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TRAFFIC IMPACT ANALYSIS

OTAY RANCH VILLAGE 2, 3 AND PLANNING AREA 18B

Chula Vista, California
November 22, 2005

Prepared for:

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TRAFFIC IMPACT ANALYSIS

OTAY RANCH VILLAGE 2, 3 AND PLANNING AREA 18B

Chula Vista, California
November 22, 2005

1.0 INTRODUCTION

The following traffic impact analysis has been prepared for the proposed Villages 2, & 3 and Planning Area 18B project, in the eastern territories of Chula Vista. The project is located both east and west of the future Heritage Road, south of Olympic Parkway. A detailed project description is included in the following section.

Included in this traffic study are the following:

- Introduction
- Project Description
- Study Area and Scenarios
- Existing Conditions Description
- Analysis Approach and Methodology
- Existing Operations
- Future Traffic Volume Determination
- Project Trip Generation
- Project Traffic Distribution/Assignment
- Significance Criteria
- Future Conditions Analysis
- Freeway Analysis
- Access Assessment
- PFFP Assessment
- Significance of Impacts Discussion
- Mitigation Measures/Recommendations

2.0 PROJECT DESCRIPTION

The approximately 23,000 acre Otay Ranch is a master-planned community that includes a broad range of residential, commercial, retail, and industrial development interwoven with civic and community uses, such as libraries, parks, and schools, together with an open space preserve system consisting of approximately 11,375 acres. The Otay Ranch GDP was adopted by the Chula Vista City Council and the San Diego County Board of Supervisors on October 28, 1993, which was accompanied by a Program Environmental Impact Report EIR-90-01 (SCH #89010154).

Villages Two, Three, Four, Seven and Planning Area 18b are a part of the designated fourteen villages and five planning areas within the Otay Ranch GDP area. The Otay Ranch GDP calls for a mixture of residential densities in Village Two, combined with parks, community purpose facilities, schools, and commercial areas. Village 2 is located between two scenic canyons and adjacent to the Otay Landfill. There is a 1,000-foot landfill buffer area located at the southern edge of Village Two West, and the western edge of Village Two Proper. The adopted GDP, as well as a landfill agreement between the City of Chula Vista and the County of San Diego, currently specify that only industrial development is allowed within the landfill buffer area. The adopted GDP includes industrial uses in Village Three.

Under the implementation program for Otay Ranch, SPA plans are required to be approved before final development entitlements can be considered. The current proposed project is a SPA plan that will further refine the development standards, land plans, goals, objectives and policies of the GDP.

Figure 1 depicts the project location and ***Figure 2*** shows a detailed map of the project area.

2.1 Land Use Description

2.1.1 *Proposed Project*

The land uses proposed within the Village 2 portion of the project are: 2,786 residential units of which 986 are single family, 1,740 are multifamily and 60 are multi-use multifamily units; approximately 11.9 of commercial, 15.4 acres of Neighborhood park; a 44.2 acre Community park; 6.1 acres of Community Purpose Facility uses; 10.3 acre elementary school; and 87.9 acres of Industrial land use. The land uses proposed within the Village 3 & Planning Area 18B portion of the project are: 175.5 acres of Industrial land use and 10.2 acres of Community Purpose Facility uses.

Figures 3 and 4 graphically depict the proposed Village 2 and Village 3 & Planning Area 18B project respectively.

2.1.2 *Analyzed (Worst-Case) Project*

The proposed project land uses were finalized in the later stages of the preparation of this document. The originally proposed land uses within the Village 2 portion of the project are: 2,695 residential units, of which, 994 units are single-family and 1,701 are multi-family; approximately 20.7 of commercial, 15.1 acres of Neighborhood park; a 70.0 acre Community park; 3.9 acres of Community Purpose Facility uses; 10.2 acre elementary school; and 84.6 acres of Industrial land

use. The land uses proposed within the Village 3 & Planning Area 18B portion of the project are: 171.0 acres of Industrial land use and 7.5 acres of Community Purpose Facility uses.

It may be noted that the "Assumed" land uses are calculated to generate more trips than the "Proposed" land uses. Therefore the "Assumed" land uses is the "worst-case" scenario. Therefore the "Assumed" land uses were analyzed in this traffic study.

The project land use data included in the SANDAG model correspond to the land uses for the Analyzed (Worst-Case) Project. Therefore, the Analyzed (Worst-Case) Project was specifically analyzed in this report. The trip generation included in Section 8.0, Project Trip Generation will show that the Analyzed (Worst-Case) Project generates more ADT, and AM/PM peak hour traffic than the Proposed project. Therefore, the traffic impacts associated with Analyzed (Worst-Case) Project would also apply to the Proposed Project.

2.2 PROJECT ACCESS

Two access driveways along Olympic Parkway, two along La Media Road and four access driveways along Heritage Road are proposed for the project. Each access driveway is briefly described below.

- ***Street "D"/Olympic Parkway*** - is a "T" intersection and provides access to the western portion of Village 2.
- ***Santa Venetia/Olympic Parkway*** – is a "T" intersection and provides access to the northeast portion of Village 2.
- ***Santa Venetia/La Media Road*** – is a four-leg intersection providing access to Village 6 to the east and Village 2 to the west.
- ***Street "C"/La Media Road/Birch Road*** – is a four-leg intersection providing access to Village 2 from the east. The fourth leg (west leg) of this intersection is Birch Road.
- ***Street "D"/Heritage Road*** – is a four-leg intersection providing access to Village 2. The eastern leg of this intersection forms the main access to Village 2 proper.
- ***Street "F"/Heritage Road*** – is a "T" intersection providing secondary access to Village 2 proper.
- ***Street "J"/Heritage Road North*** – is a four-leg intersection providing access to the industrial land uses in Village 3 and Planning Area 18B to the north.
- ***Street "J"/Heritage Road South*** – is a four-leg intersection providing access to the industrial land uses in Village 3 and Planning Area 18B to the south.

Internal intersection analysis completed by Wilson Engineering may be found in ***Appendix IX*** for the following internal project intersections:

- Santa Venetia/Street "B"
- Street "B"/Street "D"/Street "C"/Birch Road
- Street "C"/Street "D"

3.0 STUDY AREA, SCENARIOS AND SANDAG MODELING

3.1 Study Area

Based on the distribution of project traffic as determined by the Select Zone Assignment (SZA) and the requirements of the Congestion Management Plan (CMP), the study area described below was established. The study area is bound by Telegraph Canyon Road/Otay Lakes Road to the north, Hunte Parkway to the east, Main Street to the south and Interstate 805 (I-805) to the West. All signalized intersections, freeway interchanges and arterial segments within this area are analyzed under all scenarios, in this report. The proposed circulation network (described later in this section) will be analyzed in the GPA currently being completed. The project access intersections on Olympic Parkway and Heritage Road are also analyzed. The intersections and segments analyzed in this report are listed below:

Intersections

1) Telegraph Canyon Road/I-805 SB Ramps
2) Telegraph Canyon Road/I-805 NB Ramps
3) Telegraph Canyon Road/Oleander Avenue
4) Telegraph Canyon Road/Medical Center Drive
5) Telegraph Canyon Road/Paseo Ranchero/Heritage Road
6) Telegraph Canyon Road/Otay Lakes Road/La Media Road
7) Otay Lakes Road/SR 125 SB Ramps
8) Otay Lakes Road/ SR 125 SB Ramps
9) Otay Lakes Road/Eastlake Parkway
10) Otay Lakes Road/Hunte Parkway
11) E. Palomar Street/Oleander Avenue
12) E. Palomar Street/Brandywine Avenue
13) E. Palomar Street/Heritage Road
14) E. Palomar Street/La Media Road
15) Olympic Parkway/I-805 SB Ramps
16) Olympic Parkway/I-805 NB Ramps
17) Olympic Parkway/Oleander Avenue
18) Olympic Parkway/Brandywine Avenue
19) Olympic Parkway/Heritage Road
20) Olympic Parkway/La Media Road
21) Olympic Parkway/E. Palomar Street
22) Olympic Parkway/SR 125 SB Ramps
23) Olympic Parkway/SR 125 N Ramps
24) Olympic Parkway/Eastlake Parkway
25) Olympic Parkway/Hunte Parkway
26) Main Street/I-805 SB Ramps
27) Main Street/I-805 NB Ramps
28) Main Street/Oleander Avenue
29) Main Street/Brandywine Avenue
30) Birch Road/Heritage Road
31) Birch Road/La Media Road

32) Birch Road/SR 125/SB Ramps
33) Birch Road/ SR 125/NB Ramps
34) Birch Road/Eastlake Parkway
35) Rock Mountain Road/La Media Road
36) Rock Mountain Road/SR 125 SB Ramps
37) Rock Mountain Road/SR 125 NB Ramps
38) Hunte Parkway/Eastlake Parkway
39) Heritage Road/Main Street
40) Rock Mountain Road/Main Street
41) Main Street/La Media Road
42) Main Street/SR 125 SB Ramps
43) Main Street/SR 125 N Ramps

Segments

Telegraph Canyon Road

I-805 to Oleander Avenue
Oleander Avenue to Medical Center Drive
Medical Center Drive to Paseo Ranchero/Heritage Road
Paseo Ranchero/Heritage Road to Otay Lakes Road

Otay Lakes Road

North of Telegraph Canyon Road
La Media Road to SR 125
SR 125 to Eastlake Parkway
Eastlake Parkway to Lane Avenue

E. Palomar Street

I-805 to Oleander Avenue
Oleander Avenue to Medical Center Drive
Medical Center Drive to Heritage Road
Heritage Road to La Media Road
La Media Road to Olympic Parkway

Olympic Parkway

I-805 to Medical Center Drive
Medical Center Drive to Heritage Road
Heritage Road to La Media Road
La Media Road to E. Palomar Street
E. Palomar Street to SR 125
SR 125 to Eastlake Parkway
Eastlake Parkway to Hunte Parkway

Birch Road

La Media Road to SR 125
SR 125 to Eastlake Parkway

Rock Mountain Road

Main Street to La Media Road
La Media Road to SR 125
SR 125 to Eastlake Parkway

Main Street

I-805 to Oleander Avenue
Oleander Avenue to Brandywine Avenue
Brandywine Avenue to Heritage Road
Heritage Road to Rock Mountain Road
Rock Mountain Road to La Media Road
La Media Road to SR 125 SB Ramps

Oleander Avenue

Telegraph Canyon Road to E. Palomar Street
E. Palomar Street to Olympic Parkway
Olympic Parkway to Main Street

Medical Center Drive

Telegraph Canyon Road to E. Palomar Street

Brandywine Avenue

E. Palomar Street to Olympic Parkway
Olympic Parkway to Main Street

Paseo Ranchero

North of Telegraph Canyon Road
Telegraph Canyon Road to E. Palomar Street
E. Palomar Street to Olympic Parkway
Olympic Parkway to Birch Road
Birch Road to Main Street

La Media Road

Telegraph Canyon Road to E. Palomar Street
E. Palomar Street to Olympic Parkway
Olympic Parkway to Birch Road
Birch Road to Rock Mountain Road
Rock Mountain Road to Main Street

Eastlake Parkway

Fenton Street to Otay Lakes Road
Otay Lakes Road to Olympic Parkway
Olympic Parkway to Birch Road
Birch Road to Rock Mountain Road

Hunte Parkway

Otay Lakes Road to Clubhouse Drive
Clubhouse Drive to Olympic Parkway
Olympic Parkway to Eastlake Parkway

3.2 ANALYSIS BACKGROUND

The adopted land uses and circulation element are currently under review and some changes are proposed. These proposed changes are described below:

Proposed Land Use Changes

Table 2 summarizes the three alternate land use plans under consideration by the City as part of the 2020 General Plan Update for Villages 2, 3, 4, 7, 8 and 9. Adoption of the General Plan Update is anticipated prior to the approval of the Village Two SPA Plan. The Village Two proposed project is contained in GPU Alternative 2, which also contains the most intensive residential densities of the alternatives. Therefore, the most intensive land uses proposed in General Plan Update Alternative 2 has been included in this analysis to insure the worst-case scenario is analyzed. The other General Plan Update plans in Alternatives 1 and 3 are less intense and have not been included in this analysis.

Proposed Circulation Element

Figures 5 and 6 depict the Adopted and Proposed Circulation Elements respectively. As seen in *Figure 5*, in the adopted circulation element, Main Street extends east to SR 125, with an interchange at SR 125. Rock Mountain Road intersects Main Street between Heritage Road and La Media Road. As seen in *Figure 6*, in the proposed Circulation Element, Main Street terminates at Heritage Road. The Main Street/SR 125 interchange will no longer be built. Rock Mountain Road is the east leg of the Heritage Road/Main Street intersection and La Media Road will terminate in Village 8.

3.3 ANALYSIS SCENARIOS

A total of 7 Scenarios are analyzed in this report, which have various assumptions concerning study area, land use assumptions and roadway network assumptions. The basic assumptions for the scenarios are as follows:

- Analysis of all study area intersections and segments will be conducted for the Years 2005, 2010, 2015, 2030 and buildout timeframes with the proposed project land uses, **proposed** land uses outside Village 2 & 3 and Planning Area 18B and **proposed** City of Chula Vista Circulation Element.
- In addition, two other scenarios will be analyzed to compare plan-to-plan to plan-to ground. For the Year 2030 and buildout timeframes, **adopted** project land uses with **adopted** City of Chula Vista land uses outside Village 2 & 3 and Planning Area 18B and **adopted** City of Chula Vista Circulation Element will be analyzed.
- For the buildout conditions, the model assumes that the entire City of Chula Vista circulation element and land uses are built and there is no toll on SR 125.

The following is a description of each scenario. *Table 3* summarizes the assumptions for each analysis scenario. The project phasing is incorporated into each analysis timeframe. The project phasing is summarized in a later section of this report (*Tables 17 & 17A*).

Scenario 1

The analysis time frame for this scenario is the project opening year (Year 2005). It is assumed that SR 125 is not built and Heritage Road is not connected to Main Street. The Proposed Project land uses are assumed for Villages 2 & 3 and Planning Area 18B. The proposed land uses are assumed for the City of Chula Vista outside Village 2. The City of Chula Vista proposed Circulation Element is assumed.

Scenario 2

The analysis time frame for this scenario is the Year 2010. It is assumed that SR 125 is built and Heritage Road is connected to Main Street. The Proposed Project land uses are assumed for Villages 2 & 3 and Planning Area 18B. The proposed land uses are assumed for the City of Chula Vista outside Village 2. The City of Chula Vista proposed Circulation Element is assumed.

Scenario 3

The analysis time frame for this scenario is the Year 2015. The Proposed Project land uses are assumed for Villages 2 & 3 and Planning Area 18B. The proposed land uses are assumed for the City of Chula Vista outside Village 2. The City of Chula Vista proposed Circulation Element is assumed.

Scenario 4

The analysis time frame for this scenario is the Year 2030. It is assumed that SR 125 is still a toll facility. The Proposed Project land uses are assumed for Villages 2 & 3 and Planning Area 18B. The proposed land uses are assumed for the City of Chula Vista outside Village 2. The City of Chula Vista proposed Circulation Element is assumed.

Scenario 5 – Baseline Adopted, Year 2030

The analysis time frame for this scenario is the Year 2030. It is assumed that SR 125 is still a toll facility. The adopted General Plan land uses are assumed for Villages 2 & 3 and Planning Area 18B. The adopted General Plan land uses are assumed for the City of Chula Vista outside Village 2. The City of Chula Vista adopted General Plan Circulation Element is assumed.

Scenario 6

The analysis time frame for this scenario is the City of Chula Vista buildout. It is assumed that SR 125 is no longer a toll facility. The Proposed Project land uses are assumed for Villages 2 & 3 and Planning Area 18B. The proposed land uses are assumed for the City of Chula Vista outside Village 2. The City of Chula Vista proposed Circulation Element is assumed.

Scenario 7 - Baseline Adopted, Buildout

The analysis time frame for this scenario is the City of Chula Vista Buildout. It is assumed that SR 125 is no longer a toll facility. The adopted General Plan land uses are assumed for Villages 2 & 3 and Planning Area 18B. The adopted General Plan land uses are assumed for the City of Chula Vista outside Village 2. The City of Chula Vista adopted General Plan Circulation Element is assumed.

3.4 SANDAG MODELING

The basis of the traffic analysis is the Series 10.0, 2030 City/County Forecast Traffic Model, which is produced by the San Diego Association of Governments (SANDAG). Linscott, Law & Greenspan (LLG) worked with the City of Chula Vista and SANDAG to input the proper land use and network designations into the model for the 7 study scenarios listed in the previous subsection.

For each of these study scenarios, the model was run with the appropriate land use, City of Chula Vista circulation element and the planned SR 125 assumptions for the entire study area. The Villages 2 & 3 and Planning Area 18B project land uses were coded into the Traffic Model exactly as proposed/adopted as appropriate. After the proper land use intensities and network configurations were entered into the model for each study scenario, the model was run. The SANDAG model outputs Average Daily Traffic volumes (ADTs) on all Circulation Element street segments.

Volume 2 of the Appendix – SANDAG Model Land Use Inputs includes the land use inventories used in the SANDAG Model for each of the seven Scenarios. ***Appendix I*** contains the SANDAG Modeling List and Schedule. As mentioned in Section 2.0, Project Description, the land uses for the project site used in the SANDAG model correspond to the Analyzed (Worst-Case) Project. Therefore, the Analyzed (Worst-Case) Project was specifically analyzed in this report.

The SANDAG model volumes for each scenario were used exactly as indicated in the output plot with two exceptions. The volumes on Telegraph Canyon Road between I-805 and Heritage Road appeared unusually high as compared to parallel east/west routes East "H" Street and Olympic Parkway. While volumes on Telegraph Canyon Road were in the high 60,000's, volumes on East "H" Street and Olympic Parkway were in the 40,000's. This is not realistic since most project traffic and other eastern territories traffic is in no way, forced to use Telegraph Canyon Road. Past modeling has shown a more even distribution among the three (3) east/west facilities. Therefore about 15% of the Telegraph Canyon Road traffic was reallocated to East "H" Street and Olympic Parkway. **It should be noted that the overall traffic on East "H" Street, Telegraph Canyon Road and Olympic Parkway was not reduced at all. It was only reallocated.**

Similarly, the volumes on Otay Lakes Road between SR 125 and Eastlake Parkway were extremely high (in the 80,000's), while parallel volumes on East "H" Street and Olympic Parkway were in the 30,000's and 40,000's. Again, this is not realistic since traffic will generally flow to the area of least resistance. Therefore, the ADT on Otay Lakes Road between SR 125 and Eastlake Parkway was reduced by about 25% and this traffic was reallocated to East "H" Street and Olympic Parkway. **Again, the overall traffic was not reduced in any way.**

4.0 EXISTING CONDITIONS

4.1 Existing Street System

The City of Chula Vista Standards indicate that **Expressways** should be 104 feet wide in 128 feet of right-of-way (R/W), providing six through lanes, a 16 foot wide raised median/left-turn lane and emergency parking or bike lanes. **Prime Arterials** should be 104 feet wide in 128 feet of R/W providing six lanes, a 16-foot wide median/left-turn lane and emergency parking or bike lanes. **Six-Lane Majors** should be 104 feet wide in 128 feet of R/W providing six thru lanes and a 16 foot wide raised median/left-turn. **Four-Lane Majors** should be 80 feet wide in 104 feet of R/W, providing four through lanes, a 16-foot wide median/left-turn lane separating the two directions of traffic flow. A **Class 1 Collector** should be 74 feet wide in 94 feet of R/W, providing four through lanes and curbside parking. A **Class 2 Collector** should be 52 feet wide in 72 feet of R/W, providing two through lanes and curbside parking with a continuous two-way left lane. A **Class 3 Collector** should be 40 feet wide in 60 feet of R/W with two through lanes and curbside parking.

Figure 7 graphically shows the study area intersections that will be analyzed in this report while ***Figure 8*** shows the existing lane configurations for the intersections in the study area

Following are brief descriptions of the existing streets in the project area.

I-805 is a north-south freeway, which originates in South County and terminates at its connection with the I-5 Freeway. Local interchanges in the project vicinity are at Olympic Parkway, Telegraph Canyon Road, and East H Street. I-805 is generally an eight-lane freeway between I-805 and SR 54 with auxiliary lanes present between some interchanges.

Telegraph Canyon Road/Otay Lakes Road provides east-west access though the northern portions of the study area. Telegraph Canyon Road/Otay Lakes Road is classified as a Six-Lane Major west of Paseo del Rey, and as a Six-Lane Prime Arterial east of Paseo del Rey in the City of Chula Vista Circulation Plan. Today, it is generally a six-lane facility, which transitions into a Class I Collector to the east of Hunte Parkway. Bike lanes exist on both sides of the road and bus stops are located intermittently along Telegraph Canyon Road /Otay Lakes Road. On-street parking is prohibited. The posted speed limit is 40 mph from I-805 to Crest Drive/Oleander Avenue, 45 mph from Crest Drive/Oleander Avenue to Old Telegraph Canyon Road, and 50 mph from Old Telegraph Canyon Road to Hunte Parkway.

E. Palomar Street is classified as a Four-Lane Major Street in the City of Chula Vista Circulation Plan. Currently, it is a four-lane divided road. On-street parking is prohibited. The posted speed limit is 35 mph and bike lanes are provided.

Olympic Parkway is classified as a Six-Lane Prime Arterial from I-805 to Hunte Parkway, and as a Four-Lane Major east of Hunte Parkway in the City of Chula Vista Circulation Plan. On-street parking is prohibited. The posted speed limit is 45 mph. Bike Lanes are provided. The section of Olympic Parkway from La Media Road to Hunte Parkway was recently completed and is open to traffic. A raised median is provided along Olympic Parkway.

Oleander Avenue is classified as a Class II Collector in the City of Chula Vista Circulation Plan. Currently, Oleander is a two-lane undivided roadway with two lanes of travel. Bike lanes are not provided. Curbside parking is permitted. The posted speed limit is 25 mph.

Medical Center Drive is classified as a Class I Collector in the City of Chula Vista Circulation Plan and currently provides four lanes of travel. Bike lanes exist on both sides of the street and curbside parking is prohibited. The posted speed limit is 25 mph. Medical Center Drive becomes Brandywine Avenue south of E. Palomar Street.

Brandywine Avenue is classified as a Class I Collector in the City of Chula Vista Circulation Plan and currently provides four lanes of travel narrowing to two lanes with a two-way turn lane, just north of Main Street. Bike lanes exist on both sides of the street and curbside parking is generally prohibited except in the two-lane section of Brandywine Avenue. The posted speed limit is 25 mph.

Paseo Ranchero is classified as a Class I Collector in the City of Chula Vista Circulation Plan and becomes Heritage Road south of Telegraph Canyon Road. Currently, Paseo Ranchero is an undivided roadway with four lanes of travel and a center two-way turn lane. Bike lanes exist today on both sides of the road and curbside parking is prohibited. The posted speed limit is 40 mph.

Heritage Road is classified as a Six-Lane Prime Arterial in the City of Chula Vista Circulation Plan. Heritage Road currently ends at Olympic Parkway and is a six-lane prime arterial. Bike lanes exist today on both sides of the road; therefore curbside parking is prohibited. The posted speed limit is 40 mph.

La Media Road is classified as a Six-Lane Prime Arterial in the City of Chula Vista Circulation Plan. Currently, La Media Road terminates at Santa Venetia, and serves a newly opened high school and fire station. It is planned to open the section further south to Birch Road by the end of Year 2005. Six lanes of travel with a raised median are currently provided. Bike lanes exist today on both sides of the road; therefore curbside parking is prohibited. The posted speed limit is 40 mph.

Eastlake Parkway is classified as a Four-Lane Major Street in the City of Chula Vista Circulation Plan, between north of Otay Lakes Road to South of SDG&E easement and as a Six-Lane Major Road south of the SDG&E easement in Eastlake Greens. Currently, it provides four lanes (two lanes in each direction). The new section of Eastlake Parkway from south of Clubhouse Drive to Olympic Parkway is has six lanes of travel. Eastlake Parkway currently terminates at Olympic Parkway. Bike lanes exist on either side of the road and curbside parking is prohibited.

Hunte Parkway is classified as a Four-Lane Major Arterial from Otay Lakes Road to Olympic Parkway in the City of Chula Vista Circulation Plan. Currently, it extends south of Otay Lakes Road to Olympic Parkway as a Four-Lane Major Street arterial with a posted speed limit of 45 mph. Bike lanes exist on either side of the road and curbside parking is prohibited. This facility connects to Olympic Parkway to the south. Construction of Hunte Parkway as a 6-lane Prime Arterial from Olympic Parkway to Eastlake Parkway is proposed.

Birch Road is classified as a Six-Lane Major Street between La Media Road and SR 125 and a six-Lane Prime Arterial between SR 125 and Eastlake Parkway in the City of Chula Vista Circulation Plan. Currently, it is under construction and scheduled to open by the end of Year 2005.

4.2 Capacity Enhancement Projects

Currently, two projects are in advanced stages of construction and will be completed by mid-2005, well before the project opening year. They are as follows:

- The first project consists of Widening Telegraph Canyon Road between the mid-block Canyon Plaza Shopping Center (Vons) driveway and I-805 northbound on ramp that provides two right-turn only lanes to northbound I-805. Ultimately, (planned for Year 2010), a shared through/right lane (for an HOV lane on the on-ramp) will be provided at this intersection.
- The second project at Olympic Parkway/I-805 on-ramps/Orange Avenue will also be completed by Fall 2005 and will provide two through lanes in each direction from Olympic Parkway to Orange Avenue across the freeway. As part of this project, dual left-turn lanes will be provided from westbound Main Street to southbound I-805 on-ramp and the southbound on-ramp will be widened to two lanes by the end of Year 2005.

4.3 Existing Traffic Volumes

4.3.1 *Peak Hour Intersection Turning Movement Volumes*

Peak hour intersection turning movement volumes were conducted in July and September 2003 at the following study area intersections. Peak hour data for intersections along Main Street, which were available from previous traffic studies, were also used. *Appendix II* shows the existing peak hour traffic volumes.

- Telegraph Canyon Road/I-805 SB Ramps
- Telegraph Canyon Road/I-805 NB Ramps
- Telegraph Canyon Road/Oleander Avenue
- Telegraph Canyon Road/Medical Center Drive
- Telegraph Canyon Road/Paseo Ranchero/Heritage Road
- Telegraph Canyon Road/Otay Lakes Road/La Media Road
- Otay Lakes Road/Eastlake Parkway
- Otay Lakes Road/Hunte Parkway
- E. Palomar Street/Oleander Avenue
- E. Palomar Street/Brandywine Avenue
- E. Palomar Street/Heritage Road
- E. Palomar Street/La Media Road
- Olympic Parkway/I-805 SB Ramps
- Olympic Parkway/I-805 NB Ramps
- Olympic Parkway/Oleander Avenue
- Olympic Parkway/Brandywine Avenue
- Olympic Parkway/Heritage Road

- Olympic Parkway/La Media Road
- Olympic Parkway/E. Palomar Street
- Olympic Parkway/Eastlake Parkway
- Olympic Parkway/Hunte Parkway
- Main Street/I-805 SB Ramps
- Main Street/I-805 NB Ramps
- Main Street/Oleander Avenue
- Main Street/Brandywine Avenue

Figure 9 depicts the existing AM and PM peak hour intersection turning movement volumes at the above intersections.

4.3.2 *Daily Segment Volumes*

Existing Average Daily Traffic (ADT) volumes were obtained from the City of Chula Vista where available. Additionally, three-day directional counts were conducted at the remaining segments listed below. If Year 2000 or later ADT volumes were not available, the ADT was calculated from the peak hour intersection turning movement counts assuming the PM peak hour traffic is 10 percent of the daily traffic for some segments. ***Table 4*** shows the existing ADT volumes and *Figure 10* depicts the existing ADT volumes.

5.0 ANALYSIS APPROACH AND METHODOLOGY

5.1 Analysis Approach

This traffic analysis assesses the key intersections, street segments, freeways, and City Traffic Monitoring Program arterials in the project area. All of these facilities are analyzed under several future analysis timeframes to determine the project impacts on the prevailing street network during each timeframe.

5.2 Analysis Methodology

There are different methodologies used to analyze signalized intersections, unsignalized intersections, street segments, freeways, and arterials, as described below.

The measure of effectiveness for intersection operations is level of service. In the 2000 Highway Capacity Manual (HCM), Level of Service for signalized intersections is defined in terms of delay. The level of service analysis results in seconds of delay expressed in terms of letters A through F. Delay is a measure of driver discomfort, frustration, fuel consumption, and lost travel time.

5.2.1 *Signalized Intersections*

For signalized intersections, level of service criteria are stated in terms of the average control delay per vehicle for a 15-minute analysis period. Control delay includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. ***Table 5*** summarizes the delay thresholds for signalized intersections, while ***Table 6*** summarizes the signalized intersections levels of service descriptions.

Level of service A describes operations with very low delay, (i.e. less than 10.0 seconds per vehicle). This occurs when progression is extremely favorable, and most vehicles arrive during the green phase. Most vehicles do not stop at all. Short cycle lengths may also contribute to low delay.

Level of service B describes operations with delay in the range 10.1 seconds and 20.0 seconds per vehicle. This generally occurs with good progression and/or short cycle lengths. More vehicles stop than for LOS A, causing higher levels of Average delay.

Level of service C describes operations with delay in the range 20.1 seconds and 35.0 seconds per vehicle. These higher delays may result from fair progression and/or longer cycle lengths. Individual cycle failures may begin to appear. The number of vehicles stopping is significant at this level, although many still pass through the intersection without stopping.

Level of service D describes operations with delay in the range 35.1 seconds and 55.0 seconds per vehicle. At level D, the influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or higher v/c ratios. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are more frequent.

Level of service E describes operations with delay in the range of 55.1 seconds to 80.0 seconds per vehicle. This is considered to be the limit of acceptable delay. These high delay values generally indicate poor progression, long cycle lengths, and high v/c ratios. Individual cycle failures are frequent occurrences.

Level of service F describes operations with delay in excess of over 80.0 seconds per vehicle. This is considered to be unacceptable to most drivers. This condition often occurs with over-saturation (i.e., when arrival flow rates exceed the capacity of the intersection). It may also occur at high v/c ratios below 1.00 with many individual cycle failures. Poor progression and long cycle lengths may also be major contributing causes to such delay levels.

5.2.2 *Unsignalized Intersections*

For unsignalized intersections, level of service is determined by the computed or measured control delay and is defined for each minor movement. Level of service is not defined for the intersection as a whole. ***Table 7*** depicts the criteria, which are based on the Average control delay for any particular minor movement.

Level of Service F exists when there are insufficient gaps of suitable size to allow a side street demand to safely cross through a major street traffic stream. This level of service is generally evident from extremely long control delays experienced by side-street traffic and by queuing on the minor-street approaches. The method, however, is based on a constant critical gap size; that is, the critical gap remains constant no matter how long the side-street motorist waits.

LOS F may also appear in the form of side-street vehicles selecting smaller-than-usual gaps. In such cases, safety may be a problem, and some disruption to the major traffic stream may result. It is important to note that LOS F may not always result in long queues but may result in adjustments to normal gap acceptance behavior, which are more difficult to observe in the field than queuing.

5.2.3 *Street Segments*

The street segments were analyzed on a daily basis by comparing the daily traffic volume (ADT) to the Chula Vista Standard Street Classification Table. This table is shown in ***Appendix III*** and provides Level of Service estimates based on traffic volumes and roadway characteristics. ***Table 8*** summarizes the segment levels of service descriptions.

5.2.4 *Growth Management Oversight Committee (GMOC) Analysis*

Analysis of roadway segments under near-term conditions (Years 0-4) is conducted using the methodology described in Chapter 11 (Arterial Streets) of the most recent version of the Highway Capacity Manual, which determines segment level of service based on speed. Classification of facilities and definition of segment lengths should be consistent with the City's current Growth Management Traffic Monitoring Program. The Threshold Standard for these arterial analyses requires the maintaining of LOS 'C' or better as measured by average travel speeds except that LOS 'D' can occur for no more than any two hours of the day. Thus, if LOS 'D' condition is determined

for any period of two (2) hours, additional analysis may be required along these high volume segments based on direction provided by the City Engineer.

For planned arterial facilities that are not currently included in the current Traffic Monitoring Program, the definition of segment length and facility classification will be based on direction provided by the City Engineer.

A near-term analysis of Telegraph Canyon Road arterial segments was conducted based on the City of Chula Vista's GMOC Traffic Monitoring Program (TMP) methodology. Only these arterials were analyzed because the City of Chula Vista's significance criteria dictates that if planning analysis (v/c) indicates LOS D, E or F, the GMOC method shall be utilized in the short-term (0-4 year horizon). No studies were done on Olympic Parkway since a major portion of Olympic Parkway has just been constructed and no historical data is available.

An analysis was performed to calculate the decrease in travel speed due to the addition of project traffic on Telegraph Canyon Road. The decrease in travel speeds due to the project was calculated using linear regression. By utilizing linear regression, a formula can be derived that can describe the dependence of one variable on another. For example, as the volume increases on a TMP segment, the average travel speed and LOS will decrease. Using the TMP speed data as one variable and ADT as the other variable, linear regression equations were calculated for each TMP segment. Roadways can be classified as Class I, II or III depending on their functional and design features as outlined in Chapter 11 of the HCM.

Table 9 summarizes the observed peak hour travel speeds on Telegraph Canyon Road between I-805 and Otay Lakes Road in the Year 2003, obtained from the City of Chula Vista. The results of the GMOC analysis are described in a subsequent section of this report.

5.2.5 *Freeway Segments*

Levels of Service analysis for freeway segments is based on the procedure developed by CALTRANS District 11. The procedure involves comparing the peak hour volume of the mainline segment to the theoretical capacity of the roadway (V/C). Directional and truck factors are also used to calculate the future freeway volumes. V/C ratios were then compared to the V/C ranges shown on the tables to determine the LOS for each segment.

6.0 EXISTING CONDITIONS ANALYSIS

6.1 Peak Hour Intersection Levels Of Service

Table 10 summarizes the existing AM and PM peak hour intersection analysis results at the key existing intersections. As seen in *Table 10*, all signalized intersections are calculated to currently operate at LOS D or better except the following:

- Telegraph Canyon Road/I-805 NB Ramps (LOS E in the PM peak hour)
- Olympic Parkway/I-805 SB Ramps (LOS E in the PM peak hour)
- Olympic Parkway/I-805 NB Ramps (LOS E in the AM peak hour)

Appendix IV contains the existing peak hour analysis work sheets.

There are planned and fully funded projects at each of the locations listed above to add capacity to these three intersections. A capacity enhancement on westbound Telegraph Canyon Road approaching I-805 will be completed by mid-2005 and will add two right-turn only lane in lieu of the existing right-turn only lane and a shared through/right-turn lane on westbound Telegraph Canyon Road at the I-805 northbound on-ramp (see *Figures 8 and 32*).

The above mitigation will improve the LOS at the Telegraph Canyon Road/I-805 northbound ramps to LOS D.

A joint City/Caltrans project at the I-805/Olympic Parkway interchange will improve both ramps and will add dual turn lanes westbound at the southbound ramps and eastbound at the northbound ramps. LOS D is calculated at both ramps with this improvement scheduled for completion by the fall of Year 2005.

6.2 Daily Segment Levels Of Service

Table 11 summarizes the daily segment levels of service on key segments. As seen in Table 11, the following segments are calculated to currently operate at LOS D or worse:

Telegraph Canyon Road

- I-805 to Oleander Avenue (LOS F)
- Oleander Avenue to Medical Center Drive (LOS E)
- Paseo Ranchero to Otay Lakes Road (LOS D)

Currently, the City is in the process of widening Telegraph Canyon Road between the Canyon Plaza Entrance and I-805 northbound ramps to provide 4 westbound lanes. Widening of Olympic Parkway at I-805 to provide two through lanes in both directions across I-805 are in advanced stages of construction. The improved geometry at the I-805/Telegraph Canyon Road northbound Ramps and the I-805/Olympic Parkway northbound and southbound ramps are shown in *Figure 32*.

6.3 Freeway Mainline

Table 12 summarizes the freeway mainline operations on I-805. As seen in *Table 12*, all study area freeway mainline segments are calculated to currently operate at LOS D or better in both northbound and southbound directions in the AM and PM peak hours except the section of southbound I-805 between Telegraph Canyon Road and East "H" Street which is calculated to operate at LOS E in the PM peak hour.

7.0 FUTURE TRAFFIC VOLUME DETERMINATION

It was necessary to estimate future traffic volumes for several study years in order to determine if the planned circulation system could accommodate these volumes. As previously discussed, the SANDAG Series 10 City/County Forecast Traffic Model was used to estimate these volumes. The traffic model outputs freeway and street segment ADTs. These ADTs were utilized directly as output by the model, except at the two locations previously discussed.

Figures 11 through17 depict the forecasted future volumes, including traffic generated from the proposed project, for the seven (7) study scenarios.

It was also necessary to estimate peak hour intersection volumes. The SANDAG model outputs peak hour volumes. However, the SANDAG model output is not as accurate in determining peak hour intersection turn movements. Therefore, peak hour turning movement volumes were estimated using a template in EXCEL developed by LLG to determine peak hour traffic at an intersection from future ADTs using the relationship between existing peak hour turn movements and the existing ADTs. This same relationship can be assumed to generally continue in the future without SR 125. This relationship will likely change once SR 125 is built. For example, if the segment ADT on the roadway is forecast to double by the Year 2010, it is reasonable to assume that the peak hour intersection turn movement volumes will generally double. The construction of SR 125 was taken into account in determining the peak hour intersection volumes.

For intersections that do not exist, a peak hour percentage of 8 to 10 percent was generally assumed. Directionality was dependent on proximity of each intersection to a freeway.

8.0 PROJECT TRIP GENERATION/DISTRIBUTION AND ASSIGNMENT

SANDAG trip generation rates were utilized to determine the amount of traffic the project will generate.

As mentioned previously, the project land use data included in the SANDAG model correspond to the land uses for the Analyzed (Worst-Case) Project. Therefore, the Analyzed (Worst-Case) Project was specifically analyzed in this report. The trip generation included in Section 8.0, Project Trip Generation will show that the Analyzed (Worst-Case) Project generates more ADT, and AM/PM peak hour traffic than the Proposed project. Therefore, the traffic impacts associated with Analyzed (Worst-Case) Project would also apply to the Proposed Project.

8.1 Project Trip Distribution

8.1.1 *Proposed Project*

Table 13 summarizes the trip generation for the proposed project. As seen on *Table 13*, the "Proposed" project is calculated to generate a total of 67,901 daily trips, 7,308 trips (4,544 inbound and 2,764 outbound trips) in the AM peak hour and 8,327 trips (3,693 inbound and 4,634 outbound trips) in the PM peak hour.

8.1.2 *Analyzed (Worst-Case) Project*

Table 14 summarizes the trip generation for the Analyzed (Worst-Case) Project. As seen on *Table 14*, the Analyzed (Worst-Case) Project is calculated to generate a total of 73,546 daily trips, 7,528 trips (4,655 inbound and 2,873 outbound trips) in the AM peak hour and 8,836 trips (3,962 inbound and 4,874 outbound trips) in the PM peak hour.

Table 14A summarizes the difference in trip generation between the Analyzed (Worst-Case) Project and the Proposed project. As seen in *Table 14A*, overall, the Analyzed (Worst-Case) Project generates more trips than the Proposed Project. The Analyzed (Worst-Case) Project generates 5,645 trips or 5% more ADT, 220 or 3% more AM peak hour trips and 510 or 6% more PM peak hour trips than the Proposed Project. The Analyzed (Worst-Case) Project generates less than the Proposed Project. ***The Analyzed (Worst-Case) Project was specifically analyzed in this report since all SANDAG Model analysis was conducted with the Analyzed (Worst-Case) Project land uses.***

A large proportion of the project-generated trips are residential trips. The project is designed in such fashion as to keep a portion of the traffic internal to the project since schools, commercial uses and recreational uses are planned within the project. Therefore, calculations were conducted to determine the amount of project traffic that would remain internal to the project area and therefore not add traffic to the regional street system. ***Tables 15 and 16*** summarize the internal trip generation calculations with a base assumption that given the make-up of the non-residential uses, about 15% of the residential trips would remain internal to the site. Subtracting the internal trip generation from the total trip generation yields the external trip generation. Based on information obtained from the City of Chula Vista, a project-phasing table was prepared for the Analyzed (Worst-Case) Project (***Table 17***).

8.1.3 *Internal Trips/Net Trips*

The proposed and Analyzed (Worst-Case) Project propose mixed land uses including residential, retail, educational and industrial land uses. Not all trips are external since some of the school and retail trips are attracted from within the Village. Therefore, it was assumed that 15% of the residential trips remain within Village 2/3 and therefore the total ***daily and peak hour trips*** generated by the proposed land uses were reduced by 30% (15% residential trips + corresponding number of school and retail trips). The following sections describe the reduction in daily and peak hour project trips assumed in the analysis.

8.1.4 *Proposed Project*

As seen in *Table 15*, the project is calculated to add 59,297 external ADT with 4,923 and 5,810 trips in the AM and PM peak hours respectively.

8.1.5 *Analyzed (Worst-Case) Project Land Use*

As seen in *Table 16* the Analyzed (Worst-Case) Project land uses are calculated to add 64,382 external ADT with 6,562 and 7,927 trips in the AM and PM peak hours.

As mentioned in Section 2.0, Project Description, the "Assumed" land uses are calculated to generate more trips than the "Proposed" land uses. Therefore the "Assumed" land uses is the "worst-case" scenario. Therefore the "Assumed" land uses were analyzed in this traffic study.

8.2 Project Traffic Distribution

Select Zone Assignments for the project Traffic Analysis Zones (TAZ) 4329, 4361 and 4381 were obtained from SANDAG for the Years 2005, 2010, 2015, 2030 and regional buildout. Based on these assignments, regional project traffic distribution was developed for each analysis scenario.

Figures 18 through 22 depict the regional distribution percentages for the Years 2005 2010, 2015, 2030 and buildout conditions. Based on the distribution percentages on *Figures 18 through 22*, the varying project ADT volumes were distributed and assigned to the study area segments for each analysis scenario. ***Figures 23 through 27*** depict the project only ADT volumes on the study area segments for the future analysis timeframes.

8.3 Project Traffic Assignment

The total project traffic was distributed based on the Year 2005 distribution percentages for the existing + project condition. ***Figure 28*** depicts the (total) project only peak hour intersection turning movement volumes while ***Figure 29*** depicts the ADT volumes on the study area segments for the total project. ***Figures 30 and 31*** depict the peak hour intersection turning movement volumes and ADT volumes in the study area for the existing + project condition.

9.0 SIGNIFICANCE CRITERIA

Traffic impacts will be defined as either project specific impacts or cumulative impacts. Project specific impacts are those impacts for which the addition of project trips result in an identifiable degradation in level of service on freeway segments, roadway segments, or intersections, triggering the need for specific project-related improvement strategies. Cumulative impacts are those in which the project trips contribute to a poor level of service, at a nominal level.

Study horizon year as used herein is intended to describe a future period of time in the traffic studies, which corresponds to SANDAG's traffic model years, and are meant to synchronize study impacts to be in line with typical study years of 2005, 2010, 2015 and 2030.

Criteria for determining whether the project results in either project specific or cumulative impacts on freeway segments, roadway segments, or intersections are as follows:

9.1 Short-Term (Study Horizon Year 0 To 4)

For purposes of the short-term analysis roadway sections may be defined as either links or segments. A link is typically that section of roadway between two adjacent Circulation Element intersections and a segment is defined as that combination of contiguous links used in the Growth Management Plan Traffic Monitoring Program. Analysis of roadway links under short-term conditions may require a more detailed analysis using the Growth Management Oversight Committee (GMOC) methodology if the typical planning analysis using volume to capacity ratios on an individual link indicates a potential impact to that link. The GMOC analysis uses the Highway Capacity Manual (HCM) methodology of average travel speed based on actual measurements on the segments as listed in the Growth Management Plan Traffic Monitoring Program.

9.1.1 *Intersections*

a. Project specific impact if both the following criteria are met:
   i. Level of service is LOS E or LOS F.
   ii. Project trips comprise 5% or more of entering volume.
b. Cumulative impact if only (i) is met.

9.1.2 *Street Links/Segments*

If the planning analysis using the volume to capacity ratio indicates LOS C or better, there is no impact. If the planning analysis indicates LOS D, E or F, the GMOC method should be utilized. The following criteria would then be utilized.

a. Project specific impact if all the following criteria are met:
   i. Level of service is LOS D for more than 2 hours or LOS E/F for 1 hour
   ii. Project trips comprise 5% or more of segment volume
   iii. Project adds greater than 800 ADT to the segment
b. Cumulative impact if only (i) is met.

9.1.3 *Freeways*

a. Project specific impact if all the following criteria are met:
   i. Freeway segment LOS is LOS E or LOS F
   ii. Project comprises 5% or more of the total forecasted ADT on that freeway segment.
b. Cumulative impact if only (i) is met.

9.2 Long-Term (Study Horizon Year 5 And Later)

9.2.1 *Intersections*

a. Project specific impact if all the following criteria are met:
   i. Level of service is LOS E or LOS F.
   ii. Project trips comprise 5% or more of entering volume.
b. Cumulative impact if only (i) is met.

9.2.2 *Street Links/Segments*

Use the planning analysis using the volume to capacity ratio methodology only. The GMOC analysis methodology is not applicable beyond a four-year horizon.

a. Project specific impact if all the following criteria are met:
   i. Level of service is LOS D, LOS E, or LOS F.
   ii. Project trips comprise 5% or more of total segment volume.
   iii. Project adds greater than 800 ADT to the segment.

b. Cumulative impact if only (i) is met. However, if the intersections along a LOS D or LOS E segment all operate at LOS D or better, the segment impact is considered not significant since intersection analysis is more indicative of actual roadway system operations than street segment analysis. If segment Level of Service is LOS F, impact is significant regardless of intersection LOS.

Notwithstanding the foregoing, if the impact identified in paragraph a. above occurs at study horizon year 10 or later, and is offsite and not adjacent to the project, the impact is considered cumulative. Study year 10 may be that typical SANDAG model year which is between 8 and 13 years in the future. Study horizon year 10 would correspond to the SANDAG model for year 2010 and would be 8 years in the future. If the model year is less than 7 years in the future, study horizon year 10 would be 13 years in the future.

In the event a project specific impact is identified per paragraph a. above at study horizon year 5 or earlier and the impact is offsite and not adjacent to this project, but the property immediately adjacent to the identified project specific impact is also proposed to be developed in approximately the same time frame, an additional analysis may be required to determine whether or not the identified project specific impact would still occur if the development of the adjacent property does not take place. If the additional analysis concludes that the identified project specific impact is no longer a project specific impact, then the impact shall be considered cumulative.

9.2.3 *Freeway Analysis*

a. Project specific impact if all the following criteria are met:
   i. Freeway segment LOS is LOS E or LOS F
   ii. Project comprises 5% or more of the total forecasted ADT on that freeway segment.
b. Cumulative impact if only (i) is met.

10.0 FUTURE CONDITIONS ANALYSIS

This section summarizes the peak hour intersection and daily segment analyses for each scenario.

10.1 Existing + Project Analysis With Entire Project

For this condition, it is assumed that the total project is completed with only the existing roadway network to serve it. However, since the project access is planned mainly on future roadways, the following assumptions are made:

- Heritage Road is built between Olympic Parkway and Street "J" North and corresponding internal roads are built to provide access to the project.
- La Media Road is built between Olympic Parkway and Birch Road and corresponding internal roads are built to provide access to the project.

Based on the above assumptions, the entire project traffic was assigned to the existing intersections and segments as described in Section 9.0, and added to the existing traffic to obtain the existing + project traffic volumes. These volumes were analyzed to determine the exiting + project intersection and segment operations.

For CEQA purposes, an analysis was conducted to determine the theoretical impacts assuming the entire project is constructed with only the existing roadway network to serve it (i.e. no SR 125 and no Heritage Road to the south). ***Table 18*** summarizes the existing + project peak hour intersection operations and ***Table 19*** summarizes the existing + project peak hour segment operations. *Tables 18 and 19* show that several intersections and segments are calculated to operate at LOS E and F for the existing + entire project scenario. However this not a reasonable scenario since the project will be conditioned to have a limited number of units that can be built before Heritage Road is built and since a project of this magnitude will take many years to build-out.

10.1.1 *Peak Hour Intersection Analysis*

As seen in *Table 18*, most of the existing intersections are calculated to continue to operate at LOS D or better conditions except the following:

- Telegraph Canyon Road/I-805 southbound ramps (LOS F during the PM peak hour)
- Olympic Parkway/I-805 southbound ramps (LOS F during the AM and PM peak hours)
- Olympic Parkway/I-805 northbound ramps (LOS F during the AM and PM peak hours)
- Olympic Parkway/Oleander Avenue (LOS E during the PM peak hour)
- Olympic Parkway/Brandywine Avenue (LOS F during the AM peak hour and LOS E during the PM peak hour)
- Olympic Parkway/Heritage Road (LOS F during the AM and PM peak hours)
- Heritage Road/Street "D" (LOS F during the AM and PM peak hours)
- Heritage Road/Street "J" (LOS F during the PM peak hour)

Appendix V contains the existing + Analyzed (Worst-Case) Project peak hour analysis work sheets.

10.1.2 *Daily Segment Analysis*

As seen in *Table 19*, most of the existing segments are calculated to continue to operate at LOS C or better conditions except the following, which are calculated to continue to operate at LOS D or worse.

- Telegraph Canyon Road from I-805 to Oleander Ave. (LOS E)
- Telegraph Canyon Road from Oleander Ave. to Medical Center Dr. (LOS E)
- Telegraph Canyon Road from Paseo Ranchero/Heritage Rd. to Otay Lakes Rd. (LOS D)
- Olympic Parkway from I-805 to Medical Center Dr. (LOS D)

10.1.3 *Freeway Analysis*

Table 20 summarizes the existing + project peak hour freeway segment operations. As seen in *Table 20*, with the addition of project traffic, all freeway segments along I-805 in the project vicinity are calculated to continue to operate at LOS D or better during the AM and PM peak hours except the section of southbound I-805 between Telegraph Canyon Road and East "H" Street which is calculated to continue to operate at LOS F(0) in the PM peak hour as for existing conditions.

10.2 Scenario 1 - Opening Year Without SR 125

10.2.1 *Peak Hour Intersection Analysis*

Table 21 summarizes the peak hour intersection operations. As seen in *Table 21*, all study area intersections are calculated to operate at LOS D or better for the Scenario 1 condition.

Appendix VI contains the Scenario 1 peak hour analysis work sheets.

10.2.2 *Daily Segment Analysis*

Table 22 summarizes the segment operations. As seen in *Table 22*, all study area segments are calculated to operate at LOS D or better for the Scenario 1 condition except for the following, which are calculated to operate at LOS D or worse.

- Telegraph Canyon Road from I-805 to Oleander Ave. (LOS D)
- Otay Lakes Road North of Telegraph Canyon Road (LOS E).
- Olympic Parkway from I-805 to Medical Center Drive (LOS E).

10.2.3 *Near-Term GMOC Analysis*

A near-term GMOC analysis of Telegraph Canyon Road and Otay Lakes Road, which operate at LOS D or worse was conducted for Scenario 1 condition. The GMOC analysis is summarized in ***Table 23***. The analysis shows that LOS C or better operations are calculated along each segment on a GMOC basis other than on Otay Lakes Road, north of Telegraph Canyon Road during the AM peak hour. Therefore, significant street segment impacts are <u>not</u> calculated on any of the street segments listed above other than on Otay Lakes Road, north of Telegraph Canyon Road during the AM peak hour. More than 2 hours of LOS D condition is expected on this segment.

10.3 Scenario 2 - Year 2010

Figure 32 depicts the assumed geometry intersection for all study area intersections for Year 2010 and beyond.

10.3.1 *PEAK HOUR INTERSECTION ANALYSIS*

Table 21 summarizes the peak hour intersection operations. As seen in *Table 21*, all study area intersections are calculated to operate at LOS D or better for the Scenario 2 condition.

Appendix VII contains the Scenario 2 peak hour analysis work sheets.

10.3.2 *Daily Segment Analysis*

Table 22 summarizes the segment operations. As seen in *Table 22*, all study area segments are calculated to operate at LOS C or better for the Scenario 2 condition except for the following, which are calculated to operate at LOS D or worse.

- Telegraph Canyon Road from I-805 to Oleander Ave. (LOS D)
- Olympic Parkway from I-805 to Medical Center Dr. (LOS E)
- Olympic Parkway from Medical Center Dr. to Heritage Rd. (LOS E)
- Olympic Parkway from Heritage Rd. to La Media Rd. (LOS D)
- Olympic Parkway from SR 125 to Eastlake Pkwy. (LOS D)

10.4 Scenario 3 - Year 2015

10.4.1 *Peak Hour Intersection Analysis*

Table 21 summarizes the peak hour intersection operations. As seen in *Table 21*, all study area intersections are calculated to operate at LOS D or better for the Scenario 3 condition.

Appendix VIII contains the Scenario 3 peak hour analysis work sheets.

10.4.2 *Daily Segment Analysis*

Table 22 summarizes the segment operations. As seen in *Table 22*, all study area segments are calculated to operate at LOS C or better for the Scenario 3 condition except for the following, which are calculated to operate at LOS D or worse.

- Telegraph Canyon Road from I-805 to Oleander Ave. (LOS E)
- Telegraph Canyon Road from Medical Center Dr. to Paseo Ranchero/Heritage Rd. (LOS D)
- Olympic Parkway from I-805 to Medical Center Dr. (LOS D)
- Rock Mountain Road from La Media Road to SR 125 (LOS F)
- Rock Mountain Road from SR 125 to Eastlake Pkwy. (LOS F)

10.5 Scenario 4 - Year 2030 (Adopted Project)

10.5.1 *Peak Hour Intersection Analysis*

Table 21 summarizes the peak hour intersection operations. As seen in *Table 21*, all study area intersections are calculated to operate at LOS D or better for the Scenario 4 condition except the Rock Mountain Road/La Media Road intersection, which is calculated to operate at LOS E during the AM peak hour and LOS F during the PM Peak hour.

Appendix IX contains the Scenario 4 peak hour analysis work sheets.

10.5.2 *Daily Segment Analysis*

Table 22 summarizes the segment operations. As seen in *Table 22*, all study area segments are calculated to operate at LOS C or better for the Scenario 4 condition except for the following, which are calculated to operate at LOS D or worse.

- Telegraph Canyon Road from I-805 to Oleander Ave. (LOS E)
- Telegraph Canyon Road from Oleander Ave. to Medical Center Dr. (LOS E)
- Telegraph Canyon Road from Medical Center Dr. to Paseo Ranchero/Heritage Rd. (LOS D)
- Otay Lakes Road from Eastlake Pkwy. to Lane Ave. (LOS D)
- Olympic Parkway from I-805 to Medical Center Dr. (LOS E)
- Rock Mountain Road from Main Street to La Media Road (LOS F)
- Rock Mountain Road from La Media Road to SR 125 (LOS F)
- Rock Mountain Road from SR 125 to Eastlake Pkwy. (LOS F)
- Main Street from I-805 to Oleander Ave. (LOS D)
- Main Street from Oleander Ave. to Brandywine Ave. (LOS D)
- Oleander Avenue from Telegraph Canyon Rd. to E. Palomar St. (LOS D)

10.6 Scenario 5 - Year 2030 (Adopted Project With Toll)

10.6.1 *Peak Hour Intersection Analysis*

Table 21 summarizes the peak hour intersection operations. As seen in *Table 21*, all study area intersections are calculated to operate at LOS D or better for the Scenario 5 condition. ***Appendix X*** contains the Scenario 5 peak hour analysis work sheets.

10.6.2 *Daily Segment Analysis*

Table 22 summarizes the segment operations. As seen in *Table 22*, all study area segments are calculated to operate at LOS C or better for the Scenario 5 condition, except the following, which are calculated to operate at LOS D or worse.

- Telegraph Canyon Road from I-805 to Oleander Ave. (LOS E)
- Telegraph Canyon Road from Oleander Ave. to Medical Center Dr. (LOS D)
- Telegraph Canyon Road from Medical Center Dr. to Paseo Ranchero/Heritage Rd. (LOS D)
- Otay Lakes Road from Eastlake Pkwy. to Lane Ave. LOS D)

- Olympic Parkway from I-805 to Medical Center Dr. (LOS D)
- Olympic Parkway from Heritage Rd. to La Media Rd. (LOS D)
- Rock Mountain Road from La Media Road to SR 125 (LOS D)
- Rock Mountain Road from SR 125 to Eastlake Parkway (LOS F)

10.7 Scenario 6 – Buildout

10.7.1 *Peak Hour Intersection Analysis*

Table 21 summarizes the peak hour intersection operations. As seen in *Table 21*, all study area intersections are calculated to operate at LOS D or better for the Scenario 6 condition except the Rock Mountain Road/La Media Road intersection, which is calculated to operate at LOS E during the AM peak hour and LOS F during the PM Peak hour. ***Appendix XI*** contains the Scenario 6 peak hour analysis work sheets.

10.7.2 *Daily Segment Analysis*

Table 22 summarizes the segment operations. As seen in *Table 22*, all study area segments are calculated to operate at LOS C or better for the Scenario 6 condition except for the following, which are calculated to operate at LOS D or worse.

- Telegraph Canyon Road from I-805 to Oleander Ave. (LOS D)
- Otay Lakes Road from SR 125 to Eastlake Pkwy. (LOS D)
- Otay Lakes Road from Eastlake Pkwy. to Lane Ave. (LOS E)
- Olympic Parkway from SR 125 to Eastlake Pkwy. (LOS D)
- Rock Mountain Road from Main Street to La Media Road (LOS F)
- Rock Mountain Road from La Media Road to SR 125 (LOS F)
- Rock Mountain Road from SR 125 to Eastlake Pkwy. (LOS F)

10.8 Scenario 7 – Buildout (Adopted Project No Toll)

10.8.1 *Peak Hour Intersection Analysis*

Table 21 summarizes the peak hour intersection operations. As seen in *Table 21*, all study area intersections are calculated to operate at LOS D or better for the Scenario 7 condition. ***Appendix XII*** contains the Scenario 7 peak hour analysis work sheets.

10.8.2 *Daily Segment Analysis*

Table 22 summarizes the segment operations. As seen in *Table 22*, all study area segments are calculated to operate at LOS C or better for the Scenario 7 condition except for the following, which are calculated to operate at LOS D or worse.

- Otay Lakes Road from SR 125 to Eastlake Parkway (LOS E).
- Otay Lakes Road from Eastlake Parkway to Lane Avenue (LOS E).
- Olympic Parkway from SR 125 to Eastlake Pkwy. (LOS D)
- Rock Mountain Road from SR 125 to Eastlake Parkway (LOS F).

11.0 FREEWAY ANALYSIS

11.1 Scenario 1 - Opening Year Without SR 125 Analysis

Table 24 depicts the future freeway mainline peak hour segment operations. As seen in *Table 24*, for Scenario 1, all segments of Interstate 805 (I-805) between East "H" Street and Palm Avenue are calculated to operate at LOS D or better in both directions during the AM and PM peak hours.

11.2 Scenario 2 - Year 2010

Table 24 depicts the future freeway mainline peak hour segment operations. As seen in *Table 24*, for Scenario 2, segments of I-805 and SR 125 were analyzed. All segments of I-805 between East "H" Street and Palm Avenue are calculated to continue to operate at LOS D or better in both directions during the AM and PM peak hours.

For Scenario 2, all segments of SR 125 from East "H" Street to south of Main Street are calculated to operate at LOS A.

11.3 Scenario 3 - Year 2015

Table 24 depicts the future freeway mainline peak hour segment operations. As seen in *Table 24*, for Scenario 3, segments of I-805 and SR 125 were analyzed. All segments of I-805 between East "H" Street and Palm Avenue are calculated to continue to operate at LOS D or better in both directions during the AM and PM peak hours except the following, which are calculated to deteriorate:

- Northbound I-805 from Telegraph Canyon Road to East "H" Street (LOS E during the AM peak hour)
- Southbound I-805 from East "H" Street to Telegraph Canyon Road (LOS F(0) during the PM peak hour)
- Southbound I-805 from Olympic Parkway to Main Street (LOS E during the PM peak hour)

For Scenario 3, all segments of SR 125 from East "H" Street to south of Main Street are calculated to continue to operate at LOS A.

11.4 Scenario 4 - Year 2030, No Toll

Table 24 depicts the future freeway mainline peak hour segment operations. As seen in *Table 24*, for Scenario 4, the following segments of I-805 are calculated to deteriorate to LOS E or LOS F. The remaining segments are calculated to operate at LOS D or better.

- Northbound I-805 from Telegraph Canyon Road to East "H" Street (LOS F(0) during the AM peak hour and LOS E during the PM peak hour)
- Southbound I-805 from East "H" Street to Telegraph Canyon Road (LOS F(0) during the AM and PM peak hours)
- Northbound I-805 from Olympic Parkway to Telegraph Canyon Road (LOS E during the AM peak hour)

- Southbound I-805 from Telegraph Canyon Road to Olympic Parkway (LOS E during the PM peak hour)
- Southbound I-805 from Olympic Parkway to Main Street (LOS E during the AM peak hour and LOS F(0) during the PM peak hour)

For Scenario 4, all segments of SR 125 from East "H" Street to south of Main Street are calculated to continue to operate at LOS A except the segment between East "H" Street and Telegraph Canyon Road, which is calculated to operate at LOS B.

11.5 Scenario 5 - Year 2030 (Adopted Project With Toll)

Table 24 depicts the future freeway mainline peak hour segment operations. As seen in *Table 24*, for Scenario 5, the following segments of I-805 are calculated to deteriorate to LOS E or LOS F. The remaining segments are calculated to operate at LOS D or better.

- Northbound I-805 from Telegraph Canyon Road to East "H" Street (LOS F(0) during the AM peak hour and LOS E during the PM peak hour)
- Southbound I-805 from East "H" Street to Telegraph Canyon Road (LOS F(0) during the AM and PM peak hours)
- Southbound I-805 from Telegraph Canyon Road to Olympic Parkway (LOS E during the PM peak hour)
- Southbound I-805 from Olympic Parkway to Main Street (LOS E during the AM peak hour and LOS F(0) during the PM peak hour)

For Scenario 5, all segments of SR 125 from East "H" Street to south of Main Street are calculated to continue to operate at LOS A except the segment between East "H" Street and Telegraph Canyon Road, which is calculated to operate at LOS B.

11.6 Scenario 6 – Buildout

Table 24 depicts the future freeway mainline peak hour segment operations. As seen in *Table 24*, for Scenario 6, the following segments of I-805 are calculated to continue to operate at LOS E or LOS F as for Scenario 15. The remaining segments are calculated to continue to operate at LOS D or better.

- Northbound I-805 from Telegraph Canyon Road to East "H" Street (LOS F(0) during the AM peak hour)
- Southbound I-805 from East "H" Street to Telegraph Canyon Road (LOS F(0) during the PM peak hour)
- Southbound I-805 from Telegraph Canyon Road to Olympic Parkway (LOS E during the PM peak hour)
- Southbound I-805 from Olympic Parkway to Main Street (LOS E during the AM hour and LOS (F0) during the PM peak hour)

As seen above, operations along some segments are calculated to improve over that for Scenario 4. This may be due to the removal of toll on SR 125, which results in the reduction of traffic on the northern two segments of I-805. For Scenario 6, all segments of SR 125 from East "H" Street to south of Main Street are calculated to operate at LOS D or better except one. The southbound segment of SR 125 from East "H" Street to Telegraph Canyon Road is calculated to deteriorate to LOS E.

11.7 Scenario 7 – Buildout (Adopted Project No Toll)

Table 24 depicts the future freeway mainline peak hour segment operations. As seen in *Table 24*, for Scenario 6, the following segments of I-805 are calculated to continue to operate at LOS E or LOS F as for Scenario 4. The remaining segments are calculated to continue to operate at LOS D or better.

- Northbound I-805 from Telegraph Canyon Road to East "H" Street (LOS F(0) during the AM peak hour)
- Southbound I-805 from East "H" Street to Telegraph Canyon Road (LOS E during the AM peak hour and LOS F(0) during the PM peak hour)
- Southbound I-805 from Olympic Parkway to Main Street (LOS E during the AM peak hour and LOS F(0) during the PM peak hour)

As seen above, operations along some segments are calculated to improve over that for Scenario 5. This may be due to the removal of toll on SR 125, which results in the reduction of traffic on the northern two segments of I-805. For Scenario 7, all segments of SR 125 from East "H" Street to south of Main Street are calculated to operate at LOS C or better. With the removal of toll on SR 125, the traffic on SR 125 increases.

12.0 CONGESTION MANAGEMENT PROGRAM COMPLIANCE

The Congestion Management Program Update (CMP) was adopted in January 2003 by the SANDAG Board, and is intended to directly link land use, transportation and air quality through Level of Service performance. Local agencies are required by statute to conform to the CMP.

The CMP requires an Enhanced CEQA Review for all large projects that are expected to generate more than 2,400 ADT or more than 200 peak hour trips. Since the project is calculated to generate traffic in excess of these amounts, this level of review is required of the proposed project.

In 1993, the Institute of Transportation Engineers California Border Section and the San Diego Region Traffic Engineer's Council established a set of guidelines to be used in the preparation of traffic impact studies that are subject to the Enhanced CEQA review process. This published document, which is titled 1993 Guidelines for Congestion Management Program Transportation Impact Reports for the San Diego Region, requires that a project study area be established as follows:

1. All streets and intersections on CMP principal arterials where the project will add 50 or more peak hour trips in either direction.
2. Mainline freeway locations where the project will add 50 or more peak hour trips in either direction.

This project is calculated to add more than 50 new directional peak hour trips to I-805. This is the only CMP facility in the study area. A complete analysis of I-805 is included in this traffic study.

13.0 ACCESS ASSESSMENT

13.1 SITE ACCESS DRIVEWAYS

Project traffic was assigned to the following project access driveways, which were analyzed for the buildout condition.

19. Olympic Parkway/Heritage Road
20. Olympic Parkway/La Media Road
30. Street "D"/Heritage Road
31. Birch Avenue/La Media Road
39. Main Street/Heritage Road
44. Street "D"/Olympic Parkway
45. Street "J" (North)/Heritage Road
46. Street "J" (South)/Heritage Road
47. Santa Venetia/Olympic Parkway
48. Santa Venetia/La Media Road
49. Street "F"/Heritage Road
50. Santa Luna/La Media Road

The buildout access analysis was conducted for the Proposed Project and the Analyzed (Worst-Case) Project conditions. This was done to assess the access requirements since the land uses are very different and the inbound and outbound traffic flows in the AM and PM peak hours vary substantially.

Figure 33 depicts the buildout peak hour intersection turning movement volumes at the project access driveway intersections. ***Figure 34*** depicts the assumed/recommended intersection geometry for the project access driveway intersections.

Table 25 summarizes the results of the buildout peak hour analysis at the project access intersections. As seen in *Table 25*, all project access intersections are calculated to operate at LOS D or better conditions with the assumed intersection geometry.

Appendix XIII contains the peak hour access intersection buildout analyses work sheets.

13.2 Turn Lane Storage Lengths

One of the products of the TRAFFIX peak hour intersection analysis worksheets is the queue length for each movement at an intersection. Based on this information under buildout, the required left-turn storage lengths and the right-turn deceleration lengths were estimated at the project driveways. The higher of the AM and PM peak hour queue lengths were used to determine the required storage lengths. ***Table 26*** indicates the required turn lane storage lengths at the project driveways, **on a per lane basis**.

13.3 On-Site Circulation Study By URS

LLG reviewed the "Village 2 Internal Roadway ADT" memorandum prepared by URS and dated October 21, 2003 and noted the following:

- The analysis addresses alternative land use but does not assess the proposed project. Since the proposed project is much larger in terms of residential uses, an internal roadway analysis for the proposed project must be conducted.
- There is no information provided to determine where the ADTs on Figures 1 and 2 come from. A distribution and assignment of project traffic for each land use by area must be provided.
- The volumes on Figures 1 and 2 should include non-project traffic. For instance, the industrial uses in Village 3 will add traffic to Street "D". The internal roadways cannot be sized correctly if no non-project traffic is assumed to utilize them.
- If the forecasted volumes on Figures 1 and 2 are correct, the recommended classifications shown in Table 3 are accurate.

Appendix XIII contains a copy of the "Village 2 Internal Roadway ADT" memorandum prepared by URS and dated October 21, 2003.

14.0 PRE SR 125 ANALYSIS

The Eastern Territories Traffic Capacity Analysis was completed by Linscott Law and Greenspan Engineers (LLG) in April 2003 (See ***Appendix XIV***). This report determines the total number of dwelling units which can be constructed in the eastern territories of Chula Vista before the City's LOS thresholds would be exceeded. This number of dwelling units was set as the maximum, which could be built before SR 125 was needed.

The analysis was done using the City's GMOC and TMP (Traffic Monitoring Program) thresholds. With a starting date of January 1, 2003, the total number of units was determined to be 6,150. With the completion of improvements on Telegraph Canyon Road, East "H" Street and the I-805/Olympic Parkway interchange, this number was raised to 8,990 units. No project units can be built which would result in the 8990 units being exceeded. Non-residential land uses could be developed since they attract trips, as opposed to producing them.

15.0 PFFP ASSESSMENT

15.1 Introduction

There is one roadway, Heritage Road connected southward to Main Street whose need is based on traffic generation. The other roadways within and adjacent to the project would need to be built when the land uses fronting the roads are developed or in order to provide a sufficient number of access points based on the City's Subdivision Manual. Section 16.2 discusses the roadways needed based on access and frontage and Section 16.3 discusses the need for the traffic generation related need for the Heritage Road extension southward to Main Street. ***Table 27*** summarizes the PFFP thresholds.

15.2 Access/Frontage

The roadways discussed in this section are needed, not based on traffic generation, but based on frontage development. ***Figure 35*** shows the subject roadway segments. The need and timing for constructing project area roadways are summarized below:

- Roadways I and N are needed with the first unit since at least 2 access points are required to serve the first 200 residential units, if the first unit is located within the easterly portion of the project (close to La Media), otherwise, Roadways A and H would be needed in addition to roadways I and N.

- Since the City's Subdivision Manual states that three access points are needed once the total number or units reaches 201, it is recommended that roadways A, O and H be constructed when fronting uses are developed or with the 201st unit between Heritage Road and La Media Road, whichever comes first.

- Roadways B, C, D, E and F are addressed in Sections 16.3 and 16.4 but would also be required to be built if adjacent land use were developed.

- Roadway K between Birch Road and the proposed park would be needed when the park is developed.

- Roadway L would be needed when fronting uses are developed or when Rock Mountain Road between Main Street/La Media Road is built, whichever comes first.

A certain number of residential units would generate trips in excess of City standards at the Olympic Parkway/Heritage Road intersection if all project traffic needed to go north or a certain amount of industrial development could generate trips in excess of City standards at the Main Street/Heritage Road intersection if all project traffic needed to go south. The following is a discussion of the residential unit threshold calculations.

15.3 Residential Unit Thresholds

Based on our knowledge of the area and an inspection of the project access points, it was determined that the "constraint" in the roadway system that would result in the need for a southward connection would be either the AM peak hour left turn onto Olympic Parkway from one of four project access points (Street D, Heritage Rd, Santa Venetia or La Media Rd), or the PM peak hour right-turn from Olympic Parkway onto Heritage Road. Furthermore, assuming the northbound approach at each of the four access points provides dual left turn lanes, the volume constraint would either be when the northbound left turn peak hour volume reaches 600 or the peak hour eastbound right-turn volume reaches 400 (the theoretical capacity of a right-turn lane). By inspection it was determined that the PM (inbound) peak hour would "fail" prior to the AM peak hour. ***Figure 36*** shows the general regional near term distribution of project traffic, based on the 2005 Select Zone Assignment. The key percentage on *Figure 36* is the 45% of project traffic, which is expected to be oriented to/from the west on Olympic Parkway.

Figure 36 shows the project's anticipated inbound distribution from Olympic Parkway. Access to the site from La Media Road is assumed. *Figure 37* shows the breakdown of the four access points for traffic oriented eastbound from Olympic Parkway only. The majority of inbound traffic is expected to use Heritage Rd since it will be out of direction for the majority of the residential uses to utilize Santa Venetia or La Media Rd to reach their home. By inspection, the eastbound right turn from Olympic Parkway onto Heritage Road is expected to be the PFFP constraint. It is assumed that a second eastbound right-turn lane cannot be provided for biological, slope and safety reasons.

The first step is to determine the non-residential demand so we can determine the remaining capacity available for residential traffic.

There are some non-residential uses, which will add traffic to the eastbound right turn movement. Using the list of non-residential uses (2010) from *Table 17* (but not including any industrial development), the PM inbound peak hour volume is 798. Assuming 15% of the non-residential traffic is captured internally (i.e. some commercial traffic never leaves the village), the volume drops to 678.

Assuming 27% (60% x 45%) of this 678 volume uses Heritage Rd to turn right, the non-residential eastbound right-turn volume is 183. Therefore, there is capacity for 217 PM peak hour right-turn vehicles (400-183). Using a residential ADT of 9 ADT/ dwelling unit (average of condo and single family rate) based on SANDAG peak hour percentages each dwelling unit generates 0.63 PM inbound peak hour trips. Since 1,276 units would generate 217 PM peak hour eastbound right turns at the Olympic Parkway/Heritage Road intersection, Heritage Road (Roadways B, C, D and E) should be connected between Olympic Parkway and southwards to Main Street and Main Street westerly to existing (Roadway F) once **1,276 Equivalent Dwelling Units (EDUs)** within Village 2 are built. Based on SANDAG rates, 106 acres of industrial development is the same as 1,276 EDUs.

15.4 Industrial Acreage Threshold

The volume at the Main Street/Heritage Road intersection would exceed City capacity standards for dual left turn lanes (600 vehicles per hour) or right turn lanes (400 vehicles per hour) if the industrial portion of the project did not have access to Olympic Parkway. Based on SANDAG rates, industrial uses generate 120 ADT/acre, 13.44 AM inbound trips/acre and 12.6 PM outbound trips/acre. If all industrial traffic was oriented to/from the west on Main Street from Heritage Road, 31.7 acres of industrial development would generate 400 PM peak hour southbound right-turn vehicles, and 41.6 acre would generate 600 AM peak hour eastbound left–turn vehicles. Therefore, access Northward on Heritage Road to Olympic Parkway is needed once 31.7 acres of industrial land uses are developed. It may be necessary to provide northward access to Olympic Parkway with any industrial development if it is determined that access only to the south to Main Street is not sufficient from a safety standpoint.

16.0 TEMPORARY MAIN STREET/HERITAGE ROAD INTERSECTION ANALYSIS

The purpose of this traffic assessment is to determine if a temporary Main Street/Heritage Road intersection can accommodate all of the residential units and a portion of industrial uses planned within Otay Ranch Village 2/3. It is assumed that the intersection configuration shown in ***Figure 38*** would be provided at the intersection.

16.1 Description

The minimum lane configuration for this interim condition was determined using LOS D as the minimum intersection LOS. The design of the permanent intersection will need to provide LOS C operations. The design assumes the maximum acceptable single left-turn volume is 300 vehicles per hour (vph), as stated in the Manual on Uniform Traffic Control Devices (MUTCD). The assumed maximum acceptable single right-turn volume was assumed to be 400 vph, per City standards.

The SANDAG Year 2010 Village 2/Village 7 traffic model was used as the basis for the traffic assessment. Included in this letter report are:

- Analysis Scenario Description
- Future Traffic Volume Determination
- Analysis Results
- Conclusions

16.2 Analysis Scenarios

The following two network scenarios were analyzed to determine the recommended intersection geometry at the Main Street/Heritage Road intersection. Year 2010 land use and network assumptions were used for both scenarios.

Network Scenario A

No Rock Mountain Road east of Heritage Road other than an access to the quarry.

Network Scenario B

With Rock Mountain Road built between Heritage Road and La Media Road.

16.3 Future Traffic Volumes

Figures 39 and 40 depict the Year 2010 traffic volumes for Scenarios 1 and 2, respectively. The peak hour intersection volumes for the two scenarios were estimated using ADT volumes from SANDAG model plots. The SANDAG model outputs peak hour volumes. However, the SANDAG model output is not as accurate in determining peak hour intersection turn movements. Therefore, peak hour turning movement volumes were estimated using a template in EXCEL developed by LLG to determine peak hour traffic at an intersection from future ADTs using the relationship between existing peak hour turn movements and the existing ADTs. The construction of SR 125 was taken into account in determining the peak hour intersection volumes. ***Table 28*** summarizes the Village 2 Land Uses.

The future traffic volumes at the temporary Main Street/Heritage Road intersection for both scenarios were determined as follows:

- Year 2010 ADT and Select Zone Assignments (SZA) for Scenarios 1 and 2 were obtained from the SANDAG Village 2/Village 7 models.
- Year 2010 peak hour turning movement volumes for Scenarios 1 and 2 were determined using the ADT volumes and assuming AM and PM peak hour volumes represent 8% and 10% of the ADT volumes, respectively.
- Distribution percentages for the Village 2 related traffic was determined using the above mentioned Year 2010 Select Zone Assignments for Scenarios 1 and 2 (***Figure 41***). The Village 2 traffic was assigned based on the distribution percentages in *Figure 41*.
- The Year 2010 peak hour project volumes that were calculated from the traffic model were deducted from the Year 2010 peak hour volumes to obtain the Year 2010 without Village 2 peak hour project volumes for Scenarios 1 and 2 (***Figures 39A and 40A*** respectively).
- Using the distribution described in the *Figure 41*, peak hour traffic generated by the proposed land uses for Scenario A summarized in ***Table 29*** were assigned (***Figure 39B***). For Scenario B, the traffic generated by land uses summarized in ***Table 30*** were assigned (***Figure 40B***).
- The project volumes (***Figures 39B and 40B***) were added to the Year 2010 without project volumes to obtain the Year 2010 volumes at the Main Street/Heritage Road intersection with Village 2, 3 and Planning Area 18B traffic volumes (***Figures 39C and 40C respectively***).
- The volumes are for a typical day and do not assume traffic generated by an event at the amphitheater.

16.4 Total Proposed Village 2, 3 and Planning Area 18 B Land Uses

The total proposed land uses in Village 2 are, 986 single family units, 1,740 multi-family units, 60 mixed-use multi-family units, 59.6 acres of parks, 6.1 acres of community purpose facilities (CPF), 11.9 acres of commercial, 10.3 acres for a school, and 87.9 acres of industrial. In addition, 175.5 acres of industrial and 10.2 acres of CPF are planned in Village 3.

16.4.1 *Scenario A Land Uses*

Based on the threshold of right-turn volume of 400 vph, per City standards, the total amount of land uses which could be constructed if the Scenario A geometry was provided was determined and summarized in ***Table 29***. As seen in *Table 29*, all proposed residential units, park, CPF, commercial school and 87.9 acres of industrial land uses within Village 2 and 61.3 acres of industrial in Village 3 and Planning Area 18B can be built with the Scenario A intersection geometry.

16.4.2 *Scenario B Land Uses*

Based on the threshold of single right-turn volume of 400 vph, per City standards, the total amount of land uses which could be constructed if the Scenario B geometry was provided was determined and summarized in *Table 30*. As seen in *Table 30*, all proposed land uses within Village 2, 3 and Planning Area 18B can be built in Scenario B.

16.4.3 *Intersection Analysis*

Figure 38 depicts the intersection geometry assumed for the two scenarios. As seen in *Figure 38*, right-turn-overlap phasing is assumed wherever exclusive right-turn lanes are assumed. ***Table 2*** summarizes the intersection operations for the two scenarios.

16.4.4 *Scenario A*

Table 31 summarizes the results of the peak hour intersection analysis for Scenario A. As seen in *Table 31*, with the assumed geometry, the Heritage Road/Main Street intersection is calculated to operate at LOS D or better, with the addition of project traffic.

16.4.5 *Scenario B*

Table 31 summarizes the results of the peak hour intersection analysis for Scenario B. As seen in *Table 31*, with the assumed geometry, the Heritage Road/Main Street/Rock Mountain Road intersection is calculated to operate at LOS D or better, with the addition of project traffic.

Appendix XV includes the peak hour intersection analysis worksheets.

16.5 Conclusions

16.5.1 *Scenario A (No Rock Mountain Road East of Heritage Road)*

The analysis indicates that with the intersection configuration shown on *Figure 38A* for Scenario A, all proposed land uses within Village 2 including the industrial uses (87.9 Acres) and an additional 61.3 acres of industrial land uses within Village 3 can be built.

This is the same as 4,216 Equivalent Dwelling Units (EDUs) as follows:

986	Single Family Units	=	986	EDUs
1,800	Multi-Family Units	=	1,440	EDUs
149.2	Acres of Industrial (Assuming 120 ADT/Acre)	=	1,790	EDUs
Total		=	**4,216**	**EDUs**

The non-residential land uses within Village 2 other than industrial uses, such as park, CPF, school and commercial land uses would not count towards the EDU threshold since these uses are local serving and actually are a traffic benefit since they capture traffic within the Village.

16.5.2 *Scenario B (With Rock Mountain Road)*

The analysis indicates that with the intersection configuration shown on *Figure 38B*, with Rock Mountain Road completed between Heritage Road and La Media Road, all land uses within Village 2, 3 and Planning Area 18B including residential units, park, CPF, school, commercial and industrial land uses could be implemented.

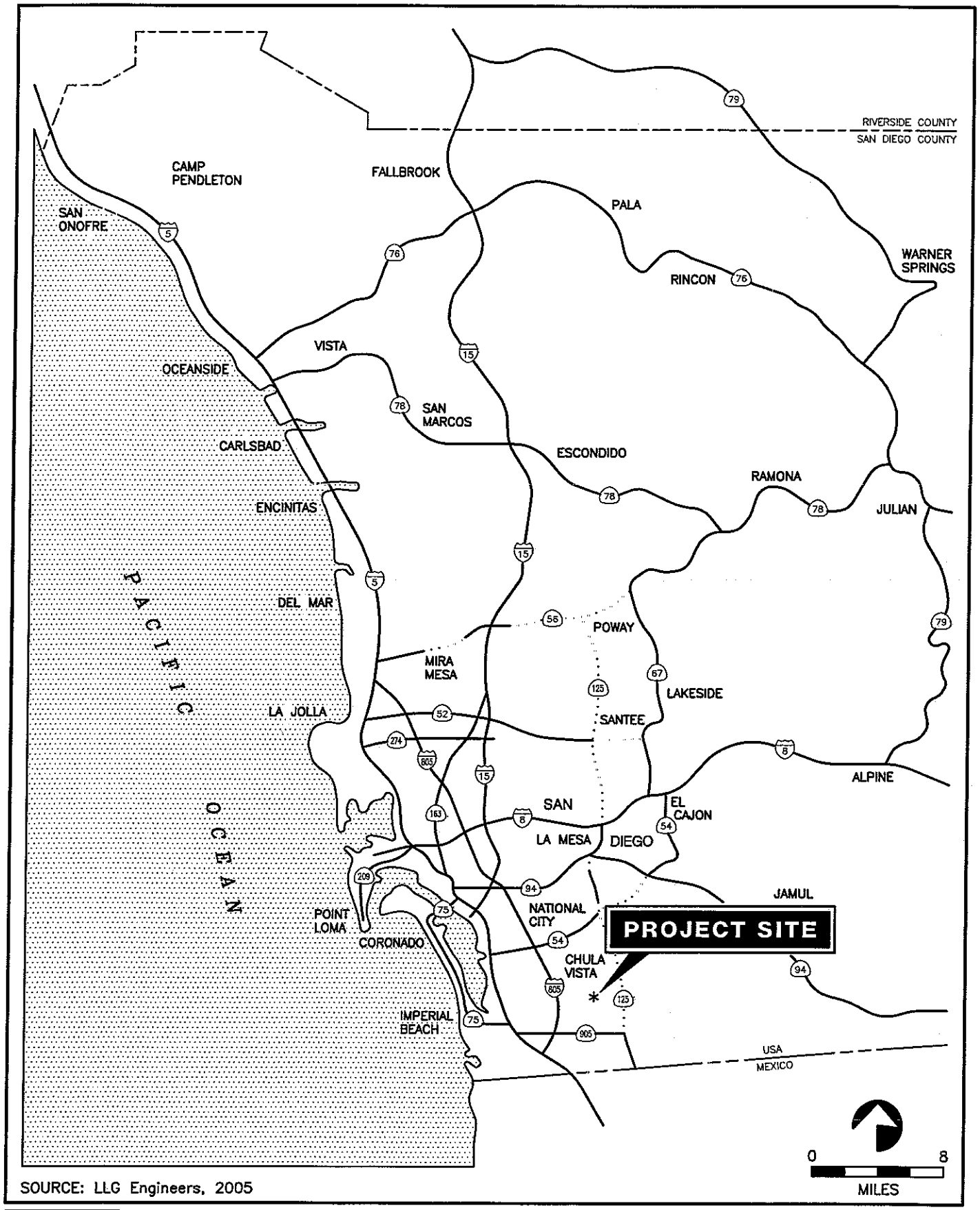
17.0 SIGNIFICANCE OF IMPACTS

Based on the peak hour intersection, segment and freeway analyses, the significance of impacts under each analysis timeframe was determined. ***Table 32*** summarizes the significant intersection impacts, while ***Table 33*** summarizes the significant street segment impacts.

Significant cumulative impacts are calculated on I-805 since LOS F is calculated for individual scenarios and the project adds traffic to this freeway. In addition, access related impacts would occur if appropriate lane configurations are not provided at the project driveways.

18.0 MITIGATION MEASURES

Measures are recommended to mitigate significant project and cumulative impacts. ***Table 34*** lists the mitigation measures for project specific and cumulative impacts in the near-term and long-term. *Table 34* also includes recommendations for the Temporary Main Street/Heritage Road intersection. ***Table 35*** summarizes the PFFP impacts and mitigation measures.

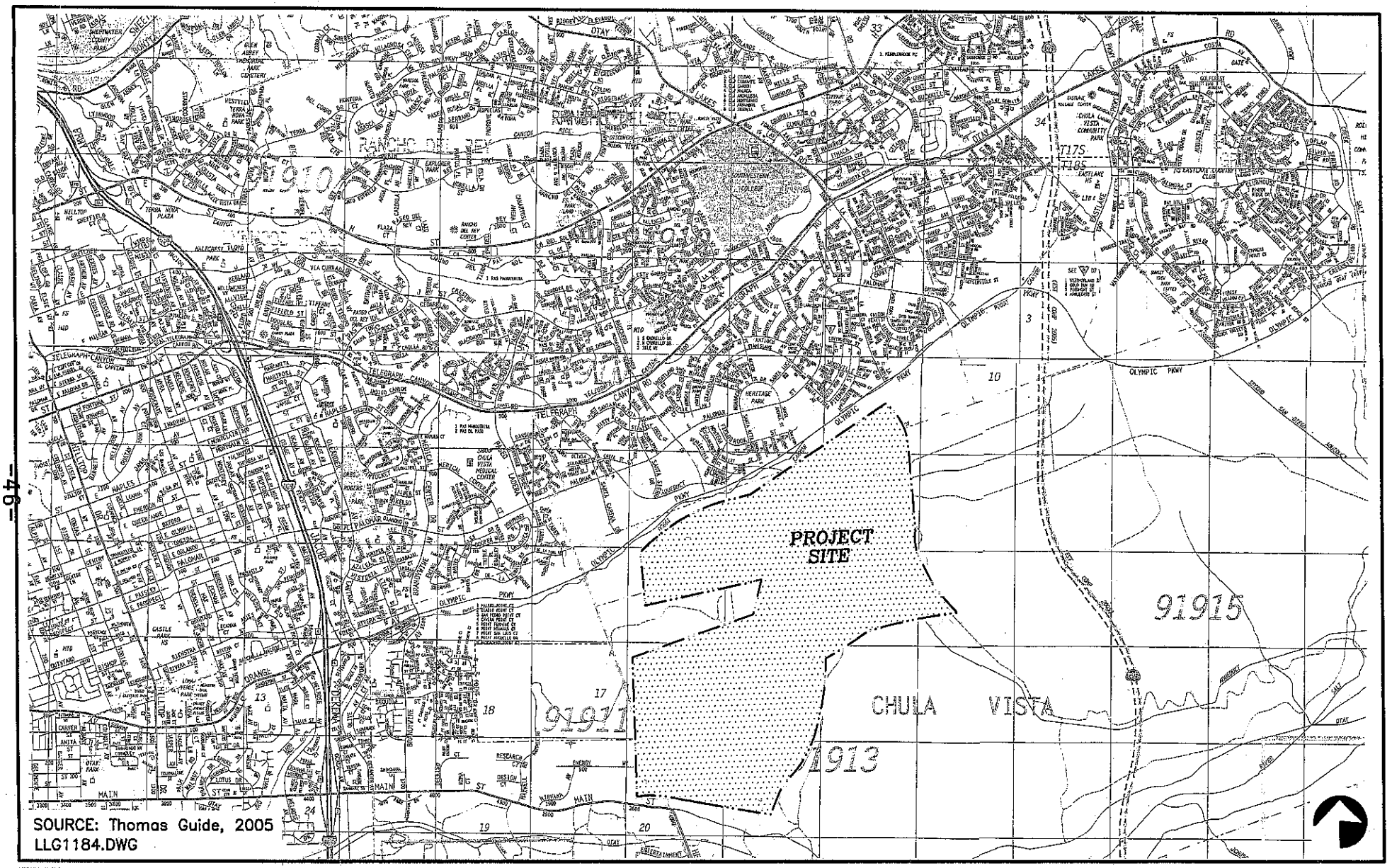


SOURCE: LLG Engineers, 2005

LINSCOTT LAW & GREENSPAN engineers

Figure 1

VICINITY MAP



SOURCE: Thomas Guide, 2005
LLG1184.DWG

LINSCOTT LAW & GREENSPAN engineers

Figure 2

PROJECT AREA MAP

OTAY RANCH VILLAGES 2, 3 & PA 18 B

OTAY VILLAGE 2

PRELIMINARY LOTTING STUDY

LEGEND

NEIGHBORHOOD	LAND	ACREAGE	DWELLING	TARGET	LOT SIZE
R-4	SF	41.5	160	3.9/AC	60/65 X 105
R-6	SF	12.6	63	5.0/AC	55 X 92
R-7	SF	9.4	44	4.7/AC	60 X 100
R-8	SF	10.0	51	5.0/AC	55 X 92
R-9	SF	13.3	101	7.5/AC	40 X 95
R-15	SF	7.2	45	6.1/AC	50 X 85
R-18-A	SF	11.8	66	5.6/AC	50 X 85
R-18-B	SF	10.4	46	4.3/AC	60 X 100
R-19	SF	10.8	80	7.7/AC	40 X 95
R-20	SF	19.3	83	4.2/AC	60 X 105
R-21	SF	22.2	64	2.8/AC	70/80 X 125
R-23	SF	13.1	71	5.4/AC	55 X 92
R-24	SF	7.6	41	5.4/AC	55 X 92
R-25	SF	9.5	68	7.2/AC	40 X 95
SUBTOTAL	SF	198.7	986	4.9/AC	
R-5	MF	15.7	130	8.2/AC	34 X 85
R-10	MF	4.5	90	20.0/AC	TOWNHOMES
R-11	MF	9.9	144	14.5/AC	
R-12	MF	24.0	295	12.3/AC	
R-13	MF	10.3	149	14.4/AC	
R-14	MF	7.6	137	18.0/AC	
R-16	MF	3.5	74	21.1/AC	TOWNHOMES
R-17	MF	11.5	119	10.3/AC	34 X 85
R-26	MF	8.8	75	8.5/AC	34 X 85
R-27	MF	8.8	110	12.5/AC	
R-28	MF	5.9	85	14.6/AC	
R-29	MF	8.9	152	17.1/AC	
R-30	MF	10.2	180	18.0/AC	
SUBTOTAL	MF	129.6	1,740	13.5/AC	
IND-1	INDUSTRIAL	51.5			
IND-2	INDUSTRIAL	6.7			
IND-3	INDUSTRIAL	29.7			
SUBTOTAL		87.9			

NOTE* INDUSTRIAL PARCELS MAY BE DEVELOPED AS RESIDENTIAL AND CPF USES SUBJECT TO FUTURE ENVIRONMENTAL REVIEW AND SPA POLICIES AND REQUIREMENTS, AFTER LANDFILL OPERATIONS CEASE AT THE OTAY LANDFILL.

MU-1	MU	1.1	10	9.1/AC	
MU-2	MU	1.4	12	8.6/AC	
MU-3	MU	4.3	38	8.8/AC	
SUBTOTAL		6.8	60	8.8/AC	
C-1	COM'L	11.9			
SUBTOTAL		11.9			
P-1	PARK	1.4			
P-2	PARK	7.1			
P-3	PARK	6.9			
P-4	COMMUNITY PARK	44.2			
SUBTOTAL		59.6			
CPF-1	CPF	1.2			
CPF-2	CPF	.9			
CPF-3	CPF	1.7			
CPF-4	CPF	1.5			
CPF-5	CPF	.8			
SUBTOTAL		6.1			
S-1	SCHOOL	10.3			
OPEN SPACE	OS	164.5			
PRESERVE	OS	74.7			
EXTERNAL CIRC.		26.2			
INTERNAL CIRC.		42.6			
TOTAL		818.9	2786		

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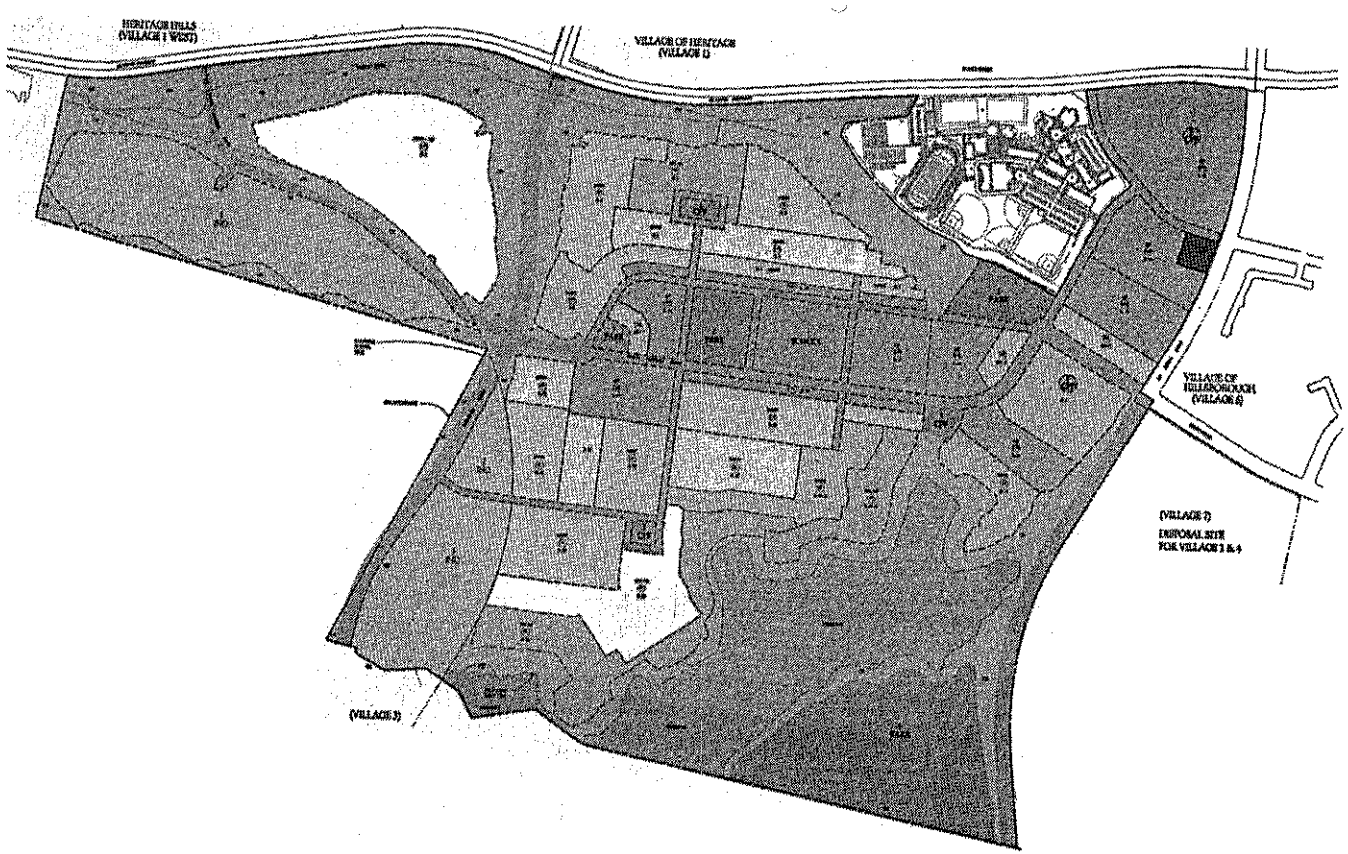
LLG1184.DWG



NO SCALE

LINSCOTT LAW & GREENSPAN engineers

Figure 3

OTAY RANCH VILLAGE 2 PROPOSED LAND USE PLAN

OTAY RANCH VILLAGES 2, 3 & PA 18 B

OTAY VILLAGE 3

INDUSTRIAL LAND USE PLAN

LOT NO.	LAND USE	ACREAGE
IND 1	INDUSTRIAL	54.5
IND 2	INDUSTRIAL	26.4
IND 3	INDUSTRIAL	50.1
IND 4	INDUSTRIAL	26.4
IND 5	INDUSTRIAL	11.3
IND 6	INDUSTRIAL	7.8
TOTAL		175.5
CPF 1		10.2
PRESERVE OS		108.1
REMAINING OS MANUF. SLOPES		38.7
TOTAL OS		146.8
EXTERNAL CIRCULATION		22.5
INTERNAL CIRCULATION		12.3
TOTAL		368.3

LEGEND

- INDUSTRIAL OTAY RANCH COMPANY (NET PAD)
- PRESERVE / OPEN SPACE
- MANUFACTURED SLOPES / OPEN SPACE

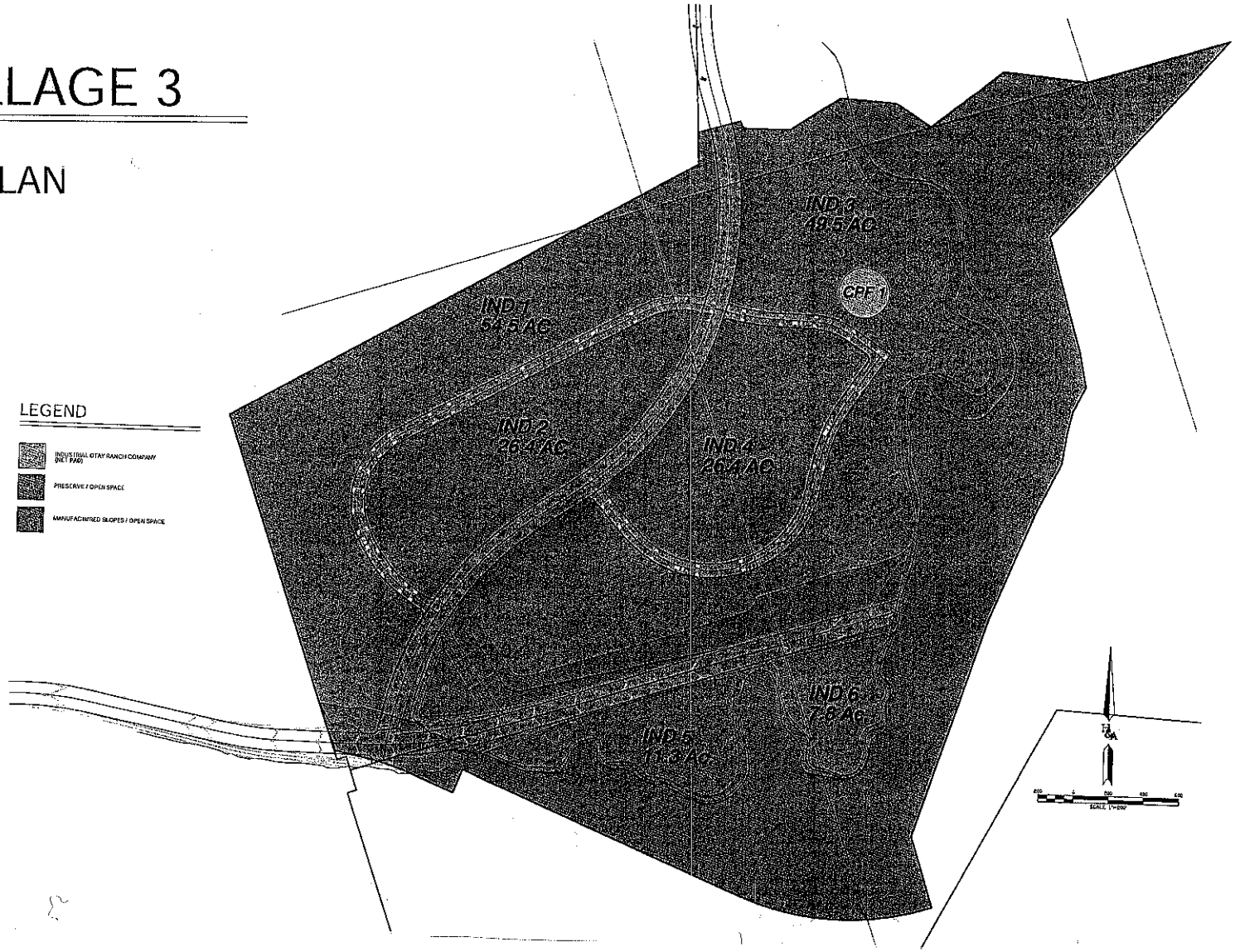


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Figure 4

OTAY RANCH VILLAGE 3 PROPOSED LAND USE MAP

OTAY RANCH VILLAGES 2, 3 & PA 18 B

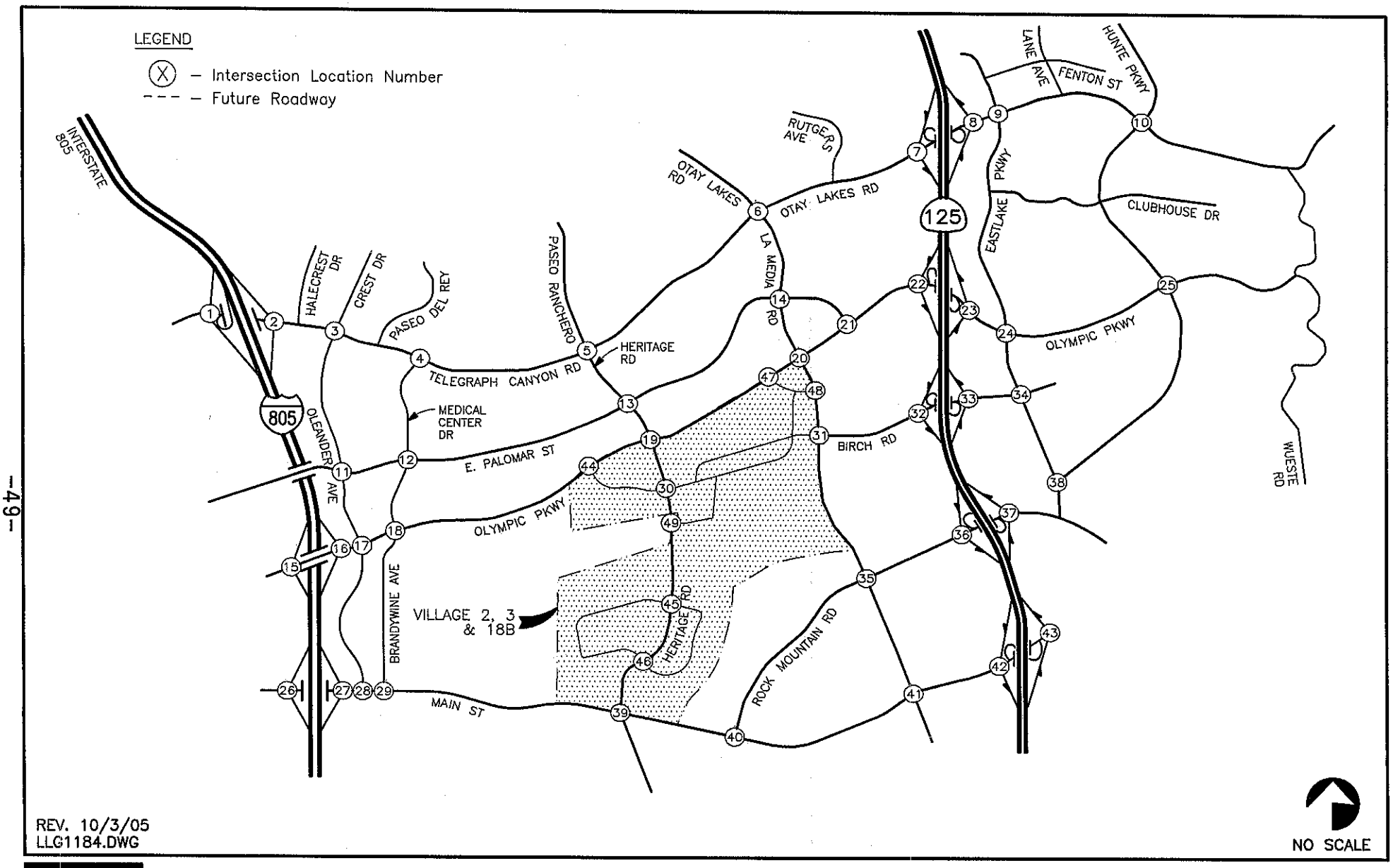

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Figure 5

CITY OF CHULA VISTA
ADOPTED CIRCULATION ELEMENT

OTAY RANCH VILLAGES 2, 3 & PA 18 B

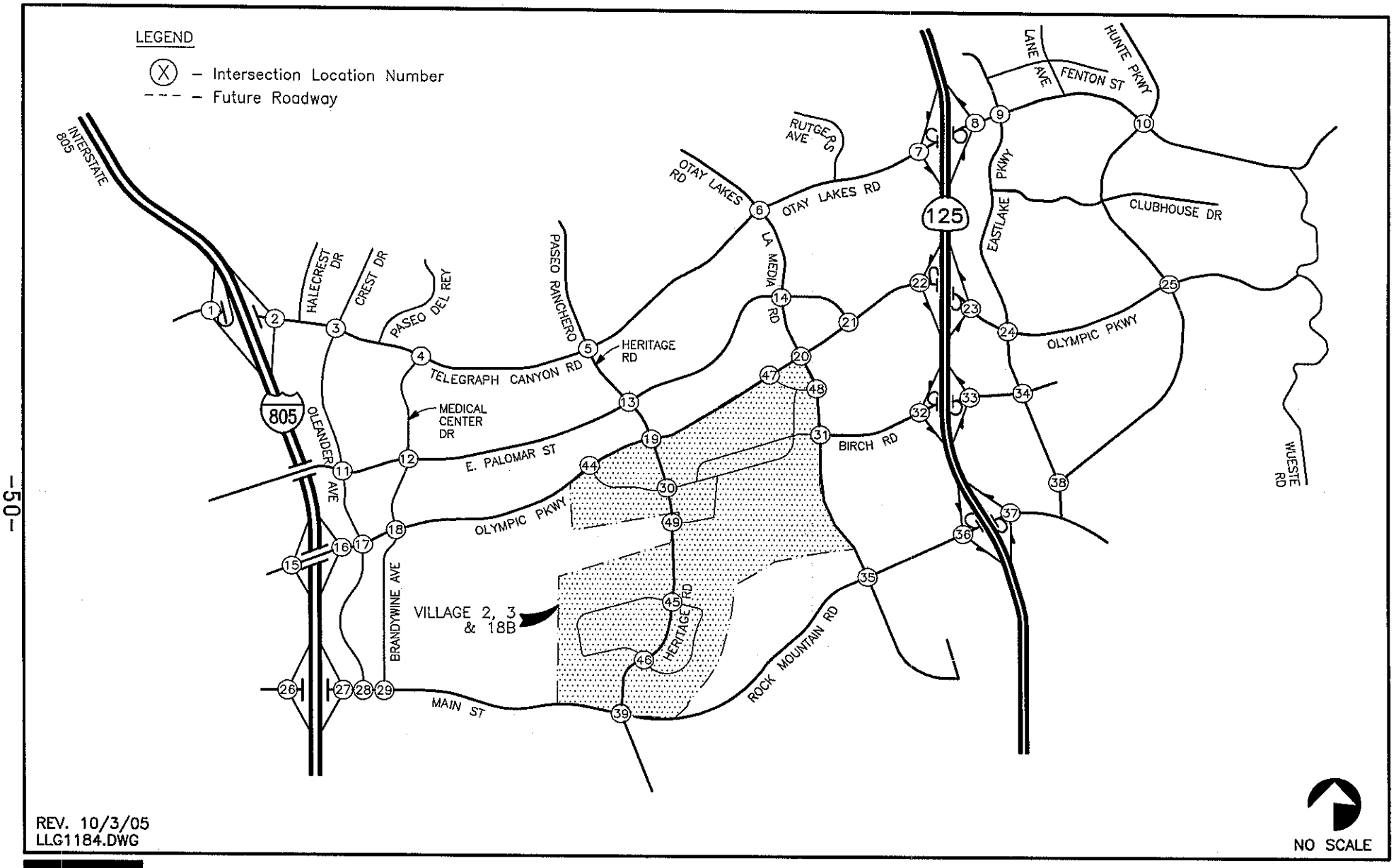

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Figure 6

CITY OF CHULA VISTA PROPOSED CIRCULATION ELEMENT

OTAY RANCH VILLAGES 2, 3 & PA 18 B

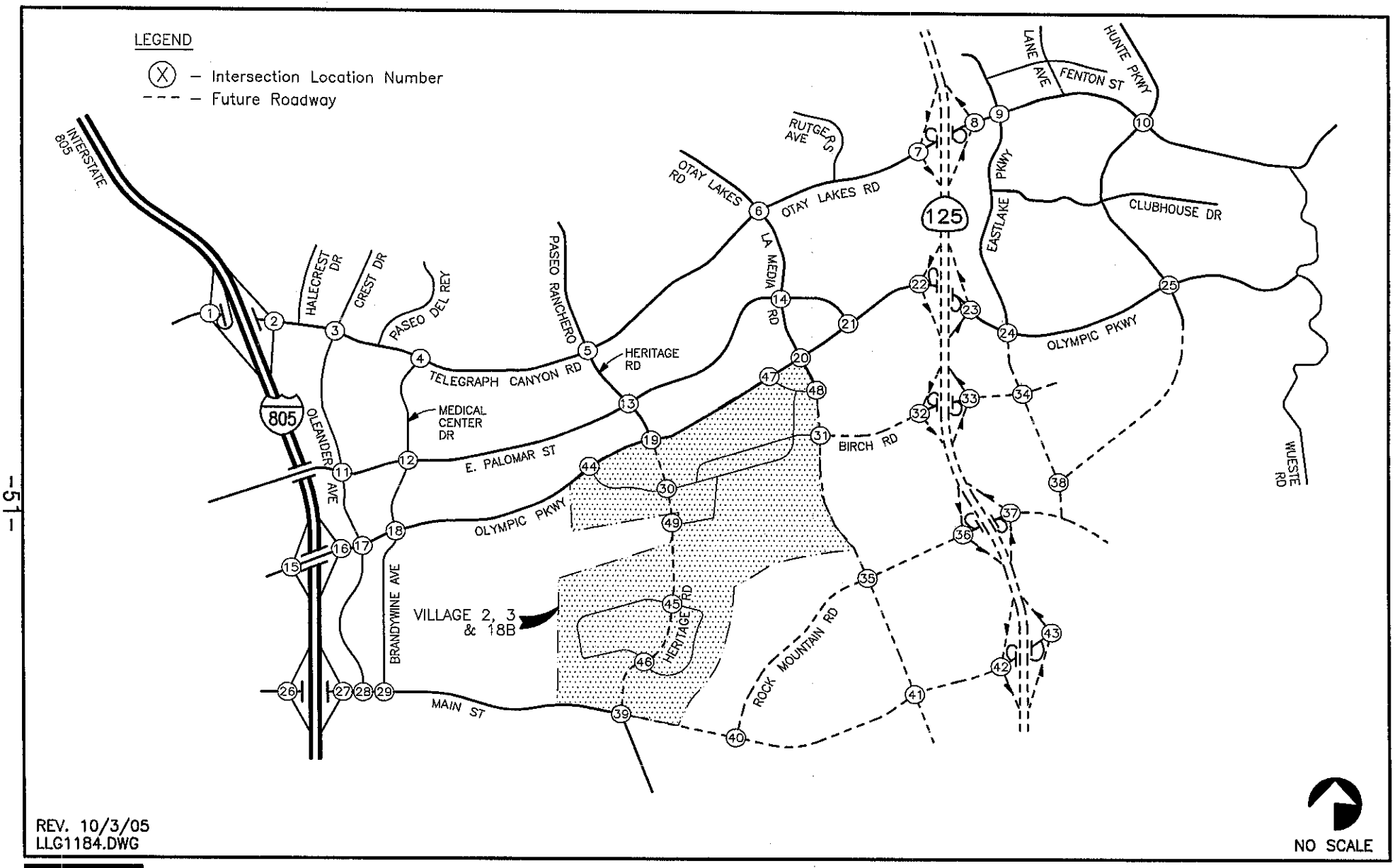

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Figure 7

STUDY AREA INTERSECTIONS AND SEGMENTS

OTAY RANCH VILLAGES 2, 3 & PA 18 B

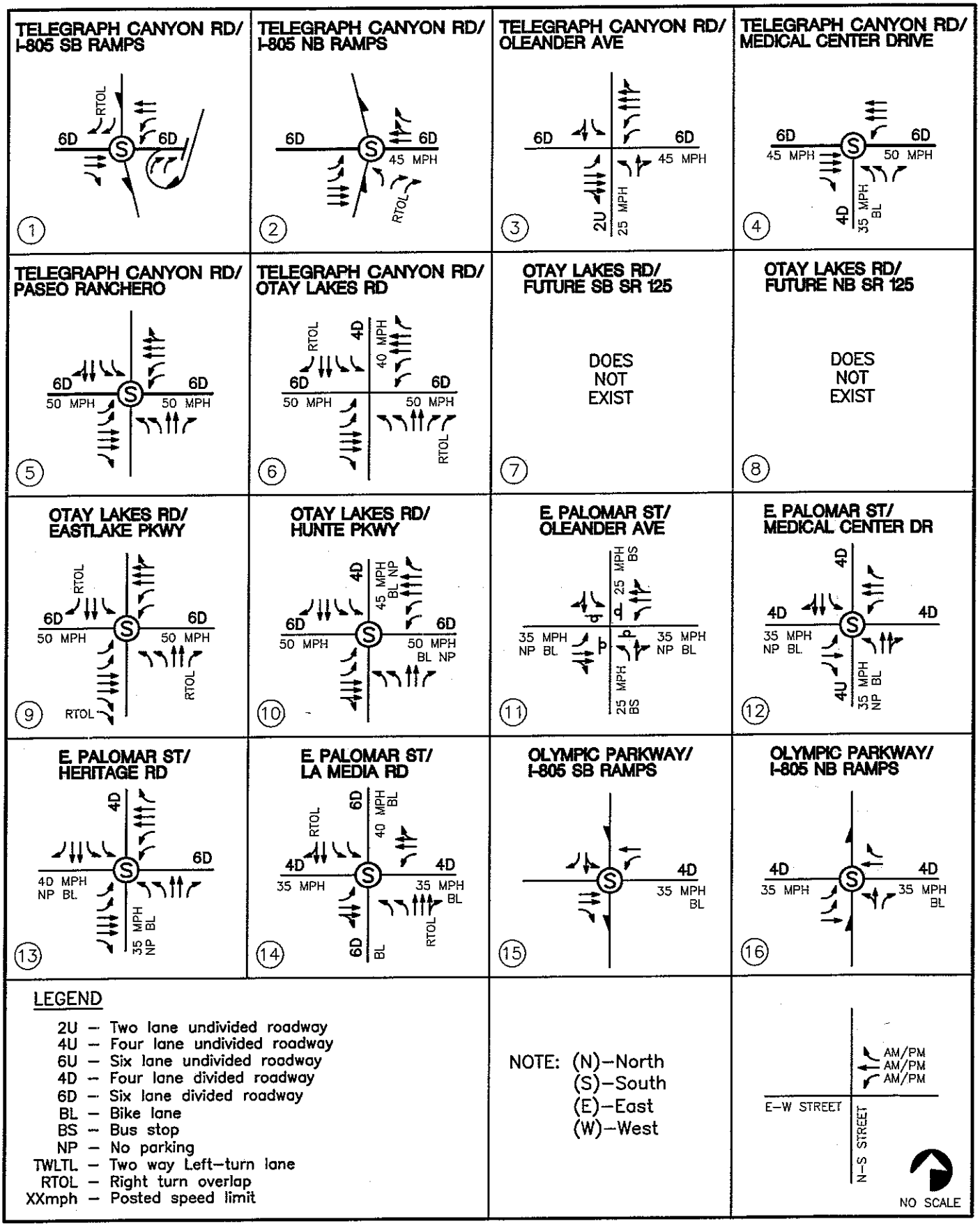

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Figure 8

(1 OF 3)

EXISTING CONDITIONS DIAGRAM

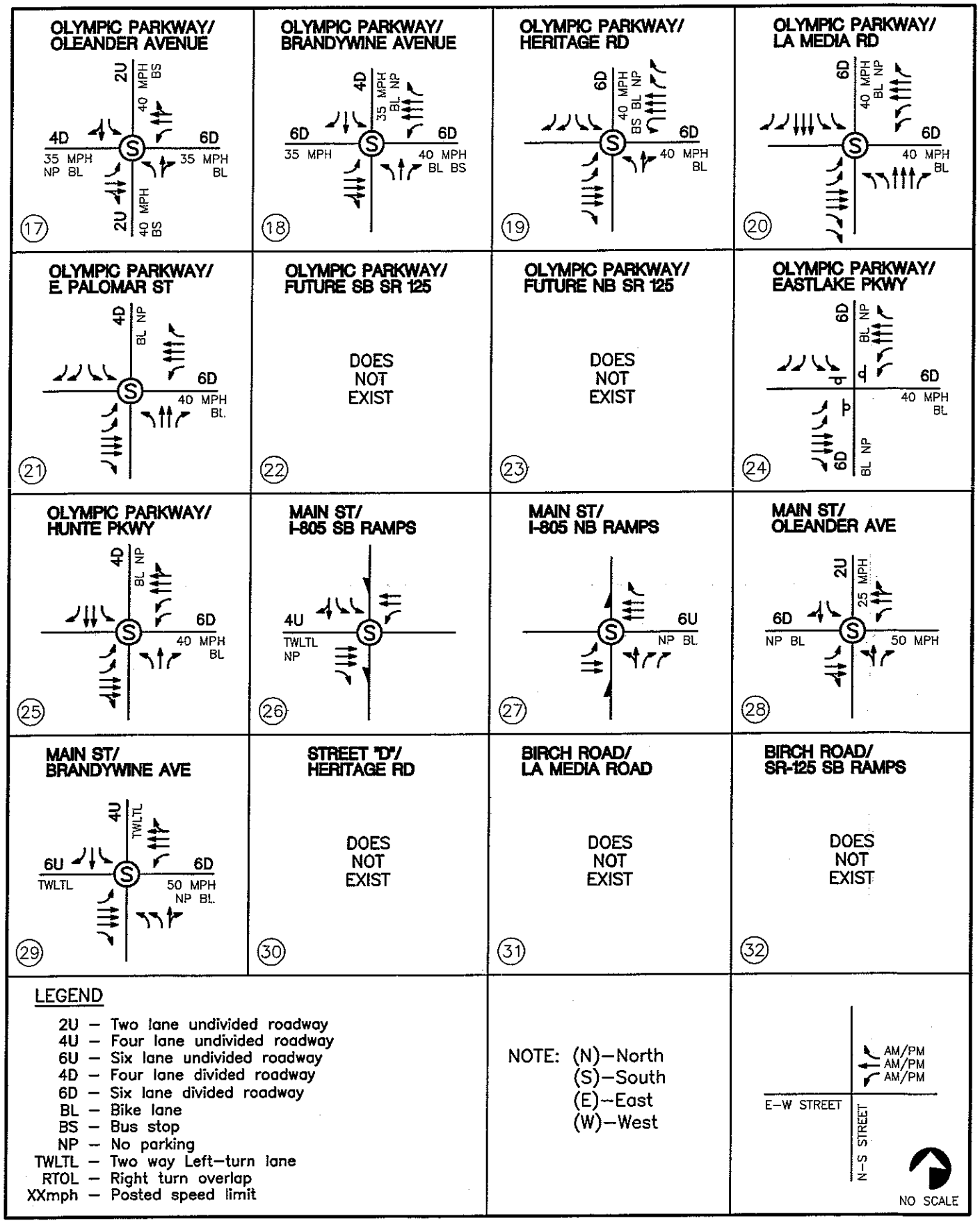

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Figure 8

(2 OF 3)

EXISTING CONDITIONS DIAGRAM

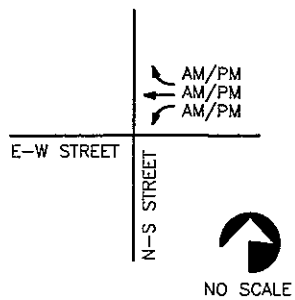
BIRCH ROAD/ SR-125 NB RAMPS DOES NOT EXIST 33	**BIRCH ROAD/ EASTLAKE PARKWAY** DOES NOT EXIST 34	**ROCK MOUNTAIN ROAD/ LA MEDIA ROAD** DOES NOT EXIST 35	**ROCK MOUNTAIN ROAD/ SR-125 SB RAMPS** DOES NOT EXIST 36
ROCK MOUNTAIN ROAD/ SR-125 NB RAMPS DOES NOT EXIST 37	**ROCK MOUNTAIN ROAD/ EASTLAKE PARKWAY** DOES NOT EXIST 38	**MAIN STREET/ HERITAGE RD** DOES NOT EXIST 39	**MAIN STREET/ ROCK MOUNTAIN ROAD** DOES NOT EXIST 40
MAIN STREET/ LA MEDIA ROAD DOES NOT EXIST 41	**MAIN STREET/ SR-125 SB RAMPS** DOES NOT EXIST 42	**MAIN STREET/ SR-125 NB RAMPS** DOES NOT EXIST 43	
		NOTE: (N)–North (S)–South (E)–East (W)–West	

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Figure 8
(3 OF 3)
EXISTING CONDITIONS DIAGRAM

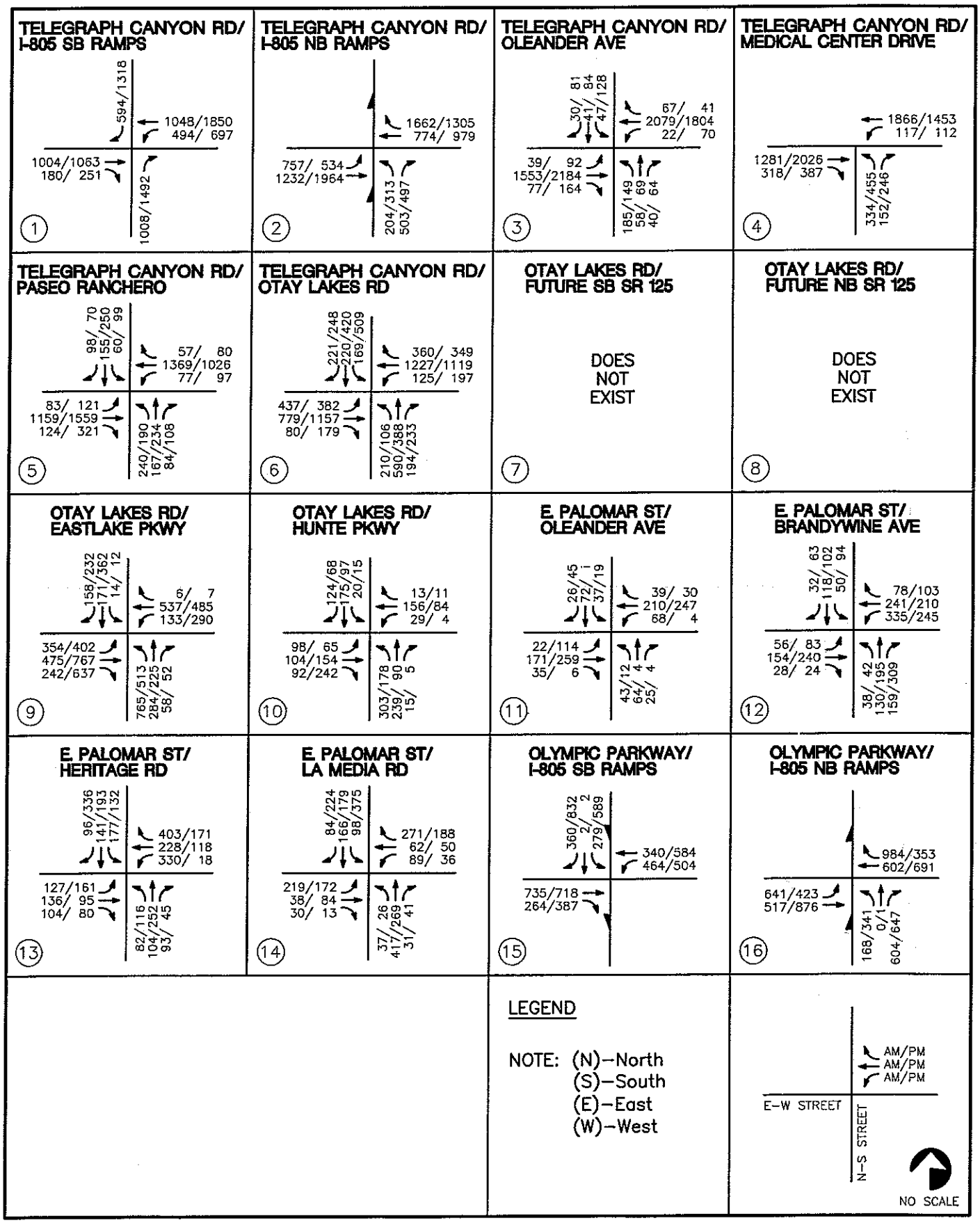

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Figure 9

(1 OF 3)

EXISTING INTERSECTION VOLUMES
AM/PM PEAK HOURS

OTAY RANCH VILLAGES 2, 3 & PA 18 B

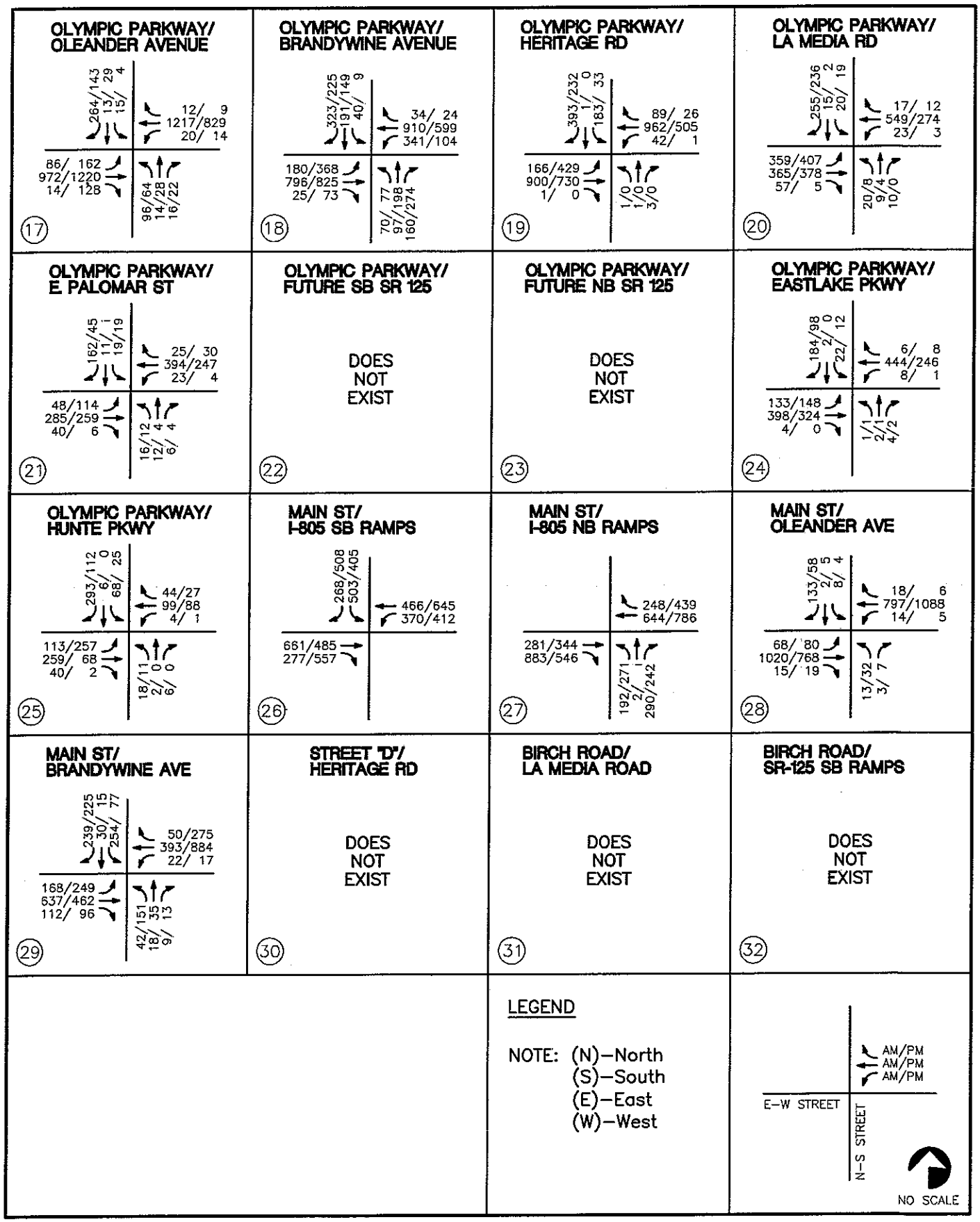

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Figure 9

(2 OF 3)

EXISTING INTERSECTION VOLUMES AM/PM PEAK HOURS

OTAY RANCH VILLAGES 2, 3 & PA 18 B

BIRCH ROAD/ SR-125 NB RAMPS DOES NOT EXIST 33	**BIRCH ROAD/ EASTLAKE PARKWAY** DOES NOT EXIST 34	**ROCK MOUNTAIN ROAD/ LA MEDIA ROAD** DOES NOT EXIST 35	**ROCK MOUNTAIN ROAD/ SR-125 SB RAMPS** DOES NOT EXIST 36
ROCK MOUNTAIN ROAD/ SR-125 NB RAMPS DOES NOT EXIST 37	**ROCK MOUNTAIN ROAD/ EASTLAKE PARKWAY** DOES NOT EXIST 38	**MAIN STREET/ HERITAGE RD** DOES NOT EXIST 39	**MAIN STREET/ ROCK MOUNTAIN ROAD** DOES NOT EXIST 40
MAIN STREET/ LA MEDIA ROAD DOES NOT EXIST 41	**MAIN STREET/ SR-125 SB RAMPS** DOES NOT EXIST 42	**MAIN STREET/ SR-125 NB RAMPS** DOES NOT EXIST 43	
		LEGEND NOTE: (N)–North (S)–South (E)–East (W)–West	AM/PM AM/PM AM/PM E–W STREET N–S STREET NO SCALE

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Figure 9
(3 OF 3)

EXISTING INTERSECTION VOLUMES
AM/PM PEAK HOURS

OTAY RANCH VILLAGES 2, 3 & PA 18 B

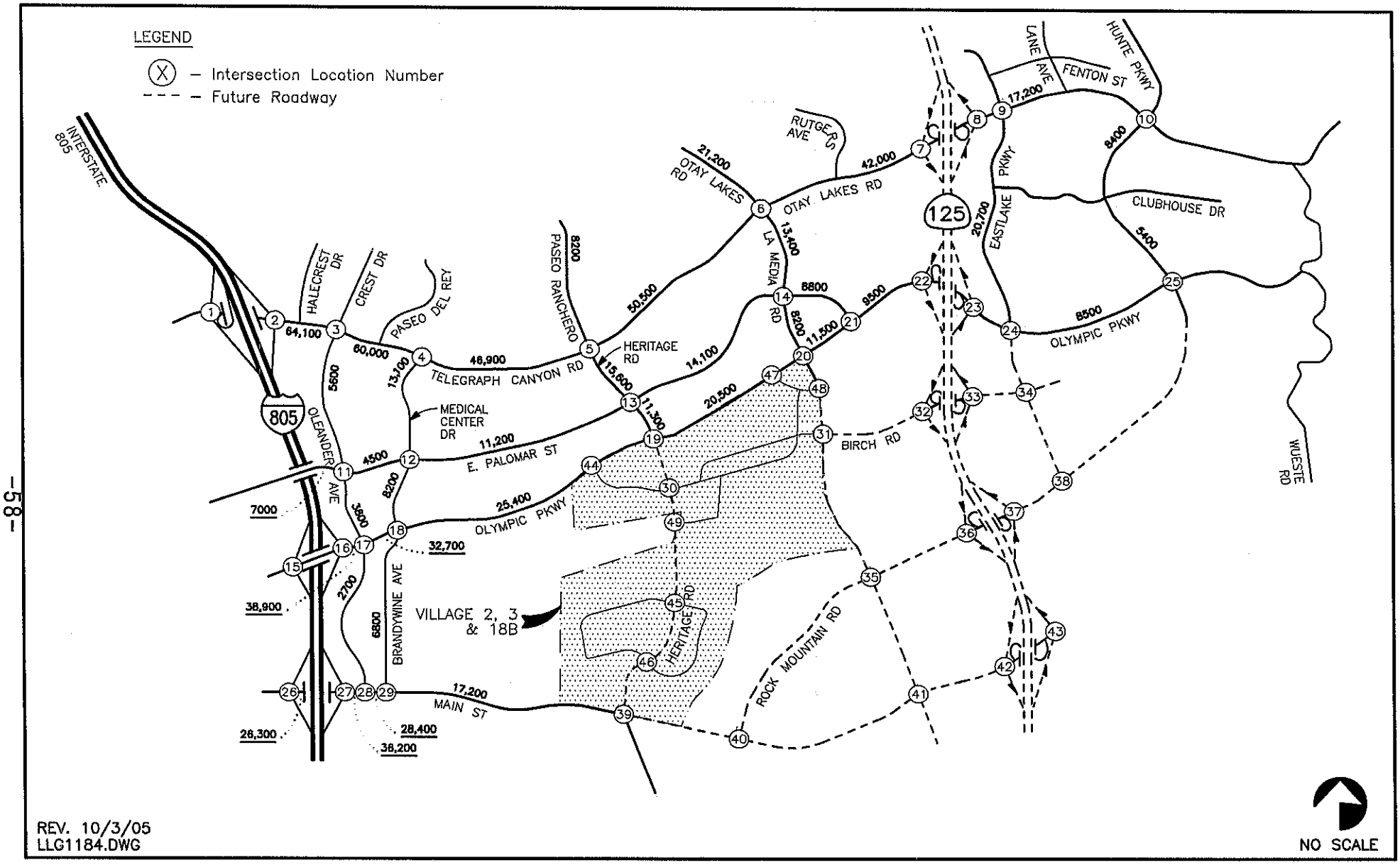

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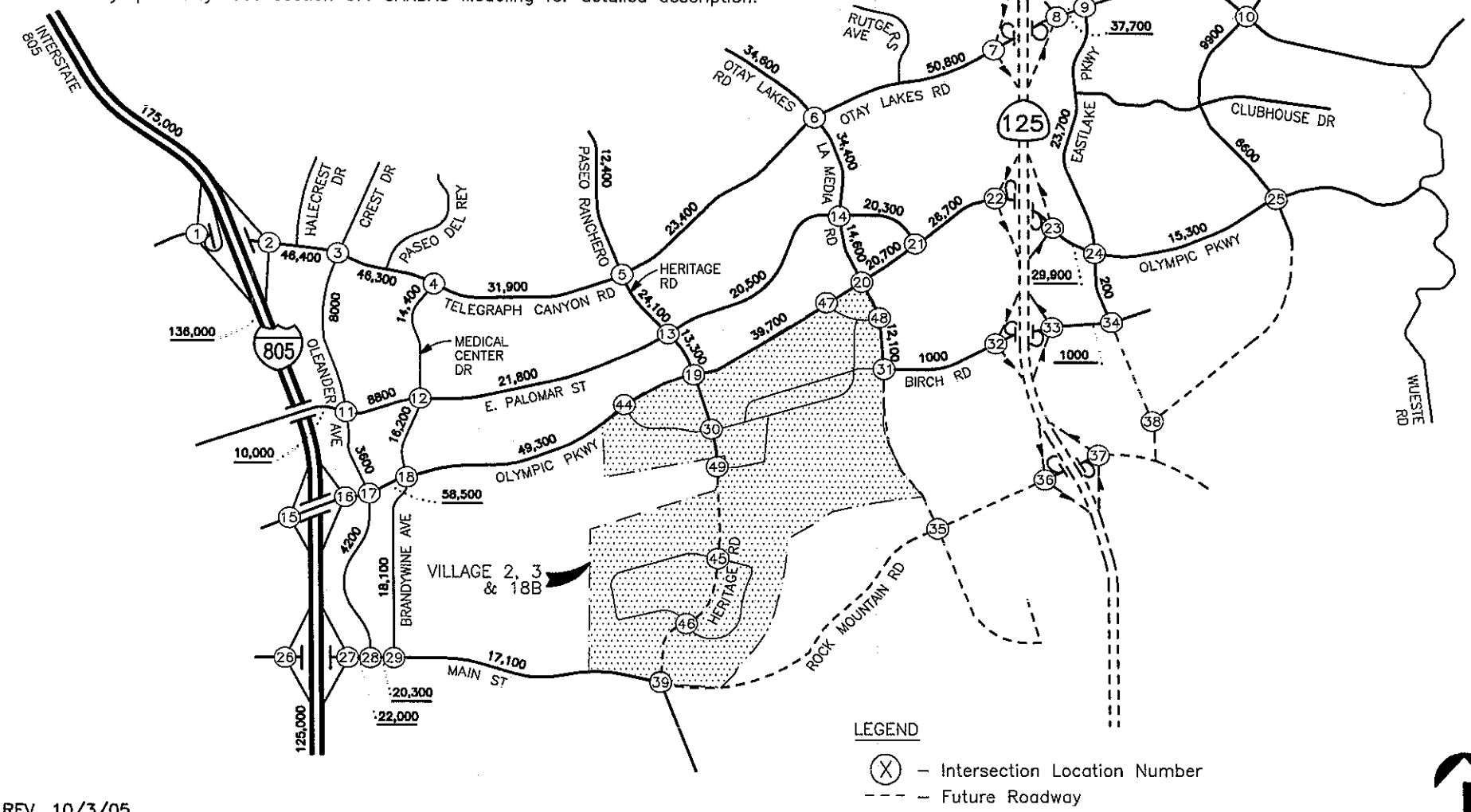
Figure 10

EXISTING TRAFFIC VOLUMES ADT

OTAY RANCH VILLAGES 2, 3 & PA 18 B

NOTES:

1. Approximately 15% of Telegraph Canyon Road traffic was reallocated to East "H" Street & Olympic Pkwy. See section 3.4 SANDAG Modeling for detailed description.
2. Approximately 25% of Otay Lakes Road traffic was reallocated to East "H" Street & Olympic Pkwy. See section 3.4 SANDAG Modeling for detailed description.



LEGEND

(X) – Intersection Location Number

- - - – Future Roadway

REV. 10/3/05
LLG1184.DWG

NO SCALE

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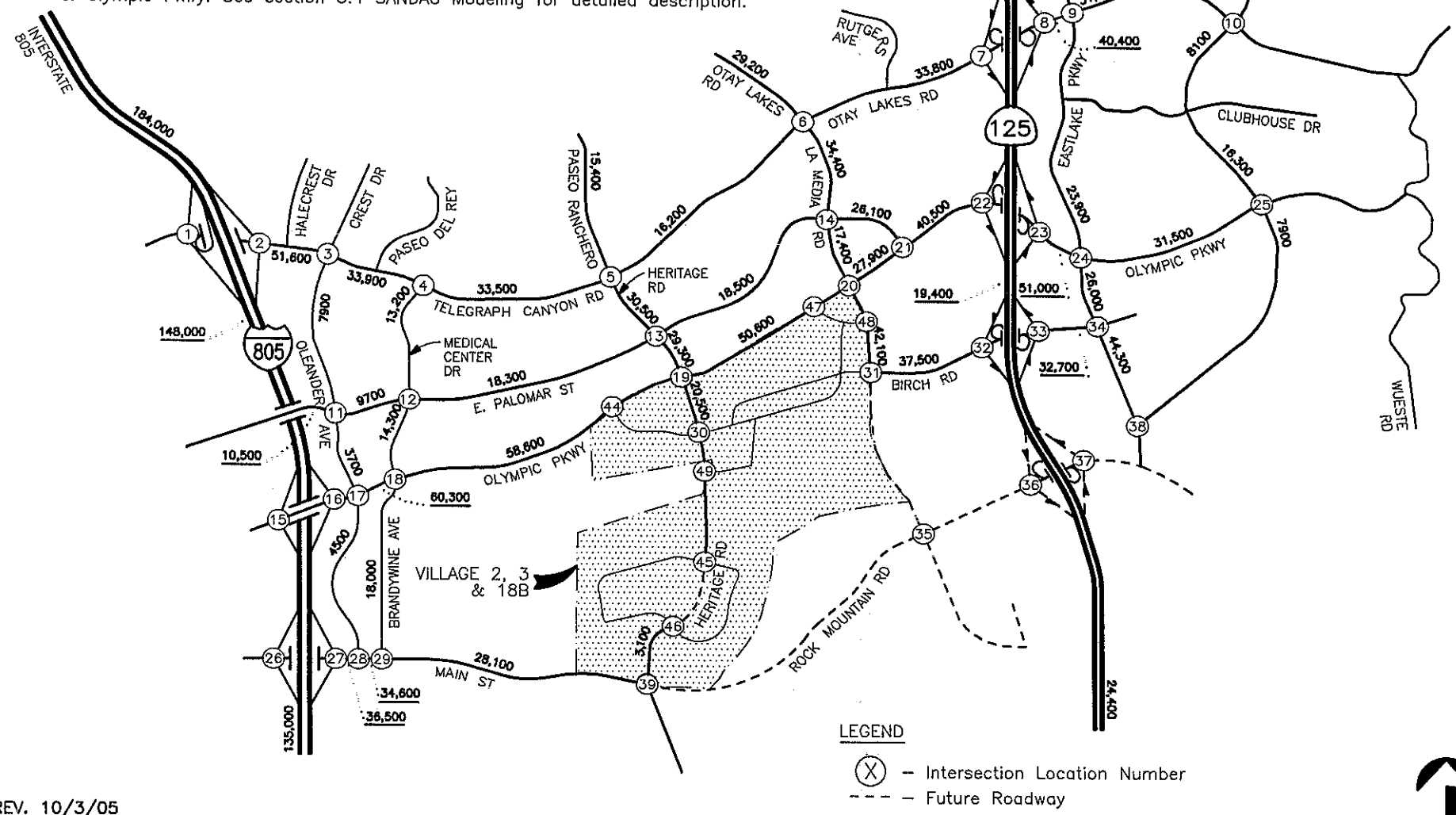
Figure 11

SCENARIO 1-ADT
YEAR 2005

OTAY RANCH VILLAGES 2, 3 & PA 18 B

NOTES:

1. Approximately 15% of Telegraph Canyon Road traffic was reallocated to East "H" Street & Olympic Pkwy. See section 3.4 SANDAG Modeling for detailed description.
2. Approximately 25% of Otay Lakes Road traffic was reallocated to East "H" Street & Olympic Pkwy. See section 3.4 SANDAG Modeling for detailed description.



LEGEND

(X) – Intersection Location Number

- - - – Future Roadway

NO SCALE

REV. 10/3/05
LLG1184.DWG

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Figure 12

SCENARIO 2-ADT
YEAR 2010

OTAY RANCH VILLAGES 2, 3 & PA 18 B

NOTES:

1. Approximately 15% of Telegraph Canyon Road traffic was reallocated to East "H" Street & Olympic Pkwy. See section 3.4 SANDAG Modeling for detailed description.
2. Approximately 25% of Otay Lakes Road traffic was reallocated to East "H" Street & Olympic Pkwy. See section 3.4 SANDAG Modeling for detailed description.

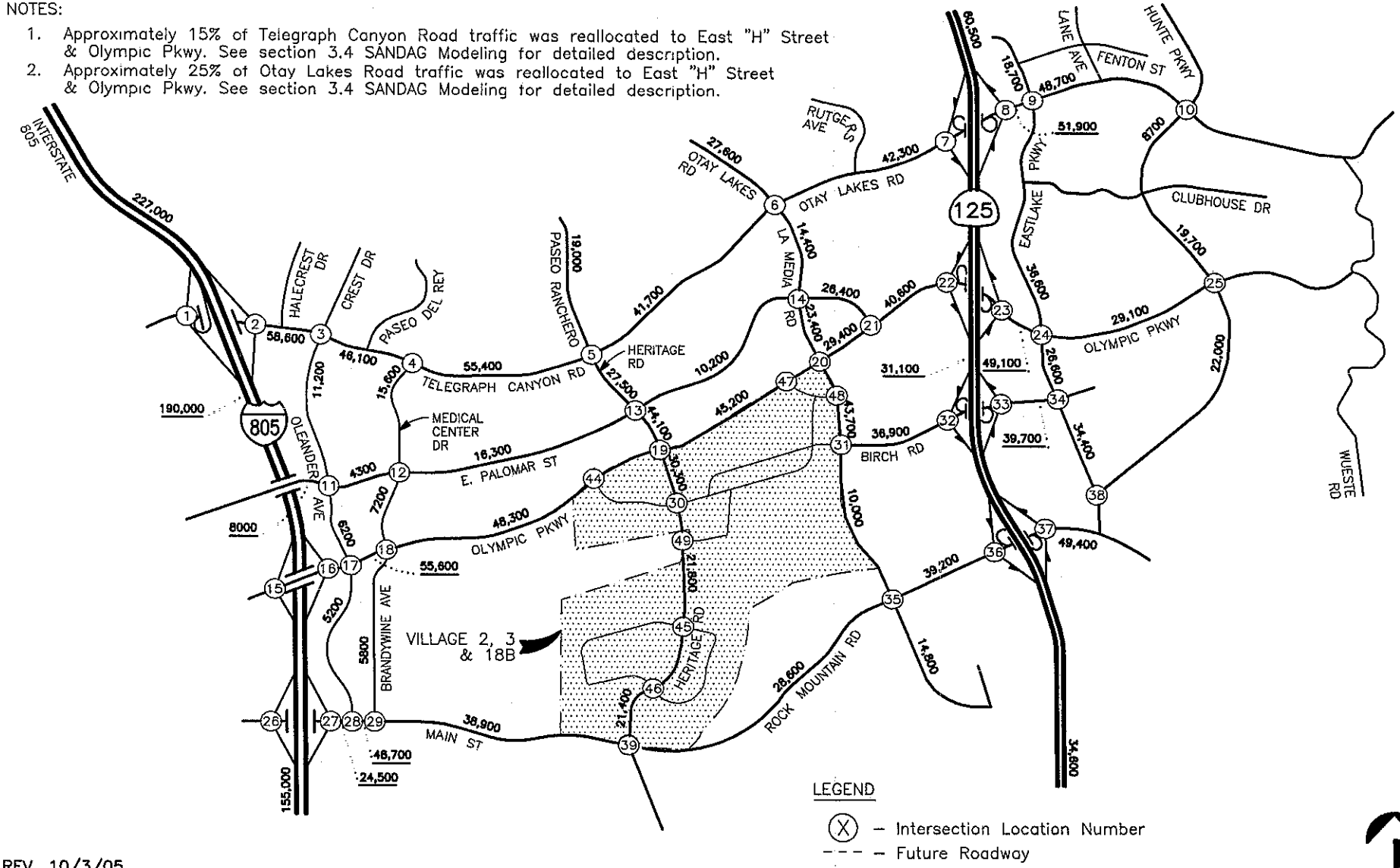

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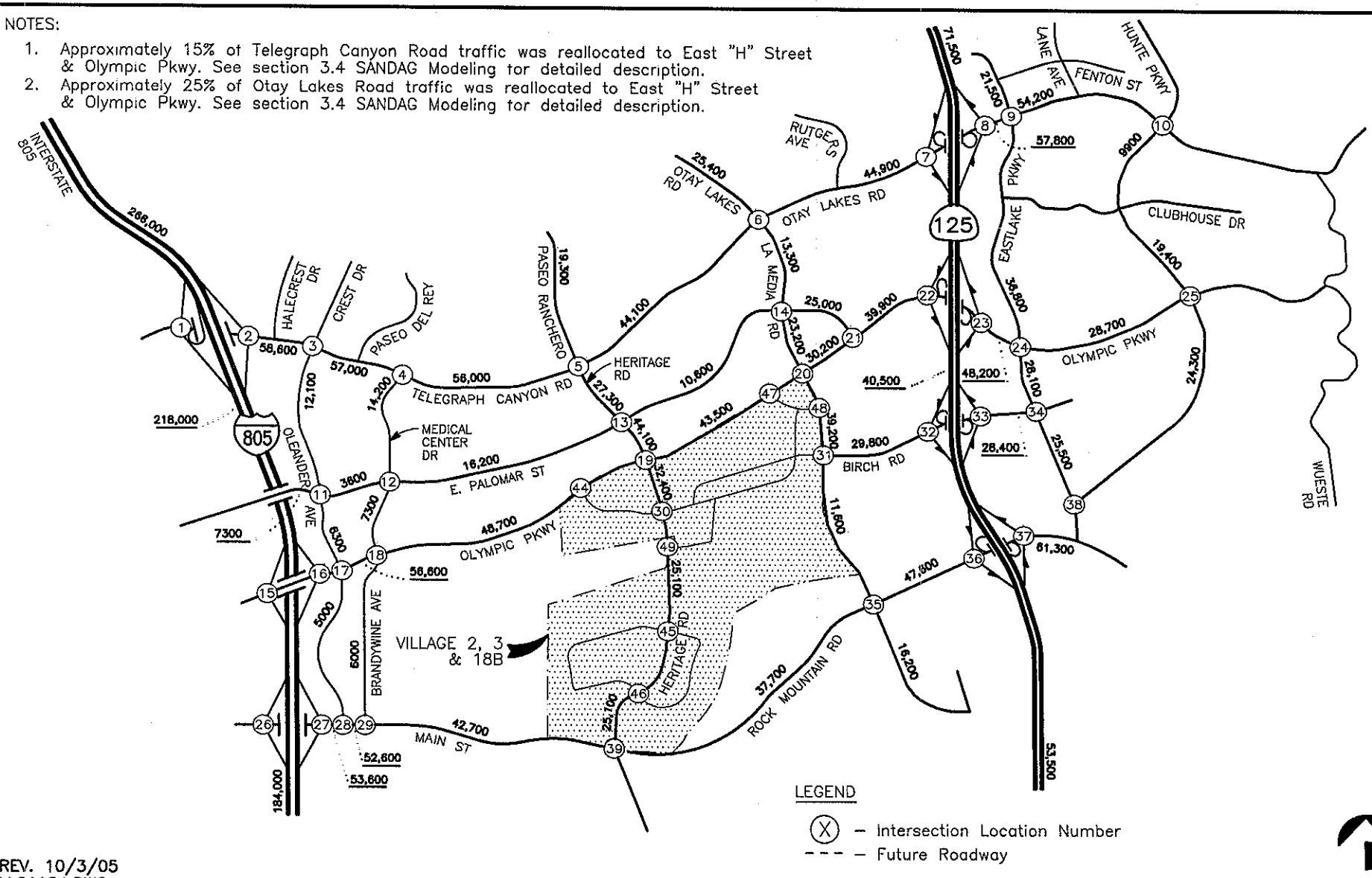
Figure 13

SCENARIO 3-ADT
YEAR 2020

OTAY RANCH VILLAGES 2, 3 & PA 18 B

NOTES:

1. Approximately 15% of Telegraph Canyon Road traffic was reallocated to East "H" Street & Olympic Pkwy. See section 3.4 SANDAG Modeling for detailed description.
2. Approximately 25% of Otay Lakes Road traffic was reallocated to East "H" Street & Olympic Pkwy. See section 3.4 SANDAG Modeling for detailed description.



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LLG1184.DWG

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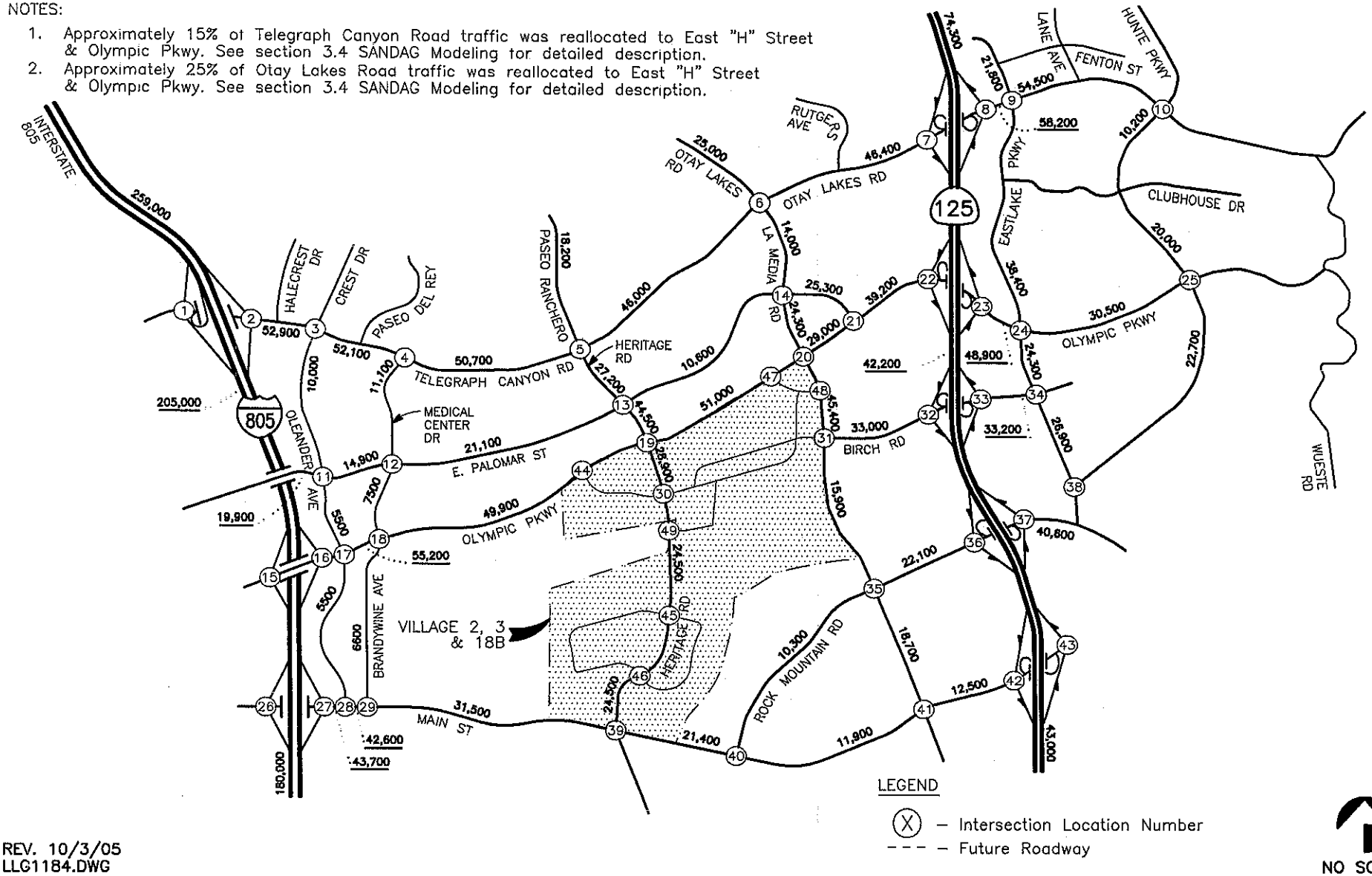
Figure 14

SCENARIO 4-ADT
YEAR 2030

OTAY RANCH VILLAGES 2, 3 & PA 18 B

NOTES:

1. Approximately 15% of Telegraph Canyon Road traffic was reallocated to East "H" Street & Olympic Pkwy. See section 3.4 SANDAG Modeling for detailed description.
2. Approximately 25% of Otay Lakes Road traffic was reallocated to East "H" Street & Olympic Pkwy. See section 3.4 SANDAG Modeling for detailed description.



LEGEND

(X) – Intersection Location Number

- - - – Future Roadway

NO SCALE

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LLG1184.DWG

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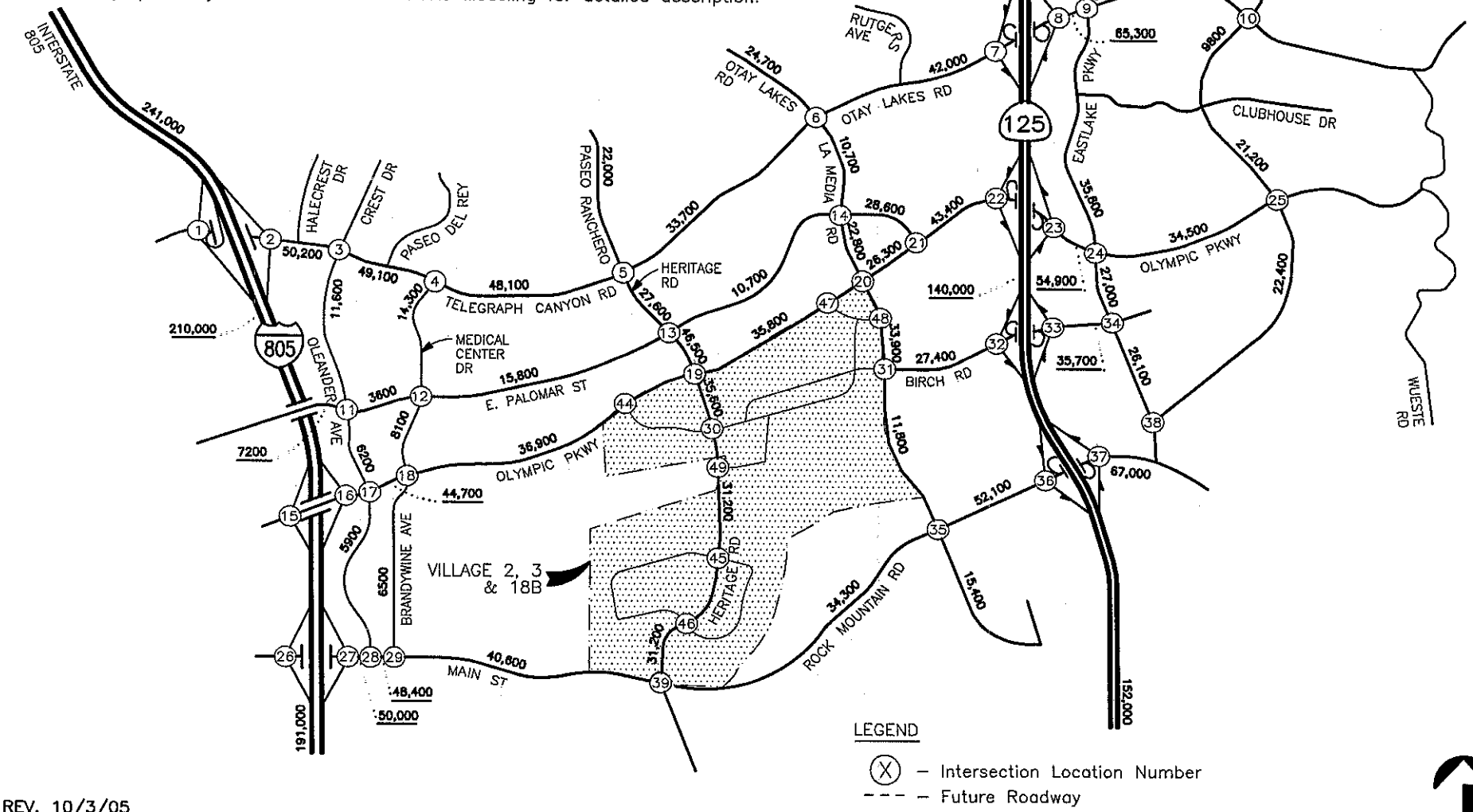
Figure 15

SCENARIO 5-ADT
YEAR 2030 ADOPTED LAND USES

OTAY RANCH VILLAGES 2, 3 & PA 18 B

NOTES:

1. Approximately 15% of Telegraph Canyon Road traffic was reallocated to East "H" Street & Olympic Pkwy. See section 3.4 SANDAG Modeling for detailed description.
2. Approximately 25% of Otay Lakes Road traffic was reallocated to East "H" Street & Olympic Pkwy. See section 3.4 SANDAG Modeling for detailed description.



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LLG1184.DWG

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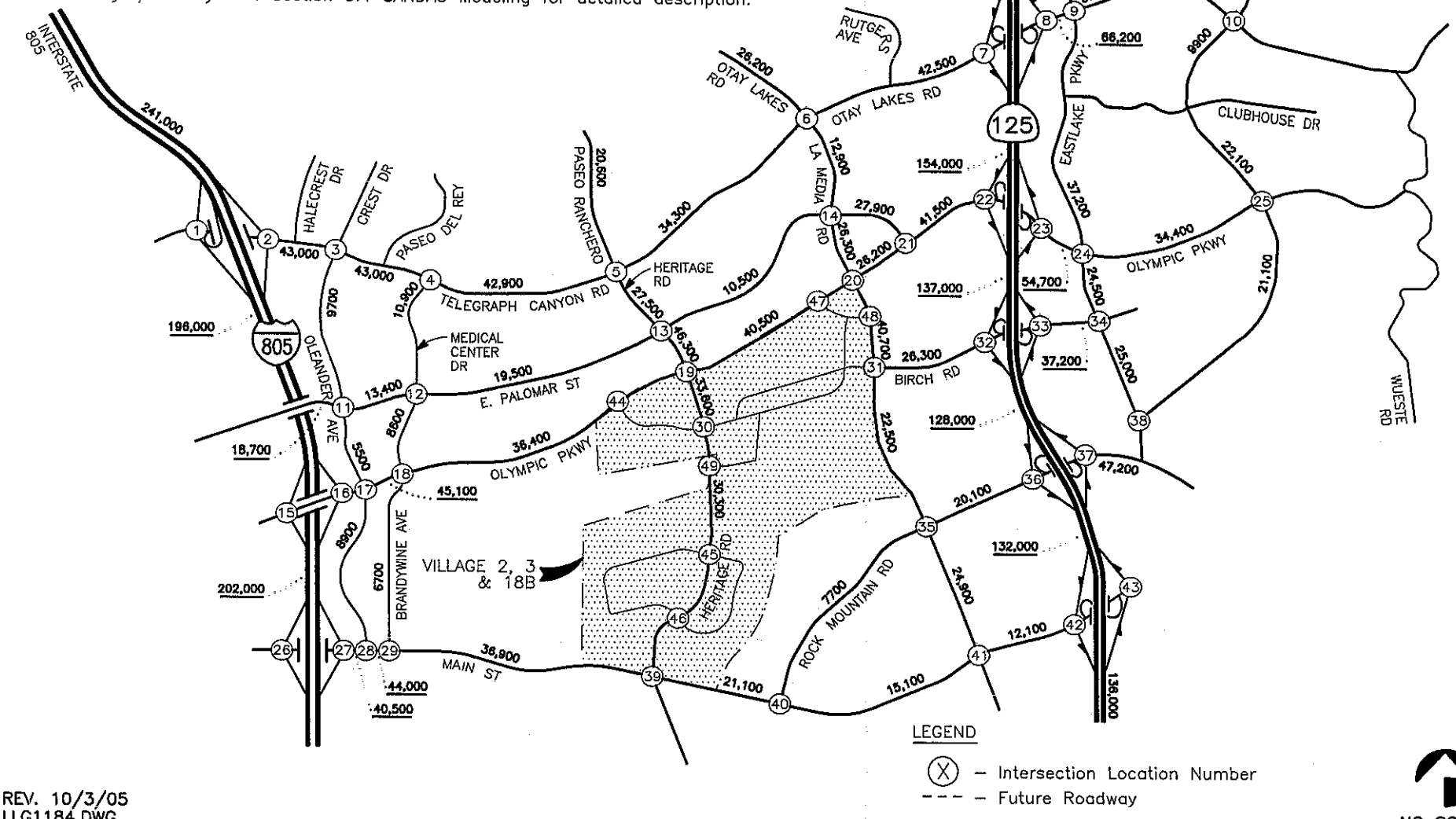
Figure 16

SCENARIO 6-ADT BUILDOUT

OTAY RANCH VILLAGES 2, 3 & PA 18 B

NOTES:

1. Approximately 15% of Telegraph Canyon Road traffic was reallocated to East "H" Street & Olympic Pkwy. See section 3.4 SANDAG Modeling for detailed description.
2. Approximately 25% of Otay Lakes Road traffic was reallocated to East "H" Street & Olympic Pkwy. See section 3.4 SANDAG Modeling for detailed description.



LEGEND

(X) – Intersection Location Number

- - - – Future Roadway

NO SCALE

REV. 10/3/05
LLG1184.DWG

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Figure 17

SCENARIO 7-ADT BUILDOUT ADOPTED LAND USES

OTAY RANCH VILLAGES 2, 3 & PA 18 B

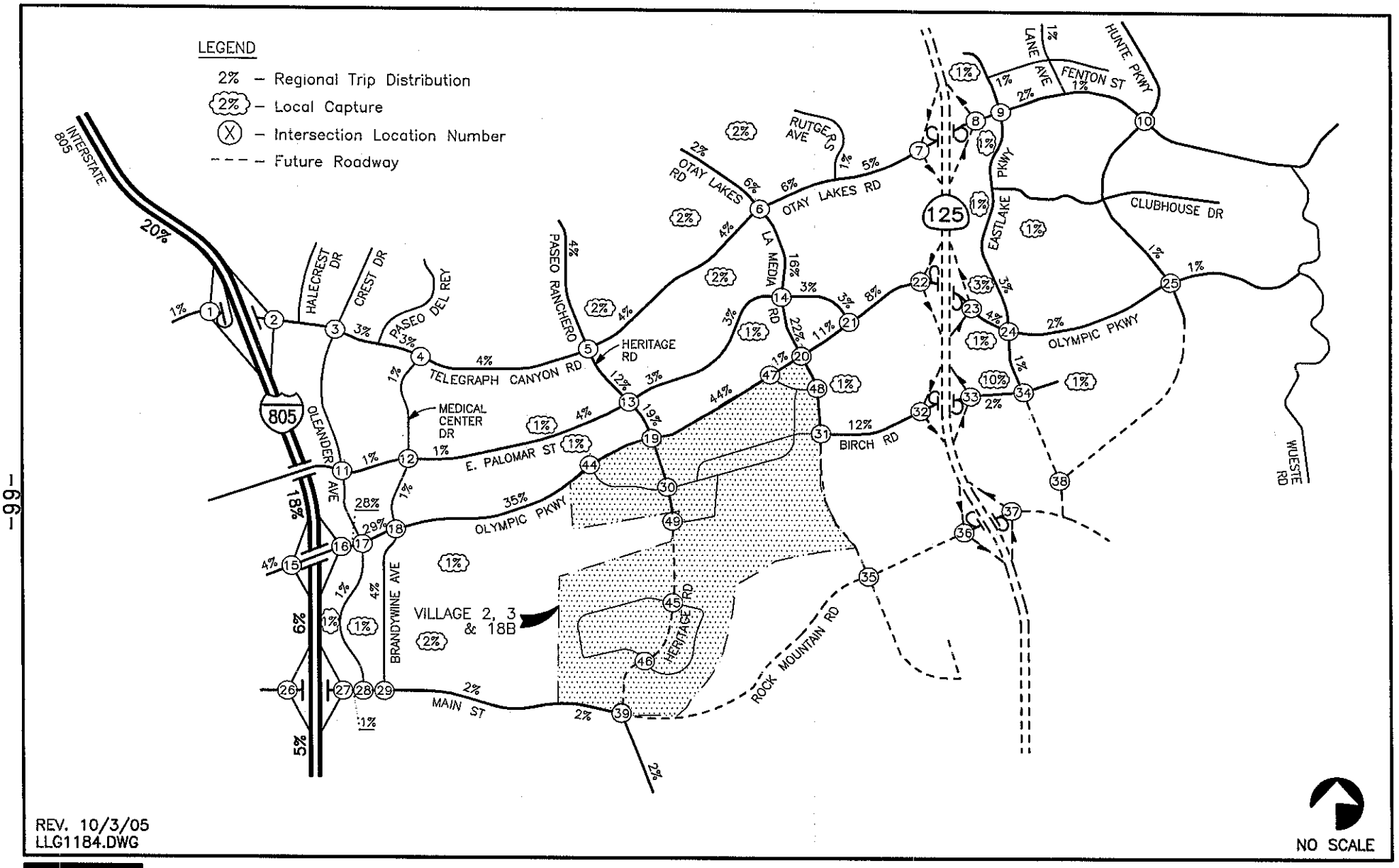

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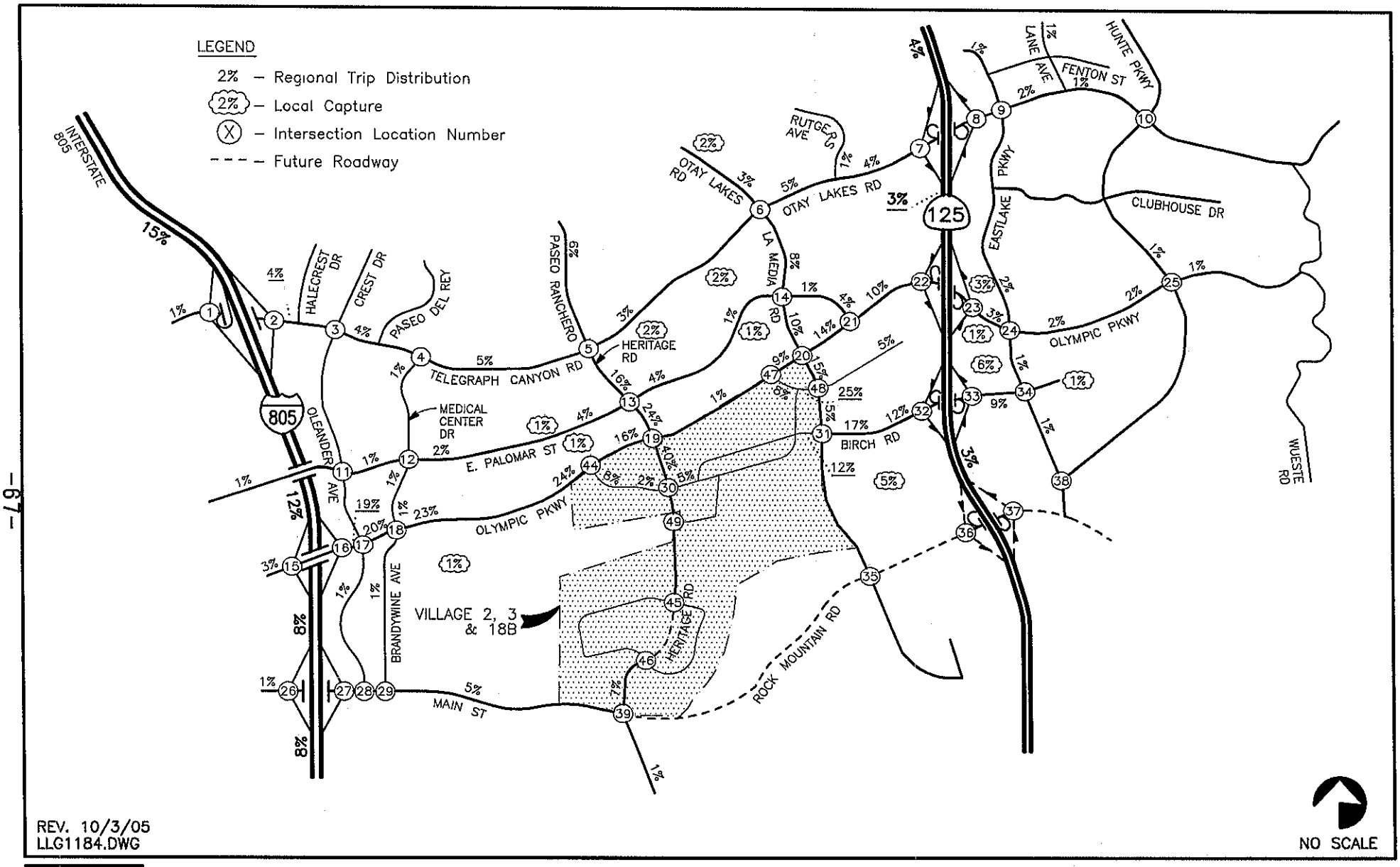
Figure 18

YEAR 2005 PROJECT TRAFFIC DISTRIBUTION

OTAY RANCH VILLAGES 2, 3 & PA 18 B

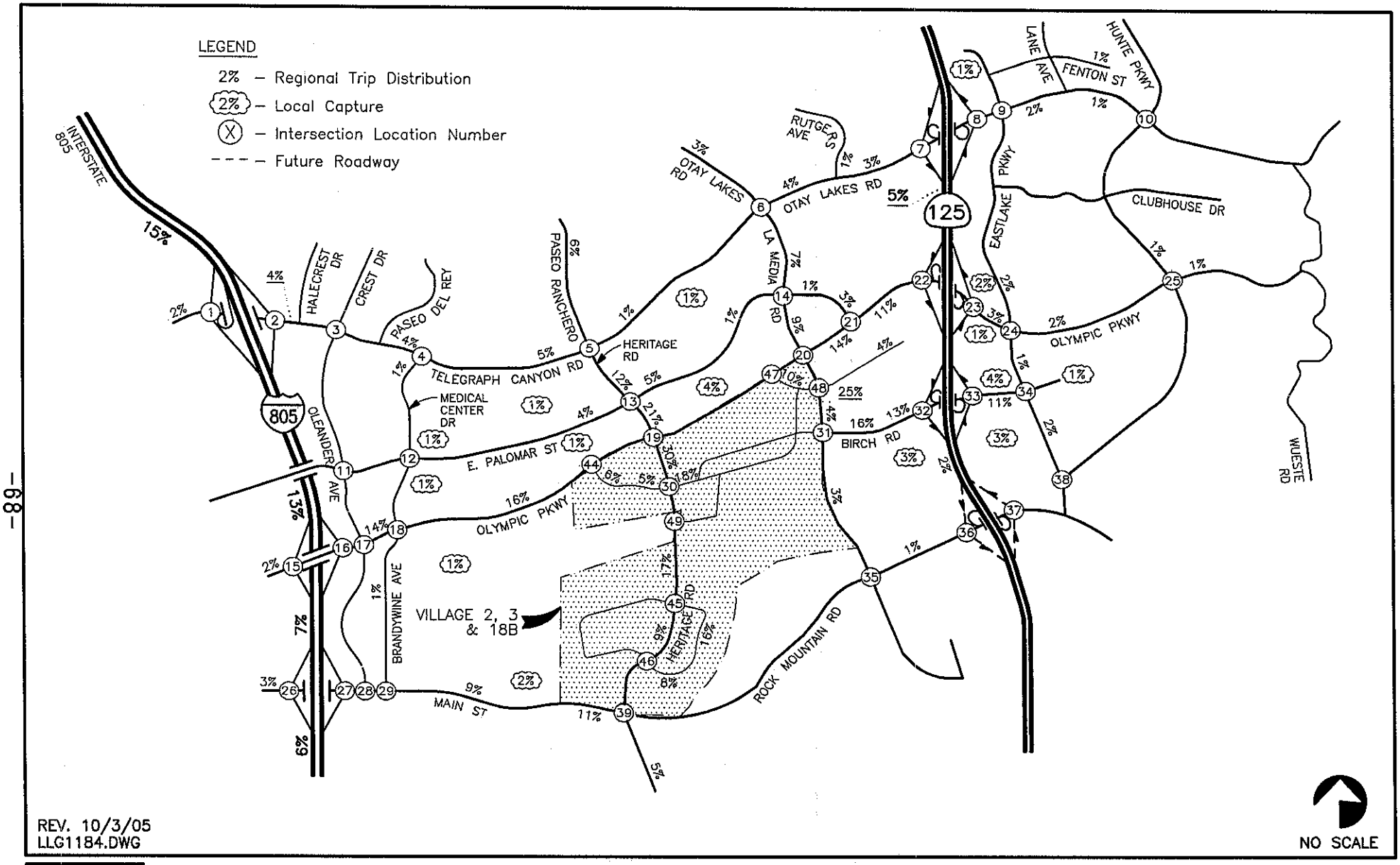


LINSCOTT LAW & GREENSPAN engineers

Figure 19

YEAR 2010 PROJECT TRAFFIC DISTRIBUTION

OTAY RANCH VILLAGES 2, 3 & PA 18 B



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LLG1184.DWG

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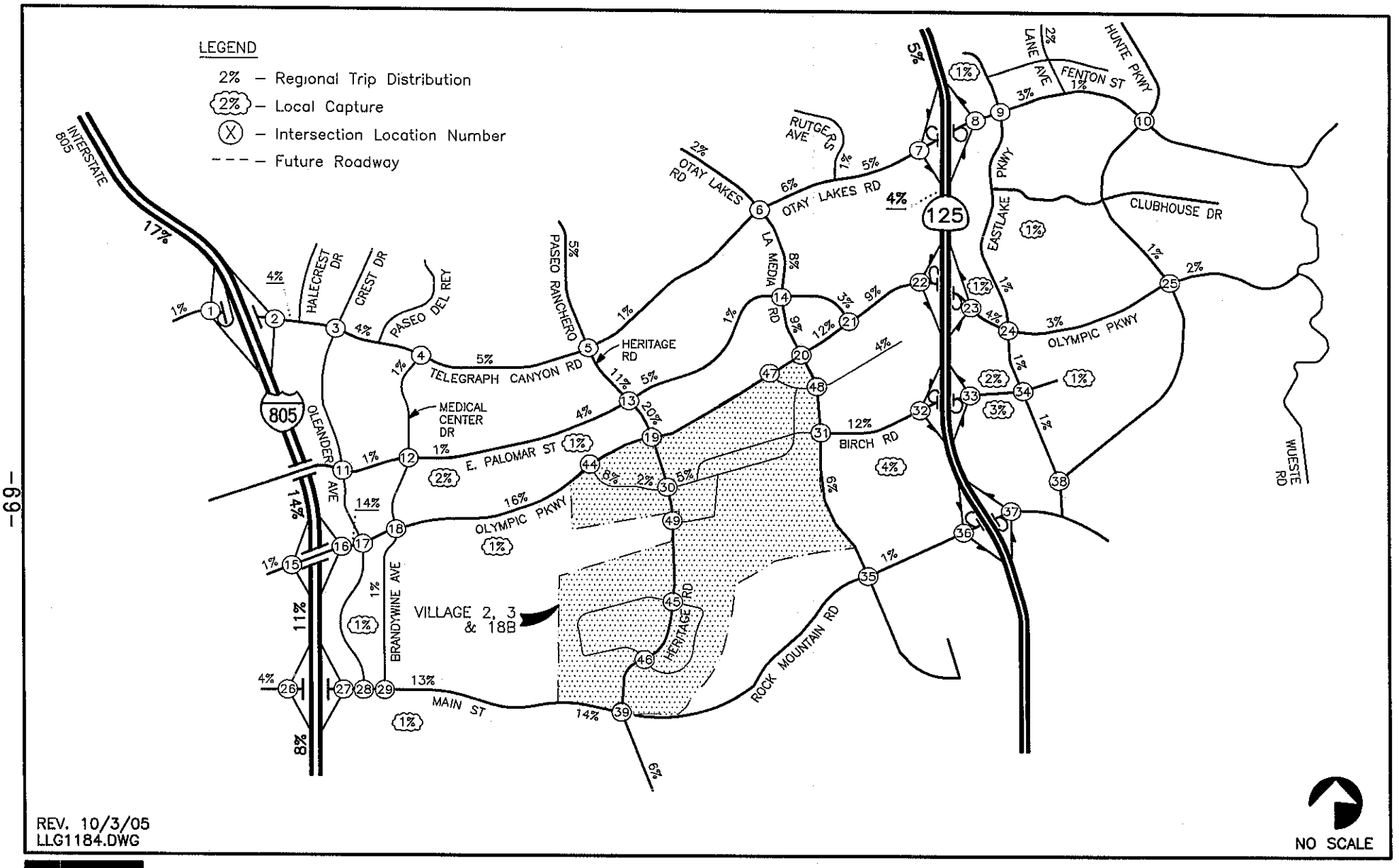
Figure 20

YEAR 2015 PROJECT TRAFFIC DISTRIBUTION

OTAY RANCH VILLAGES 2, 3 & PA 18 B



REV. 10/3/05
LLG1184.DWG

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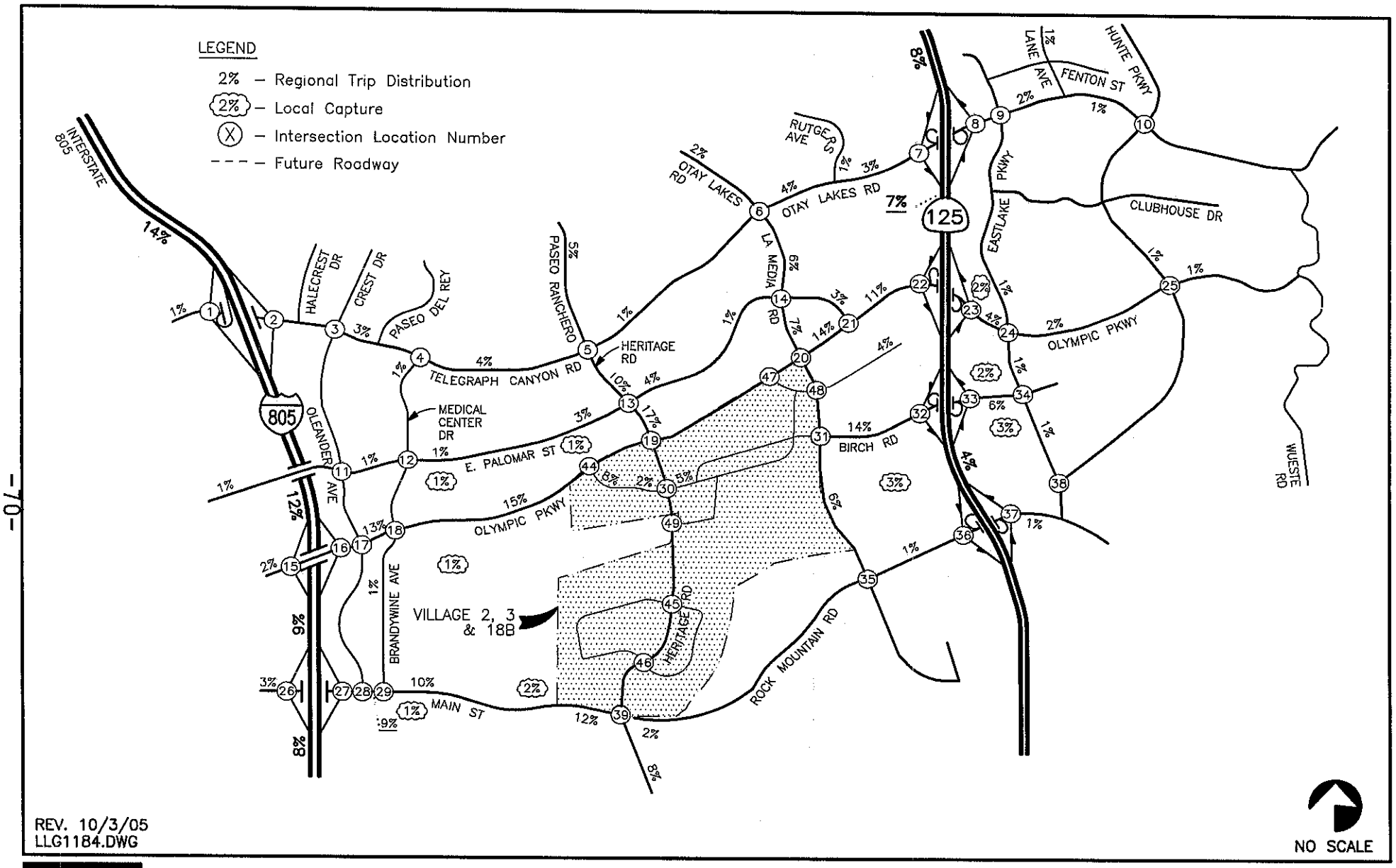
Figure 21

YEAR 2030 PROJECT TRAFFIC DISTRIBUTION

OTAY RANCH VILLAGES 2, 3 & PA 18 B



LINSCOTT LAW & GREENSPAN engineers

Figure 22

BUILDOUT PROJECT TRAFFIC DISTRIBUTION

OTAY RANCH VILLAGES 2, 3 & PA 18 B

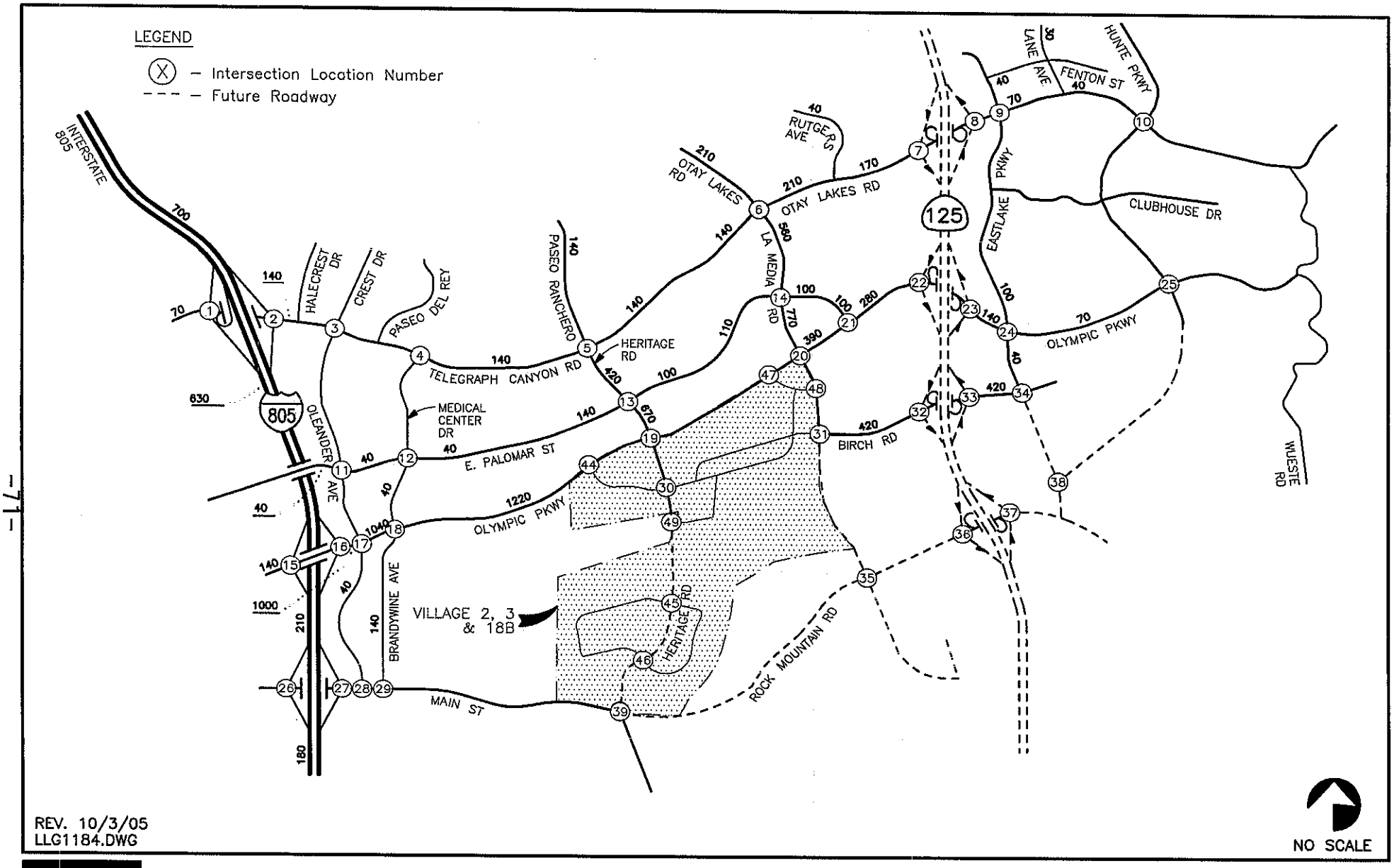


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Figure 23

SCENARIO 1 (YEAR 2005) PROJECT TRAFFIC VOLUMES ADT

OTAY RANCH VILLAGES 2, 3 & PA 18 B

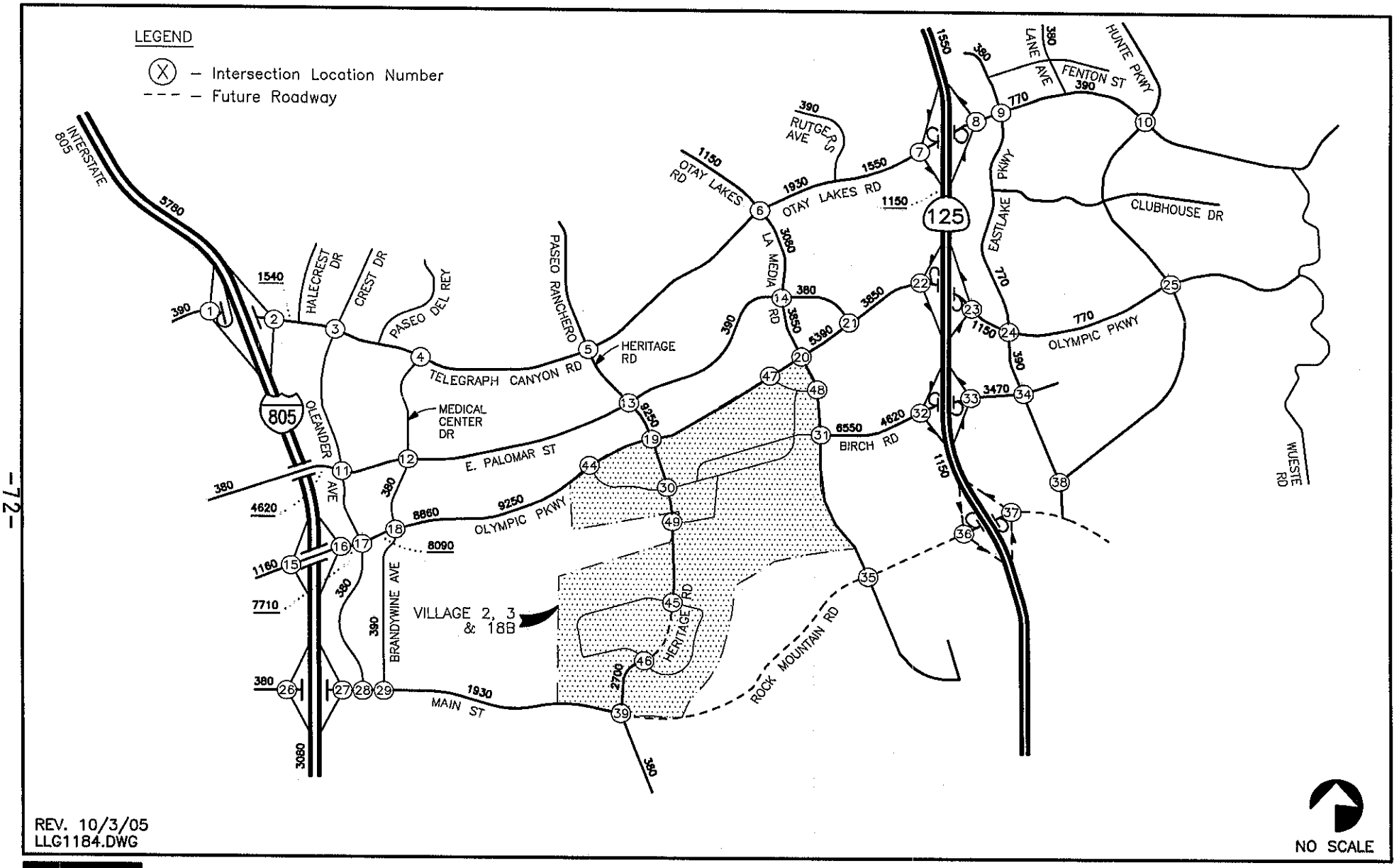

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Figure 24

SCENARIO 2 (YEAR 2010) PROJECT TRAFFIC VOLUMES ADT

OTAY RANCH VILLAGES 2, 3 & PA 18 B

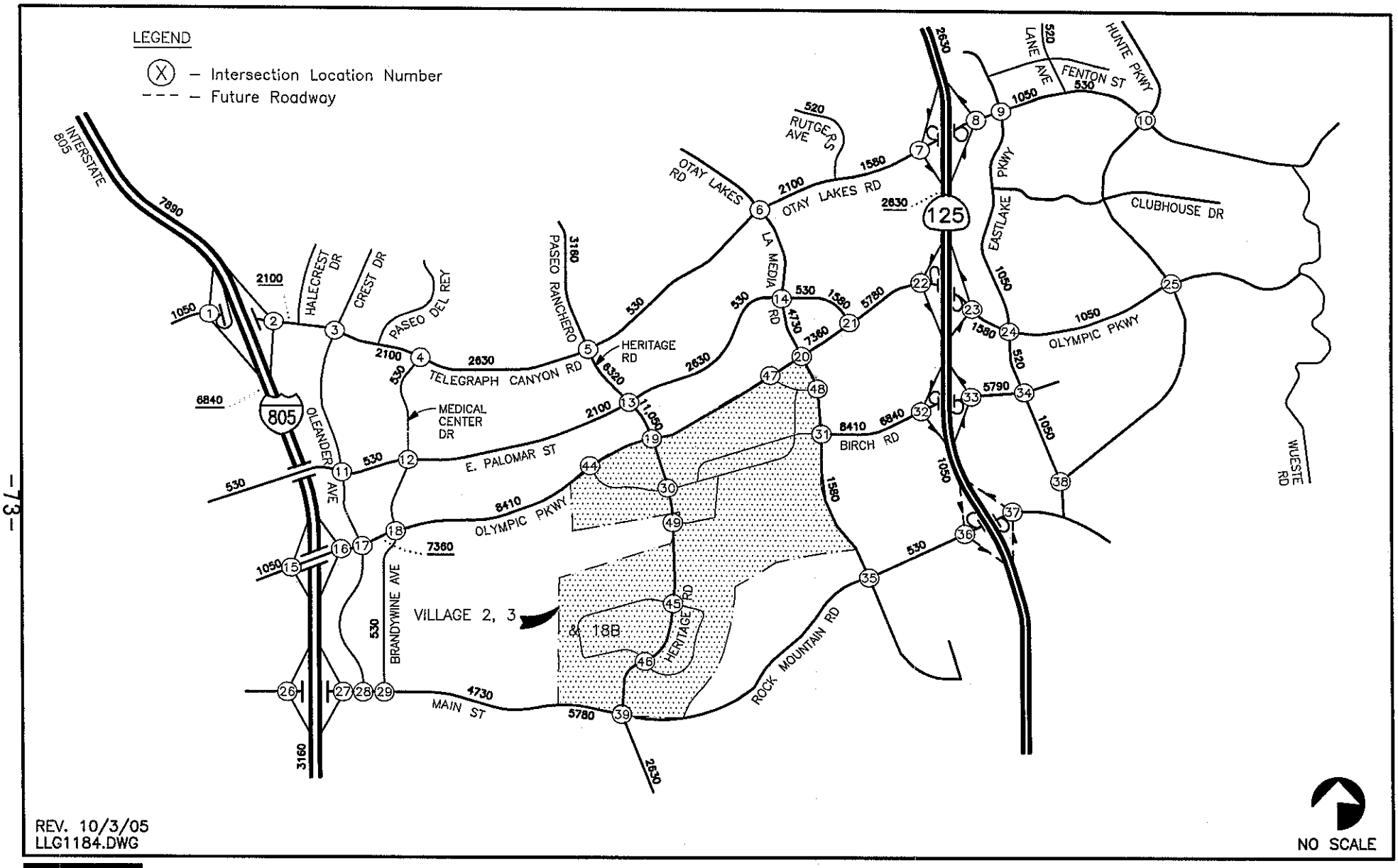

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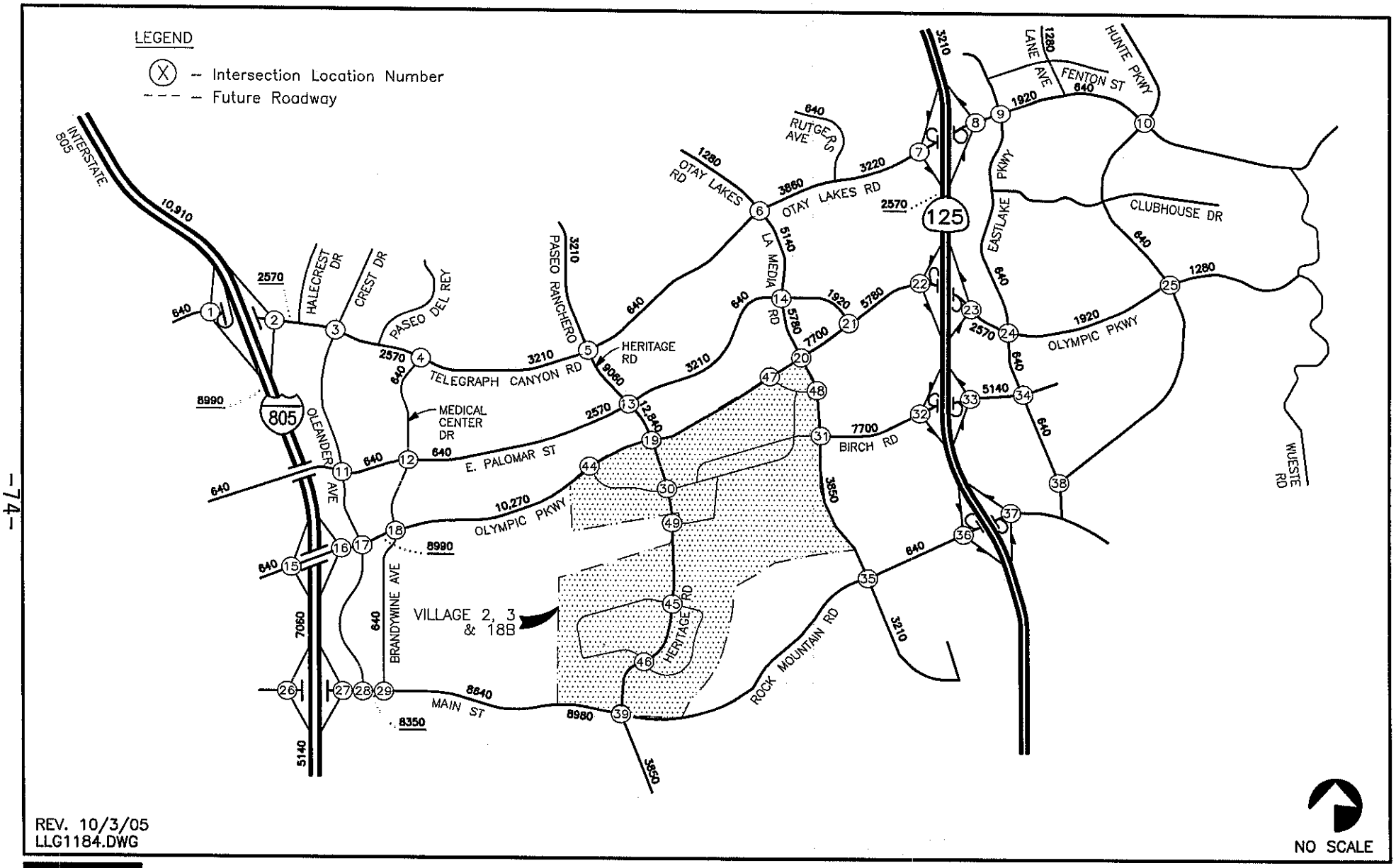
Figure 25

SCENARIO 3 (YEAR 2015) PROJECT TRAFFIC VOLUMES ADT

OTAY RANCH VILLAGES 2, 3 & PA 18 B



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LLG1184.DWG

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Figure 26

SCENARIO 4 (2030) PROJECT TRAFFIC VOLUMES ADT

OTAY RANCH VILLAGES 2, 3 & PA 18 B

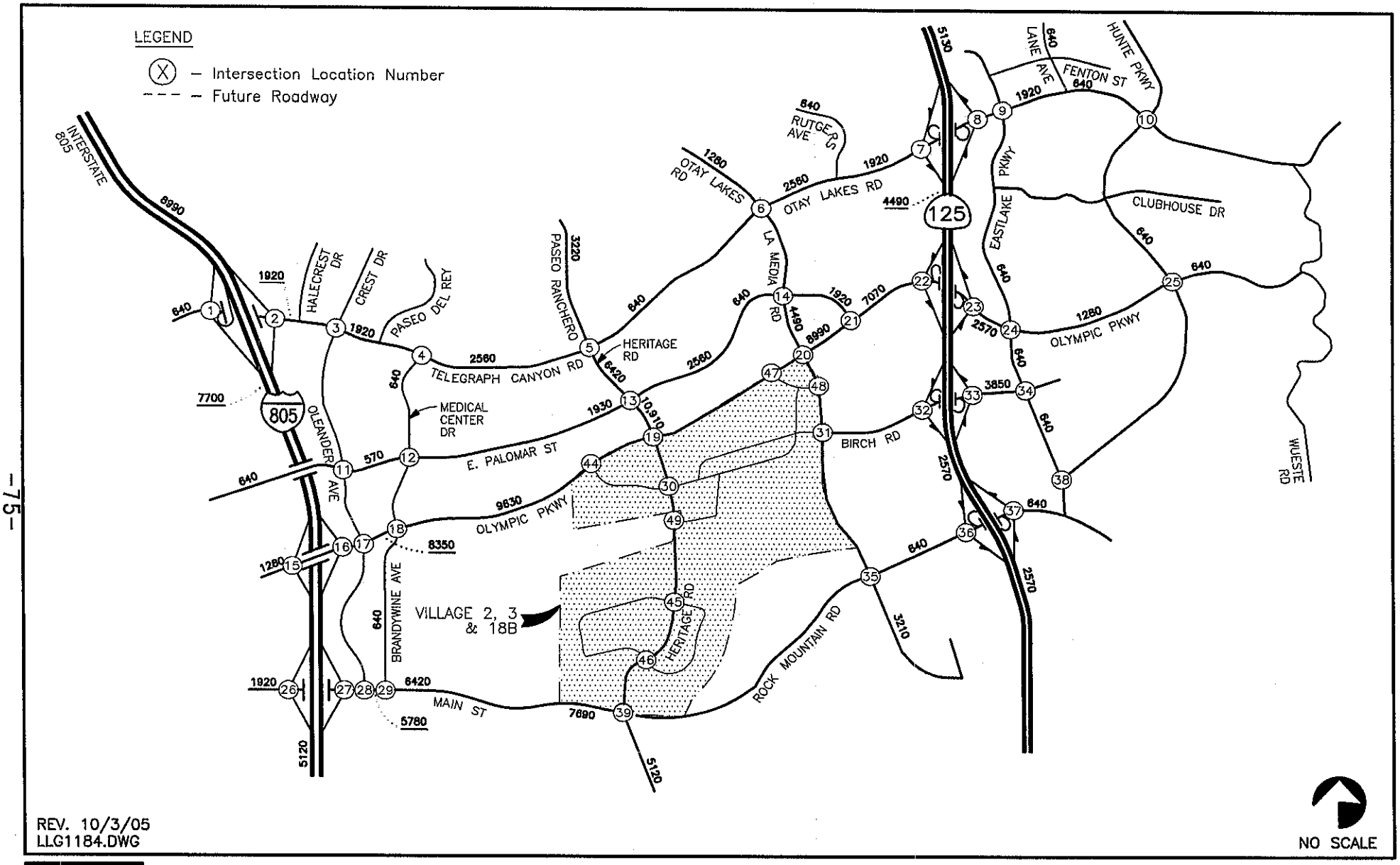

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Figure 27

SCENARIO 6 (BUILDOUT) PROJECT TRAFFIC VOLUMES ADT

OTAY RANCH VILLAGES 2, 3 & PA 18 B

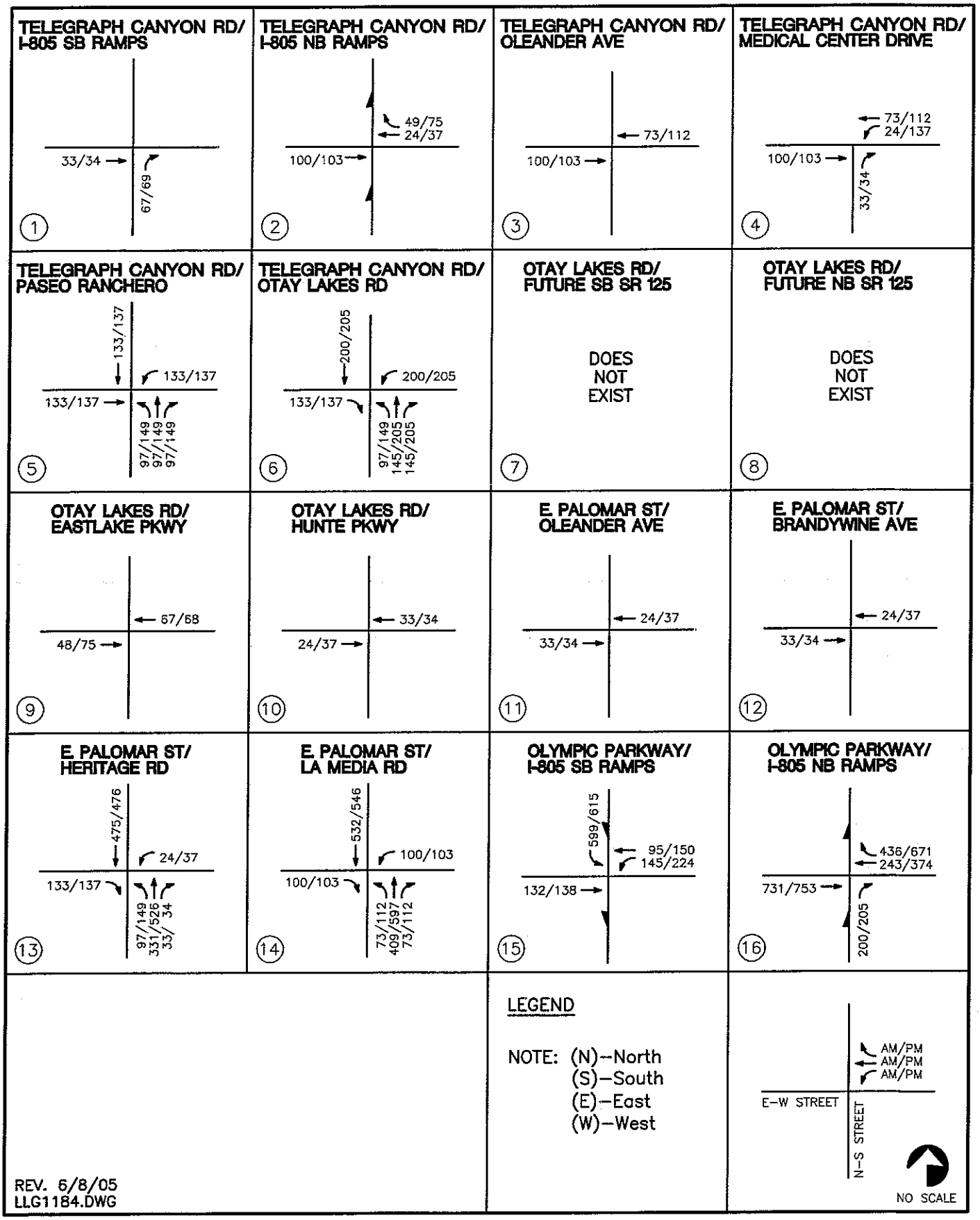

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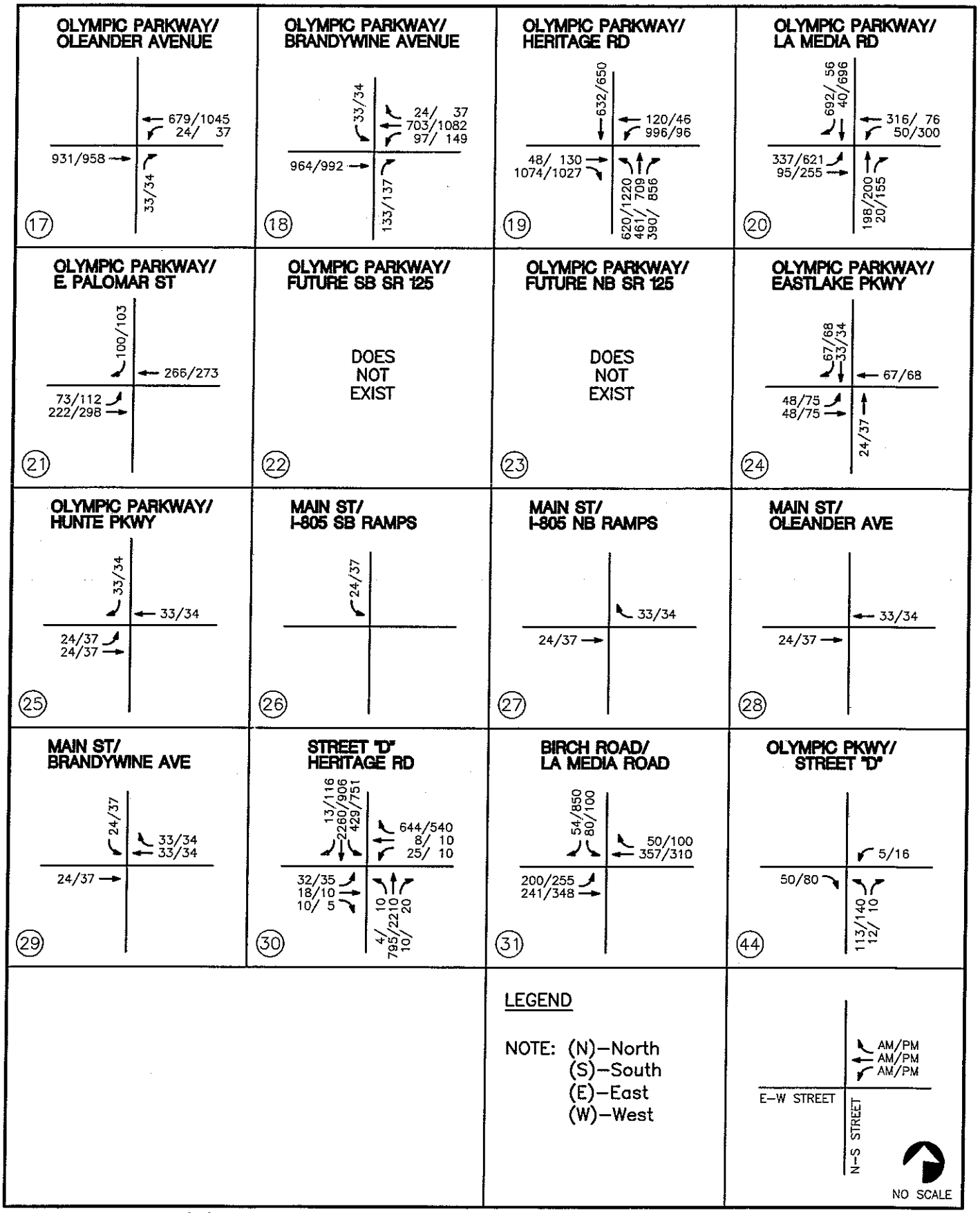
Figure 28

(1 OF 3)

PROJECT TRAFFIC VOLUMES
AM/PM PEAK HOURS
OTAY RANCH VILLAGES 2, 3 & PA 18 B



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LLG1184.DWG

Figure 28

(2 OF 3)

PROJECT TRAFFIC VOLUMES
AM/PM PEAK HOURS
OTAY RANCH VILLAGES 2, 3 & PA 18 B

BIRCH ROAD/ SR-125 NB RAMPS

DOES NOT EXIST

33

BIRCH ROAD/ EASTLAKE PARKWAY

DOES NOT EXIST

34

ROCK MOUNTAIN ROAD/ LA MEDIA ROAD

DOES NOT EXIST

35

ROCK MOUNTAIN ROAD/ SR-125 SB RAMPS

DOES NOT EXIST

36

ROCK MOUNTAIN ROAD/ SR-125 NB RAMPS

DOES NOT EXIST

37

ROCK MOUNTAIN ROAD/ EASTLAKE PARKWAY

DOES NOT EXIST

38

MAIN STREET/ HERITAGE RD

DOES NOT EXIST

39

MAIN STREET/ ROCK MOUNTAIN ROAD

DOES NOT EXIST

40

MAIN STREET/ LA MEDIA ROAD

DOES NOT EXIST

41

MAIN STREET/ SR-125 SB RAMPS

DOES NOT EXIST

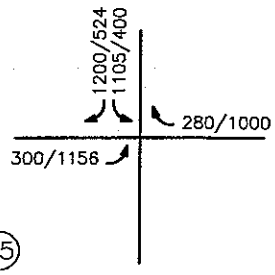
42

MAIN STREET/ SR-125 NB RAMPS

DOES NOT EXIST

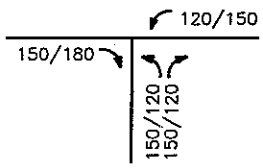
43

HERITAGE RD/ STREET "J" NORTH



45

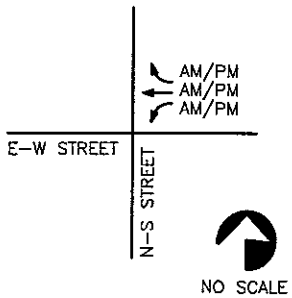
OLYMPIC PKWY/ SANTA VENETIA



47

LEGEND

NOTE: (N)–North
(S)–South
(E)–East
(W)–West



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REV. 6/8/05
LLG1184.DWG

Figure 28

(3 OF 3)

PROJECT TRAFFIC VOLUMES
AM/PM PEAK HOURS

OTAY RANCH VILLAGES 2, 3 & PA 18 B

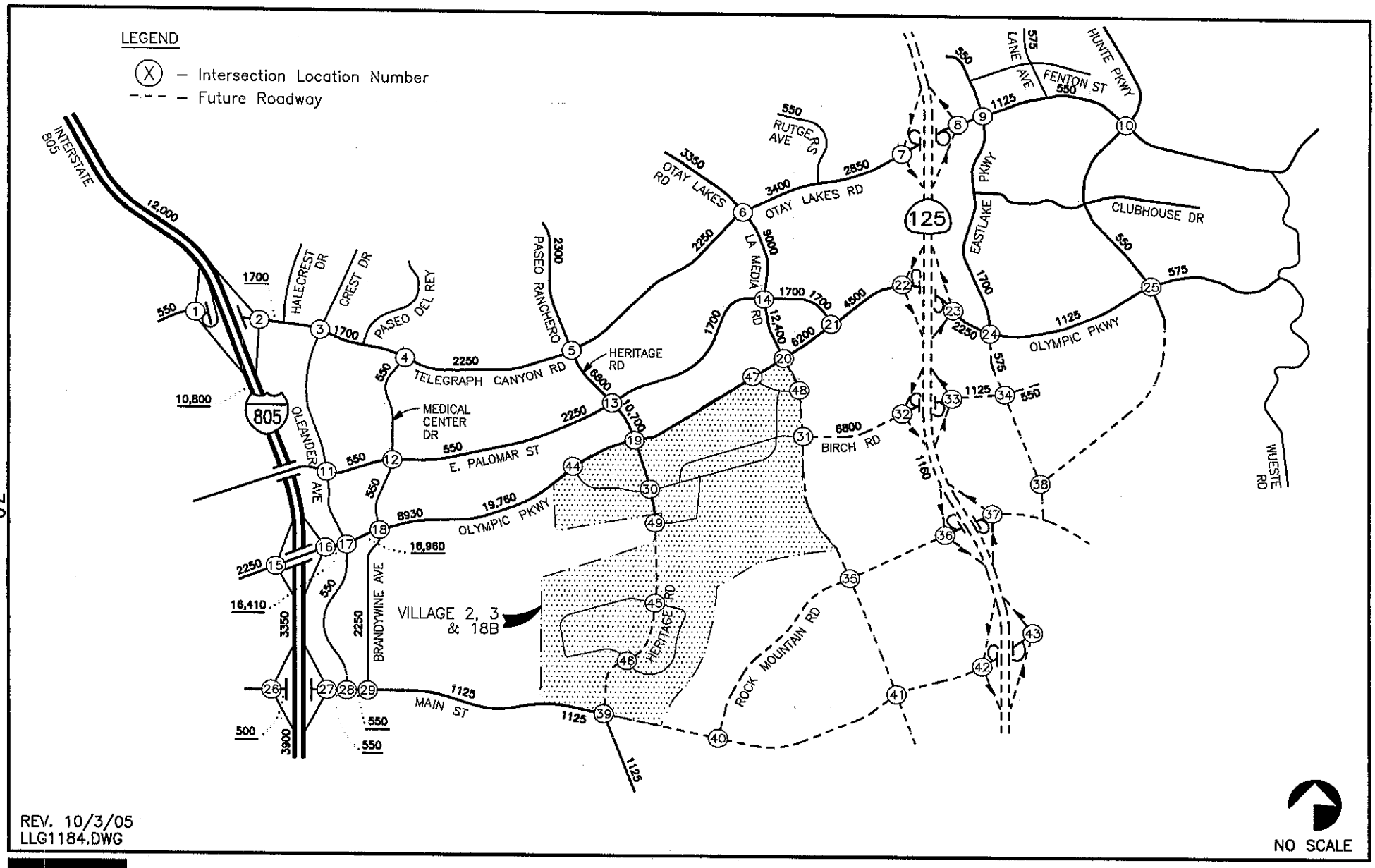

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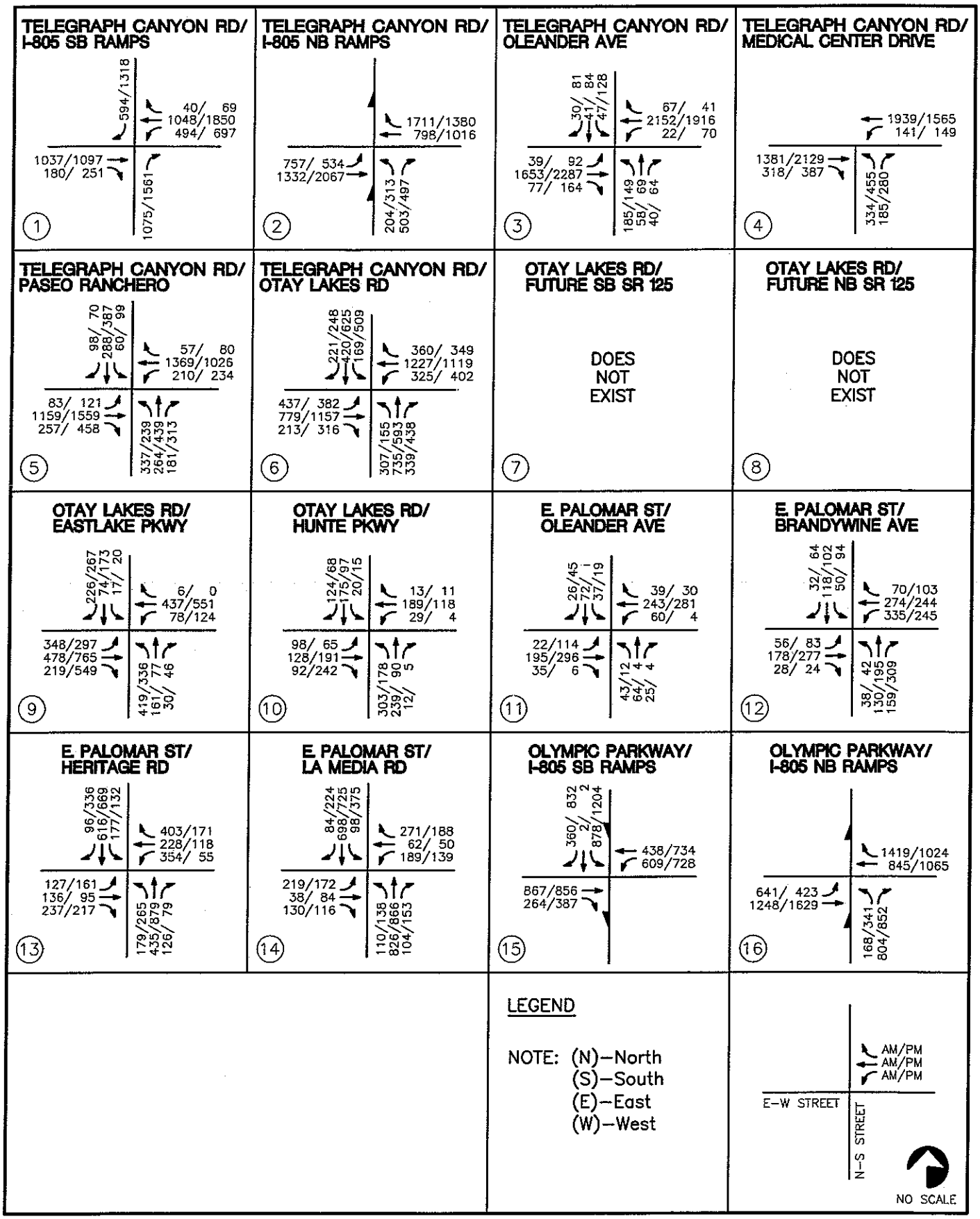
Figure 29

PROJECT TRAFFIC VOLUMES ADT

OTAY RANCH VILLAGES 2, 3 & PA 18 B



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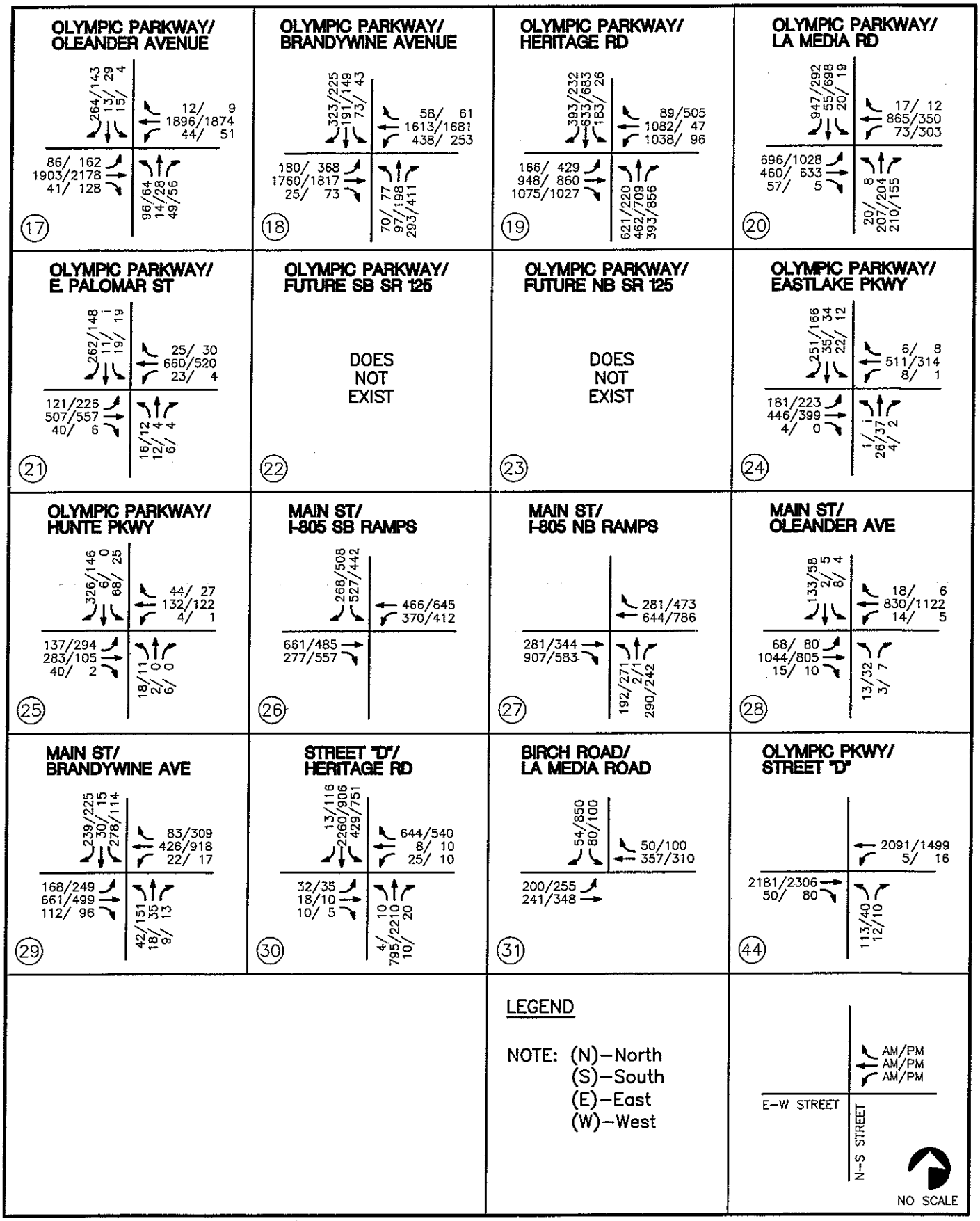
LLG1184.DWG

Figure 30

(1 OF 3)

EXISTING + PROJECT TRAFFIC VOLUMES
AM/PM PEAK HOURS

OTAY RANCH VILLAGES 2, 3 & PA 18 B



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LLG1184.DWG

Figure 30

(2 OF 3)

EXISTING + PROJECT TRAFFIC VOLUMES
AM/PM PEAK HOURS

OTAY RANCH VILLAGES 2, 3 & PA 18 B

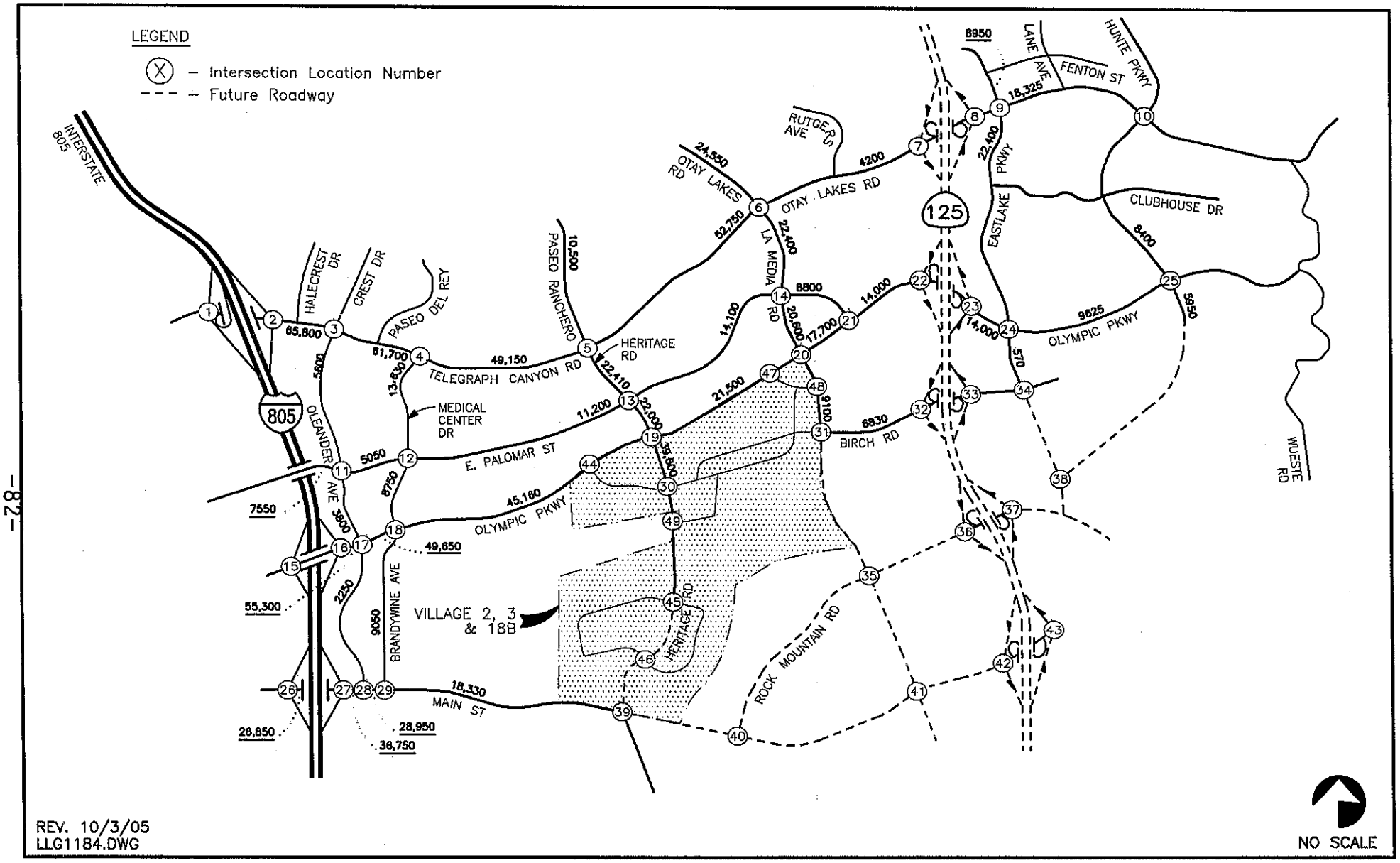

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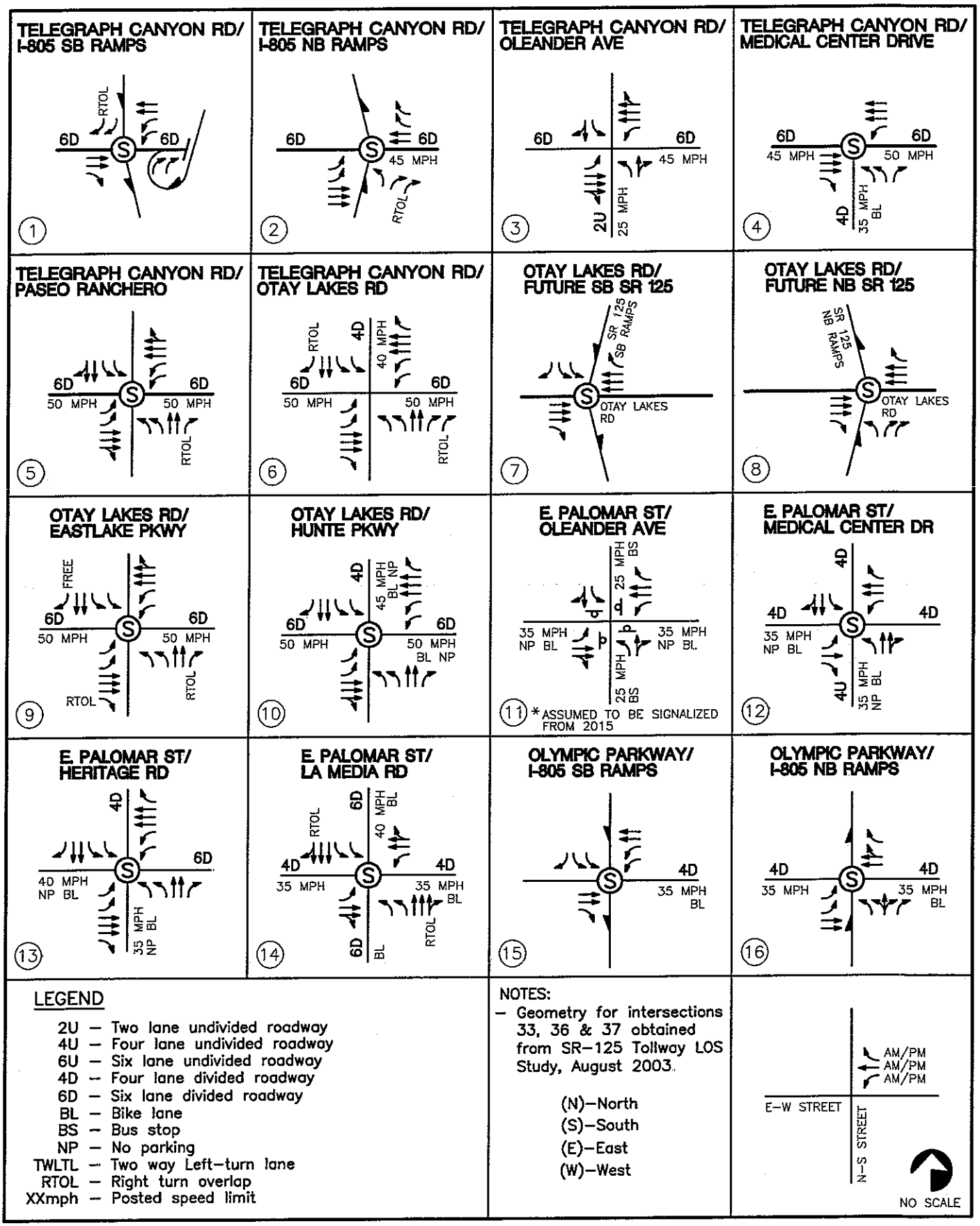
Figure 31

EXISTING + PROJECT TRAFFIC VOLUMES ADT

OTAY RANCH VILLAGES 2, 3 & PA 18 B



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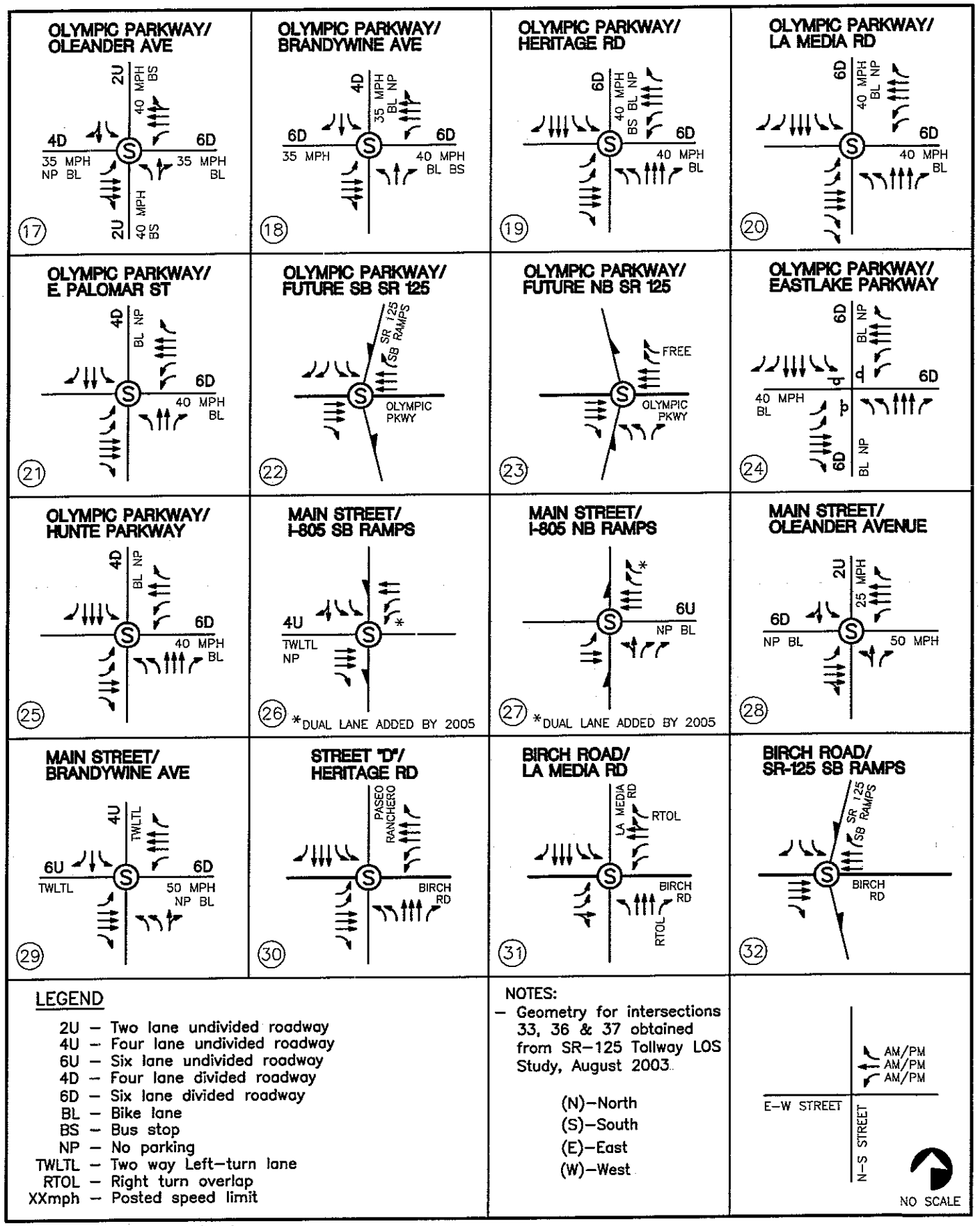
REV. 8/10/05
LLG1184.DWG

Figure 32

(1 OF 3)

YEAR 2010 & BEYOND INTERSECTION GEOMETRY

OTAY RANCH VILLAGES 2, 3 & PA 18 B



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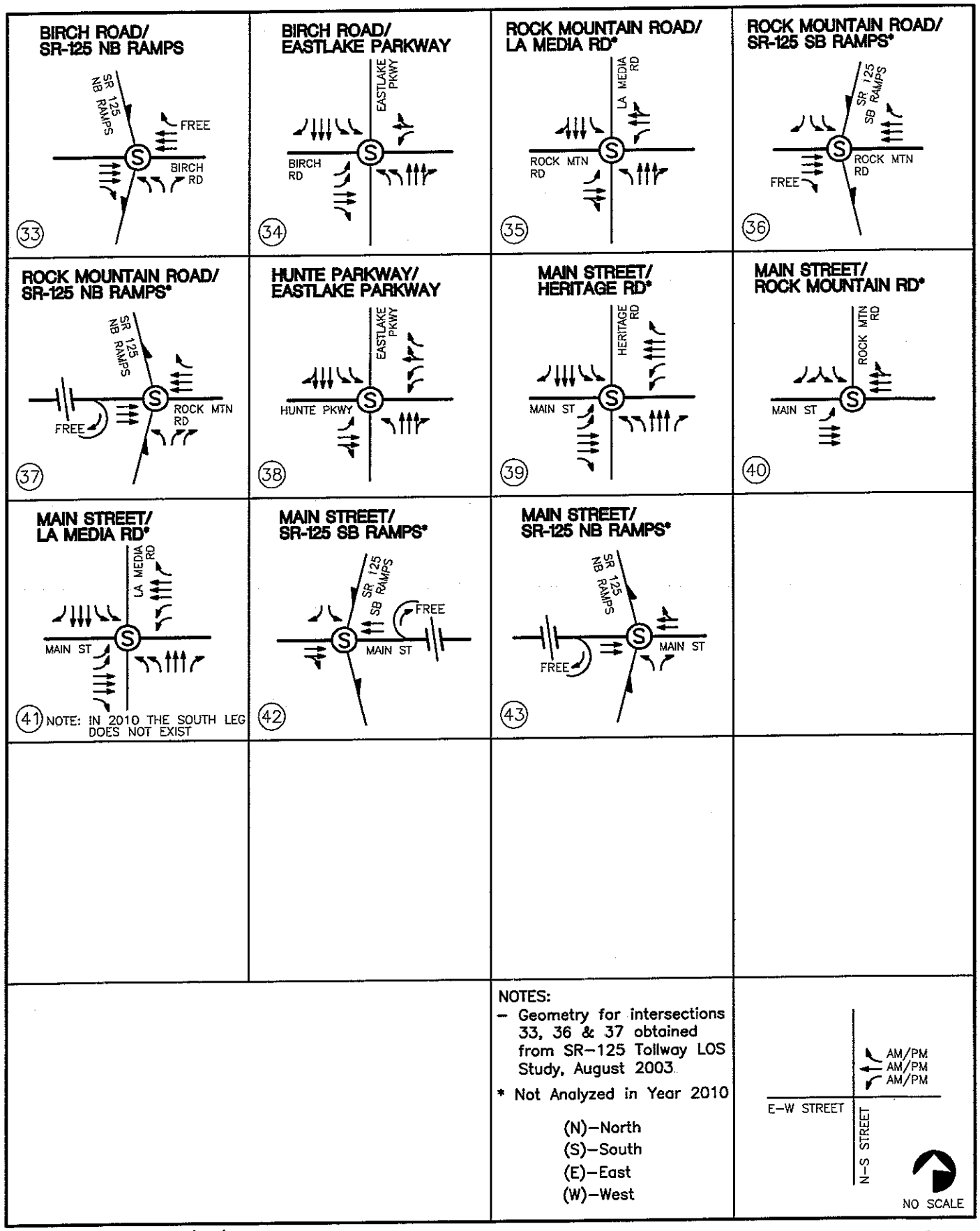
REV. 10/24/05
LLG1184.DWG

Figure 32

(2 OF 3)

YEAR 2010 & BEYOND INTERSECTION GEOMETRY

OTAY RANCH VILLAGES 2, 3 & PA 18 B



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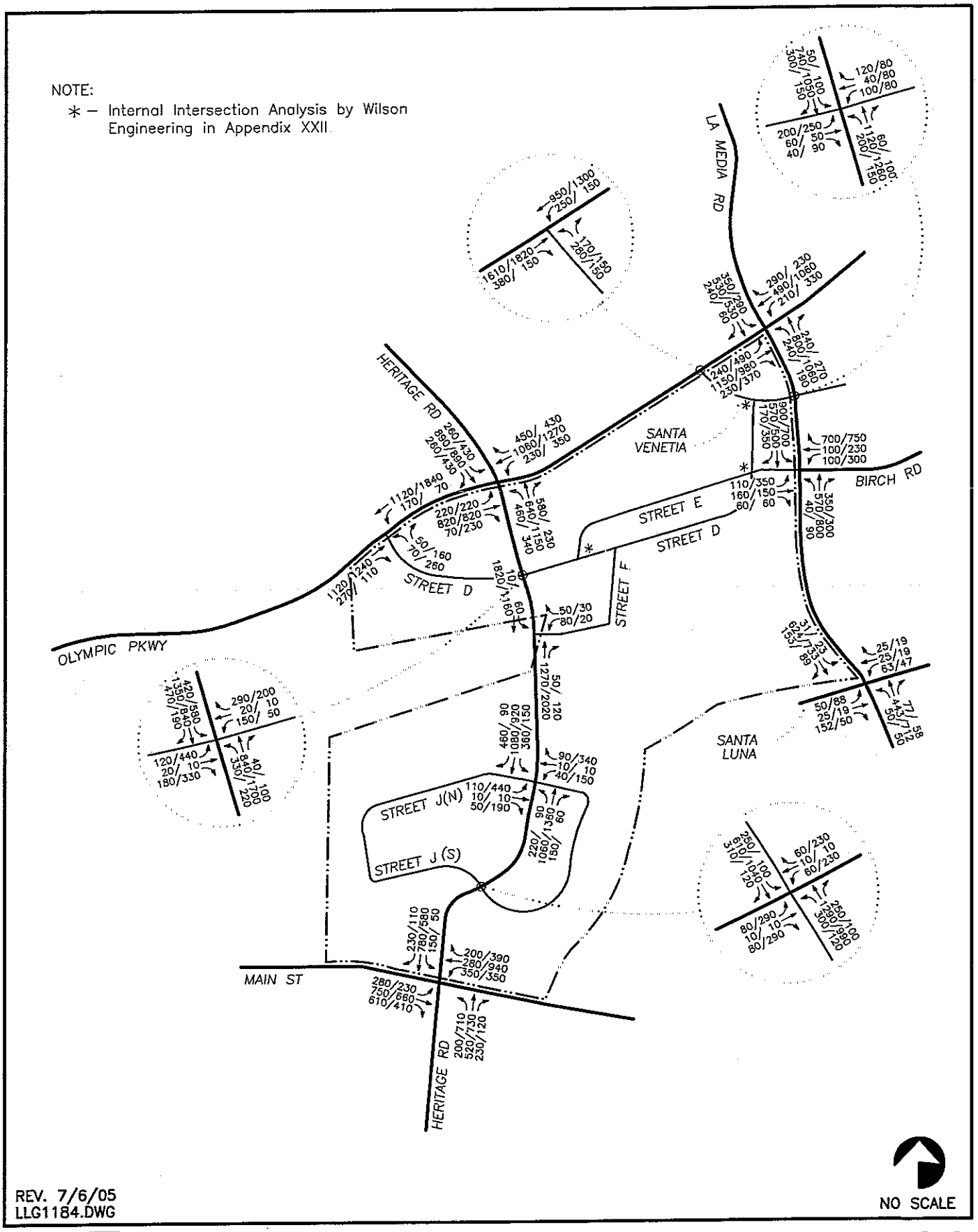
REV. 8/10/05
LLG1184.DWG

Figure 32

(3 OF 3)

YEAR 2010 & BEYOND INTERSECTION GEOMETRY

OTAY RANCH VILLAGES 2, 3 & PA 18 B



REV. 7/6/05
LLG1184.DWG

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Figure 33

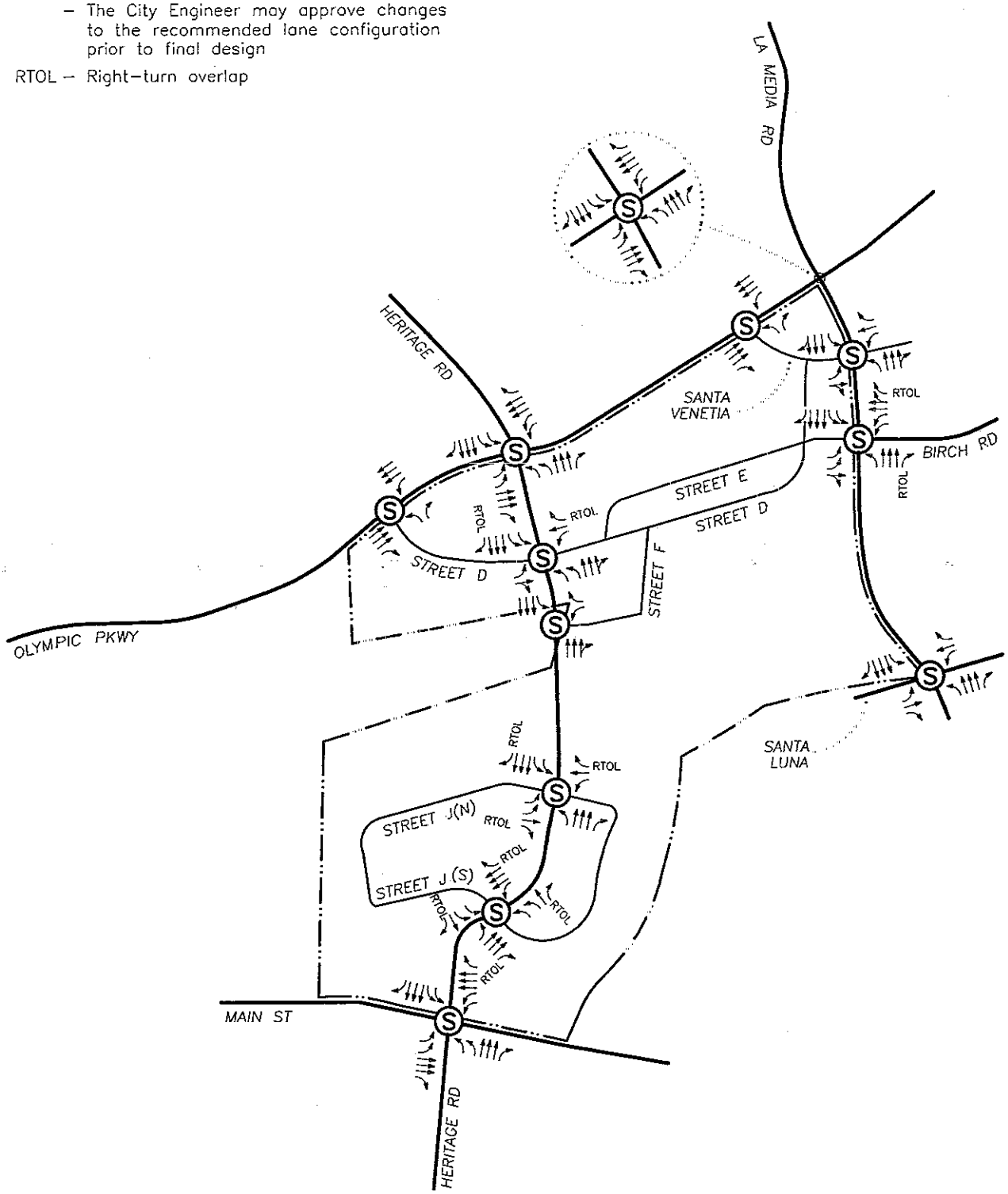
INTERSECTION BUILDOUT TRAFFIC VOLUMES AM/PM PEAK HOUR VOLUMES

OTAY RANCH VILLAGES 2, 3 & PA 18 B

NOTES:

- The City Engineer may approve changes to the recommended lane configuration prior to final design

RTOL – Right–turn overlap



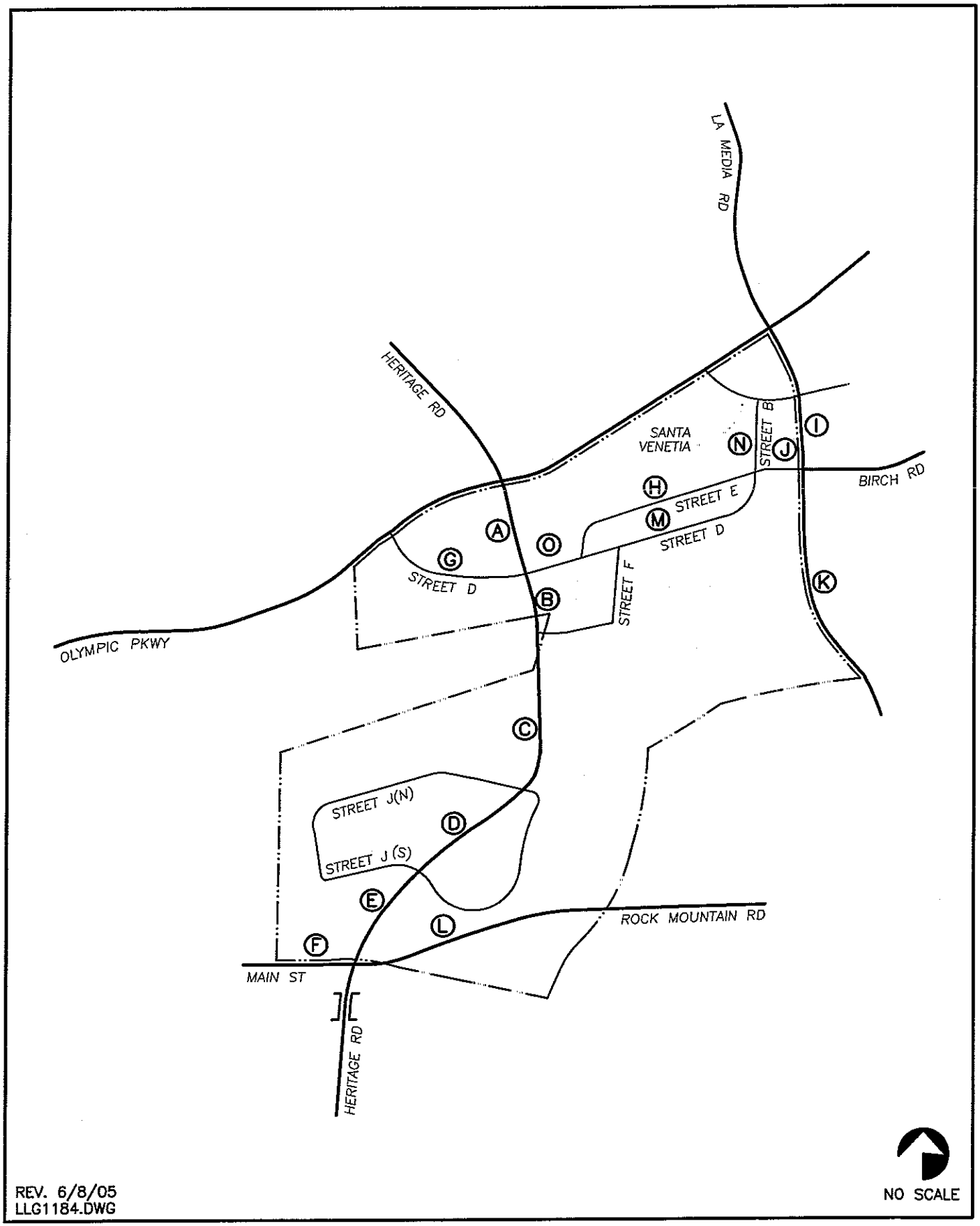
REV. 11/21/05
LLG1184.DWG

NO SCALE

LINSCOTT LAW & GREENSPAN engineers

Figure 34

RECOMMENDED ACCESS INTERSECTION GEOMETRY



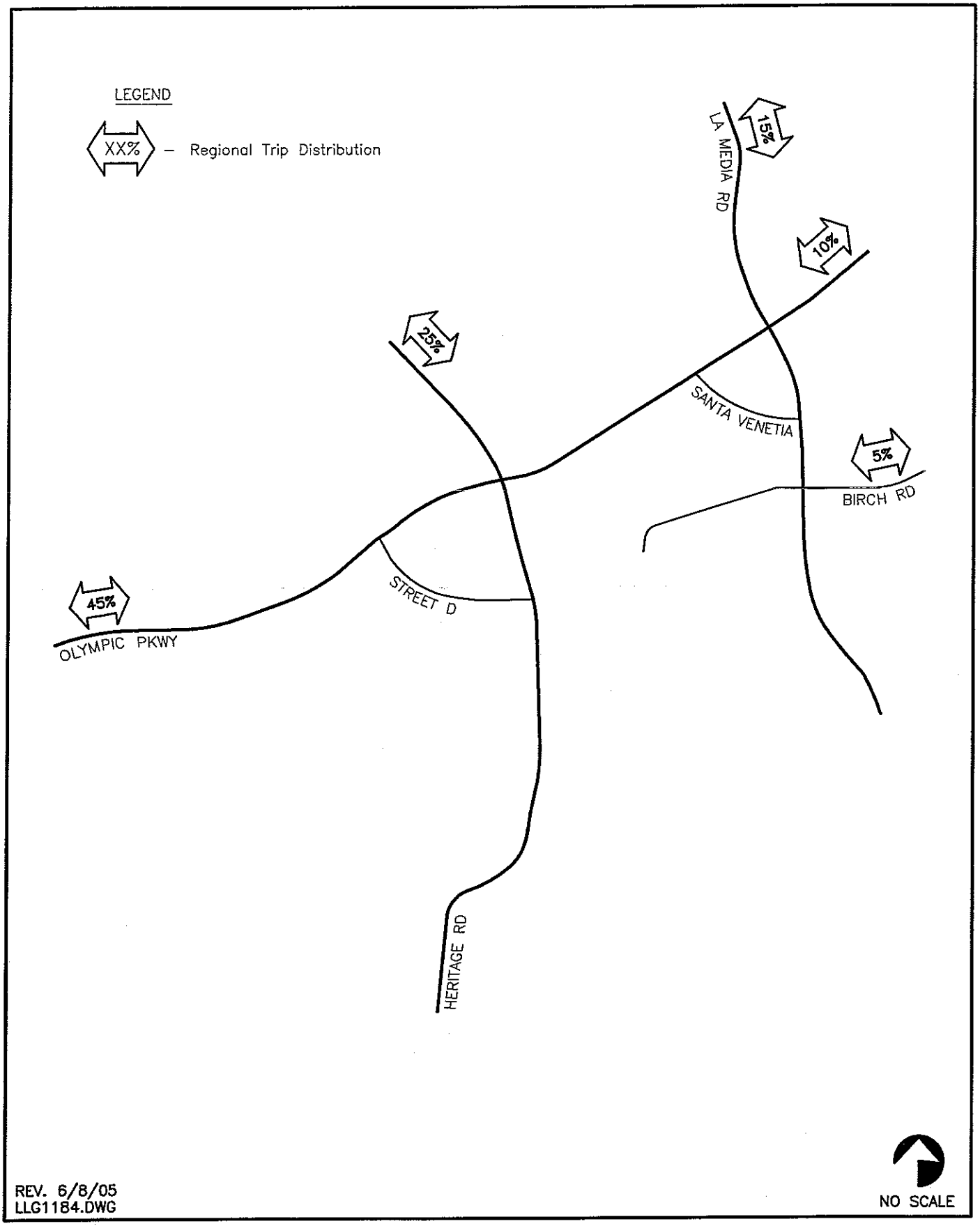
REV. 6/8/05
LLG1184.DWG

LINSCOTT LAW & GREENSPAN engineers

Figure 35

PFFP ROADWAYS

OTAY RANCH VILLAGES 2, 3 & PA 18 B



REV. 6/8/05
LLG1184.DWG

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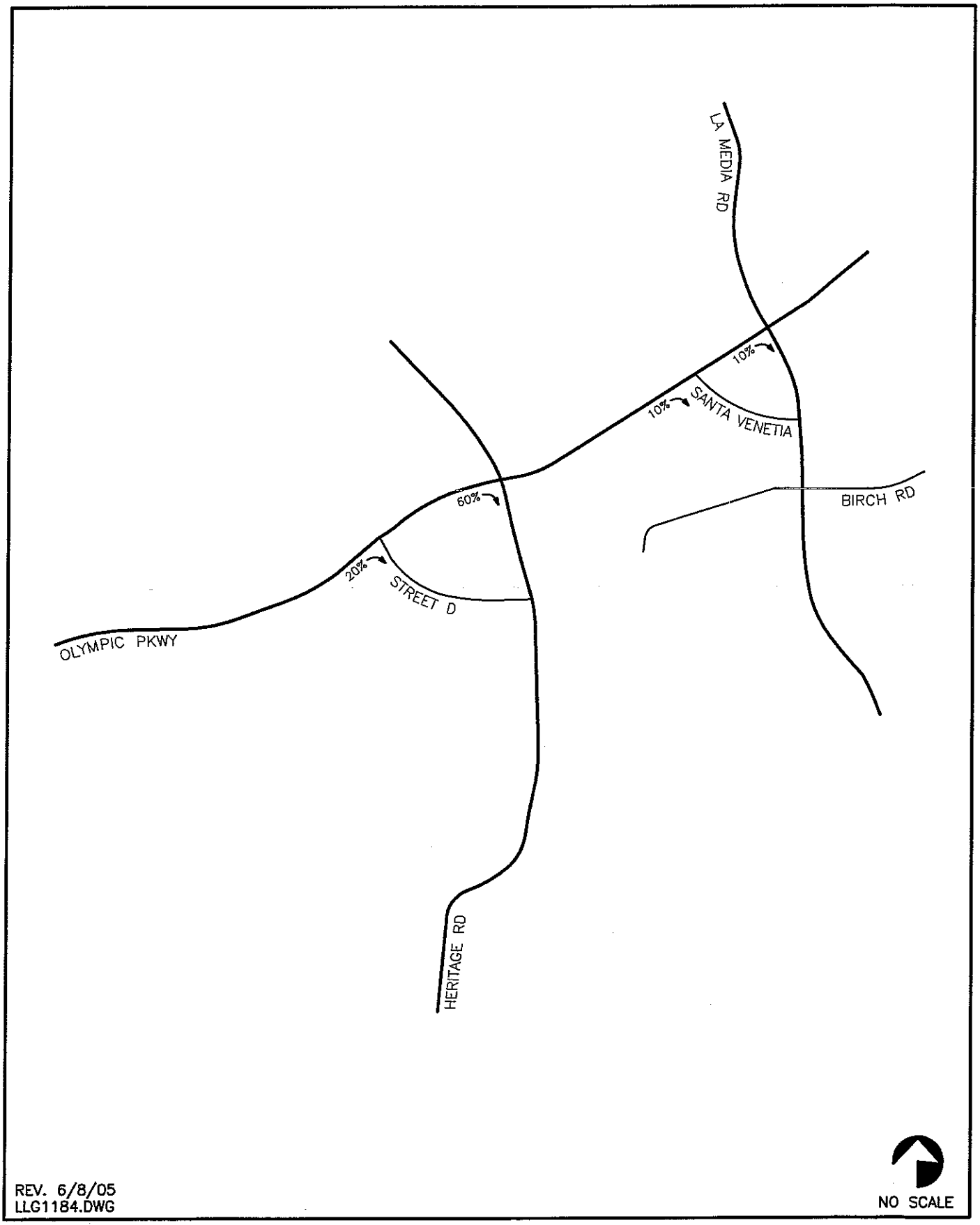
Figure 36

PFFP REGIONAL DISTRIBUTION



REV. 6/8/05
LLG1184.DWG

LINSCOTT
LAW &
GREENSPAN
engineers

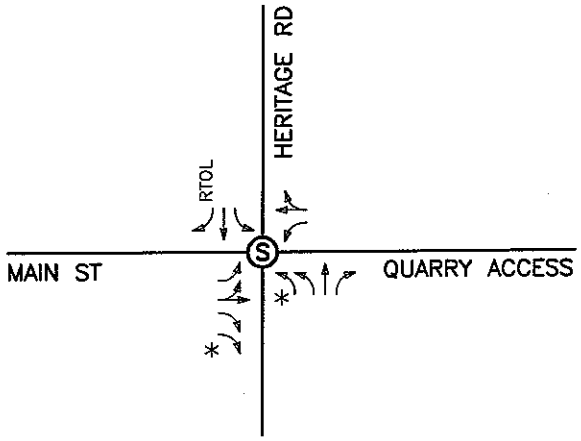
Figure 37

PROJECT INBOUND DISTRIBUTION FROM OLYMPIC PARKWAY

OTAY RANCH VILLAGES 2, 3 & PA 18 B

NO ROCK MOUNTAIN ROAD

FIGURE 38A



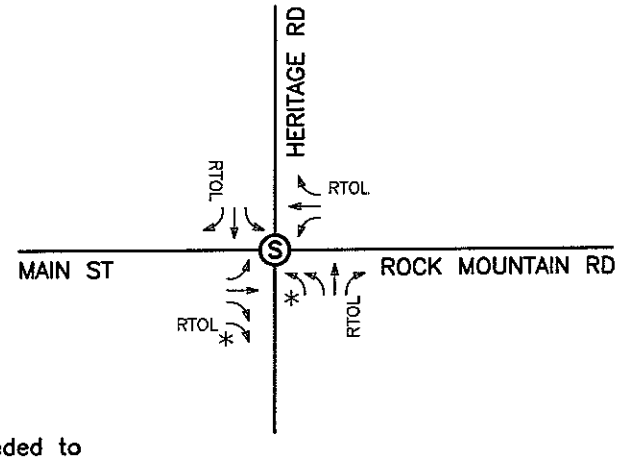
LEGEND

Ⓢ – Traffic Signal
RTOL – Right–Turn Overlap
* – Dual lanes assumed to be needed to serve the amphitheater

NOTE: Split phasing assumed for the East/West approaches.

WITH ROCK MOUNTAIN RD

FIGURE 38B



LEGEND

Ⓢ – Traffic Signal
RTOL – Right–Turn Overlap
* – Dual lanes assumed to be needed to serve the amphitheater

NOTE: Rock Mountain Road cannot be completed to the east with the temporary Maint Street/Heritage Road intersection due to the difference in grade. It is only shown as a comparison with the permanent intersection.

REV. 6/9/05
LLG1184 FIG 40.DWG

NO SCALE

LINSCOTT LAW & GREENSPAN engineers

Figure 38

INTERSECTION CONFIGURATIONS WITH & WITHOUT ROCK MOUNTAIN RD TEMPORARY MAIN STREET/HERITAGE ROAD INTERCHANGE

OTAY RANCH VILLAGES 2, 3 & PA 18 B

FIGURE 39A

YEAR 2010 WITHOUT PROJECT TRAFFIC VOLUMES

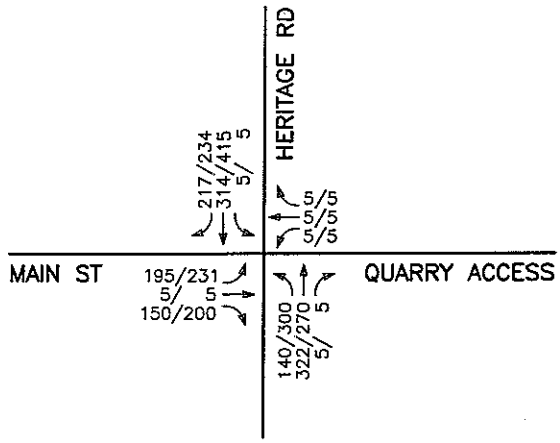


FIGURE 39B

YEAR 2010 PROJECT TRAFFIC VOLUMES (NO INDUSTRIAL LAND USES)

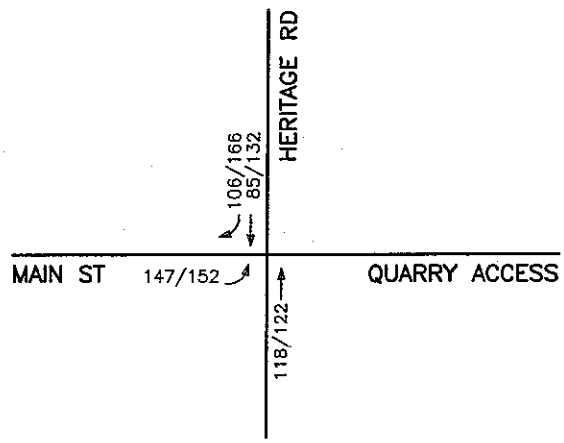
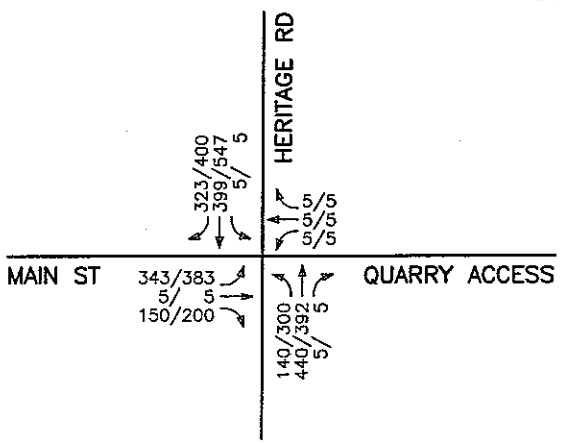


FIGURE 39C

YEAR 2010 TOTAL TRAFFIC VOLUMES NO ROCK MOUNTAIN RD WITH PROJECT



REV. 6/9/05
LLG1184 FIG 41.DWG

NO SCALE

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Figure 39

AM/PM PEAK HOUR TRAFFIC VOLUMES
SCENARIO 1 (NO ROCK MOUNTAIN RD)
TEMPORARY MAIN STREET/HERITAGE ROAD INTERSECTION

OTAY RANCH VILLAGES 2, 3 & PA 18 B

FIGURE 40A

YEAR 2010 WITHOUT VILLAGE 2 TRAFFIC VOLUMES WITH ROCK MOUNTAIN RD

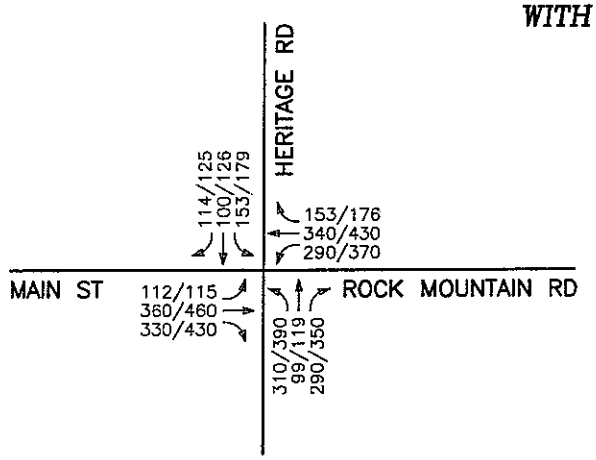


FIGURE 40B

YEAR 2010 PROJECT TRAFFIC VOLUMES (NO INDUSTRIAL LAND USES) WITH ROCK MOUNTAIN RD

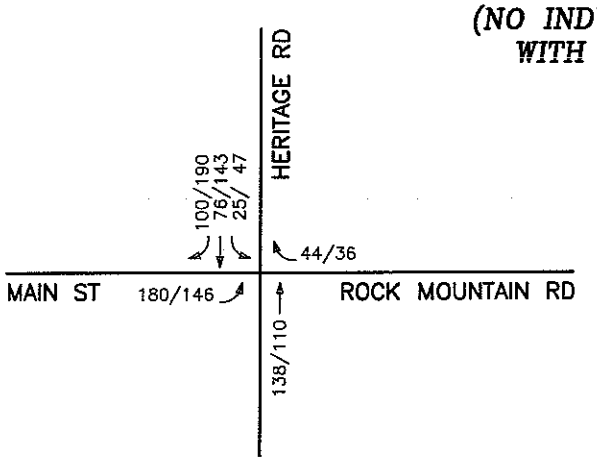
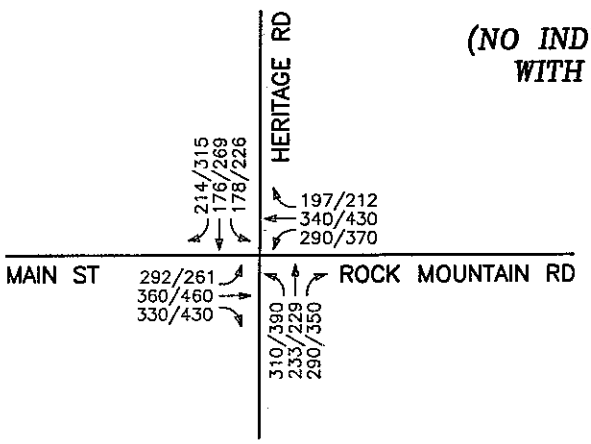


FIGURE 40C

YEAR 2010 TOTAL TRAFFIC VOLUMES WITH PROJECT (NO INDUSTRIAL LAND USES) WITH ROCK MOUNTAIN RD



REV. 6/9/05
LLG1184 FIG 42.DWG

NO SCALE

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engineers

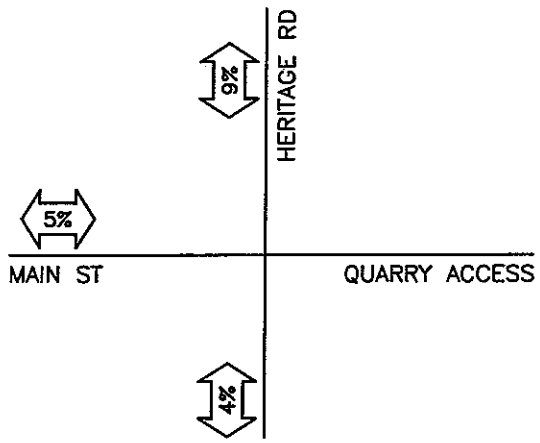
Figure 40

AM/PM PEAK HOUR TRAFFIC VOLUMES
SCENARIO 2 (WITH ROCK MOUNTAIN RD)
TEMPORARY MAIN STREET/HERITAGE ROAD INTERSECTION

OTAY RANCH VILLAGE 2, 3 & PA 18 B

NO ROCK MOUNTAIN RD

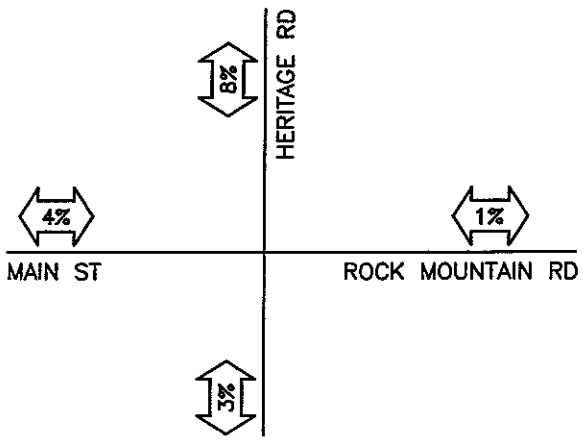
FIGURE 41A



LEGEND

XX% – Regional Traffic Distribution

FIGURE 41B



LEGEND

XX% – Regional Traffic Distribution

REV. 6/9/04
LLG1184 FIG 43.DWG

NO SCALE

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Figure 41

PROJECT TRAFFIC DISTRIBUTION
TEMPORARY MAIN STREET/HERITAGE ROAD INTERSECTION

OTAY RANCH VILLAGES 2, 3 & PA 18 B

Table 1

Proposed Project Land Uses

Land Use	Proposed Project	Assumed Project
Village 2		
Single Family	986 DU	994 DU
Multi Family	1,740 DU	1,701 DU
Mixed Use	60 DU	- -
Commercial	11.9 Acres	20.7 Acres
Neighborhood Park	15.4 Acres	15.1 Acres
Community Park	44.2 Acres	70.0 Acres
Community Purpose Facility	6.1 Acres	3.9 Acres
School	10.3 Acres	10.2 Acres
Industrial	87.9 Acres	84.6 Acres
Village 3 & Planning Area 18B		
Industrial	175.5 Acres	171.0 Acres
Community Purpose Facility	10.2 Acres	7.5 Acres

Table 2
Comparison of City of Chula Vista Adopted and Proposed Land Uses

Otay Ranch 2003 GDAP/GPU

	Alt 1				Alt 2				Alt 3				Existing GDP			
	land use	acres	density	dus	land use	acres	density	dus	land use	acres	density	dus	land use	acres	density	dus
OR-1	Bus Park	50.6			LM	89.5	4	329	Bus Park	89.6			LM	53.6	2.5	134
V-2-W	LM	39.0	4	160									I	50.6		
Total		89.6		160	Total	89.5		329	Total	89.6				104.2		134
OR-2	LMV	268.9	3.5	970	LMV	178.7	5	935	LMV	193.0	4	994	LMV	280.2	3.5	999
V-2-Center	M	15.8	10	162	M	76.6	10	886	M	59.0	10	745				
	IL	28			MU	1.8			MU	1.8						
Total		312.7		1132	Total	257.1		1821	Total	253.8		1739	Total	280.2		999
OR-3	MH	69.7	18	1101	MH	69.7	14	1112	MH	62.6	14	956	MH	58	10	586
V-2-Core	MU	13.9			MU	18.9			MU	18.9			MU	18.7		
Total		83.6		1101	Total	88.6		1112		81.5		956	Total	76.7		586
Village 2	Subtotal	486		2393				3262				2695				1719
OR-4	Community Park	80			Community Park	95.2			Communtiy Park	80.4			L	69.2	2.5	173
V-4	L-1 (Found)	120.5	1	121	L-1 (Found)	120.5	1	121	L	69.2	2.5	173	LM	12.5	4	50
	LM-2 (Found)	8.8	2	18	LM-2 (Found)	8.8	2	18	L	34.0	2	68	LM	18.9	4.5	85
	LMV(OLC)	40.1	3.5	140	LMV	18.9	6	113	L	100.0	1	100	MU	5.4		
	LMV(OLC)	12.1	5	61	MH	32.1	18	578	LM	8.8	4	35				
	MH(OLC)	30.2	14.5	438	MU	16.0	23	368								
	MU(OLC)	5.6	18	101												
Total		297.3		878	Total	291.5		1197	Total	292.4		376	Total	106.0		308
OR-5	OS (Active Rec)	109.9			MU(Com)	28.8			MU(Com)	28.8						
Bird Ranch					MU(Res)	11.3	40	452	OS (Act Rec)	83.3			OS (Active)	100		
					MH	9.5	18	171								
Total		109.9			Total	49.6		623		112.1				100		
OR-6																
V-7	LMV (ORC)	42.8	5.0	375	LMV (ORC)	42.8	5.0	375	LMV (ORC)	42.8	5.0	375	LMV (ORC)	42.8	5.0	375
	LMV (Mc)	59.3	5.0	300	LMV(Mc)	59.3	5.0	300	LMV(Mc)	59.3	5.0	300	LMV(Mc)	59.3	5.0	300
	LMV(FAA)	19.4	5.0	138	LMV(FAA)	19.4	5	138	LMV (OLC))	51.5	5.0	240	LMV (OLC))	51.5	5.0	240
	MH (ORC/Mc)	30.9	14.5	448	MH (ORC/Mc)	30.9	14.5	448	LMV (FAA)	19.4	5.0	138	LMV (FAA)	19.4	5.0	138
	MH(OLC)	20.3	10.0	203	MH(OLC)	20.3	18.0	365	MH (ORC/Mc)	30.9	14.5	448	MH (ORC/Mc)	30.9	14.5	448
	MU(OLC)	8.6	14.5	125	MU(OLC)	8.6	23.0	198								
Total		181.3		1589	Total	181.3		1824	Total	203.9		1501	Total	203.9		1501
	Village Center				Village Center				Reg Tech Park	336.7			Non Transit Vlage			
V-8	MU(Found)	3.5	18	63	MU (Found)	7.7	18.0	139					LMV	122.2	4.8	587
	LMV (Found)	218.6	4.5	984	LMV (Found)	214.4	4.5	965					LMV	85.4	3.5	299
	LMV(OLC)	56.4	3.5	197	LMV	51.6	4.5	232					LMV	30	4.5	135
	LMV(OLC)	19.9	5	100	LMV	15.8	6.0	95					MH	30.1	14.5	436
	MH(OLC)	19.9	14.5	289	MH	20.0	18.0	360					MU	13.4		
	MU(OLC)	14.1	18	254	MU	19.8	23.0	455					Total	281.1		1457
Total		332.4		1886	Total	329.3		2246	Total	336.7						
OR-7	Town Center				Town Center				Town Cener/RTP				University	363.9		
V-9	MH	99.5	18	1791	L(JOC)	36.3	2.0	73	MU	34.2	30.0	1026	Uni (OLC)			
	MU	34.2	23	787	LMV(JOC)	56.5	4.5	254	MH	48.6	18.0	875				
	University	128.5			LMV	46.8	4.0	187	University/RTP	113.7						
					M	65.7	7.5	493								
					MH	48.6	18.0	875								
					MU	34.2	30.0	1026								
Total		262.2		2578	Total	288.1		2908	Total	196.5		1901				
OR-8																
Frwy Comm	Comm	34.4			MU (Residential)	34.4	13.4	475	Com	34.4			Frwy Comm	34.4		
Grand Totals		1703.4		9323		1609.4		12535		1600.9		6473		1550.4		4985

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SANDAG MODELING LIST AND SCHEDULE

LLG Scenario Numbers		Alt.	Year	City**	Study Area	Region	Land Use	Village 2 Land Use	Village 7 Land Use	Chula Vista Circulation Element	SR-125	Note/File Name	Model Owner	Anticipated Model Date	Date Completed
		Cal 1	2002	2002	2002	2002	Existing	N/A	N/A	Existing	N/A	Calibration Run 1	V2		7/31/2003
		Cal 2	2002	2002	2002	2002	Existing	N/A	N/A	Existing	N/A	Calibration Run 2	CV		8/1/2003
		Cal 3	2002	2002	2002	2002	Existing	N/A	N/A	Existing	N/A	Calibration Run 3	OLC		8/4/2003
		Cal 4	2002	2002	2002	2002	Existing	N/A	N/A	Existing	N/A	Calibration Run 4	CV		8/5/2003
		Cal 5	2002	2002	2002	2002	Existing	N/A	N/A	Existing	N/A	Calibration Run 5	CV		8/6/2003
		Cal 6	2002	2002	2002	2002	Existing	N/A	N/A	Existing	N/A	Calibration Run 6	CV		8/11/2003
5		1	2030	B/O	2030	2030	Adopted	Adopted	Adopted	Adopted	Toll	2030 Baseline for V2 and Gen. Plan	V2	10/22/2003	
		~~1A~~	~~2030~~	~~B/O~~	~~B/O~~	~~2030~~	~~Adopted~~	~~Adopted~~	~~Adopted~~	~~Adopted~~	~~Toll~~		~~CV~~	~~9/17/2003~~	
7		1B	2030	B/O	B/O	2030	Adopted	Adopted	Adopted	Adopted	FREE		CV	10/22/2003	
	VILLAGE 2 EIR	2	B/O	B/O	B/O	2030	Adopted	Proposed	Adopted	Adopted	FREE	Village 2 EIR Traffic Study "VOL VIL 2 B/O PRO"	V2	10/22/2003	
	VILLAGE 2 EIR	3	2030	B/O	2030	2030	Adopted	Proposed	Adopted	Adopted	Toll	Village 2 EIR Traffic Study "VOL VIL 2 2030 PRO"	V2	10/22/2003	
	VILLAGE 2 EIR	4	~~2020~~	~~B/O~~	~~2020~~	~~2020~~	~~Adopted~~	~~Proposed~~	~~Adopted~~	~~Adopted~~	~~Toll~~	~~Village 2 EIR Traffic Study "VOL VIL 2 2020 PRO"~~	~~V2~~	~~9/30/2003~~	
	VILLAGE 2 EIR	5	2015*	2015	2015*	2015*	Adopted	Proposed	Adopted	Adopted	Toll	Village 2 EIR Traffic Study "VOL VIL 2 2015 PRO"	V2	10/23/2003	
	VILLAGE 2 EIR	6	2010	2010	2010	2010	Adopted	Proposed	Adopted	Adopted	Toll	Village 2 EIR Traffic Study "VOL VIL 2 2010 PRO"	V2	10/23/2003	
	VILLAGE 2 EIR	7	2005	2005	2005	2005	Adopted	Proposed	Adopted	Adopted	Toll	Village 2 EIR Traffic Study "VOL VIL 2 2005 PRO"	V2	9/30/2003	10/20/2003

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SANDAG MODELING LIST AND SCHEDULE

LLG Scenario Numbers		Alt.	Year	City**	Study Area	Region	Land Use	Village 2 Land Use	Village 7 Land Use	Chula Vista Circulation Element	SR-125	Note/File Name	Model Owner	Anticipated Model Date	Date Completed
VILLAGE TWO AND SEVEN'S WORST CASE FOR THEIR RESPECTIVE EIR'S															
	VIL 2 AND VIL 7 EIRS	8	B/O	B/O	B/O	2030	CITY Alt C	Proposed	Proposed	WORST CASE Proposed	FREE	Village 2 EIR Traffic Study "VOL VIL 2-7 B/0 W-C"	V2	10/27/2003	
		9	2030	B/O	2030	2030	CITY Alt C	Proposed	Proposed	Proposed	Toll	Village 2 EIR Traffic Study "VOL VIL 2-7 2030 W-C"	V2	10/27/2003	
		~~10~~	~~2020~~	~~B/O~~	~~2020~~	~~2020~~	~~Proposed~~	~~Proposed~~	~~Proposed~~	~~Proposed~~	~~Toll~~	~~Village 2 EIR Traffic Study "VOL VIL 2-7 2020 W-C"~~	~~V2~~	~~9/30-10/10/03~~	
		10	2015 *	2015	2015 *	2015 *	CITY Alt C	Proposed	Proposed	Proposed	Toll	Village 2 EIR Traffic Study "VOL VIL 2-7 2015 W-C"	V2	10/27/2003	
		11	2010	2010	2010	2010	CITY Alt C	Proposed	Proposed	Proposed	Toll	Village 2 EIR Traffic Study "VOL VIL 2-7 2010 W-C"	V2	10/28/2003	
		12	2005	2005	2005	2005	CITY Alt C	Proposed	Proposed	Proposed	Toll	Village 2 EIR Traffic Study "VOL VIL 2-7 2005 W-C"	V2	10/28/2003	
VILLAGE 7 EIR															
	VILLAGE 7 EIR	13	B/O	B/O	B/O	2030	Adopted	Adopted	Proposed	Adopted	FREE	Village 7 EIR Traffic Study "VOL VIL 7 B/O PRO"	V7	10/6-10/17/03	
		14	2030	B/O	2030	2030	Adopted	Adopted	Proposed	Adopted	Toll	Village 7 EIR Traffic Study "VOL VIL 7 2030 PRO"	V7	10/6-10/17/03	
		~~15~~	~~2020~~	~~B/O~~	~~2020~~	~~2020~~	~~Adopted~~	~~Adopted~~	~~Proposed~~	~~Adopted~~	~~Toll~~	~~Village 7 EIR Traffic Study "VOL VIL 7 2020 PRO"~~	~~V7~~	~~10/6-10/17/03~~	
		15	2015*	2015	2015*	2015*	Adopted	Adopted	Proposed	Adopted	Toll	Village 7 EIR Traffic Study "VOL VIL 7 2015 PRO"	V7	10/6-10/17/03	
		16	2010	2010	2010	2010	Adopted	Adopted	Proposed	Adopted	Toll	Village 7 EIR Traffic Study "VOL VIL 7 2010 PRO"	V7	10/6-10/17/03	
		17	2005	2005	2005	2005	Adopted	Adopted	Proposed	Adopted	Toll	Village 7 EIR Traffic Study "VOL VIL 7 2005 PRO"	V7	10/6-10/17/03	

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SANDAG MODELING LIST AND SCHEDULE

LLG Scenario Numbers		Alt.	Year	City**	Study Area	Region	Land Use	Village 2 Land Use	Village 7 Land Use	Chula Vista Circulation Element	SR-125	Note/File Name	Model Owner	Anticipated Model Date	Date Completed
							CITY'S ALTERNATIVE B FOR VILLAGE TWO - CITY'S WORST CASE								
6	VILL 2 EIR CITY ALT B	18	B/O	B/O	B/O	2030	CITY Alt C	CITY Alt B	Proposed	WORST CASE Proposed	FREE	Village 2 EIR Traffic Study "VOL VIL 2 B/O CITY"		10/23/2003	
4		19	2030	B/O	2030	2030	CITY Alt C	CITY Alt B	Proposed	Proposed	Toll	Village 2 EIR Traffic Study "VOL VIL 2 2030 CITY"	V2	10/31/2003	
		~~20~~	~~2020~~	~~B/O~~	~~2020~~	~~2020~~	~~Adopted~~	~~CITY Alt A~~	~~Adopted~~	~~Adopted~~	~~Toll~~	~~Village 2 EIR Traffic Study "VOL VIL 2 2020 CITY"~~	~~V2~~	~~11/15/2003~~	
3		20	2015 *	2015	2015 *	2015 *	CITY Alt C	CITY Alt B	Proposed	Proposed	Toll	Village 2 EIR Traffic Study "VOL VIL 2 2015 CITY"	V2	10/31/2003	
2		21	2010	2010	2010	2010	CITY Alt C	CITY Alt B	Proposed	Proposed	Toll	Village 2 EIR Traffic Study "VOL VIL 2 2010 CITY"	V2	10/31/2003	
1		22	2005	2005	2005	2005	CITY Alt C	CITY Alt B	Proposed	Proposed	Toll	Village 2 EIR Traffic Study "VOL VIL 2 2005 CITY"	V2	10/31/2003	

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SANDAG MODELING LIST AND SCHEDULE

LLG Scenario Numbers		Alt.	Year	City**	Study Area	Region	Land Use	Village 2 Land Use	Village 7 Land Use	Chula Vista Circulation Element	SR-125	Note/File Name	Model Owner	Anticipated Model Date	Date Completed
	CITY ALT C	29	*2030*	B/O	2030	2030	CITY Alt C	Proposed	Proposed	Proposed	Toll	City Scenario C	CV	10/13-10/23/03
					B/O							Multiple model runs		
		~~31~~	~~*2020*~~	~~B/O~~	~~2020~~	~~2020~~	~~Proposed~~	~~Proposed~~	~~Proposed~~	~~Proposed~~	~~Toll~~	~~City Scenario C~~	~~CV~~	~~10/13-10/23/03~~
												Multiple model runs		
		30	**B/O**	**B/O**	**B/O**	2030	**CITY Alt C**	Proposed	Proposed	Proposed	**FREE**	City Scenario C	CV	10/13-10/23/03
												Multiple model runs		
	SELECTED MODELS											City Selected Alternative - May be a manual adjustment NON-MODEL		
		31	*2030*	B/O	2030	2030	**CITY selected land uses and C.E.**	Proposed	Proposed	Proposed	Toll		CV	10/13-10/23/03
		32	**B/O**	**B/O**	**B/O**	2030	**CITY selected land uses and C.E.**	Proposed	Proposed	Proposed	**FREE**	City Selected Alternative - May be a manual adjustment NON-MODEL	CV	
		~~33~~	~~*2020*~~	~~B/O~~	~~2020~~	~~2020~~	~~Proposed~~	~~Proposed~~	~~Proposed~~	~~Proposed~~	~~Toll~~	~~Preferred City Alternative - May be a manual adjustment NON-MODEL~~	~~CV~~	~~10/13-10/23/03~~

Footnotes:

All General Plan Models need to be finsihed by December 20, 2003

* - 2015 trips outside of Chula Vista will be derived by a straight line factor between 2010 and 2020

** - All land uses within the City of Chula Vista to be provied by Chula Vista staff

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SANDAG MODELING LIST AND SCHEDULE

LLG Scenario Numbers		Alt.	Year	City**	Study Area	Region	Land Use	Village 2 Land Use	Village 7 Land Use	Chula Vista Circulation Element	SR-125	Note/File Name	Model Owner	Anticipated Model Date	Date Completed
							GENERAL PLAN RUNS - SHALL INCLUDE STUDY AREA BUILDOUT RUNS								
		23	2030	B/O	B/O	2030	Proposed	Proposed	Proposed	Proposed	FREE	Build Out Baseline	CV	10/13-10/23/03	
		24	2003	2003	2030	2030	Adopted	VACANT	VACANT	2003	N/A	Network No Build /EX. Conditions in C.V.- 2030 everywhere else	CV	10/13-10/23/03	
	CITY ALT A	25	*2030*	B/O	2030	2030	CITY Alt A	Proposed	Proposed	Proposed	Toll	City Scenario A Multiple model runs	CV	10/13-10/23/03	
		26	B/O	B/O	B/O	2030	CITY Alt A	Proposed	Proposed	Proposed	FREE	City Scenario A Multiple model runs	CV	10/13-10/23/03	
		~~27~~	~~*2030*~~	~~B/O~~	~~2020~~	~~2020~~	~~Proposed~~	~~Proposed~~	~~Proposed~~	~~Proposed~~	~~Toll~~	~~City Scenario A~~ ~~Multiple model runs~~	~~CV~~	~~10/13-10/23/03~~	
	CITY ALT B	27	*2030*	B/O	2030	2030	CITY Alt B	Proposed	Proposed	Proposed	Toll	City Scenario B Multiple model runs	CV	10/13-10/23/03	
		~~29~~	~~*2020*~~	~~B/O~~	~~2020~~	~~2020~~	~~Proposed~~	~~Proposed~~	~~Proposed~~	~~Proposed~~	~~Toll~~	~~City Scenario B~~ Multiple model runs	~~CV~~	~~10/13-10/23/03~~	
		28	B/O	B/O	B/O	2030	CITY Alt B	Proposed	Proposed	Proposed	FREE	City Scenario B Multiple model runs	CV	10/13-10/23/03	

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Table 4
Existing ADT Volumes

Segment	Source	Year	Volume
Telegraph Canyon Road			
I-805 to Oleander Ave.	City of Chula Vista	2002	64,100
Oleander Ave. to Medical Center Dr.	City of Chula Vista	2002	60,000
Medical Center Dr. to Paseo Ranchero/Heritage Rd.	City of Chula Vista	2002	46,900
Paseo Ranchero/Heritage Rd. to Otay Lakes Rd.	City of Chula Vista	2002	50,500
Otay Lakes Road			
North of Paseo Ranchero	City of Chula Vista	2000	21,200
La Media Rd. to Eastlake Pkwy.	City of Chula Vista	2002	42,000
Eastlake Pkwy. to Lane Ave.	City of Chula Vista	2002	17,200
E. Palomar Street			
I-805 to Oleander Ave.	City of Chula Vista	2002	7,000
Oleander Ave. to Medical Center Dr.	City of Chula Vista	2002	4,500
Medical Center Dr. to Heritage Rd.	City of Chula Vista	2002	11,200
Heritage Rd. to Olympic Pkwy.	City of Chula Vista	2002	14,100
Olympic Parkway			
I-805 to Oleander Ave.	LLG Engineers [1]	2003	38,900
Oleander Ave. to Medical Center Dr.	LLG Engineers [1]	2003	32,700
Medical Center Dr. to Heritage Rd.	LLG Engineers [1]	2003	25,400
Heritage Rd. to La Media Rd.	LLG Engineers [1]	2003	20,500
La Media Rd. to E. Palomar St.	LLG Engineers [1]	2003	11,500
E. Palomar St. to Eastlake Pkwy.	LLG Engineers [1]	2003	9,500
Eastlake Pkwy. to Hunte Pkwy.	LLG Engineers [1]	2003	8,500
Main Street			
I-805 SB Ramps to I-805 NB Ramps	City of Chula Vista	2004	26,300
I-805 NB Ramps to Oleander Ave.	City of Chula Vista	2004	36,200
Oleander Ave. to Brandywine Ave.	City of Chula Vista	2004	28,400
Brandywine Ave. to Maxwell Rd.	[2]	2003	17,200
Oleander Avenue			
Telegraph Canyon Rd. to E. Palomar St.	[2]	2003	5,600
E. Palomar St. to Olympic Pkwy.	LLG Engineers [1]	2003	3,800
Olympic Pkwy. to Main St.	[2]	2003	2,700

Footnotes:

1 Three-day segment counts conducted by LLG Engineers in 2003

2. Estimated assuming PM peak hour volumes at adjacent intersections are 10% of ADT.

Table 4
Existing ADT Volumes

Segment	Source	Year	Volume
Medical Center Drive			
Telegraph Canyon Rd. to E. Palomar St.	City of Chula Vista	2001	13,100
BrandywineAvenue			
E. Palomar St. to Olympic Pkwy.	City of Chula Vista	2002	8,200
Olympic Pkwy. to Main St.	City of Chula Vista	2002	6,800
Paseo Ranchero			
North of Telegraph Canyon Rd.	2	2003	8,200
Paseo Ranchero/Heritage Road			
Telegraph Canyon Rd. to E. Palomar St.	LLG Engineers [1]	2003	15,600
E. Palomar St. to Olympic Pkwy.	2	2003	11,300
La Media Road			
Telegraph Canyon Rd. to E. Palomar St	City of Chula Vista	2002	13,400
E. Palomar St. to Olympic Pkwy.	LLG Engineers [1]	2003	8,200
Eastlake Parkway			
Fenton St. to Otay Lakes Rd.	City of Chula Vista	2002	8,400
Otay Lakes Rd. to Olympic Pkwy.	2	2003	20,700
Hunte Parkway			
Otay Lakes Rd. to Clubhouse Dr.	2	2003	8,400
Clubhouse Dr. to Olympic Pkwy.	2	2003	5,400

Footnotes:

1 Three-day segment counts conducted by LLG Engineers in 2003.

2 Estimated assuming PM peak hour volumes at adjacent intersections are 10% of ADT.

TABLE 5
LEVEL OF SERVICE THRESHOLDS FOR SIGNALIZED INTERSECTIONS

Average Control Delay Per Vehicle (Seconds/Vehicle)			Level of Service
0.0	≤	10.0	A
10.1	to	20.0	B
21.1	to	35.0	C
35.1	to	55.0	D
55.1	to	80.0	E
	≥	80.0	F

Source: Highway Capacity Manual, 2000.

TABLE 6
INTERSECTION LEVEL OF SERVICE DESCRIPTIONS

Level of Service	Description
A	Occurs when progression is extremely favorable and most vehicles arrive during the green phase. Most vehicles do not stop at all. Short cycle lengths may also contribute to low delay.
B	Generally occurs with good progression and/or short cycle lengths. More vehicles stop than for LOS A, causing higher levels of average delay.
C	Generally results when there is fair progression and/or longer cycle lengths. Individual cycle failures may begin to appear in this level. The number of vehicles stopping is significant at this level, although many still pass through the intersection without stopping.
D	Generally results in noticeable congestion. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high volume-to-capacity ratios. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.
E	Considered to be the limit of acceptable delay. These high delay values generally indicate poor progression, long cycle lengths, and high volume-to-capacity ratios. Individual cycle failures are frequent occurrences.
F	Considered to be unacceptable to most drivers. This condition often occurs with over saturation i.e. when arrival flow rates exceed the capacity of the intersection. It may also occur at high volume-to-capacity ratios below 1.00 with many individual cycle failures. Poor progression and long cycle lengths may also be major contributing causes to such delay levels.

Source: Highway Capacity Manual, 2000.

TABLE 7
LEVEL OF SERVICE THRESHOLDS FOR UNSIGNALIZED INTERSECTIONS

Average Control Delay Per Vehicle (Seconds/Vehicle)			Level of Service	Expected Delay to Minor Street Traffic
0.0	≤	10.0	A	Little or no delay
10.1	to	15.0	B	Short traffic delays
15.1	to	25.0	C	Average traffic delays
25.1	to	35.0	D	Long traffic delays
35.1	to	50.0	E	Very long traffic delays
	≥	50.0	F	Severe congestion

Source: Highway Capacity Manual, 2000.

TABLE 8
STREET SEGMENT LEVEL OF SERVICE DESCRIPTIONS

Level of Service	Description
A	Describes primarily free-flow operations. Average operating speeds at the free-flow speed generally prevail. Vehicles are almost completely unimpeded in their ability to maneuver within the traffic stream.
B	Also represents reasonably free-flow, and speeds at the free-flow speed are generally maintained. The ability to maneuver within the traffic stream is only slightly restricted, and the general level of physical and psychological comfort provided to drivers is still high.
C	Provides for flow with speeds still at or near the free-flow speed of the roadway. Freedom to maneuver within the traffic stream is noticeably restricted at LOS C, and lane changes require more vigilance on the part of the driver. The driver now experiences a noticeable increase in tension because of the additional vigilance required for safe operation.
D	The level at which speeds begin to decline slightly with increasing flows. In this range, density begins to deteriorate somewhat more quickly with increasing flows. Freedom to maneuver within the traffic stream is more noticeably limited, and the driver experiences reduced physical and psychological comfort levels.
E	Describes operation at capacity. Operations in this level are volatile, because there are virtually no usable gaps in the traffic stream. At capacity, the traffic stream has no ability to dissipate even the most minor disruptions, and any incident can be expected to produce a serious breakdown with extensive queuing.
F	Describes breakdowns in vehicular flow. Such conditions generally exist within queues forming behind breakdown points such as traffic incidents and recurring points of congestion. Whenever LOS F conditions exist, there is a potential for them to extend upstream for significant distances.

SOURCE: Highway Capacity Manual, 2000.

Table 9

Telegraph Canyon Road (Class II) Existing TMP Speeds and LOS Conditions

Time and Direction	I-805 to Paseo Ranchero		Paseo Ranchero to Otay Lakes Road	
	Speed	LOS	Speed	LOS
AM Westbound	29.4	B	40.4	A
PM Eastbound	28.7	B	36.0	A

Source: City of Chula Vista TMP Data, 2004

TABLE 10
EXISTING PEAK HOUR INTERSECTION OPERATIONS

Intersection	Peak Hour	Delay	LOS
1. Telegraph Cnyn. Rd./I-805 SB Ramps	AM	27.9	C
	PM	68.0	E
2. Telegraph Cnyn. Rd./I-805 NB Ramps	AM	32.2	C
	PM	24.5	C
3. Telegraph Cnyn. Rd./Oleander Ave.	AM	15.8	B
	PM	20.0	B
4. Telegraph Cnyn. Rd./Medical Center Dr.	AM	15.4	B
	PM	18.2	B
5. Telegraph Cnyn. Rd./Paseo Ranchero/Heritage Rd.	AM	25.5	C
	PM	25.7	C
6. Telegraph Cnyn. Rd./Otay Lakes Rd./La Media Rd.	AM	35.9	D
	PM	36.9	D
9. Otay Lakes Rd./Eastlake Pkwy.	AM	32.5	D
	PM	30.9	D
10. Otay Lakes Rd./Hunte Pkwy.	AM	33.8	C
	PM	33.1	C
11. Palomar St./Oleander Ave.	AM	10.2	B
	PM	9.8	A
12. Palomar St./Brandywine Ave.	AM	33.1	C
	PM	37.5	D
13. Palomar St./Heritage Rd.	AM	32.9	C
	PM	32.7	C
14. Palomar St./La Media Rd.	AM	39.0	C
	PM	37.8	D
15. Olympic Pkwy./I-805 SB Ramps	AM	29.9	C
	PM	66.3	E
16. Olympic Pkwy./I-805 NB Ramps	AM	71.0	E
	PM	45.5	D

TABLE 10 (CONTINUED)
EXISTING PEAK HOUR INTERSECTION OPERATIONS

Intersection	Peak Hour	Delay	LOS
17. Olympic Pkwy./Oleander Ave.	AM	26.7	C
	PM	22.7	C
18. Olympic Pkwy./Brandywine Ave.	AM	38.3	D
	PM	36.1	D
19. Olympic Pkwy./Heritage Rd.	AM	25.2	C
	PM	33.9	C
20. Olympic Pkwy./La Media Rd.	AM	29.3	C
	PM	27.8	C
21. Olympic Pkwy./Palomar St.	AM	23.7	C
	PM	20.2	C
24. Olympic Pkwy./Eastlake Pkwy.	AM	26.3	C
	PM	25.3	C
25. Olympic Pkwy./Hunte Pkwy.	AM	33.7	C
	PM	29.9	C
26. Main St./I-805 SB Ramps	AM	24.6	C
	PM	30.2	C
27. Main St./I-805 NB Ramps	AM	21.4	C
	PM	23.4	C
28. Main St./Oleander Ave.	AM	9.8	A
	PM	7.1	A
29. Main St./Brandywine Ave.	AM	30.3	C
	PM	32.6	C

Table 11

Existing Segment Operations

Segment	Existing Roadway Classification	LOS C Capacity	Volume	LOS
Telegraph Canyon Road				
I-805 to Oleander Ave.	7-Ln Major Arterial	58,300	**64,100**	**F**
Oleander Ave. to Medical Center Dr.	6-Ln Prime Arterial	50,000	**60,000**	**E**
Medical Center Dr. to Paseo Ranchero/Heritage Rd.	6-Ln Prime Arterial	50,000	46,900	C
Paseo Ranchero/Heritage Rd. to Otay Lakes Rd.	6-Ln Prime Arterial	50,000	**50,500**	**D**
Otay Lakes Road				
North of Paseo Ranchero	4-Ln Major Arterial	30,000	21,200	A
La Media Rd. to Eastlake Pkwy.	6-Ln Prime Arterial	50,000	42,000	B
Eastlake Pkwy. to Lane Ave.	6-Ln Prime Arterial	50,000	17,200	A
E. Palomar Street				
I-805 to Oleander Ave.	4-Ln Major Arterial	30,000	7,000	A
Oleander Ave. to Medical Center Dr.	4-Ln Major Arterial	30,000	4,500	A
Medical Center Dr. to Heritage Rd.	4-Ln Major Arterial	30,000	11,200	A
Heritage Rd. to Olympic Pkwy.	Class I Collector	22,000	14,100	A
Olympic Parkway				
I-805 to Oleander Ave.	6-Ln Prime Arterial	50,000	38,900	C
Oleander Ave. to Medical Center Dr.	6-Ln Prime Arterial	50,000	32,700	A
Medical Center Dr. to Heritage Rd.	6-Ln Prime Arterial	50,000	25,400	A
Heritage Rd. to La Media Rd.	6-Ln Prime Arterial	50,000	20,500	A
La Media Rd. to E. Palomar St.	6-Ln Prime Arterial	50,000	11,500	A
E. Palomar St. to Eastlake Pkwy.	6-Ln Prime Arterial	50,000	9,500	A
Eastlake Pkwy. to Hunte Pkwy.	6-Ln Prime Arterial	50,000	8,500	A
Main Street				
I-805 SB Ramps to I-805 NB Ramps	4-Ln Major	30,000	26,300	B
I-805 NB Ramps to Oleander Ave.	6-Ln Prime Arterial	50,000	36,200	A
Oleander Ave. to Brandywine Ave.	6-Ln Prime Arterial	50,000	28,400	A
Brandywine Ave. to Maxwell Rd.	6-Ln Prime Arterial	50,000	17,200	A
Oleander Avenue				
Telegraph Canyon Rd. to E. Palomar St.	Class II Collector	12,000	5,600	A
E. Palomar St. to Olympic Pkwy.	Class II Collector	12,000	3,800	A
Olympic Pkwy. to Main St.	Class II Collector	12,000	2,700	A

Footnote:

Shading and Bold indicates LOS D, E or LOS F operations.

Table 11 (Continued)

Existing Segment Operations

Segment	Existing Roadway Classification	LOS C Capacity	Volume	LOS
Medical Center Drive				
Telegraph Canyon Rd. to E. Palomar St.	Class I Collector	22,000	13,080	A
BrandywineAvenue				
E. Palomar St. to Olympic Pkwy.	Class I Collector	22,000	8,200	A
Olympic Pkwy. to Main St.	Class I Collector	22,000	6,800	A
Paseo Ranchero				
North of Telegraph Canyon Rd.	Class I Collector	22,000	8,200	A
Paseo Ranchero/Heritage Road				
Telegraph Canyon Rd. to E. Palomar St.	6-Ln Prime Arterial	50,000	15,600	A
E. Palomar St. to Olympic Pkwy.	6-Ln Prime Arterial	50,000	11,300	A
La Media Road				
Telegraph Canyon Rd. to E. Palomar St.	6-Ln Prime Arterial	50,000	13,400	A
E. Palomar St. to Olympic Pkwy.	6-Ln Prime Arterial	50,000	8,200	A
Eastlake Parkway				
Fenton St. to Otay Lakes Rd.	4-Ln Major	30,000	8,400	A
Otay Lakes Rd. to Olympic Pkwy.	6-Ln Prime Arterial	50,000	20,700	A
Hunte Parkway				
Otay Lakes Rd. to Clubhouse Dr.	4-Ln Major	30,000	8,400	A
Clubhouse Dr. to Olympic Pkwy.	4-Ln Major	30,000	5,400	A

Footnote:

Shading and Bold indicates LOS D, E or LOS F operations

Table 12
Freeway Mainline Operations
Existing Conditions

Freeway Segment	Dir.	# of Lanes	Hourly Capacity[1]	Pk Hr Both Direc.		% D[3]	% D[3]	Pk Hr Vol (1-Dir)		V/C[4]		LOS	
				AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
East "H" St. to Telegraph Cnyn. Rd.	NB	4+1	10,600	17,130	18,483	0.53	0.44	9079	8133	0.856	0.767	D	C
	SB	4+1	10,600	17,130	18,483	0.47	0.56	8051	10350	0.760	0.976	C	E
Telegraph Cnyn. Rd. to Olympic Pkwy.	NB	4+1	10,600	12,635	13,634	0.53	0.44	6697	5999	0.632	0.566	C	B
	SB	4+1	10,600	12,635	13,634	0.47	0.56	5939	7635	0.560	0.720	B	C
Olympic Pkwy. to Main St.	NB	4+1	10,600	12,550	13,542	0.53	0.44	6652	5958	0.628	0.562	C	B
	SB	4+0	8,800	12,550	13,542	0.47	0.56	5899	7584	0.670	0.862	C	D
Main St. to Palm Ave.	N	4+1	10,600	12,466	13,451	0.53	0.44	6607	5918	0.623	0.558	C	
	SB	4+1	10,600	12,466	13,451	0.47	0.56	5859	7532	0.553	0.711	B	C

Notes:
1. Capacity calculated at 2200 Pk hr volume per mainline lane and 1,800 per aux lane (I.e. 4+1 = 4 Mainline + 1 Aux Lane = hourly capacity of 10,600)
2. Peak Hour 2 Directional Volumes from CALTRANS - Year 2002 volumes - See Appendix
3. Direction Split (D) from CALTRANS - See Appendix
4. V/C = Peak Hour Volume/Peak Hour Capacity with LOS by ratio shown to the right =>

LOS	v/c
A	<0.41
B	0.62
C	0.8
D	0.92
E	1
F(0)	1.25
F(1)	1.35
F(2)	1.45
F(3)	>1.46

Table 13
Trip Generation
Proposed Project

Land Use	Quantity	Daily Trip Ends (ADT)		AM PeakHour					PM PeakHour				
				% of ADT	In:Out Split	Volume			% of ADT	In:Out Split	Volume		
		Rate	Volume			In	Out	Total			In	Out	Total
Village 2													
Residential													
Single Family	986 DU	10 /DU	9,860	8%	3:7	237	552	789	10%	7:3	690	296	986
Multi Family	1,740 DU	8 /DU	13,920	8%	2:8	223	891	1,114	10%	7:3	974	418	1,392
Mixed-Use Multi family	60 DU	8 /DU	480	8%	2:8	8	30	38	10%	7:3	34	14	48
Subtotal Residential			*24,260*			*467*	*1,473*	*1,940*			*1,698*	*728*	*2,426*
Nonresidential													
Commercial	11.9 Acres	700 /Acre	8,330	4%	6:4	200	133	333	10%	5:5	417	416	833
Neighborhood Park	15.4 Acres	5 /Acre	77	4%	5:5	2	2	4	8%	5:5	3	3	6
Community Park	44.2 Acres	50 /Acre	2,210	13%	5:5	144	143	287	9%	5:5	99	100	199
Community Purpose Facility	6.1 Acres	30 /Acre	183	5%	6:4	5	4	9	8%	5:5	7	8	15
School	10.3 Acres	90 /Acre	927	32%	6:4	178	119	297	9%	4:6	33	50	83
Industrial	87.9 Acres	120 /Acre	10,548	14%	8:2	1,181	296	1,477	15%	3:7	476	1,106	1,582
Subtotal Nonresidential			*22,275*			*1,710*	*697*	*2,407*			*1,036*	*1,683*	*2,719*
Subtotal Village 2			**46,535**			**2,177**	**2,170**	**4,347**			**2,734**	**2,411**	**5,145**
Village 3 & Planning Area 18B													
Industrial	175.5 Acres	120 /Acre	21,060	14%	8:2	2,359	589	2,948	15%	3:7	948	2,211	3,159
Community Purpose Facility	10.2 Acres	30 /Acre	306	4%	5:5	7	5	12	8%	5:5	12	12	24
Subtotal Village 2 & PA 18B			**21,366**			**2,366**	**594**	**2,960**			**960**	**2,223**	**3,183**
Total Proposed Project			**67,901**			**4,544**	**2,764**	**7,308**			**3,693**	**4,634**	**8,327**

Notes:
1. Generation rates obtained from the SANDAG Brief Guide (April 2002).
2. Trip-ends are one-way traffic movements, either entering or leaving.

Table 14
Trip Generation
Analyzed (Worst Case) Project

Land Use	Quantity	Daily Trip Ends (ADT)		AM PeakHour					PM PeakHour				
				% of ADT	In:Out Split	Volume			% of ADT	In:Out Split	Volume		
		Rate	Volume			In	Out	Total			In	Out	Total
Village 2													
Residential													
Single Family	994 DU	10 /DU	9,940	8%	3:7	239	556	795	10%	7:3	696	298	994
Multi Family	1,701 DU	8 /DU	13,608	8%	2:8	218	871	1,089	10%	7:3	953	408	1,361
Subtotal Residential			*23,548*			*457*	*1,427*	*1,884*			*1,649*	*706*	*2,355*
Nonresidential													
Commercial	20.7 Acres	700 /Acre	14,490	4%	6:4	348	232	580	10%	5:5	725	724	1,449
Neighborhood Park	15.1 Acres	5 /Acre	76	4%	5:5	2	2	4	8%	5:5	3	3	6
Community Park	70 Acres	50 /Acre	3,500	13%	5:5	228	227	455	9%	5:5	158	157	315
Community Purpose Facility	3.9 Acres	30 /Acre	117	5%	6:4	4	2	6	8%	5:5	5	4	9
School	10.2 Acres	90 /Acre	918	32%	6:4	176	118	294	9%	4:6	33	50	83
Industrial	84.6 Acres	120 /Acre	10,152	14%	8:2	1,137	284	1,421	15%	3:7	457	1,066	1,523
Subtotal Nonresidential			*29,253*			*1,895*	*865*	*2,760*			*1,381*	*2,004*	*3,385*
Subtotal Village 2			**52,801**			**2,352**	**2,872**	**5,224**			**3,030**	**2,710**	**5,740**
Village 3 & Planning Area 18B													
Industrial	171.0 Acres	120 /Acre	20,520	14%	8:2	2,298	575	2,873	15%	3:7	923	2,155	3,078
Community Purpose Facility	7.5 Acres	30 /Acre	225	4%	5:5	5	5	10	8%	5:5	9	9	18
Subtotal Village 2 & PA 18B			**20,745**			**2,303**	**580**	**2,883**			**932**	**2,164**	**3,096**
TOTAL ALTERNATIVE "B"			**73,546**			**4,655**	**3,452**	**8,107**			**3,962**	**4,874**	**8,836**

Notes:
1. Generation rates obtained from the SANDAG Brief Guide (April 2002).
2. Trip-ends are one-way traffic movements, either entering or leaving.

Table 14A

Comparison of Proposed Project and Analyzed (Worst Case) Project Trip Generation

Land Use	Residential Units			Industrial Acreage	Daily Trip Ends (ADT)	AM PeakHour			PM PeakHour		
	Single Family	Multi Family	Total			In	Out	Total	In	Out	Total
Proposed Project	986 DU	1,800 DU	2,786 DU	263.4 Acres	67,901	4,544	2,764	7,308	3,693	4,634	8,327
Analyzed (Worst Case) Project	994 DU	1,701 DU	2,695 DU	255.6 Acres	73,546	4,655	2,873	7,528	3,962	4,874	8,836
Analyzed (Worst Case) Project (-) Proposed Project											
Amount	8 DU	(99) DU	DU	(7.8) Acres	5,645	111	109	220	269	241	510
Percentages	1%	-6%	-3%	-3%	8%			3%			6%

Table 15
Internal Trips
Proposed Project

Land Use	Total Trips			% of Trips Which Are Internal	Internal Trips			External Trips		
	Daily	AM	PM		Daily	AM	PM	Daily	AM	PM
RESIDENTIAL										
Single Family	9,860	789	986	15%	1,479	118	148	8,381	671	838
Multi Family	14,400	1,152	1,440	15%	2,160	173	216	12,240	979	1,224
Subtotal Residential	**24,260**	**1,941**	**2,426**		**3,639**	**291**	**364**	**20,621**	**1,650**	**2,062**
NON-RESIDENTIAL										
Commercial	8,330	333	833	31%	2,582	94	300	5,748	239	533
Neighborhood Park	77	4	6	62%	48	2	4	29	2	2
Community Park	2,210	287	199	20%	442	17	20	1,768	270	179
Community Purpose Facility	489	21	39	25%	122	5	10	367	16	29
School	927	297	83	48%	445	172	30	482	125	53
Industrial	31,608	4,425	4,741	0%	-	-	-	31,608	2,874	3,080
Preserve [1]	-									
Subtotal Non-Residential	**43,641**	**5,367**	**5,901**		**3,639**	**291**	**364**	**40,002**	**3,525**	**3,876**
TOTAL PROJECT	**67,901**	**7,308**	**8,327**		**7,278**	**582**	**728**	**60,623**	**5,175**	**5,938**

Table 16
Internal Trips
Analyzed (Worst Case) Project

Land Use	Total Trips			% of Trips Which Are Internal	Internal Trips			External Trips		
	Daily	AM	PM		Daily	AM	PM	Daily	AM	PM
RESIDENTIAL										
Single Family	9,940	795	994	15%	1,491	119	149	8,449	676	845
Multi Family	13,608	1,089	1,361	15%	2,041	163	204	11,567	926	1,157
Subtotal Residential	**23,548**	**1,884**	**2,355**		**3,532**	**283**	**353**	**20,016**	**1,601**	**2,002**
NON-RESIDENTIAL										
Commercial	14,490	580	1,449	15%	2,174	100	240	12,317	480	1,209
Neighborhood Park	76	4	6	66%	50	3	4	26	1	2
Community Park	3,500	56	112	22%	770	30	62	2,730	26	50
Community Purpose Facility	342	16	27	50%	171	8	14	171	8	14
School	918	294	83	40%	367	142	34	551	152	49
Industrial	30,672	4,294	4,601	0%	-	-	-	30,672	4,294	4,601
Preserve [1]	-									
Subtotal Non-Residential	**49,998**	**5,244**	**6,278**		**3,532**	**283**	**353**	**46,466**	**4,961**	**5,925**
TOTAL PROJECT	**73,546**	**7,128**	**8,633**		**7,064**	**565**	**707**	**66,482**	**6,563**	**7,926**

Table 17
Project Phasing
Proposed Project

Land Use	Quantity	Daily Trip Ends (ADT)		AM PeakHour					PM PeakHour				
				% of ADT	In:Out Split	Volume			% of ADT	In:Out Split	Volume		
		Rate	Volume			In	Out	Total			In	Out	Total
YEAR 2005													
Single Family	340 DU	10 /DU	3,400	8%	3:7	82	190	272	10%	7:3	238	102	340
Multi Family	100 DU	8 /DU	800	8%	2:8	13	51	64	10%	7:3	56	24	80
SUBTOTAL YEAR 2005			**4,200**			**94**	**242**	**336**			**294**	**126**	**420**
Year 2010													
Single Family	986 DU	10 /DU	9,860	8%	3:7	237	552	789	10%	7:3	690	296	986
Multi Family	1,587 DU	8 /DU	12,696	8%	2:8	203	813	1,016	10%	7:3	889	381	1,270
Commercial	11.9 Acres	700 /Acre	8,330	4%	6:4	200	133	333	10%	5:5	417	417	833
Community Park	44.2 Acres	50 /Acre	2,210	13%	5:5	144	143	287	9%	5:5	99	100	199
Neighborhood Park	14.9 Acres	5 /Acre	75	4%	5:5	1	1	3	8%	5:5	3	3	6
Community Purpose Facility	5.5 Acres	30 /Acre	165	5%	6:4	5	3	8	8%	5:5	5	5	10
School	10.3 Acres	90 /Acre	927	32%	6:4	178	119	297	9%	4:6	33	50	83
Industrial	40 Acres	120 /Acre	4,800	14%	8:2	538	134	672	15%	3:7	216	504	720
SUBTOTAL YEAR 2010			**39,063**			**1,505**	**1,899**	**3,404**			**2,352**	**1,755**	**4,107**
Year 2015													
Single Family	986 DU	10 /DU	9,860	8%	3:7	237	552	789	10%	7:3	690	296	986
Multi Family	1,740 DU	8 /DU	13,920	8%	2:8	223	891	1,114	10%	7:3	974	418	1,392
Commercial	11.9 Acres	700 /Acre	8,330	4%	6:4	200	133	333	10%	5:5	417	417	833
Community Park	44.2 Acres	50 /Acre	2,210	13%	5:5	144	143	287	9%	5:5	99	100	199
Neighborhood Park	15.4 Acres	5 /Acre	77	4%	5:5	2	2	3	8%	5:5	3	3	6
Community Purpose Facility	16.3 Acres	30 /Acre	489	5%	6:4	15	10	24	8%	5:5	5	5	10
School	10.3 Acres	90 /Acre	927	32%	6:4	178	119	297	9%	4:6	33	50	83
Industrial	92.2 Acres	120 /Acre	11,064	14%	8:2	1,239	310	1,549	15%	3:7	498	1,162	1,660
SUBTOTAL YEAR 2015			**46,877**			**2,236**	**2,159**	**4,395**			**2,720**	**2,450**	**5,170**
Year 2030													
Single Family	986 DU	10 /DU	9,860	8%	3:7	237	552	789	10%	7:3	690	296	986
Multi Family	1,800 DU	8 /DU	14,400	8%	2:8	230	922	1,152	10%	7:3	1,008	432	1,440
Commercial	11.9 Acres	700 /Acre	8,330	4%	6:4	200	133	333	10%	5:5	417	417	833
Community Park	44.2 Acres	50 /Acre	2,210	13%	5:5	144	143	287	9%	5:5	99	100	199
Neighborhood Park	15.4 Acres	5 /Acre	77	4%	5:5	2	2	3	8%	5:5	3	3	6
Community Purpose Facility	16.3 Acres	30 /Acre	489	5%	6:4	15	10	24	8%	5:5	20	20	39
School	10.3 Acres	90 /Acre	927	32%	6:4	178	119	297	9%	4:6	33	50	83
Industrial	263.4 Acres	120 /Acre	31,608	14%	8:2	3,540	885	4,425	15%	3:7	1,422	3,319	4,741
SUBTOTAL YEAR 2030			**67,901**			**4,545**	**2,765**	**7,310**			**3,693**	**4,636**	**8,328**

Table 17A
Project Phasing
Analyzed (Worst Case) Project

Land Use	Quantity	Daily Trip Ends (ADT)		AM PeakHour					PM PeakHour				
				% of ADT	In:Out Split	Volume			% of ADT	In:Out Split	Volume		
		Rate	Volume			In	Out	Total			In	Out	Total
Year 2005													
Single Family	340 DU	10 /DU	3,400	8%	3:7	82	190	272	10%	7:3	238	102	340
Multi Family	100 DU	8 /DU	800	8%	2:8	13	51	64	10%	7:3	56	24	80
Subtotal Year 2005			**4,200**			**94**	**242**	**336**			**294**	**126**	**420**
Year 2010													
Single Family	994 DU	10 /DU	9,940	8%	3:7	239	557	795	10%	7:3	696	298	994
Multi Family	1,587 DU	8 /DU	12,696	8%	2:8	203	813	1,016	10%	7:3	889	381	1,270
Commercial	20.7 Acres	700 /Acre	14,490	4%	6:4	348	232	580	10%	5:5	725	725	1,449
Community Park	70.0 Acres	50 /Acre	3,500	13%	5:5	228	227	455	9%	5:5	158	157	315
Neighborhood Park	15.1 Acres	5 /Acre	76	4%	5:5	2	2	3	8%	5:5	3	3	6
Community Purpose Facility	11.4 Acres	30 /Acre	342	5%	6:4	10	7	17	8%	5:5	5	5	10
School	10.2 Acres	90 /Acre	918	32%	6:4	176	118	294	9%	4:6	33	50	83
Industrial	40 Acres	120 /Acre	4,800	14%	8:2	538	134	672	15%	3:7	216	504	720
Subtotal Year 2010			**46,762**			**1,743**	**2,088**	**3,831**			**2,724**	**2,122**	**4,846**
Year 2015													
Single Family	994 DU	10 /DU	9,940	8%	3:7	239	557	795	10%	7:3	696	298	994
Multi Family	1,701 DU	8 /DU	13,608	8%	2:8	218	871	1,089	10%	7:3	953	408	1,361
Commercial	20.7 Acres	700 /Acre	14,490	4%	6:4	348	232	580	10%	5:5	725	725	1,449
Community Park	70.0 Acres	50 /Acre	3,500	13%	5:5	228	227	455	9%	5:5	158	157	315
Neighborhood Park	15.1 Acres	5 /Acre	76	4%	5:5	2	2	3	8%	5:5	3	3	6
Community Purpose Facility	11.4 Acres	30 /Acre	342	5%	6:4	10	7	17	8%	5:5	5	5	10
School	10.2 Acres	90 /Acre	918	32%	6:4	176	118	294	9%	4:6	33	50	83
Industrial	92.2 Acres	120 /Acre	11,064	14%	8:2	1,239	310	1,549	15%	3:7	498	1,162	1,660
Subtotal Year 2015			**53,938**			**2,459**	**2,322**	**4,781**			**3,069**	**2,807**	**5,877**
Year 2030													
Single Family	994 DU	10 /DU	9,940	8%	3:7	239	557	795	10%	7:3	696	298	994
Multi Family	1,701 DU	8 /DU	13,608	8%	2:8	218	871	1,089	10%	7:3	953	408	1,361
Commercial	20.7 Acres	700 /Acre	14,490	4%	6:4	348	232	580	10%	5:5	725	725	1,449
Community Park	70.0 Acres	50 /Acre	3,500	13%	5:5	228	227	455	9%	5:5	158	157	315
Neighborhood Park	15.1 Acres	5 /Acre	76	4%	5:5	2	2	3	8%	5:5	3	3	6
Community Purpose Facility	11.4 Acres	30 /Acre	342	5%	6:4	10	7	17	8%	5:5	14	14	27
School	10.2 Acres	90 /Acre	918	32%	6:4	176	118	294	9%	4:6	33	50	83
Industrial	255.6 Acres	120 /Acre	30,672	14%	8:2	3,435	859	4,294	15%	3:7	1,380	3,221	4,601
Subtotal Year 2030			**73,546**			**4,655**	**2,871**	**7,526**			**3,960**	**4,875**	**8,835**

TABLE 18
EXISTING + PROPOSED PROJECT [1]
PEAK HOUR INTERSECTION OPERATIONS

Intersection	Peak Hour	Existing		Existing + Project	
		Delay	LOS	Delay	LOS
1. Telegraph Cnyn. Rd./I-805 SB Ramps	AM	27.9	C	32.6	C
	PM	68.0	E	>100.0	F
2. Telegraph Cnyn. Rd./I-805 NB Ramps	AM	32.2	C	33.3	C
	PM	24.5	C	25.4	C
3. Telegraph Cnyn. Rd./Oleander Ave.	AM	15.8	B	15.8	B
	PM	20.0	B	21.9	C
4. Telegraph Cnyn. Rd./Medical Center Dr.	AM	15.4	B	16.1	B
	PM	18.2	B	20.0	C
5. Telegraph Cnyn. Rd./Paseo Ranchero/Heritage Rd.	AM	25.5	C	31.6	C
	PM	25.7	C	32.6	C
6. Telegraph Cnyn. Rd./Otay Lakes Rd./La Media Rd.	AM	35.9	D	38.2	D
	PM	36.9	D	41.0	D
9. Otay Lakes Rd./Eastlake Pkwy.	AM	32.5	C	33.7	C
	PM	30.9	C	31.2	C
10. Otay Lakes Rd./Hunte Pkwy.	AM	33.8	C	34.2	C
	PM	33.1	C	34.7	C
11. Palomar St./Oleander Ave.	AM	10.2	B	31.9	C
	PM	9.8	A	28.4	C
12. Palomar St./Brandywine Ave.	AM	33.1	C	33.3	C
	PM	37.5	D	37.6	D
13. Palomar St./Heritage Rd.	AM	32.9	C	39.7	D
	PM	32.7	C	33.0	C
14. Palomar St./La Media Rd.	AM	39.0	C	37.7	D
	PM	37.8	D	38.9	D
15. Olympic Pkwy./I-805 SB Ramps	AM	29.9	C	>100.0	F
	PM	66.3	E	>100.0	F

TABLE 18 (CONTINUED)
EXISTING + PROPOSED PROJECT [1]
PEAK HOUR INTERSECTION OPERATIONS

Intersection	Peak Hour	Existing		Existing + Project	
		Delay	LOS	Delay	LOS
16. Olympic Pkwy./I-805 NB Ramps	AM	71.0	E	>100.0	F
	PM	45.5	D	>100.0	F
17. Olympic Pkwy./Oleander Ave.	AM	26.7	C	35.8	D
	PM	22.7	C	66.2	E
18. Olympic Pkwy./Brandywine Ave.	AM	38.3	D	75.7	F
	PM	36.1	D	67.8	E
19. Olympic Pkwy./Heritage Rd.	AM	25.2	C	129.0	F
	PM	33.9	C	82.1	F
20. Olympic Pkwy./La Media Rd.	AM	29.3	C	41.0	D
	PM	27.8	C	38.7	D
21. Olympic Pkwy./Palomar St.	AM	23.7	C	27.8	C
	PM	20.2	C	23.9	C
24. Olympic Pkwy./Eastlake Pkwy.	AM	26.3	C	27.8	C
	PM	25.3	C	27.9	C
25. Olympic Pkwy./Hunte Pkwy.	AM	33.7	C	35.3	D
	PM	29.9	C	33.2	C
26. Main St./I-805 SB Ramps	AM	24.6	C	27.0	C
	PM	30.2	C	34.4	C
27. Main St./I-805 NB Ramps	AM	21.4	C	21.6	C
	PM	23.4	C	25.3	C
28. Main St./Oleander Ave.	AM	9.8	A	11.0	B
	PM	7.1	A	7.5	A
29. Main St./Brandywine Ave.	AM	30.3	C	31.0	C
	PM	32.6	C	33.1	C
30. Heritage Rd./Street "D"	AM	[2]	[2]	86.0	F
	PM	[2]	[2]	>100.0	F

TABLE 18 (CONTINUED)
EXISTING + PROPOSED PROJECT [1]
PEAK HOUR INTERSECTION OPERATIONS

Intersection	Peak Hour	Existing		Existing + Project	
		Delay	LOS	Delay	LOS
31. La Media Rd /Birch Rd.	AM	[2]	[2]	21.1	C
	PM	[2]	[2]	43.0	D
44. Olympic Pkwy./Street"D"	AM	[2]	[2]	4.9	A
	PM	[2]	[2]	4.4	A
45. Heritage Rd./Street"J" North	AM	[2]	[2]	45.1	D
	PM	[2]	[2]	**117.5**	**F**
44. Olympic Pkwy./Street"A"	AM	[2]	[2]	12.2	B
	PM	[2]	[2]	14.1	B

Footnotes:

1. Since Assumed Project and the Proposed Project generate very similar amounts of traffic and Assumed Project slightly more peak hour traffic, Assumed Project was specifically analyzed in this report. Impacts associated with Assumed Project would also apply to the Proposed Project.
2. Intersection does not exist currently.
3. Bold and shading indicate LOS E or LOS F operations.

Table 19
Existing + Proposed Project [1]
Segment Operations

Segment	Existing Roadway Classification	LOS C Capacity	Existing		Existing + Project	
			Volume	LOS	Volume	LOS
Telegraph Canyon Road						
I-805 to Oleander Ave.	7-Ln Major Arterial	58,300	64,100	F	65,800	E
Oleander Ave. to Medical Center Dr.	6-Ln Prime Arterial	50,000	60,000	E	61,700	E
Medical Center Dr. to Paseo Ranchero/Heritage Rd.	6-Ln Prime Arterial	50,000	46,900	C	49,150	C
Paseo Ranchero/Heritage Rd. to Otay Lakes Rd.	6-Ln Prime Arterial	50,000	50,500	D	52,750	D
Otay Lakes Road						
North of Paseo Ranchero	4-Ln Major Arterial	30,000	21,200	A	24,550	B
La Media Rd. to Eastlake Pkwy.	6-Ln Prime Arterial	50,000	42,000	B	42,000	B
Eastlake Pkwy. to Lane Ave.	6-Ln Prime Arterial	50,000	17,200	A	18,325	A
E. Palomar Street						
I-805 to Oleander Ave.	4-Ln Major Arterial	30,000	7,000	A	7,550	A
Oleander Ave. to Medical Center Dr.	4-Ln Major Arterial	30,000	4,500	A	5,050	A
Medical Center Dr. to Heritage Rd.	4-Ln Major Arterial	30,000	11,200	A	13,450	A
Heritage Rd. to Olympic Pkwy.	Class I Collector	30,000	14,100	A	15,800	A
Olympic Parkway						
I-805 to Oleander Ave.	6-Ln Prime Arterial	50,000	38,900	C	55,300	D
Oleander Ave. to Medical Center Dr.	6-Ln Prime Arterial	50,000	32,700	A	49,650	C
Medical Center Dr. to Heritage Rd.	6-Ln Prime Arterial	50,000	25,400	A	45,160	C
Heritage Rd. to La Media Rd.	6-Ln Prime Arterial	50,000	20,500	A	21,500	A
La Media Rd. to E. Palomar St.	6-Ln Prime Arterial	50,000	11,500	A	17,700	A
E. Palomar St. to Eastlake Pkwy.	6-Ln Prime Arterial	50,000	9,500	A	14,000	A
Eastlake Pkwy. to Hunte Pkwy.	6-Ln Prime Arterial	50,000	8,500	A	9,625	A
Main Street						
I-805 SB Ramps to I-805 NB Ramps	4-Ln Major	30,000	26,300	B	26,850	C
I-805 NB Ramps to Oleander Ave.	6-Ln Prime Arterial	50,000	36,200	A	36,750	A
Oleander Ave. to Brandywine Ave.	6-Ln Prime Arterial	50,000	28,400	A	28,950	A
Brandywine Ave. to Maxwell Rd.	6-Ln Prime Arterial	50,000	17,200	A	18,330	A

Footnotes:

1 Since the Assumed Project and the Proposed Project generate very similar amounts of traffic and Assumed Project slightly more peak hour traffic, Assumed Project was specifically analyzed in this report. Impacts associated with Assumed Project would also apply to the Proposed Project.To be widened to 4 through lanes in the westbound direction

2 To be widened to 4 through lanes in the westbound direction.

3 Segment does not currently exist.

4 Bold and shading indicate LOS E or LOS F operations

Table 19 (Continued)
Existing + Proposed Project [1]
Segment Operations

Segment	Existing Roadway Classification	LOS C Capacity	Existing		Existing + Project	
			Volume	LOS	Volume	LOS
Birch Road						
La Media Rd. to Eastlake Pkwy.	6-Ln Major Arterial	40,000	[3]	[3]	6,830	A
Oleander Avenue						
Telegraph Canyon Rd. to E. Palomar St.	Class II Collector	12,000	5,600	A	5,600	A
E. Palomar St. to Olympic Pkwy.	Class II Collector	12,000	3,800	A	3,800	A
Olympic Pkwy. to Main St.	Class II Collector	12,000	2,700	A	3,250	A
Medical Center Drive						
Telegraph Canyon Rd. to E. Palomar St.	Class I Collector	22,000	13,080	A	13,630	A
BrandywineAvenue						
E. Palomar St. to Olympic Pkwy	Class I Collector	22,000	8,200	A	8,750	A
Olympic Pkwy. to Main St.	Class I Collector	22,000	6,800	A	9,050	A
Paseo Ranchero						
North of Telegraph Canyon Rd.	Class I Collector	22,000	8,200	A	10,500	A
Paseo Ranchero/Heritage Road						
Telegraph Canyon Rd. to E. Palomar St.	6-Ln Prime Arterial	50,000	15,600	A	22,400	A
E. Palomar St. to Olympic Pkwy.	6-Ln Prime Arterial	50,000	11,300	A	22,000	A
South of Olympic Pkwy.	6-Ln Prime Arterial	50,000	[3]	[3]	39,603	B
La Media Road						
Telegraph Canyon Rd. to E. Palomar St.	6-Ln Prime Arterial	50,000	13,400	A	22,400	A
E. Palomar St. to Olympic Pkwy.	6-Ln Prime Arterial	50,000	8,200	A	20,600	A
South of Olympic Pkwy.	6-Ln Prime Arterial	50,000	[3]	[3]	9,100	A
Eastlake Parkway						
Fenton St. to Otay Lakes Rd.	4-Ln Major	30,000	8,400	A	8,950	A
Otay Lakes Rd. to Olympic Pkwy.	6-Ln Prime Arterial	50,000	20,700	A	22,400	A
Olympic Pkwy. to Birch Rd.	6-Ln Prime Arterial	50,000	[3]	[3]	570	A
Hunte Parkway						
Otay Lakes Rd. to Olympic Pkwy.	4-Ln Major	30,000	8,400	A	8,400	A
Olympic Pkwy. to Eastlake Pkwy.	4-Ln Major	30,000	5,400	A	5,950	A

Footnotes:

[1] Since the Assumed Project and the Proposed Project generate very similar amounts of traffic and Assumed Project slightly more peak hour traffic, Assumed Project was specifically analyzed in this report Impacts associated with Assumed Project would also apply to the Proposed Project.

[3] Segment does not currently exist

Table 20
Freeway Mainline Operations
Existing + Project Conditions

Existing

Freeway Segment	Dir.	# of Lanes	Hourly Capacity[1]	Pk Hr Both Direc.		% D[3]	% D[3]	Pk Hr Vol (1-Dir)		V/C[4]		LOS	
				AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
East "H" St. to Telegraph Cnyn. Rd.	NB	4+1	10,600	17,130	18,483	0.53	0.44	9079	8133	0.856	0.767	D	C
	SB	4+1	10,600	17,130	18,483	0.47	0.56	8051	10350	0.760	0.976	C	E
Telegraph Cnyn. Rd. to Olympic Pkwy.	NB	4+1	10,600	12,635	13,634	0.53	0.44	6697	5999	0.632	0.566	C	B
	SB	4+1	10,600	12,635	13,634	0.47	0.56	5939	7635	0.560	0.720	B	C
Olympic Pkwy. to Main St.	NB	4+1	10,600	12,550	13,542	0.53	0.44	6652	5958	0.628	0.562	C	B
	SB	4+0	8,800	12,550	13,542	0.47	0.56	5899	7584	0.670	0.862	C	D
Main St. to Palm Ave.	N	4+1	10.600	12.466	13.451	0.53	0.44	6607	5918	0.623	0.558	C	
	SB	4+1	10,600	12,466	13,451	0.47	0.56	5859	7532	0.553	0.711	B	C

Existing + Project

Freeway Segment	Dir.	# of Lanes	Hourly Capacity[1]	Pk Hr Both Direc.		Project Vol		Pk Hr Vol (E+P)		V/C (E+P)		LOS (E+P)		V/C Delta	
				AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
East "H" St. to Telegraph Cnyn. Rd.	NB	4+1	10,600	9079	8133	488	875	9567	9008	0.903	0.850	D	D	0.046	0.083
	SB	4+1	10,600	8051	10350	824	710	8875	11060	0.837	1.043	D	F(0)	0.078	0.067
Telegraph Cnyn. Rd. to Olympic Pkwy.	NB	4+1	10,600	6697	5999	440	788	7137	6787	0.673	0.640	C	C	0.042	0.074
	SB	4+1	10,600	5939	7635	741	639	6680	8274	0.630	0.781	C	C	0.070	0.060
Olympic Pkwy. to Main St.	NB	4+1	10,600	6652	5958	147	263	6799	6221	0.641	0.587	C	B	0.014	0.025
	SB	4+0	8,800	5899	7584	247	213	6146	7797	0.698	0.886	C	D	0.028	0.024
Main St. to Palm Ave.	NB	4+1	10,600	6607	5918	122	219	6729	6137	0.635	0.579	C	B	0.012	0.021
	SB	4+1	10,600	5859	7532	206	177	6065	7709	0.572	0.727	B	C	0.019	0.017

Footnotes:

1. Capacity calculated at 2200 Pk hr volume per mainline lane and 1,800 per aux lane (I.e. 4+1 = 4 Mainline + 1 Aux Lane = hourly capacity of 10,600)
2. Peak Hour 2 Directional Volumes from CALTRANS - Year 2002 volumes - See Appendix
3. Direction Split (D) from CALTRANS - See Appendix
4. V/C = Peak Hour Volume/Peak Hour Capacity with LOS by ratio shown to the right =>

LOS	v/c
A	<0.41
B	0.62
C	0.8
D	0.92
E	1
F(0)	1.25
F(1)	1.35
F(2)	1.45
F(3)	>1.46

TABLE 21
PEAK HOUR INTERSECTION OPERATIONS
SCENARIOS 1 THROUGH 7

Intersection	Peak Hour	Scenario 1 (2005)		Scenario 2 (2010)		Scenario 3 (2015)		Scenario 4 (2030)		Scenario 5 (2030 Adopted Land Use)		Scenario 6 (Buildout)		Scenario 7 (Buildout Adopted Land Use)	
		Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1. Telegraph Cnyn. Rd./I-805 SB Ramps	AM	26.4	C	26.2	C	28.3	C	27.5	C	25.3	C	26.2	C	25.8	C
	PM	32.4	C	38.5	D	35.3	D	47.7	D	34.8	C	40.8	D	29.2	C
2. Telegraph Cnyn. Rd./I-805 NB Ramps	AM	22.2	C	28.2	C	22.5	C	24.8	C	20.9	C	20.7	C	19.4	B
	PM	18.2	B	28.3	C	19.7	B	21.2	C	16.9	B	18.6	B	17.4	B
3. Telegraph Cnyn. Rd./Oleander Ave.	AM	21.9	C	20.9	C	20.3	C	27.9	C	24.8	C	26.0	C	24.4	C
	PM	26.3	C	25.7	C	22.6	C	37.0	D	26.2	C	30.8	C	26.0	C
4. Telegraph Cnyn. Rd./Medical Center Dr.	AM	18.9	B	17.3	B	16.5	B	15.4	B	14.2	B	16.4	B	14.1	B
	PM	20.1	C	19.2	B	21.1	C	19.7	B	16.3	B	19.1	B	16.5	B
5. Telegraph Cnyn. Rd./Paseo Ranchero/ Heritage Rd.	AM	37.7	C	32.6	C	33.8	C	34.1	C	33.3	C	34.9	C	34.3	C
	PM	34.9	C	36.1	D	38.9	D	39.7	D	38.7	D	39.7	D	39.1	D
6. Telegraph Cnyn. Rd./Otay Lakes Rd./ La Media Rd.	AM	35.9	D	31.6	C	29.6	C	28.9	C	29.1	C	28.1	C	28.8	C
	PM	38.8	D	36.1	D	33.0	C	32.2	C	32.2	C	31.6	C	32.5	C
7. Otay Lakes Rd./SR 125 SB Ramps	AM	'	'	20.8	C	23.7	C	25.8	C	25.6	C	31.8	C	38.2	D
	PM	'	'	20.6	C	22.3	C	28.4	C	28.7	C	48.5	D	36.9	C
8. Otay Lakes Rd./ SR 125 NB Ramps	AM	'	'	15.6	B	21.7	C	28.6	C	25.2	C	32.8	C	23.8	C
	PM	'	'	49.1	D	44.5	D	45.1	D	23.7	C	50.4	D	38.2	D
9. Otay Lakes Rd./Eastlake Pkwy.	AM	39.9	D	52.3	D	39.4	D	45.0	D	39.3	D	53.6	D	45.4	D
	PM	34.9	C	34.9	C	40.4	D	48.7	D	44.7	D	48.8	D	41.3	D

Footnotes:
1. Intersection does not exist in that scenario.
2. Bold indicates LOS E or LOS F conditions.

TABLE 21 (CONTINUED)
PEAK HOUR INTERSECTION OPERATIONS
SCENARIOS 1 THROUGH 7

Intersection	Peak Hour	Scenario 1 (2005)		Scenario 2 (2010)		Scenario 3 (2015)		Scenario 4 (2030)		Scenario 5 (2030 Adopted Land Use)		Scenario 6 (Buildout)		Scenario 7 (Buildout Adopted Land Use)	
		Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
10. Otay Lakes Rd./Hunte Pkwy.	AM	34.4	C	36.8	D	40.3	D	40.8	D	40.6	D	42.1	D	43.9	D
	PM	27.7	C	28.0	C	28.9	C	29.7	C	29.1	C	30.3	C	30.7	C
11. Palomar St./Oleander Ave.	AM	11.4	B	12.0	B	10.0	A	33.1	C	28.7	C	33.1	C	28.1	C
	PM	12.0	B	12.9	B	9.6	A	20.8	C	19.4	B	21.1	C	19.7	B
12. Palomar St./Brandywine Ave.	AM	44.5	D	49.0	D	32.4	C	31.7	C	39.3	D	32.0	C	38.9	D
	PM	50.0	D	46.0	D	37.1	D	36.7	D	41.9	D	36.7	D	40.5	D
13. Palomar St./Heritage Rd.	AM	29.4	C	27.7	C	23.9	C	23.9	C	24.5	C	24.4	C	24.5	C
	PM	41.5	D	35.8	D	33.5	C	33.5	C	34.0	C	34.0	C	34.2	C
14. Palomar St./La Media Rd.	AM	33.9	C	32.7	C	32.4	C	32.3	C	30.8	C	32.7	C	31.0	C
	PM	48.4	D	50.3	D	40.0	D	38.5	D	39.1	D	39.9	D	41.0	D
15. Olympic Pkwy./I-805 SB Ramps	AM	28.4	C	30.5	C	45.5	D	45.5	D	34.5	C	29.3	C	27.4	C
	PM	49.8	D	53.0	D	54.6	D	53.9	D	44.7	D	48.6	D	50.4	D
16. Olympic Pkwy./I-805 NB Ramps	AM	39.1	D	45.6	D	49.9	D	49.2	D	40.8	D	32.4	C	34.3	C
	PM	27.5	C	28.5	C	30.5	C	35.5	D	36.8	D	27.1	C	27.9	C
17. Olympic Pkwy./Oleander Ave.	AM	26.9	C	28.1	C	37.1	D	35.0	D	28.1	C	36.8	D	33.7	C
	PM	22.6	C	23.9	C	29.5	C	29.5	C	24.0	C	30.8	C	27.4	C
18. Olympic Pkwy./Brandywine Ave.	AM	54.0	D	39.7	D	36.3	D	39.5	D	53.4	D	37.1	D	37.2	D
	PM	40.1	D	41.7	D	32.9	C	34.1	C	52.4	D	34.5	C	34.8	C

Footnotes:
1. Intersection does not exist in that scenario.
2. Bold indicates LOS E or LOS F conditions.

TABLE 21 (CONTINUED)
PEAK HOUR INTERSECTION OPERATIONS
SCENARIOS 1 THROUGH 7

Intersection	Peak Hour	Scenario 1 (2005)		Scenario 2 (2010)		Scenario 3 (2015)		Scenario 4 (2030)		Scenario 5 (2030 Adopted Land Use)		Scenario 6 (Buildout)		Scenario 7 (Buildout Adopted Land Use)	
		Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
19. Olympic Pkwy./Heritage Rd.	AM	23.3	C	39.2	D	48.3	D	43.0	D	49.0	D	41.5	D	42.7	D
	PM	26.0	C	41.8	D	43.4	D	43.8	D	47.3	D	41.8	D	42.5	D
20. Olympic Pkwy./La Media Rd.	AM	32.2	C	41.3	D	44.8	D	44.2	D	41.3	D	42.6	D	41.5	D
	PM	34.4	C	40.9	D	45.0	D	43.9	D	46.8	D	41.9	D	46.2	D
21. Olympic Pkwy./Palomar St.	AM	28.3	C	33.8	C	33.1	C	32.7	C	32.8	C	36.0	D	35.1	D
	PM	33.8	C	42.7	D	41.9	D	43.3	D	40.9	D	48.2	D	44.1	D
22. Olympic Pkwy./SR 125 SB Ramps	AM	'	'	16.9	B	14.9	B	14.9	B	14.4	B	19.0	B	19.1	B
	PM	'	'	18.5	B	15.6	B	15.4	B	17.7	B	21.7	C	21.6	C
23. Olympic Pkwy./SR 125 NB Ramps	AM	'	'	6.6	A	5.0	A	12.8	B	15.7	B	14.9	B	13.5	B
	PM	'	'	5.2	A	8.3	A	8.6	A	14.0	B	12.2	B	8.4	A
24. Olympic Pkwy./Eastlake Pkwy.	AM	25.0	C	43.1	D	50.8	D	44.0	D	52.2	D	42.4	D	53.7	D
	PM	25.9	C	38.5	D	39.8	D	37.8	D	37.6	D	38.6	D	39.3	D
25. Olympic Pkwy./Hunte Pkwy.	AM	28.9	C	35.3	D	39.1	D	39.3	D	42.2	D	41.5	D	43.6	D
	PM	25.8	C	28.0	C	33.1	C	34.7	C	36.5	D	34.2	C	34.2	C
26. Main St./I-805 SB Ramps	AM	24.2	C	27.1	C	26.1	C	30.0	C	17.8	B	25.7	C	24.4	C
	PM	25.2	C	39.8	D	45.0	D	46.8	D	36.1	D	47.2	D	33.2	C
27. Main St./I-805 NB Ramps	AM	18.7	B	22.1	C	21.2	C	24.3	C	22.9	C	21.5	C	20.4	C
	PM	21.2	C	29.9	C	32.5	C	54.1	D	34.8	C	29.6	C	28.2	C

Footnotes:

1. Intersection does not exist in that scenario.
2. Bold indicates LOS E or LOS F conditions.

TABLE 21 (CONTINUED)
PEAK HOUR INTERSECTION OPERATIONS
SCENARIOS 1 THROUGH 7

Intersection	Peak Hour	Scenario 1 (2005)		Scenario 2 (2010)		Scenario 3 (2015)		Scenario 4 (2030)		Scenario 5 (2030 Adopted Land Use)		Scenario 6 (Buildout)		Scenario 7 (Buildout Adopted Land Use)	
		Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
28. Main St./Oleander Ave.	AM	16.2	B	13.5	B	13.6	B	13.6	B	13.6	B	15.4	B	19.7	B
	PM	20.1	C	17.9	B	18.6	B	10.8	B	19.6	B	20.3	C	25.7	C
29. Main St./Brandywine Ave.	AM	37.0	D	41.9	D	28.8	C	29.2	C	29.4	C	29.8	C	29.9	C
	PM	53.0	D	51.1	D	33.7	C	35.7	D	33.2	C	35.5	D	33.8	C
30. Street "D"/Heritage Rd.	AM	'	'	14.4	B	17.6	B	19.6	B	16.4	B	15.7	B	14.9	B
	PM	'	'	10.4	B	15.5	B	17.1	B	15.4	B	16.7	B	16.1	B
31. Birch Rd./La Media Rd.	AM	'	'	32.7	C	36.0	D	42.3	C	36.1	D	39.6	C	37.6	D
	PM	'	'	35.9	D	40.7	D	38.0	D	44.7	D	37.1	D	45.7	D
32. Birch Rd./SR 125/SB Ramps	AM	'	'	14.7	B	19.4	B	16.4	B	17.8	B	19.6	B	20.1	B
	PM	'	'	9.7	A	13.6	B	11.4	B	14.1	B	15.6	B	21.6	C
33. Birch Rd./ SR 125/NB Ramps	AM	'	'	13.4	B	12.6	B	12.3	B	12.0	B	18.5	B	13.9	B
	PM	'	'	9.7	A	9.9	A	14.2	B	7.7	A	52.5	D	19.2	B
34. Birch Rd./Eastlake Pkwy.	AM	22.4	C	54.9	D	39.5	D	34.0	C	37.0	D	35.6	D	36.3	D
	PM	30.3	C	53.3	D	39.7	D	34.2	C	34.8	C	37.8	D	34.3	C
35. Rock Mountain Rd./La Media Rd.	AM	'	'	'	'	41.7	D	**97.8**	**E**	**32.8**	**C**	**61.2**	**E**	30.6	C
	PM	'	'	'	'	51.0	D	**108.0**	**F**	**36.1**	**D**	**90.4**	**F**	33.8	C
36. Rock Mountain Rd./SR 125 SB Ramps	AM	'	'	'	'	10.1	B	12.2	B	14.6	B	22.6	C	20.1	C
	PM	'	'	'	'	10.4	B	12.4	B	15.0	B	22.2	C	20.3	C

Footnotes:

1. Intersection does not exist in that scenario.
2. Bold indicates LOS E or LOS F conditions.

TABLE 21 (CONTINUED)
PEAK HOUR INTERSECTION OPERATIONS
SCENARIOS 1 THROUGH 7

Intersection	Peak Hour	Scenario 1 (2005)		Scenario 2 (2010)		Scenario 3 (2015)		Scenario 4 (2030)		Scenario 5 (2030 Adopted Land Use)		Scenario 6 (Buildout)		Scenario 7 (Buildout Adopted Land Use)	
		Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
37. Rock Mountain Rd./SR 125 NB Ramps	AM	1	1	1	1	20.3	C	24.5	C	19.9	B	24.0	C	22.1	C
	PM	1	1	1	1	22.2	C	26.6	C	21.7	C	27.0	C	23.9	C
38. Hunte Pkwy./Eastlake Pkwy.	AM	1	1	21.2	C	30.3	C	31.4	C	35.7	C	30.0	C	33.6	C
	PM	1	1	35.2	D	37.9	D	46.3	D	37.3	D	32.8	C	34.9	C
39. Heritage Rd./Main St./Rock Mountain Rd.	AM	1	1	29.8	C	32.7	C	35.7	D	30.9	C	36.4	D	31.4	C
	PM	1	1	30.5	C	33.6	C	33.0	C	32.5	C	37.8	D	35.4	D
40. Rock Mountain Rd./Main St.	AM	3	3	3	3	3	3	3	3	25.4	C	3	3	21.5	C
	PM	3	3	3	3	3	3	3	3	23.8	C	3	3	18.2	B
41. Main St./La Media Rd.	AM	3	3	3	3	3	3	3	3	28.8	C	3	3	30.2	C
	PM	3	3	3	3	3	3	3	3	28.7	C	3	3	30.6	C
42. Main St./SR 125 SB Ramps	AM	3	3	3	3	3	3	3	3	11.0	B	3	3	3.2	A
	PM	3	3	3	3	3	3	3	3	5.4	A	3	3	10.0	A
43. Main St./SR 125 N Ramps	AM	3	3	3	3	3	3	3	3	8.6	A	3	3	14.5	B
	PM	3	3	3	3	3	3	3	3	8.0	A	3	3	15.1	B

Footnotes:

1. Intersection does not exist in that scenario.
2. Bold indicates LOS E or LOS F conditions.
3. Intersection does not exist in the scenarios with proposed roadway network

Table 22
Segment Operations - Scenarios 1 Through 7

Segment	Roadway Clasiification	LOS C Capacity	Scenario 1 (2005)		Scenario 2 (2010)		Scenario 3 (2015)		Scenario 4 (2030)		Scenario 5 (2030 Adopted Land Use)		Scenario 6 (Buildout)		Scenario 7 (Buildout Adopted Land Use)	
			Volume	LOS	Volume	LOS	Volume	LOS	Volume	LOS	Volume	LOS	Volume	LOS	Volume	LOS
Telegraph Canyon Road																
I-805 to Oleander Ave.	7-Ln Major Street	46,700	56,000	E	51,600	D	58,100	E	58,100	E	52,900	E	50,200	D	43,000	C
Oleander Ave. to Medical Center Dr.	6-Ln Prime Arterial	50,000	46,300	C	33,900	A	46,100	C	57,000	E	52,100	D	49,100	C	43,000	B
Medical Center Dr. to Paseo Ranchero/Heritage Rd.	6-Ln Prime Arterial	50,000	31,900	A	33,500	A	55,400	D	56,000	D	50,700	D	48,100	C	42,900	B
Paseo Ranchero/Heritage Rd. to Otay Lakes Rd.	6-Ln Prime Arterial	50,000	23,400	A	16,200	A	41,700	B	44,100	C	46,000	C	33,700	A	34,300	A
Otay Lakes Road																
North of Telegraph Canyon Rd.	4-Ln Major Street	30,000	34,600	E	29,200	C	27,600	C	25,400	B	25,000	B	24,700	B	26,200	B
La Media Rd. to SR 125	6-Ln Prime Arterial	50,000	50,800	B	33,800	A	42,300	A	44,900	B	46,400	C	42,000	A	42,500	B
SR 125 to Eastlake Pkwy.	7-Ln Prime Arterial	58,300	37,700	A	40,400	A	51,900	C	57,800	C	58,200	C	65,300	D	66,200	E
Eastlake Pkwy. to Lane Ave.	6-Ln Prime Arterial	50,000	23,700	A	31,400	A	48,700	C	54,200	D	54,500	D	57,700	E	58,300	E
E. Palomar Street																
I-805 to Oleander Ave.	4-Ln Major Street	30,000	10,000	A	10,500	A	8,000	A	7,300	A	19,900	A	7,200	A	18,700	A
Oleander Ave. to Medical Center Dr.	4-Ln Major Street	30,000	8,800	A	9,700	A	4,300	A	3,600	A	14,900	A	3,400	A	13,400	A
Medical Center Dr. to Heritage Rd.	4-Ln Major Street	30,000	21,800	A	18,300	A	16,300	A	16,200	A	21,100	A	15,800	A	19,500	A
Heritage Rd. to La Olympic Pkwy.	Class I Collector	22,000	20,500	C	18,500	B	10,200	A	10,600	A	10,600	A	10,700	A	10,500	A
Olympic Parkway																
I-805 to Medical Center Dr.	6-Ln Prime Arterial	50,000	58,500	E	60,300	E	55,600	D	56,600	E	55,200	D	44,700	C	45,100	C
Medical Center Dr. to Heritage Rd.	6-Ln Prime Arterial	50,000	49,300	C	58,600	E	48,300	C	48,700	C	49,900	C	36,900	A	36,400	A
Heritage Rd. to La Media Rd.	6-Ln Prime Arterial	50,000	39,700	B	50,600	D	45,200	C	43,500	B	51,000	D	35,800	A	40,500	B
La Media Rd. to E. Palomar St.	6-Ln Prime Arterial	50,000	20,700	A	27,900	A	29,400	A	30,200	A	29,000	A	26,300	A	26,200	A
E. Palomar St. to SR 125	6-Ln Prime Arterial	50,000	26,700	A	40,500	B	40,600	B	39,900	B	39,200	B	43,400	B	41,500	B
SR 125 to Eastlake Pkwy.	6-Ln Prime Arterial	50,000	29,900	A	51,000	D	49,100	C	48,200	C	48,900	C	54,900	D	54,700	D
Eastlake Pkwy. to Hunte Pkwy.	6-Ln Prime Arterial	50,000	15,300	A	31,500	A	29,100	A	28,700	A	30,500	A	34,500	A	34,400	A
Birch Road																
La Media Rd. to SR 125	6-Ln Major Street	40,000	1,000	A	37,500	C	36,900	C	29,800	A	33,000	B	27,400	A	26,300	A
SR 125 to Eastlake Pkwy.	6-Ln Prime Arterial	50,000	1,000	A	32,700	A	39,700	B	28,400	A	33,200	A	35,700	A	37,200	A
Rock Mountain Road [3]																
Main St. to La Media Rd.	4-Ln Major Street	30,000	[1]	[1]	[1]	[1]	28,600	C	37,700	F	10,300	A	34,300	E	7,700	A
La Media Rd. to SR 125	4-Ln Major Street	30,000	[1]	[1]	[1]	[1]	39,200	F	47,600	F	22,100	D	52,100	F	20,100	A
SR 125 to Eastlake Pkwy.	4-Ln Major Street	30,000	[1]	[1]	[1]	[1]	49,400	F	61,300	F	40,600	F	67,000	F	47,200	F

Footnotes:

[1] Segment does not exist in that scenario.

[2] Bold and shading indicates LOS D, LOS E or LOS F operations.

[3] The SANDAG models assumed Rock Mountain Road as a Class I collector. Hence this roadway is analyzed as a Class I Collector.

Table 22
Segment Operations - Scenarios 1 Through 7

Segment	Roadway Classification	LOS C Capacity	Scenario 1 (2005)		Scenario 2 (2010)		Scenario 3 (2015)		Scenario 4 (2030)		Scenario 5 (2030 Adopted Land Use)		Scenario 6 (Buildout)		Scenario 7 (Buildout Adopted Land Use)	
			Volume	LOS	Volume	LOS	Volume	LOS	Volume	LOS	Volume	LOS	Volume	LOS	Volume	LOS
Main Street																
I-805 to Oleander Ave.	6-Ln Prime Arterial	50,000	22,000	A	36,500	A	24,500	A	53,600	D	43,700	B	25,000	A	40,500	B
Oleander Ave. to Brandywine Ave.	6-Ln Prime Arterial	50,000	21,100	A	35,300	A	48,700	C	52,600	D	42,600	B	48,400	C	44,000	C
Brandywine Ave. to Heritage Rd.	6-Ln Prime Arterial	50,000	25,600	A	37,200	A	38,900	B	42,700	B	31,500	A	40,600	B	36,900	A
Heritage Rd. to Rock Mountain Rd.	6-Ln Prime Arterial	50,000	[4]	[4]	[4]	[4]	[4]	[4]	[4]	[4]	21,400	A	[4]	[4]	21,100	A
Rock Mountain Rd. to La Media Rd.	6-Ln Prime Arterial	50,000	[4]	[4]	[4]	[4]	[4]	[4]	[4]	[4]	11,900	A	[4]	[4]	15,100	A
La Media Rd. to SR 125 SB Ramps	6-Ln Prime Arterial	50,000	[4]	[4]	[4]	[4]	[4]	[4]	[4]	[4]	12,500	A	[4]	[4]	12,100	A
Oleander Avenue																
Telegraph Canyon Rd. to E. Palomar St.	Class II Collector	12,000	8,000	A	7,900	A	11,200	C	12,100	D	10,000	B	11,600	C	9,700	B
E. Palomar St. to Olympic Pkwy.	Class II Collector	12,000	3,600	A	3,700	A	6,200	A	6,300	A	5,500	A	6,200	A	5,500	A
Olympic Pkwy. to Main St.	Class II Collector	12,000	4,200	A	4,500	A	5,200	A	5,000	A	5,500	A	5,900	A	8,900	A
Medical Center Drive																
Telegraph Canyon Rd. to E. Palomar St.	Class I Collector	22,000	14,400	A	13,200	A	15,600	A	14,200	A	11,100	A	14,300	A	10,900	A
Brandywine Avenue																
E. Palomar St. to Olympic Pkwy.	Class I Collector	22,000	16,200	A	14,300	A	7,200	A	7,300	A	7,500	A	8,100	A	8,600	A
Olympic Pkwy. to Main St.	Class I Collector	22,000	18,100	B	18,000	B	5,800	A	6,000	A	6,600	A	6,500	A	6,700	A
Paseo Ranchero																
North of Telegraph Canyon Rd.	Class I Collector	22,000	12,400	A	15,400	A	19,000	B	19,300	B	18,200	B	22,000	C	20,600	C
Telegraph Canyon Rd. to E. Palomar St.	6-Ln Prime Arterial	50,000	24,100	A	30,500	A	27,500	A	27,300	A	27,200	A	27,600	A	27,500	A
E. Palomar St. to Olympic Pkwy.	6-Ln Prime Arterial	50,000	13,300	A	29,300	A	44,100	C	44,100	C	44,500	C	46,500	C	46,300	C
Olympic Pkwy. to Birch Rd.	6-Ln Prime Arterial	50,000	[1]	[1]	20,500	A	30,300	A	32,400	A	28,900	A	35,600	A	33,600	A
Birch Rd. to Main St.	6-Ln Prime Arterial	50,000	[1]	[1]	[1]	[1]	21,800	A	25,100	A	24,500	A	31,200	A	30,300	A
La Media Road																
Telegraph Canyon Rd. to E. Palomar St.	6-Ln Prime Arterial	50,000	34,400	A	34,400	A	14,400	A	13,300	A	14,000	A	10,700	A	12,900	A
E. Palomar St. to Olympic Pkwy.	6-Ln Prime Arterial	50,000	14,600	A	17,400	A	23,400	A	23,200	A	24,300	A	22,800	A	26,300	A
Olympic Pkwy. to Birch Rd.	6-Ln Prime Arterial	50,000	12,100	A	42,100	B	43,700	B	39,200	B	45,400	C	33,900	A	40,700	B
Birch Rd. to Rock Mountain Rd.	6-Ln Prime Arterial	50,000	[1]	[1]	[1]	[1]	10,000	A	11,600	A	15,900	A	11,800	A	22,500	A
Rock Mountain Rd. to Main St.	6-Ln Prime Arterial	50,000	[1]	[1]	[1]	[1]	14,800	A	16,200	A	18,700	A	15,400	A	24,900	A

Footnotes:

[1] Segment does not exist.

[2] Bold and shading indicates LOS D, LOS E or LOS F operations.

[4] Intersection does not exist in the scenarios with proposed roadway network.

Table 22
Segment Operations - Scenarios 1 Through 7

Segment	Roadway Classification	LOS C Capacity	Scenario 1 (2005)		Scenario 2 (2010)		Scenario 3 (2015)		Scenario 4 (2030)		Scenario 5 (2030 Adopted Land Use)		Scenario 6 (Buildout)		Scenario 7 (Buildout Adopted Land Use)	
			Volume	LOS	Volume	LOS	Volume	LOS	Volume	LOS	Volume	LOS	Volume	LOS	Volume	LOS
Eastlake Parkway																
Fenton St. to Otay Lakes Rd.	4-Ln Major Street	30,000	8,300	A	8,900	A	18,700	A	21,500	A	21,800	A	27,100	C	29,700	C
Otay Lakes Rd. to Olympic Pkwy.	6-Ln Prime Arterial	50,000	23,700	A	23,900	A	36,600	A	36,800	A	38,400	A	35,800	A	37,200	A
Olympic Pkwy. to Birch Rd.	6-Ln Prime Arterial	50,000	200	A	26,000	A	26,600	A	28,100	A	24,300	A	27,000	A	24,500	A
Birch Rd. to Rock Mountain Rd.	6-Ln Prime Arterial	50,000	[1]	[1]	44,300	C	34,400	A	25,500	A	26,900	A	26,100	A	25,000	A
Hunte Parkway																
Otay Lakes Rd. to Clubhouse Dr.	4-Ln Major Street	30,000	9,900	A	8,100	A	8,700	A	9,900	A	10,200	A	9,800	A	9,900	A
Clubhouse Dr. to Olympic Pkwy.	4-Ln Major Street	30,000	6,600	A	16,300	A	19,700	A	19,400	A	20,000	A	21,200	A	22,100	A
Olympic Pkwy. to Eastlake Pkwy.	4-Ln Major Street	30,000	[1]	[1]	7,900	A	22,000	A	24,300	B	22,700	B	22,400	A	21,100	A

Footnotes:

[1] Segment does not exist.

[2] Bold and shading indicates LOS D, LOS E or LOS F operations.

Table 23
Near-Term Analysis

Segment	ADT	AM Peak Hour		PM Peak Hour	
		Speed	LOS	Speed	LOS
Telegraph Canyon Road					
I-805 to Oleander Ave.	56,000	22.6	C	30.9	A
Otay Lakes Road					
North of Telegraph Cnyn. Rd.	34,600	21.1	D [1]	27.2	C

Footnote:

1. More than 2 hours of LOS D conditions is expected on this segment.

Table 24
Freeway Mainline Operations
Scenario 1

Freeway Segment	Direction	# of Lanes	Hourly Capacity[1]	Pk Hr (2-Dir)[2]	% D[3] AM	% D[3] PM	Pk Hr Vol (1-Dir) AM	Pk Hr Vol (1-Dir) PM	Cumulative Vol AM	Cumulative Vol PM	Pk Vol (E+C) AM	Pk Vol (E+C) PM	V/C[4] (E+C) AM	V/C[4] (E+C) PM	LOS (E+C) AM	LOS (E+C) PM
I-805																
East "H" St. to Telegraph Cnyn. Rd.	NB	4+1	10,600	14,875	0.53	0.44	7884	6545	181	281	8065	6826	0.761	0.644	C	C
	SB	4+1	10,600	14,875	0.47	0.56	6991	8330	283	223	7274	8553	0.686	0.807	C	D
Telegraph Cnyn. Rd. to Olympic Pkwy.	NB	4+1	10,600	11,560	0.53	0.44	6127	5086	181	281	6308	5367	0.595	0.506	B	B
	SB	4+1	10,600	11,560	0.47	0.56	5433	6474	283	223	5716	6697	0.539	0.632	B	C
Olympic Pkwy. to Main St.	NB	4+1	10,600	10,795	0.53	0.44	5721	4750	152	125	5873	4875	0.554	0.460	B	B
	SB	4+0	8,800	10,795	0.47	0.56	5074	6045	305	167	5379	6212	0.611	0.706	B	C
Main St. to Palm Ave.	NB	4+1	10,600	10,625	0.53	0.44	5631	4675	152	125	5783	4800	0.546	0.453	B	B
	SB	4+1	10,600	10,625	0.47	0.56	4994	5950	305	167	5299	6117	0.500	0.577	B	B

Footnotes:

1. Capacity calculated at 2200 peak hour volume per mainline lane and 1,800 per aux lane (I.e. 4+1 = 4 Mainline + 1 Aux Lane = hourly capacity of 10,600)
2. Peak Hour 2 Directional Volumes from CALTRANS - Year 2002 volumes - See Appendix
3. Direction Split (D) from CALTRANS - See Appendix
4. V/C = Peak Hour Volume/Peak Hour Capacity with LOS by ratio shown to the right =>

LOS	v/c
A	<0.41
B	0.62
C	0.8
D	0.92
E	=
F(0)	1.25
F(1)	1.35
F(2)	1.45
F(3)	>1.46

TABLE 25
ACCESS INTERSECTION OPERATIONS AT BUILDOUT

Intersection	Peak Hour	Buildout[1] (Proposed Project)	
		Delay	LOS
19. Olympic Parkway/Heritage Road	AM	41.5	D
	PM	41.8	D
20. Olympic Parkway/La Media Road	AM	37.6	D
	PM	40.8	D
30. Street "D"/Heritage Road	AM	27.1	C
	PM	46.7	D
31. Birch Avenue/La Media Road	AM	28.9	C
	PM	42.4	D
39. Main Street/Heritage Road	AM	39.0	D
	PM	37.8	D
44. Street "D"/Olympic Parkway	AM	11.8	B
	PM	16.5	B
45. Street "J" (North)/Heritage Road	AM	27.1	C
	PM	32.8	C
46. Street "J" (South)/Heritage Road	AM	27.8	C
	PM	32.1	C
47. Santa Venetia/Olympic Parkway	AM	21.5	C
	PM	13.5	B
48. Santa Venetia/La Media Rd.	AM	30.3	C
	PM	32.3	C
49. Street "F"/Heritage Rd.	AM	8.0	A
	PM	6.4	A
50. Santa Luna/La Media Rd.	AM	26.9	C
	PM	22.8	C

TABLE 26
PROJECT DRIVEWAY INTERSECTION TURN LANE STORAGE

Intersection	Southbound		Westbound		Northbound		Eastbound	
	Left	Right	Left	Right	Left	Right	Left	Right
19. Olympic Pkwy./Heritage Rd.	150 [1]	325	100 [1]	400	125 [1]	525	100 [1]	175
20. Olympic Pkwy./La Media Rd.	100 [1]	50 [2]	100 [1]	200	75 [1]	175	150 [1]	75 [2]
30. Street "D"/Heritage Rd.	200 [1]	250	125	175	75 [1]	25	150 [1]	200
31. Birch Rd./La Media Rd.	300 [1]	300	250 [1]	275	125	350	300 [1]	[4]
39. Main St./Heritage Rd.	50 [1]	250	125 [1]	275	200 [1]	250	75 [1]	550
44. Street "D"/Olympic Pkwy.	[3]	[3]	150	[3]	225	100	[3]	125
45. Street "J" (North)/Heritage Rd.	100 [1]	325	175	350	200	75	225 [1]	125
46. Street "J" (South)/Heritage Rd.	225	200	75 [1]	175	225	125	100 [1]	150
47. Santa Venetia/Olympic Pkwy.	[3]	[3]	250	[3]	250	150	[3]	225
48. Santa Venetia/La Media Rd.	125	325	100	75	175	350	250	100
49. Street "F"/Heritage Rd.	75	[3]	75	75	[3]	[4]	[3]	[3]
50. Santa Luna/La Media Rd.	50	75	50	50	50	50	125	50

Footnotes:

1. Dual left-turn lanes. Storage indicated is per lane.
2. Dual right-turn lane. Storage indicated is per lane.
3. Movement does not exist.
4. Shared Through-right lane
5. The City Engineer must approve changes to the intersection turn-lane storage length prior to final design.

TABLE 27
PFFP THRESHOLDS

Facility	PFFP Threshold
A. Heritage Road between Olympic Parkway and Santa Victoria (Street "D")	Access or Frontage[a], 1st unit in Village 2 west of Heritage Road or 1,008 EDUs [2] in Village 2 overall
B. Heritage Road: Santa Victoria (Street "D") to Santa Lisa (Street "F")	Access or Frontage[a], 1,276 EDUs [b] overall or 380 EDUs (31.7 acres of industrial) in Village 3/PA18B
C. Heritage Road: Santa Lisa (Street "F") to Street "J" North	Access or Frontage[a], 1,276 EDUs [b] overall or 380 EDUs (31.7 acres of industrial) in Village 3/PA18B
D. Heritage Road: Street "J" North to Street "J" South [2]	Access or Frontage[a], 1,276 EDUs [b] overall or 380 EDUs (31.7 acres of industrial) in Village 3/PA18B
E Heritage Road: Street "J" South to Main Street [c]	Access or Frontage[a], 1,276 EDUs [b] overall or 380 EDUs (31.7 acres of industrial) in Village 3/PA18B
F. Main Street: Heritage Road to connect to existing improvements	Access or Frontage[a], 1,276 EDUs [b] overall or 380 EDUs (31.7 acres of industrial) in Village 3/PA18B
G. Santa Victoria (Street "D"): Olympic Parkway to Heritage Road	1st EDU in Village 2 west of Heritage Road
H. Santa Diana (Street "E"): Santa Victoria (Street "D") to State Street	Access or Frontage[a] or 1,008 EDUs [b] in Village 2 overall
I. La Media Road: Santa Venetia to Birch Road	1st EDU in Village 2
J. State Street (Street "E"): Santa Victoria (Street "B") to La Media Road	1st EDU in Village 2
K. La Media Road: Birch Road to Park P-4 Entrance	With Park development
L. Rock Mountain Road: East of Heritage Road and/or Main Street within the SPA boundaries	Access or Frontage[a], 1st EDU[b] in Village 3/PA 18B, 2,090 EDUs in Village 2 overall
M. Santa Victoria (Street "B"): Santa Venetia to State Street_	Access or Frontage[a] or 1,008 EDUs [b] in Village 2 overall
N. Santa Victoria (Street "B"): Santa Venetia Santa Diana (Street "E")	1st Unit in Village 2
O. Santa Victoria (Street "D"): Heritage Road to Santa Diana (Street "E")	Access or Frontage or 1,008 EDUs [b] in Village 2 overall

Footnotes:

a. A/F: Access or Frontage - Roadways needed for continuity and minimum access: roadway segment as determined by the City Engineer, is triggered with the first final map which has frontage on the roadway, or if roadway is required to provide access.

b. In terms of Equivalent Dwelling Units (EDU's) 1,276 residential units represents 1,276 equivalent dwelling units and 106 acres of industrial represents 1,276 EDU's based on SANDAG rates. Commercial uses are not included in the EDU calculations.

c. Interim Layout for Heritage Road and Main Street.

TABLE 28

PROPOSED TOTAL VILLAGE 2, VILLAGE 3 AND PLANNING AREA 18B LAND USES

Land Use	Quantity
Village 2	
Single Family	986 DU
Multi Family	1,740 DU
Mixed-Use Multi Family	60 DU
Total Dwelling Units	**2,786 DU**
Park	59.6 Acres
CPF	6.1 Acres
Commercial	11.9 Acres
School	10.3 Acres
Industrial	87.9 Acres
Village 3	
Industrial [a]	145.87 Acres
CPF	11.2 Acres

TABLE 29
SCENARIO 1 LAND USES

Land Use	Quantity
Village 2	
Single Family	986 DU
Multi Family	1,740 DU
Mixed-Use Multi Family	60 DU
Total Dwelling Units	**2,786 DU**
Park	59.6 Acres
CPF	6.1 Acres
Commercial	11.9 Acres
School	10.3 Acres
Industrial	87.9 Acres

TABLE 30
SCENARIO 2 LAND USES

Land Use	Quantity
Village 2	
Single Family	986 DU
Multi Family	1,740 DU
Mixed-Use Multi Family	60 DU
Total Dwelling Units	**2,786 DU**
Park	59.6 Acres
CPF	6.1 Acres
Commercial	11.9 Acres
School	10.3 Acres
Industrial	87.9 Acres
Village 3	
Industrial [a]	175.5 Acres
CPF	11.2 Acres

TABLE 31
ANALYSIS RESULTS

Scenario	Peak Hour	No Project Traffic		With Project Traffic [a]	
		Delay	LOS	Delay	LOS
Scenario 1 [b] No Rock Mountain Road	AM PM	24.7 29.8	C C	25.9 42.4	C D
Scenario 2 With Rock Mountain Road	AM PM	32.9 41.0	C D	35.6 45.2	D D

Footnotes:

a. Scenario 1 Project traffic includes all Village 2 land uses including 87.9 acres of industrial land uses within Village 2 and 63.1 Acres of Industrial land uses within Village 3. Scenario 2 includes all Village 2 and Village 3 land uses including 87.9 acres of industrial land uses within Village 2 and 175.5 Acres of Industrial land uses and 10.2 acres of Community Purpose Facilities within Village 3.

b. Split phasing assumed for the east/west approaches for Scenario 1

Table 32

Significance of Impacts at Intersections

Impacted Intersections	Traffic Entering Intersection		Project Traffic XX% of Total Traffic Entering Intersection	Impact: Not Significant, Cumulative or Project Specific	Nitigated (At Buildout)	
	Total	Project			Delay	LOS
Scenario 1 - Year 2005 Without SR 125						
None	5,930	9	0.1%	Cumulative	NA	NA
Scenario 2 - Year 2010						
None	NA	NA	NA	None	NA	NA
Scenario 3 - Year 2015						
None	NA	NA	NA	None	NA	NA
Scenario 4 - Year 2030 (Adopted Project Land Use)						
35. Rock Mountain Road/La Media Road (LOS E-AM/LOS F-PM)	5,090	478	9%	Project Specific	38.5	D
Scenario 5 - Year 2030						
None	NA	NA	NA	None	NA	NA
Scenario 6 - Buildout						
35. Rock Mountain Road/La Media Road (LOS E-AM/LOS F-PM)	4,750	478	10%	Project Specific	38.5	D
Scenario 7 - Buildout (Adopted Project Land Use)						
None	NA	NA	NA	None	NA	NA

Footnote:

NA - Not applicable since there is no significant impact.

Table 33

Significance of Impacts Along Segments

Impacted Segments	# of Project ADT > 800	Project Responsible for XX %	Intersections Along Segment Operating @ LOS D or Better?	Impact: Not Significant, Cumulative or Project Specific	Mitigated LOS		
					Capacity	Volume	LOS
Scenario 1 - Year 2005 Without SR 125							
Telegraph Canyon Road							
I-805 to Oleander Ave. (LOS D)	No	0.3%	Yes	Not Significant	-	-	2
Otay Lakes Road							
North of Telegraph Canyon Rd. (LOS E)	No	0.6%	Yes	Not Significant	-	-	2
Olympic Parkway							
I-805 to Medical Center Dr. (LOS E)	Yes	1.7%	Yes	Not Significant	-	-	2
Scenario 2 - Year 2010							
Telegraph Canyon Road							
I-805 to Oleander Ave. (LOS D)	Yes	3.0%	Yes	Not Significant	-	-	2
Olympic Parkway							
I-805 to Medical Center Dr. (LOS E)	Yes	12.8%	Yes	Not Significant	-	-	2
Medical Center Dr. to Heritage Rd. (LOS E)	Yes	15.8%	Yes	Not Significant	-	-	2
Heratige Rd. to La Media Rd. (LOS D)	Yes	2.0%	Yes	Not Significant	-	-	2
SR 125 to Eastlake Pkwy. (LOS D)	Yes	2.3%	Yes	Not Significant	-	-	2
Scenario 3 - Year 2015							
Telegraph Canyon Road							
I-805 to Oleander Ave. (LOS E)	Yes	3.6%	Yes	Not Significant	-	-	2
Medical Center Dr. to Paseo Ranchero/Heritage Rd. (LOS D)	Yes	4.7%	Yes	Not Significant	-	-	2
Olympic Parkway							
I-805 to Medical Center Dr. (LOS D)	Yes	13.2%	Yes	Not Significant	-	-	2
Rock Mountain Road							
La Media Rd. to SR 125 (LOS F)	No	1.4%	Yes	Cumulative	50,000 [4]	39,200	B
SR 125 to Eastlake Pkwy. (LOS F)	No	0.0%	Yes	Cumulative	50,000 [4]	49,400	C
Scenario 4 - Year 2030 (Adopted Project Land Use)							
Telegraph Canyon Road							
I-805 to Oleander Ave. (LOS E)	Yes	4.4%	Yes	Not Significant	-	-	2
Oleander Ave. to Medical Center Dr. (LOS E)	Yes	4.5%	Yes	Not Significant	-	-	2
Medical Center Dr. to Paseo Ranchero/Heritage Rd. (LOS D)	Yes	5.7%	Yes	Not Significant	-	-	2
Otay Lakes Road							
Eastlake Pkwy. To Lane Ave. (LOS D)	Yes	3.5%	Yes	Not Significant	-	-	2

Footnotes:

1 - Not applicable since impact is not being fully mitigated.
2 - Not applicable since there is no significant impact.
3 - Mitigated as a 6-lane Major Street (this will require a General Plan Amendment).

Table 33 (Continued)

Significance of Impacts Along Segments

Impacted Segments	# of Project ADT > 800	Project Responsible for XX %	Intersections Along Segment Operating @ LOS D or Better?	Impact: Not Significant, Cumulative or Project Specific	Mitigated LOS		
					Capacity	Volume	LOS
Scenario 4 - Year 2030 (Adopted Project Land Use)	**(Continued)**						
Olympic Parkway							
I-805 to Medical Center Dr. (LOS E)	Yes	15.9%	Yes	Not Significant	-	-	2
Rock Mountain Road							
Main St. to La Media Rd. (LOS F)	No	1.7%	No	Cumulative	40,000 [3]	37,700	C
La Media Rd. to SR 125 (LOS F)	No	1.3%	No	Cumulative	50,000 [4]	47,600	C
SR 125 to Eastlake Pkwy. (LOS F)	No	0.0%	No	Cumulative	66,700 [5]	61,300	C
Main Street							
I-805 to Oleander Ave. (LOS D)	Yes	15.6%	Yes	Not Significant	-	-	2
Oleander Ave. to Brandywine Ave. (LOS D)	Yes	15.9%	Yes	Not Significant	-	-	2
Oleander Avenue							
Telegraph Canyon Rd. to Palomar St. (LOS D)	No	5.3%	Yes	Not Significant	-	-	2
Scenario 5 - Year 2030							
Telegraph Canyon Road							
I-805 to Oleander Ave. (LOS E)	Yes	3.6%	Yes	Not Significant	-	-	2
Oleander Ave. to Medical Center Dr. (LOS D)	Yes	3.7%	Yes	Not Significant	-	-	2
Medical Center Dr. to Paseo Ranchero/Heritage Rd. (LOS D)	Yes	5.0%	Yes	Not Significant	-	-	2
Otay Lakes Road							
Eastlake Pkwy. to Lane Ave. (LOS D)	Yes	3.5%	Yes	Not Significant	-	-	2
Olympic Parkway							
I-805 to Medical Center Dr. (LOS D)	Yes	15.1%	Yes	Not Significant	-	-	2
Heritage Rd. to La Media Rd. (LOS D)	Yes	2.0%	Yes	Not Significant	-	-	2
Rock Mountain Road							
La Media Rd. to SR 125 (LOS D)	No	2.9%	Yes	Not Significant	-	-	2
SR 125 to Eastlake Pkwy. (LOS F)	No	0.0%	Yes	Cumulative	50,000 [4]	40,600	B

Footnotes:

2 - Not applicable since there is no significant impact.

3 - Mitigated as a 6-lane Major Street (this will require a General Plan Amendmen)

4 - Mitigated as a 6-lane Prime Arterial (this will require a General Plan Amendment).

Table 33 (Continued)

Significance of Impacts Along Segments

Impacted Segments	# of Project ADT > 800	Project Responsible for XX %	Intersections Along Segment Operating @ LOS D or Better?	Impact: Not Significant, Cumulative or Project Specific	Mitigated LOS		
					Capacity	Volume	LOS
Scenario 6 - Buildout							
Telegraph Canyon Road							
I-805 to Oleander Ave. (LOS D)	Yes	3.5%	Yes	Not Significant	-	-	2
Otay Lakes Road							
SR 125 to Eastlake Pkwy. (LOS D)	Yes	2.7%	Yes	Not Significant	-	-	2
Eastlake Pkwy. to Lane Ave. (LOS E)	Yes	2.0%	Yes	Not Significant	-	-	2
Olympic Parkway							
SR 125 to Eastlake Pkwy. (LOS D)	Yes	4.1%	Yes	Not Significant	-	-	2
Rock Mountain Road							
Main St. to La Media Rd. (LOS E)	No	1.7%	No	Cumulative	40,000 [3]	34,300	A
La Media Rd. to SR 125 (LOS F)	No	1.1%	No	Cumulative	66,700 [5]	52,100	B
SR 125 to Eastlake Pkwy. (LOS F)	No	0.9%	No	Cumulative	66,700 [5]	67,000	D
Scenario 7 - Buildout (Adopted Project Land Use)							
Otay Lakes Road							
SR 125 to Eastlake Pkwy. (LOS E)	Yes	2.4%	Yes	Not Significant	-	-	2
Eastlake Pkwy. to Lane Ave. (LOS E)	Yes	2.0%	Yes	Not Significant	-	-	2
Olympic Parkway							
SR 125 to Eastlake Pkwy. (LOS D)	Yes	3.7%	Yes	Not Significant	-	-	2
Rock Mountain Road							
SR 125 to Eastlake Pkwy. (LOS F)	No	0.0%	Yes	Cumulative	50,000 [4]	47,200	C

Footnotes:

2 - Not applicable since there is no significant impact.

3 - Mitigated as a 6-lane Major Street (this will require a General Plan Amendment).

4 - Mitigated as a 6-lane Prime Arterial (this will require a General Plan Amendment).

5 - Mitigated as a 8-lane Prime Arterial (this will require a General Plan Amendment).

Table 34

Significant Impacts and Mitigation Measures

Significant Impacts	Mitigation Measures	Buildout LOS With Mitigation
A. PROJECT SPECIFIC IMPACTS		
Scenario 1 - Year 2005 Without SR 125		
None	None	None
Scenario 2 - Year 2010		
None	None	None
Scenario 3 - Year 2015		
None	None	None
Scenario 4 - Year 2030 (Adopted Project Land Use)		
35. Rock Mountain Rd./La Media Rd	Prior to the issuance of building permits, the applicant shall contribute their fairshare towards the design, construction, and securing a fully actuated traffic signal, including interconnect wiring, mast arms, signal heads and associated equipment, underground improvements, standards and luminaries at the Rock Mountain Rd./La Media Rd. intersection.	LOS D
Scenario 5 - Year 2030		
None	None	None
Scenario 6 - Buildout		
35. Rock Mountain Rd./La Media Rd.	Prior to the issuance of building permits, the applicant shall contribute their fairshare towards the design, construction, and securing a fully actuated traffic signal, including interconnect wiring, mast arms, signal heads and associated equipment, underground improvements, standards and luminaries at the Rock Mountain Rd./La Media Rd. intersection.	LOS D
Scenario 7 - Buildout (Adopted Project Land Use)		
None	None	None
B. CUMULATIVE IMPACTS		
Scenario 1 - Year 2005 Without SR 125		
None	None	None
Scenario 2 - Year 2010		
None	None	None

Table 34 (Continued)

Significant Impacts and Mitigation Measures

Significant Impacts	Mitigation Measures	Buildout LOS With Mitigation
B. CUMULATIVE IMPACTS (Continued)		
Scenario 3 - Year 2015		
Rock Mountain Road from La Media Rd. to SR 125	Prior to issuance of building permits, the applicant shall contribute their fairshare towards widening to **6-lane Prime Arterial** standards or towards an intersection improvement, along Rock Mountain Road to the satisfaction of the City Engineer. Currently, Rock Mountain Road is classified as a Class I Collector. This mitigation will require a General Plan Amendment.	LOS B
Rock Mountain Road from SR 125 to Eastlake Pkwy.	See above.	LOS C
Scenario 4 - Year 2030 (Adopted Project Land Use)		
Rock Mountain Road from Main St to La Media Rd.	Prior to issuance of building permits, the applicant shall contribute their fairshare towards widening to **6-lane Major Street** standards or towards an intersection improvement, along Rock Mountain Road to the satisfaction of the City Engineer. Currently, Rock Mountain Road is classified as a Class I Collector. This mitigation will require a General Plan Amendment.	LOS C
Rock Mountain Road from La Media Rd. to SR 125	Prior to issuance of building permits, the applicant shall contribute their fairshare towards widening to **6-lane Prime Arterial** standards or towards an intersection improvement, along Rock Mountain Road to the satisfaction of the City Engineer. Currently, Rock Mountain Road is classified as a Class I Collector. This mitigation will require a General Plan Amendment.	LOS C
Rock Mountain Road from SR 125 to Eastlake Pkwy.	Prior to issuance of building permits, the applicant shall contribute their fairshare towards widening to **8-lane Prime Arterial** standards or towards an intersection improvement, along Rock Mountain Road to the satisfaction of the City Engineer. Currently, Rock Mountain Road is classified as a Class I Collector. This mitigation will require a General Plan Amendment.	LOS C
Scenario 5 - Year 2030		
Rock Mountain Road from SR 125 to Eastlake Pkwy.	Prior to issuance of building permits, the applicant shall contribute their fairshare towards widening to **6-lane Prime Arterial** standards or towards an intersection improvement, along Rock Mountain Road to the satisfaction of the City Engineer. Currently, Rock Mountain Road is classified as a Class I Collector. This mitigation will require a General Plan Amendment.	LOS B

Table 34 (Continued)

Significant Impacts and Mitigation Measures

Significant Impacts	Mitigation Measures	Buildout LOS With Mitigation
B. CUMULATIVE IMPACTS (Continued)		
Scenario 6 - Buildout		
Rock Mountain Road from Main St. to La Media Rd.	Prior to issuance of building permits, the applicant shall contribute their fairshare towards widening to **6-lane Major Street** standards or towards an intersection improvement, along Rock Mountain Road to the satisfaction of the City Engineer. Currently, Rock Mountain Road is classified as a Class I Collector. This mitigation will require a General Plan Amendment.	LOS A
Rock Mountain Road from La Media Rd. to SR 125	Prior to issuance of building permits, the applicant shall contribute their fairshare towards widening to **8-lane Prime Arterial** standards or towards an intersection improvement, along Rock Mountain Road to the satisfaction of the City Engineer. Currently, Rock Mountain Road is classified as a Class I Collector. This mitigation will require a General Plan Amendment.	LOS B
Rock Mountain Road from SR 125 to Eastlake Pkwy.	See above.	LOS D
SCENARIO 7 – BUILDOUT (ADOPTED PROJECT LAND USES)		
Rock Mountain Road from SR 125 to Eastlake Pkwy.	See above.	LOS C
C. FREEWAYS		
Scenario 1 - Year 2005 Without SR 125		
None	None	None
Scenario 2 - Year 2010		
None	None	None
Scenario 3 - Year 2015		
NB I-805 from Telegraph Cnyn. Rd. to East "H" St.	Additional lanes would be required to maintain acceptable LOS. Continued freeway planning efforts and deficiency planning by Caltrans and SANDAG will determine mitigation strategies for the regional freeway system.	NA
SB I-805 from East "H" St. to Telegraph Cnyn. Rd.	Same as above.	NA
SB I-805 from Olympic Pkwy. to Main St.	Same as above.	NA

Table 34 (Continued)

Significant Impacts and Mitigation Measures

Significant Impacts	Mitigation Measures	Buildout LOS With Mitigation
C. FREEWAYS (Continued)		
Scenario 4 - Year 2030 (Adopted Project Land Use)		
NB I-805 from Telegraph Cnyn. Rd. to East "H" St.	See Scenario 3 above.	NA
SB I-805 from East "H" St. to Telegraph Cnyn. Rd.	See Scenario 3 above.	NA
NB I-805 from Olympic Pkwy. to Telegraph Cnyn. Rd.	See Scenario 3 above.	NA
SB I-805 from Telegraph Cnyn. Rd. to Olympic Pkwy.	See Scenario 3 above.	NA
SB I-805 from Olympic Pkwy. to Main St.	See Scenario 3 above.	NA
Scenario 5 - Year 2030		
NB I-805 from Telegraph Cnyn. Rd. to East "H" St.	See Scenario 4 above.	NA
SB I-805 from East "H" St. to Telegraph Cnyn. Rd.	See Scenario 4 above.	NA
SB I-805 from Telegraph Cnyn Rd. to Olympic Pkwy.	See Scenario 4 above.	NA
SB I-805 from Olympic Pkwy. to Main St.	See Scenario 4 above.	NA
Scenario 6 - Buildout		
NB I-805 from Telegraph Cnyn. Rd. to East "H" St.	Additional lanes would be required to maintain acceptable LOS. Continued freeway planning efforts and deficiency planning by Caltrans and SANDAG will determine mitigation strategies for the regional freeway system.	NA
SB I-805 from East "H" St. to Telegraph Cnyn. Rd.	Same as above.	NA
SB I-805 from Telegraph Cnyn. Rd. to Olympic Pkwy.	Same as above.	NA
SB I-805 from Olympic Pkwy. to Main St.	Same as above.	NA

Note:

NA - Not applicable since impact is not being fully mitigated.

Table 34 (Continued)

Significant Impacts and Mitigation Measures

Significant Impacts	Mitigation Measures	Buildout LOS With Mitigation
C. FREEWAYS (CONTINUED)		
Scenario 7 - Buildout (Adopted Project Land Use)		
NB I-805 from Telegraph Cnyn. Rd. to East "H" St.	See Scenario 5 above.	NA
SB I-805 from East "H" St. to Telegraph Cnyn. Rd.	See Scenario 5 above.	NA
SB I-805 from Olympic Pkwy to Main St.	See Scenario 5 above.	NA
D. PROJECT ACCESS		
Heritage Rd /Olympic Pkwy.	Phasing of the following improvements shall be consistent with the project PFFP and to the satisfaction of the City Engineer, with intersection lane geometry per **Figure 34**. Prior approval of the final map containing the EDUs threshold triggering the construction of the intersection improvements, including installation of a traffic signal, the applicant shall enter into an agreement to design, construct, and secure a fully actuated traffic signal including interconnect wiring, mast arms, signal heads and associated equipment, underground improvements, standards and luminaries at the Heritage Rd./Street "D" intersection. The design of the signal shall be to the satisfaction of the City Engineer and conform to City standards. The applicant shall provide turn lane storage lengths as listed in Table 26A.	LOS D or better
Heritage Rd /Main St.	Phasing of the following improvements shall be consistent with the project PFFP and to the satisfaction of the City Engineer, with intersection lane geometry per **Figure 34**. Prior to the approval of the final map containing the EDUs threshold triggering the construction of the intersection improvements, including installation of a traffic signal, the applicant shall enter into an agreement to design, construct, and secure a fully actuated traffic signal including interconnect wiring, mast arms, signal heads and associated equipment, underground improvements, standards and luminaires at the Heritage Road/Main Street intersection. The design of the signal shall be to the satisfaction of the City Engineer and conform to City standards. The applicant shall provide turn lane storage lengths as listed in Table 26A.	LOS D or better

Note:

NA - Not applicable since impact is not being fully mitigated.

Table 34 (Continued)

Significant Impacts and Mitigation Measures

Significant Impacts	Mitigation Measures	Buildout LOS With Mitigation
D. PROJECT ACCESS (Continued)		
Heritage Rd /Street "D"	Phasing of the following improvements shall be consistent with the project PFFP and to the satisfaction of the City Engineer, with intersection lane geometry per **Figure 34**. Prior to the approval of the final map containing the EDUs threshold triggering the construction of the intersection improvements, including installation of a traffic signal, the applicant shall enter into an agreement to design, construct, and secure a fully actuated traffic signal including interconnect wiring, mast arms, signal heads and associated equipment, underground improvements, standards and luminaires at the Heritage Road/Street "D" intersection. The design of the signal shall be to the satisfaction of the City Engineer and conform to City standards. The applicant shall provide turn lane storage lengths as listed in Table 26A.	LOS D or better
Heritage Rd /Street "F"	Phasing of the following improvements shall be consistent with the project PFFP and to the satisfaction of the City Engineer, with intersection lane geometry per **Figure 34**. Prior to the approval of the final map containing the EDUs threshold triggering the construction of the intersection improvements, including installation of a traffic signal, the applicant shall enter into an agreement to design, construct, and secure a fully actuated traffic signal including interconnect wiring, mast arms, signal heads and associated equipment, underground improvements, standards and luminaires at the Heritage Road/ Street "J" North intersection. The design of the signal shall be to the satisfaction of the City Engineer. The applicant shall provide turn lane storage lengths as listed in Table 26A.	LOS C or better
Heritage Rd /Street "J" North	Phasing of the following improvements shall be consistent with the project PFFP and to the satisfaction of the City Engineer, with intersection lane geometry per **Figure 34**. Prior to the approval of the final map containing the EDUs threshold triggering the construction of the intersection improvements, including installation of a traffic signal, the applicant shall enter into an agreement to design, construct, and secure a fully actuated traffic signal including interconnect wiring, mast arms, signal heads and associated equipment, underground improvements, standards and luminaires at the Heritage Road/ Street "J" North intersection. The design of the signal shall be to the satisfaction of the City Engineer. The applicant shall provide turn lane storage lengths as listed in Table 26A.	LOS C or better

Table 34 (Continued)
Significant Impacts and Mitigation Measures

Significant Impacts	Mitigation Measures	Buildout LOS With Mitigation
D. PROJECT ACCESS (Continued)		
Heritage Rd /Street "J" South	Phasing of the following improvements shall be consistent with the project PFFP and to the satisfaction of the City Engineer, with intersection lane geometry per **Figure 34**. Prior to the approval of the final map containing the EDUs threshold triggering the construction of the intersection improvements, including installation of a traffic signal, the applicant shall enter into an agreement to design, construct, and secure a fully actuated traffic signal including interconnect wiring, mast arms, signal heads and associated equipment, underground improvements, standards and luminaires at the Heritage Road/ Street "J" South intersection. The design of the signal shall be to the satisfaction of the City Engineer. The applicant shall provide turn lane storage lengths as listed in Table 26A.	LOS C or better
Heritage Rd./Main St.	Phasing of the following improvements shall be consistent with the project PFFP and to the satisfaction of the City Engineer, with intersection lane geometry per **Figure 34**. Prior to the approval of the final map containing the EDUs threshold triggering the construction of the intersection improvements, including installation of a traffic signal, the applicant shall enter into an agreement to design, construct, and secure a fully actuated traffic signal including interconnect wiring, mast arms, signal heads and associated equipment, underground improvements, standards and luminaires at the Heritage Road/ Main Street intersection. The design of the signal shall be to the satisfaction of the City Engineer. The applicant shall provide turn lane storage lengths as listed in Table 26A.	LOS C or better
La Media Rd./Birch Rd.	Phasing of the following improvements shall be consistent with the project PFFP and to the satisfaction of the City Engineer, with intersection lane geometry per **Figure 34**. Prior to the approval of the final map containing the EDUs threshold triggering the construction of the intersection improvements, including installation of a traffic signal, the applicant shall enter into an agreement to design, construct, and secure a fully actuated traffic signal including interconnect wiring, mast arms, signal heads and associated equipment, underground improvements, standards and luminaires at the La Media Road/ Birch Road intersection. The design of the signal shall be to the satisfaction of the City Engineer. The applicant shall provide turn lane storage lengths as listed in Table 26A.	LOS C or better

Table 34 (Continued)
Significant Impacts and Mitigation Measures

Significant Impacts	Mitigation Measures	Buildout LOS With Mitigation
D. PROJECT ACCESS (Continued)		
La Media Rd /Santa Luna	Phasing of the following improvements shall be consistent with the project PFFP and to the satisfaction of the City Engineer, with intersection lane geometry per **Figure 34**. Prior to the approval of the final map containing the EDUs threshold triggering the construction of the intersection improvements, including installation of a traffic signal, the applicant shall enter into an agreement to design, construct, and secure a fully actuated traffic signal including interconnect wiring, mast arms, signal heads and associated equipment, underground improvements, standards and luminaires at the La Media Road/ Santa Luna intersection. The design of the signal shall be to the satisfaction of the City Engineer. The applicant shall provide turn lane storage lengths as listed in Table 26A.	LOS C or better
Olympic Pkwy./Street "D"	Phasing of the following improvement shall be consistent with the project PFFP and to the satisfaction of the City Engineer, with intersection lane geometry per **Figure 34**. Prior to the approval of the final map containing the EDUs threshold triggering the construction of the intersection improvements, including installation of a traffic signal, the applicant shall enter into an agreement to design, construct, and secure a fully actuated traffic signal including interconnect wiring, mast arms, signal heads and associated equipment, underground improvements, standards and luminaires at the Olympic Parkway/Street "D" intersection. The design of the signal shall be to the satisfaction of the City Engineer. The applicant shall provide turn lane storage lengths as listed in Table 26A.	LOS C or better

Table 35

PFFP Impacts and Mitigation Measures

PFFP Impacted Locations	Mitigation Measures
Heritage Road	
Olympic Pkwy. to Street "D"	Prior to approval of the final map containing the EDUs thresholdtriggering the construction of street improvements, the applicant shall enter into an agreement to design, construct, and secure full street improvements. Phasing of improvements shall be consistent with the project PFFP and to the satisfaction of the City Engineer.
Street "D" to Street "F"	Prior to approval of the final map containing the EDUs thresholdtriggering the construction of street improvements, the applicant shall enter into an agreement to design, construct, and secure full street improvements. Phasing of improvements shall be consistent with the project PFFPand to the satisfaction of the City Engineer.
Street "F" to Street "J" North	Prior to approval of the final map containing the EDUs thresholdtriggering the construction of street improvements, the applicant shall enter into an agreement to design, construct, and secure full street improvements. Phasing of improvements shall be consistent with the project PFFPand to the satisfaction of the City Engineer.
Street "F" to Street "J" North	Prior to approval of the final map containing the EDUs thresholdtriggering the construction of street improvements, the applicant shall enter into an agreement to design, construct, and secure full street improvements. Phasing of improvements shall be consistent with the project PFFPand to the satisfaction of the City Engineer.
Street "J" North to Street "J" South	Prior to approval of the final map containing the EDUs thresholdtriggering the construction of street improvements, the applicant shall enter into an agreement to design, construct, and secure full street improvements. Phasing of improvements shall be consistent with the project PFFPand to the satisfaction of the City Engineer.
Street "J" South to Main Street	Prior to approval of the final map containing the EDUs thresholdtriggering the construction of street improvements, the applicant shall enter into an agreement to design, construct, and secure full street improvements. Phasing of improvements shall be consistent with the project PFFPand to the satisfaction of the City Engineer.
Heritage Road South of Main Street	Prior to approval of the final map containing the EDUs thresholdtriggering the construction of street improvements, the applicant shall enter into an agreement to design, construct, and secure full street improvements. Phasing of improvements shall be consistent with the project PFFPand to the satisfaction of the City Engineer.

Table 35 (Continued)

PFFP Impacts and Mitigation Measures

PFFP Impacted Locations	Mitigation Measures
Main Street	
Project West boundary to Heritage Road	Prior to approval of the final map containing the EDUs thresholdtriggering the construction of street improvements, the applicant shall enter into an agreement to design, construct, and secure full street improvements. Phasing of improvements shall be consistent with the project PFFPand to the satisfaction of the City Engineer.
East of Heritage Road	Prior to approval of the final map containing the EDUs thresholdtriggering the construction of street improvements, the applicant shall enter into an agreement to design, construct, and secure full street improvements. Phasing of improvements shall be consistent with the project PFFPand to the satisfaction of the City Engineer.
Street "D"	
Olympic Parkway to Heritage Road	Prior to approval of the final map containing the EDUs thresholdtriggering the construction of street improvements, the applicant shall enter into an agreement to design, construct, and secure full street improvements. Phasing of improvements shall be consistent with the project PFFPand to the satisfaction of the City Engineer
Street "E"	
Street "D" to Street "B"	Prior to approval of the final map containing the EDUs thresholdtriggering the construction of street improvements, the applicant shall enter into an agreement to design, construct, and secure full street improvements. Phasing of improvements shall be consistent with the project PFFPand to the satisfaction of the City Engineer.
Street "B" to La Media Rd.	Prior to approval of the final map containing the EDUs thresholdtriggering the construction of street improvements, the applicant shall enter into an agreement to design, construct, and secure full street improvements. Phasing of improvements shall be consistent with the project PFFPand to the satisfaction of the City Engineer
La Media Road	
Santa Venetia to Birch Avenue	Prior to approval of the final map containing the EDUs thresholdtriggering the construction of street improvements, the applicant shall enter into an agreement to design, construct, and secure full street improvements. Phasing of improvements shall be consistent with the project PFFPand to the satisfaction of the City Engineer.