport District, which generally is Brown Field and industrial land surrounding the airport.
- South District, which includes the existing port of entry (POE) and the uses intended to support the international business and trade that are necessary for the movement of goods across the border.



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Otay Mesa Community Plan Boundary
Not A Part

Proposed Land Use Plan

Open Space, Parks, Institutional
- Open Space
- Parks
- Institutional

Village Centers
- Community Village
- Neighborhood Village

Residential
- Low
- Low Medium
- Medium
- Medium High

Commercial - Residential Prohibited
- Community Commercial
- Regional Commercial
- Heavy Commercial

Industrial
- Business Park - Office Permitted
- Business and International Trade
- Light Industrial
- Heavy Industrial
- Business Park - Residential Permitted

Other
- Right-of-Way

0 Feet 2,500

FIGURE 4
Proposed CPU Land Use

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2.3 CPU Goals and Policies

New policies within the CPU have been designed to reflect and implement the general GHG reduction recommendations of the General Plan and strategies of other local plans, and state GHG reduction measures. Specifically, the CPU includes updated Conservation, Mobility, and Urban Design elements that include several policies aimed at reducing GHG emissions from target emission sources and/or adapting to climate change. The CPU policies provide refinement of the General Plan and citywide policies specifically applicable to the Otay Mesa community. An overview of relevant CPU elements and policies are contained in Attachment 1.

3.0 Existing Conditions

3.1 Environmental Setting

3.1.1 State and Regional GHG Inventories

The California Air Resources Board (CARB) performs statewide GHG inventories. The inventory is divided into nine broad sectors of economic activity: agriculture, commercial, electricity generation, forestry, high GWP emitters, industrial, recycling and waste, residential, and transportation. Emissions are quantified in million metric tons of carbon dioxide equivalent ($MMTCO_2E$). Table 3 shows the estimated statewide GHG emissions for the years 1990, 2000, 2004, and 2008.

TABLE 3
CALIFORNIA GHG EMISSIONS BY SECTOR IN 1990, 2000, 2004, AND 2008

Sector	1990 Emissions in $MMTCO_2E$ (% total)[1]	2000 Emissions in $MMTCO_2E$ (% total)[1]	2004 Emissions in $MMTCO_2E$ (% total)[1]	2008 Emissions in $MMTCO_2E$ (% total)[1]
Sources				
Agriculture	23.4 (5%)	25.44 (6%)	28.82 (6%)	28.06 (6%)
Commercial	14.4 (3%)	12.80 (3%)	13.20 (3%)	14.68 (3%)
Electricity Generation	110.6 (26%)	103.92 (23%)	119.96 (25%)	116.35 (24%)
Forestry (excluding sinks)	0.2 (<1%)	0.19 (<1%)	0.19 (<1%)	0.19 (<1%)
High GWP	--	10.95 (2%)	13.57 (3%)	15.65 (3%)
Industrial	103.0 (24%)	97.27 (21%)	90.87 (19%)	92.66 (19%)
Recycling and Waste	--	6.20 (1%)	6.23 (1%)	6.71 (1%)
Residential	29.7 (7%)	30.13 (7%)	29.34 (6%)	28.45 (6%)
Transportation	150.7 (35%)	171.13 (37%)	181.71 (38%)	174.99 (37%)
Unspecified Remaining[2]	1.3 (<1%)	--	--	--
Subtotal	*433.3*	*458.03*	*483.89*	*477.74*
Sinks				
Forestry Sinks	-6.7 (--)	-4.72 (--)	-4.32 (--)	-3.98 (--)
TOTAL	**426.6**	**453.31**	**479.57**	**473.76**

SOURCE: CARB 2007, 2010a
$MMTCO_2E$ = million metric tons of carbon dioxide equivalent
GWP = global warming potential
[1]Percentages may not total 100 due to rounding.
[2]Unspecified fuel combustion and ozone depleting substance (ODS) substitute use, which could not be attributed to an individual sector.

As shown in Table 3, without accounting for the forestry sector, statewide GHG emissions totaled 433 $MMTCO_2E$ in 1990, 458 $MMTCO_2E$ in 2000, 484 $MMTCO_2E$ in 2004, and 478 $MMTCO_2E$ in 2008. According to data from the CARB, it appears that statewide GHG emissions peaked in 2004 and are now beginning to decrease (CARB 2010a). Transportation-related emissions consistently contribute the most GHG emissions, followed by electricity generation and industrial emissions.

The forestry sector is unique because it not only includes emissions associated with harvest, fire, and land use conversion (sources), but also includes removals of atmospheric CO_2 (sinks) by photosynthesis, which is then bound (sequestered) in plant tissues. As seen in Table 3, the forestry sector consistently removes more CO_2 from the atmosphere statewide than it emits. As a result, although decreasing over time, this sector represents a net sink, removing a net 6.5 $MMTCO_2E$ from the atmosphere in 1990, a net 4.5 $MMTCO_2E$ in 2000, a net 4.1 $MMTCO_2E$ in 2004, and a net 3.8 $MMTCO_2E$ in 2008.

A San Diego regional emissions inventory was prepared by the University of San Diego School of Law, Energy Policy Initiative Center (EPIC) that took into account the unique characteristics of the region. Their 2006 emissions inventory for San Diego is duplicated below in Table 4. The sectors included in this inventory are somewhat different from those in the statewide inventory.

TABLE 4
SAN DIEGO COUNTY GHG EMISSIONS BY SECTOR IN 2006

Sector	2006 Emissions in $MMTCO_2E$ (% total)[1]	
Agriculture/Forestry/Land Use	0.7	(2%)
Waste	0.7	(2%)
Electricity	9.0	(25%)
Natural Gas Consumption	3.0	(8%)
Industrial Processes & Products	1.6	(5%)
On-road Transportation	16.0	(45%)
Off-road Equipment & Vehicles	1.3	(4%)
Civil Aviation	1.7	(5%)
Rail	0.3	(<1%)
Water-borne Navigation	0.127	(<0.5%)
Other Fuels/Other	1.1	(3%)
TOTAL	**35.5**	

SOURCE: University of San Diego 2008
$MMTCO_2E$ = million metric tons of carbon dioxide equivalent
[1]Percentages may not total 100 due to rounding.

Similar to the statewide emissions, transportation-related GHG emissions contributed the most countywide, followed by emissions associated with energy use.

3.1.2 CPU Area GHG Inventory

A baseline analysis of the existing GHG emissions from CPU area land uses and associated traffic was performed using the California Emissions Estimator Model (CalEEMod) released in March 2011. This is the same methodology as that used for estimating GHG emissions resulting from CPU buildout (refer to Section 4.2). In brief, CalEEMod is a computer model that estimates GHG emissions from mobile (i.e., vehicular) sources, area sources (fireplaces, woodstoves, and landscape maintenance equipment), energy use (electricity and natural gas used in space heating and cooling, ventilation and lighting; and plug-in appliances), water and wastewater use, and solid waste disposal. Emissions are estimated based on land use information input to the model. The input land use information consists of land use subtypes (such as the residential subtypes of single-family residential and multi-family medium-rise residential) and their unit or square footage quantities. Other inputs include the air basin, climate zone, setting (urban, suburban, or rural), and utility provider (in this case San Diego Gas & Electric). In various places, the user can input additional information and/or override the default assumptions to account for project- or location-specific parameters. For this estimate of existing GHG emissions, the model default parameters including vehicle trip lengths and energy intensity factors were not changed.

Table 5 lists the existing land use quantities.

TABLE 5
EXISTING MODELED LAND USES

Land Uses	Existing
Single Family Residential (du)	2,591
Multi-family Residential (du)	1,109
Park (acres)	16
Commercial/Mixed Use (million square feet)	2.653
Institutional (million square feet)	4.988
Industrial (million square feet)	33.323

du = dwelling unit
NOTE: Land use data is from year 2009.

It was calculated that the existing uses currently emit 2,611,312 $MTCO_2E$ annually. The complete calculations of existing GHG emissions are included in Attachment 2 and summarized Table 6.

TABLE 6
EXISTING GHG EMISSIONS
($MTCO_2E$ PER YEAR)

Emission Source	Existing GHG Emissions
Vehicles	612,398
Energy Use	195,730
Area Sources	0
Water Use	916,242
Solid Waste Disposal	886,942
TOTAL	**2,611,312**

GHG = greenhouse gas

3.1.3 Consequences of Global Climate Change

CARB projected a future statewide GHG emissions increase of more than 23 percent (from 2004) by 2020 given BAU trends (CARB 2008a). Year 2020 estimates of California's GHG emissions have been updated to account for new estimates for future fuel and energy demand as well as other factors including the economic downturn. More recent estimates predict a future statewide emissions increase of approximately 7 percent (from 2008) by 2020 given current trends (CARB 2012). The 2008 EPIC study predicted a countywide increase to 43 $MMTCO_2E$, or roughly 20 percent (from 2006) by 2020, given a BAU trajectory. Updated estimates are not available, but are anticipated to be less than 20 percent for the same reasons.

The potential consequences of global climate change on the San Diego region are far reaching. The Climate Scenarios analysis report, published in 2006 by the California

Climate Change Center, uses a range of emissions scenarios to project a series of potential warming ranges (low, medium, or high temperature increases) that may occur in California during the 21st century. Throughout the state and the region, global climate and local microclimate changes could cause an increase in extreme heat days; higher concentrations, frequency, and duration of air pollutants; an increase in wildfires; more intense coastal storms; sea level rise; impacts to water supply and water quality through reduced snowpack and saltwater influx; public health impacts; impacts to near-shore marine ecosystems; reduced quantity and quality of agricultural products; pest population increases; and altered natural ecosystems and biodiversity.

3.2 Regulatory Background

In response to rising concern associated with increasing GHG emissions and global climate change impacts, several plans and regulations have been adopted at the international, national, and state levels with the aim of reducing GHG emissions.

3.2.1 Federal

3.2.1.1 Climate Change Action Plan

Adopted in 1993, the U.S. Climate Change Action Plan (CCAP) consists of voluntary actions to reduce all significant GHGs from all economic sectors. Backed by federal funding, the CCAP supports cooperative partnerships between the government and the private sector in establishing flexible and cost-effective ways to reduce GHG emissions. The CCAP encourages investments in new technologies, but also relies on previous actions and programs focused on saving energy, reducing transportation emissions, improving forestry management, and reducing waste. With respect to energy and transportation-related GHG emissions reductions, the CCAP includes the following:

- Energy Demand Actions to accelerate the use of existing energy saving technologies and encourage the development of more advanced technologies. Commercial actions focus on installing efficient heating and cooling systems in commercial buildings and upgrading to energy-efficient lighting systems (the Green Lights program). The State Buildings Energy Incentive Fund provides funding to states for the development of public building energy management programs. Residential actions focus on developing new residential energy standards and building codes and providing money-saving energy efficient options to homeowners.

- Energy Supply Actions to reduce emissions from energy supply. These actions focus on increasing the use of natural gas, which emits less CO_2 than coal or oil, and investing in renewable energy sources, such as solar and wind power, which result in zero net CO_2 emissions. Energy supply strategies also focus on reducing the amount of energy lost during distribution from power plants to consumers.

- Transportation Actions to reduce transportation-related emissions are focused on investing in cleaner fuels and more efficient technologies, and reducing vehicle miles traveled (VMT). In addition, the U.S. EPA and Department of Transportation (DOT) are to draft guidance documents for reducing VMTs for use in developing local clean air programs.

3.2.1.2 GHG Emissions Intensity Reduction Programs

The GHG Emissions Intensity is the ratio of GHG emissions to economic output. In 2002, the U.S. GHG Emissions Intensity was 183 metric tons per million dollars of gross domestic product (GDP; U.S. EPA 2007). In February 2002, the U.S. set a goal to reduce this GHG Emissions Intensity by 18 percent by 2012 through various reduction programs. A number of ongoing voluntary programs have thus been instituted to reduce nationwide GHG emissions. These include (U.S. EPA 2007):

- **Climate VISION Partnership:** In 2003, this program established a partnership between 12 major industries and the U.S. Department of Energy (U.S. DOE), the U.S. EPA, the DOT and the U.S. Department of Agriculture. The involved industries include electric utilities; petroleum refiners and natural gas producers; automobile, iron and steel, chemical and magnesium manufacturers; forest and paper producers; railroads; and cement, mining, aluminum, and semiconductor industries. These industries are working with the four agencies to reduce their GHG emissions by developing cost-effective solutions, measuring and reporting emissions, developing strategies for the adoption of advanced technologies, and implementing voluntary mitigation actions.

- **Cleaner Energy–Environment State Partnership:** This program established a partnership between federal and state agencies to support states in implementing strategies and policies to promote renewable energy, energy efficiency, and other cost-effective clean energies. States receive technical assistance from the U.S. EPA.

- **Climate Leaders:** Climate Leaders is a U.S. EPA's voluntary program that establishes partnerships with individual companies. Together they establish individual corporate goals for GHG emissions reduction and monitor their emissions to measure progress. More than 100 corporations that represent 8 percent of U.S. GHG emissions are involved in Climate Leaders. More than half have reached their emissions goals so far.

- **Energy Star:** Energy Star was established in 1992 by the U.S. EPA and became a joint program with the U.S. DOE in 1996. Energy Star is a program that labels energy efficient products with the Energy Star label. Energy Star enables consumers to choose energy-efficient and cost-saving products. More than 1,400 manufacturers use Energy Star labels on their energy-efficient products.

- **Green Power Partnership:** This program establishes partnerships between the U.S. EPA, and companies and organizations that have bought or are considering buying green power, which is power generated from renewable energy sources. The U.S. EPA offers recognition and promotion to organizations that replace electricity consumption with green power.

3.2.1.3 Corporate Average Fuel Economy Standards

The federal Corporate Average Fuel Economy (CAFE) standards determine the fuel efficiency of certain vehicle classes in the U.S. While the standards had not changed since 1990, as part of the Energy and Security Act of 2007, the CAFE standards were increased in 2007 for new light-duty vehicles to 35 miles per gallon (mpg) by 2020. In May 2009, President Obama announced further plans to increase CAFE standards to require light duty vehicles to meet an average fuel economy of 35.5 mpg by 2016. With improved gas mileage, fewer gallons of transportation fuel would be combusted to travel the same distance, thereby reducing nationwide GHG emissions associated with vehicle travel.

3.2.1.4 Mandatory Reporting of GHGs Rule

Starting January 1, 2010, large emitters of heat-trapping gases began collecting GHG data and reporting their annual GHG emissions to the U.S. EPA. The first reports were generally due March 31, 2011, with extensions available under certain circumstances to September 30, 2011. Under this reporting rule, approximately 10,000 facilities are covered, accounting for nearly 85 percent of the nation’s GHG emissions. This mandatory reporting applies to fossil fuel and industrial GHG suppliers, motor vehicle and engine manufacturers, and facilities that emit 25,000 $MTCO_2E$ or more per year. Vehicle and engine manufacturers outside of the light-duty sector are required to begin phasing in their GHG reporting starting with engine/vehicle model year 2011.

3.2.2 State

The State of California has adopted a number of plans and regulations aimed at identifying statewide and regional GHG emissions caps, GHG emissions reduction targets, and actions and timelines to achieve the target GHG reductions.

3.2.2.1 EO S-3-05—Statewide GHG Emission Targets

This executive order (EO), signed on June 1, 2005, established the following GHG emission reduction targets for the state of California:

- by 2010, reduce GHG emissions to 2000 levels;
- by 2020 reduce GHG emissions to 1990 levels;
- by 2050 reduce GHG emissions to 80 percent below 1990 levels.

This executive order also directs the secretary of the California EPA (CalEPA) to oversee the efforts made to reach these targets, and to prepare biannual reports on the progress made toward meeting the targets and on the impacts to California related to global warming, including impacts to water supply, public health, agriculture, the coastline, and forestry. With regard to impacts, the report shall also prepare and report on mitigation and adaptation plans to combat the impacts. The first Climate Action Team Assessment Report was produced in March 2006 and has been updated every two years.

3.2.2.2 AB 32—California Global Warming Solutions Act

In response to Executive Order S-3-05, the California legislature passed AB 32 (Nuñez), the California Global Warming Solutions Act of 2006, which was signed on September 27, 2006. It requires the CARB to adopt rules and regulations that would reduce GHG emissions to 1990 levels by 2020. The CARB is also required to publish a list of discrete GHG emission reduction measures. As required by AB 32, CARB has established a statewide GHG emissions cap for 2020, and adopted reporting rules for large industrial sources and a Climate Change Scoping Plan (Scoping Plan).

3.2.2.3 Climate Change Scoping Plan

As directed by AB 32, the Scoping Plan prepared by CARB in December 2008 includes measures to reduce statewide GHG emissions to 1990 levels by 2020. These reductions are what CARB identified as necessary to reduce forecasted BAU 2020 emissions. CARB will update the Scoping Plan at least once every 5 years to allow evaluation of progress made and to correct the Scoping Plan’s course where necessary.

As indicated in Table 7, the majority of reductions is directed at the sectors with the largest GHG emissions contributions—transportation and electricity generation—and involve statutory mandates affecting vehicle or fuel manufacture, public transit, and public utilities. The two measures most applicable to land use planning and development are the Regional Transportation Related GHG Targets and the Energy Efficiency measures. Implementing these two measures accounts for reduction of 31.3 $MMTCO_2E$ emissions, or 21 percent, of the total 146.7 $MMTCO_2E$ in reductions needed for capped sectors.

TABLE 7
CARB SCOPING PLAN-RECOMMENDED GHG REDUCTION MEASURES

Recommended Reduction Measures	Reductions Counted towards 2020 Target in $MMTCO_2E$ (% total)[1]	
ESTIMATED REDUCTIONS RESULTING FROM THE COMBINATION OF CAPPED SECTORS AND COMPLEMENTARY MEASURES	**146.7**	
California Light-duty Vehicle Greenhouse Gas Standards • Implement Pavley standards • Develop Pavley II light-duty vehicle standards	31.7	(22%)
Energy Efficiency • Building/appliance efficiency, new programs, etc. • Increase CHP generation by 30,000 GWh • Solar Water Heating (AB 1470 goal)	26.3	(18%)
Renewables Portfolio Standard (33% by 2020)	21.3	(14%)
Low Carbon Fuel Standard	15.0	(10%)
Regional Transportation-related GHG Targets[1]	5.0	(4%)
Vehicle Efficiency Measures	4.5	(3%)
Goods Movement • Ship Electrification at Ports • System-wide efficiency improvements	3.7	(3%)
Million Solar Roofs	2.1	(2%)
Medium/Heavy Duty Trucks • Heavy-duty vehicle greenhouse gas emissions reduction (aerodynamic efficiency) • Medium- and heavy-duty vehicle hybridization	1.4	(<1%)
High Speed Rail	1.0	(<1%)
Industrial Measures (for sources covered under cap & trade program) • Refinery measures • Energy efficiency and Co-benefits audits	0.3	(<.5%)
Additional Reductions Necessary to Achieve the Cap	34.4	(23%)
ESTIMATED REDUCTIONS RESULTING FROM UNCAPPED SECTORS	**27.3**	
Industrial Measures (for sources not covered under cap & trade program) • Oil and gas extraction and transmission	1.1	
High Global Warming Potential Gas Measures	20.2	
Sustainable Forests	5.0	
Recycling and Waste (landfill methane capture)	1.0	
TOTAL REDUCTIONS COUNTED TOWARDS 2020 TARGET	**174.0**[3]	

SOURCE: Table 2 of CARB 2008b
$MMTCO_2E$ = million metric tons of carbon dioxide equivalent
GWh = gigaWatt hours
AB = Assembly Bill
GHG = greenhouse gas

[1]Percentages are relative to the capped sector subtotal of 146.7 $MMTCO_2E$, and may not total 100 due to rounding.

[2]This number represents an estimate of what may be achieved from local land use changes. It is not the Senate Bill 375 regional target. CARB will establish regional targets for each Metropolitan Planning Organization following input of the Regional Targets Advisory Committee and a public stakeholders' consultation process per Senate Bill 375.

[3]The total reduction for the recommended measures slightly exceeds the 169 MMTCO2E of reductions estimated in the BAU 2020 Emissions Forecast. This is the net effect of adding several measures and adjusting the emissions reduction estimates for some other measures.

CARB also lists several other recommended measures which will contribute toward achieving the 2020 statewide reduction goal, but whose reductions are not (for various reasons, including the potential for double counting) additive with the measures listed in Table 7. These include state and local government operations measures, green building, mandatory commercial recycling and other additional waste and recycling measures, water sector measures, and methane capture at large dairies.

The Scoping Plan reduction measures and complementary regulations are described further in the following sections, and are grouped under the two headings of Transportation-related Measures and Non-Transportation-Related Measures as representative of the sectors to which they apply.

3.2.2.4 Transportation-related Emissions Reductions

Transportation accounts for the largest share of the state's GHG emissions. Accordingly, a large share of the reduction of GHG emissions from the recommended measures comes from this sector. To address emissions from vehicles, CARB is proposing a comprehensive three-prong strategy: reducing GHG emissions from vehicles, reducing the carbon content of the fuel these vehicles burn, and reducing the miles these vehicles travel.

a. AB 1493—Pavley GHG Vehicle Standards

AB 1493 (Pavley) enacted July 2002, directed CARB to adopt vehicle standards that lowered GHG emissions from passenger vehicles and light duty trucks to the maximum extent technologically feasible, beginning with the 2009 model year. CARB adopted regulations in 2004 and applied to the U.S. EPA for a waiver under the federal Clean Air Act to implement them. Termed Pavley I, these regulations cover Model Years 2009 to 2016.

It is expected that the new regulations (Pavley I) would reduce GHG emissions from California passenger vehicles by about 22 percent in 2012 and about 30 percent in 2016 (CARB 2010b) for a total reduction of 31.7 $MMTCO_2E$ counted toward the total statewide reduction target (CARB 2008b) (see Table 7). These reductions are to come from improved vehicle technologies such as small engines with superchargers, continuously variable transmissions, and hybrid electric drives.

CARB has adopted a second, more stringent, phase of the Pavley regulations, termed Pavley II [now known as Low Emission Vehicle III GHG], that covers Model Years 2017 to 2025. Pavley II was estimated in 2008 to add an additional 4.0 $MMTCO_2E$ for 2 percent of the then-estimated 174 $MMTCO_2E$ reduction total. The revised 2010 projections estimate that Pavley II will reduce GHG emissions from passenger vehicles by 3.8 $MMTCO_2E$, 5 percent of the total 80 $MMTCO_2E$ reduction target (per CARB's 2010 revised projections; CARB 2010b). These reductions are to come from improved vehicle technologies such as small engines with superchargers, continuously variable transmissions, and hybrid electric drives.

b. EO S-01-07—Low Carbon Fuel Standard

This executive order directed that a statewide goal be established to reduce the carbon intensity of California's transportation fuels by at least 10 percent by 2020 through a Low Carbon Fuel Standard (LCFS). CARB adopted the LCFS as a discrete early action measure pursuant to AB 32 in April 2009 and includes it as a reduction measure in its Scoping Plan (see Table 7).

The LCFS is a performance standard with flexible compliance mechanisms intended to incentivize the development of a diverse set of clean, low-carbon transportation fuel options. Its aim is to accelerate the availability and diversity of low-carbon fuels such as biofuels, electricity, and hydrogen, by taking into consideration the full life cycle of GHG emissions. A 10 percent reduction in the intensity of transportation fuels is expected to equate to a reduction of 16.5 $MMTCO_2E$ in 2020. However, in order to account for possible overlap of benefits between LCFS and the Pavley GHG standards, CARB has discounted the contribution of LCFS to 15 $MMTCO_2E$ (CARB 2008b).

c. Regional Transportation-related GHG Targets

The Regional Transportation-Related GHG Targets measure included in the Scoping Plan identifies policies to reduce transportation emissions through changes in future land use patterns and community design, as well as through improvements in public transportation, that reduce VMT. By reducing the miles vehicles travel, vehicle emissions will be reduced. Improved planning and the resulting development are seen as essential for meeting the 2050 emissions target (CARB 2008b p. 20). CARB expects that this measure will reduce transportation-related GHG emissions by about 5 $MMTCO_2E$ or 4 percent of the total statewide reductions attributed to the capped sectors (see Table 7). Specific regional reduction targets established through Senate Bill 375 (SB-375; see discussion below) will determine more accurately what reductions can be achieved through this measure.

d. SB-375—Regional Emissions Targets

The SB-375 was signed in September 2008 and requires CARB to set regional targets for reducing passenger vehicle GHG emissions in accordance with the Scoping Plan measure described above. Its purpose is to align regional transportation planning efforts, regional GHG reduction targets, and land use and housing allocation to reduce GHG emissions by promoting high-density, mixed-use developments around mass transit hubs.

The CARB, in consultation with the Metropolitan Planning Organizations (MPOs), was required to provide each affected region with passenger vehicle GHG emissions reduction targets for 2020 and 2035 by September 30, 2010. The San Diego Association of Governments (SANDAG) is the San Diego region's MPO. On August 9, 2010 CARB released the staff report on the proposed reduction target, which was subsequently approved by CARB on September 23, 2010. The San Diego region will be required to reduce greenhouse gas emissions from cars and light trucks 7 percent per capita by 2020 and 13 percent by 2035 (SANDAG 2011).

The reduction targets are to be updated every 8 years, but can be updated every 4 years if advancements in emissions technologies affect the reduction strategies to achieve the targets.

Once reduction targets are established, each of California's MPOs must prepare and adopt a Sustainable Communities Strategy (SCS) that demonstrates how the region will meet its greenhouse gas reduction targets through integrated land use, housing, and transportation planning. Enhanced public transit service combined with incentives for land use development that provides a better market for public transit will play an important role in the SCS. After the SCS is adopted by the MPO, the SCS will be incorporated into that region's federally enforceable regional transportation plan (RTP).

CARB is also required to review each final SCS to determine whether it would, if implemented, achieve the greenhouse gas emission reduction target for its region. If the combination of measures in the SCS will not meet the region's target, the MPO must prepare a separate Alternative Planning Strategy (APS) to meet the target. The APS is not a part of the RTP.

As an incentive to encourage implementation of the SCS and APS, developers can obtain relief from certain requirements under the California Environmental Quality Act (CEQA) for those projects that are consistent with either the SCS or APS (CARB 2010c).

San Diego's MPO, SANDAG, completed and adopted its 2050 RTP in October 2011, the first such plan in the state that included a SCS.

3.2.2.5 Non-transportation-related Emissions Reductions

In the energy sector, Scoping Plan measures aim to provide better information and overcome institutional barriers that slow the adoption of cost-effective energy-efficiency technologies. They include enhanced energy-efficiency programs to provide incentives for customers to purchase and install more efficient products and processes and building and appliance standards to ensure that manufacturers and builders bring improved products to market. Over the long term, the recommended measures will increase the amount of electricity from renewable energy sources and improve the energy efficiency of industries, homes, and buildings. While energy efficiency accounts for the largest emissions reductions from this sector, other applicable land development measures such as water conservation, materials use and waste reduction, and green building design and development practices, achieve additional emissions reduction.

a. Renewables Portfolio Standard

The Renewables Portfolio Standard (RPS) promotes diversification of the state's electricity supply. Originally adopted in 2002 with a goal to achieve a 20-percent renewable energy mix by 2020, the goal has been accelerated and increased, most recently so by EOs S-14-08 and S-21-09 to a goal of 33 percent by 2020. Its purpose is to achieve a 33-percent renewable energy mix statewide; providing 33 percent of the state's electricity needs met by renewable resources by 2020 (CARB 2008b). The RPS is included in CARB's Scoping Plan list of reduction measures (see Table 7). Increasing the RPS to 33 percent is designed to accelerate the transformation of the electricity sector, including investment in the transmission infrastructure and systems changes to allow integration of large quantities of intermittent wind and solar generation. Renewable energy includes (but is not limited to) wind, solar, geothermal, small hydroelectric, biomass, anaerobic digestion, and landfill gas. Increased use of renewables would decrease California's reliance on fossil fuels, thus reducing emissions of GHGs from the electricity sector. CARB estimates that full achievement of the RPS would decrease statewide GHG emissions by 21.3 $MMTCO_2E$ (CARB 2008b).

b. Million Solar Roofs Program

The Million Solar Roofs Program was created by SB 1 in 2006 and includes the California Public Utilities Commission's (CPUC's) California Solar Initiative and California Energy Commission's (CEC's) New Solar Homes Partnership. It requires publicly owned utilities to adopt, implement, and finance solar-incentive programs to lower the cost of solar systems and help achieve the goal of installing 3,000 megaWatts (MW) of new solar capacity by 2020. The Million Solar Roofs Program is one of CARB's GHG-reduction measures identified in the 2008 Scoping Plan (see Table 7). Achievement of the program's goal is expected to equate to a reduction of 2.1 $MMTCO_2E$ in 2020 statewide BAU emissions (CARB 2008b).

c. SB-1368—Public Utility Emission Standards

The SB-1368 (Parata), passed in 2006, requires the CEC to set GHG-emission standards for entities providing electricity in the state. The bill further requires that the CPUC prohibit electricity providers and corporations from entering into long-term contracts, if those providers and corporations do not meet the CEC's standards (Union of Concerned Scientists 2007).

d. Title 24, Part 6—California Energy Code

The California Code of Regulations, Title 24, Part 6 is the California Energy Code. This code, originally enacted in 1978 in response to legislative mandates, establishes energy-efficiency standards for residential and non-residential buildings in order to reduce California's energy consumption. The Energy Code is updated periodically to incorporate and consider new energy-efficiency technologies and methodologies as they become available. The most recent amendments to the Energy Code, known as 2008 Title 24, or the 2008 Energy Code, became effective January 1, 2010. 2008 Title 24 requires energy savings of 15–35 percent above the former 2005 Title 24 Energy Code. At a minimum, residential buildings must achieve a 15-percent reduction in their combined space heating, cooling, and water heating energy compared to the 2005 Title 24 standards. Incentives in the form of rebates and tax breaks are provided on a sliding scale for buildings achieving energy efficiency above the minimum 15 percent reduction over 2005 Title 24. The reference to 2005 Title 24 is relevant in that many of the State's long-term energy and GHG reduction goals identify energy-saving targets relative to Title 24 2005. By reducing California's energy consumption, emissions of statewide GHGs may also be reduced.

New construction and major renovations must demonstrate their compliance with the current Energy Code through submission and approval of a Title 24 Compliance Report to the local building permit review authority and the CEC. The compliance reports must demonstrate a building's energy performance through use of CEC-approved energy performance software that shows iterative increases in energy efficiency given selection of various Heating, Ventilation, and Air-conditioning (HVAC), sealing, glazing, insulation, and other components related to the building envelope. Title 24 governs energy consumed by the built environment, by the major building envelope systems such as space heating, space cooling, water heating, some aspects of the fixed lighting system, and ventilation. Non-building energy use, or plug-in energy use (such as appliances, equipment, electronics, plug-in lighting), are independent of building design and are not subject to Title 24.

e. Title 24, Part 11—California Green Building Standards

In 2007, the California Building Standards Commission began to work with state agencies on the adoption of green building standards for residential, commercial, and public building construction for the 2010 code adoption process. A voluntary version of the California Green Building Standards Code, referred to as CalGreen, was added to Title 24 as Part 11 in 2009. The 2010 version of CalGreen took effect January 1, 2011 and instituted mandatory minimum environmental performance standards for all ground-up new construction of commercial and low-rise residential buildings, state-owned buildings, schools, and hospitals. It also includes voluntary tiers (I and II) with stricter environmental performance standards for these same categories of residential and non-residential buildings. Its requirements for new construction include:

- 20 percent mandatory reduction in indoor water use relative to specified baseline levels, with voluntary goals for reductions of 30 percent and over;

- Mandatory water submetering;
- Mandatory diversion of 50-percent waste from landfills, with voluntary goal reductions of 65 percent for homes and 80 percent for commercial projects;
- Mandatory inspections of energy systems to ensure optimal working efficiency, with voluntary goals for 15 percent (Tier I) and 30 percent (Tier II) exceedance of 2008 Title 24; and
- Requirements for low-pollutant emitting exterior and interior finish materials such as paints, carpets, vinyl flooring, and particleboards.

Similar to the compliance reporting procedure described above for demonstrating energy code compliance in new buildings and major renovations, compliance with the CalGreen water reduction requirements must be demonstrated through completion of water use reporting forms for both residential and non-residential buildings. The water use compliance form must demonstrate a 20 percent reduction in indoor water use by either showing a 20 percent reduction in the overall baseline water use as identified in CalGreen or a reduced per-plumbing-fixture water use rate.

Related to CalGreen are the earlier 2000 Sustainable Building Goal (EO D-16-00) and 2004 Green Building Initiative (EO S-20-04). The 2000 Sustainable Building Goal instructed that all state buildings be constructed or renovated and maintained as models of energy, water, and materials efficiency. The 2004 Green Building Initiative recognized further that significant reductions in GHG emissions could be achieved through the design and construction of new green buildings as well as the sustainable operation, retrofitting, and renovation of existing buildings.

The CARB Scoping Plan includes a Green Building Strategy with the goal of expanding the use of green building practices to reduce the carbon footprint of new and existing buildings. Consistent with CalGreen, the Scoping Plan recognized that GHG reductions would be achieved through buildings that exceed minimum energy-efficiency standards, decrease consumption of potable water, reduce solid waste during construction and operation, and incorporate sustainable materials. Green building is thus a vehicle to achieve the Scoping Plan’s statewide electricity and natural gas efficiency targets, and lower GHG emissions from waste and water transport sectors.

In the Scoping Plan, CARB projects that an additional 26 $MMTCO_2E$ could be reduced through expanded green building (CARB 2008b, p.17). However, this reduction is not counted toward the BAU 2020 reduction goal to avoid any double counting, as most of these reductions are accounted for in the electricity, waste, and water sectors. Because of this, CARB has assigned all emissions reductions that occur because of green building strategies to other sectors for meeting AB 32 requirements, but will continue to evaluate and refine the emissions from this sector.

f. SB-97—CEQA GHG Amendments

SB-97 (Dutton), passed by the legislature and signed on August 24, 2007, required the Office of Planning and Research (OPR) on or before July 1, 2009, to prepare, develop, and transmit to the Resources Agency amendments to the CEQA guidelines (Guidelines) to assist public agencies in the evaluation and mitigation of GHGs or the effects of GHGs as required under CEQA, including the effects associated with transportation and energy consumption. SB-97 required the Resources Agency to certify and adopt those guidelines by January 1, 2010. Proposed amendments to the state CEQA Guidelines for GHG emissions were submitted on April 13, 2009, adopted on December 30, 2009, and became effective March 18, 2010.

Section 15064.4 of the amended Guidelines includes the following requirements for determining the significance of impacts from GHG emissions:

> (a) The determination of the significance of greenhouse gas emissions calls for a careful judgment by the lead agency consistent with the provisions in section 15064. A lead agency should make a good-faith effort, based to the extent possible on scientific and factual data, to describe, calculate, or estimate the amount of GHG emissions resulting from a project. A lead agency shall have discretion to determine, in the context of a particular project, whether to:
>
>> (1) Use a model or methodology to quantify greenhouse gas emissions resulting from a project, and which model or methodology to use. The lead agency has discretion to select the model or methodology it considers most appropriate provided it supports its decision with substantial evidence. The lead agency should explain the limitations of the particular model or methodology selected for use; and/or
>>
>> (2) Rely on a qualitative analysis or performance-based standards.

While the amendments require calculation of a project's contribution, they clearly do not establish a standard by which to judge a significant effect or a means to establish such a standard.

3.2.3 Local

3.2.3.1 San Diego Sustainable Community Program

In 2002, the San Diego City Council unanimously approved the San Diego Sustainable Community Program (SCP) and requested that an *Ad Hoc* Advisory Committee be established to provide recommendations that would decrease GHG emissions from City operations. Actions identified in the SCP include:

1. Participation in the International Council for Local Environmental Initiatives (ICLEI) Cities for Climate Protection (CCP) Campaign to reduce GHG emissions, and in the California Climate Action Registry;
2. Establishment of a reduction target of 15 percent by 2010, using 1990 as a baseline; and
3. Direction to use the recommendations of the *Ad Hoc* Advisory Committee as a means to expand the GHG Emission Reduction Action Plan for the City organization and broaden its scope to include community actions.

3.2.3.2 Cities for Climate Protection

As a participant in the ICLEI Cities for Climate Protection Program, the City made a commitment to voluntarily decrease its GHG emissions by 2030. The Program includes five milestones: (1) establish a CCP campaign, (2) engage the community to participate, (3) sign the U.S. Mayors Climate Protection Agreement, (4) take initial solution steps, and (5) perform a GHG audit. The City has advanced past Milestone 3 by signing the Mayor's agreement and establishing actions to decrease City Operations' emissions.

3.2.3.3 Climate Protection Action Plan

In July 2005, the City of San Diego developed a Climate Protection Action Plan (CPAP) that identifies policies and actions to decrease GHG emissions from City operations. Recommendations included in CPAP for transportation included measures such as increasing carpooling and transit ridership, improving bicycle lanes, and converting the City vehicle fleet to low-emission or non-fossil-fueled vehicles. Recommendations in the CPAP for energy and other non-transportation emissions reductions included increasing building energy efficiency (i.e., requiring that all City projects achieve the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED) Silver standard); reducing waste from City operations; continuing use of landfill methane as an energy source; reducing the urban heat island by avoiding dark roofs and roads which absorb and retain heat; and increasing shade tree and other vegetative cover plantings.

Because of City actions implemented earlier between 1990 and 2002, moderate GHG emissions reductions were reported in the CPAP. City actions taken to capture methane gas from solid waste landfills and sewage treatment plants resulted in the largest decrease in GHG emissions. Actions taken thus far to incorporate energy efficiency and alternative renewable energy reached only 5 percent of the City's 2010 goal. The transportation sector remains a significant source of GHG emissions in 2010 and has had the lowest GHG reductions, reaching only 2.2 percent of the goal for 2010. The recently amended City General Plan (2008a) includes a Policy CE-A.13 to regularly monitor and update the CPAP.

3.2.3.4 Sustainable Building Policies

In several of its policies, the City aims to reduce GHG emissions by requiring sustainable development practices in City operations and incentivizing sustainable development practices in private development. In Council Policy 900-14—Green Building Policy, adopted in 1997, Council Policy 900-16—Community Energy Partnership, and the updated Council Policy 900-14—Sustainable Buildings Expedite Program, last revised in 2006 [NOTE: City needs to provide update], the City establishes a mandate for all City projects to achieve the U.S. Green Building Council's LEED Silver standard for all new buildings and major renovations over 5,000 square feet. Incentives are also provided to private developers through the Expedite Program, which expedites project review of green building projects and discounts project review fees.

The City has also enacted codes and policies aimed at helping the City achieve the State's 50-percent waste diversion mandate, including the Refuse and Recyclable Materials Storage Regulations (Municipal Code Chapter 14, Article 2, Division 8), Recycling Ordinance (O-19678 Municipal Code Chapter 6, Article 6, Division 7), and the Construction and Demolition (C & D) Debris Deposit Ordinance (0-19420 & 0-19694 Municipal Code Chapter 6, Article 6, Division 6).

3.2.3.5 General Plan

The City of San Diego 2008 General Plan includes several climate change-related policies aimed at reducing GHG emissions from future development and City operations (City of San Diego 2008a). For example, Conservation Element policy CE-A.2 aims to "reduce the City's carbon footprint" and to "develop and adopt new or amended regulations, programs, and incentives as appropriate to implement the goals and policies set forth" related to climate change. The Land Use and Community Planning Element, the Mobility Element, the Urban Design Element, and the Public Facilities, Services and Safety Element also identify GHG reduction and climate change adaptation goals. These elements contain policy language related to sustainable land use patterns, alternative modes of transportation, energy efficiency, water conservation, waste reduction, and greater landfill efficiency. The overall intent of these policies is to support climate protection actions, while retaining flexibility in the design of implementation measures, which could be influenced by new scientific research, technological advances, environmental conditions, or state and federal legislation.

Cumulative impacts of GHG emissions were qualitatively analyzed and determined to be significant and unavoidable in the 2008 PEIR for the General Plan. The PEIR included a Mitigation Framework that indicated "for each future project requiring mitigation (measures that go beyond what is required by existing programs, plans and regulations), project-specific measures will [need to] be identified with the goal of reducing incremental project-level impacts to less than significant; or the incremental contributions of a project may remain significant and unavoidable where no feasible mitigation exists."

3.2.3.6 Climate Mitigation and Adaptation Plan

A citywide Draft Climate Mitigation and Adaptation Plan (CMAP) has been developed to provide a mechanism for the City to achieve the goals of AB 32 and the CARB Scoping Plan at a program-level. The Draft CMAP is currently undergoing public review. The Draft CMAP elements have been prepared pursuant to guidance from the amended CEQA Guidelines and CARB recommendations for what constitutes an effective GHG reduction plan, as follows.

Section 15183.5 of the amended Guidelines includes the following requirements for plans that serve to tier and streamline the analysis of GHG emissions:

(a) Lead agencies may analyze and mitigate the significant effects of GHG emissions at a programmatic level, such as in a general plan, a long-range development plan, or a separate plan to reduce GHG emissions. Later project-specific environmental documents may tier from and/or incorporate by reference that existing programmatic review.

(b) Plans for the Reduction of GHG Emissions. Public agencies may choose to analyze and mitigate significant GHG emissions in a plan for the reduction of GHG emissions or similar document. A plan to reduce GHG emissions may be used in a cumulative impact analysis as set forth below. Pursuant to sections 15064(h)(3) and 15130(d), a lead agency may determine that a project's incremental contribution to a cumulative effect is not cumulatively considerable, if the project complies with the requirements in a previously adopted plan or mitigation program under specified circumstances.

(1) Plan Elements. A plan for the reduction of GHG emissions should:

(A) Quantify GHG emissions, both existing and projected over a specified time period, resulting from activities within a defined geographic area.

(B) Establish a level, based on substantial evidence, below which the contribution to GHG emissions from activities covered by the plan would not be cumulatively considerable.

(C) Identify and analyze the GHG emissions resulting from specific actions or categories of actions anticipated within the geographic area.

(D) Specify measures or a group of measures including performance standards that substantial evidence demonstrates, if implemented on a project-by-project basis, would collectively achieve the specific emissions level.

(E) Establish a mechanism to monitor the plan's progress toward achieving the level and to require amendment if the plan is not achieving specified levels.

(F) Be adopted in a public process following environmental review.

(2) Use with Later Activities. A plan for the reduction of GHG emissions, once adopted following certification of an EIR or adoption of an environmental document, may be used in the cumulative impacts analysis of later projects. An environmental document that relies on a GHG reduction plan for a cumulative impacts analysis must identify those requirements specified in the plan that apply to the project, and, if those requirements are not otherwise binding and enforceable, incorporates those requirements as mitigation measures applicable to the project. If there is substantial evidence that the effects of a particular project may be cumulatively considerable notwithstanding the project's compliance with the specified requirements in the plan for the reduction of GHG emissions, an EIR must be prepared for the project.

(c) Special Situations. As provided in the Public Resource Code sections 21155.2 and 21159.28, environmental documents for certain residential and mixed-use projects and transit priority projects, as defined in section 21155, that are consistent with the general use designation, density, building intensity, and applicable policies specified for the project area in an applicable sustainable communities strategy or alternative planning strategy [refer to Section 4.2.3.4.d above] need not analyze global warming impacts resulting from cars and light duty trucks. A lead agency should consider whether such projects may result in GHG emissions from other sources, however, consistent with these Guidelines.

The City's Draft CMAP establishes a planning horizon of 2013 through 2035 and quantifies GHG emissions, establishes GHG reduction targets for 2020, 2035, and 2050, identifies strategies and measures to reduce GHG emissions, and provides guidance for monitoring progress on an annual basis.

3.2.3.7 Climate Action Strategy

The SANDAG Climate Action Strategy is a long-range policy (year 2030) that focuses on transportation, electricity, and natural gas sectors. It is a complement to the Regional

Energy Strategy 2030 Update and feeds into the SANDAG RTP and Regional Comprehensive Plan. It is currently in process of being prepared.

As indicated above, per the requirements of SB 375, the San Diego region will be required to reduce GHG emissions from cars and light trucks 7 percent per capita by 2020 and 13 percent by 2035 (SANDAG 2011). These reduction targets have been incorporated into the 2050 RTP and SCS for the San Diego region.

4.0 Significance Criteria and Analysis Methodologies

4.1 Determining Significance

Thresholds used to evaluate potential impacts due to GHG emissions are based on applicable criteria in the CEQA Guidelines Appendix G. The CPU would have a significant GHG impact if it would:

1) Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment.

2) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emission of GHGs.

As stated in the Guidelines, these two statements are “intended to encourage thoughtful assessment of impacts and do not necessarily represent thresholds of significance” (Title 14, Division 6, Chapter 3 Guidelines for Implementation of the CEQA, Appendix G, VII Greenhouse Gas Emissions). To date, there have been no local, regional, state, or federal regulations establishing a threshold of significance to determine project-specific impacts of GHG emissions. The CEQA Guidelines require Lead Agencies to adopt GHG thresholds of significance. When adopting these thresholds, the amended Guidelines allow Lead Agencies to consider thresholds of significance adopted or recommended by other public agencies, or recommended by experts, provided that the thresholds are supported by substantial evidence, and/or to develop their own significance threshold.

The City has not adopted its own GHG Thresholds of Significance for CEQA and is following guidance from the California Air Pollution Control Officers Association (CAPCOA) report *CEQA & Climate Change*, dated January 2008, for interim screening criteria to determine when a GHG analysis would be required and information from the CARB Scoping Plan and BAU 2020 Forecast to determine when a cumulatively significant contribution of GHGs has occurred (City of San Diego 2008b).

Although the criteria discussed below are interim guidance, they represent a good faith effort to evaluate whether GHG impacts from a project are significant, taking into account the type and location of the proposed development, the best available scientific data regarding GHG emissions, and the current statewide goals and strategies for reduction of GHG emissions. It is also important to note that the San Diego Air Pollution Control District (SDAPCD) has not provided guidance on the quantification of GHG emissions or emissions thresholds for the San Diego Region.

4.1.1 900 $MTCO_2E$ Screening Criterion

A 900-metric-ton screening criterion for determining when a GHG analysis is required was chosen by the City based on available guidance from the CAPCOA report. The CAPCOA report references the 900-metric-ton guideline as a conservative threshold for requiring further analysis and mitigation. This emission level is based on the amount of vehicle trips, the typical energy and water use, and other factors associated with projects. CAPCOA identifies the following project types in Table 8 that are estimated to emit approximately 900 metric tons or $MTCO_2E$ of GHGs annually as shown. Projects that meet the following criteria are not required by the City to prepare a GHG technical analysis report.

TABLE 8
PROJECT TYPES THAT DO NOT REQUIRE A GHG ANALYSIS AND MITIGATION

Project Type	Project Size that Generates Approximately 900 Metric Tons of GHGs per Year
Single Family Residential	50 units
Apartments/Condominiums	70 units
General Commercial Office Space	35,000 square feet
Retail Space	11,000 square feet
Supermarket/Grocery Space	6,300 square feet

GHG = greenhouse gas

4.1.2 Further Analysis Demonstrating a 28.3-percent Reduction in BAU

For projects that do not meet the criteria outlined in Table 8 or emit GHGs in excess of 900 $MTCO_2E$, the City requires a GHG emissions analysis to demonstrate that a proposed project design achieves a 28.3 percent reduction relative to BAU GHG emissions. The CPU's ultimate growth capacity exceeds the screening criteria identified above in Table 8. The CPU is thus subject to the City's requirement to complete a GHG emissions analysis that demonstrates a minimum 28.3 percent reduction relative to BAU emissions.

4.1.2.1 Business-as-usual Emissions

BAU emissions are the GHG emissions that would be expected to occur in the absence of GHG-reduction measures or mitigation. As described above in Section 3.2.2.2, AB 32 directed CARB to develop a Scoping Plan that identified the reduction measures needed to achieve the targets established in AB 32/S-3-05. In order to assess the scope of the reductions California needs to make to return to 1990 emissions levels by 2020, CARB staff estimated 2020 BAU GHG emissions (Table 9), which represent the emissions that would be expected to occur without any GHG reduction measures. CARB staff estimated that statewide 2020 BAU GHG emissions would be 596 $MMTCO_2E$, requiring a reduction of 169 $MMTCO_2E$, to attain the 2020 emissions limit of 427 $MMTCO_2E$. This equates to a 28.3 percent reduction relative to BAU.

TABLE 9
CALIFORNIA BAU 2020 GHG EMISSIONS FORECAST

Sector	Projected 2020 Emissions in $MMTCO_2E$ (% total)
Transportation	225.4 (38%)
Electricity	139.2 (23%)
Commercial and Residential	46.7 (8%)
Industry	100.5 (17%)
Recycling and Waste	7.7 (1%)
High GWP	46.9 (8%)
Agriculture	29.8 (5%)
Forest Net Emissions	0.0
TOTAL	**596.4**

SOURCE: CARB 2008a
$MMTCO_2E$ = million metric tons of carbon dioxide equivalent
GWP = global warming potential

The 2020 BAU emissions forecast thus serves as the basis for establishing the City's 28.3-percent reduction relative to BAU goal and is consistent with the current CEQA Guidelines, which state that cumulative impacts may be measured relative to a cumulative baseline that includes a

> summary of projections contained in an adopted local, regional or statewide plan, or related planning document, that describes or evaluates conditions contributing to the cumulative effect. Such plans may include a general plan, regional transportation plan, or plans for the reduction of GHG emissions.

4.1.2.2 Calculating Project Emissions Relative to BAU

While BAU emissions are the GHG emissions that would be expected to occur in the absence of GHG-reduction measures or mitigation, project emissions are the GHG emissions that would be expected to occur with GHG-reduction measures or mitigation. When assessing project emissions against the City's 28.3 percent reduction relative to BAU, project emissions estimates are to account for the GHG reductions achieved through statewide regulations adopted since 2005 to reduce GHG emissions. This includes the Pavley and LCFS measures aimed at reducing vehicle emissions (by approximately 30 percent), the 2008 update to the Title 24 Energy Efficiency Standards aimed at reducing energy emissions (by a minimum of 15 percent), and the 2011 effective date of implementing the mandatory water reduction requirements of CalGreen aimed at reducing water use emissions (by approximately 20 percent). In addition to these statewide regulations, project GHG emissions estimates are to account for any project-specific GHG reductions achieved through design features or mitigation.

The project's estimated 2020 GHG emissions with GHG reductions are then evaluated relative to the 2020 BAU GHG emissions for comparison to the City's threshold as follows:

$$\left(\frac{\dot{m}_{GHG,BAU} - \dot{m}_{GHG,PR}}{\dot{m}_{GHG,BAU}}\right) \times 100 \geq 28.3?$$

Where

$\dot{m}_{GHG,BAU}$ = Project's 2020 BAU GHG emissions ($MMTCO_2E$)

$\dot{m}_{GHG,PR}$ = Project's net 2020 GHG emissions with GHG-reducing features incorporated ($MMTCO_2E$)

If the project's 2020 GHG emissions accounting for the effects of GHG-reducing regulations and project-specific design features represent a 28.3 percent reduction relative to the project's BAU GHG emissions, the project would not result in a significant impact to global climate change. Section 5.1 provides this analysis. The following Section 4.2 describes the methodology and assumptions used in quantifying project and BAU emissions.

4.1.3 Other Threshold Considerations

4.1.3.1 2020 BAU GHG Emissions Forecast Update

As described above in Section 3.2.2.3, the 2020 BAU emissions forecast modeled by CARB in 2008 was updated by CARB in 2010. In October 2010, CARB revised its 2020 BAU emissions projection based on current economic forecasts, as influenced by the economic downturn, and statewide GHG reduction measures already in place. The result of this update was to reduce the originally estimated statewide 2020 BAU emission estimate of 596 $MMTCO_2E$ to 507 $MMTCO_2E$. This value accounts not only for reduced energy demand and growth due to the economic downturn, but also incorporates two adopted Scoping Plan GHG reduction measures. The two measures the revised 2020 forecast accounts for include the Pavley I and RPS 20 percent (refer to

Sections 3.2.2.4.a and 3.2.2.5.a). Considering the updated BAU estimate of 507 MMTCO2E by 2020, a 16 percent reduction below the estimated BAU levels would be necessary to return to 1990 levels (i.e., 427 MMTCO2E) by 2020 (CARB 2011). This value has been incorporated into a revised Scoping Plan that was adopted in 2011. Table 10 shows the revised 2010 projections compared to the 2008 projections.

TABLE 10
CALIFORNIA BAU 2020 COMPARATIVE GHG EMISSIONS FORECASTS

Sector	2008 Scoping Plan Projected 2020 Emissions in MMTCO_2E (% total)	2011 Scoping Plan Projected 2020 Emissions in MMTCO_2E (% total)
Transportation	225.4 (38%)	183.9 (36%)
Electricity	139.2 (23%)	110.4 (22%)
Commercial and Residential	46.7 (8%)	45.3 (9%)
Industry	100.5 (17%)	91.5 (18%)
Recycling and Waste	7.7 (1%)	8.5 (2%)
High GWP	46.9 (8%)	37.9 (7%)
Agriculture	29.8 (5%)	29.1 (6%)
Forest Net Emissions	0.0	0.0
TOTAL	**596.4**	**506.6**

SOURCE: CARB 2010d
MMTCO_2E = million metric tons of carbon dioxide equivalent
GWP = global warming potential

The City is currently evaluating whether or not to update its GHG guidelines and interim threshold to a 16 percent reduction relative to BAU in accordance with the updated CARB projection, or some other threshold.

4.1.3.2 Efficiency and Bright Line Thresholds

The City's 28.3 percent reduction in GHG emissions relative to BAU goal is considered a performance threshold. Other GHG performance thresholds, as well as other types of GHG thresholds, have been considered by other jurisdictions. For example, the County of San Diego has completed a recent update to its *Guidelines for Determining Significance for Climate Change,* which includes not only a 16 percent performance threshold (based on the updated BAU forecast and Scoping Plan), but also includes a 4.32 MTCO_2E efficiency threshold (i.e., a per capita threshold) and a 2,500 MTCO_2E bright line (i.e., maximum level, operational emissions only) threshold for projects in the County. Similar efficiency or bright line thresholds could be applicable to projects in the City; but have not yet been identified.

4.1.3.3 GHG Regulatory Program Updates

In addition to revisions to the BAU forecast and Scoping Plan, there have also been court cases subsequent to 2008 affecting what regulatory programs designed to reduce

GHG emissions statewide can be implemented and/or attributed toward a project's analysis of whether it meets the applicable BAU threshold. For example, CARB's implementation of the LCFS GHG reduction program has been impeded by recent litigation. In December 2011, a preliminary injunction blocking CARB's implementation of the LCFS was granted. On April 23, 2012, the Ninth Circuit Court of Appeals overturned the injunction pending a ruling on the merits of the case. While there is no injunction currently in place, the City has determined there is sufficient legal uncertainty with this program that projects cannot rely on taking credit for CARB's implementation of the LCFS program when analyzing whether or not it meets the BAU threshold.

Accordingly, the City has approved a new protocol requiring GHG technical studies to analyze project impacts both with and without reliance on the LCFS.

4.2 Methodology and Assumptions

Given current City guidance, the CPU land uses are evaluated relative to the 28.3 percent BAU reduction threshold; the vehicle portion of these estimates is estimated both with and without accounting for the LCFS. To evaluate the CPU's GHG emissions relative to BAU, emissions were quantified and projected to the year 2020 for both BAU and the CPU. This is because the AB 32, CARB BAU Forecast, and associated Scoping Plan GHG reduction targets (including the overall 28.3 percent reduction in BAU target) are projected to a year 2020 horizon. Although the CPU has a time horizon of 15 to 20 years, with buildout anticipated to complete by roughly 2030 or 2035, no specific GHG reduction target has been identified in state legislation after 2020. Executive Order S-3-05 identified a GHG reduction target for 2050 but did not identify interim targets for the decades between 2020 and 2050. Establishing target reductions and significance of GHG emissions beyond 2020 is speculative. Therefore, in this analysis the GHG emissions estimates based on ultimate buildout of the CPU are compared to the 2020 GHG reduction goals in order to evaluate significance. In other words, for the purpose of this analysis, CPU buildout is projected to occur by 2020.

GHG emissions were estimated using the California Emissions Estimator Model (CalEEMod) Version 2011.1.1 released by CARB in March 2011 (SCAQMD 2011). In brief, the model estimates criteria air pollutants and GHG emissions by multiplying emission source intensity factors by estimated quantities of emission sources based on the land use information.

CalEEMod estimates emissions in terms of total metric ton CO_2 equivalent ($MTCO_2E$). CO_2-equivalent emissions are the preferred way to assess combined GHG emissions because they give weight to the GWP of a gas. The GWP, as described above in Section 1.1, is the potential of a gas to warm the global climate in the same amount as an equivalent amount of emissions of CO_2. Carbon dioxide (CO_2) thus has a GWP of 1.

Methane (CH_4) has a GWP of 21 and nitrous oxide (N_2O) has a GWP of 310, which means they have a greater global warming effect than CO_2.

Emission estimates were calculated for the three GHGs of primary concern (CO_2, CH_4, and N_2O) that would be emitted from construction and the five primary operational sources that would be associated with CPU buildout: mobile sources, area sources, energy use, water use, and solid waste disposal. To evaluate the reductions in GHG emissions of the CPU relative to the BAU 2020 Forecast, emissions were estimated for two scenarios: first, CPU buildout without GHG-reducing measures (i.e., CPU buildout under BAU conditions) and, second, CPU buildout with GHG-reducing measures. This allowed for a comparison between the CPU buildout with and without GHG-reducing measures in accordance with the City's 28.3 percent reduction goal.

The reported GHG estimates are provided in Section 5.1. Attachment 3 and 4 include the CalEEMod output files.

4.2.1 Defining CPU Characteristics and Land Use

The CPU is located in the San Diego Air Basin in climate zone 13 and is served by San Diego Gas and Electric (SDG&E). Each utility provider has specific energy intensity factors. SDG&E's energy intensity factors are shown in Table 11 below.

TABLE 11
SAN DIEGO GAS & ELECTRIC INTENSITY FACTORS

GHG	Intensity Factor[1] (lbs/MWh)
Carbon Dioxide (CO_2)	780.79
Methane (CH_4)	0.029
Nitrous Oxide (N_2O)	0.011

[1]SOURCE: CalEEMod Version 2011.1.1
GHG = greenhouse gas
lbs = pounds
MWh = megaWatt hour

These energy intensity values are used in CalEEMod to determine the GHG emissions associated with electricity use in various modules and are based on CARB's Local Government Operations Protocol (LGOP) (for CO_2) and E-Grid (for CH_4 and N_2O) values.

Table 12 lists the CPU buildout land use quantities. These include land uses that are currently existing in the CPU area as well as those that could be constructed under the CPU. It was assumed that future land uses would be constructed on currently vacant land (i.e., existing construction would remain). The distinction between these two categories is made because of the differences in energy and water consumption rates for new development versus existing development constructed in accordance with older building codes.

TABLE 12
FUTURE MODELED LAND USES

Land Uses[1]	Currently Existing Development	New Development	Total CPU Buildout
Single Family Residential (du)	2,591	1,682	4,273
Multi-family Residential (du)	1,106	13,395	14,501
Park (acres)	16	145	161
Commercial/Mixed Use (million square feet)	2.653	1.869	4.522
Institutional (million square feet)	4.988	10.236	15.224
Industrial (million square feet)	33.323	19.515	52.838

[1]Land use acreage obtained from Otay Mesa Community Plan Update 2011. Commercial and institutional square footages calculated from acreage assuming a 0.3 floor area ratio. Industrial square footages calculated from acreage assuming a 0.5 floor area ratio.
CPU = Community Plan Update
du = dwelling unit

4.2.2 Estimating Construction Emissions

Construction activities emit GHGs primarily though combustion of fuels (mostly diesel) in the engines of off-road construction equipment and through combustion of diesel and gasoline in on-road construction vehicles and in the commute vehicles of the construction workers. Smaller amounts of GHGs are also emitted through the energy use embodied in any water use (for fugitive dust control) and lighting for the construction activity. Every phase of the construction process, including demolition, grading, paving, and building, emits GHG emissions, in volumes proportional to the quantity and type of construction equipment used. The heavier equipment typically emits more GHGs per hour of use than the lighter equipment because of their greater fuel consumption and engine design.

Construction is a temporary source of GHG emissions. Although these emissions are temporary, they must be accounted for, as the impact from the emissions of GHGs is cumulative. The Association of Environmental Professionals (AEP) has recently recommended that total construction GHG emissions resulting from a project be amortized over 30 years and added to operational GHG emissions to provide a cumulative estimate of annual GHG emissions for the plan (AEP 2010). In order to provide an estimate of the GHG emissions that would occur from construction of new development, CalEEMod construction defaults were assumed and the construction phasing was adjusted to 30 years. Also, as recommended in a recent (March 2012) CalEEMod workshop conducted by CARB, because CalEEMod overestimates construction exhaust emissions by roughly 30 percent, the resulting total quantity of construction emissions estimated by CalEEMod is multiplied by 0.70 to obtain total construction GHGs.

4.2.3 Estimating Vehicle Emissions

Transportation-related GHG emissions comprise the largest sector contributing to both inventoried and projected statewide GHG emissions, accounting for 38 percent of the projected total statewide 2020 BAU emissions (CARB 2008a). On-road vehicles alone account for 35 percent of forecasted 2020 BAU emissions. GHG emissions from vehicles come from the combustion of fossil fuels in vehicle engines.

CalEEMod estimates vehicle emissions by first calculating trip rate, trip length, trip purpose, and trip type percentages (e.g., home to work, home to shop, home to other) for each land use type, based on the land use types and quantities. For this analysis, CalEEMod default trip rates were edited to reflect the trip rates identified for each land use subtype in the traffic impact analysis (Urban Systems Associates 2012). The default trip lengths were assumed.

CalEEMod default vehicle emission factors and fleet mix are derived from the Emission Factors (EMFAC) 2007 model and adjusted for Pavley and the LCFS. For this analysis, the default values that account for Pavley and LCFS were assumed to yield accurate estimates of the future CPU with GHG reductions scenarios. To calculate each alternative BAU scenario however (i.e., the CPU without GHG reductions scenario), the CPU with reductions vehicle emissions were divided by 0.70 to achieve a 30 percent increase in order to reflect the absence of those two regulations.

4.2.4 Estimating Energy Use Emissions

GHGs are emitted as a result of activities in buildings for which electricity and natural gas are used as energy sources. GHGs are generated during the generation of electricity from fossil fuels off-site in power plants. These emissions are considered indirect but are calculated in CalEEMod as associated with a building’s operation. Electric power generation accounts for the second largest sector contributing to both inventoried and projected statewide GHG emissions, comprising 24 percent of the projected total 2020 statewide BAU emissions (CARB 2008a). Combustion of fossil fuel emits criteria pollutants and GHGs directly into the atmosphere. When this occurs in a building this is considered a direct emissions source associated with that building.

Building energy use is typically divided into energy consumed by the built environment and energy consumed by uses that are independent of the construction of the building such as plug-in appliances. In California, Title 24 governs energy consumed by the built environment, mechanical systems, and some types of fixed lighting. Non-building energy use, or plug-in energy use, can be further subdivided by specific end-use (refrigeration, cooking, office equipment, etc.).

CalEEMod default energy values are based on the CEC-sponsored California Commercial End Use Survey (CEUS) and Residential Appliance Saturation Survey

(RASS) studies, which identify energy use by building type and climate zone. Because these studies are based on older buildings, adjustments have been made in CalEEMod to account for changes to Title 24 building codes. The default adjustment is to the current 2008 Title 24 energy code (part 6 of the building code). Adjustments to simulate the 2005 Title 24 energy code are also available in CalEEMod.

For the BAU energy emissions estimate and the existing conditions estimate, GHG emissions from energy use were calculated assuming construction in accordance with the 2005 Title 24 energy code. For the estimates of the CPU, energy emissions were estimated assuming all new development would be constructed in accordance with the 2008 Title 24 energy code and all existing development, which would remain under buildout of the CPU, was constructed in accordance with the 2005 Title 24 energy code. Table 12 shows the existing and the new development quantities.

4.2.5 Estimating Area Source Emissions

Area sources include hearths, woodstoves, and landscaping equipment. The use of hearths (fireplaces) and woodstoves directly emits CO_2 from the combustion of natural gas, wood, or biomass, some of which are thus classified as biogenic. The use of landscape equipment emits GHGs associated with the equipment's fuel combustion. CalEEMod estimates the number and type of equipment needed based on the number of summer days given the project's location. The model defaults for hearths, woodstoves, and landscaping equipment were assumed.

4.2.6 Estimating Water and Wastewater Emissions

The amount of water used and wastewater generated by a project has indirect GHG emissions associated with it. These emissions are a result of the energy used to supply, distribute, and treat the water and wastewater. In addition to the indirect GHG emissions associated with energy use, wastewater treatment can directly emit both methane and nitrous oxide.

Default water consumption rates were assumed for the estimates of BAU and existing conditions, including the existing land uses that would remain within the CPU horizon year (refer to explanation in energy discussion above). However, for the future/new land uses of the CPU, a 20 percent reduction in water use was assumed in accordance with recent requirements of CalGreen. Similar to energy use, recent updates to the water conservation element of Title 24 have resulted in increased water conservation for development subsequent to 2010. New construction and redevelopment that would occur under the CPU would be constructed in accordance with the current 2011 CALGreen or later water conservation requirements. Because the 2011 CalGreen (i.e., Part 11 of Title 24) requires a minimum 20 percent reduction in water use, a 20 percent reduction in BAU water use was factored into the CPU emissions.

It should be noted that industrial land uses consume significantly more water than other land uses. Due to the large amount of industrial uses in the CPU area, GHG emissions due to water use are much greater in the CPU area than in other areas in the basin dominated by residential and commercial development.

4.2.7 Estimating Solid Waste Emissions

The disposal of solid waste produces GHG emissions from anaerobic decomposition in landfills, incineration, and transportation of waste. CalEEMod determines the GHG emissions associated with disposal of solid waste into landfills. Portions of these emissions are biogenic. CalEEMod methods for quantifying GHG emissions from solid waste are based on the Intergovernmental Panel on Climate Change (IPCC) method using the degradable organic content of waste. Existing, BAU, and CPU GHG emissions associated with waste disposal were all calculated using CalEEMod's default parameters.

Similar to water use, industrial land uses typically generate more waste than other land uses. Due to the large amount of industrial uses in the CPU area, GHG emissions due to solid waste are greater in the CPU area than in other areas in the basin.

4.2.8 Summary of Assumptions

Table 13 summarizes the assumptions used for the calculation of BAU and CPU emissions.

TABLE 13
BAU AND CPU GHG CALCULATION ASSUMPTIONS

Emission Source	BAU Assumptions	CPU Assumptions
Vehicle Emissions	Default Year 2020 emissions were divided by 0.70 to achieve a 30 percent increase in order to reflect the absence of the two statewide regulations, Pavley and LCFS.	Default Year 2020 emissions were assumed. Calculation of emissions without incorporation of the LCFS is also provided per City protocol.
Energy Emissions	2005 statewide average annual energy consumption rates were used to estimate BAU emissions, consistent with the CARB 2020 BAU forecast that assumed building energy efficiencies in accordance with 2005 Title 24.	For existing development, 2005 statewide average annual energy consumption rates were used to reflect construction in accordance with 2005 Title 24. For additional new development under the CPU, default 2008 Title 24 energy rates were assumed.

TABLE 13
BAU AND CPU GHG CALCULATION ASSUMPTIONS
(continued)

Emission Source	BAU Assumptions	CPU Assumptions
Area Source Emissions	All model defaults were assumed.	All model defaults were assumed.
Water Emissions	Average rates of water consumption were used in the calculation of BAU water use emissions, consistent with plumbing code regulations in effect at the time the CARB 2020 BAU forecast was made.	For existing development, average rates of water consumption were assumed. For additional new development, a 20 percent decrease in water consumption was assumed (in accordance with CalGreen).
Solid Waste Emissions	All model defaults were assumed.	All model defaults were assumed.
Construction Emissions	There would be no construction associated with existing development. For additional new development, CalEEMod construction defaults were assumed and the construction phasing was adjusted to 30 years. Additionally, construction emissions estimated by CalEEMod were multiplied by 0.70, because CalEEMod overestimates construction emissions by roughly 30 percent	There would be no construction associated with existing development. For additional new development, CalEEMod construction defaults were assumed and the construction phasing was adjusted to 30 years. Additionally, construction emissions estimated by CalEEMod were multiplied by 0.70, because CalEEMod overestimates construction emissions by roughly 30 percent

5.0 Impact Analysis

In accordance with CEQA and City guidelines, this analysis evaluates the significance of the CPU in terms of (1) its contribution of GHGs to cumulative statewide emissions and (2) its consistency with local and state regulations, plans, and policies aimed at reducing GHG emissions.

5.1 Cumulative GHG Emissions

5.1.1 Impacts

As indicated in Section 4.1, based on the criteria shown in Table 8, the ultimate buildout that would be allowed under the CPU requires completion of a GHG emissions analysis in order to determine what, if any, cumulative impacts would result from project implementation. Specifically, the analysis must demonstrate whether or not ultimate buildout of the CPU, accounting for GHG reduction measures, would generate GHG emissions at least 28.3 percent less than the emissions that would occur under a BAU buildout scenario. The BAU buildout scenario represents buildout of the CPU without accounting for GHG reduction measures. Thus, GHG estimates for both scenarios are discussed below.

Table 14 summarizes the estimated BAU GHG emissions in the CPU area.

TABLE 14
SUMMARY OF ESTIMATED BAU EMISSIONS ($MTCO_2E$)

Emission Source	Emissions from Currently Existing Development	Emissions from New Development	Total BAU Emissions
Vehicle	738,452	669,176	1,407,628
Energy	195,730	191,122	386,851
Area	8,856	36,118	44,975
Water Consumption	916,242	555,687	1,471,929
Solid Waste Disposal	886,942	525,419	1,412,361
Construction	0	34,604	34,604
TOTAL	**2,746,222**	**2,012,126**	**4,758,348**

BAU = business-as-usual
$MTCO_2E$ = metric tons of carbon dioxide equivalent

Based on the calculations described above, the combined total BAU GHG emissions without GHG reductions would be approximately 4,758,348 $MTCO_2E$. Of this total, approximately 2,746,222 $MTCO_2E$ (57.7 percent) would be associated with the CPU's currently existing development, and 2,012,126 $MTCO_2E$ (42.3 percent) would be associated with new proposed development.

Table 15 summarizes the estimated CPU GHG emissions with incorporation of GHG reduction measures.

TABLE 15
SUMMARY OF ESTIMATED CPU EMISSIONS ($MTCO_2E$)

Emission Source	Emissions from Currently Existing Development	Emissions from New Development	Total BAU Emissions
Vehicle	516,916	468,424	985,340
Energy	195,730	182,189	377,918
Area	8,856	36,118	44,975
Water Consumption	916,242	444,550	1,360,792
Solid Waste Disposal	886,942	525,419	1,412,361
Construction	0	34,604	34,604
TOTAL	**2,524,686**	**1,691,303**	**4,215,989**

CPU = Community Plan Update
$MTCO_2E$ = metric tons of carbon dioxide equivalent

Based on the calculations described above, the combined total CPU GHG emissions without GHG reductions would be approximately 4,215,989 $MTCO_2E$. Of this total, approximately 2,524,686 $MTCO_2E$ (59.9 percent) would be associated with the CPU's currently existing development, and 1,691,303 $MTCO_2E$ (40.1 percent) would be associated with new proposed development.

5.1.2 Significance of Impacts

Table 16 summarizes the estimated 2020 BAU emissions, the target emissions to achieve a 28.3 percent reduction relative to BAU, and the CPU emissions with the incorporation of GHG-reducing measures. Table 16 also provides the percentage reductions for comparison with the City's 28.3 percent reduction relative to BAU goal in accordance with the methodology discussed in Section 4.1.2. Emission calculations with inclusion of GHG reduction measures are provided in Attachment 5.

BAU emissions would total 4,758,348 $MTCO_2E$ annually. As shown in the second column in Table 16, a 28.3 percent reduction in CPU areawide BAU emissions would equal 3,411,735 $MTCO_2E$ per year. Therefore, the CPU would be considered to be consistent with the AB 32/Scoping Plan and City goals if it were to emit total annual emissions equal to or less than 3,411,735 $MTCO_2E$.

The CPU emissions with GHG reductions would total 4,215,989 $MTCO_2E$ annually. This reduction in BAU emissions of 542,359 $MTCO_2E$ each year would be due to regulations on auto and fuel manufacturers. Reductions would also be due to CalGreen that contains increased energy and water efficiency requirements that would reduce GHG emissions from those sources for additional new development. Of the estimated 4,215,989 $MTCO_2E$ of GHGs associated with buildout of the CPU, the majority (59.9 percent) would come from currently existing development and the remainder (40.1 percent) would come from additional new development.

TABLE 16
ESTIMATED CPU GHG EMISSIONS AND BAU REDUCTIONS
($MTCO_2E$)

Emission Source	BAU Emissions (i.e. without GHG Reductions) ($\dot{m}_{GHG,BAU}$)[1]	Target Emissions	CPU Emissions with GHG-Reductions ($\dot{m}_{GHG,PR}$)[1]	Percent Reduction relative to BAU Reduction Target
Vehicles	1,407,628	--	985,340	30.0
Energy Use	386,851	--	377,918	2.3
Area Sources	44,975	--	44,975	0.0
Water Use	1,471,929	--	1,360,792	7.6
Solid Waste	1,412,361	--	1,412,361	0.0
Construction	34,604	--	34,604	0.0
TOTAL	**4,758,348**	**3,411,735**	**4,215,989**	**11.4**[2]

CPU = Community Plan Update
GHG = greenhouse gas
BAU = business as usual
$MTCO_2E$ = metric tons of carbon dioxide equivalent
[1]Refer to Section 4.1.2.2 for nomenclature and description of City methodology for calculating BAU and Net Plan emissions.
[2]An 11.4 percent reduction accounts for Pavley and Low Carbon Fuel Standard reductions in vehicle emissions, 2008 Title 24 reductions in energy emissions, and CalGreen reductions in water use emissions. By not including the Low Carbon Fuel Standard reduction, the total percent reduction relative to BAU becomes 9.1 percent.

The CPU total GHG emissions, when compared to the BAU total annual emissions, would result in an 11.4 percent reduction in GHG emissions relative to BAU. This falls short of meeting the City's threshold of a minimum 28.3 percent reduction in GHG emissions relative to BAU. When comparing the new proposed development only (i.e., not taking into account the GHG emissions from currently existing development), the CPU would result in a 15.9 percent reduction relative to BAU. While there are other thresholds that are professionally accepted standards for review of projects, the comparison of the CPU to the 28.3 percent standard provides a conservative analysis of potential impacts. This impact associated with GHG emissions under the CPU would be considered significant and unavoidable.

The Mobility, Urban Design, and Conservation elements of the CPU include specific policies to require dense, compact, and diverse development; encourage highly efficient energy and water conservation design; increase walkability and bicycle and transit accessibility; increase urban forestry practices and community gardens; decrease urban heat islands; and increase climate-sensitive community design. These policies would serve to reduce consumption of fossil-fueled vehicles and energy resulting in a reduction in communitywide GHG emissions relative to BAU. These policies are discussed in detail in the Issue Section 5.2.

Despite the inclusion of these policies (most of which are not quantifiable in terms of their GHG emissions reductions at the program-level) and despite the GHG reductions gleaned from statewide regulations on vehicle GHG emissions and building energy and water use, the CPU's projected GHG emissions would fall short of meeting the 28.3 percent GHG reduction target relative to 2020 BAU. The approximate gap of 16.9 to 19.2 percent in meeting the target reductions would be made up through one or a combination of several effective and quantifiable GHG reduction measures that pertain to building and non-building energy use, indoor and outdoor water use, area sources, solid waste disposal, vegetation/carbon sequestration, construction equipment, and transportation/vehicles. Project-level GHG reduction design features are available that would reduce BAU GHG emissions to 28.3 percent or more relative to BAU and to the extent practicable would be implemented for future development projects under the CPU.

It should be noted that if the CPU were not adopted, development in Otay Mesa would continue to occur in accordance with the existing 1981 Otay Mesa Community Plan, which allows for more development than the CPU and would also generate more traffic than the CPU. The CPU would introduce higher density residential and commercial land use designations, as well as several new mixed-use and industrial land use designations. The GHG emissions associated with the 1981 Otay Mesa Community Plan would be greater than those of the CPU summarized in Table 4.16.

5.1.3 Mitigation Framework

GHG-1: Future projects shall demonstrate their avoidance of significant impacts related to long-term GHG emissions. The Mobility, Urban Design, and Conservation elements of the CPU include specific policies to require dense, compact, and diverse development, encourage highly efficient energy and water conservation design, increase walkability and bicycle and transit accessibility, increase urban forestry practices and community gardens, decrease urban heat islands, and increase climate-sensitive community design. These policies would serve to reduce consumption of fossil-fueled vehicles and energy resulting in a reduction in communitywide GHG emissions relative to BAU. Future projects shall incorporate GHG reducing features or mitigation measures in order to meet the City's reduction goals relative to BAU, to meet AB 32 year 2020 target levels. At the time of the writing of this report, the City's reduction goal is 28.3 percent relative to BAU emissions. Quantifiable GHG reduction measures at the level of subsequent projects pertain to:

- Building and non-building energy use
- Indoor and outdoor water use
- Area sources
- Solid waste disposal
- Vegetation/carbon sequestration

- Construction equipment
- Transportation/vehicles

The effectiveness and feasibility of these GHG reduction measures in reducing GHG emissions have been documented in the 2010 CAPCOA publication *Quantifying Greenhouse Gas Mitigation Measures* (CAPCOA 2010). They have subsequently been included in the mitigation modules of CalEEMod to quantify GHG emissions and reductions. These measures are included in the City's CMAP, yet to be adopted. These measures are best quantified at the project-level, because specific project-level design information is needed to calculate accurate GHG reductions. At the program-level, impacts would remain significant and unmitigated.

5.1.4 Significance of Impacts after Mitigation

While future development projects would be required to implement GHG emission reduction measures to the extent practical, the degree of future impacts and applicability, feasibility, and success of future mitigation measures cannot be adequately known for each specific future project at this program-level of analysis. Therefore, the impacts associated with the contribution of GHG emissions to cumulative statewide emissions would be considered significant and unavoidable, even with adherence to the Mitigation Framework.

5.2 Consistency with Adopted Plans, Policies, and Regulations

5.2.1 Impacts

5.2.1.1 Overview of Local and State GHG Reduction Measures

The regulatory plans and policies discussed extensively in Section 3.2 above aim to reduce national, state, and local GHG emissions by primarily targeting the largest emitters of GHGs: the transportation and energy sectors. The goals and regulatory standards discussed in Section 3.2 are thus largely focused on the automobile industry and public utilities. For the transportation sector, the reduction strategy is generally three pronged: to reduce GHG emissions from vehicles by improving engine design; to reduce the carbon content of transportation fuels through research, funding, and incentives to fuel suppliers; and to reduce the miles vehicles traveled through land use change and infrastructure investments. The types of land use changes that can measurably reduce GHG emissions associated with vehicle use include: increased density; increased diversity (mixed use); improved walkability design; improved transit accessibility; transit improvements; integration of below market-rate housing; and constrained parking.

By increasing density, especially within proximity of transit, people's travel distances are affected and greater options for the mode of travel are provided. This can result in a substantial reduction in VMT depending on the change in density compared to a typical suburban residential density (CAPCOA 2010). By increasing the diversity of land use (i.e., through mixed-use developments), a similar reduction in VMT can occur because trips between land use types would be shorter and may be accommodated by non-auto modes of transport. By increasing transit accessibility (e.g., by locating a high-density project near transit), a shift in travel mode is facilitated along with reduced VMT. Income has a statistically significant effect on the probability that a commuter will take transit or walk to work, as lower income families tend to have lower levels of auto ownership (CAPCOA 2010). Therefore, by integrating affordable and below market rate housing, VMT can be further reduced. By constraining parking supply, either through policy changes (e.g., reduced parking requirements for urban areas) or through pricing and/or preferential parking for ridesharing and fuel-efficient vehicles, VMT would decrease as motorists shift away from single-occupancy vehicle travel and carpool, take transit, or walk/bicycle instead.

The effectiveness of these land-use strategies ranges from less than one percent up to a maximum 30 percent reduction in community wide VMT and are not additive (CAPCOA 2010). For example, where high-density mixed use development is located within a five to ten minute walk from a transit station with high-frequency transit or bus service and is combined with walkable neighborhood design, a total VMT reduction up to 24 percent can be achieved (CAPCOA 2010).

For the energy sector, the reduction strategies of local, state and national plans aim to reduce energy demand; impose emission caps on energy providers; establish minimum building energy and green building standards; transition to renewable non-fossil fuels; incentivize homeowners and builders; fully recover landfill gas for energy; expand research and development; and so forth. At the plan or project-level, policies or incentive programs for builders to exceed the current Title 24 energy efficiency standards, to install high efficiency lighting and energy-efficient plug-in appliances (for energy uses not subject to Title 24), and to incorporate on-site renewable energy generation can result in substantial GHG emissions reductions, up to 35 percent or more. Energy use associated with water consumption and wastewater treatment can also be reduced by applying an overall water reduction strategy (e.g., of 20 percent on indoor and outdoor water use) and/or policies and actions related to using reclaimed and gray water, installation of low-flow plumbing fixtures, use of water-efficient landscape design including turf reduction, and use of water-efficient irrigation systems. The institution of recycling and composting services can also reduce the energy embodied in the disposal of solid waste.

In addition to strategies aimed at reducing GHG emissions associated with vehicle and energy use, relevant local and state plans include GHG reduction strategies aimed at: reducing the heat island effect (and therefore energy-for-cooling demand) through urban forestry and shade tree programs. These plans also include, reducing area source emissions from woodstoves and fireplaces through stricter restrictions on fuel type and restriction against their use; and restricting the type of landscaping equipment used (such as use of only electric-powered lawn mowers, leaf blowers and chain saws).

Additional policies and strategies focus on climate adaptation and include policies and strategies to increase climate adaptability and resilience through climate-sensitive building guidelines (e.g., through appropriate building orientation and glazing design), sea-level monitoring, and defensible building design.

5.2.1.2 Consistency with Local GHG Reduction Measures

As discussed in Section 2.3, new policies within the CPU have been designed to reflect and implement the general GHG reduction recommendations of the General Plan, strategies of other local plans, and state GHG reduction measures. Specifically, the CPU includes updated Conservation, Mobility, and Urban Design elements that include several policies aimed at reducing GHG emissions from target emission sources and/or aimed at adapting to climate change. The CPU policies provide refinement of the General Plan and citywide policies specifically applicable to the Otay Mesa community. In several cases these policies are also consistent with key state GHG reduction plans, regulations, and recommended mitigation measures. An overview of relevant CPU elements and policies are contained in Attachment 1. The following is a discussion of the CPU's Conservation, Mobility, and Urban Design elements' consistency with local GHG reduction measures.

Conservation Element

The Conservation Element contains climate change and sustainability policies that provide a framework for addressing and adapting to climate change. These strategies are generally consistent and encourage the implementation of the General Plan Mitigation Framework recommendations and Policies CE-A-1 through CE-A-13 and with climate change mitigation and adaptation strategies of State plans and programs. These framework policies include the types of policies anticipated to be set forth in the Draft CMAP currently being prepared by the City.

The CPU's Conservation Element also includes water conservation measures to reduce the need for water, thereby reducing the energy use embodied in water supply and treatment and its associated GHG emissions. The policies promote the use of reclaimed and recycled water. The policies are consistent with the outdoor water-reduction strategies of the General Plan, the Scoping Plan, the 2010 CAPCOA GHG Mitigation Measures report, and the recently effective 2011 CalGreen water-reduction requirements for residential and non-residential uses.

The urban forestry policies of the CPU conform to the General Plan urban forestry Policies CE-J.1 through CE-J.5 and promote the need for an increase in tree plantings in both residential and commercial areas. Planting shade trees around buildings has been shown to effectively lower the electricity cooling demand of buildings by blocking incident sunlight and reducing heat gain through windows, walls, and roofs (CAPCOA 2010). By reducing cooling demand, shade trees help reduce electricity demand from the local utility and therefore reduce GHG emissions that would otherwise be emitted during the production of electricity.

The CPU has the potential to provide multiple sites for community gardens that would contain individual and shared-plot spaces. The CPU community farm and garden policies promote the need for the development of community gardens within the community. Establishment of community gardens has the potential to further reduce GHG emissions by providing project residents with a local source of food, potentially resulting in a reduction in the number of trips and VMT traveled by both the food and the consumers to grocery stores and supermarkets. Community gardens can also contribute to GHG reductions by displacing carbon-intensive food production practices. These emission reductions cannot be reasonably quantified at this time, because they are based on several undefined parameters: the relative locations of farmers market, supermarket, and supermarket produce suppliers; carbon intensity of food production practices; and role of a farmers market in a development.

Mobility Element:

Through increasing density, bringing people closer to their work and providing pedestrian connections to retail, commercial, and residential units, a substantial reduction in VMT can occur. A communitywide reduction in vehicle travel would reduce local VMT, which would in turn reduce emissions associated with vehicle use. The CPU would generate 1,045,025 average daily trips. The daily trip rates took into account the CPU density, diversity or mixed-use, improved walkability, and transit accessibility. The effectiveness of these land-use strategies range from less than one percent up to a maximum 30 percent reduction in communitywide VMT (CAPCOA 2010).

The CPU Mobility Element includes numerous policies to improve the pedestrian and bicycle network, increase transit accessibility, and provide transit improvements. Generally, these policies are not only consistent with the General Plan, but are also consistent with the CARB Scoping Plan vehicle reduction measures for land use development and with specific traffic mitigation measures identified in the 2010 CAPCOA GHG Mitigation Measures report.

Urban Design Element:

The Urban Design Element provides policies that promote enhanced connectivity to activity centers, active commercial centers supported by transit, improved pedestrian access and movement, pedestrian-oriented design principles, and improved walkability. Generally, these policies are consistent with the General Plan, the CARB Scoping Plan, and the 2010 CAPCOA GHG Mitigation Measures report.

The Urban Design Element also provides sustainability policies that promote green building techniques that are consistent with General Plan policies and with green building strategies recommended in the State Climate Change Scoping Plan and several of the measures identified in the 2010 CAPCOA GHG Mitigations Measures report. GHG reductions from these policies are not quantifiable at the plan-level. Future development projects implemented in accordance with the CPU would be required to implement some of these measures, which would be quantified and their GHG reductions accounted for using the CalEEMod GHG emissions estimator model or other appropriate methods, thereby further reducing GHG emissions associated with the buildout of the CPU.

5.2.1.3 Consistency with State GHG Reduction Strategies

EO S-3-05 established GHG emission reduction targets for the State, and AB 32 launched the CARB Climate Change Scoping Plan that outlined the reduction measures needed to reach these targets. The Climate Change Scoping Plan and its implementing and complementary regulations are discussed in Section 3.2.3 and generally encompass the GHG reduction strategies described at the beginning of this section (in Section 5.2.1.1). Subsequent to the CARB Climate Change Scoping Plan, the CAPCOA (a division of CARB), released the report *Quantifying Greenhouse Gas Mitigation Measures: A Resource for Local Government to Assess Emission Reductions from Greenhouse Gas Mitigation Measures* (Mitigation Measures report), that identifies specific project-level and program-level GHG reduction measures (CAPCOA 2010). The report includes quantification of the GHG reductions that could be achieved through incorporation of project-level mitigation measures. These measures fall into the same categories as discussed earlier: transportation, energy, water and wastewater, solid waste, area source (woodstoves, fireplaces, landscaping equipment), and construction emissions. Most of the mitigation measures included in the CAPCOA report are identified for project-level analyses, however, the project-level reduction strategies can be extrapolated to the program-level. The program-level reduction measures included in the report are few in comparison and are largely unquantifiable. They pertain to funding and incentive programs for increased energy efficiency; establishment of local farmer's markets and community gardens; urban shade tree planting programs, and communitywide strategies to reduce urban heat island effect. Several of the program-level measures, as well as the project-level measures, have been generally incorporated into the CPU as indicated in Section 5.2.1.2 above.

In general, the CPU policies outlined in Attachment 1 correspond to the general intent of the GHG reduction measures identified in both the 2010 CAPCOA GHG Mitigation Measures report and the 2008 CARB Climate Change Scoping Plan. Where practical, GHG reductions were included in the quantification of the CPU's GHG emissions, as described in the Section 5.1 cumulative GHG emissions analysis. In the quantification of CPU GHG emissions in Section 5.1, GHG reductions were accounted for vehicle emissions, and energy and water use emissions. These comprised the GHG reduction/mitigation measures that were quantifiable at the program-level. Subsequent projects would achieve further GHG reductions in these emissions sources, as well as in the area source, construction, and solid waste GHG emissions, through project-specific design features.

5.2.2 Significance of Impacts

The CPU contains policies that would reduce GHG emissions from transportation and operational building uses (related to water and energy consumption, and solid waste generation, etc.) that would be consistent with the strategies of local and state plans, policies, and regulations aimed at reducing GHG emissions from land use and development. Subsequent projects implemented in accordance with the CPU would be required to implement GHG-reducing features beyond those mandated under existing codes and regulations. However, because project-level details are not known, there is the potential that projects would not meet the necessary City reduction goals put in place in order to achieve the reductions required by AB 32. Thus, the level of potential impacts associated with plan conflict would be potentially significant.

6.0 Conclusions and Recommendations

With regard to plan consistency, the CPU would be consistent with the goals, strategies, and reduction targets of relevant local and State plans, and regulations aimed at reducing GHG emissions from land use and development. The level of impact associated with potential plan conflict would therefore be less than significant.

With regard to cumulative GHG emissions quantities, the CPU's GHG emissions, when compared to their BAU emissions, would result in a 9.1 to 11.4 percent reduction in emissions relative to BAU. This falls short of demonstrating a minimum 28.3 percent reduction in GHG emissions relative to BAU in accordance with City guidance on GHG emissions. Without mitigation measures to reduce emissions further, the cumulative GHG emissions generated from the CPU would be significant. Implementation of Mitigation Framework GHG-1 (see Section 5.1.3) would be required.

Significance After Mitigation

While future development projects within the CPU area would be required to implement GHG emission reduction measures to the extent practicable, the degree of future impacts and applicability, feasibility, and success of future mitigation measures cannot be adequately known for each specific future project at this program-level of analysis. Therefore, buildout of the CPU would result in impacts associated with the contribution of GHG emissions to cumulative statewide emissions that would be considered significant and unavoidable at the program-level, even with adherence to the Mitigation Framework.

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ATTACHMENTS

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ATTACHMENT 1

CPU Goals and Policies Related to GHG

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CPU Goals and Policies Related to GHG

a. Conservation Element

Conservation Goals

- Preservation of a natural open space canyon network and associated biological resources
- Vernal pool preservation and management of greenhouse gas reductions through implementation of village land use plans, support for transit, incentives for clean technology industries, alternative energy generation, and sustainable development
- Assured water supply to meet future needs
- Implementation of urban runoff management techniques
- Development of a communitywide urban forest
- Local food generation through community farms and gardens
- Safe and healthy air quality within Otay Mesa

Climate Change and Sustainable Development

Policy 8.2.1. Implement General Plan sustainability policies through innovative regulations and the project review process.

Policy 8.2.2. Plan for energy efficiency through street orientation, building placement, and the use of shading in subdivisions and development plans.

Policy 8.2.3. Provide information on programs and incentives for achieving more energy-efficient buildings and renewable energy production.

Policy 8.2.4. Reduce project-level greenhouse gas emissions to acceptable levels through project design, application of site-specific mitigation measures, or adherence to standardized measures outlined in the City's adopted citywide climate action plan.

Policy 8.2.5. Support implementation of a solar farm as a part of the proposed Brown Field Master Plan.

Policy 8.2.6. Encourage businesses and property owners to conduct energy audits and implement retrofits to improve the energy and efficiency of existing buildings.

Water

Policy 8.3.1. Promote the expansion of the reclaimed water distribution system to allow greater use of recycled water.

Policy 8.3.3. Require installation of recycled water infrastructure as a part of the development review process.

Urban Forestry

Policy 8.5.1. Ensure that the overall tree cover and other vegetation throughout Otay Mesa is no less than 20 percent in urban residential areas and 10 percent in the business areas so that the natural landscape is sufficient in mass to provide significant benefits to the City in terms of air and water management.

Policy 8.5.2. Work with the City's Street Division/Urban Forestry Section to coordinate the appropriate selection and location of shade-producing trees from the Otay Mesa Community Plan's Street Tree List.

Policy 8.5.3. Require new development to retain significant and mature trees, where feasible.

Policy 8.5.4. Support public outreach efforts to educate business owners, residents, and school children on the care and environmental benefits of shade-producing street trees.

Policy 8.5.5. Plant trees strategically to achieve energy savings. Generally, orient tree plantings so that building structures maximize shading and cooling benefits from the canopy spread.

Community Farms and Gardens

Policy 8.6.1. Locate community gardens where there is sufficient demand, appropriate land, and where they will not generate adverse impacts on adjacent uses either on public or private land.

a. Consider locating community gardens adjacent to school facilities.

b. Provide space in new developments of a certain size or multi-family developments.

Policy 8.6.2. Support urban agriculture endeavors in Otay Mesa where consistent with other goals of the Otay Mesa Community Plan and the City's General Plan.

b. Mobility Element

Mobility Goals:

- A pedestrian sidewalk and trails network that allows for safe and comfortable walking throughout the community

- An effective transit network that provides fast and reliable service to local and regional destinations

- A complete and interconnected street system that balances the needs of drivers, bicyclists, pedestrians, and others

- A bicycle commuter network that links residents to transit, recreational, educational, and employment opportunities within the community

- Transportation infrastructure and operations investments that facilitate goods movement and international travel, while fostering economic prosperity and a high quality of life within the community

Walkability

Policy 3.1.1. Provide a sidewalk and trail system with connections to villages, activity centers, and open spaces.

Policy 3.1.2. Use street design and traffic management solutions, including but not limited to those described in the General Plan Pedestrian Improvements Toolbox, Table ME-1, to improve pedestrian safety and comfort.

Policy 3.1.3. Design Airway Road between Spring Canyon and La Media Road as Otay Mesa's "main street" with boulevard characteristics.

Policy 3.1.4. Enhance street or pedestrian connections within industrial superblocks through exterior improvements such as public art, pedestrian-scale windows, entrances, signs, street furniture, landscape, and plazas.

Policy 3.1.5. Implement the Community's Street Tree Master Plan to contribute to more walkable, tree-lined streets, using identified drought tolerant species.

Transit

Policy 3.2.1. Encourage SANDAG and MTS to expand transit investments and service in Otay Mesa.

a. Collaborate with agencies to implement the South Bay Bus Rapid Transit (BRT) services to the Port of Entry to provide access to employment.

b. Provide local bus service connecting the Iris Trolley Station, San Ysidro High School, Southwest Village, Central Village, Grand Park, and Southwestern College

Policy 3.2.2. Implement transit priority measures such as transit lanes, queue jumpers, and signal priority measures to allow transit to bypass congestion and result in faster transit travel times.

Policy 3.2.3. Coordinate with transit planners to address the needs of transit as a part of the project design and review process.

Policy 3.2.4. Emphasize transit orientation in village development plans including but not limited to those identified on the Land Use Map, Figure 2-1.

Policy 3.2.5. Work with SANDAG and MTS to provide local and regional transit linkages to California's High Speed Rail system, should the system be extended through Otay Mesa.

Bicycling

Policy 3.4.1. Refine and implement the Bicycle Master Plan in the Otay Mesa Community Plan area.

a. Develop bicycle facilities that implement internal connectivity to activity areas within the community and links to regional bicycle network.

b. Construct bicycle facilities.

c. Provide Class I bikeways along Airway Road, Caliente Road, and Beyer Boulevard.

d. Provide Class II bikeways along all new classified streets in Otay Mesa.

e. Bikeways within the village areas should connect to trail heads with access to the canyon system trails and pathways.

Policy 3.4.2. Provide multi-use trails in a manner consistent with the Multiple Species Conservation Program.

c. Urban Design Element

Urban Design Goals:

- An urban form that reflects land and topography as an amenity and provides an attractive built environment
- Functional industrial corridors with a high-quality design standard
- A Southwest Village and Central Village that respect and showcase Spring Canyon
- Active, safe, and pleasant streets, parks and public spaces
- Clearly identified routes that connect villages and major corridors to employment centers, core commercial areas, schools, parks, trails, and transit
- An urban forest that distinguishes the districts
- A community infused with distinctive public art and cultural amenities
- Attractive gateways at key entrances to the community's districts and villages

Distinct Districts

Policy 4.1.1. Enhance connectivity to activity centers.

a. Provide multimodal pathways with pedestrian and bicycle amenities to schools, parks, retail centers, and open space as part of new development, redevelopment, infill development proposals and Capital Improvement Projects.

b. Retrofit commercial areas with public spaces, where appropriate, as part of development proposals.

Policy 4.1.4. Require development intensities that create active commercial centers, support transit, and encourage lively streetscapes.

Policy 4.1.15. Improve pedestrian access and movement from the Port of Entry to transit and commercial uses through signs and enhanced pathways.

Streetscape

Policy 4.2.1. Implement pedestrian-oriented design principles at the project-level to activate the street and promote walkability in accordance with General Plan policies ME-A.7, UD-A.6, UD-B.4, UD-C.4, UD-C.6 and UD-C.7 for guidance.

Policy 4.2.2. Incorporate connectivity and walkability in the design of the street network.

a. Apply traffic-calming techniques, such as pop-outs, raised crosswalks, and parkways at truck route intersections with Airway Road and where the truck routes are adjacent to village and park uses.

b. Accommodate pedestrians along Britannia Boulevard and La Media Road with sidewalks that are separated from the travel lanes.

c. Utilize U-6 Urban Parkway Configurations from the Street Design Manual for design of sidewalks and parkways along Airway Road.

d. Separate pedestrians from vehicular traffic along Beyer Road and Ocean View Parkway, and design sidewalks to accommodate heavy pedestrian traffic to provide safe access to schools.

e. Design the street systems for the Southwest Village and the Central Village as a grid or modified-grid that utilizes existing paper streets for the north–south streets.

f. Create blocks that are no longer than 400 feet in length within residential, commercial, and village areas to provide short street segments and walkable block sizes.

g. Activate vibrant village cores using street furniture, sidewalk cafes, and public spaces.

h. Provide commercial alleys to allow rear deliveries, reduce traffic congestion, improve aesthetics, enhance parking access, and reduce the need for curb cuts.

i. Incorporate residential alleys to allow for rear garages, additional off-street parking, trash pick-up, and pedestrian areas.

Sustainability

Policy 4.9.1. Design new development to have a climate-, energy-efficient-, and environmentally oriented site design. Use sustainable methods in accordance with the policies in the General Plan, including: Conservation Element Section A. Climate Change and Sustainable Development; Section E. Urban Runoff Management; Section I. Sustainable Energy; and Section J. Urban Forestry. Urban Design Element Section A. General Urban Design.

Policy 4.9.2. Incorporate environmentally conscious building practices and materials for all new development and redevelopment proposals.

a. Use durable construction materials, as well as re-used and recycled materials.

b. Encourage the use of permeable paving elements in auto and non-auto-oriented areas.

c. Minimize impervious surfaces that have large thermal gain and hydromodification.

d. Ensure that all best management practices for storm water are implemented for both public and private properties.

Policy 4.9.3. Minimize building heat gain with appropriate shade treatments and design techniques.

a. Orient new buildings and lots to minimize east- and west-facing facades.

b. Provide awnings, canopies, and deep-set windows on south-facing windows and entries.

c. Provide exterior shades and shade screens on east-, west-, and south-facing windows

d. Use horizontal overhangs, awnings or shade structures above south-facing windows to mitigate summer sun but allow winter sun. Encourage overhang width to equal half the vertical window height to shade windows from early May to mid-August but still allowing the winter sun.

Policy 4.9.4. Provide on-site landscaping improvements that minimize heat gain and provide attractive landscape environments.

a. Plant deciduous trees on south side of buildings to shade south facades and roofs during the summer while allowing sunlight to penetrate buildings in the winter.

b. Plant groundcovers that prevent ground reflection and keep the surface cooler, preventing re-radiation.

Policy 4.9.5. Integrate storm water Low Impact Development principles as discussed in 8.4 and Best Management Practices (BMP's) early in the design process of new development, as well as any redevelopment proposals.

a. Encourage the use of green roofs and water collection devices to capture rainwater from the building for re-use.

b. Minimize on-site impermeable surfaces, such as concrete and asphalt.

c. Use permeable pavers, porous asphalt, reinforced grass pavement (turf–crete), cobblestone block pavement, etc., to detain and infiltrate run-off on-site.

ATTACHMENT 2

CalEEMod Output – Existing CPU Land Uses

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3957.1 OMCPU Existing Land Uses

San Diego County APCD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric
Government Office Building	4987.62	1000sqft
General Light Industry	33323.4	1000sqft
City Park	16	Acre
Apartments Mid Rise	1106	Dwelling Unit
Single Family Housing	2591	Dwelling Unit
Strip Mall	2652.8	1000sqft

1.2 Other Project Characteristics

Urbanization Urban

Climate Zone 13

Wind Speed (m/s) 2.6

Precipitation Freq (Days) 40

Utility Company San Diego Gas & Electric

1.3 User Entered Comments

Project Characteristics -

Land Use - Source: OMCPU 2011

Construction Phase - construction calculated separately

Architectural Coating -

Vehicle Trips - Source: OMCPU Traffic Report

Woodstoves -

Area Coating -

Energy Use -

Energy Mitigation -

Water Mitigation -

2.0 Emissions Summary

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	472.24	3.49	314.64	0.11		0.00	40.52		0.00	40.52	3,818.84	4,850.05	8,668.90	3.64	0.36	8,856.59
Energy	3.53	31.70	24.33	0.19		0.00	2.44		0.00	2.44	0.00	194,694.59	194,694.59	6.60	2.89	195,729.50
Mobile	556.49	1,159.57	5,660.31	6.82	678.47	45.47	723.94	10.83	38.76	49.58	0.00	611,560.43	611,560.43	39.90	0.00	612,398.38
Waste						0.00	0.00		0.00	0.00	395,768.19	0.00	395,768.19	23,389.23	0.00	886,942.02
Water						0.00	0.00		0.00	0.00	0.00	767,569.80	767,569.80	5,073.45	135.90	916,242.04
Total	**1,032.26**	**1,194.76**	**5,999.28**	**7.12**	**678.47**	**45.47**	**766.90**	**10.83**	**38.76**	**92.54**	**399,587.03**	**1,578,674.87**	**1,978,261.91**	**28,512.82**	**139.15**	**2,620,168.53**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	472.24	3.49	314.64	0.11		0.00	40.52		0.00	40.52	3,818.84	4,850.05	8,668.90	3.64	0.36	8,856.59
Energy	3.53	31.70	24.33	0.19		0.00	2.44		0.00	2.44	0.00	194,648.76	194,648.76	6.60	2.89	195,683.44
Mobile	556.49	1,159.57	5,660.31	6.82	678.47	45.47	723.94	10.83	38.76	49.58	0.00	611,560.43	611,560.43	39.90	0.00	612,398.38
Waste						0.00	0.00		0.00	0.00	395,768.19	0.00	395,768.19	23,389.23	0.00	886,942.02
Water						0.00	0.00		0.00	0.00	0.00	767,569.80	767,569.80	5,073.45	135.90	916,242.04
Total	**1,032.26**	**1,194.76**	**5,999.28**	**7.12**	**678.47**	**45.47**	**766.90**	**10.83**	**38.76**	**92.54**	**399,587.03**	**1,578,629.04**	**1,978,216.08**	**28,512.82**	**139.15**	**2,620,122.47**

4.0 Mobile Detail

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	556.49	1,159.57	5,660.31	6.82	678.47	45.47	723.94	10.83	38.76	49.58	0.00	611,560.43	611,560.43	39.90	0.00	612,398.38
Unmitigated	556.49	1,159.57	5,660.31	6.82	678.47	45.47	723.94	10.83	38.76	49.58	0.00	611,560.43	611,560.43	39.90	0.00	612,398.38
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	8,848.00	8,848.00	8848.00	25,263,724	25,263,724
City Park	554.24	554.24	554.24	1,183,221	1,183,221
General Light Industry	286,248.01	286,248.01	286248.01	835,704,242	835,704,242
Government Office Building	20,299.61	20,299.61	20299.61	34,811,410	34,811,410
Single Family Housing	22,774.89	22,774.89	22774.89	65,029,220	65,029,220
Strip Mall	213,417.76	213,417.76	213417.76	328,670,402	328,670,402
Total	552,142.51	552,142.51	552,142.51	1,290,662,219	1,290,662,219

4.3 Trip Type Information

	Miles			Trip %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW
Apartments Mid Rise	10.80	7.30	7.50	41.60	18.80	39.60
City Park	9.50	7.30	7.30	33.00	48.00	19.00
General Light Industry	9.50	7.30	7.30	59.00	28.00	13.00
Government Office Building	9.50	7.30	7.30	33.00	62.00	5.00
Single Family Housing	10.80	7.30	7.50	41.60	18.80	39.60
Strip Mall	9.50	7.30	7.30	16.60	64.40	19.00

5.0 Energy Detail

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.00	0.00		0.00	0.00	0.00	159,754.36	159,754.36	5.93	2.25	160,576.67
Electricity Unmitigated						0.00	0.00		0.00	0.00	0.00	159,800.19	159,800.19	5.94	2.25	160,622.74
NaturalGas Mitigated	3.53	31.70	24.33	0.19		0.00	2.44		0.00	2.44	0.00	34,894.40	34,894.40	0.67	0.64	35,106.76
NaturalGas Unmitigated	3.53	31.70	24.33	0.19		0.00	2.44		0.00	2.44	0.00	34,894.40	34,894.40	0.67	0.64	35,106.76
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU	tons/yr										MT/yr					
Apartments Mid Rise	1.23691e+007	0.07	0.57	0.24	0.00		0.00	0.05		0.00	0.05	0.00	660.06	660.06	0.01	0.01	664.08
City Park	0	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
General Light Industry	4.09545e+008	2.21	20.08	16.86	0.12		0.00	1.53		0.00	1.53	0.00	21,854.86	21,854.86	0.42	0.40	21,987.86
Government Office Building	1.17508e+008	0.63	5.76	4.84	0.03		0.00	0.44		0.00	0.44	0.00	6,270.69	6,270.69	0.12	0.11	6,308.85
Single Family Housing	1.08081e+008	0.58	4.98	2.12	0.03		0.00	0.40		0.00	0.40	0.00	5,767.62	5,767.62	0.11	0.11	5,802.72
Strip Mall	6.39325e+006	0.03	0.31	0.26	0.00		0.00	0.02		0.00	0.02	0.00	341.17	341.17	0.01	0.01	343.24
Total		**3.52**	**31.70**	**24.32**	**0.18**		**0.00**	**2.44**		**0.00**	**2.44**	**0.00**	**34,894.40**	**34,894.40**	**0.67**	**0.64**	**35,106.75**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU	tons/yr										MT/yr					
Apartments Mid Rise	1.23691e+007	0.07	0.57	0.24	0.00		0.00	0.05		0.00	0.05	0.00	660.06	660.06	0.01	0.01	664.08
City Park	0	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
General Light Industry	4.09545e+008	2.21	20.08	16.86	0.12		0.00	1.53		0.00	1.53	0.00	21,854.86	21,854.86	0.42	0.40	21,987.86
Government Office Building	1.17508e+008	0.63	5.76	4.84	0.03		0.00	0.44		0.00	0.44	0.00	6,270.69	6,270.69	0.12	0.11	6,308.85
Single Family Housing	1.08081e+008	0.58	4.98	2.12	0.03		0.00	0.40		0.00	0.40	0.00	5,767.62	5,767.62	0.11	0.11	5,802.72
Strip Mall	6.39325e+006	0.03	0.31	0.26	0.00		0.00	0.02		0.00	0.02	0.00	341.17	341.17	0.01	0.01	343.24
Total		**3.52**	**31.70**	**24.32**	**0.18**		**0.00**	**2.44**		**0.00**	**2.44**	**0.00**	**34,894.40**	**34,894.40**	**0.67**	**0.64**	**35,106.75**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	kWh	tons/yr				MT/yr			
Apartments Mid Rise	3.93538e+006					1,393.76	0.05	0.02	1,400.93
City Park	0					0.00	0.00	0.00	0.00
General Light Industry	3.12573e+008					110,701.15	4.11	1.56	111,270.97
Government Office Building	7.85051e+007					27,803.41	1.03	0.39	27,946.52
Single Family Housing	1.69596e+007					6,006.43	0.22	0.08	6,037.34
Strip Mall	3.92349e+007					13,895.45	0.52	0.20	13,966.98
Total						**159,800.20**	**5.93**	**2.25**	**160,622.74**

Mitigated

	Electricity Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	kWh	tons/yr				MT/yr			
Apartments Mid Rise	3.80597e+006					1,347.92	0.05	0.02	1,354.86
City Park	0					0.00	0.00	0.00	0.00
General Light Industry	3.12573e+008					110,701.15	4.11	1.56	111,270.97
Government Office Building	7.85051e+007					27,803.41	1.03	0.39	27,946.52
Single Family Housing	1.69596e+007					6,006.43	0.22	0.08	6,037.34
Strip Mall	3.92349e+007					13,895.45	0.52	0.20	13,966.98
Total						**159,754.36**	**5.93**	**2.25**	**160,576.67**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	472.24	3.49	314.64	0.11		0.00	40.52		0.00	40.52	3,818.84	4,850.05	8,668.90	3.64	0.36	8,856.59
Unmitigated	472.24	3.49	314.64	0.11		0.00	40.52		0.00	40.52	3,818.84	4,850.05	8,668.90	3.64	0.36	8,856.59
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	56.44					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Consumer Products	182.52					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hearth	232.30	3.15	285.78	0.11		0.00	40.37		0.00	40.37	3,818.84	4,804.70	8,623.55	3.59	0.36	8,810.17
Landscaping	0.98	0.34	28.85	0.00		0.00	0.15		0.00	0.15	0.00	45.35	45.35	0.05	0.00	46.43
Total	**472.24**	**3.49**	**314.63**	**0.11**		**0.00**	**40.52**		**0.00**	**40.52**	**3,818.84**	**4,850.05**	**8,668.90**	**3.64**	**0.36**	**8,856.60**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	56.44					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Consumer Products	182.52					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hearth	232.30	3.15	285.78	0.11		0.00	40.37		0.00	40.37	3,818.84	4,804.70	8,623.55	3.59	0.36	8,810.17
Landscaping	0.98	0.34	28.85	0.00		0.00	0.15		0.00	0.15	0.00	45.35	45.35	0.05	0.00	46.43
Total	**472.24**	**3.49**	**314.63**	**0.11**		**0.00**	**40.52**		**0.00**	**40.52**	**3,818.84**	**4,850.05**	**8,668.90**	**3.64**	**0.36**	**8,856.60**

7.0 Water Detail

7.1 Mitigation Measures Water

	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr				MT/yr			
Mitigated					767,569.80	5,073.45	135.90	916,242.04
Unmitigated					767,569.80	5,073.45	135.90	916,242.04
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	tons/yr				MT/yr			
Apartments Mid Rise	72.0604 / 45.4294					511.87	2.22	0.06	577.60
City Park	0 / 19.0637					75.01	0.00	0.00	75.40
General Light Industry	163849 / 0					757,431.63	5,029.48	134.68	904,801.11
Government Office Building	990.839 / 607.288					6,969.90	30.50	0.85	7,873.38
Single Family Housing	168.814 / 106.426					1,199.14	5.20	0.14	1,353.13
Strip Mall	196.5 / 120.435					1,382.25	6.05	0.17	1,561.42
Total						**767,569.80**	**5,073.45**	**135.90**	**916,242.04**

Mitigated

	Indoor/Outdoor Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	tons/yr				MT/yr			
Apartments Mid Rise	72.0604 / 45.4294					511.87	2.22	0.06	577.60
City Park	0 / 19.0637					75.01	0.00	0.00	75.40
General Light Industry	163849 / 0					757,431.63	5,029.48	134.68	904,801.11
Government Office Building	990.839 / 607.288					6,969.90	30.50	0.85	7,873.38
Single Family Housing	168.814 / 106.426					1,199.14	5.20	0.14	1,353.13
Strip Mall	196.5 / 120.435					1,382.25	6.05	0.17	1,561.42
Total						**767,569.80**	**5,073.45**	**135.90**	**916,242.04**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
	tons/yr				MT/yr			
Mitigated					395,768.19	23,389.23	0.00	886,942.02
Unmitigated					395,768.19	23,389.23	0.00	886,942.02
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	tons	tons/yr				MT/yr			
Apartments Mid Rise	508.76					103.27	6.10	0.00	231.44
City Park	1.38					0.28	0.02	0.00	0.63
General Light Industry	1.93871e+006					393,540.94	23,257.60	0.00	881,950.61
Government Office Building	4638.49					941.57	55.65	0.00	2,110.12
Single Family Housing	3038.1					616.71	36.45	0.00	1,382.08
Strip Mall	2785.44					565.42	33.42	0.00	1,267.14
Total						**395,768.19**	**23,389.24**	**0.00**	**886,942.02**

Mitigated

	Waste Disposed	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	tons	tons/yr				MT/yr			
Apartments Mid Rise	508.76					103.27	6.10	0.00	231.44
City Park	1.38					0.28	0.02	0.00	0.63
General Light Industry	1.93871e+006					393,540.94	23,257.60	0.00	881,950.61
Government Office Building	4638.49					941.57	55.65	0.00	2,110.12
Single Family Housing	3038.1					616.71	36.45	0.00	1,382.08
Strip Mall	2785.44					565.42	33.42	0.00	1,267.14
Total						**395,768.19**	**23,389.24**	**0.00**	**886,942.02**

9.0 Vegetation

ATTACHMENT 3

CalEEMod Output – CPU Emissions without GHG Reduction Measures (BAU)

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Existing Development 2020 Business as Usual

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3957.1 OMCPU - Existing Development BAU

San Diego County APCD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric
Government Office Building	4987.62	1000sqft
General Light Industry	33323.4	1000sqft
City Park	16	Acre
Apartments Mid Rise	1106	Dwelling Unit
Single Family Housing	2591	Dwelling Unit
Strip Mall	2652.8	1000sqft

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Utility Company**	San Diego Gas & Electric
Climate Zone	13	**Precipitation Freq (Days)**	40		

1.3 User Entered Comments

Project Characteristics -

Land Use - Existing Development

Construction Phase - Existing development - no construction

Vehicle Trips - Urban Systems Associates

Vechicle Emission Factors -

Vechicle Emission Factors -

Vechicle Emission Factors -

Woodstoves -

Energy Use -

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2011	0.13	0.78	1.16	0.00	0.13	0.03	0.16	0.00	0.03	0.03	0.00	173.72	173.72	0.01	0.00	173.91
Total	**0.13**	**0.78**	**1.16**	**0.00**	**0.13**	**0.03**	**0.16**	**0.00**	**0.03**	**0.03**	**0.00**	**173.72**	**173.72**	**0.01**	**0.00**	**173.91**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2011	0.13	0.78	1.16	0.00	0.01	0.03	0.04	0.00	0.03	0.03	0.00	173.72	173.72	0.01	0.00	173.91
Total	**0.13**	**0.78**	**1.16**	**0.00**	**0.01**	**0.03**	**0.04**	**0.00**	**0.03**	**0.03**	**0.00**	**173.72**	**173.72**	**0.01**	**0.00**	**173.91**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	472.11	3.47	313.63	0.11		0.00	40.52		0.00	40.52	3,818.84	4,850.05	8,668.90	3.63	0.36	8,856.44
Energy	3.53	31.70	24.33	0.19		0.00	2.44		0.00	2.44	0.00	194,694.59	194,694.59	6.60	2.89	195,729.50
Mobile	364.69	706.29	3,292.50	6.80	689.80	38.14	727.94	11.02	36.78	47.80	0.00	516,421.80	516,421.80	23.55	0.00	516,916.28
Waste						0.00	0.00		0.00	0.00	395,768.19	0.00	395,768.19	23,389.23	0.00	886,942.02
Water						0.00	0.00		0.00	0.00	0.00	767,569.80	767,569.80	5,073.45	135.90	916,242.04
Total	**840.33**	**741.46**	**3,630.46**	**7.10**	**689.80**	**38.14**	**770.90**	**11.02**	**36.78**	**90.76**	**399,587.03**	**1,483,536.24**	**1,883,123.28**	**28,496.46**	**139.15**	**2,524,686.28**

2.2 Overall Operational

<u>Mitigated Operational</u>

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	472.11	3.47	313.63	0.11		0.00	40.52		0.00	40.52	3,818.84	4,850.05	8,668.90	3.63	0.36	8,856.44
Energy	3.53	31.70	24.33	0.19		0.00	2.44		0.00	2.44	0.00	194,694.59	194,694.59	6.60	2.89	195,729.50
Mobile	364.69	706.29	3,292.50	6.80	689.80	38.14	727.94	11.02	36.78	47.80	0.00	516,421.80	516,421.80	23.55	0.00	516,916.28
Waste						0.00	0.00		0.00	0.00	395,768.19	0.00	395,768.19	23,389.23	0.00	886,942.02
Water						0.00	0.00		0.00	0.00	0.00	767,569.80	767,569.80	5,073.45	135.90	916,242.04
Total	**840.33**	**741.46**	**3,630.46**	**7.10**	**689.80**	**38.14**	**770.90**	**11.02**	**36.78**	**90.76**	**399,587.03**	**1,483,536.24**	**1,883,123.28**	**28,496.46**	**139.15**	**2,524,686.28**

3.0 Construction Detail

3.1 Mitigation Measures Construction

3.2 Building Construction - 2011

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.00	0.02	0.01	0.00		0.00	0.00		0.00	0.00	0.00	1.83	1.83	0.00	0.00	1.84
Total	**0.00**	**0.02**	**0.01**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**1.83**	**1.83**	**0.00**	**0.00**	**1.84**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.06	0.69	0.44	0.00	0.03	0.02	0.05	0.00	0.02	0.02	0.00	87.32	87.32	0.00	0.00	87.38
Worker	0.06	0.07	0.71	0.00	0.10	0.00	0.11	0.00	0.00	0.01	0.00	84.56	84.56	0.01	0.00	84.69
Total	**0.12**	**0.76**	**1.15**	**0.00**	**0.13**	**0.02**	**0.16**	**0.00**	**0.02**	**0.03**	**0.00**	**171.88**	**171.88**	**0.01**	**0.00**	**172.07**

3.2 Building Construction - 2011

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.00	0.02	0.01	0.00		0.00	0.00		0.00	0.00	0.00	1.83	1.83	0.00	0.00	1.84
Total	**0.00**	**0.02**	**0.01**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**1.83**	**1.83**	**0.00**	**0.00**	**1.84**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.06	0.69	0.44	0.00	0.00	0.02	0.03	0.00	0.02	0.02	0.00	87.32	87.32	0.00	0.00	87.38
Worker	0.06	0.07	0.71	0.00	0.00	0.00	0.01	0.00	0.00	0.01	0.00	84.56	84.56	0.01	0.00	84.69
Total	**0.12**	**0.76**	**1.15**	**0.00**	**0.00**	**0.02**	**0.04**	**0.00**	**0.02**	**0.03**	**0.00**	**171.88**	**171.88**	**0.01**	**0.00**	**172.07**

4.0 Mobile Detail

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	364.69	706.29	3,292.50	6.80	689.80	38.14	727.94	11.02	36.78	47.80	0.00	516,421.80	516,421.80	23.55	0.00	516,916.28
Unmitigated	364.69	706.29	3,292.50	6.80	689.80	38.14	727.94	11.02	36.78	47.80	0.00	516,421.80	516,421.80	23.55	0.00	516,916.28
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	8,848.00	8,848.00	8848.00	25,263,724	25,263,724
City Park	723.84	723.84	723.84	1,545,292	1,545,292
General Light Industry	305,575.58	305,575.58	305575.58	892,131,304	892,131,304
Government Office Building	31,621.51	31,621.51	31621.51	54,227,110	54,227,110
Single Family Housing	22,774.89	22,774.89	22774.89	65,029,220	65,029,220
Strip Mall	177,896.77	177,896.77	177896.77	273,966,900	273,966,900
Total	547,440.59	547,440.59	547,440.59	1,312,163,551	1,312,163,551

4.3 Trip Type Information

	Miles			Trip %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW
Apartments Mid Rise	10.80	7.30	7.50	41.60	18.80	39.60
City Park	9.50	7.30	7.30	33.00	48.00	19.00
General Light Industry	9.50	7.30	7.30	59.00	28.00	13.00
Government Office Building	9.50	7.30	7.30	33.00	62.00	5.00
Single Family Housing	10.80	7.30	7.50	41.60	18.80	39.60
Strip Mall	9.50	7.30	7.30	16.60	64.40	19.00

5.0 Energy Detail

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.00	0.00		0.00	0.00	0.00	159,800.19	159,800.19	5.94	2.25	160,622.74
Electricity Unmitigated						0.00	0.00		0.00	0.00	0.00	159,800.19	159,800.19	5.94	2.25	160,622.74
NaturalGas Mitigated	3.53	31.70	24.33	0.19		0.00	2.44		0.00	2.44	0.00	34,894.40	34,894.40	0.67	0.64	35,106.76
NaturalGas Unmitigated	3.53	31.70	24.33	0.19		0.00	2.44		0.00	2.44	0.00	34,894.40	34,894.40	0.67	0.64	35,106.76
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU	tons/yr										MT/yr					
Apartments Mid Rise	1.23691e+007	0.07	0.57	0.24	0.00		0.00	0.05		0.00	0.05	0.00	660.06	660.06	0.01	0.01	664.08
City Park	0	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
General Light Industry	4.09545e+008	2.21	20.08	16.86	0.12		0.00	1.53		0.00	1.53	0.00	21,854.86	21,854.86	0.42	0.40	21,987.86
Government Office Building	1.17508e+008	0.63	5.76	4.84	0.03		0.00	0.44		0.00	0.44	0.00	6,270.69	6,270.69	0.12	0.11	6,308.85
Single Family Housing	1.08081e+008	0.58	4.98	2.12	0.03		0.00	0.40		0.00	0.40	0.00	5,767.62	5,767.62	0.11	0.11	5,802.72
Strip Mall	6.39325e+006	0.03	0.31	0.26	0.00		0.00	0.02		0.00	0.02	0.00	341.17	341.17	0.01	0.01	343.24
Total		**3.52**	**31.70**	**24.32**	**0.18**		**0.00**	**2.44**		**0.00**	**2.44**	**0.00**	**34,894.40**	**34,894.40**	**0.67**	**0.64**	**35,106.75**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU	tons/yr										MT/yr					
Apartments Mid Rise	1.23691e+007	0.07	0.57	0.24	0.00		0.00	0.05		0.00	0.05	0.00	660.06	660.06	0.01	0.01	664.08
City Park	0	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
General Light Industry	4.09545e+008	2.21	20.08	16.86	0.12		0.00	1.53		0.00	1.53	0.00	21,854.86	21,854.86	0.42	0.40	21,987.86
Government Office Building	1.17508e+008	0.63	5.76	4.84	0.03		0.00	0.44		0.00	0.44	0.00	6,270.69	6,270.69	0.12	0.11	6,308.85
Single Family Housing	1.08081e+008	0.58	4.98	2.12	0.03		0.00	0.40		0.00	0.40	0.00	5,767.62	5,767.62	0.11	0.11	5,802.72
Strip Mall	6.39325e+006	0.03	0.31	0.26	0.00		0.00	0.02		0.00	0.02	0.00	341.17	341.17	0.01	0.01	343.24
Total		**3.52**	**31.70**	**24.32**	**0.18**		**0.00**	**2.44**		**0.00**	**2.44**	**0.00**	**34,894.40**	**34,894.40**	**0.67**	**0.64**	**35,106.75**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	kWh	tons/yr				MT/yr			
Apartments Mid Rise	3.93538e+006					1,393.76	0.05	0.02	1,400.93
City Park	0					0.00	0.00	0.00	0.00
General Light Industry	3.12573e+008					110,701.15	4.11	1.56	111,270.97
Government Office Building	7.85051e+007					27,803.41	1.03	0.39	27,946.52
Single Family Housing	1.69596e+007					6,006.43	0.22	0.08	6,037.34
Strip Mall	3.92349e+007					13,895.45	0.52	0.20	13,966.98
Total						**159,800.20**	**5.93**	**2.25**	**160,622.74**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	kWh	tons/yr				MT/yr			
Apartments Mid Rise	3.93538e+006					1,393.76	0.05	0.02	1,400.93
City Park	0					0.00	0.00	0.00	0.00
General Light Industry	3.12573e+008					110,701.15	4.11	1.56	111,270.97
Government Office Building	7.85051e+007					27,803.41	1.03	0.39	27,946.52
Single Family Housing	1.69596e+007					6,006.43	0.22	0.08	6,037.34
Strip Mall	3.92349e+007					13,895.45	0.52	0.20	13,966.98
Total						**159,800.20**	**5.93**	**2.25**	**160,622.74**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	472.11	3.47	313.63	0.11		0.00	40.52		0.00	40.52	3,818.84	4,850.05	8,668.90	3.63	0.36	8,856.44
Unmitigated	472.11	3.47	313.63	0.11		0.00	40.52		0.00	40.52	3,818.84	4,850.05	8,668.90	3.63	0.36	8,856.44
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

6.2 Area by SubCategory

<u>Unmitigated</u>

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	56.44					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Consumer Products	182.52					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hearth	232.30	3.15	285.78	0.11		0.00	40.37		0.00	40.37	3,818.84	4,804.70	8,623.55	3.59	0.36	8,810.17
Landscaping	0.85	0.32	27.84	0.00		0.00	0.15		0.00	0.15	0.00	45.35	45.35	0.04	0.00	46.28
Total	**472.11**	**3.47**	**313.62**	**0.11**		**0.00**	**40.52**		**0.00**	**40.52**	**3,818.84**	**4,850.05**	**8,668.90**	**3.63**	**0.36**	**8,856.45**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	56.44					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Consumer Products	182.52					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hearth	232.30	3.15	285.78	0.11		0.00	40.37		0.00	40.37	3,818.84	4,804.70	8,623.55	3.59	0.36	8,810.17
Landscaping	0.85	0.32	27.84	0.00		0.00	0.15		0.00	0.15	0.00	45.35	45.35	0.04	0.00	46.28
Total	**472.11**	**3.47**	**313.62**	**0.11**		**0.00**	**40.52**		**0.00**	**40.52**	**3,818.84**	**4,850.05**	**8,668.90**	**3.63**	**0.36**	**8,856.45**

7.0 Water Detail

7.1 Mitigation Measures Water

	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr				MT/yr			
Mitigated					767,569.80	5,073.45	135.90	916,242.04
Unmitigated					767,569.80	5,073.45	135.90	916,242.04
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

7.2 Water by Land Use

<u>Unmitigated</u>

	Indoor/Outdoor Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	tons/yr				MT/yr			
Apartments Mid Rise	72.0604 / 45.4294					511.87	2.22	0.06	577.60
City Park	0 / 19.0637					75.01	0.00	0.00	75.40
General Light Industry	163849 / 0					757,431.63	5,029.48	134.68	904,801.11
Government Office Building	990.839 / 607.288					6,969.90	30.50	0.85	7,873.38
Single Family Housing	168.814 / 106.426					1,199.14	5.20	0.14	1,353.13
Strip Mall	196.5 / 120.435					1,382.25	6.05	0.17	1,561.42
Total						**767,569.80**	**5,073.45**	**135.90**	**916,242.04**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	tons/yr				MT/yr			
Apartments Mid Rise	72.0604 / 45.4294					511.87	2.22	0.06	577.60
City Park	0 / 19.0637					75.01	0.00	0.00	75.40
General Light Industry	163849 / 0					757,431.63	5,029.48	134.68	904,801.11
Government Office Building	990.839 / 607.288					6,969.90	30.50	0.85	7,873.38
Single Family Housing	168.814 / 106.426					1,199.14	5.20	0.14	1,353.13
Strip Mall	196.5 / 120.435					1,382.25	6.05	0.17	1,561.42
Total						**767,569.80**	**5,073.45**	**135.90**	**916,242.04**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
	tons/yr				MT/yr			
Mitigated					395,768.19	23,389.23	0.00	886,942.02
Unmitigated					395,768.19	23,389.23	0.00	886,942.02
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	tons	tons/yr				MT/yr			
Apartments Mid Rise	508.76					103.27	6.10	0.00	231.44
City Park	1.38					0.28	0.02	0.00	0.63
General Light Industry	1.93871e+006					393,540.94	23,257.60	0.00	881,950.61
Government Office Building	4638.49					941.57	55.65	0.00	2,110.12
Single Family Housing	3038.1					616.71	36.45	0.00	1,382.08
Strip Mall	2785.44					565.42	33.42	0.00	1,267.14
Total						**395,768.19**	**23,389.24**	**0.00**	**886,942.02**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	tons	tons/yr				MT/yr			
Apartments Mid Rise	508.76					103.27	6.10	0.00	231.44
City Park	1.38					0.28	0.02	0.00	0.63
General Light Industry	1.93871e+006					393,540.94	23,257.60	0.00	881,950.61
Government Office Building	4638.49					941.57	55.65	0.00	2,110.12
Single Family Housing	3038.1					616.71	36.45	0.00	1,382.08
Strip Mall	2785.44					565.42	33.42	0.00	1,267.14
Total						**395,768.19**	**23,389.24**	**0.00**	**886,942.02**

9.0 Vegetation

New Development 2020 Business as Usual

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3957.1 OMCPU - New Development BAU

San Diego County APCD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric
Government Office Building	10236.6	1000sqft
General Light Industry	19514.88	1000sqft
City Park	145	Acre
Apartments Mid Rise	13395	Dwelling Unit
Single Family Housing	1682	Dwelling Unit
Strip Mall	1868.72	1000sqft

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Utility Company**	San Diego Gas & Electric
Climate Zone	13	**Precipitation Freq (Days)**	40		

1.3 User Entered Comments

Project Characteristics -

Land Use - New Development

Construction Phase - Defaults assumed, but adjusted to 30 year total construction length

Vehicle Trips - Urban Systems Associates

Vechicle Emission Factors -

Vechicle Emission Factors -

Vechicle Emission Factors -

Woodstoves -

Energy Use -

Grading -

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2011	1.47	11.93	6.83	0.01	4.80	0.61	5.41	2.27	0.61	2.88	0.00	996.06	996.06	0.12	0.00	998.58
2012	1.65	13.57	7.38	0.01	2.67	0.65	3.33	1.10	0.65	1.75	0.00	1,308.72	1,308.72	0.13	0.00	1,311.54
2013	1.56	12.73	7.07	0.01	2.67	0.60	3.27	1.10	0.60	1.70	0.00	1,308.22	1,308.22	0.13	0.00	1,310.88
2014	22.23	122.56	202.80	0.40	33.27	4.85	38.13	1.64	4.50	6.14	0.00	36,569.46	36,569.46	1.68	0.00	36,604.77
2015	26.83	146.32	244.80	0.53	40.37	5.86	46.23	0.72	5.41	6.13	0.00	47,239.71	47,239.71	2.02	0.00	47,282.03
2016	25.11	136.38	226.96	0.53	40.37	5.54	45.91	0.72	5.13	5.85	0.00	46,669.36	46,669.36	1.88	0.00	46,708.80
2017	23.43	127.23	209.94	0.52	40.22	5.24	45.46	0.72	4.85	5.57	0.00	45,964.72	45,964.72	1.74	0.00	46,001.27
2018	22.10	120.04	196.26	0.53	40.37	5.03	45.40	0.72	4.65	5.37	0.00	45,648.36	45,648.36	1.63	0.00	45,682.65

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2019	20.94	113.51	184.05	0.53	40.37	4.82	45.19	0.72	4.46	5.18	0.00	45,201.83	45,201.83	1.54	0.00	45,234.08
2020	20.08	108.34	174.55	0.53	40.53	4.67	45.19	0.72	4.31	5.03	0.00	44,962.63	44,962.63	1.46	0.00	44,993.20
2021	19.23	103.34	166.24	0.53	40.37	4.54	44.92	0.72	4.20	4.92	0.00	44,624.39	44,624.39	1.39	0.00	44,653.65
2022	18.42	99.06	157.41	0.52	40.22	4.42	44.64	0.72	4.08	4.80	0.00	44,109.60	44,109.60	1.32	0.00	44,137.36
2023	17.74	95.75	149.92	0.52	40.22	4.33	44.55	0.72	4.00	4.72	0.00	43,794.65	43,794.65	1.27	0.00	43,821.24
2024	17.26	93.69	144.23	0.53	40.53	4.29	44.81	0.72	3.96	4.69	0.00	43,846.14	43,846.14	1.23	0.00	43,871.94
2025	16.67	91.00	138.18	0.53	40.37	4.21	44.59	0.72	3.89	4.61	0.00	43,421.58	43,421.58	1.17	0.00	43,446.20
2026	16.67	91.00	138.18	0.53	40.37	4.21	44.59	0.72	3.89	4.61	0.00	43,421.58	43,421.58	1.17	0.00	43,446.20
2027	16.67	91.00	138.18	0.53	40.37	4.21	44.59	0.72	3.89	4.61	0.00	43,421.58	43,421.58	1.17	0.00	43,446.20
2028	16.60	90.66	137.65	0.52	40.22	4.20	44.42	0.72	3.87	4.59	0.00	43,255.22	43,255.22	1.17	0.00	43,279.74
2029	16.67	91.00	138.18	0.53	40.37	4.21	44.59	0.72	3.89	4.61	0.00	43,421.58	43,421.58	1.17	0.00	43,446.20
2030	14.70	83.81	119.45	0.53	40.37	4.02	44.40	0.72	3.70	4.43	0.00	42,507.18	42,507.18	1.02	0.00	42,528.65
2031	14.70	83.81	119.45	0.53	40.37	4.02	44.40	0.72	3.70	4.43	0.00	42,507.18	42,507.18	1.02	0.00	42,528.65
2032	14.76	84.13	119.90	0.53	40.53	4.04	44.57	0.72	3.72	4.44	0.00	42,670.04	42,670.04	1.03	0.00	42,691.60
2033	14.64	83.49	118.99	0.53	40.22	4.01	44.23	0.72	3.69	4.41	0.00	42,344.32	42,344.32	1.02	0.00	42,365.71
2034	14.64	83.49	118.99	0.53	40.22	4.01	44.23	0.72	3.69	4.41	0.00	42,344.32	42,344.32	1.02	0.00	42,365.71
2035	13.39	81.02	108.68	0.53	40.37	3.93	44.30	0.72	3.62	4.34	0.00	42,043.47	42,043.47	0.93	0.00	42,063.02
2036	13.44	81.33	109.10	0.53	40.53	3.94	44.47	0.72	3.64	4.36	0.00	42,204.56	42,204.56	0.93	0.00	42,224.18
2037	7.93	48.01	64.76	0.31	23.68	2.32	25.99	0.42	2.14	2.56	0.00	24,794.45	24,794.45	0.55	0.00	24,806.05
2038	0.21	1.25	2.53	0.00	0.02	0.04	0.06	0.00	0.04	0.04	0.00	358.33	358.33	0.02	0.00	358.68
2039	285.12	1.22	10.37	0.04	5.02	0.22	5.23	0.08	0.20	0.28	0.00	3,033.13	3,033.13	0.10	0.00	3,035.30

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2040	339.92	0.99	10.67	0.05	5.98	0.24	6.22	0.09	0.23	0.32	0.00	3,461.91	3,461.91	0.11	0.00	3,464.21
Total	**1,054.78**	**2,391.66**	**3,671.70**	**12.45**	**965.99**	**107.28**	**1,073.32**	**22.54**	**99.21**	**121.78**	**0.00**	**1,037,454.28**	**1,037,454.28**	**31.14**	**0.00**	**1,038,108.29**

2.1 Overall Construction

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2011	1.47	11.93	6.83	0.01	4.77	0.61	5.38	2.27	0.61	2.88	0.00	996.06	996.06	0.12	0.00	998.58
2012	1.65	13.57	7.38	0.01	2.64	0.65	3.30	1.10	0.65	1.75	0.00	1,308.72	1,308.72	0.13	0.00	1,311.54
2013	1.56	12.73	7.07	0.01	2.64	0.60	3.24	1.10	0.60	1.70	0.00	1,308.22	1,308.22	0.13	0.00	1,310.88
2014	22.23	122.56	202.80	0.40	4.19	4.85	9.05	1.64	4.50	6.14	0.00	36,569.46	36,569.46	1.68	0.00	36,604.77
2015	26.83	146.32	244.80	0.53	2.05	5.86	7.91	0.72	5.41	6.13	0.00	47,239.71	47,239.71	2.02	0.00	47,282.03
2016	25.11	136.38	226.96	0.53	2.05	5.54	7.59	0.72	5.13	5.85	0.00	46,669.36	46,669.36	1.88	0.00	46,708.80
2017	23.43	127.23	209.94	0.52	2.04	5.24	7.28	0.72	4.85	5.57	0.00	45,964.72	45,964.72	1.74	0.00	46,001.27
2018	22.10	120.04	196.26	0.53	2.05	5.03	7.08	0.72	4.65	5.37	0.00	45,648.36	45,648.36	1.63	0.00	45,682.65
2019	20.94	113.51	184.05	0.53	2.05	4.82	6.87	0.72	4.46	5.18	0.00	45,201.83	45,201.83	1.54	0.00	45,234.08
2020	20.08	108.34	174.55	0.53	2.06	4.67	6.72	0.72	4.31	5.03	0.00	44,962.63	44,962.63	1.46	0.00	44,993.20
2021	19.23	103.34	166.24	0.53	2.05	4.54	6.59	0.72	4.20	4.92	0.00	44,624.39	44,624.39	1.39	0.00	44,653.65
2022	18.42	99.06	157.41	0.52	2.04	4.42	6.46	0.72	4.08	4.80	0.00	44,109.60	44,109.60	1.32	0.00	44,137.36

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2023	17.74	95.75	149.92	0.52	2.04	4.33	6.37	0.72	4.00	4.72	0.00	43,794.65	43,794.65	1.27	0.00	43,821.24
2024	17.26	93.69	144.23	0.53	2.06	4.29	6.34	0.72	3.96	4.69	0.00	43,846.14	43,846.14	1.23	0.00	43,871.94
2025	16.67	91.00	138.18	0.53	2.05	4.21	6.26	0.72	3.89	4.61	0.00	43,421.58	43,421.58	1.17	0.00	43,446.20
2026	16.67	91.00	138.18	0.53	2.05	4.21	6.26	0.72	3.89	4.61	0.00	43,421.58	43,421.58	1.17	0.00	43,446.20
2027	16.67	91.00	138.18	0.53	2.05	4.21	6.26	0.72	3.89	4.61	0.00	43,421.58	43,421.58	1.17	0.00	43,446.20
2028	16.60	90.66	137.65	0.52	2.04	4.20	6.24	0.72	3.87	4.59	0.00	43,255.22	43,255.22	1.17	0.00	43,279.74
2029	16.67	91.00	138.18	0.53	2.05	4.21	6.26	0.72	3.89	4.61	0.00	43,421.58	43,421.58	1.17	0.00	43,446.20
2030	14.70	83.81	119.45	0.53	2.05	4.02	6.07	0.72	3.70	4.43	0.00	42,507.18	42,507.18	1.02	0.00	42,528.65
2031	14.70	83.81	119.45	0.53	2.05	4.02	6.07	0.72	3.70	4.43	0.00	42,507.18	42,507.18	1.02	0.00	42,528.65
2032	14.76	84.13	119.90	0.53	2.06	4.04	6.10	0.72	3.72	4.44	0.00	42,670.04	42,670.04	1.03	0.00	42,691.60
2033	14.64	83.49	118.99	0.53	2.04	4.01	6.05	0.72	3.69	4.41	0.00	42,344.32	42,344.32	1.02	0.00	42,365.71
2034	14.64	83.49	118.99	0.53	2.04	4.01	6.05	0.72	3.69	4.41	0.00	42,344.32	42,344.32	1.02	0.00	42,365.71
2035	13.39	81.02	108.68	0.53	2.05	3.93	5.98	0.72	3.62	4.34	0.00	42,043.47	42,043.47	0.93	0.00	42,063.02
2036	13.44	81.33	109.10	0.53	2.06	3.94	6.00	0.72	3.64	4.36	0.00	42,204.56	42,204.56	0.93	0.00	42,224.18
2037	7.93	48.01	64.76	0.31	1.20	2.32	3.52	0.42	2.14	2.56	0.00	24,794.45	24,794.45	0.55	0.00	24,806.05
2038	0.21	1.25	2.53	0.00	0.00	0.04	0.04	0.00	0.04	0.04	0.00	358.33	358.33	0.02	0.00	358.68
2039	285.12	1.22	10.37	0.04	0.21	0.22	0.43	0.08	0.20	0.28	0.00	3,033.13	3,033.13	0.10	0.00	3,035.30
2040	339.92	0.99	10.67	0.05	0.26	0.24	0.50	0.09	0.23	0.32	0.00	3,461.91	3,461.91	0.11	0.00	3,464.21
Total	**1,054.78**	**2,391.66**	**3,671.70**	**12.45**	**60.99**	**107.28**	**168.27**	**22.54**	**99.21**	**121.78**	**0.00**	**1,037,454.28**	**1,037,454.28**	**31.14**	**0.00**	**1,038,108.29**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1,200.71	14.14	1,279.02	0.46		0.00	165.27		0.00	165.25	15,573.90	19,779.35	35,353.25	14.80	1.46	36,118.10
Energy	3.80	33.94	24.30	0.21		0.00	2.63		0.00	2.63	0.00	190,107.66	190,107.66	6.38	2.84	191,121.54
Mobile	330.84	640.53	2,985.85	6.16	625.02	34.57	659.59	9.99	33.33	43.32	0.00	467,975.31	467,975.31	21.34	0.00	468,423.54
Waste						0.00	0.00		0.00	0.00	234,450.53	0.00	234,450.53	13,855.63	0.00	525,418.74
Water						0.00	0.00		0.00	0.00	0.00	466,504.56	466,504.56	3,042.51	81.58	555,687.40
Total	**1,535.35**	**688.61**	**4,289.17**	**6.83**	**625.02**	**34.57**	**827.49**	**9.99**	**33.33**	**211.20**	**250,024.43**	**1,144,366.88**	**1,394,391.31**	**16,940.66**	**85.88**	**1,776,769.32**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1,200.71	14.14	1,279.02	0.46		0.00	165.27		0.00	165.25	15,573.90	19,779.35	35,353.25	14.80	1.46	36,118.10
Energy	3.80	33.94	24.30	0.21		0.00	2.63		0.00	2.63	0.00	190,107.66	190,107.66	6.38	2.84	191,121.54
Mobile	330.84	640.53	2,985.85	6.16	625.02	34.57	659.59	9.99	33.33	43.32	0.00	467,975.31	467,975.31	21.34	0.00	468,423.54
Waste						0.00	0.00		0.00	0.00	234,450.53	0.00	234,450.53	13,855.63	0.00	525,418.74
Water						0.00	0.00		0.00	0.00	0.00	466,504.56	466,504.56	3,042.51	81.58	555,687.40
Total	**1,535.35**	**688.61**	**4,289.17**	**6.83**	**625.02**	**34.57**	**827.49**	**9.99**	**33.33**	**211.20**	**250,024.43**	**1,144,366.88**	**1,394,391.31**	**16,940.66**	**85.88**	**1,776,769.32**

3.0 Construction Detail

3.1 Mitigation Measures Construction

3.2 Site Preparation - 2011

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.13	0.00	2.13	1.17	0.00	1.17	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	1.30	10.59	5.95	0.01		0.54	0.54		0.54	0.54	0.00	855.90	855.90	0.11	0.00	858.12
Total	**1.30**	**10.59**	**5.95**	**0.01**	**2.13**	**0.54**	**2.67**	**1.17**	**0.54**	**1.71**	**0.00**	**855.90**	**855.90**	**0.11**	**0.00**	**858.12**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.01	0.02	0.17	0.00	0.02	0.00	0.03	0.00	0.00	0.00	0.00	19.77	19.77	0.00	0.00	19.80
Total	**0.01**	**0.02**	**0.17**	**0.00**	**0.02**	**0.00**	**0.03**	**0.00**	**0.00**	**0.00**	**0.00**	**19.77**	**19.77**	**0.00**	**0.00**	**19.80**

3.2 Site Preparation - 2011

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.13	0.00	2.13	1.17	0.00	1.17	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	1.30	10.59	5.95	0.01		0.54	0.54		0.54	0.54	0.00	855.90	855.90	0.11	0.00	858.12
Total	**1.30**	**10.59**	**5.95**	**0.01**	**2.13**	**0.54**	**2.67**	**1.17**	**0.54**	**1.71**	**0.00**	**855.90**	**855.90**	**0.11**	**0.00**	**858.12**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.01	0.02	0.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	19.77	19.77	0.00	0.00	19.80
Total	**0.01**	**0.02**	**0.17**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**19.77**	**19.77**	**0.00**	**0.00**	**19.80**

3.3 Grading - 2011

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.64	0.00	2.64	1.10	0.00	1.10	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.16	1.33	0.69	0.00		0.07	0.07		0.07	0.07	0.00	118.16	118.16	0.01	0.00	118.43
Total	**0.16**	**1.33**	**0.69**	**0.00**	**2.64**	**0.07**	**2.71**	**1.10**	**0.07**	**1.17**	**0.00**	**118.16**	**118.16**	**0.01**	**0.00**	**118.43**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.23	2.23	0.00	0.00	2.24
Total	**0.00**	**0.00**	**0.02**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**2.23**	**2.23**	**0.00**	**0.00**	**2.24**

3.3 Grading - 2011

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.64	0.00	2.64	1.10	0.00	1.10	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.16	1.33	0.69	0.00		0.07	0.07		0.07	0.07	0.00	118.16	118.16	0.01	0.00	118.43
Total	**0.16**	**1.33**	**0.69**	**0.00**	**2.64**	**0.07**	**2.71**	**1.10**	**0.07**	**1.17**	**0.00**	**118.16**	**118.16**	**0.01**	**0.00**	**118.43**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.23	2.23	0.00	0.00	2.24
Total	**0.00**	**0.00**	**0.02**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**2.23**	**2.23**	**0.00**	**0.00**	**2.24**

3.3 Grading - 2012

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.64	0.00	2.64	1.10	0.00	1.10	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	1.63	13.55	7.19	0.01		0.65	0.65		0.65	0.65	0.00	1,284.94	1,284.94	0.13	0.00	1,287.73
Total	**1.63**	**13.55**	**7.19**	**0.01**	**2.64**	**0.65**	**3.29**	**1.10**	**0.65**	**1.75**	**0.00**	**1,284.94**	**1,284.94**	**0.13**	**0.00**	**1,287.73**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.02	0.02	0.19	0.00	0.03	0.00	0.03	0.00	0.00	0.00	0.00	23.77	23.77	0.00	0.00	23.81
Total	**0.02**	**0.02**	**0.19**	**0.00**	**0.03**	**0.00**	**0.03**	**0.00**	**0.00**	**0.00**	**0.00**	**23.77**	**23.77**	**0.00**	**0.00**	**23.81**

3.3 Grading - 2012

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.64	0.00	2.64	1.10	0.00	1.10	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	1.63	13.55	7.19	0.01		0.65	0.65		0.65	0.65	0.00	1,284.94	1,284.94	0.13	0.00	1,287.73
Total	**1.63**	**13.55**	**7.19**	**0.01**	**2.64**	**0.65**	**3.29**	**1.10**	**0.65**	**1.75**	**0.00**	**1,284.94**	**1,284.94**	**0.13**	**0.00**	**1,287.73**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.02	0.02	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	23.77	23.77	0.00	0.00	23.81
Total	**0.02**	**0.02**	**0.19**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**23.77**	**23.77**	**0.00**	**0.00**	**23.81**

3.3 Grading - 2013

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.64	0.00	2.64	1.10	0.00	1.10	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	1.55	12.72	6.89	0.01		0.60	0.60		0.60	0.60	0.00	1,284.94	1,284.94	0.13	0.00	1,287.58
Total	**1.55**	**12.72**	**6.89**	**0.01**	**2.64**	**0.60**	**3.24**	**1.10**	**0.60**	**1.70**	**0.00**	**1,284.94**	**1,284.94**	**0.13**	**0.00**	**1,287.58**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.02	0.02	0.17	0.00	0.03	0.00	0.03	0.00	0.00	0.00	0.00	23.27	23.27	0.00	0.00	23.30
Total	**0.02**	**0.02**	**0.17**	**0.00**	**0.03**	**0.00**	**0.03**	**0.00**	**0.00**	**0.00**	**0.00**	**23.27**	**23.27**	**0.00**	**0.00**	**23.30**

3.3 Grading - 2013

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.64	0.00	2.64	1.10	0.00	1.10	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	1.55	12.72	6.89	0.01		0.60	0.60		0.60	0.60	0.00	1,284.94	1,284.94	0.13	0.00	1,287.58
Total	**1.55**	**12.72**	**6.89**	**0.01**	**2.64**	**0.60**	**3.24**	**1.10**	**0.60**	**1.70**	**0.00**	**1,284.94**	**1,284.94**	**0.13**	**0.00**	**1,287.58**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.02	0.02	0.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	23.27	23.27	0.00	0.00	23.30
Total	**0.02**	**0.02**	**0.17**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**23.27**	**23.27**	**0.00**	**0.00**	**23.30**

3.3 Grading - 2014

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.64	0.00	2.64	1.10	0.00	1.10	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.35	2.85	1.60	0.00		0.13	0.13		0.13	0.13	0.00	310.16	310.16	0.03	0.00	310.76
Total	**0.35**	**2.85**	**1.60**	**0.00**	**2.64**	**0.13**	**2.77**	**1.10**	**0.13**	**1.23**	**0.00**	**310.16**	**310.16**	**0.03**	**0.00**	**310.76**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.04	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	5.50	5.50	0.00	0.00	5.51
Total	**0.00**	**0.00**	**0.04**	**0.00**	**0.01**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**5.50**	**5.50**	**0.00**	**0.00**	**5.51**

3.3 Grading - 2014

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.64	0.00	2.64	1.10	0.00	1.10	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.35	2.85	1.60	0.00		0.13	0.13		0.13	0.13	0.00	310.16	310.16	0.03	0.00	310.76
Total	**0.35**	**2.85**	**1.60**	**0.00**	**2.64**	**0.13**	**2.77**	**1.10**	**0.13**	**1.23**	**0.00**	**310.16**	**310.16**	**0.03**	**0.00**	**310.76**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.50	5.50	0.00	0.00	5.51
Total	**0.00**	**0.00**	**0.04**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**5.50**	**5.50**	**0.00**	**0.00**	**5.51**

3.4 Building Construction - 2014

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.47	3.17	2.30	0.00		0.20	0.20		0.20	0.20	0.00	362.79	362.79	0.04	0.00	363.59
Total	**0.47**	**3.17**	**2.30**	**0.00**		**0.20**	**0.20**		**0.20**	**0.20**	**0.00**	**362.79**	**362.79**	**0.04**	**0.00**	**363.59**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	9.34	103.01	66.17	0.18	5.44	3.52	8.96	0.16	3.24	3.40	0.00	16,604.60	16,604.60	0.42	0.00	16,613.38
Worker	12.07	13.51	132.70	0.22	25.19	1.00	26.19	0.39	0.93	1.32	0.00	19,286.40	19,286.40	1.20	0.00	19,311.53
Total	**21.41**	**116.52**	**198.87**	**0.40**	**30.63**	**4.52**	**35.15**	**0.55**	**4.17**	**4.72**	**0.00**	**35,891.00**	**35,891.00**	**1.62**	**0.00**	**35,924.91**

3.4 Building Construction - 2014

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.47	3.17	2.30	0.00		0.20	0.20		0.20	0.20	0.00	362.79	362.79	0.04	0.00	363.59
Total	**0.47**	**3.17**	**2.30**	**0.00**		**0.20**	**0.20**		**0.20**	**0.20**	**0.00**	**362.79**	**362.79**	**0.04**	**0.00**	**363.59**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	9.34	103.01	66.17	0.18	0.48	3.52	4.00	0.16	3.24	3.40	0.00	16,604.60	16,604.60	0.42	0.00	16,613.38
Worker	12.07	13.51	132.70	0.22	1.08	1.00	2.08	0.39	0.93	1.32	0.00	19,286.40	19,286.40	1.20	0.00	19,311.53
Total	**21.41**	**116.52**	**198.87**	**0.40**	**1.56**	**4.52**	**6.08**	**0.55**	**4.17**	**4.72**	**0.00**	**35,891.00**	**35,891.00**	**1.62**	**0.00**	**35,924.91**

3.4 Building Construction - 2015

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.57	3.80	3.00	0.01		0.23	0.23		0.23	0.23	0.00	478.23	478.23	0.05	0.00	479.20
Total	**0.57**	**3.80**	**3.00**	**0.01**		**0.23**	**0.23**		**0.23**	**0.23**	**0.00**	**478.23**	**478.23**	**0.05**	**0.00**	**479.20**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	11.39	126.17	80.83	0.23	7.17	4.30	11.46	0.21	3.95	4.16	0.00	21,918.16	21,918.16	0.51	0.00	21,928.85
Worker	14.88	16.35	160.98	0.29	33.20	1.33	34.53	0.51	1.22	1.74	0.00	24,843.32	24,843.32	1.46	0.00	24,873.97
Total	**26.27**	**142.52**	**241.81**	**0.52**	**40.37**	**5.63**	**45.99**	**0.72**	**5.17**	**5.90**	**0.00**	**46,761.48**	**46,761.48**	**1.97**	**0.00**	**46,802.82**

3.4 Building Construction - 2015

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.57	3.80	3.00	0.01		0.23	0.23		0.23	0.23	0.00	478.23	478.23	0.05	0.00	479.20
Total	**0.57**	**3.80**	**3.00**	**0.01**		**0.23**	**0.23**		**0.23**	**0.23**	**0.00**	**478.23**	**478.23**	**0.05**	**0.00**	**479.20**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	11.39	126.17	80.83	0.23	0.63	4.30	4.92	0.21	3.95	4.16	0.00	21,918.16	21,918.16	0.51	0.00	21,928.85
Worker	14.88	16.35	160.98	0.29	1.42	1.33	2.75	0.51	1.22	1.74	0.00	24,843.32	24,843.32	1.46	0.00	24,873.97
Total	**26.27**	**142.52**	**241.81**	**0.52**	**2.05**	**5.63**	**7.67**	**0.72**	**5.17**	**5.90**	**0.00**	**46,761.48**	**46,761.48**	**1.97**	**0.00**	**46,802.82**

3.4 Building Construction - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.52	3.46	2.97	0.01		0.21	0.21		0.21	0.21	0.00	478.23	478.23	0.04	0.00	479.11
Total	**0.52**	**3.46**	**2.97**	**0.01**		**0.21**	**0.21**		**0.21**	**0.21**	**0.00**	**478.23**	**478.23**	**0.04**	**0.00**	**479.11**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	10.62	117.86	75.44	0.23	7.17	4.01	11.17	0.21	3.69	3.90	0.00	21,947.04	21,947.04	0.47	0.00	21,956.99
Worker	13.96	15.06	148.54	0.29	33.20	1.33	34.53	0.51	1.23	1.74	0.00	24,244.09	24,244.09	1.36	0.00	24,272.70
Total	**24.58**	**132.92**	**223.98**	**0.52**	**40.37**	**5.34**	**45.70**	**0.72**	**4.92**	**5.64**	**0.00**	**46,191.13**	**46,191.13**	**1.83**	**0.00**	**46,229.69**

3.4 Building Construction - 2016

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.52	3.46	2.97	0.01		0.21	0.21		0.21	0.21	0.00	478.23	478.23	0.04	0.00	479.11
Total	**0.52**	**3.46**	**2.97**	**0.01**		**0.21**	**0.21**		**0.21**	**0.21**	**0.00**	**478.23**	**478.23**	**0.04**	**0.00**	**479.11**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	10.62	117.86	75.44	0.23	0.63	4.01	4.63	0.21	3.69	3.90	0.00	21,947.04	21,947.04	0.47	0.00	21,956.99
Worker	13.96	15.06	148.54	0.29	1.42	1.33	2.75	0.51	1.23	1.74	0.00	24,244.09	24,244.09	1.36	0.00	24,272.70
Total	**24.58**	**132.92**	**223.98**	**0.52**	**2.05**	**5.34**	**7.38**	**0.72**	**4.92**	**5.64**	**0.00**	**46,191.13**	**46,191.13**	**1.83**	**0.00**	**46,229.69**

3.4 Building Construction - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.48	3.13	2.94	0.01		0.18	0.18		0.18	0.18	0.00	476.40	476.40	0.04	0.00	477.20
Total	**0.48**	**3.13**	**2.94**	**0.01**		**0.18**	**0.18**		**0.18**	**0.18**	**0.00**	**476.40**	**476.40**	**0.04**	**0.00**	**477.20**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	9.91	110.27	70.61	0.23	7.14	3.74	10.88	0.21	3.44	3.65	0.00	21,888.36	21,888.36	0.44	0.00	21,897.63
Worker	13.05	13.83	136.39	0.29	33.08	1.32	34.40	0.51	1.23	1.74	0.00	23,599.96	23,599.96	1.26	0.00	23,626.44
Total	**22.96**	**124.10**	**207.00**	**0.52**	**40.22**	**5.06**	**45.28**	**0.72**	**4.67**	**5.39**	**0.00**	**45,488.32**	**45,488.32**	**1.70**	**0.00**	**45,524.07**

3.4 Building Construction - 2017

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.48	3.13	2.94	0.01		0.18	0.18		0.18	0.18	0.00	476.40	476.40	0.04	0.00	477.20
Total	**0.48**	**3.13**	**2.94**	**0.01**		**0.18**	**0.18**		**0.18**	**0.18**	**0.00**	**476.40**	**476.40**	**0.04**	**0.00**	**477.20**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	9.91	110.27	70.61	0.23	0.62	3.74	4.37	0.21	3.44	3.65	0.00	21,888.36	21,888.36	0.44	0.00	21,897.63
Worker	13.05	13.83	136.39	0.29	1.42	1.32	2.74	0.51	1.23	1.74	0.00	23,599.96	23,599.96	1.26	0.00	23,626.44
Total	**22.96**	**124.10**	**207.00**	**0.52**	**2.04**	**5.06**	**7.11**	**0.72**	**4.67**	**5.39**	**0.00**	**45,488.32**	**45,488.32**	**1.70**	**0.00**	**45,524.07**

3.4 Building Construction - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.44	2.84	2.93	0.01		0.16	0.16		0.16	0.16	0.00	478.23	478.23	0.04	0.00	478.97
Total	**0.44**	**2.84**	**2.93**	**0.01**		**0.16**	**0.16**		**0.16**	**0.16**	**0.00**	**478.23**	**478.23**	**0.04**	**0.00**	**478.97**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	9.35	104.41	66.88	0.23	7.17	3.55	10.71	0.21	3.26	3.47	0.00	21,995.44	21,995.44	0.41	0.00	22,004.16
Worker	12.31	12.79	126.45	0.29	33.20	1.33	34.53	0.51	1.23	1.74	0.00	23,174.69	23,174.69	1.18	0.00	23,199.53
Total	**21.66**	**117.20**	**193.33**	**0.52**	**40.37**	**4.88**	**45.24**	**0.72**	**4.49**	**5.21**	**0.00**	**45,170.13**	**45,170.13**	**1.59**	**0.00**	**45,203.69**

3.4 Building Construction - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.44	2.84	2.93	0.01		0.16	0.16		0.16	0.16	0.00	478.23	478.23	0.04	0.00	478.97
Total	**0.44**	**2.84**	**2.93**	**0.01**		**0.16**	**0.16**		**0.16**	**0.16**	**0.00**	**478.23**	**478.23**	**0.04**	**0.00**	**478.97**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	9.35	104.41	66.88	0.23	0.63	3.55	4.17	0.21	3.26	3.47	0.00	21,995.44	21,995.44	0.41	0.00	22,004.16
Worker	12.31	12.79	126.45	0.29	1.42	1.33	2.75	0.51	1.23	1.74	0.00	23,174.69	23,174.69	1.18	0.00	23,199.53
Total	**21.66**	**117.20**	**193.33**	**0.52**	**2.05**	**4.88**	**6.92**	**0.72**	**4.49**	**5.21**	**0.00**	**45,170.13**	**45,170.13**	**1.59**	**0.00**	**45,203.69**

3.4 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.40	2.57	2.92	0.01		0.13	0.13		0.13	0.13	0.00	478.23	478.23	0.03	0.00	478.91
Total	**0.40**	**2.57**	**2.92**	**0.01**		**0.13**	**0.13**		**0.13**	**0.13**	**0.00**	**478.23**	**478.23**	**0.03**	**0.00**	**478.91**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	8.83	99.04	63.07	0.23	7.17	3.36	10.53	0.21	3.09	3.30	0.00	22,020.15	22,020.15	0.39	0.00	22,028.36
Worker	11.72	11.89	118.06	0.29	33.20	1.32	34.53	0.51	1.23	1.74	0.00	22,703.45	22,703.45	1.11	0.00	22,726.82
Total	**20.55**	**110.93**	**181.13**	**0.52**	**40.37**	**4.68**	**45.06**	**0.72**	**4.32**	**5.04**	**0.00**	**44,723.60**	**44,723.60**	**1.50**	**0.00**	**44,755.18**

3.4 Building Construction - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.40	2.57	2.92	0.01		0.13	0.13		0.13	0.13	0.00	478.23	478.23	0.03	0.00	478.91
Total	**0.40**	**2.57**	**2.92**	**0.01**		**0.13**	**0.13**		**0.13**	**0.13**	**0.00**	**478.23**	**478.23**	**0.03**	**0.00**	**478.91**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	8.83	99.04	63.07	0.23	0.63	3.36	3.99	0.21	3.09	3.30	0.00	22,020.15	22,020.15	0.39	0.00	22,028.36
Worker	11.72	11.89	118.06	0.29	1.42	1.32	2.75	0.51	1.23	1.74	0.00	22,703.45	22,703.45	1.11	0.00	22,726.82
Total	**20.55**	**110.93**	**181.13**	**0.52**	**2.05**	**4.68**	**6.74**	**0.72**	**4.32**	**5.04**	**0.00**	**44,723.60**	**44,723.60**	**1.50**	**0.00**	**44,755.18**

3.4 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.37	2.34	2.91	0.01		0.11	0.11		0.11	0.11	0.00	480.06	480.06	0.03	0.00	480.68
Total	**0.37**	**2.34**	**2.91**	**0.01**		**0.11**	**0.11**		**0.11**	**0.11**	**0.00**	**480.06**	**480.06**	**0.03**	**0.00**	**480.68**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	8.43	94.86	60.37	0.23	7.20	3.22	10.42	0.21	2.96	3.17	0.00	22,125.34	22,125.34	0.37	0.00	22,133.14
Worker	11.29	11.14	111.27	0.29	33.33	1.33	34.66	0.51	1.23	1.74	0.00	22,357.23	22,357.23	1.05	0.00	22,379.37
Total	**19.72**	**106.00**	**171.64**	**0.52**	**40.53**	**4.55**	**45.08**	**0.72**	**4.19**	**4.91**	**0.00**	**44,482.57**	**44,482.57**	**1.42**	**0.00**	**44,512.51**

3.4 Building Construction - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.37	2.34	2.91	0.01		0.11	0.11		0.11	0.11	0.00	480.06	480.06	0.03	0.00	480.68
Total	**0.37**	**2.34**	**2.91**	**0.01**		**0.11**	**0.11**		**0.11**	**0.11**	**0.00**	**480.06**	**480.06**	**0.03**	**0.00**	**480.68**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	8.43	94.86	60.37	0.23	0.63	3.22	3.85	0.21	2.96	3.17	0.00	22,125.34	22,125.34	0.37	0.00	22,133.14
Worker	11.29	11.14	111.27	0.29	1.43	1.33	2.76	0.51	1.23	1.74	0.00	22,357.23	22,357.23	1.05	0.00	22,379.37
Total	**19.72**	**106.00**	**171.64**	**0.52**	**2.06**	**4.55**	**6.61**	**0.72**	**4.19**	**4.91**	**0.00**	**44,482.57**	**44,482.57**	**1.42**	**0.00**	**44,512.51**

3.4 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.33	2.10	2.88	0.01		0.10	0.10		0.10	0.10	0.00	478.23	478.23	0.03	0.00	478.79
Total	**0.33**	**2.10**	**2.88**	**0.01**		**0.10**	**0.10**		**0.10**	**0.10**	**0.00**	**478.23**	**478.23**	**0.03**	**0.00**	**478.79**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	8.01	90.82	57.23	0.23	7.17	3.09	10.26	0.21	2.84	3.05	0.00	22,060.57	22,060.57	0.35	0.00	22,067.96
Worker	10.88	10.43	106.12	0.29	33.20	1.36	34.56	0.51	1.26	1.77	0.00	22,085.59	22,085.59	1.01	0.00	22,106.89
Total	**18.89**	**101.25**	**163.35**	**0.52**	**40.37**	**4.45**	**44.82**	**0.72**	**4.10**	**4.82**	**0.00**	**44,146.16**	**44,146.16**	**1.36**	**0.00**	**44,174.85**

3.4 Building Construction - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.33	2.10	2.88	0.01		0.10	0.10		0.10	0.10	0.00	478.23	478.23	0.03	0.00	478.79
Total	**0.33**	**2.10**	**2.88**	**0.01**		**0.10**	**0.10**		**0.10**	**0.10**	**0.00**	**478.23**	**478.23**	**0.03**	**0.00**	**478.79**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	8.01	90.82	57.23	0.23	0.63	3.09	3.72	0.21	2.84	3.05	0.00	22,060.57	22,060.57	0.35	0.00	22,067.96
Worker	10.88	10.43	106.12	0.29	1.42	1.36	2.78	0.51	1.26	1.77	0.00	22,085.59	22,085.59	1.01	0.00	22,106.89
Total	**18.89**	**101.25**	**163.35**	**0.52**	**2.05**	**4.45**	**6.50**	**0.72**	**4.10**	**4.82**	**0.00**	**44,146.16**	**44,146.16**	**1.36**	**0.00**	**44,174.85**

3.4 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.31	1.89	2.86	0.01		0.08	0.08		0.08	0.08	0.00	476.40	476.40	0.02	0.00	476.92
Total	**0.31**	**1.89**	**2.86**	**0.01**		**0.08**	**0.08**		**0.08**	**0.08**	**0.00**	**476.40**	**476.40**	**0.02**	**0.00**	**476.92**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	7.66	87.39	54.56	0.23	7.14	2.99	10.13	0.21	2.75	2.95	0.00	21,993.60	21,993.60	0.34	0.00	22,000.64
Worker	10.45	9.78	99.99	0.29	33.08	1.35	34.43	0.51	1.25	1.76	0.00	21,639.60	21,639.60	0.96	0.00	21,659.81
Total	**18.11**	**97.17**	**154.55**	**0.52**	**40.22**	**4.34**	**44.56**	**0.72**	**4.00**	**4.71**	**0.00**	**43,633.20**	**43,633.20**	**1.30**	**0.00**	**43,660.45**

3.4 Building Construction - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.31	1.89	2.86	0.01		0.08	0.08		0.08	0.08	0.00	476.40	476.40	0.02	0.00	476.92
Total	**0.31**	**1.89**	**2.86**	**0.01**		**0.08**	**0.08**		**0.08**	**0.08**	**0.00**	**476.40**	**476.40**	**0.02**	**0.00**	**476.92**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	7.66	87.39	54.56	0.23	0.63	2.99	3.61	0.21	2.75	2.95	0.00	21,993.60	21,993.60	0.34	0.00	22,000.64
Worker	10.45	9.78	99.99	0.29	1.42	1.35	2.77	0.51	1.25	1.76	0.00	21,639.60	21,639.60	0.96	0.00	21,659.81
Total	**18.11**	**97.17**	**154.55**	**0.52**	**2.05**	**4.34**	**6.38**	**0.72**	**4.00**	**4.71**	**0.00**	**43,633.20**	**43,633.20**	**1.30**	**0.00**	**43,660.45**

3.4 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.29	1.72	2.86	0.01		0.07	0.07		0.07	0.07	0.00	476.40	476.40	0.02	0.00	476.89
Total	**0.29**	**1.72**	**2.86**	**0.01**		**0.07**	**0.07**		**0.07**	**0.07**	**0.00**	**476.40**	**476.40**	**0.02**	**0.00**	**476.89**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	7.40	84.85	52.54	0.23	7.14	2.91	10.05	0.21	2.67	2.88	0.00	22,009.60	22,009.60	0.32	0.00	22,016.37
Worker	10.05	9.18	94.52	0.29	33.08	1.35	34.43	0.51	1.26	1.77	0.00	21,308.66	21,308.66	0.92	0.00	21,327.99
Total	**17.45**	**94.03**	**147.06**	**0.52**	**40.22**	**4.26**	**44.48**	**0.72**	**3.93**	**4.65**	**0.00**	**43,318.26**	**43,318.26**	**1.24**	**0.00**	**43,344.36**

3.4 Building Construction - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.29	1.72	2.86	0.01		0.07	0.07		0.07	0.07	0.00	476.40	476.40	0.02	0.00	476.89
Total	**0.29**	**1.72**	**2.86**	**0.01**		**0.07**	**0.07**		**0.07**	**0.07**	**0.00**	**476.40**	**476.40**	**0.02**	**0.00**	**476.89**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	7.40	84.85	52.54	0.23	0.63	2.91	3.53	0.21	2.67	2.88	0.00	22,009.60	22,009.60	0.32	0.00	22,016.37
Worker	10.05	9.18	94.52	0.29	1.42	1.35	2.77	0.51	1.26	1.77	0.00	21,308.66	21,308.66	0.92	0.00	21,327.99
Total	**17.45**	**94.03**	**147.06**	**0.52**	**2.05**	**4.26**	**6.30**	**0.72**	**3.93**	**4.65**	**0.00**	**43,318.26**	**43,318.26**	**1.24**	**0.00**	**43,344.36**

3.4 Building Construction - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.28	1.58	2.87	0.01		0.06	0.06		0.06	0.06	0.00	480.06	480.06	0.02	0.00	480.53
Total	**0.28**	**1.58**	**2.87**	**0.01**		**0.06**	**0.06**		**0.06**	**0.06**	**0.00**	**480.06**	**480.06**	**0.02**	**0.00**	**480.53**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	7.21	83.38	50.77	0.23	7.20	2.87	10.06	0.21	2.64	2.84	0.00	22,195.44	22,195.44	0.31	0.00	22,202.04
Worker	9.78	8.73	90.58	0.29	33.33	1.36	34.70	0.51	1.27	1.78	0.00	21,170.64	21,170.64	0.89	0.00	21,189.37
Total	**16.99**	**92.11**	**141.35**	**0.52**	**40.53**	**4.23**	**44.76**	**0.72**	**3.91**	**4.62**	**0.00**	**43,366.08**	**43,366.08**	**1.20**	**0.00**	**43,391.41**

3.4 Building Construction - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.28	1.58	2.87	0.01		0.06	0.06		0.06	0.06	0.00	480.06	480.06	0.02	0.00	480.53
Total	**0.28**	**1.58**	**2.87**	**0.01**		**0.06**	**0.06**		**0.06**	**0.06**	**0.00**	**480.06**	**480.06**	**0.02**	**0.00**	**480.53**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	7.21	83.38	50.77	0.23	0.63	2.87	3.50	0.21	2.64	2.84	0.00	22,195.44	22,195.44	0.31	0.00	22,202.04
Worker	9.78	8.73	90.58	0.29	1.43	1.36	2.79	0.51	1.27	1.78	0.00	21,170.64	21,170.64	0.89	0.00	21,189.37
Total	**16.99**	**92.11**	**141.35**	**0.52**	**2.06**	**4.23**	**6.29**	**0.72**	**3.91**	**4.62**	**0.00**	**43,366.08**	**43,366.08**	**1.20**	**0.00**	**43,391.41**

3.4 Building Construction - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.26	1.44	2.86	0.01		0.05	0.05		0.05	0.05	0.00	478.23	478.23	0.02	0.00	478.66
Total	**0.26**	**1.44**	**2.86**	**0.01**		**0.05**	**0.05**		**0.05**	**0.05**	**0.00**	**478.23**	**478.23**	**0.02**	**0.00**	**478.66**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	7.00	81.32	49.11	0.23	7.17	2.80	9.97	0.21	2.57	2.78	0.00	22,122.55	22,122.55	0.30	0.00	22,128.93
Worker	9.41	8.25	86.21	0.29	33.20	1.36	34.57	0.51	1.26	1.78	0.00	20,820.80	20,820.80	0.85	0.00	20,838.61
Total	**16.41**	**89.57**	**135.32**	**0.52**	**40.37**	**4.16**	**44.54**	**0.72**	**3.83**	**4.56**	**0.00**	**42,943.35**	**42,943.35**	**1.15**	**0.00**	**42,967.54**

3.4 Building Construction - 2025

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.26	1.44	2.86	0.01		0.05	0.05		0.05	0.05	0.00	478.23	478.23	0.02	0.00	478.66
Total	**0.26**	**1.44**	**2.86**	**0.01**		**0.05**	**0.05**		**0.05**	**0.05**	**0.00**	**478.23**	**478.23**	**0.02**	**0.00**	**478.66**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	7.00	81.32	49.11	0.23	0.63	2.80	3.43	0.21	2.57	2.78	0.00	22,122.55	22,122.55	0.30	0.00	22,128.93
Worker	9.41	8.25	86.21	0.29	1.42	1.36	2.79	0.51	1.26	1.78	0.00	20,820.80	20,820.80	0.85	0.00	20,838.61
Total	**16.41**	**89.57**	**135.32**	**0.52**	**2.05**	**4.16**	**6.22**	**0.72**	**3.83**	**4.56**	**0.00**	**42,943.35**	**42,943.35**	**1.15**	**0.00**	**42,967.54**

3.4 Building Construction - 2026

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.26	1.44	2.86	0.01		0.05	0.05		0.05	0.05	0.00	478.23	478.23	0.02	0.00	478.66
Total	**0.26**	**1.44**	**2.86**	**0.01**		**0.05**	**0.05**		**0.05**	**0.05**	**0.00**	**478.23**	**478.23**	**0.02**	**0.00**	**478.66**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	7.00	81.32	49.11	0.23	7.17	2.80	9.97	0.21	2.57	2.78	0.00	22,122.55	22,122.55	0.30	0.00	22,128.93
Worker	9.41	8.25	86.21	0.29	33.20	1.36	34.57	0.51	1.26	1.78	0.00	20,820.80	20,820.80	0.85	0.00	20,838.61
Total	**16.41**	**89.57**	**135.32**	**0.52**	**40.37**	**4.16**	**44.54**	**0.72**	**3.83**	**4.56**	**0.00**	**42,943.35**	**42,943.35**	**1.15**	**0.00**	**42,967.54**

3.4 Building Construction - 2026

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.26	1.44	2.86	0.01		0.05	0.05		0.05	0.05	0.00	478.23	478.23	0.02	0.00	478.66
Total	**0.26**	**1.44**	**2.86**	**0.01**		**0.05**	**0.05**		**0.05**	**0.05**	**0.00**	**478.23**	**478.23**	**0.02**	**0.00**	**478.66**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	7.00	81.32	49.11	0.23	0.63	2.80	3.43	0.21	2.57	2.78	0.00	22,122.55	22,122.55	0.30	0.00	22,128.93
Worker	9.41	8.25	86.21	0.29	1.42	1.36	2.79	0.51	1.26	1.78	0.00	20,820.80	20,820.80	0.85	0.00	20,838.61
Total	**16.41**	**89.57**	**135.32**	**0.52**	**2.05**	**4.16**	**6.22**	**0.72**	**3.83**	**4.56**	**0.00**	**42,943.35**	**42,943.35**	**1.15**	**0.00**	**42,967.54**

3.4 Building Construction - 2027

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.26	1.44	2.86	0.01		0.05	0.05		0.05	0.05	0.00	478.23	478.23	0.02	0.00	478.66
Total	**0.26**	**1.44**	**2.86**	**0.01**		**0.05**	**0.05**		**0.05**	**0.05**	**0.00**	**478.23**	**478.23**	**0.02**	**0.00**	**478.66**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	7.00	81.32	49.11	0.23	7.17	2.80	9.97	0.21	2.57	2.78	0.00	22,122.55	22,122.55	0.30	0.00	22,128.93
Worker	9.41	8.25	86.21	0.29	33.20	1.36	34.57	0.51	1.26	1.78	0.00	20,820.80	20,820.80	0.85	0.00	20,838.61
Total	**16.41**	**89.57**	**135.32**	**0.52**	**40.37**	**4.16**	**44.54**	**0.72**	**3.83**	**4.56**	**0.00**	**42,943.35**	**42,943.35**	**1.15**	**0.00**	**42,967.54**

3.4 Building Construction - 2027

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.26	1.44	2.86	0.01		0.05	0.05		0.05	0.05	0.00	478.23	478.23	0.02	0.00	478.66
Total	**0.26**	**1.44**	**2.86**	**0.01**		**0.05**	**0.05**		**0.05**	**0.05**	**0.00**	**478.23**	**478.23**	**0.02**	**0.00**	**478.66**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	7.00	81.32	49.11	0.23	0.63	2.80	3.43	0.21	2.57	2.78	0.00	22,122.55	22,122.55	0.30	0.00	22,128.93
Worker	9.41	8.25	86.21	0.29	1.42	1.36	2.79	0.51	1.26	1.78	0.00	20,820.80	20,820.80	0.85	0.00	20,838.61
Total	**16.41**	**89.57**	**135.32**	**0.52**	**2.05**	**4.16**	**6.22**	**0.72**	**3.83**	**4.56**	**0.00**	**42,943.35**	**42,943.35**	**1.15**	**0.00**	**42,967.54**

3.4 Building Construction - 2028

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.26	1.44	2.85	0.01		0.05	0.05		0.05	0.05	0.00	476.40	476.40	0.02	0.00	476.83
Total	**0.26**	**1.44**	**2.85**	**0.01**		**0.05**	**0.05**		**0.05**	**0.05**	**0.00**	**476.40**	**476.40**	**0.02**	**0.00**	**476.83**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	6.97	81.01	48.92	0.23	7.14	2.79	9.93	0.21	2.56	2.77	0.00	22,037.79	22,037.79	0.30	0.00	22,044.15
Worker	9.38	8.21	85.88	0.29	33.08	1.36	34.44	0.51	1.26	1.77	0.00	20,741.03	20,741.03	0.84	0.00	20,758.77
Total	**16.35**	**89.22**	**134.80**	**0.52**	**40.22**	**4.15**	**44.37**	**0.72**	**3.82**	**4.54**	**0.00**	**42,778.82**	**42,778.82**	**1.14**	**0.00**	**42,802.92**

3.4 Building Construction - 2028

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.26	1.44	2.85	0.01		0.05	0.05		0.05	0.05	0.00	476.40	476.40	0.02	0.00	476.83
Total	**0.26**	**1.44**	**2.85**	**0.01**		**0.05**	**0.05**		**0.05**	**0.05**	**0.00**	**476.40**	**476.40**	**0.02**	**0.00**	**476.83**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	6.97	81.01	48.92	0.23	0.63	2.79	3.41	0.21	2.56	2.77	0.00	22,037.79	22,037.79	0.30	0.00	22,044.15
Worker	9.38	8.21	85.88	0.29	1.42	1.36	2.77	0.51	1.26	1.77	0.00	20,741.03	20,741.03	0.84	0.00	20,758.77
Total	**16.35**	**89.22**	**134.80**	**0.52**	**2.05**	**4.15**	**6.18**	**0.72**	**3.82**	**4.54**	**0.00**	**42,778.82**	**42,778.82**	**1.14**	**0.00**	**42,802.92**

3.4 Building Construction - 2029

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.26	1.44	2.86	0.01		0.05	0.05		0.05	0.05	0.00	478.23	478.23	0.02	0.00	478.66
Total	**0.26**	**1.44**	**2.86**	**0.01**		**0.05**	**0.05**		**0.05**	**0.05**	**0.00**	**478.23**	**478.23**	**0.02**	**0.00**	**478.66**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	7.00	81.32	49.11	0.23	7.17	2.80	9.97	0.21	2.57	2.78	0.00	22,122.55	22,122.55	0.30	0.00	22,128.93
Worker	9.41	8.25	86.21	0.29	33.20	1.36	34.57	0.51	1.26	1.78	0.00	20,820.80	20,820.80	0.85	0.00	20,838.61
Total	**16.41**	**89.57**	**135.32**	**0.52**	**40.37**	**4.16**	**44.54**	**0.72**	**3.83**	**4.56**	**0.00**	**42,943.35**	**42,943.35**	**1.15**	**0.00**	**42,967.54**

3.4 Building Construction - 2029

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.26	1.44	2.86	0.01		0.05	0.05		0.05	0.05	0.00	478.23	478.23	0.02	0.00	478.66
Total	**0.26**	**1.44**	**2.86**	**0.01**		**0.05**	**0.05**		**0.05**	**0.05**	**0.00**	**478.23**	**478.23**	**0.02**	**0.00**	**478.66**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	7.00	81.32	49.11	0.23	0.63	2.80	3.43	0.21	2.57	2.78	0.00	22,122.55	22,122.55	0.30	0.00	22,128.93
Worker	9.41	8.25	86.21	0.29	1.42	1.36	2.79	0.51	1.26	1.78	0.00	20,820.80	20,820.80	0.85	0.00	20,838.61
Total	**16.41**	**89.57**	**135.32**	**0.52**	**2.05**	**4.16**	**6.22**	**0.72**	**3.83**	**4.56**	**0.00**	**42,943.35**	**42,943.35**	**1.15**	**0.00**	**42,967.54**

3.4 Building Construction - 2030

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.22	1.05	2.85	0.01		0.02	0.02		0.02	0.02	0.00	478.23	478.23	0.02	0.00	478.60
Total	**0.22**	**1.05**	**2.85**	**0.01**		**0.02**	**0.02**		**0.02**	**0.02**	**0.00**	**478.23**	**478.23**	**0.02**	**0.00**	**478.60**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	6.42	76.19	44.54	0.23	7.17	2.63	9.80	0.21	2.42	2.63	0.00	22,165.51	22,165.51	0.28	0.00	22,171.32
Worker	8.06	6.57	72.06	0.29	33.20	1.37	34.58	0.51	1.26	1.78	0.00	19,863.44	19,863.44	0.73	0.00	19,878.74
Total	**14.48**	**82.76**	**116.60**	**0.52**	**40.37**	**4.00**	**44.38**	**0.72**	**3.68**	**4.41**	**0.00**	**42,028.95**	**42,028.95**	**1.01**	**0.00**	**42,050.06**

3.4 Building Construction - 2030

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.22	1.05	2.85	0.01		0.02	0.02		0.02	0.02	0.00	478.23	478.23	0.02	0.00	478.60
Total	**0.22**	**1.05**	**2.85**	**0.01**		**0.02**	**0.02**		**0.02**	**0.02**	**0.00**	**478.23**	**478.23**	**0.02**	**0.00**	**478.60**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	6.42	76.19	44.54	0.23	0.63	2.63	3.26	0.21	2.42	2.63	0.00	22,165.51	22,165.51	0.28	0.00	22,171.32
Worker	8.06	6.57	72.06	0.29	1.42	1.37	2.79	0.51	1.26	1.78	0.00	19,863.44	19,863.44	0.73	0.00	19,878.74
Total	**14.48**	**82.76**	**116.60**	**0.52**	**2.05**	**4.00**	**6.05**	**0.72**	**3.68**	**4.41**	**0.00**	**42,028.95**	**42,028.95**	**1.01**	**0.00**	**42,050.06**

3.4 Building Construction - 2031

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.22	1.05	2.85	0.01		0.02	0.02		0.02	0.02	0.00	478.23	478.23	0.02	0.00	478.60
Total	**0.22**	**1.05**	**2.85**	**0.01**		**0.02**	**0.02**		**0.02**	**0.02**	**0.00**	**478.23**	**478.23**	**0.02**	**0.00**	**478.60**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	6.42	76.19	44.54	0.23	7.17	2.63	9.80	0.21	2.42	2.63	0.00	22,165.51	22,165.51	0.28	0.00	22,171.32
Worker	8.06	6.57	72.06	0.29	33.20	1.37	34.58	0.51	1.26	1.78	0.00	19,863.44	19,863.44	0.73	0.00	19,878.74
Total	**14.48**	**82.76**	**116.60**	**0.52**	**40.37**	**4.00**	**44.38**	**0.72**	**3.68**	**4.41**	**0.00**	**42,028.95**	**42,028.95**	**1.01**	**0.00**	**42,050.06**

3.4 Building Construction - 2031

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.22	1.05	2.85	0.01		0.02	0.02		0.02	0.02	0.00	478.23	478.23	0.02	0.00	478.60
Total	**0.22**	**1.05**	**2.85**	**0.01**		**0.02**	**0.02**		**0.02**	**0.02**	**0.00**	**478.23**	**478.23**	**0.02**	**0.00**	**478.60**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	6.42	76.19	44.54	0.23	0.63	2.63	3.26	0.21	2.42	2.63	0.00	22,165.51	22,165.51	0.28	0.00	22,171.32
Worker	8.06	6.57	72.06	0.29	1.42	1.37	2.79	0.51	1.26	1.78	0.00	19,863.44	19,863.44	0.73	0.00	19,878.74
Total	**14.48**	**82.76**	**116.60**	**0.52**	**2.05**	**4.00**	**6.05**	**0.72**	**3.68**	**4.41**	**0.00**	**42,028.95**	**42,028.95**	**1.01**	**0.00**	**42,050.06**

3.4 Building Construction - 2032

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.22	1.05	2.86	0.01		0.02	0.02		0.02	0.02	0.00	480.06	480.06	0.02	0.00	480.43
Total	**0.22**	**1.05**	**2.86**	**0.01**		**0.02**	**0.02**		**0.02**	**0.02**	**0.00**	**480.06**	**480.06**	**0.02**	**0.00**	**480.43**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	6.44	76.48	44.71	0.23	7.20	2.64	9.83	0.21	2.43	2.64	0.00	22,250.44	22,250.44	0.28	0.00	22,256.27
Worker	8.09	6.60	72.34	0.29	33.33	1.38	34.71	0.51	1.27	1.78	0.00	19,939.55	19,939.55	0.73	0.00	19,954.90
Total	**14.53**	**83.08**	**117.05**	**0.52**	**40.53**	**4.02**	**44.54**	**0.72**	**3.70**	**4.42**	**0.00**	**42,189.99**	**42,189.99**	**1.01**	**0.00**	**42,211.17**

3.4 Building Construction - 2032

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.22	1.05	2.86	0.01		0.02	0.02		0.02	0.02	0.00	480.06	480.06	0.02	0.00	480.43
Total	**0.22**	**1.05**	**2.86**	**0.01**		**0.02**	**0.02**		**0.02**	**0.02**	**0.00**	**480.06**	**480.06**	**0.02**	**0.00**	**480.43**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	6.44	76.48	44.71	0.23	0.63	2.64	3.27	0.21	2.43	2.64	0.00	22,250.44	22,250.44	0.28	0.00	22,256.27
Worker	8.09	6.60	72.34	0.29	1.43	1.38	2.80	0.51	1.27	1.78	0.00	19,939.55	19,939.55	0.73	0.00	19,954.90
Total	**14.53**	**83.08**	**117.05**	**0.52**	**2.06**	**4.02**	**6.07**	**0.72**	**3.70**	**4.42**	**0.00**	**42,189.99**	**42,189.99**	**1.01**	**0.00**	**42,211.17**

3.4 Building Construction - 2033

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.22	1.05	2.84	0.01		0.02	0.02		0.02	0.02	0.00	476.40	476.40	0.02	0.00	476.76
Total	**0.22**	**1.05**	**2.84**	**0.01**		**0.02**	**0.02**		**0.02**	**0.02**	**0.00**	**476.40**	**476.40**	**0.02**	**0.00**	**476.76**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	6.40	75.90	44.37	0.23	7.14	2.62	9.76	0.21	2.41	2.62	0.00	22,080.58	22,080.58	0.28	0.00	22,086.37
Worker	8.03	6.55	71.78	0.29	33.08	1.37	34.44	0.51	1.26	1.77	0.00	19,787.34	19,787.34	0.73	0.00	19,802.57
Total	**14.43**	**82.45**	**116.15**	**0.52**	**40.22**	**3.99**	**44.20**	**0.72**	**3.67**	**4.39**	**0.00**	**41,867.92**	**41,867.92**	**1.01**	**0.00**	**41,888.94**

3.4 Building Construction - 2033

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.22	1.05	2.84	0.01		0.02	0.02		0.02	0.02	0.00	476.40	476.40	0.02	0.00	476.76
Total	**0.22**	**1.05**	**2.84**	**0.01**		**0.02**	**0.02**		**0.02**	**0.02**	**0.00**	**476.40**	**476.40**	**0.02**	**0.00**	**476.76**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	6.40	75.90	44.37	0.23	0.63	2.62	3.24	0.21	2.41	2.62	0.00	22,080.58	22,080.58	0.28	0.00	22,086.37
Worker	8.03	6.55	71.78	0.29	1.42	1.37	2.78	0.51	1.26	1.77	0.00	19,787.34	19,787.34	0.73	0.00	19,802.57
Total	**14.43**	**82.45**	**116.15**	**0.52**	**2.05**	**3.99**	**6.02**	**0.72**	**3.67**	**4.39**	**0.00**	**41,867.92**	**41,867.92**	**1.01**	**0.00**	**41,888.94**

3.4 Building Construction - 2034

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.22	1.05	2.84	0.01		0.02	0.02		0.02	0.02	0.00	476.40	476.40	0.02	0.00	476.76
Total	**0.22**	**1.05**	**2.84**	**0.01**		**0.02**	**0.02**		**0.02**	**0.02**	**0.00**	**476.40**	**476.40**	**0.02**	**0.00**	**476.76**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	6.40	75.90	44.37	0.23	7.14	2.62	9.76	0.21	2.41	2.62	0.00	22,080.58	22,080.58	0.28	0.00	22,086.37
Worker	8.03	6.55	71.78	0.29	33.08	1.37	34.44	0.51	1.26	1.77	0.00	19,787.34	19,787.34	0.73	0.00	19,802.57
Total	**14.43**	**82.45**	**116.15**	**0.52**	**40.22**	**3.99**	**44.20**	**0.72**	**3.67**	**4.39**	**0.00**	**41,867.92**	**41,867.92**	**1.01**	**0.00**	**41,888.94**

3.4 Building Construction - 2034

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.22	1.05	2.84	0.01		0.02	0.02		0.02	0.02	0.00	476.40	476.40	0.02	0.00	476.76
Total	**0.22**	**1.05**	**2.84**	**0.01**		**0.02**	**0.02**		**0.02**	**0.02**	**0.00**	**476.40**	**476.40**	**0.02**	**0.00**	**476.76**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	6.40	75.90	44.37	0.23	0.63	2.62	3.24	0.21	2.41	2.62	0.00	22,080.58	22,080.58	0.28	0.00	22,086.37
Worker	8.03	6.55	71.78	0.29	1.42	1.37	2.78	0.51	1.26	1.77	0.00	19,787.34	19,787.34	0.73	0.00	19,802.57
Total	**14.43**	**82.45**	**116.15**	**0.52**	**2.05**	**3.99**	**6.02**	**0.72**	**3.67**	**4.39**	**0.00**	**41,867.92**	**41,867.92**	**1.01**	**0.00**	**41,888.94**

3.4 Building Construction - 2035

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.20	0.91	2.84	0.01		0.01	0.01		0.01	0.01	0.00	478.23	478.23	0.02	0.00	478.57
Total	**0.20**	**0.91**	**2.84**	**0.01**		**0.01**	**0.01**		**0.01**	**0.01**	**0.00**	**478.23**	**478.23**	**0.02**	**0.00**	**478.57**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	6.13	74.52	42.38	0.23	7.17	2.55	9.72	0.21	2.34	2.55	0.00	22,212.05	22,212.05	0.26	0.00	22,217.57
Worker	7.05	5.59	63.46	0.29	33.20	1.36	34.57	0.51	1.26	1.78	0.00	19,353.20	19,353.20	0.65	0.00	19,366.88
Total	**13.18**	**80.11**	**105.84**	**0.52**	**40.37**	**3.91**	**44.29**	**0.72**	**3.60**	**4.33**	**0.00**	**41,565.25**	**41,565.25**	**0.91**	**0.00**	**41,584.45**

3.4 Building Construction - 2035

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.20	0.91	2.84	0.01		0.01	0.01		0.01	0.01	0.00	478.23	478.23	0.02	0.00	478.57
Total	**0.20**	**0.91**	**2.84**	**0.01**		**0.01**	**0.01**		**0.01**	**0.01**	**0.00**	**478.23**	**478.23**	**0.02**	**0.00**	**478.57**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	6.13	74.52	42.38	0.23	0.63	2.55	3.18	0.21	2.34	2.55	0.00	22,212.05	22,212.05	0.26	0.00	22,217.57
Worker	7.05	5.59	63.46	0.29	1.42	1.36	2.79	0.51	1.26	1.78	0.00	19,353.20	19,353.20	0.65	0.00	19,366.88
Total	**13.18**	**80.11**	**105.84**	**0.52**	**2.05**	**3.91**	**5.97**	**0.72**	**3.60**	**4.33**	**0.00**	**41,565.25**	**41,565.25**	**0.91**	**0.00**	**41,584.45**

3.4 Building Construction - 2036

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.20	0.92	2.85	0.01		0.01	0.01		0.01	0.01	0.00	480.06	480.06	0.02	0.00	480.40
Total	**0.20**	**0.92**	**2.85**	**0.01**		**0.01**	**0.01**		**0.01**	**0.01**	**0.00**	**480.06**	**480.06**	**0.02**	**0.00**	**480.40**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	6.16	74.81	42.54	0.24	7.20	2.56	9.75	0.21	2.35	2.56	0.00	22,297.15	22,297.15	0.26	0.00	22,302.70
Worker	7.08	5.61	63.71	0.29	33.33	1.37	34.70	0.51	1.27	1.78	0.00	19,427.35	19,427.35	0.65	0.00	19,441.08
Total	**13.24**	**80.42**	**106.25**	**0.53**	**40.53**	**3.93**	**44.45**	**0.72**	**3.62**	**4.34**	**0.00**	**41,724.50**	**41,724.50**	**0.91**	**0.00**	**41,743.78**

3.4 Building Construction - 2036

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.20	0.92	2.85	0.01		0.01	0.01		0.01	0.01	0.00	480.06	480.06	0.02	0.00	480.40
Total	**0.20**	**0.92**	**2.85**	**0.01**		**0.01**	**0.01**		**0.01**	**0.01**	**0.00**	**480.06**	**480.06**	**0.02**	**0.00**	**480.40**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	6.16	74.81	42.54	0.24	0.63	2.56	3.19	0.21	2.35	2.56	0.00	22,297.15	22,297.15	0.26	0.00	22,302.70
Worker	7.08	5.61	63.71	0.29	1.43	1.37	2.80	0.51	1.27	1.78	0.00	19,427.35	19,427.35	0.65	0.00	19,441.08
Total	**13.24**	**80.42**	**106.25**	**0.53**	**2.06**	**3.93**	**5.99**	**0.72**	**3.62**	**4.34**	**0.00**	**41,724.50**	**41,724.50**	**0.91**	**0.00**	**41,743.78**

3.4 Building Construction - 2037

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.12	0.53	1.66	0.00		0.01	0.01		0.01	0.01	0.00	280.34	280.34	0.01	0.00	280.54
Total	**0.12**	**0.53**	**1.66**	**0.00**		**0.01**	**0.01**		**0.01**	**0.01**	**0.00**	**280.34**	**280.34**	**0.01**	**0.00**	**280.54**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	3.60	43.68	24.84	0.14	4.20	1.49	5.70	0.12	1.37	1.50	0.00	13,020.86	13,020.86	0.15	0.00	13,024.09
Worker	4.13	3.28	37.20	0.17	19.46	0.80	20.26	0.30	0.74	1.04	0.00	11,344.98	11,344.98	0.38	0.00	11,353.00
Total	**7.73**	**46.96**	**62.04**	**0.31**	**23.66**	**2.29**	**25.96**	**0.42**	**2.11**	**2.54**	**0.00**	**24,365.84**	**24,365.84**	**0.53**	**0.00**	**24,377.09**

3.4 Building Construction - 2037

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.12	0.53	1.66	0.00		0.01	0.01		0.01	0.01	0.00	280.34	280.34	0.01	0.00	280.54
Total	**0.12**	**0.53**	**1.66**	**0.00**		**0.01**	**0.01**		**0.01**	**0.01**	**0.00**	**280.34**	**280.34**	**0.01**	**0.00**	**280.54**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	3.60	43.68	24.84	0.14	0.37	1.49	1.86	0.12	1.37	1.50	0.00	13,020.86	13,020.86	0.15	0.00	13,024.09
Worker	4.13	3.28	37.20	0.17	0.83	0.80	1.63	0.30	0.74	1.04	0.00	11,344.98	11,344.98	0.38	0.00	11,353.00
Total	**7.73**	**46.96**	**62.04**	**0.31**	**1.20**	**2.29**	**3.49**	**0.42**	**2.11**	**2.54**	**0.00**	**24,365.84**	**24,365.84**	**0.53**	**0.00**	**24,377.09**

3.5 Paving - 2037

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.09	0.52	1.03	0.00		0.02	0.02		0.02	0.02	0.00	142.89	142.89	0.01	0.00	143.04
Paving	0.00					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.09**	**0.52**	**1.03**	**0.00**		**0.02**	**0.02**		**0.02**	**0.02**	**0.00**	**142.89**	**142.89**	**0.01**	**0.00**	**143.04**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.02	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	5.38	5.38	0.00	0.00	5.39
Total	**0.00**	**0.00**	**0.02**	**0.00**	**0.01**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**5.38**	**5.38**	**0.00**	**0.00**	**5.39**

3.5 Paving - 2037

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.09	0.52	1.03	0.00		0.02	0.02		0.02	0.02	0.00	142.89	142.89	0.01	0.00	143.04
Paving	0.00					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.09**	**0.52**	**1.03**	**0.00**		**0.02**	**0.02**		**0.02**	**0.02**	**0.00**	**142.89**	**142.89**	**0.01**	**0.00**	**143.04**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.38	5.38	0.00	0.00	5.39
Total	**0.00**	**0.00**	**0.02**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**5.38**	**5.38**	**0.00**	**0.00**	**5.39**

3.5 Paving - 2038

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.21	1.25	2.49	0.00		0.04	0.04		0.04	0.04	0.00	345.32	345.32	0.02	0.00	345.67
Paving	0.00					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.21**	**1.25**	**2.49**	**0.00**		**0.04**	**0.04**		**0.04**	**0.04**	**0.00**	**345.32**	**345.32**	**0.02**	**0.00**	**345.67**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.04	0.00	0.02	0.00	0.02	0.00	0.00	0.00	0.00	13.01	13.01	0.00	0.00	13.02
Total	**0.00**	**0.00**	**0.04**	**0.00**	**0.02**	**0.00**	**0.02**	**0.00**	**0.00**	**0.00**	**0.00**	**13.01**	**13.01**	**0.00**	**0.00**	**13.02**

3.5 Paving - 2038

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.21	1.25	2.49	0.00		0.04	0.04		0.04	0.04	0.00	345.32	345.32	0.02	0.00	345.67
Paving	0.00					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.21**	**1.25**	**2.49**	**0.00**		**0.04**	**0.04**		**0.04**	**0.04**	**0.00**	**345.32**	**345.32**	**0.02**	**0.00**	**345.67**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	13.01	13.01	0.00	0.00	13.02
Total	**0.00**	**0.00**	**0.04**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**13.01**	**13.01**	**0.00**	**0.00**	**13.02**

3.5 Paving - 2039

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.05	0.30	0.60	0.00		0.01	0.01		0.01	0.01	0.00	83.35	83.35	0.00	0.00	83.44
Paving	0.00					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.05**	**0.30**	**0.60**	**0.00**		**0.01**	**0.01**		**0.01**	**0.01**	**0.00**	**83.35**	**83.35**	**0.00**	**0.00**	**83.44**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	3.14	3.14	0.00	0.00	3.14
Total	**0.00**	**0.00**	**0.01**	**0.00**	**0.01**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**3.14**	**3.14**	**0.00**	**0.00**	**3.14**

3.5 Paving - 2039

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.05	0.30	0.60	0.00		0.01	0.01		0.01	0.01	0.00	83.35	83.35	0.00	0.00	83.44
Paving	0.00					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.05**	**0.30**	**0.60**	**0.00**		**0.01**	**0.01**		**0.01**	**0.01**	**0.00**	**83.35**	**83.35**	**0.00**	**0.00**	**83.44**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.14	3.14	0.00	0.00	3.14
Total	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**3.14**	**3.14**	**0.00**	**0.00**	**3.14**

3.6 Architectural Coating - 2039

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	283.99					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.01	0.07	0.18	0.00		0.00	0.00		0.00	0.00	0.00	25.12	25.12	0.00	0.00	25.14
Total	**284.00**	**0.07**	**0.18**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**25.12**	**25.12**	**0.00**	**0.00**	**25.14**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	1.06	0.84	9.58	0.04	5.01	0.21	5.22	0.08	0.19	0.27	0.00	2,921.52	2,921.52	0.10	0.00	2,923.58
Total	**1.06**	**0.84**	**9.58**	**0.04**	**5.01**	**0.21**	**5.22**	**0.08**	**0.19**	**0.27**	**0.00**	**2,921.52**	**2,921.52**	**0.10**	**0.00**	**2,923.58**

3.6 Architectural Coating - 2039

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	283.99					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.01	0.07	0.18	0.00		0.00	0.00		0.00	0.00	0.00	25.12	25.12	0.00	0.00	25.14
Total	**284.00**	**0.07**	**0.18**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**25.12**	**25.12**	**0.00**	**0.00**	**25.14**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	1.06	0.84	9.58	0.04	0.21	0.21	0.42	0.08	0.19	0.27	0.00	2,921.52	2,921.52	0.10	0.00	2,923.58
Total	**1.06**	**0.84**	**9.58**	**0.04**	**0.21**	**0.21**	**0.42**	**0.08**	**0.19**	**0.27**	**0.00**	**2,921.52**	**2,921.52**	**0.10**	**0.00**	**2,923.58**

3.6 Architectural Coating - 2040

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	338.77					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.01	0.09	0.21	0.00		0.00	0.00		0.00	0.00	0.00	29.97	29.97	0.00	0.00	29.99
Total	**338.78**	**0.09**	**0.21**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**29.97**	**29.97**	**0.00**	**0.00**	**29.99**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	1.14	0.90	10.46	0.05	5.98	0.24	6.22	0.09	0.23	0.32	0.00	3,431.94	3,431.94	0.11	0.00	3,434.22
Total	**1.14**	**0.90**	**10.46**	**0.05**	**5.98**	**0.24**	**6.22**	**0.09**	**0.23**	**0.32**	**0.00**	**3,431.94**	**3,431.94**	**0.11**	**0.00**	**3,434.22**

3.6 Architectural Coating - 2040

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	338.77					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.01	0.09	0.21	0.00		0.00	0.00		0.00	0.00	0.00	29.97	29.97	0.00	0.00	29.99
Total	**338.78**	**0.09**	**0.21**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**29.97**	**29.97**	**0.00**	**0.00**	**29.99**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	1.14	0.90	10.46	0.05	0.26	0.24	0.50	0.09	0.23	0.32	0.00	3,431.94	3,431.94	0.11	0.00	3,434.22
Total	**1.14**	**0.90**	**10.46**	**0.05**	**0.26**	**0.24**	**0.50**	**0.09**	**0.23**	**0.32**	**0.00**	**3,431.94**	**3,431.94**	**0.11**	**0.00**	**3,434.22**

4.0 Mobile Detail

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	330.84	640.53	2,985.85	6.16	625.02	34.57	659.59	9.99	33.33	43.32	0.00	467,975.31	467,975.31	21.34	0.00	468,423.54
Unmitigated	330.84	640.53	2,985.85	6.16	625.02	34.57	659.59	9.99	33.33	43.32	0.00	467,975.31	467,975.31	21.34	0.00	468,423.54
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	107,160.00	107,160.00	107160.00	305,974,308	305,974,308
City Park	6,559.80	6,559.80	6559.80	14,004,207	14,004,207
General Light Industry	178,951.45	178,951.45	178951.45	522,450,751	522,450,751
Government Office Building	64,900.04	64,900.04	64900.04	111,295,816	111,295,816
Single Family Housing	14,784.78	14,784.78	14784.78	42,215,032	42,215,032
Strip Mall	125,316.36	125,316.36	125316.36	192,991,340	192,991,340
Total	497,672.44	497,672.44	497,672.44	1,188,931,453	1,188,931,453

4.3 Trip Type Information

	Miles			Trip %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW
Apartments Mid Rise	10.80	7.30	7.50	41.60	18.80	39.60
City Park	9.50	7.30	7.30	33.00	48.00	19.00
General Light Industry	9.50	7.30	7.30	59.00	28.00	13.00
Government Office Building	9.50	7.30	7.30	33.00	62.00	5.00
Single Family Housing	10.80	7.30	7.50	41.60	18.80	39.60
Strip Mall	9.50	7.30	7.30	16.60	64.40	19.00

5.0 Energy Detail

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.00	0.00		0.00	0.00	0.00	152,460.36	152,460.36	5.66	2.15	153,245.12
Electricity Unmitigated						0.00	0.00		0.00	0.00	0.00	152,460.36	152,460.36	5.66	2.15	153,245.12
NaturalGas Mitigated	3.80	33.94	24.30	0.21		0.00	2.63		0.00	2.63	0.00	37,647.30	37,647.30	0.72	0.69	37,876.42
NaturalGas Unmitigated	3.80	33.94	24.30	0.21		0.00	2.63		0.00	2.63	0.00	37,647.30	37,647.30	0.72	0.69	37,876.42
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU	tons/yr										MT/yr					
Apartments Mid Rise	1.49805e+008	0.81	6.90	2.94	0.04		0.00	0.56		0.00	0.56	0.00	7,994.16	7,994.16	0.15	0.15	8,042.82
City Park	0	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
General Light Industry	2.39838e+008	1.29	11.76	9.88	0.07		0.00	0.89		0.00	0.89	0.00	12,798.66	12,798.66	0.25	0.23	12,876.55
Government Office Building	2.41174e+008	1.30	11.82	9.93	0.07		0.00	0.90		0.00	0.90	0.00	12,869.98	12,869.98	0.25	0.24	12,948.30
Single Family Housing	7.0163e+007	0.38	3.23	1.38	0.02		0.00	0.26		0.00	0.26	0.00	3,744.17	3,744.17	0.07	0.07	3,766.95
Strip Mall	4.50362e+006	0.02	0.22	0.19	0.00		0.00	0.02		0.00	0.02	0.00	240.33	240.33	0.00	0.00	241.79
Total		**3.80**	**33.93**	**24.32**	**0.20**		**0.00**	**2.63**		**0.00**	**2.63**	**0.00**	**37,647.30**	**37,647.30**	**0.72**	**0.69**	**37,876.41**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU	tons/yr										MT/yr					
Apartments Mid Rise	1.49805e+008	0.81	6.90	2.94	0.04		0.00	0.56		0.00	0.56	0.00	7,994.16	7,994.16	0.15	0.15	8,042.82
City Park	0	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
General Light Industry	2.39838e+008	1.29	11.76	9.88	0.07		0.00	0.89		0.00	0.89	0.00	12,798.66	12,798.66	0.25	0.23	12,876.55
Government Office Building	2.41174e+008	1.30	11.82	9.93	0.07		0.00	0.90		0.00	0.90	0.00	12,869.98	12,869.98	0.25	0.24	12,948.30
Single Family Housing	7.0163e+007	0.38	3.23	1.38	0.02		0.00	0.26		0.00	0.26	0.00	3,744.17	3,744.17	0.07	0.07	3,766.95
Strip Mall	4.50362e+006	0.02	0.22	0.19	0.00		0.00	0.02		0.00	0.02	0.00	240.33	240.33	0.00	0.00	241.79
Total		**3.80**	**33.93**	**24.32**	**0.20**		**0.00**	**2.63**		**0.00**	**2.63**	**0.00**	**37,647.30**	**37,647.30**	**0.72**	**0.69**	**37,876.41**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	kWh	tons/yr				MT/yr			
Apartments Mid Rise	4.76622e+007					16,880.07	0.63	0.24	16,966.96
City Park	0					0.00	0.00	0.00	0.00
General Light Industry	1.8305e+008					64,828.91	2.41	0.91	65,162.61
Government Office Building	1.61124e+008					57,063.77	2.12	0.80	57,357.50
Single Family Housing	1.10097e+007					3,899.19	0.14	0.05	3,919.26
Strip Mall	2.76384e+007					9,788.42	0.36	0.14	9,838.80
Total						**152,460.36**	**5.66**	**2.14**	**153,245.13**

5.3 Energy by Land Use - Electricity

<u>Mitigated</u>

	Electricity Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	kWh	tons/yr				MT/yr			
Apartments Mid Rise	4.76622e+007					16,880.07	0.63	0.24	16,966.96
City Park	0					0.00	0.00	0.00	0.00
General Light Industry	1.8305e+008					64,828.91	2.41	0.91	65,162.61
Government Office Building	1.61124e+008					57,063.77	2.12	0.80	57,357.50
Single Family Housing	1.10097e+007					3,899.19	0.14	0.05	3,919.26
Strip Mall	2.76384e+007					9,788.42	0.36	0.14	9,838.80
Total						**152,460.36**	**5.66**	**2.14**	**153,245.13**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1,200.71	14.14	1,279.02	0.46		0.00	165.27		0.00	165.25	15,573.90	19,779.35	35,353.25	14.80	1.46	36,118.10
Unmitigated	1,200.71	14.14	1,279.02	0.46		0.00	165.27		0.00	165.25	15,573.90	19,779.35	35,353.25	14.80	1.46	36,118.10
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	62.28					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Consumer Products	187.63					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hearth	947.34	12.84	1,165.47	0.46		0.00	164.64		0.00	164.63	15,573.90	19,594.40	35,168.31	14.62	1.46	35,929.37
Landscaping	3.46	1.31	113.55	0.01		0.00	0.62		0.00	0.62	0.00	184.94	184.94	0.18	0.00	188.73
Total	**1,200.71**	**14.15**	**1,279.02**	**0.47**		**0.00**	**165.26**		**0.00**	**165.25**	**15,573.90**	**19,779.34**	**35,353.25**	**14.80**	**1.46**	**36,118.10**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	62.28					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Consumer Products	187.63					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hearth	947.34	12.84	1,165.47	0.46		0.00	164.64		0.00	164.63	15,573.90	19,594.40	35,168.31	14.62	1.46	35,929.37
Landscaping	3.46	1.31	113.55	0.01		0.00	0.62		0.00	0.62	0.00	184.94	184.94	0.18	0.00	188.73
Total	**1,200.71**	**14.15**	**1,279.02**	**0.47**		**0.00**	**165.26**		**0.00**	**165.25**	**15,573.90**	**19,779.34**	**35,353.25**	**14.80**	**1.46**	**36,118.10**

7.0 Water Detail

7.1 Mitigation Measures Water

	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr				MT/yr			
Mitigated					466,504.56	3,042.51	81.58	555,687.40
Unmitigated					466,504.56	3,042.51	81.58	555,687.40
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	tons/yr				MT/yr			
Apartments Mid Rise	872.738 / 550.205					6,199.34	26.87	0.75	6,995.44
City Park	0 / 172.765					679.78	0.03	0.01	683.28
General Light Industry	95953.6 / 0					443,568.26	2,945.37	78.87	529,871.00
Government Office Building	2033.6 / 1246.4					14,305.04	62.61	1.74	16,159.34
Single Family Housing	109.589 / 69.0888					778.45	3.37	0.09	878.41
Strip Mall	138.421 / 84.8386					973.70	4.26	0.12	1,099.92
Total						**466,504.57**	**3,042.51**	**81.58**	**555,687.39**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	tons/yr				MT/yr			
Apartments Mid Rise	872.738 / 550.205					6,199.34	26.87	0.75	6,995.44
City Park	0 / 172.765					679.78	0.03	0.01	683.28
General Light Industry	95953.6 / 0					443,568.26	2,945.37	78.87	529,871.00
Government Office Building	2033.6 / 1246.4					14,305.04	62.61	1.74	16,159.34
Single Family Housing	109.589 / 69.0888					778.45	3.37	0.09	878.41
Strip Mall	138.421 / 84.8386					973.70	4.26	0.12	1,099.92
Total						**466,504.57**	**3,042.51**	**81.58**	**555,687.39**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
	tons/yr				MT/yr			
Mitigated					234,450.53	13,855.63	0.00	525,418.74
Unmitigated					234,450.53	13,855.63	0.00	525,418.74
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	tons	tons/yr				MT/yr			
Apartments Mid Rise	6161.7					1,250.77	73.92	0.00	2,803.05
City Park	12.47					2.53	0.15	0.00	5.67
General Light Industry	1.13535e+006					230,466.04	13,620.15	0.00	516,489.25
Government Office Building	9520.04					1,932.48	114.21	0.00	4,330.82
Single Family Housing	1972.51					400.40	23.66	0.00	897.33
Strip Mall	1962.16					398.30	23.54	0.00	892.62
Total						**234,450.52**	**13,855.63**	**0.00**	**525,418.74**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	tons	tons/yr				MT/yr			
Apartments Mid Rise	6161.7					1,250.77	73.92	0.00	2,803.05
City Park	12.47					2.53	0.15	0.00	5.67
General Light Industry	1.13535e+006					230,466.04	13,620.15	0.00	516,489.25
Government Office Building	9520.04					1,932.48	114.21	0.00	4,330.82
Single Family Housing	1972.51					400.40	23.66	0.00	897.33
Strip Mall	1962.16					398.30	23.54	0.00	892.62
Total						**234,450.52**	**13,855.63**	**0.00**	**525,418.74**

9.0 Vegetation

ATTACHMENT 4

CalEEMod Output – CPU Emissions with GHG Reduction Measures

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3957.1 OMCPU - New Development

San Diego County APCD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric
Government Office Building	10236.6	1000sqft
General Light Industry	19514.88	1000sqft
City Park	145	Acre
Apartments Mid Rise	13395	Dwelling Unit
Single Family Housing	1682	Dwelling Unit
Strip Mall	1868.72	1000sqft

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.6	**Utility Company**	San Diego Gas & Electric
Climate Zone	13	**Precipitation Freq (Days)**	40		

1.3 User Entered Comments

Project Characteristics -

Land Use - New Development

Construction Phase - Defaults assumed, but adjusted to 30 year total construction length

Grading -

Vehicle Trips - Urban Systems Associates

Vechicle Emission Factors -

Vechicle Emission Factors -

Vechicle Emission Factors -

Woodstoves -

Energy Use -

Water Mitigation -

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2011	1.47	11.93	6.83	0.01	4.80	0.61	5.41	2.27	0.61	2.88	0.00	996.06	996.06	0.12	0.00	998.58
2012	1.65	13.57	7.38	0.01	2.67	0.65	3.33	1.10	0.65	1.75	0.00	1,308.72	1,308.72	0.13	0.00	1,311.54
2013	1.56	12.73	7.07	0.01	2.67	0.60	3.27	1.10	0.60	1.70	0.00	1,308.22	1,308.22	0.13	0.00	1,310.88
2014	22.23	122.56	202.80	0.40	33.27	4.85	38.13	1.64	4.50	6.14	0.00	36,569.46	36,569.46	1.68	0.00	36,604.77
2015	26.83	146.32	244.80	0.53	40.37	5.86	46.23	0.72	5.41	6.13	0.00	47,239.71	47,239.71	2.02	0.00	47,282.03
2016	25.11	136.38	226.96	0.53	40.37	5.54	45.91	0.72	5.13	5.85	0.00	46,669.36	46,669.36	1.88	0.00	46,708.80
2017	23.43	127.23	209.94	0.52	40.22	5.24	45.46	0.72	4.85	5.57	0.00	45,964.72	45,964.72	1.74	0.00	46,001.27

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2018	22.10	120.04	196.26	0.53	40.37	5.03	45.40	0.72	4.65	5.37	0.00	45,648.36	45,648.36	1.63	0.00	45,682.65
2019	20.94	113.51	184.05	0.53	40.37	4.82	45.19	0.72	4.46	5.18	0.00	45,201.83	45,201.83	1.54	0.00	45,234.08
2020	20.08	108.34	174.55	0.53	40.53	4.67	45.19	0.72	4.31	5.03	0.00	44,962.63	44,962.63	1.46	0.00	44,993.20
2021	19.23	103.34	166.24	0.53	40.37	4.54	44.92	0.72	4.20	4.92	0.00	44,624.39	44,624.39	1.39	0.00	44,653.65
2022	18.42	99.06	157.41	0.52	40.22	4.42	44.64	0.72	4.08	4.80	0.00	44,109.60	44,109.60	1.32	0.00	44,137.36
2023	17.74	95.75	149.92	0.52	40.22	4.33	44.55	0.72	4.00	4.72	0.00	43,794.65	43,794.65	1.27	0.00	43,821.24
2024	17.26	93.69	144.23	0.53	40.53	4.29	44.81	0.72	3.96	4.69	0.00	43,846.14	43,846.14	1.23	0.00	43,871.94
2025	16.67	91.00	138.18	0.53	40.37	4.21	44.59	0.72	3.89	4.61	0.00	43,421.58	43,421.58	1.17	0.00	43,446.20
2026	16.67	91.00	138.18	0.53	40.37	4.21	44.59	0.72	3.89	4.61	0.00	43,421.58	43,421.58	1.17	0.00	43,446.20
2027	16.67	91.00	138.18	0.53	40.37	4.21	44.59	0.72	3.89	4.61	0.00	43,421.58	43,421.58	1.17	0.00	43,446.20
2028	16.60	90.66	137.65	0.52	40.22	4.20	44.42	0.72	3.87	4.59	0.00	43,255.22	43,255.22	1.17	0.00	43,279.74
2029	16.67	91.00	138.18	0.53	40.37	4.21	44.59	0.72	3.89	4.61	0.00	43,421.58	43,421.58	1.17	0.00	43,446.20
2030	14.70	83.81	119.45	0.53	40.37	4.02	44.40	0.72	3.70	4.43	0.00	42,507.18	42,507.18	1.02	0.00	42,528.65
2031	14.70	83.81	119.45	0.53	40.37	4.02	44.40	0.72	3.70	4.43	0.00	42,507.18	42,507.18	1.02	0.00	42,528.65
2032	14.76	84.13	119.90	0.53	40.53	4.04	44.57	0.72	3.72	4.44	0.00	42,670.04	42,670.04	1.03	0.00	42,691.60
2033	14.64	83.49	118.99	0.53	40.22	4.01	44.23	0.72	3.69	4.41	0.00	42,344.32	42,344.32	1.02	0.00	42,365.71
2034	14.64	83.49	118.99	0.53	40.22	4.01	44.23	0.72	3.69	4.41	0.00	42,344.32	42,344.32	1.02	0.00	42,365.71
2035	13.39	81.02	108.68	0.53	40.37	3.93	44.30	0.72	3.62	4.34	0.00	42,043.47	42,043.47	0.93	0.00	42,063.02
2036	13.44	81.33	109.10	0.53	40.53	3.94	44.47	0.72	3.64	4.36	0.00	42,204.56	42,204.56	0.93	0.00	42,224.18
2037	7.93	48.01	64.76	0.31	23.68	2.32	25.99	0.42	2.14	2.56	0.00	24,794.45	24,794.45	0.55	0.00	24,806.05
2038	0.21	1.25	2.53	0.00	0.02	0.04	0.06	0.00	0.04	0.04	0.00	358.33	358.33	0.02	0.00	358.68

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2039	285.12	1.22	10.37	0.04	5.02	0.22	5.23	0.08	0.20	0.28	0.00	3,033.13	3,033.13	0.10	0.00	3,035.30
2040	339.92	0.99	10.67	0.05	5.98	0.24	6.22	0.09	0.23	0.32	0.00	3,461.91	3,461.91	0.11	0.00	3,464.21
Total	**1,054.78**	**2,391.66**	**3,671.70**	**12.45**	**965.99**	**107.28**	**1,073.32**	**22.54**	**99.21**	**121.78**	**0.00**	**1,037,454.28**	**1,037,454.28**	**31.14**	**0.00**	**1,038,108.29**

2.1 Overall Construction

<u>Mitigated Construction</u>

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2011	1.47	11.93	6.83	0.01	4.77	0.61	5.38	2.27	0.61	2.88	0.00	996.06	996.06	0.12	0.00	998.58
2012	1.65	13.57	7.38	0.01	2.64	0.65	3.30	1.10	0.65	1.75	0.00	1,308.72	1,308.72	0.13	0.00	1,311.54
2013	1.56	12.73	7.07	0.01	2.64	0.60	3.24	1.10	0.60	1.70	0.00	1,308.22	1,308.22	0.13	0.00	1,310.88
2014	22.23	122.56	202.80	0.40	4.19	4.85	9.05	1.64	4.50	6.14	0.00	36,569.46	36,569.46	1.68	0.00	36,604.77
2015	26.83	146.32	244.80	0.53	2.05	5.86	7.91	0.72	5.41	6.13	0.00	47,239.71	47,239.71	2.02	0.00	47,282.03
2016	25.11	136.38	226.96	0.53	2.05	5.54	7.59	0.72	5.13	5.85	0.00	46,669.36	46,669.36	1.88	0.00	46,708.80
2017	23.43	127.23	209.94	0.52	2.04	5.24	7.28	0.72	4.85	5.57	0.00	45,964.72	45,964.72	1.74	0.00	46,001.27
2018	22.10	120.04	196.26	0.53	2.05	5.03	7.08	0.72	4.65	5.37	0.00	45,648.36	45,648.36	1.63	0.00	45,682.65
2019	20.94	113.51	184.05	0.53	2.05	4.82	6.87	0.72	4.46	5.18	0.00	45,201.83	45,201.83	1.54	0.00	45,234.08
2020	20.08	108.34	174.55	0.53	2.06	4.67	6.72	0.72	4.31	5.03	0.00	44,962.63	44,962.63	1.46	0.00	44,993.20
2021	19.23	103.34	166.24	0.53	2.05	4.54	6.59	0.72	4.20	4.92	0.00	44,624.39	44,624.39	1.39	0.00	44,653.65

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	18.42	99.06	157.41	0.52	2.04	4.42	6.46	0.72	4.08	4.80	0.00	44,109.60	44,109.60	1.32	0.00	44,137.36
2023	17.74	95.75	149.92	0.52	2.04	4.33	6.37	0.72	4.00	4.72	0.00	43,794.65	43,794.65	1.27	0.00	43,821.24
2024	17.26	93.69	144.23	0.53	2.06	4.29	6.34	0.72	3.96	4.69	0.00	43,846.14	43,846.14	1.23	0.00	43,871.94
2025	16.67	91.00	138.18	0.53	2.05	4.21	6.26	0.72	3.89	4.61	0.00	43,421.58	43,421.58	1.17	0.00	43,446.20
2026	16.67	91.00	138.18	0.53	2.05	4.21	6.26	0.72	3.89	4.61	0.00	43,421.58	43,421.58	1.17	0.00	43,446.20
2027	16.67	91.00	138.18	0.53	2.05	4.21	6.26	0.72	3.89	4.61	0.00	43,421.58	43,421.58	1.17	0.00	43,446.20
2028	16.60	90.66	137.65	0.52	2.04	4.20	6.24	0.72	3.87	4.59	0.00	43,255.22	43,255.22	1.17	0.00	43,279.74
2029	16.67	91.00	138.18	0.53	2.05	4.21	6.26	0.72	3.89	4.61	0.00	43,421.58	43,421.58	1.17	0.00	43,446.20
2030	14.70	83.81	119.45	0.53	2.05	4.02	6.07	0.72	3.70	4.43	0.00	42,507.18	42,507.18	1.02	0.00	42,528.65
2031	14.70	83.81	119.45	0.53	2.05	4.02	6.07	0.72	3.70	4.43	0.00	42,507.18	42,507.18	1.02	0.00	42,528.65
2032	14.76	84.13	119.90	0.53	2.06	4.04	6.10	0.72	3.72	4.44	0.00	42,670.04	42,670.04	1.03	0.00	42,691.60
2033	14.64	83.49	118.99	0.53	2.04	4.01	6.05	0.72	3.69	4.41	0.00	42,344.32	42,344.32	1.02	0.00	42,365.71
2034	14.64	83.49	118.99	0.53	2.04	4.01	6.05	0.72	3.69	4.41	0.00	42,344.32	42,344.32	1.02	0.00	42,365.71
2035	13.39	81.02	108.68	0.53	2.05	3.93	5.98	0.72	3.62	4.34	0.00	42,043.47	42,043.47	0.93	0.00	42,063.02
2036	13.44	81.33	109.10	0.53	2.06	3.94	6.00	0.72	3.64	4.36	0.00	42,204.56	42,204.56	0.93	0.00	42,224.18
2037	7.93	48.01	64.76	0.31	1.20	2.32	3.52	0.42	2.14	2.56	0.00	24,794.45	24,794.45	0.55	0.00	24,806.05
2038	0.21	1.25	2.53	0.00	0.00	0.04	0.04	0.00	0.04	0.04	0.00	358.33	358.33	0.02	0.00	358.68
2039	285.12	1.22	10.37	0.04	0.21	0.22	0.43	0.08	0.20	0.28	0.00	3,033.13	3,033.13	0.10	0.00	3,035.30
2040	339.92	0.99	10.67	0.05	0.26	0.24	0.50	0.09	0.23	0.32	0.00	3,461.91	3,461.91	0.11	0.00	3,464.21
Total	**1,054.78**	**2,391.66**	**3,671.70**	**12.45**	**60.99**	**107.28**	**168.27**	**22.54**	**99.21**	**121.78**	**0.00**	**1,037,454.28**	**1,037,454.28**	**31.14**	**0.00**	**1,038,108.29**

2.2 Overall Operational

<u>Unmitigated Operational</u>

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1,200.71	14.14	1,279.02	0.46		0.00	165.27		0.00	165.25	15,573.90	19,779.35	35,353.25	14.80	1.46	36,118.10
Energy	3.53	31.50	22.54	0.19		0.00	2.44		0.00	2.44	0.00	181,153.37	181,153.37	6.10	2.70	182,118.63
Mobile	330.84	640.53	2,985.85	6.16	625.02	34.57	659.59	9.99	33.33	43.32	0.00	467,975.31	467,975.31	21.34	0.00	468,423.54
Waste						0.00	0.00		0.00	0.00	234,450.53	0.00	234,450.53	13,855.63	0.00	525,418.74
Water						0.00	0.00		0.00	0.00	0.00	466,504.56	466,504.56	3,042.51	81.58	555,687.40
Total	**1,535.08**	**686.17**	**4,287.41**	**6.81**	**625.02**	**34.57**	**827.30**	**9.99**	**33.33**	**211.01**	**250,024.43**	**1,135,412.59**	**1,385,437.02**	**16,940.38**	**85.74**	**1,767,766.41**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	1,200.71	14.14	1,279.02	0.46		0.00	165.27		0.00	165.25	15,573.90	19,779.35	35,353.25	14.80	1.46	36,118.10
Energy	3.53	31.50	22.54	0.19		0.00	2.44		0.00	2.44	0.00	181,153.37	181,153.37	6.10	2.70	182,118.63
Mobile	330.84	640.53	2,985.85	6.16	625.02	34.57	659.59	9.99	33.33	43.32	0.00	467,975.31	467,975.31	21.34	0.00	468,423.54
Waste						0.00	0.00		0.00	0.00	234,450.53	0.00	234,450.53	13,855.63	0.00	525,418.74
Water						0.00	0.00		0.00	0.00	0.00	373,203.65	373,203.65	2,434.00	65.27	444,549.92
Total	**1,535.08**	**686.17**	**4,287.41**	**6.81**	**625.02**	**34.57**	**827.30**	**9.99**	**33.33**	**211.01**	**250,024.43**	**1,042,111.68**	**1,292,136.11**	**16,331.87**	**69.43**	**1,656,628.93**

3.0 Construction Detail

3.1 Mitigation Measures Construction

3.2 Site Preparation - 2011

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.13	0.00	2.13	1.17	0.00	1.17	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	1.30	10.59	5.95	0.01		0.54	0.54		0.54	0.54	0.00	855.90	855.90	0.11	0.00	858.12
Total	**1.30**	**10.59**	**5.95**	**0.01**	**2.13**	**0.54**	**2.67**	**1.17**	**0.54**	**1.71**	**0.00**	**855.90**	**855.90**	**0.11**	**0.00**	**858.12**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.01	0.02	0.17	0.00	0.02	0.00	0.03	0.00	0.00	0.00	0.00	19.77	19.77	0.00	0.00	19.80
Total	**0.01**	**0.02**	**0.17**	**0.00**	**0.02**	**0.00**	**0.03**	**0.00**	**0.00**	**0.00**	**0.00**	**19.77**	**19.77**	**0.00**	**0.00**	**19.80**

3.2 Site Preparation - 2011

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.13	0.00	2.13	1.17	0.00	1.17	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	1.30	10.59	5.95	0.01		0.54	0.54		0.54	0.54	0.00	855.90	855.90	0.11	0.00	858.12
Total	**1.30**	**10.59**	**5.95**	**0.01**	**2.13**	**0.54**	**2.67**	**1.17**	**0.54**	**1.71**	**0.00**	**855.90**	**855.90**	**0.11**	**0.00**	**858.12**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.01	0.02	0.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	19.77	19.77	0.00	0.00	19.80
Total	**0.01**	**0.02**	**0.17**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**19.77**	**19.77**	**0.00**	**0.00**	**19.80**

3.3 Grading - 2011

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.64	0.00	2.64	1.10	0.00	1.10	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.16	1.33	0.69	0.00		0.07	0.07		0.07	0.07	0.00	118.16	118.16	0.01	0.00	118.43
Total	**0.16**	**1.33**	**0.69**	**0.00**	**2.64**	**0.07**	**2.71**	**1.10**	**0.07**	**1.17**	**0.00**	**118.16**	**118.16**	**0.01**	**0.00**	**118.43**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.23	2.23	0.00	0.00	2.24
Total	**0.00**	**0.00**	**0.02**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**2.23**	**2.23**	**0.00**	**0.00**	**2.24**

3.3 Grading - 2011

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.64	0.00	2.64	1.10	0.00	1.10	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.16	1.33	0.69	0.00		0.07	0.07		0.07	0.07	0.00	118.16	118.16	0.01	0.00	118.43
Total	**0.16**	**1.33**	**0.69**	**0.00**	**2.64**	**0.07**	**2.71**	**1.10**	**0.07**	**1.17**	**0.00**	**118.16**	**118.16**	**0.01**	**0.00**	**118.43**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.23	2.23	0.00	0.00	2.24
Total	**0.00**	**0.00**	**0.02**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**2.23**	**2.23**	**0.00**	**0.00**	**2.24**

3.3 Grading - 2012

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.64	0.00	2.64	1.10	0.00	1.10	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	1.63	13.55	7.19	0.01		0.65	0.65		0.65	0.65	0.00	1,284.94	1,284.94	0.13	0.00	1,287.73
Total	**1.63**	**13.55**	**7.19**	**0.01**	**2.64**	**0.65**	**3.29**	**1.10**	**0.65**	**1.75**	**0.00**	**1,284.94**	**1,284.94**	**0.13**	**0.00**	**1,287.73**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.02	0.02	0.19	0.00	0.03	0.00	0.03	0.00	0.00	0.00	0.00	23.77	23.77	0.00	0.00	23.81
Total	**0.02**	**0.02**	**0.19**	**0.00**	**0.03**	**0.00**	**0.03**	**0.00**	**0.00**	**0.00**	**0.00**	**23.77**	**23.77**	**0.00**	**0.00**	**23.81**

3.3 Grading - 2012

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.64	0.00	2.64	1.10	0.00	1.10	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	1.63	13.55	7.19	0.01		0.65	0.65		0.65	0.65	0.00	1,284.94	1,284.94	0.13	0.00	1,287.73
Total	**1.63**	**13.55**	**7.19**	**0.01**	**2.64**	**0.65**	**3.29**	**1.10**	**0.65**	**1.75**	**0.00**	**1,284.94**	**1,284.94**	**0.13**	**0.00**	**1,287.73**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.02	0.02	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	23.77	23.77	0.00	0.00	23.81
Total	**0.02**	**0.02**	**0.19**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**23.77**	**23.77**	**0.00**	**0.00**	**23.81**

3.3 Grading - 2013

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.64	0.00	2.64	1.10	0.00	1.10	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	1.55	12.72	6.89	0.01		0.60	0.60		0.60	0.60	0.00	1,284.94	1,284.94	0.13	0.00	1,287.58
Total	**1.55**	**12.72**	**6.89**	**0.01**	**2.64**	**0.60**	**3.24**	**1.10**	**0.60**	**1.70**	**0.00**	**1,284.94**	**1,284.94**	**0.13**	**0.00**	**1,287.58**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.02	0.02	0.17	0.00	0.03	0.00	0.03	0.00	0.00	0.00	0.00	23.27	23.27	0.00	0.00	23.30
Total	**0.02**	**0.02**	**0.17**	**0.00**	**0.03**	**0.00**	**0.03**	**0.00**	**0.00**	**0.00**	**0.00**	**23.27**	**23.27**	**0.00**	**0.00**	**23.30**

3.3 Grading - 2013

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.64	0.00	2.64	1.10	0.00	1.10	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	1.55	12.72	6.89	0.01		0.60	0.60		0.60	0.60	0.00	1,284.94	1,284.94	0.13	0.00	1,287.58
Total	**1.55**	**12.72**	**6.89**	**0.01**	**2.64**	**0.60**	**3.24**	**1.10**	**0.60**	**1.70**	**0.00**	**1,284.94**	**1,284.94**	**0.13**	**0.00**	**1,287.58**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.02	0.02	0.17	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	23.27	23.27	0.00	0.00	23.30
Total	**0.02**	**0.02**	**0.17**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**23.27**	**23.27**	**0.00**	**0.00**	**23.30**

3.3 Grading - 2014

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.64	0.00	2.64	1.10	0.00	1.10	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.35	2.85	1.60	0.00		0.13	0.13		0.13	0.13	0.00	310.16	310.16	0.03	0.00	310.76
Total	**0.35**	**2.85**	**1.60**	**0.00**	**2.64**	**0.13**	**2.77**	**1.10**	**0.13**	**1.23**	**0.00**	**310.16**	**310.16**	**0.03**	**0.00**	**310.76**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.04	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	5.50	5.50	0.00	0.00	5.51
Total	**0.00**	**0.00**	**0.04**	**0.00**	**0.01**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**5.50**	**5.50**	**0.00**	**0.00**	**5.51**

3.3 Grading - 2014

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.64	0.00	2.64	1.10	0.00	1.10	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.35	2.85	1.60	0.00		0.13	0.13		0.13	0.13	0.00	310.16	310.16	0.03	0.00	310.76
Total	**0.35**	**2.85**	**1.60**	**0.00**	**2.64**	**0.13**	**2.77**	**1.10**	**0.13**	**1.23**	**0.00**	**310.16**	**310.16**	**0.03**	**0.00**	**310.76**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.50	5.50	0.00	0.00	5.51
Total	**0.00**	**0.00**	**0.04**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**5.50**	**5.50**	**0.00**	**0.00**	**5.51**

3.4 Building Construction - 2014

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.47	3.17	2.30	0.00		0.20	0.20		0.20	0.20	0.00	362.79	362.79	0.04	0.00	363.59
Total	**0.47**	**3.17**	**2.30**	**0.00**		**0.20**	**0.20**		**0.20**	**0.20**	**0.00**	**362.79**	**362.79**	**0.04**	**0.00**	**363.59**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	9.34	103.01	66.17	0.18	5.44	3.52	8.96	0.16	3.24	3.40	0.00	16,604.60	16,604.60	0.42	0.00	16,613.38
Worker	12.07	13.51	132.70	0.22	25.19	1.00	26.19	0.39	0.93	1.32	0.00	19,286.40	19,286.40	1.20	0.00	19,311.53
Total	**21.41**	**116.52**	**198.87**	**0.40**	**30.63**	**4.52**	**35.15**	**0.55**	**4.17**	**4.72**	**0.00**	**35,891.00**	**35,891.00**	**1.62**	**0.00**	**35,924.91**

3.4 Building Construction - 2014

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.47	3.17	2.30	0.00		0.20	0.20		0.20	0.20	0.00	362.79	362.79	0.04	0.00	363.59
Total	**0.47**	**3.17**	**2.30**	**0.00**		**0.20**	**0.20**		**0.20**	**0.20**	**0.00**	**362.79**	**362.79**	**0.04**	**0.00**	**363.59**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	9.34	103.01	66.17	0.18	0.48	3.52	4.00	0.16	3.24	3.40	0.00	16,604.60	16,604.60	0.42	0.00	16,613.38
Worker	12.07	13.51	132.70	0.22	1.08	1.00	2.08	0.39	0.93	1.32	0.00	19,286.40	19,286.40	1.20	0.00	19,311.53
Total	**21.41**	**116.52**	**198.87**	**0.40**	**1.56**	**4.52**	**6.08**	**0.55**	**4.17**	**4.72**	**0.00**	**35,891.00**	**35,891.00**	**1.62**	**0.00**	**35,924.91**

3.4 Building Construction - 2015

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.57	3.80	3.00	0.01		0.23	0.23		0.23	0.23	0.00	478.23	478.23	0.05	0.00	479.20
Total	**0.57**	**3.80**	**3.00**	**0.01**		**0.23**	**0.23**		**0.23**	**0.23**	**0.00**	**478.23**	**478.23**	**0.05**	**0.00**	**479.20**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	11.39	126.17	80.83	0.23	7.17	4.30	11.46	0.21	3.95	4.16	0.00	21,918.16	21,918.16	0.51	0.00	21,928.85
Worker	14.88	16.35	160.98	0.29	33.20	1.33	34.53	0.51	1.22	1.74	0.00	24,843.32	24,843.32	1.46	0.00	24,873.97
Total	**26.27**	**142.52**	**241.81**	**0.52**	**40.37**	**5.63**	**45.99**	**0.72**	**5.17**	**5.90**	**0.00**	**46,761.48**	**46,761.48**	**1.97**	**0.00**	**46,802.82**

3.4 Building Construction - 2015

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.57	3.80	3.00	0.01		0.23	0.23		0.23	0.23	0.00	478.23	478.23	0.05	0.00	479.20
Total	**0.57**	**3.80**	**3.00**	**0.01**		**0.23**	**0.23**		**0.23**	**0.23**	**0.00**	**478.23**	**478.23**	**0.05**	**0.00**	**479.20**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	11.39	126.17	80.83	0.23	0.63	4.30	4.92	0.21	3.95	4.16	0.00	21,918.16	21,918.16	0.51	0.00	21,928.85
Worker	14.88	16.35	160.98	0.29	1.42	1.33	2.75	0.51	1.22	1.74	0.00	24,843.32	24,843.32	1.46	0.00	24,873.97
Total	**26.27**	**142.52**	**241.81**	**0.52**	**2.05**	**5.63**	**7.67**	**0.72**	**5.17**	**5.90**	**0.00**	**46,761.48**	**46,761.48**	**1.97**	**0.00**	**46,802.82**

3.4 Building Construction - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.52	3.46	2.97	0.01		0.21	0.21		0.21	0.21	0.00	478.23	478.23	0.04	0.00	479.11
Total	**0.52**	**3.46**	**2.97**	**0.01**		**0.21**	**0.21**		**0.21**	**0.21**	**0.00**	**478.23**	**478.23**	**0.04**	**0.00**	**479.11**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	10.62	117.86	75.44	0.23	7.17	4.01	11.17	0.21	3.69	3.90	0.00	21,947.04	21,947.04	0.47	0.00	21,956.99
Worker	13.96	15.06	148.54	0.29	33.20	1.33	34.53	0.51	1.23	1.74	0.00	24,244.09	24,244.09	1.36	0.00	24,272.70
Total	**24.58**	**132.92**	**223.98**	**0.52**	**40.37**	**5.34**	**45.70**	**0.72**	**4.92**	**5.64**	**0.00**	**46,191.13**	**46,191.13**	**1.83**	**0.00**	**46,229.69**

3.4 Building Construction - 2016

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.52	3.46	2.97	0.01		0.21	0.21		0.21	0.21	0.00	478.23	478.23	0.04	0.00	479.11
Total	**0.52**	**3.46**	**2.97**	**0.01**		**0.21**	**0.21**		**0.21**	**0.21**	**0.00**	**478.23**	**478.23**	**0.04**	**0.00**	**479.11**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	10.62	117.86	75.44	0.23	0.63	4.01	4.63	0.21	3.69	3.90	0.00	21,947.04	21,947.04	0.47	0.00	21,956.99
Worker	13.96	15.06	148.54	0.29	1.42	1.33	2.75	0.51	1.23	1.74	0.00	24,244.09	24,244.09	1.36	0.00	24,272.70
Total	**24.58**	**132.92**	**223.98**	**0.52**	**2.05**	**5.34**	**7.38**	**0.72**	**4.92**	**5.64**	**0.00**	**46,191.13**	**46,191.13**	**1.83**	**0.00**	**46,229.69**

3.4 Building Construction - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.48	3.13	2.94	0.01		0.18	0.18		0.18	0.18	0.00	476.40	476.40	0.04	0.00	477.20
Total	**0.48**	**3.13**	**2.94**	**0.01**		**0.18**	**0.18**		**0.18**	**0.18**	**0.00**	**476.40**	**476.40**	**0.04**	**0.00**	**477.20**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	9.91	110.27	70.61	0.23	7.14	3.74	10.88	0.21	3.44	3.65	0.00	21,888.36	21,888.36	0.44	0.00	21,897.63
Worker	13.05	13.83	136.39	0.29	33.08	1.32	34.40	0.51	1.23	1.74	0.00	23,599.96	23,599.96	1.26	0.00	23,626.44
Total	**22.96**	**124.10**	**207.00**	**0.52**	**40.22**	**5.06**	**45.28**	**0.72**	**4.67**	**5.39**	**0.00**	**45,488.32**	**45,488.32**	**1.70**	**0.00**	**45,524.07**

3.4 Building Construction - 2017

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.48	3.13	2.94	0.01		0.18	0.18		0.18	0.18	0.00	476.40	476.40	0.04	0.00	477.20
Total	**0.48**	**3.13**	**2.94**	**0.01**		**0.18**	**0.18**		**0.18**	**0.18**	**0.00**	**476.40**	**476.40**	**0.04**	**0.00**	**477.20**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	9.91	110.27	70.61	0.23	0.62	3.74	4.37	0.21	3.44	3.65	0.00	21,888.36	21,888.36	0.44	0.00	21,897.63
Worker	13.05	13.83	136.39	0.29	1.42	1.32	2.74	0.51	1.23	1.74	0.00	23,599.96	23,599.96	1.26	0.00	23,626.44
Total	**22.96**	**124.10**	**207.00**	**0.52**	**2.04**	**5.06**	**7.11**	**0.72**	**4.67**	**5.39**	**0.00**	**45,488.32**	**45,488.32**	**1.70**	**0.00**	**45,524.07**

3.4 Building Construction - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.44	2.84	2.93	0.01		0.16	0.16		0.16	0.16	0.00	478.23	478.23	0.04	0.00	478.97
Total	**0.44**	**2.84**	**2.93**	**0.01**		**0.16**	**0.16**		**0.16**	**0.16**	**0.00**	**478.23**	**478.23**	**0.04**	**0.00**	**478.97**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	9.35	104.41	66.88	0.23	7.17	3.55	10.71	0.21	3.26	3.47	0.00	21,995.44	21,995.44	0.41	0.00	22,004.16
Worker	12.31	12.79	126.45	0.29	33.20	1.33	34.53	0.51	1.23	1.74	0.00	23,174.69	23,174.69	1.18	0.00	23,199.53
Total	**21.66**	**117.20**	**193.33**	**0.52**	**40.37**	**4.88**	**45.24**	**0.72**	**4.49**	**5.21**	**0.00**	**45,170.13**	**45,170.13**	**1.59**	**0.00**	**45,203.69**

3.4 Building Construction - 2018

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.44	2.84	2.93	0.01		0.16	0.16		0.16	0.16	0.00	478.23	478.23	0.04	0.00	478.97
Total	**0.44**	**2.84**	**2.93**	**0.01**		**0.16**	**0.16**		**0.16**	**0.16**	**0.00**	**478.23**	**478.23**	**0.04**	**0.00**	**478.97**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	9.35	104.41	66.88	0.23	0.63	3.55	4.17	0.21	3.26	3.47	0.00	21,995.44	21,995.44	0.41	0.00	22,004.16
Worker	12.31	12.79	126.45	0.29	1.42	1.33	2.75	0.51	1.23	1.74	0.00	23,174.69	23,174.69	1.18	0.00	23,199.53
Total	**21.66**	**117.20**	**193.33**	**0.52**	**2.05**	**4.88**	**6.92**	**0.72**	**4.49**	**5.21**	**0.00**	**45,170.13**	**45,170.13**	**1.59**	**0.00**	**45,203.69**

3.4 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.40	2.57	2.92	0.01		0.13	0.13		0.13	0.13	0.00	478.23	478.23	0.03	0.00	478.91
Total	**0.40**	**2.57**	**2.92**	**0.01**		**0.13**	**0.13**		**0.13**	**0.13**	**0.00**	**478.23**	**478.23**	**0.03**	**0.00**	**478.91**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	8.83	99.04	63.07	0.23	7.17	3.36	10.53	0.21	3.09	3.30	0.00	22,020.15	22,020.15	0.39	0.00	22,028.36
Worker	11.72	11.89	118.06	0.29	33.20	1.32	34.53	0.51	1.23	1.74	0.00	22,703.45	22,703.45	1.11	0.00	22,726.82
Total	**20.55**	**110.93**	**181.13**	**0.52**	**40.37**	**4.68**	**45.06**	**0.72**	**4.32**	**5.04**	**0.00**	**44,723.60**	**44,723.60**	**1.50**	**0.00**	**44,755.18**

3.4 Building Construction - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.40	2.57	2.92	0.01		0.13	0.13		0.13	0.13	0.00	478.23	478.23	0.03	0.00	478.91
Total	**0.40**	**2.57**	**2.92**	**0.01**		**0.13**	**0.13**		**0.13**	**0.13**	**0.00**	**478.23**	**478.23**	**0.03**	**0.00**	**478.91**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	8.83	99.04	63.07	0.23	0.63	3.36	3.99	0.21	3.09	3.30	0.00	22,020.15	22,020.15	0.39	0.00	22,028.36
Worker	11.72	11.89	118.06	0.29	1.42	1.32	2.75	0.51	1.23	1.74	0.00	22,703.45	22,703.45	1.11	0.00	22,726.82
Total	**20.55**	**110.93**	**181.13**	**0.52**	**2.05**	**4.68**	**6.74**	**0.72**	**4.32**	**5.04**	**0.00**	**44,723.60**	**44,723.60**	**1.50**	**0.00**	**44,755.18**

3.4 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.37	2.34	2.91	0.01		0.11	0.11		0.11	0.11	0.00	480.06	480.06	0.03	0.00	480.68
Total	**0.37**	**2.34**	**2.91**	**0.01**		**0.11**	**0.11**		**0.11**	**0.11**	**0.00**	**480.06**	**480.06**	**0.03**	**0.00**	**480.68**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	8.43	94.86	60.37	0.23	7.20	3.22	10.42	0.21	2.96	3.17	0.00	22,125.34	22,125.34	0.37	0.00	22,133.14
Worker	11.29	11.14	111.27	0.29	33.33	1.33	34.66	0.51	1.23	1.74	0.00	22,357.23	22,357.23	1.05	0.00	22,379.37
Total	**19.72**	**106.00**	**171.64**	**0.52**	**40.53**	**4.55**	**45.08**	**0.72**	**4.19**	**4.91**	**0.00**	**44,482.57**	**44,482.57**	**1.42**	**0.00**	**44,512.51**

3.4 Building Construction - 2020

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.37	2.34	2.91	0.01		0.11	0.11		0.11	0.11	0.00	480.06	480.06	0.03	0.00	480.68
Total	**0.37**	**2.34**	**2.91**	**0.01**		**0.11**	**0.11**		**0.11**	**0.11**	**0.00**	**480.06**	**480.06**	**0.03**	**0.00**	**480.68**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	8.43	94.86	60.37	0.23	0.63	3.22	3.85	0.21	2.96	3.17	0.00	22,125.34	22,125.34	0.37	0.00	22,133.14
Worker	11.29	11.14	111.27	0.29	1.43	1.33	2.76	0.51	1.23	1.74	0.00	22,357.23	22,357.23	1.05	0.00	22,379.37
Total	**19.72**	**106.00**	**171.64**	**0.52**	**2.06**	**4.55**	**6.61**	**0.72**	**4.19**	**4.91**	**0.00**	**44,482.57**	**44,482.57**	**1.42**	**0.00**	**44,512.51**

3.4 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.33	2.10	2.88	0.01		0.10	0.10		0.10	0.10	0.00	478.23	478.23	0.03	0.00	478.79
Total	**0.33**	**2.10**	**2.88**	**0.01**		**0.10**	**0.10**		**0.10**	**0.10**	**0.00**	**478.23**	**478.23**	**0.03**	**0.00**	**478.79**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	8.01	90.82	57.23	0.23	7.17	3.09	10.26	0.21	2.84	3.05	0.00	22,060.57	22,060.57	0.35	0.00	22,067.96
Worker	10.88	10.43	106.12	0.29	33.20	1.36	34.56	0.51	1.26	1.77	0.00	22,085.59	22,085.59	1.01	0.00	22,106.89
Total	**18.89**	**101.25**	**163.35**	**0.52**	**40.37**	**4.45**	**44.82**	**0.72**	**4.10**	**4.82**	**0.00**	**44,146.16**	**44,146.16**	**1.36**	**0.00**	**44,174.85**

3.4 Building Construction - 2021

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.33	2.10	2.88	0.01		0.10	0.10		0.10	0.10	0.00	478.23	478.23	0.03	0.00	478.79
Total	**0.33**	**2.10**	**2.88**	**0.01**		**0.10**	**0.10**		**0.10**	**0.10**	**0.00**	**478.23**	**478.23**	**0.03**	**0.00**	**478.79**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	8.01	90.82	57.23	0.23	0.63	3.09	3.72	0.21	2.84	3.05	0.00	22,060.57	22,060.57	0.35	0.00	22,067.96
Worker	10.88	10.43	106.12	0.29	1.42	1.36	2.78	0.51	1.26	1.77	0.00	22,085.59	22,085.59	1.01	0.00	22,106.89
Total	**18.89**	**101.25**	**163.35**	**0.52**	**2.05**	**4.45**	**6.50**	**0.72**	**4.10**	**4.82**	**0.00**	**44,146.16**	**44,146.16**	**1.36**	**0.00**	**44,174.85**

3.4 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.31	1.89	2.86	0.01		0.08	0.08		0.08	0.08	0.00	476.40	476.40	0.02	0.00	476.92
Total	**0.31**	**1.89**	**2.86**	**0.01**		**0.08**	**0.08**		**0.08**	**0.08**	**0.00**	**476.40**	**476.40**	**0.02**	**0.00**	**476.92**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	7.66	87.39	54.56	0.23	7.14	2.99	10.13	0.21	2.75	2.95	0.00	21,993.60	21,993.60	0.34	0.00	22,000.64
Worker	10.45	9.78	99.99	0.29	33.08	1.35	34.43	0.51	1.25	1.76	0.00	21,639.60	21,639.60	0.96	0.00	21,659.81
Total	**18.11**	**97.17**	**154.55**	**0.52**	**40.22**	**4.34**	**44.56**	**0.72**	**4.00**	**4.71**	**0.00**	**43,633.20**	**43,633.20**	**1.30**	**0.00**	**43,660.45**

3.4 Building Construction - 2022

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.31	1.89	2.86	0.01		0.08	0.08		0.08	0.08	0.00	476.40	476.40	0.02	0.00	476.92
Total	**0.31**	**1.89**	**2.86**	**0.01**		**0.08**	**0.08**		**0.08**	**0.08**	**0.00**	**476.40**	**476.40**	**0.02**	**0.00**	**476.92**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	7.66	87.39	54.56	0.23	0.63	2.99	3.61	0.21	2.75	2.95	0.00	21,993.60	21,993.60	0.34	0.00	22,000.64
Worker	10.45	9.78	99.99	0.29	1.42	1.35	2.77	0.51	1.25	1.76	0.00	21,639.60	21,639.60	0.96	0.00	21,659.81
Total	**18.11**	**97.17**	**154.55**	**0.52**	**2.05**	**4.34**	**6.38**	**0.72**	**4.00**	**4.71**	**0.00**	**43,633.20**	**43,633.20**	**1.30**	**0.00**	**43,660.45**

3.4 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.29	1.72	2.86	0.01		0.07	0.07		0.07	0.07	0.00	476.40	476.40	0.02	0.00	476.89
Total	**0.29**	**1.72**	**2.86**	**0.01**		**0.07**	**0.07**		**0.07**	**0.07**	**0.00**	**476.40**	**476.40**	**0.02**	**0.00**	**476.89**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	7.40	84.85	52.54	0.23	7.14	2.91	10.05	0.21	2.67	2.88	0.00	22,009.60	22,009.60	0.32	0.00	22,016.37
Worker	10.05	9.18	94.52	0.29	33.08	1.35	34.43	0.51	1.26	1.77	0.00	21,308.66	21,308.66	0.92	0.00	21,327.99
Total	**17.45**	**94.03**	**147.06**	**0.52**	**40.22**	**4.26**	**44.48**	**0.72**	**3.93**	**4.65**	**0.00**	**43,318.26**	**43,318.26**	**1.24**	**0.00**	**43,344.36**

3.4 Building Construction - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.29	1.72	2.86	0.01		0.07	0.07		0.07	0.07	0.00	476.40	476.40	0.02	0.00	476.89
Total	**0.29**	**1.72**	**2.86**	**0.01**		**0.07**	**0.07**		**0.07**	**0.07**	**0.00**	**476.40**	**476.40**	**0.02**	**0.00**	**476.89**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	7.40	84.85	52.54	0.23	0.63	2.91	3.53	0.21	2.67	2.88	0.00	22,009.60	22,009.60	0.32	0.00	22,016.37
Worker	10.05	9.18	94.52	0.29	1.42	1.35	2.77	0.51	1.26	1.77	0.00	21,308.66	21,308.66	0.92	0.00	21,327.99
Total	**17.45**	**94.03**	**147.06**	**0.52**	**2.05**	**4.26**	**6.30**	**0.72**	**3.93**	**4.65**	**0.00**	**43,318.26**	**43,318.26**	**1.24**	**0.00**	**43,344.36**

3.4 Building Construction - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.28	1.58	2.87	0.01		0.06	0.06		0.06	0.06	0.00	480.06	480.06	0.02	0.00	480.53
Total	**0.28**	**1.58**	**2.87**	**0.01**		**0.06**	**0.06**		**0.06**	**0.06**	**0.00**	**480.06**	**480.06**	**0.02**	**0.00**	**480.53**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	7.21	83.38	50.77	0.23	7.20	2.87	10.06	0.21	2.64	2.84	0.00	22,195.44	22,195.44	0.31	0.00	22,202.04
Worker	9.78	8.73	90.58	0.29	33.33	1.36	34.70	0.51	1.27	1.78	0.00	21,170.64	21,170.64	0.89	0.00	21,189.37
Total	**16.99**	**92.11**	**141.35**	**0.52**	**40.53**	**4.23**	**44.76**	**0.72**	**3.91**	**4.62**	**0.00**	**43,366.08**	**43,366.08**	**1.20**	**0.00**	**43,391.41**

3.4 Building Construction - 2024

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.28	1.58	2.87	0.01		0.06	0.06		0.06	0.06	0.00	480.06	480.06	0.02	0.00	480.53
Total	**0.28**	**1.58**	**2.87**	**0.01**		**0.06**	**0.06**		**0.06**	**0.06**	**0.00**	**480.06**	**480.06**	**0.02**	**0.00**	**480.53**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	7.21	83.38	50.77	0.23	0.63	2.87	3.50	0.21	2.64	2.84	0.00	22,195.44	22,195.44	0.31	0.00	22,202.04
Worker	9.78	8.73	90.58	0.29	1.43	1.36	2.79	0.51	1.27	1.78	0.00	21,170.64	21,170.64	0.89	0.00	21,189.37
Total	**16.99**	**92.11**	**141.35**	**0.52**	**2.06**	**4.23**	**6.29**	**0.72**	**3.91**	**4.62**	**0.00**	**43,366.08**	**43,366.08**	**1.20**	**0.00**	**43,391.41**

3.4 Building Construction - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.26	1.44	2.86	0.01		0.05	0.05		0.05	0.05	0.00	478.23	478.23	0.02	0.00	478.66
Total	**0.26**	**1.44**	**2.86**	**0.01**		**0.05**	**0.05**		**0.05**	**0.05**	**0.00**	**478.23**	**478.23**	**0.02**	**0.00**	**478.66**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	7.00	81.32	49.11	0.23	7.17	2.80	9.97	0.21	2.57	2.78	0.00	22,122.55	22,122.55	0.30	0.00	22,128.93
Worker	9.41	8.25	86.21	0.29	33.20	1.36	34.57	0.51	1.26	1.78	0.00	20,820.80	20,820.80	0.85	0.00	20,838.61
Total	**16.41**	**89.57**	**135.32**	**0.52**	**40.37**	**4.16**	**44.54**	**0.72**	**3.83**	**4.56**	**0.00**	**42,943.35**	**42,943.35**	**1.15**	**0.00**	**42,967.54**

3.4 Building Construction - 2025

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.26	1.44	2.86	0.01		0.05	0.05		0.05	0.05	0.00	478.23	478.23	0.02	0.00	478.66
Total	**0.26**	**1.44**	**2.86**	**0.01**		**0.05**	**0.05**		**0.05**	**0.05**	**0.00**	**478.23**	**478.23**	**0.02**	**0.00**	**478.66**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	7.00	81.32	49.11	0.23	0.63	2.80	3.43	0.21	2.57	2.78	0.00	22,122.55	22,122.55	0.30	0.00	22,128.93
Worker	9.41	8.25	86.21	0.29	1.42	1.36	2.79	0.51	1.26	1.78	0.00	20,820.80	20,820.80	0.85	0.00	20,838.61
Total	**16.41**	**89.57**	**135.32**	**0.52**	**2.05**	**4.16**	**6.22**	**0.72**	**3.83**	**4.56**	**0.00**	**42,943.35**	**42,943.35**	**1.15**	**0.00**	**42,967.54**

3.4 Building Construction - 2026

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.26	1.44	2.86	0.01		0.05	0.05		0.05	0.05	0.00	478.23	478.23	0.02	0.00	478.66
Total	**0.26**	**1.44**	**2.86**	**0.01**		**0.05**	**0.05**		**0.05**	**0.05**	**0.00**	**478.23**	**478.23**	**0.02**	**0.00**	**478.66**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	7.00	81.32	49.11	0.23	7.17	2.80	9.97	0.21	2.57	2.78	0.00	22,122.55	22,122.55	0.30	0.00	22,128.93
Worker	9.41	8.25	86.21	0.29	33.20	1.36	34.57	0.51	1.26	1.78	0.00	20,820.80	20,820.80	0.85	0.00	20,838.61
Total	**16.41**	**89.57**	**135.32**	**0.52**	**40.37**	**4.16**	**44.54**	**0.72**	**3.83**	**4.56**	**0.00**	**42,943.35**	**42,943.35**	**1.15**	**0.00**	**42,967.54**

3.4 Building Construction - 2026

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.26	1.44	2.86	0.01		0.05	0.05		0.05	0.05	0.00	478.23	478.23	0.02	0.00	478.66
Total	**0.26**	**1.44**	**2.86**	**0.01**		**0.05**	**0.05**		**0.05**	**0.05**	**0.00**	**478.23**	**478.23**	**0.02**	**0.00**	**478.66**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	7.00	81.32	49.11	0.23	0.63	2.80	3.43	0.21	2.57	2.78	0.00	22,122.55	22,122.55	0.30	0.00	22,128.93
Worker	9.41	8.25	86.21	0.29	1.42	1.36	2.79	0.51	1.26	1.78	0.00	20,820.80	20,820.80	0.85	0.00	20,838.61
Total	**16.41**	**89.57**	**135.32**	**0.52**	**2.05**	**4.16**	**6.22**	**0.72**	**3.83**	**4.56**	**0.00**	**42,943.35**	**42,943.35**	**1.15**	**0.00**	**42,967.54**

3.4 Building Construction - 2027

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.26	1.44	2.86	0.01		0.05	0.05		0.05	0.05	0.00	478.23	478.23	0.02	0.00	478.66
Total	**0.26**	**1.44**	**2.86**	**0.01**		**0.05**	**0.05**		**0.05**	**0.05**	**0.00**	**478.23**	**478.23**	**0.02**	**0.00**	**478.66**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	7.00	81.32	49.11	0.23	7.17	2.80	9.97	0.21	2.57	2.78	0.00	22,122.55	22,122.55	0.30	0.00	22,128.93
Worker	9.41	8.25	86.21	0.29	33.20	1.36	34.57	0.51	1.26	1.78	0.00	20,820.80	20,820.80	0.85	0.00	20,838.61
Total	**16.41**	**89.57**	**135.32**	**0.52**	**40.37**	**4.16**	**44.54**	**0.72**	**3.83**	**4.56**	**0.00**	**42,943.35**	**42,943.35**	**1.15**	**0.00**	**42,967.54**

3.4 Building Construction - 2027

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.26	1.44	2.86	0.01		0.05	0.05		0.05	0.05	0.00	478.23	478.23	0.02	0.00	478.66
Total	**0.26**	**1.44**	**2.86**	**0.01**		**0.05**	**0.05**		**0.05**	**0.05**	**0.00**	**478.23**	**478.23**	**0.02**	**0.00**	**478.66**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	7.00	81.32	49.11	0.23	0.63	2.80	3.43	0.21	2.57	2.78	0.00	22,122.55	22,122.55	0.30	0.00	22,128.93
Worker	9.41	8.25	86.21	0.29	1.42	1.36	2.79	0.51	1.26	1.78	0.00	20,820.80	20,820.80	0.85	0.00	20,838.61
Total	**16.41**	**89.57**	**135.32**	**0.52**	**2.05**	**4.16**	**6.22**	**0.72**	**3.83**	**4.56**	**0.00**	**42,943.35**	**42,943.35**	**1.15**	**0.00**	**42,967.54**

3.4 Building Construction - 2028

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.26	1.44	2.85	0.01		0.05	0.05		0.05	0.05	0.00	476.40	476.40	0.02	0.00	476.83
Total	**0.26**	**1.44**	**2.85**	**0.01**		**0.05**	**0.05**		**0.05**	**0.05**	**0.00**	**476.40**	**476.40**	**0.02**	**0.00**	**476.83**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	6.97	81.01	48.92	0.23	7.14	2.79	9.93	0.21	2.56	2.77	0.00	22,037.79	22,037.79	0.30	0.00	22,044.15
Worker	9.38	8.21	85.88	0.29	33.08	1.36	34.44	0.51	1.26	1.77	0.00	20,741.03	20,741.03	0.84	0.00	20,758.77
Total	**16.35**	**89.22**	**134.80**	**0.52**	**40.22**	**4.15**	**44.37**	**0.72**	**3.82**	**4.54**	**0.00**	**42,778.82**	**42,778.82**	**1.14**	**0.00**	**42,802.92**

3.4 Building Construction - 2028

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.26	1.44	2.85	0.01		0.05	0.05		0.05	0.05	0.00	476.40	476.40	0.02	0.00	476.83
Total	**0.26**	**1.44**	**2.85**	**0.01**		**0.05**	**0.05**		**0.05**	**0.05**	**0.00**	**476.40**	**476.40**	**0.02**	**0.00**	**476.83**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	6.97	81.01	48.92	0.23	0.63	2.79	3.41	0.21	2.56	2.77	0.00	22,037.79	22,037.79	0.30	0.00	22,044.15
Worker	9.38	8.21	85.88	0.29	1.42	1.36	2.77	0.51	1.26	1.77	0.00	20,741.03	20,741.03	0.84	0.00	20,758.77
Total	**16.35**	**89.22**	**134.80**	**0.52**	**2.05**	**4.15**	**6.18**	**0.72**	**3.82**	**4.54**	**0.00**	**42,778.82**	**42,778.82**	**1.14**	**0.00**	**42,802.92**

3.4 Building Construction - 2029

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.26	1.44	2.86	0.01		0.05	0.05		0.05	0.05	0.00	478.23	478.23	0.02	0.00	478.66
Total	**0.26**	**1.44**	**2.86**	**0.01**		**0.05**	**0.05**		**0.05**	**0.05**	**0.00**	**478.23**	**478.23**	**0.02**	**0.00**	**478.66**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	7.00	81.32	49.11	0.23	7.17	2.80	9.97	0.21	2.57	2.78	0.00	22,122.55	22,122.55	0.30	0.00	22,128.93
Worker	9.41	8.25	86.21	0.29	33.20	1.36	34.57	0.51	1.26	1.78	0.00	20,820.80	20,820.80	0.85	0.00	20,838.61
Total	**16.41**	**89.57**	**135.32**	**0.52**	**40.37**	**4.16**	**44.54**	**0.72**	**3.83**	**4.56**	**0.00**	**42,943.35**	**42,943.35**	**1.15**	**0.00**	**42,967.54**

3.4 Building Construction - 2029

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.26	1.44	2.86	0.01		0.05	0.05		0.05	0.05	0.00	478.23	478.23	0.02	0.00	478.66
Total	**0.26**	**1.44**	**2.86**	**0.01**		**0.05**	**0.05**		**0.05**	**0.05**	**0.00**	**478.23**	**478.23**	**0.02**	**0.00**	**478.66**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	7.00	81.32	49.11	0.23	0.63	2.80	3.43	0.21	2.57	2.78	0.00	22,122.55	22,122.55	0.30	0.00	22,128.93
Worker	9.41	8.25	86.21	0.29	1.42	1.36	2.79	0.51	1.26	1.78	0.00	20,820.80	20,820.80	0.85	0.00	20,838.61
Total	**16.41**	**89.57**	**135.32**	**0.52**	**2.05**	**4.16**	**6.22**	**0.72**	**3.83**	**4.56**	**0.00**	**42,943.35**	**42,943.35**	**1.15**	**0.00**	**42,967.54**

3.4 Building Construction - 2030

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.22	1.05	2.85	0.01		0.02	0.02		0.02	0.02	0.00	478.23	478.23	0.02	0.00	478.60
Total	**0.22**	**1.05**	**2.85**	**0.01**		**0.02**	**0.02**		**0.02**	**0.02**	**0.00**	**478.23**	**478.23**	**0.02**	**0.00**	**478.60**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	6.42	76.19	44.54	0.23	7.17	2.63	9.80	0.21	2.42	2.63	0.00	22,165.51	22,165.51	0.28	0.00	22,171.32
Worker	8.06	6.57	72.06	0.29	33.20	1.37	34.58	0.51	1.26	1.78	0.00	19,863.44	19,863.44	0.73	0.00	19,878.74
Total	**14.48**	**82.76**	**116.60**	**0.52**	**40.37**	**4.00**	**44.38**	**0.72**	**3.68**	**4.41**	**0.00**	**42,028.95**	**42,028.95**	**1.01**	**0.00**	**42,050.06**

3.4 Building Construction - 2030

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.22	1.05	2.85	0.01		0.02	0.02		0.02	0.02	0.00	478.23	478.23	0.02	0.00	478.60
Total	**0.22**	**1.05**	**2.85**	**0.01**		**0.02**	**0.02**		**0.02**	**0.02**	**0.00**	**478.23**	**478.23**	**0.02**	**0.00**	**478.60**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	6.42	76.19	44.54	0.23	0.63	2.63	3.26	0.21	2.42	2.63	0.00	22,165.51	22,165.51	0.28	0.00	22,171.32
Worker	8.06	6.57	72.06	0.29	1.42	1.37	2.79	0.51	1.26	1.78	0.00	19,863.44	19,863.44	0.73	0.00	19,878.74
Total	**14.48**	**82.76**	**116.60**	**0.52**	**2.05**	**4.00**	**6.05**	**0.72**	**3.68**	**4.41**	**0.00**	**42,028.95**	**42,028.95**	**1.01**	**0.00**	**42,050.06**

3.4 Building Construction - 2031

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.22	1.05	2.85	0.01		0.02	0.02		0.02	0.02	0.00	478.23	478.23	0.02	0.00	478.60
Total	**0.22**	**1.05**	**2.85**	**0.01**		**0.02**	**0.02**		**0.02**	**0.02**	**0.00**	**478.23**	**478.23**	**0.02**	**0.00**	**478.60**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	6.42	76.19	44.54	0.23	7.17	2.63	9.80	0.21	2.42	2.63	0.00	22,165.51	22,165.51	0.28	0.00	22,171.32
Worker	8.06	6.57	72.06	0.29	33.20	1.37	34.58	0.51	1.26	1.78	0.00	19,863.44	19,863.44	0.73	0.00	19,878.74
Total	**14.48**	**82.76**	**116.60**	**0.52**	**40.37**	**4.00**	**44.38**	**0.72**	**3.68**	**4.41**	**0.00**	**42,028.95**	**42,028.95**	**1.01**	**0.00**	**42,050.06**

3.4 Building Construction - 2031

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.22	1.05	2.85	0.01		0.02	0.02		0.02	0.02	0.00	478.23	478.23	0.02	0.00	478.60
Total	**0.22**	**1.05**	**2.85**	**0.01**		**0.02**	**0.02**		**0.02**	**0.02**	**0.00**	**478.23**	**478.23**	**0.02**	**0.00**	**478.60**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	6.42	76.19	44.54	0.23	0.63	2.63	3.26	0.21	2.42	2.63	0.00	22,165.51	22,165.51	0.28	0.00	22,171.32
Worker	8.06	6.57	72.06	0.29	1.42	1.37	2.79	0.51	1.26	1.78	0.00	19,863.44	19,863.44	0.73	0.00	19,878.74
Total	**14.48**	**82.76**	**116.60**	**0.52**	**2.05**	**4.00**	**6.05**	**0.72**	**3.68**	**4.41**	**0.00**	**42,028.95**	**42,028.95**	**1.01**	**0.00**	**42,050.06**

3.4 Building Construction - 2032

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.22	1.05	2.86	0.01		0.02	0.02		0.02	0.02	0.00	480.06	480.06	0.02	0.00	480.43
Total	**0.22**	**1.05**	**2.86**	**0.01**		**0.02**	**0.02**		**0.02**	**0.02**	**0.00**	**480.06**	**480.06**	**0.02**	**0.00**	**480.43**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	6.44	76.48	44.71	0.23	7.20	2.64	9.83	0.21	2.43	2.64	0.00	22,250.44	22,250.44	0.28	0.00	22,256.27
Worker	8.09	6.60	72.34	0.29	33.33	1.38	34.71	0.51	1.27	1.78	0.00	19,939.55	19,939.55	0.73	0.00	19,954.90
Total	**14.53**	**83.08**	**117.05**	**0.52**	**40.53**	**4.02**	**44.54**	**0.72**	**3.70**	**4.42**	**0.00**	**42,189.99**	**42,189.99**	**1.01**	**0.00**	**42,211.17**

3.4 Building Construction - 2032

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.22	1.05	2.86	0.01		0.02	0.02		0.02	0.02	0.00	480.06	480.06	0.02	0.00	480.43
Total	**0.22**	**1.05**	**2.86**	**0.01**		**0.02**	**0.02**		**0.02**	**0.02**	**0.00**	**480.06**	**480.06**	**0.02**	**0.00**	**480.43**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	6.44	76.48	44.71	0.23	0.63	2.64	3.27	0.21	2.43	2.64	0.00	22,250.44	22,250.44	0.28	0.00	22,256.27
Worker	8.09	6.60	72.34	0.29	1.43	1.38	2.80	0.51	1.27	1.78	0.00	19,939.55	19,939.55	0.73	0.00	19,954.90
Total	**14.53**	**83.08**	**117.05**	**0.52**	**2.06**	**4.02**	**6.07**	**0.72**	**3.70**	**4.42**	**0.00**	**42,189.99**	**42,189.99**	**1.01**	**0.00**	**42,211.17**

3.4 Building Construction - 2033

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.22	1.05	2.84	0.01		0.02	0.02		0.02	0.02	0.00	476.40	476.40	0.02	0.00	476.76
Total	**0.22**	**1.05**	**2.84**	**0.01**		**0.02**	**0.02**		**0.02**	**0.02**	**0.00**	**476.40**	**476.40**	**0.02**	**0.00**	**476.76**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	6.40	75.90	44.37	0.23	7.14	2.62	9.76	0.21	2.41	2.62	0.00	22,080.58	22,080.58	0.28	0.00	22,086.37
Worker	8.03	6.55	71.78	0.29	33.08	1.37	34.44	0.51	1.26	1.77	0.00	19,787.34	19,787.34	0.73	0.00	19,802.57
Total	**14.43**	**82.45**	**116.15**	**0.52**	**40.22**	**3.99**	**44.20**	**0.72**	**3.67**	**4.39**	**0.00**	**41,867.92**	**41,867.92**	**1.01**	**0.00**	**41,888.94**

3.4 Building Construction - 2033

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.22	1.05	2.84	0.01		0.02	0.02		0.02	0.02	0.00	476.40	476.40	0.02	0.00	476.76
Total	**0.22**	**1.05**	**2.84**	**0.01**		**0.02**	**0.02**		**0.02**	**0.02**	**0.00**	**476.40**	**476.40**	**0.02**	**0.00**	**476.76**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	6.40	75.90	44.37	0.23	0.63	2.62	3.24	0.21	2.41	2.62	0.00	22,080.58	22,080.58	0.28	0.00	22,086.37
Worker	8.03	6.55	71.78	0.29	1.42	1.37	2.78	0.51	1.26	1.77	0.00	19,787.34	19,787.34	0.73	0.00	19,802.57
Total	**14.43**	**82.45**	**116.15**	**0.52**	**2.05**	**3.99**	**6.02**	**0.72**	**3.67**	**4.39**	**0.00**	**41,867.92**	**41,867.92**	**1.01**	**0.00**	**41,888.94**

3.4 Building Construction - 2034

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.22	1.05	2.84	0.01		0.02	0.02		0.02	0.02	0.00	476.40	476.40	0.02	0.00	476.76
Total	**0.22**	**1.05**	**2.84**	**0.01**		**0.02**	**0.02**		**0.02**	**0.02**	**0.00**	**476.40**	**476.40**	**0.02**	**0.00**	**476.76**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	6.40	75.90	44.37	0.23	7.14	2.62	9.76	0.21	2.41	2.62	0.00	22,080.58	22,080.58	0.28	0.00	22,086.37
Worker	8.03	6.55	71.78	0.29	33.08	1.37	34.44	0.51	1.26	1.77	0.00	19,787.34	19,787.34	0.73	0.00	19,802.57
Total	**14.43**	**82.45**	**116.15**	**0.52**	**40.22**	**3.99**	**44.20**	**0.72**	**3.67**	**4.39**	**0.00**	**41,867.92**	**41,867.92**	**1.01**	**0.00**	**41,888.94**

3.4 Building Construction - 2034

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.22	1.05	2.84	0.01		0.02	0.02		0.02	0.02	0.00	476.40	476.40	0.02	0.00	476.76
Total	**0.22**	**1.05**	**2.84**	**0.01**		**0.02**	**0.02**		**0.02**	**0.02**	**0.00**	**476.40**	**476.40**	**0.02**	**0.00**	**476.76**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	6.40	75.90	44.37	0.23	0.63	2.62	3.24	0.21	2.41	2.62	0.00	22,080.58	22,080.58	0.28	0.00	22,086.37
Worker	8.03	6.55	71.78	0.29	1.42	1.37	2.78	0.51	1.26	1.77	0.00	19,787.34	19,787.34	0.73	0.00	19,802.57
Total	**14.43**	**82.45**	**116.15**	**0.52**	**2.05**	**3.99**	**6.02**	**0.72**	**3.67**	**4.39**	**0.00**	**41,867.92**	**41,867.92**	**1.01**	**0.00**	**41,888.94**

3.4 Building Construction - 2035

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.20	0.91	2.84	0.01		0.01	0.01		0.01	0.01	0.00	478.23	478.23	0.02	0.00	478.57
Total	**0.20**	**0.91**	**2.84**	**0.01**		**0.01**	**0.01**		**0.01**	**0.01**	**0.00**	**478.23**	**478.23**	**0.02**	**0.00**	**478.57**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	6.13	74.52	42.38	0.23	7.17	2.55	9.72	0.21	2.34	2.55	0.00	22,212.05	22,212.05	0.26	0.00	22,217.57
Worker	7.05	5.59	63.46	0.29	33.20	1.36	34.57	0.51	1.26	1.78	0.00	19,353.20	19,353.20	0.65	0.00	19,366.88
Total	**13.18**	**80.11**	**105.84**	**0.52**	**40.37**	**3.91**	**44.29**	**0.72**	**3.60**	**4.33**	**0.00**	**41,565.25**	**41,565.25**	**0.91**	**0.00**	**41,584.45**

3.4 Building Construction - 2035

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.20	0.91	2.84	0.01		0.01	0.01		0.01	0.01	0.00	478.23	478.23	0.02	0.00	478.57
Total	**0.20**	**0.91**	**2.84**	**0.01**		**0.01**	**0.01**		**0.01**	**0.01**	**0.00**	**478.23**	**478.23**	**0.02**	**0.00**	**478.57**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	6.13	74.52	42.38	0.23	0.63	2.55	3.18	0.21	2.34	2.55	0.00	22,212.05	22,212.05	0.26	0.00	22,217.57
Worker	7.05	5.59	63.46	0.29	1.42	1.36	2.79	0.51	1.26	1.78	0.00	19,353.20	19,353.20	0.65	0.00	19,366.88
Total	**13.18**	**80.11**	**105.84**	**0.52**	**2.05**	**3.91**	**5.97**	**0.72**	**3.60**	**4.33**	**0.00**	**41,565.25**	**41,565.25**	**0.91**	**0.00**	**41,584.45**

3.4 Building Construction - 2036

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.20	0.92	2.85	0.01		0.01	0.01		0.01	0.01	0.00	480.06	480.06	0.02	0.00	480.40
Total	**0.20**	**0.92**	**2.85**	**0.01**		**0.01**	**0.01**		**0.01**	**0.01**	**0.00**	**480.06**	**480.06**	**0.02**	**0.00**	**480.40**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	6.16	74.81	42.54	0.24	7.20	2.56	9.75	0.21	2.35	2.56	0.00	22,297.15	22,297.15	0.26	0.00	22,302.70
Worker	7.08	5.61	63.71	0.29	33.33	1.37	34.70	0.51	1.27	1.78	0.00	19,427.35	19,427.35	0.65	0.00	19,441.08
Total	**13.24**	**80.42**	**106.25**	**0.53**	**40.53**	**3.93**	**44.45**	**0.72**	**3.62**	**4.34**	**0.00**	**41,724.50**	**41,724.50**	**0.91**	**0.00**	**41,743.78**

3.4 Building Construction - 2036

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.20	0.92	2.85	0.01		0.01	0.01		0.01	0.01	0.00	480.06	480.06	0.02	0.00	480.40
Total	**0.20**	**0.92**	**2.85**	**0.01**		**0.01**	**0.01**		**0.01**	**0.01**	**0.00**	**480.06**	**480.06**	**0.02**	**0.00**	**480.40**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	6.16	74.81	42.54	0.24	0.63	2.56	3.19	0.21	2.35	2.56	0.00	22,297.15	22,297.15	0.26	0.00	22,302.70
Worker	7.08	5.61	63.71	0.29	1.43	1.37	2.80	0.51	1.27	1.78	0.00	19,427.35	19,427.35	0.65	0.00	19,441.08
Total	**13.24**	**80.42**	**106.25**	**0.53**	**2.06**	**3.93**	**5.99**	**0.72**	**3.62**	**4.34**	**0.00**	**41,724.50**	**41,724.50**	**0.91**	**0.00**	**41,743.78**

3.4 Building Construction - 2037

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.12	0.53	1.66	0.00		0.01	0.01		0.01	0.01	0.00	280.34	280.34	0.01	0.00	280.54
Total	**0.12**	**0.53**	**1.66**	**0.00**		**0.01**	**0.01**		**0.01**	**0.01**	**0.00**	**280.34**	**280.34**	**0.01**	**0.00**	**280.54**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	3.60	43.68	24.84	0.14	4.20	1.49	5.70	0.12	1.37	1.50	0.00	13,020.86	13,020.86	0.15	0.00	13,024.09
Worker	4.13	3.28	37.20	0.17	19.46	0.80	20.26	0.30	0.74	1.04	0.00	11,344.98	11,344.98	0.38	0.00	11,353.00
Total	**7.73**	**46.96**	**62.04**	**0.31**	**23.66**	**2.29**	**25.96**	**0.42**	**2.11**	**2.54**	**0.00**	**24,365.84**	**24,365.84**	**0.53**	**0.00**	**24,377.09**

3.4 Building Construction - 2037

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.12	0.53	1.66	0.00		0.01	0.01		0.01	0.01	0.00	280.34	280.34	0.01	0.00	280.54
Total	**0.12**	**0.53**	**1.66**	**0.00**		**0.01**	**0.01**		**0.01**	**0.01**	**0.00**	**280.34**	**280.34**	**0.01**	**0.00**	**280.54**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	3.60	43.68	24.84	0.14	0.37	1.49	1.86	0.12	1.37	1.50	0.00	13,020.86	13,020.86	0.15	0.00	13,024.09
Worker	4.13	3.28	37.20	0.17	0.83	0.80	1.63	0.30	0.74	1.04	0.00	11,344.98	11,344.98	0.38	0.00	11,353.00
Total	**7.73**	**46.96**	**62.04**	**0.31**	**1.20**	**2.29**	**3.49**	**0.42**	**2.11**	**2.54**	**0.00**	**24,365.84**	**24,365.84**	**0.53**	**0.00**	**24,377.09**

3.5 Paving - 2037

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.09	0.52	1.03	0.00		0.02	0.02		0.02	0.02	0.00	142.89	142.89	0.01	0.00	143.04
Paving	0.00					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.09**	**0.52**	**1.03**	**0.00**		**0.02**	**0.02**		**0.02**	**0.02**	**0.00**	**142.89**	**142.89**	**0.01**	**0.00**	**143.04**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.02	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	5.38	5.38	0.00	0.00	5.39
Total	**0.00**	**0.00**	**0.02**	**0.00**	**0.01**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**5.38**	**5.38**	**0.00**	**0.00**	**5.39**

3.5 Paving - 2037

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.09	0.52	1.03	0.00		0.02	0.02		0.02	0.02	0.00	142.89	142.89	0.01	0.00	143.04
Paving	0.00					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.09**	**0.52**	**1.03**	**0.00**		**0.02**	**0.02**		**0.02**	**0.02**	**0.00**	**142.89**	**142.89**	**0.01**	**0.00**	**143.04**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.38	5.38	0.00	0.00	5.39
Total	**0.00**	**0.00**	**0.02**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**5.38**	**5.38**	**0.00**	**0.00**	**5.39**

3.5 Paving - 2038

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.21	1.25	2.49	0.00		0.04	0.04		0.04	0.04	0.00	345.32	345.32	0.02	0.00	345.67
Paving	0.00					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.21**	**1.25**	**2.49**	**0.00**		**0.04**	**0.04**		**0.04**	**0.04**	**0.00**	**345.32**	**345.32**	**0.02**	**0.00**	**345.67**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.04	0.00	0.02	0.00	0.02	0.00	0.00	0.00	0.00	13.01	13.01	0.00	0.00	13.02
Total	**0.00**	**0.00**	**0.04**	**0.00**	**0.02**	**0.00**	**0.02**	**0.00**	**0.00**	**0.00**	**0.00**	**13.01**	**13.01**	**0.00**	**0.00**	**13.02**

3.5 Paving - 2038

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.21	1.25	2.49	0.00		0.04	0.04		0.04	0.04	0.00	345.32	345.32	0.02	0.00	345.67
Paving	0.00					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.21**	**1.25**	**2.49**	**0.00**		**0.04**	**0.04**		**0.04**	**0.04**	**0.00**	**345.32**	**345.32**	**0.02**	**0.00**	**345.67**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	13.01	13.01	0.00	0.00	13.02
Total	**0.00**	**0.00**	**0.04**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**13.01**	**13.01**	**0.00**	**0.00**	**13.02**

3.5 Paving - 2039

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.05	0.30	0.60	0.00		0.01	0.01		0.01	0.01	0.00	83.35	83.35	0.00	0.00	83.44
Paving	0.00					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.05**	**0.30**	**0.60**	**0.00**		**0.01**	**0.01**		**0.01**	**0.01**	**0.00**	**83.35**	**83.35**	**0.00**	**0.00**	**83.44**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	3.14	3.14	0.00	0.00	3.14
Total	**0.00**	**0.00**	**0.01**	**0.00**	**0.01**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**3.14**	**3.14**	**0.00**	**0.00**	**3.14**

3.5 Paving - 2039

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.05	0.30	0.60	0.00		0.01	0.01		0.01	0.01	0.00	83.35	83.35	0.00	0.00	83.44
Paving	0.00					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.05**	**0.30**	**0.60**	**0.00**		**0.01**	**0.01**		**0.01**	**0.01**	**0.00**	**83.35**	**83.35**	**0.00**	**0.00**	**83.44**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.14	3.14	0.00	0.00	3.14
Total	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**3.14**	**3.14**	**0.00**	**0.00**	**3.14**

3.6 Architectural Coating - 2039

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	283.99					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.01	0.07	0.18	0.00		0.00	0.00		0.00	0.00	0.00	25.12	25.12	0.00	0.00	25.14
Total	**284.00**	**0.07**	**0.18**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**25.12**	**25.12**	**0.00**	**0.00**	**25.14**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	1.06	0.84	9.58	0.04	5.01	0.21	5.22	0.08	0.19	0.27	0.00	2,921.52	2,921.52	0.10	0.00	2,923.58
Total	**1.06**	**0.84**	**9.58**	**0.04**	**5.01**	**0.21**	**5.22**	**0.08**	**0.19**	**0.27**	**0.00**	**2,921.52**	**2,921.52**	**0.10**	**0.00**	**2,923.58**

3.6 Architectural Coating - 2039

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	283.99					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.01	0.07	0.18	0.00		0.00	0.00		0.00	0.00	0.00	25.12	25.12	0.00	0.00	25.14
Total	**284.00**	**0.07**	**0.18**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**25.12**	**25.12**	**0.00**	**0.00**	**25.14**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	1.06	0.84	9.58	0.04	0.21	0.21	0.42	0.08	0.19	0.27	0.00	2,921.52	2,921.52	0.10	0.00	2,923.58
Total	**1.06**	**0.84**	**9.58**	**0.04**	**0.21**	**0.21**	**0.42**	**0.08**	**0.19**	**0.27**	**0.00**	**2,921.52**	**2,921.52**	**0.10**	**0.00**	**2,923.58**

3.6 Architectural Coating - 2040

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	338.77					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.01	0.09	0.21	0.00		0.00	0.00		0.00	0.00	0.00	29.97	29.97	0.00	0.00	29.99
Total	**338.78**	**0.09**	**0.21**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**29.97**	**29.97**	**0.00**	**0.00**	**29.99**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	1.14	0.90	10.46	0.05	5.98	0.24	6.22	0.09	0.23	0.32	0.00	3,431.94	3,431.94	0.11	0.00	3,434.22
Total	**1.14**	**0.90**	**10.46**	**0.05**	**5.98**	**0.24**	**6.22**	**0.09**	**0.23**	**0.32**	**0.00**	**3,431.94**	**3,431.94**	**0.11**	**0.00**	**3,434.22**

3.6 Architectural Coating - 2040

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	338.77					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.01	0.09	0.21	0.00		0.00	0.00		0.00	0.00	0.00	29.97	29.97	0.00	0.00	29.99
Total	**338.78**	**0.09**	**0.21**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**29.97**	**29.97**	**0.00**	**0.00**	**29.99**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	1.14	0.90	10.46	0.05	0.26	0.24	0.50	0.09	0.23	0.32	0.00	3,431.94	3,431.94	0.11	0.00	3,434.22
Total	**1.14**	**0.90**	**10.46**	**0.05**	**0.26**	**0.24**	**0.50**	**0.09**	**0.23**	**0.32**	**0.00**	**3,431.94**	**3,431.94**	**0.11**	**0.00**	**3,434.22**

4.0 Mobile Detail

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	330.84	640.53	2,985.85	6.16	625.02	34.57	659.59	9.99	33.33	43.32	0.00	467,975.31	467,975.31	21.34	0.00	468,423.54
Unmitigated	330.84	640.53	2,985.85	6.16	625.02	34.57	659.59	9.99	33.33	43.32	0.00	467,975.31	467,975.31	21.34	0.00	468,423.54
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	107,160.00	107,160.00	107160.00	305,974,308	305,974,308
City Park	6,559.80	6,559.80	6559.80	14,004,207	14,004,207
General Light Industry	178,951.45	178,951.45	178951.45	522,450,751	522,450,751
Government Office Building	64,900.04	64,900.04	64900.04	111,295,816	111,295,816
Single Family Housing	14,784.78	14,784.78	14784.78	42,215,032	42,215,032
Strip Mall	125,316.36	125,316.36	125316.36	192,991,340	192,991,340
Total	497,672.44	497,672.44	497,672.44	1,188,931,453	1,188,931,453

4.3 Trip Type Information

	Miles			Trip %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW
Apartments Mid Rise	10.80	7.30	7.50	41.60	18.80	39.60
City Park	9.50	7.30	7.30	33.00	48.00	19.00
General Light Industry	9.50	7.30	7.30	59.00	28.00	13.00
Government Office Building	9.50	7.30	7.30	33.00	62.00	5.00
Single Family Housing	10.80	7.30	7.50	41.60	18.80	39.60
Strip Mall	9.50	7.30	7.30	16.60	64.40	19.00

5.0 Energy Detail

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.00	0.00		0.00	0.00	0.00	146,201.8 8	146,201.8 8	5.43	2.06	146,954.4 4
Electricity Unmitigated						0.00	0.00		0.00	0.00	0.00	146,201.8 8	146,201.8 8	5.43	2.06	146,954.4 4
NaturalGas Mitigated	3.53	31.50	22.54	0.19		0.00	2.44		0.00	2.44	0.00	34,951.49	34,951.49	0.67	0.64	35,164.20
NaturalGas Unmitigated	3.53	31.50	22.54	0.19		0.00	2.44		0.00	2.44	0.00	34,951.49	34,951.49	0.67	0.64	35,164.20
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU	tons/yr										MT/yr					
Apartments Mid Rise	1.41182e+008	0.76	6.51	2.77	0.04		0.00	0.53		0.00	0.53	0.00	7,534.01	7,534.01	0.14	0.14	7,579.86
City Park	0	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
General Light Industry	2.3008e+008	1.24	11.28	9.47	0.07		0.00	0.86		0.00	0.86	0.00	12,277.97	12,277.97	0.24	0.23	12,352.69
Government Office Building	2.15276e+008	1.16	10.55	8.86	0.06		0.00	0.80		0.00	0.80	0.00	11,487.93	11,487.93	0.22	0.21	11,557.84
Single Family Housing	6.41487e+007	0.35	2.96	1.26	0.02		0.00	0.24		0.00	0.24	0.00	3,423.22	3,423.22	0.07	0.06	3,444.05
Strip Mall	4.27937e+006	0.02	0.21	0.18	0.00		0.00	0.02		0.00	0.02	0.00	228.36	228.36	0.00	0.00	229.75
Total		**3.53**	**31.51**	**22.54**	**0.19**		**0.00**	**2.45**		**0.00**	**2.45**	**0.00**	**34,951.49**	**34,951.49**	**0.67**	**0.64**	**35,164.19**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU	tons/yr										MT/yr					
Apartments Mid Rise	1.41182e+008	0.76	6.51	2.77	0.04		0.00	0.53		0.00	0.53	0.00	7,534.01	7,534.01	0.14	0.14	7,579.86
City Park	0	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
General Light Industry	2.3008e+008	1.24	11.28	9.47	0.07		0.00	0.86		0.00	0.86	0.00	12,277.97	12,277.97	0.24	0.23	12,352.69
Government Office Building	2.15276e+008	1.16	10.55	8.86	0.06		0.00	0.80		0.00	0.80	0.00	11,487.93	11,487.93	0.22	0.21	11,557.84
Single Family Housing	6.41487e+007	0.35	2.96	1.26	0.02		0.00	0.24		0.00	0.24	0.00	3,423.22	3,423.22	0.07	0.06	3,444.05
Strip Mall	4.27937e+006	0.02	0.21	0.18	0.00		0.00	0.02		0.00	0.02	0.00	228.36	228.36	0.00	0.00	229.75
Total		**3.53**	**31.51**	**22.54**	**0.19**		**0.00**	**2.45**		**0.00**	**2.45**	**0.00**	**34,951.49**	**34,951.49**	**0.67**	**0.64**	**35,164.19**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	kWh	tons/yr				MT/yr			
Apartments Mid Rise	4.67112e+007					16,543.25	0.61	0.23	16,628.40
City Park	0					0.00	0.00	0.00	0.00
General Light Industry	1.75634e+008					62,202.58	2.31	0.88	62,522.76
Government Office Building	1.53447e+008					54,344.72	2.02	0.77	54,624.45
Single Family Housing	1.07841e+007					3,819.29	0.14	0.05	3,838.95
Strip Mall	2.62368e+007					9,292.05	0.35	0.13	9,339.87
Total						**146,201.89**	**5.43**	**2.06**	**146,954.43**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	kWh	tons/yr				MT/yr			
Apartments Mid Rise	4.67112e+007					16,543.25	0.61	0.23	16,628.40
City Park	0					0.00	0.00	0.00	0.00
General Light Industry	1.75634e+008					62,202.58	2.31	0.88	62,522.76
Government Office Building	1.53447e+008					54,344.72	2.02	0.77	54,624.45
Single Family Housing	1.07841e+007					3,819.29	0.14	0.05	3,838.95
Strip Mall	2.62368e+007					9,292.05	0.35	0.13	9,339.87
Total						**146,201.89**	**5.43**	**2.06**	**146,954.43**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	1,200.71	14.14	1,279.02	0.46		0.00	165.27		0.00	165.25	15,573.90	19,779.35	35,353.25	14.80	1.46	36,118.10
Unmitigated	1,200.71	14.14	1,279.02	0.46		0.00	165.27		0.00	165.25	15,573.90	19,779.35	35,353.25	14.80	1.46	36,118.10
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

6.2 Area by SubCategory

<u>Unmitigated</u>

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	62.28					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Consumer Products	187.63					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hearth	947.34	12.84	1,165.47	0.46		0.00	164.64		0.00	164.63	15,573.90	19,594.40	35,168.31	14.62	1.46	35,929.37
Landscaping	3.46	1.31	113.55	0.01		0.00	0.62		0.00	0.62	0.00	184.94	184.94	0.18	0.00	188.73
Total	**1,200.71**	**14.15**	**1,279.02**	**0.47**		**0.00**	**165.26**		**0.00**	**165.25**	**15,573.90**	**19,779.34**	**35,353.25**	**14.80**	**1.46**	**36,118.10**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	62.28					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Consumer Products	187.63					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hearth	947.34	12.84	1,165.47	0.46		0.00	164.64		0.00	164.63	15,573.90	19,594.40	35,168.31	14.62	1.46	35,929.37
Landscaping	3.46	1.31	113.55	0.01		0.00	0.62		0.00	0.62	0.00	184.94	184.94	0.18	0.00	188.73
Total	**1,200.71**	**14.15**	**1,279.02**	**0.47**		**0.00**	**165.26**		**0.00**	**165.25**	**15,573.90**	**19,779.34**	**35,353.25**	**14.80**	**1.46**	**36,118.10**

7.0 Water Detail

7.1 Mitigation Measures Water

Apply Water Conservation Strategy

	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr				MT/yr			
Mitigated					373,203.65	2,434.00	65.27	444,549.92
Unmitigated					466,504.56	3,042.51	81.58	555,687.40
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

7.2 Water by Land Use

<u>Unmitigated</u>

	Indoor/Outdoor Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	tons/yr				MT/yr			
Apartments Mid Rise	872.738 / 550.205					6,199.34	26.87	0.75	6,995.44
City Park	0 / 172.765					679.78	0.03	0.01	683.28
General Light Industry	95953.6 / 0					443,568.26	2,945.37	78.87	529,871.00
Government Office Building	2033.6 / 1246.4					14,305.04	62.61	1.74	16,159.34
Single Family Housing	109.589 / 69.0888					778.45	3.37	0.09	878.41
Strip Mall	138.421 / 84.8386					973.70	4.26	0.12	1,099.92
Total						**466,504.57**	**3,042.51**	**81.58**	**555,687.39**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	tons/yr				MT/yr			
Apartments Mid Rise	698.191 / 440.164					4,959.47	21.50	0.60	5,596.36
City Park	0 / 138.212					543.83	0.02	0.01	546.62
General Light Industry	76762.9 / 0					354,854.6 1	2,356.30	63.10	423,896.8 0
Government Office Building	1626.88 / 997.12					11,444.03	50.08	1.39	12,927.47
Single Family Housing	87.6713 / 55.271					622.76	2.70	0.08	702.73
Strip Mall	110.737 / 67.8708					778.96	3.41	0.09	879.93
Total						**373,203.6 6**	**2,434.01**	**65.27**	**444,549.9 1**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
	tons/yr				MT/yr			
Mitigated					234,450.53	13,855.63	0.00	525,418.74
Unmitigated					234,450.53	13,855.63	0.00	525,418.74
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	tons	tons/yr				MT/yr			
Apartments Mid Rise	6161.7					1,250.77	73.92	0.00	2,803.05
City Park	12.47					2.53	0.15	0.00	5.67
General Light Industry	1.13535e+006					230,466.04	13,620.15	0.00	516,489.25
Government Office Building	9520.04					1,932.48	114.21	0.00	4,330.82
Single Family Housing	1972.51					400.40	23.66	0.00	897.33
Strip Mall	1962.16					398.30	23.54	0.00	892.62
Total						**234,450.52**	**13,855.63**	**0.00**	**525,418.74**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	tons	tons/yr				MT/yr			
Apartments Mid Rise	6161.7					1,250.77	73.92	0.00	2,803.05
City Park	12.47					2.53	0.15	0.00	5.67
General Light Industry	1.13535e+006					230,466.04	13,620.15	0.00	516,489.25
Government Office Building	9520.04					1,932.48	114.21	0.00	4,330.82
Single Family Housing	1972.51					400.40	23.66	0.00	897.33
Strip Mall	1962.16					398.30	23.54	0.00	892.62
Total						**234,450.52**	**13,855.63**	**0.00**	**525,418.74**

9.0 Vegetation

ATTACHMENT 5

GHG Emissions Reduction Calculations

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	New Development BAU (2020)				New Development (2020)				% Reduction
	CO2	**CH4**	**N2O**	**CO2E**	**CO2**	**CH4**	**N2O**	**CO2E**	
Vehicles	668,536.16	30.49	0.00	669,176.49	467,975.31	21.34	0.00	468,423.54	30.0%
Energy	190,107.66	6.38	2.84	191,121.54	181,153.37	6.10	2.70	182,188.63	4.7%
Area	35,353.25	14.80	1.46	36,118.10	35,353.25	14.80	1.46	36,118.10	0.0%
Water	466,504.56	3,042.51	81.58	555,687.40	373,203.65	2,434.00	65.27	444,549.92	20.0%
Waste	234,450.53	13,855.63	0.00	525,418.74	234,450.53	13,855.63	0.00	525,418.74	0.0%
Construction	1,037,454.28	31.14	0.00	1,038,108.29	1,037,454.28	31.14	0.00	1,038,108.29	0.0%
Construction (Amortized Over 30 Years)	34,581.81	1.04	0.00	34,603.61	34,581.81	1.04	0.00	34,603.61	0.0%
TOTAL	1,629,533.97	16,950.84	85.88	**2,012,125.88**	1,326,717.92	16,332.91	69.43	**1,691,302.54**	**15.9%**