Traffic Impact Analysis for:

Diaz Road Widening Project

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DAVID EVANS AND ASSOCIATES INC.

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1 TRAFFIC IMPACT STUDY INTRODUCTION

This report has been prepared to meet the environmental review requirements for the Diaz Road Widening Project and to support the engineering design efforts by identifying the required intersection configurations. The widening of Diaz Road to a four-lane major arterial is consistent with the City of Temecula's General Plan circulation element. Since the majority of Diaz Road is currently has four through lanes (two in each direction) the Diaz Road widening project closes the intermittent gaps with only two lanes, expands intersections to accommodate planned connections across Murrieta Creek and extends the unimproved portion of Diaz Road to the planned Cherry Road extension.

The Diaz Road widening project also includes improving the street's edge conditions, particularly to the east side to include new curb and gutter, curb returns and conforming ADA facilities at existing intersections where they are missing and at new intersections, traffic signal control or modifications, improved connections to intersection crossings where the existing multi-use trail paralleling the east side of Diaz Road crosses streets. The Diaz Road widening also provides Class II bicycle lanes in both directions within the study area. The project description below describes in more detail the proposed improvements for each of the corridor's five segments.

1.1 Project Description

The study corridor of Diaz Road, within the City of Temecula, extends from Rancho California Road to Cherry Street. The City of Temecula's circulation element obtained from the General Plan classifies Diaz Road as a Major Arterial (4 Lanes Divided), per City Standard No. 101. The typical cross-section calls for a 100-ft minimum right-of-way, 76-ft roadway with a 14-ft raised median, and 12-ft parkways on each side of the road. This segment of Diaz Road would complete the City's only existing north-south corridor west of Murrieta Creek. North of Cherry Street, this north-south corridor is planned to continue as Washington Avenue within the City of Murrieta.

Several existing and future streets intersecting the study corridor are identified on the City's Roadway Plan as Secondary Arterials or greater. Per the guidelines from the City's Circulation Element, these intersections shall include two through lanes, two left-turn lanes, and one right-turn lane. The traffic operations analysis in this study presents intersection lane recommendations based on desired level of service, right-of-way considerations, and existing facility and utility constraints.

The corridor is divided into five distinct segments. Each segment was analyzed as part of an alternatives analysis considering various design options and recommendations to provide safe pedestrian and vehicular circulation through the corridor, while balancing environmental, drainage, right-of-way / property, access, and construction cost. The preferred alternative design resulting from the alternatives analysis for each segment are further described below:

Segment 1: Rancho California Road to 1,600-ft +/- north of Rancho California Road

This segment of the study corridor spans approximately 1,600-ft in length, has full width existing improvements including curb, gutter, storm drain, streetlights, and raised/landscaped median. This segment of Diaz Road is a four-lane roadway with two lanes in each direction, a raised landscaped median. A dedicated northbound right-turn from Rancho California Road utilizes "old" Diaz Road to connect to Diaz Road. The Diaz Road outside northbound travel lane from Rancho California Road merges into a single lane south of the "old" Diaz Road connection which continues as the northbound travel lane. The connection from Rancho California Road utilizing "old" Diaz Road is evaluated as an element of the intersection of Diaz Road at Rancho California Road.

Sidewalks exists on the west side of the roadway only, with a small gap towards the north end of the segment. In lieu of a sidewalk on the east side of Diaz Road, pedestrians are able to

utilize the multi-use trail that parallels "old" Diaz Road and Diaz Road all the way to Winchester Road.

Segment 2: 1,600-ft +/- north of Rancho California Road to Via Montezuma

This segment of the study corridor spans approximately 2,600-ft in length and has two through lanes in each direction with dual left turn lanes at signalized intersections. Total pavement width measures 60-ft rather than the 76-ft needed for the desired Major Arterial classification. The median is currently a striped two-way left turn lane as opposed to the raised curbed median identified in the Major Arterial cross-section. The segment is void of streetlights. The west side of the road has existing curb and gutter but has several gaps in the sidewalk, and also displays inconsistent parkway landscape improvements. The east side of the road has segmented AC berm, no sidewalk, and landscape improvements consisting simply of mulch.

This segment includes the intersection with Via Montezuma, which is planned to be taken out of operation once the City's Murrieta Creek Bridge at Avenue Alvarado / Overland Drive project is completed (currently in design by CNS Engineers, Inc). However, until that time, Via Montezuma will remain in operation. The widening of Diaz Road will result in transitional improvements needed on Via Montezuma in order to join existing conditions.

Segment 3: Via Montezuma to 300-ft south of Avenue Alvarado / Overland Drive

This segment of the study corridor spans approximately 2,100-ft in length, north of Via Montezuma, the existing roadway reduces to a single lane in each direction, with turn lanes at key intersections. The median is currently a striped two-way left turn lane as opposed to the raised curbed median identified in the Major Arterial cross-section. The segment is void of streetlights. The west side of the road has existing curb and gutter but has several gaps in the sidewalk and displays inconsistent parkway landscape improvements. The east side of the road has no sidewalk and landscape improvements consisting primarily of mulch.

This segment will overlap with planned improvements at the intersection of Avenue Alvarado / Overland Drive and Diaz Road that are included with the current Murrieta Creek Bridge at Overland project. This project includes full improvements at this intersection, including the installation of a traffic signal.

Segment 4: 300-ft south of Avenue Alvarado / Overland Drive to Dendy Parkway

This segment of the study corridor spans approximately 4,300-ft in length, is fully widened to the desired 76-ft roadway width, with curb and gutter on both sides of the roadway and two travel lanes in each direction and turn lanes at key intersections. The median is currently a striped two-way left turn lane as opposed to the raised curbed median identified in the Major Arterial cross-section. Streetlights exist north of Winchester Road only.

The west side of the road has several gaps in the sidewalk, but the parkway is fully landscaped. The east side of the road has no sidewalk but continues to be paralleled by the multi-use trail until Winchester Road. North of Winchester Road there is a meandering sidewalk through the pocket park (Citizens Coalition for the Murrieta Creek Pilot Project), that ends at the EMWD Springs Creek lift station across from Remington Avenue. North of the lift station, there is no sidewalk or landscaping on the east side of the roadway. The multi-use trail runs adjacent to the curb for roughly 400-ft south of Winchester Road, where it runs in front of the RCWD Winchester sewer lift station.

Segment 5: Dendy Parkway to Cherry Street

North of Dendy Parkway to Cherry Street is the "new" roadway portion of the project—the boundary of the study corridor terminates at the Diaz Road intersection with Cherry Street.

The project will extend Diaz Road approximately 1,000-ft to the north of Dendy Parkway and terminate at Cherry Street, which currently does not exist west of Murrieta Creek. Ultimately north of Cherry Street, Diaz Road will continue as Washington Avenue within the City of Murrieta. Cherry Street marks the City limit between Temecula and Murrieta and is planned as a Major Arterial to cross Murrieta Creek and ultimately join French Valley Parkway to the east and a new interchange with I-15, and be extended to the west to connect with Via Industria and ultimately to I-15 in the south.

1.2 Traffic Impact Study Scenarios

The following scenarios are evaluated to address potentially significant project impacts:

- Existing Conditions
- Future Year 2040 No-Build Conditions
- Future Year 2040 Build Conditions

The **Existing Conditions** scenario establishes a baseline condition for comparison with future conditions.

The **Future Year 2040 No-Build Conditions** scenario evaluates Diaz Road without the proposed widening but with other planned roadway improvements including new connections over Murrieta Creek such as Rancho Way, Avenida Alvarado/Overland, and the Cherry Street extension connecting to the new the interchange with I-15 at French Valley Parkway. Growth in traffic on Diaz Road by the year 2040 is derived from forecasts from the Riverside County Transportation Analysis Model (RIVTAM). This scenario identifies impacts of the City's General Plan buildout by year 2040 for which the proposed Diaz Road widening project would mitigate.

The **Future Year 2040 Build Conditions** analyzes 2040 conditions as defined in the no build scenario with the addition of the Diaz Road widening.

2 EXISTING CONDITIONS

2.1 Roadway Network

Study Intersections

This study includes intersection capacity analysis for five existing intersections and two future intersections in the study area.

1. Diaz Rd at Rancho California Rd
2. Diaz Rd at Rancho Way
3. Diaz Rd at Via Montezuma (only for Existing Conditions)
4. Diaz Rd at Avenue Alvarado
5. Diaz Rd at Winchester Rd
6. Diaz Rd at Dendy Pkwy (only for Future Conditions)
7. Diaz Rd at Cherry St (only for Future Conditions)

2.2 Existing Traffic Volumes

Newport Traffic Studies (NTS) conducted AM (7:00-9:00 AM) and PM (4:00-6:00 PM) peak period turn movement counts in November 2019, provided in Appendix A.

2.3 Intersection Capacity Analysis Methodology

Intersection capacity analyses were conducted using Synchro software [1], which implements the methods of the Highway Capacity Manual, 6th Edition (HCM 6) [2] used in this report. The intersection capacity analyses utilize existing intersection geometrics and existing and forecasted traffic volumes in analyzing AM and PM peak hour intersection operating conditions. The study intersections were modeled in Synchro as a network with the cycle length and offsets optimized for the AM and PM peak hours individually.

The intersection capacity analysis utilizes existing intersection geometrics and existing and forecasted traffic volumes in analyzing AM and PM peak hour intersection operating conditions. Table 2-1 provides the Signalized intersection HCM 6 LOS thresholds. Table 2-1 provides the Two-Way Stop Controlled (TWSC) intersection HCM 6 LOS thresholds. The analysis determines a LOS that quantitatively describes the operating characteristics of signalized intersections. The LOS for a Two-Way Stop Controlled (TWSC) intersection is determined by the computed or measured control delay. The LOS is determined for each minor street movement (or shared movement) by using the criteria provided in Table 2-2 referenced from HCM 6 Chapter 20.

2.4 Roadway Segment Analysis Methodology

Roadway segment operations for Diaz Road are evaluated by comparing the future conditions traffic volumes to the maximum two-way daily traffic volume identified in the City of Temecula General Plan Circulation Element representing a segment level of service (LOS) E. The threshold volumes for Diaz Road as a major four lane arterial is 36,000 average daily traffic (ADT). In this study, average daily traffic volumes for each segment of Diaz Road are estimated using the bi-directional PM peak hour volume divided by a peak to daily factor of 11.5%. In accordance with the City's General Plan Circulation Element, LOS "E" or better shall be maintained at all study roadway segments.

[1] Trafficware Ltd, Version 10.
[2] Transportation Research Board, Washington D.C., 2010.

Table 2-1: HCM 6 – LOS Criteria for Signalized Intersections

Control Delay (s/veh)	LOS by Volume-to-Capacity Ratio[a]	
	≤1.0	>1.0
≤ 10	A	F
> 10 - 20	B	F
> 20 - 35	C	F
> 35 - 55	D	F
> 55 - 80	E	F
> 80	F	F

Note: [a] For approach-based and intersection-wide assessments, LOS is defined solely by control delay.
Source: Highway Capacity Manual 6th Edition, Exhibit 19-8.

Table 2-2: HCM 6 – LOS Criteria for TWSC

Control Delay (s/veh)	LOS by Volume-to-Capacity Ratio	
	v/c ≤1.0	v/c >1.0
0 - 10	A	F
> 10 -15	B	F
> 15 - 25	C	F
> 25 - 35	D	F
> 35 - 50	E	F
> 50	F	F

Note: The LOS criteria apply to each lane on a given approach and to each approach on the minor street. LOS is not calculated for major-Street approaches or for the intersection as a whole.
Source: Highway Capacity Manual 6th Edition, Exhibit 20-2.

2.5 Significant Impact Thresholds

The City of Temecula Traffic Impact Analysis Guideline establishes that the minimum LOS standards for the City's Arterial Highway Network to be LOS "D" or better at all intersections. The City of Temecula's CEQA Transportation VMT Analysis Guidelines establish that a net increase in area total VMT indicates that a transportation project has a significant impact.

2.6 Existing Traffic Analysis

Table 2-3 and Appendix B provide the results of the analysis. The turn movement volumes for the intersection of Diaz Rd at Rancho California Rd conservatively, includes the right turn movements currently utilizing the Old Diaz Road access from Rancho California Road. Analyzing this intersection in this way evaluates a "worst case" condition should Old Diaz Road be closed, but also ensures all of the traffic using Old Diaz Road is accounted for in the analysis of the downstream study intersections. Figure 1 presents the existing lane geometries.

As presented in Table 2-3 under existing conditions, the study intersections operate at an acceptable LOS D or better with the exception of Diaz Road at Via Montezuma, a stop controlled intersection which is currently operating at a LOS E in the AM peak period.

The LOS service provided for the intersection of Diaz Road at Via Montezuma is for the critical movement from Via Montezuma. However, this is an interim condition since the east leg is proposed to be closed under future conditions with a new access across Murrieta Creek proposed by extending Overland Drive to connect to Diaz Road at Avenue Alvarado.

Table 2-3: Intersection Capacity Analysis – Existing Conditions

	Intersection	AM Peak Hour		PM Pear Hour	
		Delay	LOS	Delay	LOS
1	Diaz Rd at Rancho California Rd	36.2	D	39.4	D
2	Diaz Rd at Rancho Way	8.0	A	4.3	A
3	Diaz Rd at Via Montezuma (1)	44.5	E	28.4	D
4	Diaz Rd at Avenue Alvarado	13.5	B	13.2	B
5	Diaz Rd at Winchester Rd	29.4	C	17.8	B

Delay – In seconds per vehicle
LOS – Level of Service
(1) Stop controlled intersection

Source: David Evans and Associates, Inc.

Intersection Queuing Analysis

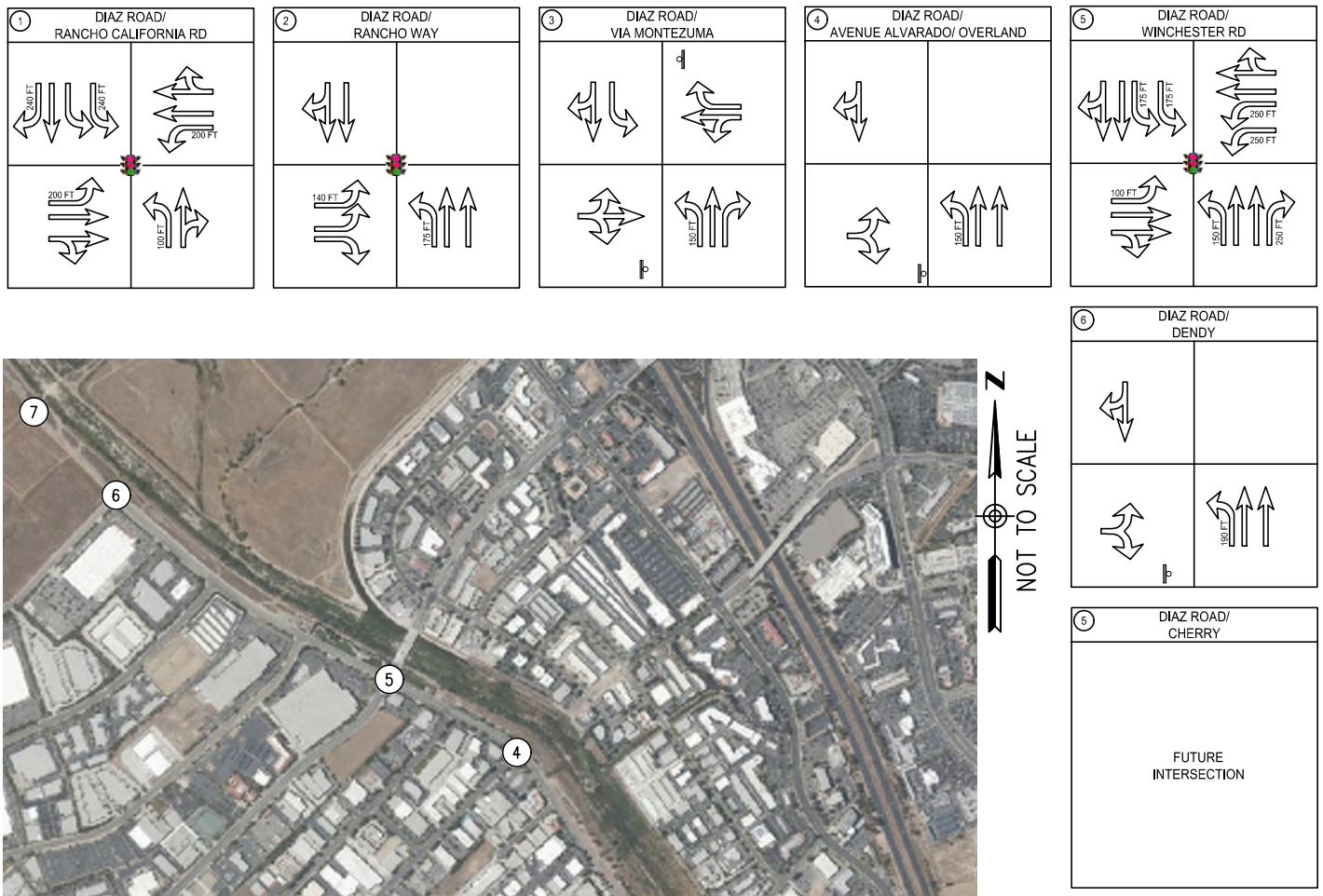
A queuing analysis for existing conditions was performed utilizing Trafficware SimTraffic10 software package. Queuing analyses are conducted to determine if the existing or projected traffic volumes for certain intersection movements would exceed the lane storage provided for those movements causing spillovers that can affect safety and capacity. Typically, the queuing analysis presents the 95th percentile maximum queue lengths. Appendix C provides the queuing analysis for existing conditions which shows that peak hour queues do not exceed the provided storage at any of the study intersections.

Existing Roadway Segment Analysis

Table 2-4 presents the roadway segment analysis for existing conditions by comparing the current average daily traffic volumes (ADT) to the daily capacity of Diaz Road. The current four lane segments of Diaz Road operate well under the capacity of a major four lane arterial. Similarly, the two-lane segment operates under the capacity of a secondary arterial.

Table 2-4: Roadway Segment Analysis - Existing Conditions

Segment		Classification	Capacity (LOS E)	ADT	Existing LOS
Diaz Road					
1	Rancho California Road to 1,600-ft +/- north of Rancho California Road	Major Arterial (4 Lanes Divided)	36,000	8,800	E or better
2	1,600-ft +/- north of Rancho California Road to Via Montezuma	Major Arterial (4 Lanes Divided)	36,000	9,000	E or better
3	Via Montezuma to 300-ft south of Avenue Alvarado / Overland Drive	Limited Secondary Arterial (2 Lanes Divided)	16,000	9,100	E or better
4	300-ft south of Avenue Alvarado / Overland Drive to Dendy Parkway	Major Arterial (4 Lanes Divided)	36,000	3,700	E or better
5	Dendy Parkway to Cherry Street	**Future Road Segment			



LEGEND

- (#) - STUDY INTERSECTIONS
- SIGNALIZED INTERSECTION
- STOP CONTROLLED APPROACH

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FIGURE 1

EXISTING INTERSECTION GEOMETRICS AND TRAFFIC CONTROL

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3 FUTURE YEAR 2040 CONDITIONS

The Future Year 2040 conditions evaluates impacts of forecasted regional growth to the year 2040 and is used to inform and/or confirm the design of the Diaz Road extension with respect to the ultimate intersection lane configurations and turn lane lengths.

3.1 VMT Analysis Methodology

Senate Bill 743 changes the way that transportation impacts are analyzed under CEQA. Specifically, SB 743 amends CEQA to provide an alternative to automobile Level of Service (LOS) for evaluating and identifying significant transportation impacts. Measurements of transportation impacts will now emphasize "vehicle miles traveled (VMT) or vehicle miles traveled per capita".

As a result of SB 743, environmental review of land use development, transportation projects and regulatory plans will measure environmental impacts, and development of mitigation measures, based on a project or plan's net change in VMT. The City of Temecula has developed guidelines for the preparation of VMT analyses for land use development and transportation projects [3].

The Diaz Road widening project is a transportation project and subject to the thresholds of significance for transportation projects defined in the guidelines. The guidelines state that, for transportation projects, any project that results in an increase in additional motor vehicle capacity (such as constructing a new roadway or adding additional vehicle travel lanes on an existing roadway) has the potential to increase vehicle travel, referred to as "induced vehicle travel." A net increase in area total VMT indicates that the project has a significant impact.

According to the guidelines, total daily VMT within a given area can be measured by multiplying the daily volume on every roadway segment by the length of every roadway segment within a given area. This is called Boundary Method VMT. Examples of total VMT (Boundary Method) are VMT within the WRCOG region, VMT within the City of Temecula, or VMT within the vicinity of a transportation project.

The VMT analysis for Diaz Road widening project uses the VMT calculation methodology presented in the California Governor's Office of Planning and Research (OPR) Technical Advisory on Evaluating Transportation Impacts in CEQA (December 2018). The equation for estimating the change in VMT for transportation projects is:

[% increase in lane miles] x [existing VMT] x [elasticity] = [VMT resulting from the project]

For, existing VMT, this study uses a regional measure encompassing the cities of Temecula, Murrieta, and Menifee (a designated Federal Aid Urban Area) for which the Federal Highway Administration publishes total lane miles and total daily VMT for the region [4].

Elasticity is the ratio of the percent change in VMT associated with a one percent change in lane miles. The expectation is that this ratio will be positive: an increase in lane miles will lead to an increase in VMT. Research on induced travel have identified ranges of elasticities from 0.3 to 1.03 but concludes that the best estimate for the long-run effect of roadway capacity on VMT is an elasticity close to 1.0, which is used in the calculation for this study [5].

The VMT analysis methodology is only applied to the build (project) scenario.

[3] CEQA Transportation VMT Analysis Guidelines, City of Temecula, Fehr & Peers Associates, April 3, 2020.
[4] Federal Highway Administration, Office of Highway Policy Information, Table HM-72 - Highway Statistics 2015.
[5] Impact of Highway Capacity and Induced Travel on Passenger Vehicle Use and Greenhouse Gas Emissions, University of California Davis (Handy), University of Southern California (Boarnet), California EPA Air Resources Board, September 2014.

3.2 Planned Roadway Improvements

In the vicinity of the project there are several planned roadway improvements that directly affect area traffic patterns and the traffic forecasts for Diaz Road. New connections to Diaz Road are separate projects with individual construction timeframes assume to occur by the year 2040.These improvements, identified in the City's General Plan circulation element, are described below.

- **Extension of Rancho Way across Murrieta Creek**. This new roadway will bridge Murrieta Creek and connect Diaz Road to Del Rio Road and Jefferson Avenue north of the creek. Rancho Way is designated a four-lane secondary arterial in the General Plan.
- **Extension of Overland Drive across Murrieta Creek**. This new roadway bridges Murrieta Creek and connects Diaz Road to Jefferson Avenue. Overland Drive crosses I-15 providing new access from north of the freeway to Diaz Road. Overland Drive will align with Avenue Alvarado creating a new four leg intersection. Overland Drive is designated a four-lane secondary arterial in the General Plan.
- **Extension of Cherry Street across Murrieta Creek.** This new roadway bridges Murrieta Creek and connects Diaz Road to Jefferson Avenue and French Valley Parkway which currently has a southbound only off-ramp from I-15 but will eventually have a full access interchange. Cherry Street is designated a four-lane major arterial in the General Plan.
- **Extension of Diaz Road north to the City of Murrieta.** The future 2040 analysis includes the extension of Diaz Road beyond the current study area into the City of Murrieta to connect with Washington Avenue. This continuation of Diaz Road is designated a four-lane major arterial in the General Plan.
- **New Interchange at I-15 / French Valley Parkway**. The extension of Cherry Street will connect Diaz Road to the planned new interchange with I-15 at French Valley Parkway designed to relieve traffic from the Winchester Road interchange with I-15.

The new roadway extensions and the additional interchange connection to I-15 significantly increase connectivity in the Diaz Road corridor north of the current barriers caused by Murrieta Creek and the I-15 freeway. The expanded connectivity is evident in the year 2040 forecasts.

3.3 Year 2040 Forecasts

Future Year 2040 traffic projections were developed from the Riverside County Travel Analysis Model (RIVTAM) travel demand forecasting model. RIVTAM includes the study segment of Diaz Road from Rancho California Road to Cherry Street as a four-lane major arterial. The model includes the planned improvements described above. The model's base year (2012) and future year (2040) forecasts are provided as weekday AM and PM peak link volumes separated by automobiles and trucks.

The methodology used in this study for deriving year 2040 intersection turning movement forecasts is an industry standard method of post-processing travel demand model output. The post-processing method is described below.

Model Post Processing of Segment Volumes for Future Intersection Analysis

1. Extract passenger car and truck link volumes from the base year (2012) and future year (2040) AM and PM peak hour model plots for each study intersection approach.
2. Convert truck volumes to passenger car equivalents (PCE) using standard factor or use truck percentages in capacity analysis software.
3. Determine the model's absolute growth in traffic for each intersection approach and departure:

(2040 volumes) – (2012 volumes) = Model Growth

4. Determine the model growth from existing year:

   (2019 – 2012) / (2040- 2012) x Model Growth = Model Growth in Traffic (2019 to 2040)

5. Determine the adjusted 2040 passenger car volume:

   Model Growth in Traffic (2019 to 2040) + Existing Approach / Departure Traffic Counts = Adjusted 2040 Passenger Car Volume

6. Use standardized post-processing technique to convert adjusted 2040 passenger car link volumes to 2040 intersection turning movements (e.g., iterative procedure directional method) [6].

7. Balance traffic volumes throughout entire study corridor using highest projected traffic volumes as a control.

3.4 2040 No-Build Traffic Analysis

The 2040 no build scenario assigns the 2040 forecasts to the existing Diaz Road geometries. However, the no build scenario includes the planned roadway connections described above under planned improvements. Because of these new connections to Diaz Road, certain assumptions were necessary regarding the intersection configurations in the no build scenario:

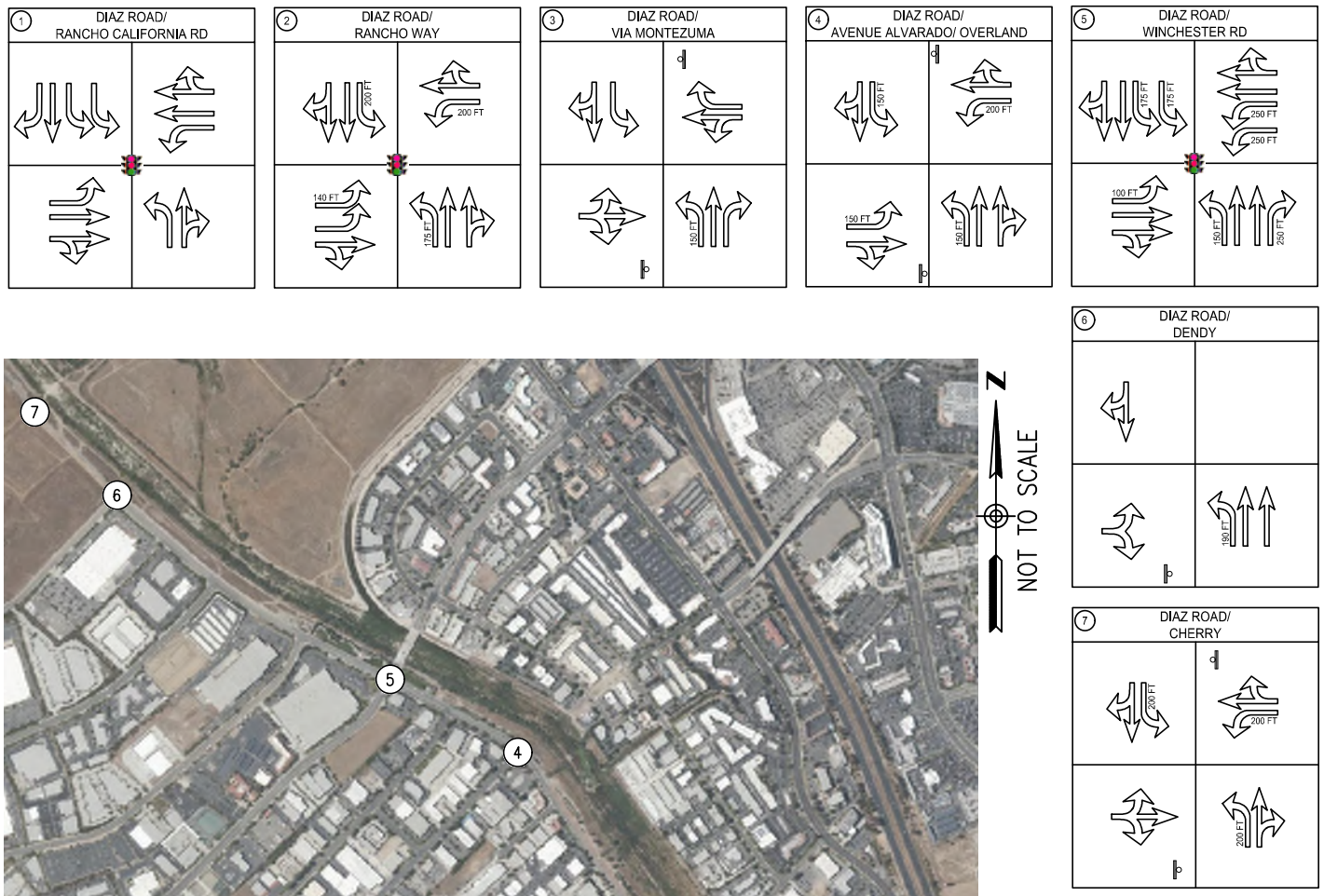
- Existing intersections without new connections assume existing geometries and traffic control.
- Existing intersection with new connections (e.g., Rancho Way, and Overland Drive/Avenue Alvarado) assume existing traffic control and geometries on existing intersection approaches except for new southbound left turns on Diaz Road accessing the new connections. The approaches of the new connections assumed minimal lane geometries (e.g., one left turn lane and one shared through-right lane).
- Via Montezuma intersection is assumed to remain.
- The extension of Diaz Road from Dendy Parkway to the new Cherry Street extension and beyond to Washington Avenue is assumed as a two-lane roadway.
- The new Cherry Street intersection with Diaz Road assumes minimal lane geometries (e.g., one left turn lane and one shared through-right lane at each approach).

Figure 2 presents the assumed no build scenario lane geometries.

Table 3-1 compares intersection levels of service between existing and year 2040 no build conditions. Several intersections are projected to operate at levels of service below the City's standard LOS D. All except one of these intersections have new approaches from the east over Murrieta Creek including Diaz Road at Rancho Way and Overland Drive/Avenue Alvarado.

The stop-controlled intersection of Diaz Road at Via Montezuma operates at an extreme LOS F in both peak periods. However, this intersection is a low flow crossing of Murrieta Creek which is closed during wet seasons and planned to be removed once the new crossings are completed.

[6] Analytical Travel Forecasting Approaches for Project-Level Planning and Design, National Cooperative Highway Research Program (NCHRP) Report 765, Washington DC, 2014.



LEGEND

(#) - STUDY INTERSECTIONS

SIGNALIZED INTERSECTION

STOP CONTROLLED APPROACH

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FIGURE 2

2040 NO BUILD CONDITION INTERSECTION GEOMETRICS AND TRAFFIC CONTROL

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Table 3-1: Comparison of Existing and Year 2040 No Build Intersection Level of Service

Intersection		Existing Conditions				Year 2040 No Build Conditions			
		AM Peak Hour		PM Pear Hour		AM Peak Hour		PM Pear Hour	
		Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1	Diaz Rd at Rancho California Rd	36.2	D	39.4	D	40.4	D	39.6	D
2	Diaz Rd at Rancho Way	8.0	A	4.3	A	56.8	E	38.4	D
3	Diaz Rd at Via Montezuma (1)	44.5	E	28.4	D	5253.5	F	353.7	F
4	Diaz Rd at Avenue Alvarado (1)	13.5	B	13.2	B	633.8	F	360.5	F
5	Diaz Rd at Winchester Rd	29.4	C	17.8	B	36.9	D	35.4	D
6	Diaz Rd at Dendy Pkwy (1)	N/A				9.7	A	9.6	A
7	Diaz Rd at Cherry St (1)	N/A				11.4	B	11.2	B

Delay – In seconds per vehicle
LOS – Level of Service
(1) Stop controlled intersection

Source: David Evans and Associates, Inc.

Year 2040 No Build Roadway Segment Analysis

Table 3-2 presents the roadway segment analysis for year 2040 no build conditions by comparing the current average daily traffic volumes (ADT) to the daily capacity of Diaz Road. Despite growth in traffic volumes, the four lane segments of Diaz Road operate under the capacity of a major four lane arterial. Similarly, the two-lane segment operates under the capacity of a secondary arterial. This analysis concludes that intersections on Diaz Road, rather than the roadway segments themselves, are the choke points requiring expansion of Diaz Road.

Table 3-2: Year 2040 No Build Roadway Segment Analysis

Segment		Classification	Capacity (LOS E)	ADT	LOS
Diaz Road					
1	Rancho California Road to 1,600-ft +/- north of Rancho California Road	Major Arterial (4 Lanes Divided)	36,000	8,900	E or better
2	1,600-ft +/- north of Rancho California Road to Via Montezuma	Major Arterial (4 Lanes Divided)	36,000	14,300	E or better
3	Via Montezuma to 300-ft south of Avenue Alvarado / Overland Drive	Limited Secondary Arterial (2 Lanes Divided)	16,000	13,400	E or better
4	300-ft south of Avenue Alvarado / Overland Drive to Dendy Parkway	Major Arterial (4 Lanes Divided)	36,000	7,000	E or better
5	Dendy Parkway to Cherry Street	Major Arterial (4 Lanes Divided)	36,000	4,500	E or better

3.5 Year 2040 No Build Measures to Improve Deficient Intersections

The following measures are required to improve the level of service of intersections operating at LOS E or F and should be incorporated into the Diaz Road widening project plans.

1. Diaz Road at Rancho Way
    a. Configure the westbound approach to accommodate a left, a through and an exclusive right turn lane about 200 feet in length.
    b. Provide an exclusive northbound right turn lane about 175 feet in length.

2. Diaz Road at Avenue Alvarado / Overland Drive
    a. Signalize intersection.
    b. Configure the westbound approach to accommodate a left, a through and an exclusive right turn lane about 200 feet in length.
    c. Provide an exclusive northbound right turn lane about 150 feet in length.
3. Diaz Road at Via Montezuma
    a. Close Via Montezuma permanently once additional crossings have been implemented.
4. Diaz Road at Winchester Road
    a. Provide a second northbound left turn lane so that medians and through lanes align for safety (also see Section 3.8 Alternative Design Concepts for Intersection of Diaz Road at Winchester Road)

3.6 2040 Build Traffic Analysis

The build scenario represents Diaz Road under the ultimate geometrics developed for the Diaz Road widening project. The 2040 build scenario has the following objectives, 1) meet CEQA requirements analyzing the potential impacts of the project, 2) improve the traffic operating conditions identified in the 2040 no build scenario thus validating the project as identified in the City's General Plan, and 3) to inform the engineering design process by substantiating the proposed intersection geometrics. Engineering drawings for the Diaz Road widening project are provided in Appendix D.

Recent changes in CEQA requirements restrict the identification of environmental impacts to those caused by changes in VMT as a result of the project. Intersection level of service and queuing analyses are presented to meet objectives 2 and 3 described above.

Analysis of Vehicle Miles of Travel (VMT)

The purpose of this analysis is to meet new legislative requirements to measure potential impacts of the project based on VMT. As stated earlier, the City's CEQA Transportation VMT Analysis Guidelines have established a threshold of significance for transportation projects stating that any net increase in VMT is considered a significant impact.

Using the methodology described earlier in this study, the estimated change in VMT as a result of the increase in lane miles from the Diaz Road widening project is shown in Table 3-3.

Table 3-3: Change in Vehicle Miles of Travel Resulting from Diaz Road Widening

	Lane Miles Added by Project	Total Roadway Miles in Urban Area [a]	Project % Increase in Urban Area Lane Miles	Total Existing Daily VMT in Urban Area [a]	Change in Total Urban Area Daily VMT
Diaz Road Widening Project	1.39	1957	0.07%	10,261,000	7,277
[a] The urban area used in the calculation of VMT is the Federal Aid Urban Area comprised of the cities of Temecula, Murrieta and Menifee. See VMT analysis methodology section for details and sources of data.					

The analysis results in a net increase in VMT as expected for a transportation project that adds lane capacity. This is considered a significant impact under CEQA. There are very limited potential mitigation measures available for transportation projects that add lane miles to accommodate growth in traffic. The majority of the measures available from the resources identified in the City's guidelines that can effectively reduce VMT are related to land development projects.

3.7 Mitigating VMT Impacts

There are no feasible measures that can be designed into the project that will fully mitigate the increase in VMT resulting from widening Diaz Road. The project does provide some features that help to reduce VMT over existing and no build conditions. These include:

- The provision of Class II bicycle lanes in both directions of Diaz Road.
- Improved crossings and signal controlled crossings for pedestrians and bicyclists using the multi-use trail paralleling the north side of Diaz Road to the north.
- Conformance with the latest ADA standards throughout the corridor.
- Identification and space for future bus stops that improve safety and operational efficiency which encourage transit use. To the extent possible, reserve space for wheelchair lifts (5' x 8") for future bus stops located at the farside of signalized intersections.

With the adoption of the City's CEQA Transportation VMT Analysis Guidelines, the City can ensure private land development implement and maintain trip reduction programs for their residents and employees and provide infrastructure that promotes active transportation and transit use. Over the long term the measures taken by land development projects will likely reduce vehicles and associated VMT on Diaz Road.

Intersection Capacity Analysis

Table 3-4 and Appendix B provide the results of the analysis. The intersection capacity analysis is based on the future year 2040 turn movement volumes and the ultimate conceptual geometrics. The proposed ultimate conceptual geometrics utilized in the capacity analysis are illustrated on Figure 3.

Table 3-4: Comparison of Year 2040 No Build and Build Intersection Level of Service

Intersection		Year 2040 No Build Conditions				Year 2040 Build Conditions			
		AM Peak Hour		PM Pear Hour		AM Peak Hour		PM Pear Hour	
		Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1	Diaz Rd at Rancho California Rd	40.4	D	39.6	D	37.8	D	36.6	D
2	Diaz Rd at Rancho Way	56.8	E	38.4	D	33.5	C	31.9	C
3	Diaz Rd at Via Montezuma (1)	5253.5	F	353.7	F	-	-	-	-
4	Diaz Rd at Avenue Alvarado	633.8	F	360.5	F	41.9	D	37.0	D
5	Diaz Rd at Winchester Rd	36.9	D	35.4	D	36.0	D	32.0	D
6	Diaz Rd at Dendy Pkwy (2)	9.7	A	9.6	A	9.2	A	9.1	A
7	Diaz Rd at Cherry St (2)	11.4	B	11.2	B	38.3	D	31.1	C

Delay – In seconds per vehicle
LOS – Level of Service
(1) Via Montezuma assumed closed in build conditions
(2) Stop controlled intersection

Source: David Evans and Associates, Inc.

As presented in the table above with completion of the Diaz Road widening project, all of the study intersections are will operate at an acceptable LOS D or better.

Intersection Queuing Analysis

Appendix C provides the queuing analysis for 2040 build conditions which shows that peak hour queues exceed the provided storage for several movements. The final Diaz Road widening design will incorporate longer storage bays where applicable.

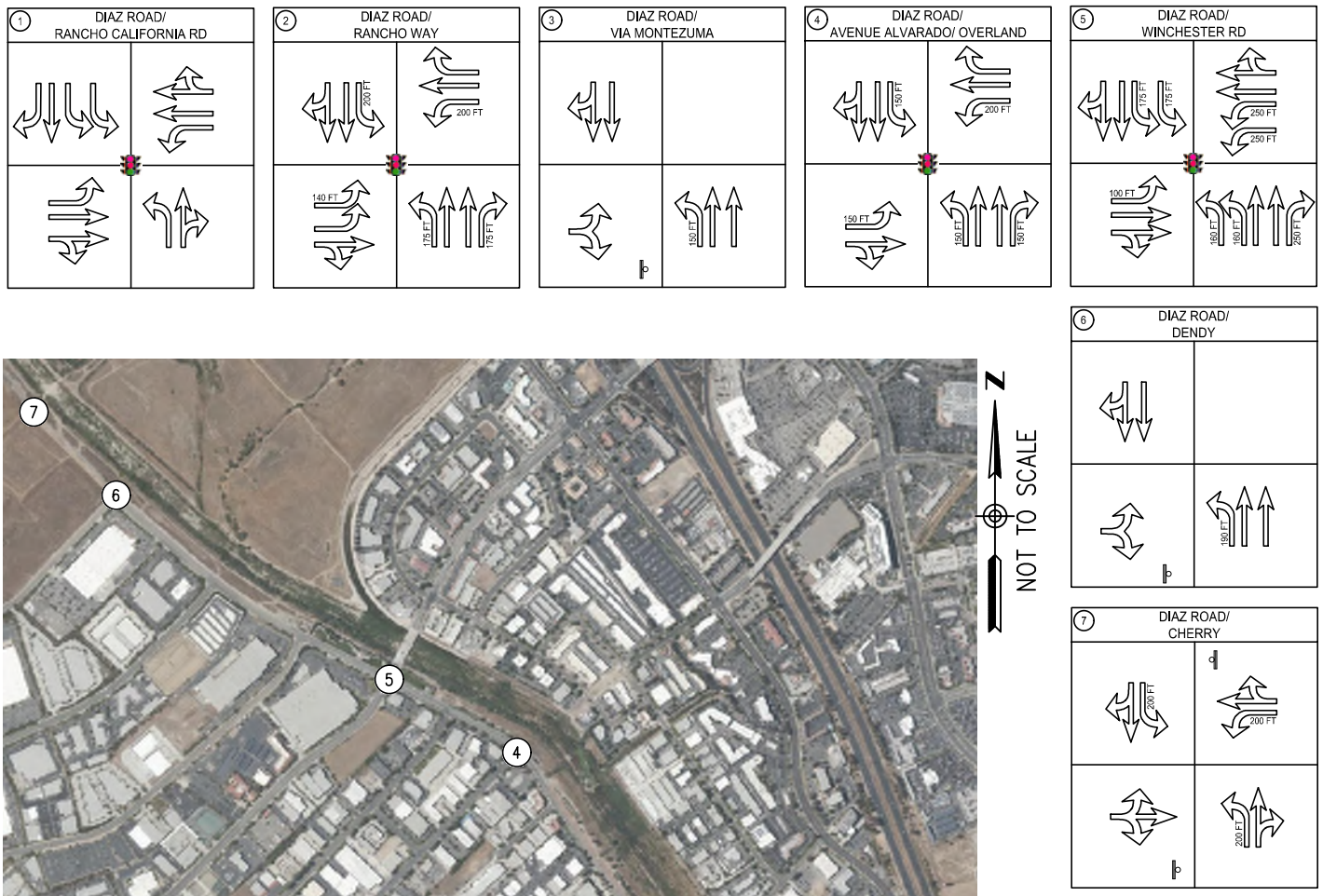

FIGURE 3

2040 BUILD CONDITION ULTIMATE INTERSECTION GEOMETRICS AND TRAFFIC CONTROL

DAVID EVANS AND ASSOCIATES INC.

Year 2040 Build Roadway Segment Analysis

Table 3-5 presents the roadway segment analysis for year 2040 build conditions by comparing the current average daily traffic volumes (ADT) to the daily capacity of Diaz Road. Despite growth in traffic volumes, all segments of Diaz Road operate under the capacity of a major four lane arterial. This analysis concludes that intersections on Diaz Road, rather than the roadway segments themselves, are the choke points requiring expansion of Diaz Road.

Table 3-5: Year 2040 Build Roadway Segment Analysis

Segment		Classification	Capacity (LOS E)	ADT	Existing LOS
Diaz Road					
1	Rancho California Road to 1,600-ft +/- north of Rancho California Road	Major Arterial (4 Lanes Divided)	36,000	8,900	E or better
2	1,600-ft +/- north of Rancho California Road to Via Montezuma	Major Arterial (4 Lanes Divided)	36,000	14,300	E or better
3	Via Montezuma to 300-ft south of Avenue Alvarado / Overland Drive	Major Arterial (4 Lanes Divided)	36,000	13,400	E or better
4	300-ft south of Avenue Alvarado / Overland Drive to Dendy Parkway	Major Arterial (4 Lanes Divided)	36,000	7,000	E or better
5	Dendy Parkway to Cherry Street	Major Arterial (4 Lanes Divided)	36,000	4,500	E or better

3.8 Alternative Design Concepts for Intersection of Diaz Road at Winchester Road

A. Dual Northbound Left Turn Lanes

The current ultimate design for the intersection of Diaz Road at Winchester Road includes dual northbound left turn lanes and the City has raised the question as to whether dual lanes are necessary or if the existing single left turn lane would suffice. The ultimate design retains the existing dual southbound left turn lanes.

The City's guidelines for implementing dual left turn lanes is a peak hour turning volume of 300 vehicles per hour (vph) or more. Neither the current southbound nor proposed northbound dual left turn lanes meet this requirement. Existing and projected left turn volume in both directions are between 100 and 200 vph. Therefore, the dual northbound left turn lanes are not required for capacity reasons.

The ultimate design includes dual northbound left tun lanes primarily to align with the existing southbound dual left lanes so that the northbound through lanes directly align across the intersection. Currently, the northbound through approach lanes are offset from the northbound receiving lanes by about a half of a lane width each. While this is generally considered the maximum allowable offset, having direct alignment of lanes across an intersection is preferred for safety reasons.

B. Single Versus Dual Northbound Right Turn Lanes

A sensitivity analysis was conducted on the northbound approach of Diaz Road at Winchester Road to assess the design option between a single right turn lane versus an exclusive right turn lane with a shared through-right lane.

The northbound right turn movement is the highest volume movement on the northbound approach in both the AM and PM peak hours (457 and 389 vph respectively). A comparison of the analysis of each option is described below.

Single Dedicated Right Turn Lane

- With the single dedicated right turn lane option the movement operates with moderate delays equivalent to a LOS C.
- The proposed 250-feet of storage is fully utilized by right-turning vehicles and often will spill out making the outside through on Diaz Road a de-facto right turn lane for a distance. Queued vehicles in the outside through lane can potentially impede access to the dedicated right turn lane reducing its effectiveness.
- A dedicated right turn lane can shadow the westbound left turns (the second highest volume movement at this intersection) either through allowing right-turn-on-red or by providing a protected right turn arrow during the east-west left turn signal phase (requires prohibiting westbound u-turns).
- A dedicated right turn lane permits extension of the northbound Class II bicycle lane to the stop bar with a 150-foot opening in the lane lines for bicyclists and right turning vehicles to weave, consistent with the California MUTCD. This design gives bicyclists their own space approaching and waiting at the intersection.

Dedicated Right Turn Lane Plus Shared Through-Right Lane

- With the dual right turn lane option the movement operates with similar delays and levels of service as the single lane option.
- The proposed 250-feet of storage in the dedicated right turn lane is augmented by the outside through lane which eliminates queue spillback blocking the outside through lane. Overall, queuing is slightly less than the single lane option.
- The dual right turn lane option can partially shadow the westbound left turns through right turns on red from the dedicated right turn lane, but the shared through-right lane prohibits implementing a protected right turn arrow during the east-west left turn signal phase. This could limit the potential for increasing capacity in the future. Additionally, queued vehicles in the outside through lane comprised of through and right turning vehicles can potentially impede access to the dedicated right turn lane reducing its effectiveness.
- The dual right turn lane option prohibits the extension of the northbound Class II bicycle lane up to the stop bar. The bike lane must end before the beginning of the dedicated right turn lane and bicyclists must merge with through traffic in a shared lane condition approaching and crossing the intersection. This eliminates the dedicated space for bicyclists and may discourage less experienced bicyclists from using the route.

Right Turn Lane Assessment Conclusion

The above assessment leads to the conclusion to provide a single dedicated northbound right turn lane for two primary reasons: 1) the ability to increase capacity and reduce queuing by providing a protected northbound right turn signal phase during the westbound left turn phase, and 2) the reduced impact on bicyclists with the single versus dual right turn lane.

4 APPENDICES

Appendix A: Traffic Counts

Appendix B: Intersection Capacity Analysis Calculations

Appendix C: Queuing Analysis

Appendix D: Diaz Road Widening Engineering Plans

DAVID EVANS AND ASSOCIATES INC.

Appendix A:Traffic Counts

INTERSECTION TURN COUNT

PEAK HOUR

NORTH-SOUTH STREET: DIAZ RD
EAST-WEST STREET: RANCHO CALIFORNIA DATE: 11-21-19
JURISDICTION: TEMECULA

PEAK HOUR: 07:45AM

NORTH LEG

TOTAL: 304

Rt	Thru	Lt	
89	92	123	Total
21	23	27	1st
25	21	36	2nd
23	20	30	3rd
20	28	30	4th

EAST LEG TOTAL: 1,197

	1st	2nd	3rd	4th	Total
Rt	55	61	66	60	242
Thru	209	221	210	192	832
Lt	33	29	31	30	123

WEST LEG TOTAL: 603

Total	1st	2nd	3rd	4th	
114	33	20	29	32	Lt
395	103	107	85	100	Thru
94	20	22	24	28	Rt

PEAK HOUR FACTORS

NORTH LEG = 0.93
SOUTH LEG = 0.93
EAST LEG = 0.96
WEST LEG = 0.94

ALL LEGS = 0.97

SOUTH LEG

TOTAL: 174

	Lt	Thru	Rt
1st	7	21	16
2nd	8	16	23
3rd	12	10	20
4th	10	17	14
Total	37	64	73

HOUR TOTAL: 2,278

Prepared by NEWPORT TRAFFIC STUDIES

SANBAG CLASSIFICATION SUMMARY

NORTH-SOUTH STREET : DIAZ RD

EAST-WEST STREET : RANCHO CALIFORNIA

TEMECULA

11-21-19

BEGINNING TIME : 07:00AM

AUTOS RT	AUTOS THRU	AUTOS LT	LARGE 2 AXLE RT	LARGE 2 AXLE THRU	LARGE 2 AXLE LT	3 AXLE RT	3 AXLE THRU	3 AXLE LT	4(+) AXLE RT	4(+) AXLE THRU	4(+) AXLE LT	TOTALS
NORTH LEG												
5	8	22	1	0	0	0	0	0	0	0	0	36
13	14	17	0	0	2	0	0	1	0	0	2	49
17	10	18	0	1	0	0	0	0	2	0	0	48
21	23	25	0	0	0	0	0	1	0	0	1	71
25	19	31	0	2	4	0	0	1	0	0	0	82
23	19	25	0	1	0	0	0	1	0	0	4	73
20	28	29	0	0	1	0	0	0	0	0	0	78
21	18	22	0	0	0	0	1	0	0	0	3	65
145	139	189	1	4	7	0	1	4	2	0	10	502
SOUTH LEG												
3	12	8	0	2	0	2	0	0	0	0	0	27
6	10	6	0	0	0	0	0	0	0	0	0	22
12	16	5	0	0	0	0	0	0	0	0	0	33
15	21	7	1	0	0	0	0	0	0	0	0	44
23	16	8	0	0	0	0	0	0	0	0	0	47
20	9	12	0	1	0	0	0	0	0	0	0	42
14	17	10	0	0	0	0	0	0	0	0	0	41
13	12	9	0	2	0	0	0	0	0	0	0	36
106	113	65	1	5	0	2	0	0	0	0	0	292
EAST LEG												
31	159	13	2	1	0	1	0	0	1	1	0	209
40	198	23	0	0	0	1	0	0	2	0	0	264
58	216	35	1	0	0	0	1	0	0	2	0	313
51	204	33	0	1	0	0	1	0	4	3	0	297
57	221	29	3	0	0	0	0	0	1	0	0	311
65	209	31	1	0	0	0	0	0	0	1	0	307
52	188	30	2	3	0	0	0	0	6	1	0	282
40	195	22	0	0	0	1	0	0	2	1	0	261
394	1590	216	9	5	0	3	2	0	16	9	0	2244
WEST LEG												
8	80	16	0	1	0	0	1	0	0	1	0	107
14	99	20	0	0	1	0	0	0	0	0	2	136
15	94	25	0	0	0	0	0	0	0	3	0	137
20	102	32	0	0	1	0	1	0	0	0	0	156
22	106	20	0	0	0	0	0	0	0	1	0	149
24	83	29	0	0	0	0	0	0	0	2	0	138
28	100	30	0	0	2	0	0	0	0	0	0	160
21	90	23	0	2	0	0	0	0	0	1	0	137
152	754	195	0	3	4	0	2	0	0	8	2	1120

Prepared by Newport Traffic Studies

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: DIAZ RD

EAST-WEST STREET: RANCHO CALIFORNIA

TIME: 07:00AM-08:00AM DATE: 11-21-19

NORTH LEG

59	56	89	Total
6	8	22	1st
13	14	22	2nd
19	11	18	3rd
21	23	27	4th
Rt	Thru	Lt	

Rt	35	43	59	55	192
Thru	161	198	219	209	787
Lt	13	23	35	33	104
	1st	2nd	3rd	4th	Total

Total	1st	2nd	3rd	4th	
97	16	23	25	33	Lt
382	83	99	97	103	Thru
57	8	14	15	20	Rt

	Lt	Thru	Rt
1st	8	14	5
2nd	6	10	6
3rd	5	16	12
4th	7	21	16
Total	26	61	39

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: DIAZ RD

EAST-WEST STREET: RANCHO CALIFORNIA

TIME: 08:00AM-09:00AM DATE: 11-21-19

NORTH LEG

Rt	Thru	Lt	
89	88	121	Total
25	21	36	1st
23	20	30	2nd
20	28	30	3rd
21	19	25	4th

	1st	2nd	3rd	4th	Total
Rt	61	66	60	43	230
Thru	221	210	192	196	819
Lt	29	31	30	22	112

Total	1st	2nd	3rd	4th	
104	20	29	32	23	Lt
385	107	85	100	93	Thru
95	22	24	28	21	Rt

	Lt	Thru	Rt
1st	8	16	23
2nd	12	10	20
3rd	10	17	14
4th	9	14	13
Total	39	57	70

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INTERSECTION TURN COUNT

PEAK HOUR

NORTH-SOUTH STREET: DIAZ RD
EAST-WEST STREET: RANCHO CALIFORNIA
JURISDICTION: TEMECULA

DATE: 11-21-19

PEAK HOUR: 04:30PM

NORTH LEG

TOTAL: 345

Rt	Thru	Lt	
131	88	126	Total
31	20	33	1st
34	22	30	2nd
36	26	33	3rd
30	20	30	4th

EAST LEG TOTAL: 928

	1st	2nd	3rd	4th	Total
Rt	40	39	42	40	161
Thru	151	160	169	181	661
Lt	27	22	26	31	106

WEST LEG TOTAL: 982

Total	1st	2nd	3rd	4th	
122	30	28	33	31	Lt
807	193	204	214	196	Thru
53	10	10	14	19	Rt

PEAK HOUR FACTORS

NORTH LEG = 0.91
SOUTH LEG = 0.95
EAST LEG = 0.92
WEST LEG = 0.94

ALL LEGS = 0.96

SOUTH LEG

TOTAL: 332

	Lt	Thru	Rt
1st	25	29	33
2nd	20	28	28
3rd	23	30	30
4th	22	29	35
Total	90	116	126

HOUR TOTAL: 2,587

Prepared by NEWPORT TRAFFIC STUDIES

SANBAG CLASSIFICATION SUMMARY

NORTH-SOUTH STREET : DIAZ RD
EAST-WEST STREET : RANCHO CALIFORNIA
BEGINNING TIME : 04:00PM

TEMECULA
11-21-19

AUTOS RT	AUTOS THRU	AUTOS LT	LARGE 2 AXLE RT	LARGE 2 AXLE THRU	LARGE 2 AXLE LT	3 AXLE RT	3 AXLE THRU	3 AXLE LT	4(+) AXLE RT	4(+) AXLE THRU	4(+) AXLE LT	TOTALS
NORTH LEG												
28	15	22	0	1	0	1	0	0	0	0	0	67
31	29	24	0	0	2	0	0	0	2	0	1	89
31	19	31	0	1	0	0	0	1	0	0	1	84
33	22	29	0	0	1	0	0	0	1	0	0	86
35	24	32	0	2	1	1	0	0	0	0	0	95
30	20	24	0	0	3	0	0	0	0	0	3	80
26	23	28	2	0	1	1	0	1	0	0	1	83
27	18	24	0	0	0	0	0	2	0	0	0	71
241	170	214	2	4	8	3	0	4	3	0	6	655
SOUTH LEG												
21	16	19	1	0	0	0	0	0	0	0	0	57
26	24	13	0	1	0	0	0	0	0	0	0	64
31	29	25	2	0	0	0	0	0	0	0	0	87
28	27	20	0	0	0	0	1	0	0	0	0	76
30	30	23	0	0	0	0	0	0	0	0	0	83
35	29	22	0	0	0	0	0	0	0	0	0	86
30	29	21	0	0	0	0	0	0	0	0	0	80
26	18	21	0	4	0	0	0	0	0	0	0	69
227	202	164	3	5	0	0	1	0	0	0	0	602
EAST LEG												
33	128	16	2	0	0	0	0	0	1	3	0	183
41	123	10	0	0	0	1	1	0	0	0	0	176
37	149	27	1	1	0	0	0	0	2	1	0	218
38	158	22	0	0	0	1	2	0	0	0	0	221
40	165	26	1	3	0	1	0	0	0	1	0	237
40	179	31	0	0	0	0	0	0	0	2	0	252
32	164	25	0	1	0	0	0	0	4	1	0	227
30	142	21	0	0	0	1	0	0	0	1	0	195
291	1208	178	4	5	0	4	3	0	7	9	0	1709
WEST LEG												
10	170	26	0	1	0	0	0	0	0	2	0	209
12	194	31	0	1	0	0	1	0	0	0	0	239
10	190	30	0	2	0	0	0	0	0	1	0	233
10	204	28	0	0	0	0	0	0	0	0	0	242
14	214	32	0	0	0	0	0	0	0	0	1	261
19	194	31	0	2	0	0	0	0	0	0	0	246
15	188	29	0	0	0	0	0	0	0	0	0	232
15	185	27	0	0	0	0	0	0	0	4	0	231
105	1539	234	0	6	0	0	1	0	0	7	1	1893

Prepared by Newport Traffic Studies

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: DIAZ RD

EAST-WEST STREET: RANCHO CALIFORNIA

TIME: 04:00PM-05:00PM DATE: 11-21-19

NORTH LEG

Rt	Thru	Lt	
127	87	112	Total
29	16	22	1st
33	29	27	2nd
31	20	33	3rd
34	22	30	4th

	1st	2nd	3rd	4th	Total
Rt	36	42	40	39	157
Thru	131	124	151	160	566
Lt	16	10	27	22	75

Total	1st	2nd	3rd	4th	
115	26	31	30	28	Lt
766	173	196	193	204	Thru
42	10	12	10	10	Rt

	Lt	Thru	Rt
1st	19	16	22
2nd	13	25	26
3rd	25	29	33
4th	20	28	28
Total	77	98	109

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: DIAZ RD

EAST-WEST STREET: RANCHO CALIFORNIA

TIME: 05:00PM-06:00PM DATE: 11-21-19

NORTH LEG

Rt	Thru	Lt	
122	87	120	Total
36	26	33	1st
30	20	30	2nd
29	23	31	3rd
27	18	26	4th

	1st	2nd	3rd	4th	Total
Rt	42	40	36	31	149
Thru	169	181	166	143	659
Lt	26	31	25	21	103

Total	1st	2nd	3rd	4th	
120	33	31	29	27	Lt
787	214	196	188	189	Thru
63	14	19	15	15	Rt

	Lt	Thru	Rt
1st	23	30	30
2nd	22	29	35
3rd	21	29	30
4th	21	22	26
Total	87	110	121

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURN COUNT

PEAK HOUR

NORTH-SOUTH STREET: DIAZ RD
EAST-WEST STREET: RANCHO WAY
JURISDICTION: TEMECULA

DATE: 11-21-19

PEAK HOUR: 07:45AM

NORTH LEG

TOTAL: 317

Rt	Thru	Lt	
24	293		Total
4	74		1st
5	78		2nd
5	70		3rd
10	71		4th

EAST LEG TOTAL: 0

	1st	2nd	3rd	4th	Total
Rt					
Thru					
Lt					

Total	1st	2nd	3rd	4th	
26	9	7	5	5	Lt
					Thru
23	6	5	4	8	Rt

WEST LEG TOTAL: 49

PEAK HOUR FACTORS

NORTH LEG = 0.95
SOUTH LEG = 0.98
EAST LEG =
WEST LEG = 0.82

ALL LEGS = 0.98

	Lt	Thru	Rt
1st	10	99	
2nd	13	88	
3rd	9	99	
4th	9	100	
Total	41	386	

SOUTH LEG

TOTAL: 427

HOUR TOTAL: 793

Prepared by NEWPORT TRAFFIC STUDIES

SANBAG CLASSIFICATION SUMMARY

NORTH-SOUTH STREET : DIAZ RD
EAST-WEST STREET : RANCHO WAY

TEMECULA

11-21-19

BEGINNING TIME : 07:00AM

AUTOS RT	AUTOS THRU	AUTOS LT	LARGE 2 AXLE RT	LARGE 2 AXLE THRU	LARGE 2 AXLE LT	3 AXLE RT	3 AXLE THRU	3 AXLE LT	4(+) AXLE RT	4(+) AXLE THRU	4(+) AXLE LT	TOTALS
NORTH LEG												
4	34	0	0	1	0	0	0	0	0	0	0	39
7	41	0	0	2	0	0	1	0	0	2	0	53
11	41	0	0	1	0	0	0	0	0	2	0	55
4	71	0	0	1	0	0	1	0	0	1	0	78
5	71	0	0	5	0	0	1	0	0	1	0	83
5	65	0	0	1	0	0	1	0	0	3	0	75
10	69	0	0	1	0	0	0	0	0	1	0	81
7	55	0	0	0	0	0	1	0	0	2	0	65
53	447	0	0	12	0	0	5	0	0	12	0	529
SOUTH LEG												
0	60	3	0	4	0	0	1	0	0	1	0	69
0	70	3	0	1	0	0	1	0	0	3	0	78
0	88	9	0	1	0	0	0	0	0	1	0	99
0	94	10	0	1	0	0	0	0	0	4	0	109
0	85	12	0	2	1	0	0	0	0	1	0	101
0	97	9	0	2	0	0	0	0	0	0	0	108
0	91	9	0	3	0	0	0	0	0	6	0	109
0	70	7	0	2	0	0	1	0	0	2	0	82
0	655	62	0	16	1	0	3	0	0	18	0	755
EAST LEG												
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
WEST LEG												
3	0	3	0	0	0	0	0	0	0	0	0	6
4	0	3	0	0	0	0	0	0	0	0	0	7
3	0	5	0	0	0	0	0	0	0	0	0	8
6	0	9	0	0	0	0	0	0	0	0	0	15
5	0	7	0	0	0	0	0	0	0	0	0	12
4	0	5	0	0	0	0	0	0	0	0	0	9
8	0	5	0	0	0	0	0	0	0	0	0	13
6	0	8	0	0	0	0	0	0	0	0	0	14
39	0	45	0	0	0	0	0	0	0	0	0	84

Prepared by Newport Traffic Studies

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: DIAZ RD

EAST-WEST STREET: RANCHO WAY

TIME: 07:00AM-08:00AM DATE: 11-21-19

NORTH LEG

26	199		Total
4	35		1st
7	46		2nd
11	44		3rd
4	74		4th
Rt	Thru	Lt	

Rt					
Thru					
Lt					
	1st	2nd	3rd	4th	Total

Total	1st	2nd	3rd	4th	
20	3	3	5	9	Lt
					Thru
16	3	4	3	6	Rt

	Lt	Thru	Rt
1st	3	66	
2nd	3	75	
3rd	9	90	
4th	10	99	
Total	25	330	

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: DIAZ RD

EAST-WEST STREET: RANCHO WAY

TIME: 08:00AM-09:00AM DATE: 11-21-19

NORTH LEG

Rt	Thru	Lt	
27	277		Total
5	78		1st
5	70		2nd
10	71		3rd
7	58		4th

	Rt	Thru	Lt
1st			
2nd			
3rd			
4th			
Total			

Total	1st	2nd	3rd	4th	
25	7	5	5	8	Lt
					Thru
23	5	4	8	6	Rt

	Lt	Thru	Rt
1st	13	88	
2nd	9	99	
3rd	9	100	
4th	7	75	
Total	38	362	

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURN COUNT

PEAK HOUR

NORTH-SOUTH STREET: DIAZ RD
EAST-WEST STREET: RANCHO WAY
JURISDICTION: TEMECULA

DATE: 11-21-19

PEAK HOUR: 04:15PM

NORTH LEG

TOTAL: 364

Rt	Thru	Lt	
25	339		Total
6	88		1st
9	75		2nd
5	85		3rd
5	91		4th

EAST LEG TOTAL: 0

	1st	2nd	3rd	4th	Total
Rt					
Thru					
Lt					

Total	1st	2nd	3rd	4th	
25	9	5	5	6	Lt
					Thru
22	7	6	3	6	Rt

WEST LEG TOTAL: 47

PEAK HOUR FACTORS

NORTH LEG = 0.95
SOUTH LEG = 0.96
EAST LEG =
WEST LEG = 0.73

ALL LEGS = 0.96

	Lt	Thru	Rt
1st	5	96	
2nd	11	87	
3rd	3	94	
4th	4	100	
Total	23	377	

SOUTH LEG

TOTAL: 400

HOUR TOTAL: 811

Prepared by NEWPORT TRAFFIC STUDIES

SANBAG CLASSIFICATION SUMMARY

NORTH-SOUTH STREET : DIAZ RD

EAST-WEST STREET : RANCHO WAY

TEMECULA

11-21-19

BEGINNING TIME : 04:00PM

AUTOS RT	AUTOS THRU	AUTOS LT	LARGE 2 AXLE RT	LARGE 2 AXLE THRU	LARGE 2 AXLE LT	3 AXLE RT	3 AXLE THRU	3 AXLE LT	4(+) AXLE RT	4(+) AXLE THRU	4(+) AXLE LT	TOTALS
NORTH LEG												
10	61	0	0	1	0	0	1	0	0	1	0	74
6	85	0	0	1	0	0	0	0	0	2	0	94
9	72	0	0	1	0	0	1	0	0	1	0	84
5	82	0	0	1	0	0	1	0	0	1	0	90
5	89	0	0	2	0	0	0	0	0	0	0	96
4	69	0	0	3	0	0	0	0	0	3	0	79
3	75	0	0	2	0	0	1	0	0	1	0	82
5	67	0	0	1	0	0	0	0	0	0	0	73
47	600	0	0	12	0	0	4	0	0	9	0	672
SOUTH LEG												
0	71	5	0	2	0	0	0	0	0	1	0	79
0	94	5	0	1	0	0	1	0	0	0	0	101
0	85	11	0	1	0	0	0	0	0	1	0	98
0	92	3	0	0	0	0	2	0	0	0	0	97
0	97	4	0	1	0	0	1	0	0	1	0	104
0	93	9	0	0	0	0	0	0	0	0	0	102
0	85	5	0	1	0	0	0	0	0	4	0	95
0	77	4	0	3	0	0	1	0	0	0	0	85
0	694	46	0	9	0	0	5	0	0	7	0	761
EAST LEG												
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
WEST LEG												
4	0	2	0	0	1	0	0	0	0	0	0	7
6	0	9	1	0	0	0	0	0	0	0	0	16
6	0	5	0	0	0	0	0	0	0	0	0	11
3	0	3	0	0	0	0	0	2	0	0	0	8
5	0	4	1	0	2	0	0	0	0	0	0	12
6	0	3	0	0	0	0	0	0	0	0	0	9
5	0	9	0	0	0	0	0	0	0	0	1	15
6	0	7	0	0	0	0	0	0	0	0	0	13
41	0	42	2	0	3	0	0	2	0	0	1	91

Prepared by Newport Traffic Studies

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: DIAZ RD

EAST-WEST STREET: RANCHO WAY

TIME: 04:00PM-05:00PM DATE: 11-21-19

NORTH LEG

30	312		Total
10	64		1st
6	88		2nd
9	75		3rd
5	85		4th
Rt	Thru	Lt	

Rt					
Thru					
Lt					
	1st	2nd	3rd	4th	Total

Total	1st	2nd	3rd	4th	
22	3	9	5	5	Lt
					Thru
20	4	7	6	3	Rt

	Lt	Thru	Rt
1st	5	74	
2nd	5	96	
3rd	11	87	
4th	3	94	
Total	24	351	

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: DIAZ RD

EAST-WEST STREET: RANCHO WAY

TIME: 05:00PM-06:00PM DATE: 11-21-19

NORTH LEG

Rt	Thru	Lt	
17	313		Total
5	91		1st
4	75		2nd
3	79		3rd
5	68		4th

	1st	2nd	3rd	4th	Total
Rt					
Thru					
Lt					

Total	1st	2nd	3rd	4th	
26	6	3	10	7	Lt
					Thru
23	6	6	5	6	Rt

	Lt	Thru	Rt
1st	4	100	
2nd	9	93	
3rd	5	90	
4th	4	81	
Total	22	364	

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURN COUNT

PEAK HOUR

NORTH-SOUTH STREET: DIAZ RD
EAST-WEST STREET: VIA MONTEZUMA
JURISDICTION: TEMECULA

DATE: 11-21-19

PEAK HOUR: 08:00AM

NORTH LEG

TOTAL: 325

Rt	Thru	Lt	
45	243	37	Total
10	67	10	1st
13	59	10	2nd
13	66	8	3rd
9	51	9	4th

EAST LEG TOTAL: 152

	1st	2nd	3rd	4th	Total
Rt	17	11	9	14	51
Thru	14	12	13	10	49
Lt	14	16	11	11	52

WEST LEG TOTAL: 40

Total	1st	2nd	3rd	4th	
11	1	2	5	3	Lt
16	3	3	6	4	Thru
13	3	1	4	5	Rt

SOUTH LEG

TOTAL: 394

	Lt	Thru	Rt
1st	12	76	9
2nd	16	77	12
3rd	10	88	10
4th	10	66	8
Total	48	307	39

PEAK HOUR FACTORS

NORTH LEG = 0.93
SOUTH LEG = 0.91
EAST LEG = 0.84
WEST LEG = 0.67

ALL LEGS = 0.94

HOUR TOTAL: 911

Prepared by NEWPORT TRAFFIC STUDIES

SANBAG CLASSIFICATION SUMMARY

NORTH-SOUTH STREET : DIAZ RD
EAST-WEST STREET : VIA MONTEZUMA

TEMECULA
11+21+19

BEGINNING TIME : 12:00AM

AUTOS RT	AUTOS THRU	AUTOS LT	LARGE 2 AXLE RT	LARGE 2 AXLE THRU	LARGE 2 AXLE LT	3 AXLE RT	3 AXLE THRU	3 AXLE LT	4(+) AXLE RT	4(+) AXLE THRU	4(+) AXLE LT	TOTALS
NORTH LEG												
14	24	10	0	1	0	0	0	0	0	0	0	49
8	33	4	0	2	2	0	1	0	0	2	0	52
8	38	10	1	0	0	0	0	1	0	2	0	60
11	62	7	0	0	1	0	1	1	0	0	0	83
10	62	8	0	3	1	0	1	1	0	1	0	87
13	56	10	0	1	0	0	0	0	0	2	0	82
13	64	8	0	0	0	0	0	0	0	2	0	87
9	48	9	0	0	0	0	1	0	0	2	0	69
86	387	66	1	7	4	0	4	3	0	11	0	569
SOUTH LEG												
8	48	10	1	3	0	0	1	0	0	1	0	72
11	50	12	0	1	0	0	1	0	0	3	0	78
12	70	12	0	0	1	0	0	0	0	1	0	96
10	81	10	0	1	0	0	0	0	0	4	0	106
9	73	12	0	2	0	0	0	0	0	1	0	97
12	76	15	0	1	1	0	0	0	0	0	0	105
10	80	10	0	3	0	0	0	0	0	5	0	108
7	62	9	1	1	0	0	0	1	0	3	0	84
79	540	90	2	12	2	0	2	1	0	18	0	746
EAST LEG												
11	6	16	1	0	0	1	0	0	0	0	0	35
14	8	14	0	0	0	1	0	0	0	0	0	37
9	12	12	0	0	1	1	0	0	0	0	1	36
16	11	14	0	0	1	0	0	0	0	0	0	42
16	14	14	0	0	0	0	0	0	1	0	0	45
5	12	15	3	0	0	2	0	1	1	0	0	39
9	13	10	0	0	1	0	0	0	0	0	0	33
14	10	11	0	0	0	0	0	0	0	0	0	35
94	86	106	4	0	3	5	0	1	2	0	1	302
WEST LEG												
0	3	-1	0	0	0	0	0	0	0	0	1	3
0	5	3	0	0	1	0	0	0	0	0	0	9
2	2	2	0	0	0	0	0	1	0	0	0	7
2	3	2	0	0	0	0	0	1	0	0	0	8
1	3	1	2	0	0	0	0	0	0	0	0	7
1	3	1	0	0	1	0	0	0	0	0	0	6
4	6	4	0	0	1	0	0	0	0	0	0	15
5	4	1	0	0	1	0	0	0	0	0	1	12
15	29	13	2	0	4	0	0	2	0	0	2	67

Prepared by Newport Traffic Studies

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: DIAZ RD

EAST-WEST STREET: VIA MONTEZUMA

TIME: 12:00AM-01:00AM DATE: 11+21+19

NORTH LEG

Rt	Thru	Lt	
42	166	36	Total
14	25	10	1st
8	38	6	2nd
9	40	11	3rd
11	63	9	4th

	1st	2nd	3rd	4th	Total
Rt	13	15	10	16	54
Thru	6	8	12	11	37
Lt	16	14	14	15	59

Total	1st	2nd	3rd	4th	
10	0	4	3	3	Lt
13	3	5	2	3	Thru
4	0	0	2	2	Rt

	Lt	Thru	Rt
1st	10	53	9
2nd	12	55	11
3rd	13	71	12
4th	10	86	10
Total	45	265	42

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: DIAZ RD

EAST-WEST STREET: VIA MONTEZUMA

TIME: 08:00AM-09:00AM DATE: 11-21-19

NORTH LEG

Rt	Thru	Lt	
45	243	37	Total
10	67	10	1st
13	59	10	2nd
13	66	8	3rd
9	51	9	4th

	1st	2nd	3rd	4th	Total
Rt	17	11	9	14	51
Thru	14	12	13	10	49
Lt	14	16	11	11	52

Total	1st	2nd	3rd	4th	
11	1	2	5	3	Lt
16	3	3	6	4	Thru
13	3	1	4	5	Rt

	Lt	Thru	Rt
1st	12	76	9
2nd	16	77	12
3rd	10	88	10
4th	10	66	8
Total	48	307	39

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURN COUNT

PEAK HOUR

NORTH-SOUTH STREET: DIAZ RD
EAST-WEST STREET: VIA MONTEZUMA
JURISDICTION: TEMECULA

DATE: 11-21-19

PEAK HOUR: 04:15PM

NORTH LEG

TOTAL: 334

Rt	Thru	Lt	
19	271	44	Total
6	75	12	1st
4	61	10	2nd
5	65	12	3rd
4	70	10	4th

EAST LEG TOTAL: 132

	1st	2nd	3rd	4th	Total
Rt	13	11	14	13	51
Thru	5	6	5	4	20
Lt	16	15	16	14	61

WEST LEG TOTAL: 137

Total	1st	2nd	3rd	4th	
52	14	12	15	11	Lt
44	8	13	13	10	Thru
41	5	13	9	14	Rt

PEAK HOUR FACTORS

NORTH LEG = 0.90
SOUTH LEG = 0.95
EAST LEG = 0.94
WEST LEG = 0.90

ALL LEGS = 0.97

SOUTH LEG

TOTAL: 408

	Lt	Thru	Rt
1st	4	87	16
2nd	5	78	11
3rd	7	80	14
4th	4	90	12
Total	20	335	53

HOUR TOTAL: 1,011

Prepared by NEWPORT TRAFFIC STUDIES

SANBAG CLASSIFICATION SUMMARY

NORTH-SOUTH STREET : DIAZ RD
EAST-WEST STREET : VIA MONTEZUMA

TEMECULA
11-21-19

BEGINNING TIME : 04:00PM

AUTOS RT	AUTOS THRU	AUTOS LT	LARGE 2 AXLE RT	LARGE 2 AXLE THRU	LARGE 2 AXLE LT	3 AXLE RT	3 AXLE THRU	3 AXLE LT	4(+) AXLE RT	4(+) AXLE THRU	4(+) AXLE LT	TOTALS
NORTH LEG												
5	58	13	0	1	0	0	1	0	0	1	0	79
6	72	10	0	1	0	0	0	2	0	2	0	93
3	58	8	1	1	2	0	1	0	0	1	0	75
5	63	12	0	0	0	0	1	0	0	1	0	82
4	70	10	0	0	0	0	0	0	0	0	0	84
3	55	13	0	3	1	0	0	0	0	2	0	77
0	59	11	0	1	1	0	1	0	0	2	0	75
2	53	11	0	1	0	0	0	0	0	0	0	67
28	488	88	1	8	4	0	4	2	0	9	0	632
SOUTH LEG												
8	63	4	0	2	0	0	0	0	0	1	0	78
16	85	4	0	1	0	0	1	0	0	0	0	107
11	75	5	0	1	0	0	0	0	0	2	0	94
14	76	7	0	0	0	0	4	0	0	0	0	101
11	86	4	1	2	0	0	1	0	0	1	0	106
15	77	3	0	0	0	0	0	0	0	0	0	95
10	84	2	0	1	0	0	0	0	0	4	0	101
9	71	1	0	2	1	1	0	0	0	1	0	86
94	617	30	1	9	1	1	6	0	0	9	0	768
EAST LEG												
8	6	10	0	0	0	0	0	0	0	0	0	24
11	5	16	0	0	0	2	0	0	0	0	0	34
9	5	15	2	1	0	0	0	0	0	0	0	32
13	5	15	1	0	1	0	0	0	0	0	0	35
13	3	13	0	1	1	0	0	0	0	0	0	31
7	4	10	2	0	0	1	0	0	0	0	0	24
9	0	12	0	0	1	0	0	0	0	0	0	22
10	3	14	0	0	0	0	0	0	1	0	0	28
80	31	105	5	2	3	3	0	0	1	0	0	230
WEST LEG												
5	9	4	0	0	1	0	0	0	0	0	0	19
5	8	13	0	0	1	0	0	0	0	0	0	27
13	13	12	0	0	0	0	0	0	0	0	0	38
9	13	15	0	0	0	0	0	0	0	0	0	37
13	10	11	1	0	0	0	0	0	0	0	0	35
10	12	10	0	0	0	0	0	0	0	0	0	32
8	9	10	0	0	0	0	0	0	0	0	0	27
9	7	8	0	0	0	0	0	0	0	0	0	24
72	81	83	1	0	2	0	0	0	0	0	0	239

Prepared by Newport Traffic Studies

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: DIAZ RD

EAST-WEST STREET: VIA MONTEZUMA

TIME: 04:00PM-05:00PM DATE: 11-21-19

NORTH LEG

Rt	Thru	Lt	
20	262	47	Total
5	61	13	1st
6	75	12	2nd
4	61	10	3rd
5	65	12	4th

	1st	2nd	3rd	4th	Total
Rt	8	13	11	14	46
Thru	6	5	6	5	22
Lt	10	16	15	16	57

Total	1st	2nd	3rd	4th	
46	5	14	12	15	Lt
43	9	8	13	13	Thru
32	5	5	13	9	Rt

	Lt	Thru	Rt
1st	4	66	8
2nd	4	87	16
3rd	5	78	11
4th	7	80	14
Total	20	311	49

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: DIAZ RD

EAST-WEST STREET: VIA MONTEZUMA

TIME: 05:00PM-06:00PM DATE: 11-21-19

NORTH LEG

9	247	47	Total
4	70	10	1st
3	60	14	2nd
0	63	12	3rd
2	54	11	4th
Rt	Thru	Lt	

Rt	13	10	9	11	43
Thru	4	4	0	3	11
Lt	14	10	13	14	51
	1st	2nd	3rd	4th	Total

Total	1st	2nd	3rd	4th	
39	11	10	10	8	Lt
38	10	12	9	7	Thru
41	14	10	8	9	Rt

	Lt	Thru	Rt
1st	4	90	12
2nd	3	77	15
3rd	2	89	10
4th	2	74	10
Total	11	330	47

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURN COUNT

PEAK HOUR

NORTH-SOUTH STREET: DIAZ RD
EAST-WEST STREET: AVE ALVARADO
JURISDICTION: TEMECULA

DATE: 11-21-19

PEAK HOUR: 07:45AM

NORTH LEG

TOTAL: 371

Rt	Thru	Lt	
72	299		Total
14	74		1st
17	75		2nd
21	69		3rd
20	81		4th

EAST LEG TOTAL: 0

	1st	2nd	3rd	4th	Total
Rt					
Thru					
Lt					

WEST LEG TOTAL: 124

Total	1st	2nd	3rd	4th	
72	14	19	23	16	Lt
					Thru
52	12	15	15	10	Rt

SOUTH LEG

TOTAL: 400

	Lt	Thru	Rt
1st	15	93	
2nd	16	81	
3rd	23	72	
4th	20	80	
Total	74	326	

PEAK HOUR FACTORS

NORTH LEG = 0.92
SOUTH LEG = 0.93
EAST LEG =
WEST LEG = 0.82

ALL LEGS = 0.99

HOUR TOTAL: 895

Prepared by NEWPORT TRAFFIC STUDIES

SANBAG CLASSIFICATION SUMMARY

NORTH-SOUTH STREET : DIAZ RD

EAST-WEST STREET : AVE ALVARADO

BEGINNING TIME : 07:00AM

TEMECULA

11-21-19

AUTOS			LARGE 2 AXLE			3 AXLE			4(+) AXLE			TOTALS
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	
NORTH LEG												
11	47	0	0	1	0	0	0	0	1	0	0	60
9	36	0	0	5	0	0	1	0	1	2	0	54
8	46	0	0	0	0	1	1	0	1	2	0	59
11	69	0	1	2	0	2	2	0	0	1	0	88
16	70	0	1	3	0	0	1	0	0	1	0	92
21	66	0	0	1	0	0	0	0	0	2	0	90
20	79	0	0	0	0	0	0	0	0	2	0	101
12	58	0	2	0	0	0	1	0	0	1	0	74
108	471	0	4	12	0	3	6	0	3	11	0	618
SOUTH LEG												
0	47	16	0	4	0	0	2	0	0	2	0	71
0	55	13	0	1	1	0	2	0	0	3	0	75
0	73	10	0	0	0	0	2	0	0	1	0	86
0	87	15	0	1	0	0	1	0	0	4	0	108
0	78	15	0	1	1	0	0	0	0	2	0	97
0	64	23	0	5	0	0	2	0	0	1	0	95
0	72	20	0	4	0	0	0	0	0	4	0	100
0	63	15	0	2	0	0	0	0	0	5	0	85
0	539	127	0	18	2	0	9	0	0	22	0	717
EAST LEG												
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
WEST LEG												
10	0	6	0	0	0	0	0	0	0	0	0	16
12	0	7	0	0	1	0	0	0	0	0	1	21
12	0	12	1	0	3	0	0	0	0	0	0	28
12	0	12	0	0	0	0	0	2	0	0	0	26
14	0	19	0	0	0	1	0	0	0	0	0	34
15	0	23	0	0	0	0	0	0	0	0	0	38
10	0	16	0	0	0	0	0	0	0	0	0	26
12	0	11	0	0	2	0	0	0	1	0	0	26
97	0	106	1	0	6	1	0	2	1	0	1	215

Prepared by Newport Traffic Studies

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: DIAZ RD

EAST-WEST STREET: AVE ALVARADO

TIME: 07:00AM-08:00AM DATE: 11-21-19

NORTH LEG

Rt	Thru	Lt	
46	215		Total
12	48		1st
10	44		2nd
10	49		3rd
14	74		4th

	1st	2nd	3rd	4th	Total
Rt					
Thru					
Lt					

Total	1st	2nd	3rd	4th	
44	6	9	15	14	Lt
					Thru
47	10	12	13	12	Rt

	Lt	Thru	Rt
1st	16	55	
2nd	14	61	
3rd	10	76	
4th	15	93	
Total	55	285	

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: DIAZ RD

EAST-WEST STREET: AVE ALVARADO

TIME: 08:00AM-09:00AM DATE: 11-21-19

NORTH LEG

72	285		Total
17	75		1st
21	69		2nd
20	81		3rd
14	60		4th
Rt	Thru	Lt	

Rt					
Thru					
Lt					
	1st	2nd	3rd	4th	Total

Total	1st	2nd	3rd	4th	
71	19	23	16	13	Lt
					Thru
53	15	15	10	13	Rt

	Lt	Thru	Rt
1st	16	81	
2nd	23	72	
3rd	20	80	
4th	15	70	
Total	74	303	

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURN COUNT

PEAK HOUR

NORTH-SOUTH STREET: DIAZ RD
EAST-WEST STREET: AVE ALVARADO
JURISDICTION: TEMECULA

DATE: 11-21-19

PEAK HOUR: 04:15PM

NORTH LEG

TOTAL: 362

Rt	Thru	Lt	
78	284		Total
15	81		1st
23	66		2nd
19	69		3rd
21	68		4th

EAST LEG TOTAL: 0

	1st	2nd	3rd	4th	Total
Rt					
Thru					
Lt					

WEST LEG TOTAL: 122

Total	1st	2nd	3rd	4th	
62	10	16	20	16	Lt
					Thru
60	14	15	14	17	Rt

SOUTH LEG

TOTAL: 444

	Lt	Thru	Rt
1st	10	105	
2nd	16	86	
3rd	19	93	
4th	22	93	
Total	67	377	

PEAK HOUR FACTORS

NORTH LEG = 0.94
SOUTH LEG = 0.97
EAST LEG =
WEST LEG = 0.90

ALL LEGS = 0.98

HOUR TOTAL: 928

Prepared by NEWPORT TRAFFIC STUDIES

SANBAG CLASSIFICATION SUMMARY

NORTH-SOUTH STREET : DIAZ RD

EAST-WEST STREET : AVE ALVARADO

TEMECULA

11-21-19

BEGINNING TIME : 04:00PM

AUTOS			LARGE 2 AXLE			3 AXLE			4(+) AXLE			TOTALS
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	
NORTH LEG												
15	63	0	0	1	0	0	1	0	0	1	0	81
14	77	0	1	1	0	0	2	0	0	1	0	96
23	60	0	0	3	0	0	1	0	0	2	0	89
18	67	0	1	0	0	0	1	0	0	1	0	88
19	67	0	0	0	0	2	0	0	0	1	0	89
16	57	0	0	2	0	0	0	0	0	2	0	77
20	56	0	0	2	0	0	0	0	0	2	0	80
13	57	0	0	1	0	0	1	0	0	0	0	72
138	504	0	2	10	0	2	6	0	0	10	0	672
SOUTH LEG												
0	67	11	0	2	1	0	0	0	0	1	0	82
0	100	10	0	2	0	0	3	0	0	0	0	115
0	82	15	0	2	1	0	0	0	0	2	0	102
0	90	17	0	1	0	0	2	2	0	0	0	112
0	89	22	0	2	0	0	1	0	0	1	0	115
0	76	22	0	0	0	0	0	1	0	0	0	99
0	83	20	0	3	0	0	0	0	0	4	0	110
0	77	14	0	2	0	0	0	0	0	2	0	95
0	664	131	0	14	2	0	6	3	0	10	0	830
EAST LEG												
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0
WEST LEG												
16	0	12	0	0	0	0	0	0	0	0	0	28
13	0	9	0	0	1	1	0	0	0	0	0	24
15	0	16	0	0	0	0	0	0	0	0	0	31
14	0	20	0	0	0	0	0	0	0	0	0	34
17	0	13	0	0	3	0	0	0	0	0	0	33
18	0	19	2	0	0	0	0	0	0	0	0	39
15	0	13	0	0	0	0	0	1	1	0	0	30
12	0	11	0	0	0	0	0	0	0	0	0	23
120	0	113	2	0	4	1	0	1	1	0	0	242

Prepared by Newport Traffic Studies

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: DIAZ RD

EAST-WEST STREET: AVE ALVARADO

TIME: 04:00PM-05:00PM DATE: 11-21-19

NORTH LEG

Rt	Thru	Lt	
72	282		Total
15	66		1st
15	81		2nd
23	66		3rd
19	69		4th

	1st	2nd	3rd	4th	Total
Rt					
Thru					
Lt					

Total	1st	2nd	3rd	4th	
58	12	10	16	20	Lt
					Thru
59	16	14	15	14	Rt

	Lt	Thru	Rt
1st	12	70	
2nd	10	105	
3rd	16	86	
4th	19	93	
Total	57	354	

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: DIAZ RD

EAST-WEST STREET: AVE ALVARADO

TIME: 05:00PM-06:00PM DATE: 11-21-19

NORTH LEG

70	248		Total
21	68		1st
16	61		2nd
20	60		3rd
13	59		4th
Rt	Thru	Lt	

Rt					
Thru					
Lt					
	1st	2nd	3rd	4th	Total

Total	1st	2nd	3rd	4th	
60	16	19	14	11	Lt
					Thru
65	17	20	16	12	Rt

	Lt	Thru	Rt
1st	22	93	
2nd	23	76	
3rd	20	90	
4th	14	81	
Total	79	340	

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURN COUNT

PEAK HOUR

NORTH-SOUTH STREET: DIAZ RD
EAST-WEST STREET: WINCHESTER
JURISDICTION: TEMECULA

DATE: 11-21-19

PEAK HOUR: 07:45AM

NORTH LEG

TOTAL: 168

Rt	Thru	Lt	
31	66	71	Total
9	14	20	1st
10	22	16	2nd
6	14	21	3rd
6	16	14	4th

EAST LEG TOTAL: 434

	1st	2nd	3rd	4th	Total
Rt	11	14	16	10	51
Thru	32	43	32	39	146
Lt	58	57	55	67	237

WEST LEG TOTAL: 373

Total	1st	2nd	3rd	4th	
32	7	6	6	13	Lt
273	61	73	76	63	Thru
68	19	16	14	19	Rt

PEAK HOUR FACTORS

NORTH LEG = 0.88
SOUTH LEG = 0.94
EAST LEG = 0.94
WEST LEG = 0.97

ALL LEGS = 0.96

SOUTH LEG

TOTAL: 404

	Lt	Thru	Rt
1st	11	6	91
2nd	13	10	79
3rd	7	12	77
4th	9	10	79
Total	40	38	326

HOUR TOTAL: 1,379

Prepared by NEWPORT TRAFFIC STUDIES

SANBAG CLASSIFICATION SUMMARY

NORTH-SOUTH STREET : DIAZ RD
EAST-WEST STREET : WINCHESTER

TEMECULA
11-21-19

BEGINNING TIME : 07:00AM

AUTOS RT	AUTOS THRU	AUTOS LT	LARGE 2 AXLE RT	LARGE 2 AXLE THRU	LARGE 2 AXLE LT	3 AXLE RT	3 AXLE THRU	3 AXLE LT	4(+) AXLE RT	4(+) AXLE THRU	4(+) AXLE LT	TOTALS
NORTH LEG												
3	10	11	0	0	3	0	0	0	0	0	0	27
5	11	20	0	1	0	0	0	1	0	0	0	38
5	15	23	0	0	0	0	0	0	0	0	0	43
9	13	17	0	0	3	0	1	0	0	0	0	43
10	21	16	0	1	0	0	0	0	0	0	0	48
5	14	21	1	0	0	0	0	0	0	0	0	41
6	16	14	0	0	0	0	0	0	0	0	0	36
8	14	13	0	0	0	0	0	0	0	0	0	35
51	114	135	1	2	6	0	1	1	0	0	0	311
SOUTH LEG												
43	5	5	3	0	1	2	0	0	2	0	0	61
49	7	6	2	1	0	2	0	0	2	2	0	71
67	6	14	3	0	0	2	0	0	1	0	0	93
85	5	10	1	0	0	2	1	0	3	0	1	108
77	9	12	1	0	1	0	0	0	1	1	0	102
73	9	6	4	1	0	0	1	1	0	1	0	96
71	10	8	3	0	1	0	0	0	5	0	0	98
65	9	4	0	1	1	0	0	0	4	0	0	84
530	60	65	17	3	4	8	2	1	18	4	1	713
EAST LEG												
6	20	235	0	0	1	0	0	0	0	0	1	263
10	21	21	0	2	4	0	0	1	0	1	3	63
5	32	25	0	0	0	0	1	2	0	0	1	66
11	30	52	0	1	3	0	1	2	0	0	1	101
14	40	53	0	0	2	0	1	1	0	2	1	114
16	30	52	0	2	1	0	0	0	0	0	2	103
10	39	65	0	0	0	0	0	0	0	0	2	116
11	27	45	0	0	2	0	0	1	0	0	1	87
83	239	548	0	5	13	0	3	7	0	3	12	913
WEST LEG												
14	32	4	0	1	0	0	0	0	0	0	0	51
16	42	4	0	0	0	0	0	0	0	0	0	62
21	45	10	0	0	0	1	0	0	1	2	0	80
19	59	7	0	2	0	0	0	0	0	0	0	87
15	72	6	1	0	0	0	1	0	0	0	0	95
14	72	6	0	1	0	0	2	0	0	1	0	96
19	62	13	0	1	0	0	0	0	0	0	0	95
13	60	12	0	0	0	0	0	0	0	0	0	85
131	444	62	1	5	0	1	3	0	1	3	0	651

Prepared by Newport Traffic Studies

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: DIAZ RD

EAST-WEST STREET: WINCHESTER

TIME: 07:00AM-08:00AM DATE: 11-21-19

NORTH LEG

Rt	Thru	Lt	
22	51	78	Total
3	10	14	1st
5	12	21	2nd
5	15	23	3rd
9	14	20	4th

	1st	2nd	3rd	4th	Total
Rt	6	10	5	11	32
Thru	20	24	33	32	109
Lt	237	29	28	58	352

Total	1st	2nd	3rd	4th	
25	4	4	10	7	Lt
183	33	42	47	61	Thru
72	14	16	23	19	Rt

	Lt	Thru	Rt
1st	6	5	50
2nd	6	10	55
3rd	14	6	73
4th	11	6	91
Total	37	27	269

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: DIAZ RD

EAST-WEST STREET: WINCHESTER

TIME: 08:00AM-09:00AM DATE: 11-21-19

NORTH LEG

Rt	Thru	Lt	
30	66	64	Total
10	22	16	1st
6	14	21	2nd
6	16	14	3rd
8	14	13	4th

	1st	2nd	3rd	4th	Total
Rt	14	16	10	11	51
Thru	43	32	39	27	141
Lt	57	55	67	49	228

Total	1st	2nd	3rd	4th	
37	6	6	13	12	Lt
272	73	76	63	60	Thru
62	16	14	19	13	Rt

	Lt	Thru	Rt
1st	13	10	79
2nd	7	12	77
3rd	9	10	79
4th	5	10	69
Total	34	42	304

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURN COUNT

PEAK HOUR

NORTH-SOUTH STREET: DIAZ RD
EAST-WEST STREET: WINCHESTER
JURISDICTION: TEMECULA

DATE: 11-21-19

PEAK HOUR: 04:30PM

NORTH LEG

TOTAL: 171

Rt	Thru	Lt	
46	64	61	Total
9	15	15	1st
13	15	16	2nd
10	16	15	3rd
14	18	15	4th

EAST LEG TOTAL: 645

	1st	2nd	3rd	4th	Total
Rt	10	14	16	15	55
Thru	79	81	93	99	352
Lt	61	63	66	48	238

WEST LEG TOTAL: 445

Total	1st	2nd	3rd	4th	
34	10	6	12	6	Lt
361	79	88	93	101	Thru
50	16	11	10	13	Rt

PEAK HOUR FACTORS

NORTH LEG = 0.91
SOUTH LEG = 0.92
EAST LEG = 0.92
WEST LEG = 0.93

ALL LEGS = 0.96

SOUTH LEG

TOTAL: 417

	Lt	Thru	Rt
1st	10	16	77
2nd	11	12	90
3rd	12	13	83
4th	10	17	66
Total	43	58	316

HOUR TOTAL: 1,678

Prepared by NEWPORT TRAFFIC STUDIES

SANBAG CLASSIFICATION SUMMARY

NORTH-SOUTH STREET : DIAZ RD
EAST-WEST STREET : WINCHESTER

TEMECULA
11-21-19

BEGINNING TIME : 04:00PM

AUTOS RT	AUTOS THRU	AUTOS LT	LARGE 2 AXLE RT	LARGE 2 AXLE THRU	LARGE 2 AXLE LT	3 AXLE RT	3 AXLE THRU	3 AXLE LT	4 (+) AXLE RT	4 (+) AXLE THRU	4 (+) AXLE LT	TOTALS
NORTH LEG												
3	16	12	0	0	0	2	0	0	0	0	0	33
9	19	13	0	0	2	0	0	0	0	0	0	43
9	14	14	0	1	1	0	0	0	0	0	0	39
13	15	15	0	0	0	0	0	1	0	0	0	44
10	16	15	0	0	0	0	0	0	0	0	0	41
14	18	14	0	0	1	0	0	0	0	0	0	47
8	13	20	1	0	0	0	0	0	0	0	1	43
9	10	13	0	0	0	0	0	0	0	0	0	32
75	121	116	1	1	4	2	0	1	0	0	1	322
SOUTH LEG												
63	14	6	2	0	0	0	0	0	1	0	0	86
81	19	10	2	1	0	3	0	0	0	0	0	116
74	16	9	1	0	1	0	0	0	2	0	0	103
87	12	11	1	0	0	2	0	0	0	0	0	113
78	12	11	4	1	0	0	0	1	1	0	0	108
65	17	10	1	0	0	0	0	0	0	0	0	93
78	9	9	2	0	0	1	0	0	3	0	1	103
75	11	13	1	0	1	0	0	0	1	1	0	103
601	110	79	14	2	2	6	0	1	8	1	1	825
EAST LEG												
10	48	53	0	0	1	0	1	1	0	0	1	115
11	50	54	0	2	2	0	1	2	0	3	1	126
10	78	56	0	1	2	0	0	1	0	0	2	150
14	80	61	0	1	0	0	0	1	0	0	1	158
16	91	65	0	2	0	0	0	1	0	0	0	175
15	99	44	0	0	2	0	0	0	0	0	2	162
10	86	50	0	0	2	0	0	0	0	0	2	150
7	72	48	0	1	1	0	0	1	0	0	0	130
93	604	431	0	7	10	0	2	7	0	3	9	1166
WEST LEG												
14	78	10	0	0	0	0	0	0	0	1	0	103
19	81	16	0	1	0	0	0	0	0	1	0	118
16	79	10	0	0	0	0	0	0	0	0	0	105
9	88	6	1	0	0	0	0	0	1	0	0	105
9	91	12	0	1	0	1	1	0	0	0	0	115
13	100	6	0	1	0	0	0	0	0	0	0	120
12	74	5	0	0	0	0	1	0	0	1	0	93
12	76	10	0	0	0	0	0	0	0	1	0	99
104	667	75	1	3	0	1	2	0	1	4	0	858

Prepared by Newport Traffic Studies

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: DIAZ RD

EAST-WEST STREET: WINCHESTER

TIME: 04:00PM-05:00PM DATE: 11-21-19

NORTH LEG

Rt	Thru	Lt	
36	65	58	Total
5	16	12	1st
9	19	15	2nd
9	15	15	3rd
13	15	16	4th

	1st	2nd	3rd	4th	Total
Rt	10	11	10	14	45
Thru	49	56	79	81	265
Lt	56	59	61	63	239

Total	1st	2nd	3rd	4th	
42	10	16	10	6	Lt
329	79	83	79	88	Thru
60	14	19	16	11	Rt

	Lt	Thru	Rt
1st	6	14	66
2nd	10	20	86
3rd	10	16	77
4th	11	12	90
Total	37	62	319

Prepared by NEWPORT TRAFFIC STUDIES

INTERSECTION TURNING COUNT

NORTH-SOUTH STREET: DIAZ RD

EAST-WEST STREET: WINCHESTER

TIME: 05:00PM-06:00PM DATE: 11-21-19

NORTH LEG

Rt	Thru	Lt	
42	57	64	Total
10	16	15	1st
14	18	15	2nd
9	13	21	3rd
9	10	13	4th

	1st	2nd	3rd	4th	Total
Rt	16	15	10	7	48
Thru	93	99	86	73	351
Lt	66	48	54	50	218

Total	1st	2nd	3rd	4th	
33	12	6	5	10	Lt
347	93	101	76	77	Thru
47	10	13	12	12	Rt

	Lt	Thru	Rt
1st	12	13	83
2nd	10	17	66
3rd	10	9	84
4th	14	12	77
Total	46	51	310

Prepared by NEWPORT TRAFFIC STUDIES

DAVID EVANS AND ASSOCIATES INC.

Appendix B: Intersection Capacity Calculations

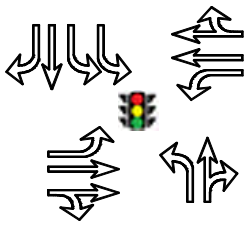
DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	TNM	26-Jun-20	IPWR0IPA-0001	1 OF 2

E/W STREET : RANCHO CALIFORNIA RD
N/S STREET : DIAZ RD/ VINCENT MORAGA DR
CONDITION : AM PEAK HOUR

INTERSECTION : 1
PROJECTED GROWTH PER YEAR : 0.3%

CONDITION DIAGRAMS



EXISTING GEOMETRICS

TURN MOVEMENTS

Condition	Existing Conditions Traffic	Future Year 2040 Conditions
Scenario #		
RANCHO CALIFORNIA RD		
EB LEFT	114	122
EB THRU	395	420
EB RIGHT	94	100
WB LEFT	123	131
WB THRU	832	885
WB RIGHT	242	258
DIAZ RD/ VINCENT MORAGA DR		
NB LEFT	37	40
NB THRU	64	69
NB RIGHT	73	78
SB LEFT	123	131
SB THRU	92	98
SB RIGHT	89	95
TOTALS	**2278**	**2427**

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN VOLUME SUMMARY	TNM	26-Jun-20	IPWR0IPA-0001	2 OF 2

E/W STREET : RANCHO CALIFORNIA RD
N/S STREET : DIAZ RD/ VINCENT MORAGA DR
CONDITION : AM PEAK HOUR
PHF : 0.97

NORTH LEG								
LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
0	0	0	0	0	1	0	0	1
0	2	4	0	0	1	0	0	0
0	1	0	0	0	1	0	0	4
0	0	1	0	0	0	0	0	0

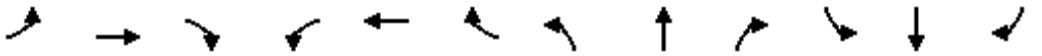
SOUTH LEG								
LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
1	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	1	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0

EAST LEG								
LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
0	1	0	0	1	0	4	3	0
3	0	0	0	0	0	1	0	0
1	0	0	0	0	0	0	1	0
2	3	0	0	0	0	6	1	0

WEST LEG								
LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
0	0	1	0	1	0	0	0	0
0	0	0	0	0	0	0	1	0
0	0	0	0	0	0	0	2	0
0	0	2	0	0	0	0	0	0

NORTH LEG			SOUTH LEG			EAST LEG			WEST LEG		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
21	23	25	15	21	7	51	204	33	20	102	32
25	19	31	23	16	8	57	221	29	22	106	20
23	19	25	20	9	12	65	209	31	24	83	29
20	28	29	14	17	10	52	188	30	28	100	30

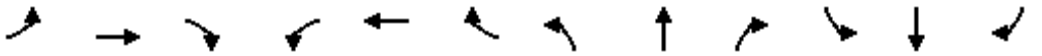
	TRUCK TOTAL	AUTO VOLUMES	TOTALS	TRUCK PERCENTAGE
RANCHO CALIFORNIA RD				
EB LEFT	3	111	**114**	**3%**
EB THRU	4	391	**395**	**1%**
EB RIGHT	0	94	**94**	**1%**
WB LEFT	0	123	**123**	**1%**
WB THRU	10	822	**832**	**1%**
WB RIGHT	17	225	**242**	**7%**
DIAZ RD/ VINCENT MORAGA DR				
NB LEFT	0	37	**37**	**1%**
NB THRU	1	63	**64**	**2%**
NB RIGHT	1	72	**73**	**1%**
SB LEFT	13	110	**123**	**11%**
SB THRU	3	89	**92**	**3%**
SB RIGHT	0	89	**89**	**1%**



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	114	395	94	123	832	242	37	64	73	123	92	89
Future Volume (veh/h)	114	395	94	123	832	242	37	64	73	123	92	89
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1930	1961	1810	1885	1885	1961	1885	1945	1796	1737	1856	1961
Adj Flow Rate, veh/h	118	407	97	127	858	249	38	66	75	127	95	92
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	3	1	1	1	1	1	1	2	2	11	3	1
Cap, veh/h	165	1143	270	158	1041	302	72	87	98	853	612	548
Arrive On Green	0.09	0.38	0.38	0.09	0.38	0.38	0.04	0.10	0.10	0.27	0.33	0.33
Sat Flow, veh/h	1838	2990	706	1795	2739	794	1795	831	944	3209	1856	1662
Grp Volume(v), veh/h	118	252	252	127	561	546	38	0	141	127	95	92
Grp Sat Flow(s),veh/h/ln	1838	1863	1834	1795	1791	1742	1795	0	1775	1605	1856	1662
Q Serve(g_s), s	6.2	9.7	9.8	6.9	28.3	28.3	2.1	0.0	7.7	3.0	3.6	2.9
Cycle Q Clear(g_c), s	6.2	9.7	9.8	6.9	28.3	28.3	2.1	0.0	7.7	3.0	3.6	2.9
Prop In Lane	1.00		0.39	1.00		0.46	1.00		0.53	1.00		1.00
Lane Grp Cap(c), veh/h	165	712	701	158	681	662	72	0	185	853	612	548
V/C Ratio(X)	0.71	0.35	0.36	0.80	0.82	0.83	0.53	0.00	0.76	0.15	0.16	0.17
Avail Cap(c_a), veh/h	165	712	701	251	681	662	72	0	515	853	612	548
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.2	22.1	22.1	44.8	28.0	28.0	47.1	0.0	43.6	28.1	23.7	13.2
Incr Delay (d2), s/veh	13.5	1.4	1.4	9.5	10.9	11.2	7.1	0.0	6.4	0.1	0.5	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.4	4.3	4.3	3.4	13.0	12.7	1.1	0.0	3.7	1.1	1.6	1.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	57.7	23.5	23.6	54.3	38.9	39.2	54.2	0.0	49.9	28.1	24.2	13.9
LnGrp LOS	E	C	C	D	D	D	D	A	D	C	C	B
Approach Vol, veh/h		622			1234			179			314	
Approach Delay, s/veh		30.0			40.6			50.8			22.8	
Approach LOS		C			D			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.8	42.2	8.0	37.0	13.0	42.0	30.6	14.4
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	14.0	33.0	4.0	33.0	9.0	38.0	8.0	29.0
Max Q Clear Time (g_c+I1), s	8.9	11.8	4.1	5.6	8.2	30.3	5.0	9.7
Green Ext Time (p_c), s	0.1	2.8	0.0	0.7	0.0	3.8	0.1	0.7

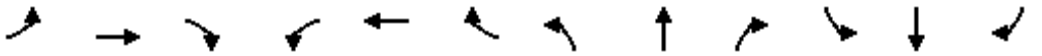
Intersection Summary	
HCM 6th Ctrl Delay	36.2
HCM 6th LOS	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	122	420	100	131	885	258	40	69	78	131	98	95
Future Volume (veh/h)	122	420	100	131	885	258	40	69	78	131	98	95
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1930	1961	1810	1885	1885	1961	1885	1945	1796	1737	1856	1961
Adj Flow Rate, veh/h	128	442	105	138	932	272	42	73	82	138	103	100
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	1	1	1	1	1	1	2	2	11	3	1
Cap, veh/h	165	1123	265	170	1040	303	72	94	106	826	612	548
Arrive On Green	0.09	0.38	0.38	0.09	0.38	0.38	0.04	0.11	0.11	0.26	0.33	0.33
Sat Flow, veh/h	1838	2991	705	1795	2736	796	1795	836	940	3209	1856	1662
Grp Volume(v), veh/h	128	274	273	138	609	595	42	0	155	138	103	100
Grp Sat Flow(s),veh/h/ln	1838	1863	1834	1795	1791	1742	1795	0	1776	1605	1856	1662
Q Serve(g_s), s	6.8	10.8	10.9	7.5	32.0	32.2	2.3	0.0	8.5	3.3	3.9	3.2
Cycle Q Clear(g_c), s	6.8	10.8	10.9	7.5	32.0	32.2	2.3	0.0	8.5	3.3	3.9	3.2
Prop In Lane	1.00		0.38	1.00		0.46	1.00		0.53	1.00		1.00
Lane Grp Cap(c), veh/h	165	699	689	170	681	662	72	0	200	826	612	548
V/C Ratio(X)	0.77	0.39	0.40	0.81	0.89	0.90	0.58	0.00	0.78	0.17	0.17	0.18
Avail Cap(c_a), veh/h	165	699	689	251	681	662	72	0	515	826	612	548
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.5	22.9	22.9	44.4	29.1	29.2	47.2	0.0	43.1	28.8	23.8	13.3
Incr Delay (d2), s/veh	20.1	1.6	1.7	11.9	16.7	17.5	11.6	0.0	6.3	0.1	0.6	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.9	4.8	4.8	3.8	15.6	15.4	1.3	0.0	4.0	1.2	1.7	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	64.6	24.5	24.6	56.3	45.8	46.7	58.8	0.0	49.5	28.9	24.4	14.0
LnGrp LOS	E	C	C	E	D	D	E	A	D	C	C	B
Approach Vol, veh/h		675			1342			197			341	
Approach Delay, s/veh		32.2			47.3			51.5			23.2	
Approach LOS		C			D			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.4	41.6	8.0	37.0	13.0	42.0	29.7	15.3
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	14.0	33.0	4.0	33.0	9.0	38.0	8.0	29.0
Max Q Clear Time (g_c+I1), s	9.5	12.9	4.3	5.9	8.8	34.2	5.3	10.5
Green Ext Time (p_c), s	0.1	3.0	0.0	0.8	0.0	2.4	0.1	0.8

Intersection Summary	
HCM 6th Ctrl Delay	40.4
HCM 6th LOS	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	122	420	100	131	885	258	40	69	78	131	98	95
Future Volume (veh/h)	122	420	100	131	885	258	40	69	78	131	98	95
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1930	1961	1810	1885	1885	1961	1885	1945	1796	1737	1856	1961
Adj Flow Rate, veh/h	128	442	105	138	932	272	42	73	82	138	103	100
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	1	1	1	1	1	1	2	2	11	3	1
Cap, veh/h	192	1256	296	168	1119	326	74	92	103	742	557	498
Arrive On Green	0.10	0.42	0.42	0.09	0.41	0.41	0.04	0.11	0.11	0.23	0.30	0.30
Sat Flow, veh/h	1838	2991	705	1795	2736	796	1795	836	940	3209	1856	1662
Grp Volume(v), veh/h	128	274	273	138	609	595	42	0	155	138	103	100
Grp Sat Flow(s),veh/h/ln	1838	1863	1834	1795	1791	1742	1795	0	1776	1605	1856	1662
Q Serve(g_s), s	7.4	11.0	11.2	8.3	33.5	33.7	2.5	0.0	9.4	3.8	4.5	3.7
Cycle Q Clear(g_c), s	7.4	11.0	11.2	8.3	33.5	33.7	2.5	0.0	9.4	3.8	4.5	3.7
Prop In Lane	1.00		0.38	1.00		0.46	1.00		0.53	1.00		1.00
Lane Grp Cap(c), veh/h	192	782	770	168	733	713	74	0	196	742	557	498
V/C Ratio(X)	0.67	0.35	0.35	0.82	0.83	0.83	0.57	0.00	0.79	0.19	0.19	0.20
Avail Cap(c_a), veh/h	192	782	770	261	733	713	82	0	468	742	557	498
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.4	21.7	21.8	49.0	29.1	29.2	51.8	0.0	47.7	34.0	28.5	16.0
Incr Delay (d2), s/veh	8.6	1.2	1.3	11.3	10.6	11.1	7.4	0.0	7.1	0.1	0.7	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.8	4.9	4.9	4.1	15.3	15.1	1.3	0.0	4.5	1.4	2.1	2.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	56.0	22.9	23.0	60.2	39.7	40.3	59.2	0.0	54.8	34.1	29.3	16.9
LnGrp LOS	E	C	C	E	D	D	E	A	D	C	C	B
Approach Vol, veh/h		675			1342			197			341	
Approach Delay, s/veh		29.2			42.1			55.7			27.6	
Approach LOS		C			D			E			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.3	50.2	8.5	37.0	15.5	49.0	29.4	16.1
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	16.0	40.0	5.0	33.0	11.0	45.0	9.0	29.0
Max Q Clear Time (g_c+I1), s	10.3	13.2	4.5	6.5	9.4	35.7	5.8	11.4
Green Ext Time (p_c), s	0.1	3.2	0.0	0.8	0.0	4.8	0.1	0.8

Intersection Summary	
HCM 6th Ctrl Delay	37.8
HCM 6th LOS	D

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	TNM	26-Jun-20	IPWR0IPA-0001	1 OF 2

E/W STREET : RANCHO CALIFORNIA RD
N/S STREET : DIAZ RD/ VINCENT MORAGA DR
CONDITION : PM PEAK HOUR

INTERSECTION : 1
PROJECTED GROWTH PER YEAR : 0.2%

TURN MOVEMENTS

Condition	Existing Condition Traffic	Future Year 2040 Condition
Scenario #		
RANCHO CALIFORNIA RD		
EB LEFT	122	128
EB THRU	807	841
EB RIGHT	53	56
WB LEFT	106	111
WB THRU	661	689
WB RIGHT	161	168
DIAZ RD/ VINCENT MORAGA DR		
NB LEFT	90	94
NB THRU	116	121
NB RIGHT	126	132
SB LEFT	126	132
SB THRU	88	92
SB RIGHT	131	137
TOTALS	**2587**	**2701**

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN VOLUME SUMMARY	TNM	26-Jun-20	IPWR0IPA-0001	2 OF 2

E/W STREET : RANCHO CALIFORNIA RD
CONDITION : PM PEAK HOUR

N/S STREET : DIAZ RD/ VINCENT MORAGA DR
PHF : 0.96

NORTH LEG

LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
0	1	0	0	0	1	0	0	1
0	0	1	0	0	0	1	0	0
0	2	1	1	0	0	0	0	0
0	0	3	0	0	0	0	0	3

SOUTH LEG

LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
2	0	0	0	0	0	0	0	0
0	0	0	0	1	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0

EAST LEG

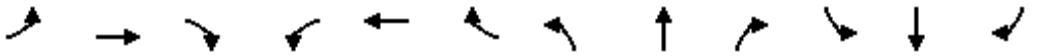
LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
1	1	0	0	0	0	2	1	0
0	0	0	1	2	0	0	0	0
1	3	0	1	0	0	0	1	0
0	0	0	0	0	0	0	2	0

WEST LEG

LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
0	2	0	0	0	0	0	1	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	1
0	2	0	0	0	0	0	0	0

NORTH LEG			SOUTH LEG			EAST LEG			WEST LEG		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
31	19	31	31	29	25	37	149	27	10	190	30
33	22	29	28	27	20	38	158	22	10	204	28
35	24	32	30	30	23	40	165	26	14	214	32
30	20	24	35	29	22	40	179	31	19	194	31

	TRUCK TOTAL	AUTO VOLUMES	TOTALS	TRUCK PERCENTAGE
RANCHO CALIFORNIA RD				
EB LEFT	1	121	**122**	**1%**
EB THRU	5	802	**807**	**1%**
EB RIGHT	0	53	**53**	**1%**
WB LEFT	0	106	**106**	**1%**
WB THRU	10	651	**661**	**2%**
WB RIGHT	6	155	**161**	**4%**
DIAZ RD/ VINCENT MORAGA DR				
NB LEFT	0	90	**90**	**1%**
NB THRU	1	115	**116**	**1%**
NB RIGHT	2	124	**126**	**2%**
SB LEFT	10	116	**126**	**8%**
SB THRU	3	85	**88**	**3%**
SB RIGHT	2	129	**131**	**2%**



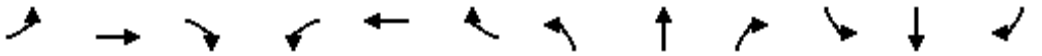
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	122	807	53	106	661	161	90	116	126	126	88	131
Future Volume (veh/h)	122	807	53	106	661	161	90	116	126	126	88	131
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1961	1961	1810	1885	1870	1945	1885	1961	1810	1781	1856	1945
Adj Flow Rate, veh/h	127	841	55	110	689	168	94	121	131	131	92	136
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	1	1	1	1	2	2	1	1	1	8	3	2
Cap, veh/h	125	1031	67	141	855	208	85	327	354	200	729	648
Arrive On Green	0.07	0.29	0.29	0.08	0.30	0.30	0.05	0.38	0.38	0.06	0.39	0.39
Sat Flow, veh/h	1867	3549	232	1795	2833	690	1795	861	932	3291	1856	1648
Grp Volume(v), veh/h	127	441	455	110	432	425	94	0	252	131	92	136
Grp Sat Flow(s),veh/h/ln	1867	1863	1919	1795	1777	1746	1795	0	1793	1646	1856	1648
Q Serve(g_s), s	5.6	18.5	18.5	5.1	18.8	18.9	4.0	0.0	8.5	3.3	2.7	3.4
Cycle Q Clear(g_c), s	5.6	18.5	18.5	5.1	18.8	18.9	4.0	0.0	8.5	3.3	2.7	3.4
Prop In Lane	1.00		0.12	1.00		0.40	1.00		0.52	1.00		1.00
Lane Grp Cap(c), veh/h	125	541	558	141	536	527	85	0	681	200	729	648
V/C Ratio(X)	1.01	0.82	0.82	0.78	0.81	0.81	1.10	0.00	0.37	0.66	0.13	0.21
Avail Cap(c_a), veh/h	125	687	708	256	804	790	85	0	681	313	729	648
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.2	27.7	27.7	38.0	27.0	27.1	40.0	0.0	18.8	38.6	16.3	9.1
Incr Delay (d2), s/veh	83.7	6.0	5.9	9.0	3.7	3.8	126.9	0.0	0.3	3.6	0.4	0.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.4	8.5	8.8	2.4	7.7	7.6	4.7	0.0	3.5	1.4	1.1	1.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	122.9	33.7	33.6	47.0	30.7	30.8	166.9	0.0	19.1	42.2	16.6	9.8
LnGrp LOS	F	C	C	D	C	C	F	A	B	D	B	A
Approach Vol, veh/h		1023			967			346			359	
Approach Delay, s/veh		44.7			32.6			59.3			23.4	
Approach LOS		D			C			E			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	10.6	28.4	8.0	37.0	9.6	29.4	9.1	35.9
Change Period (Y+Rc), s	4.0	* 4	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	12.0	* 31	4.0	33.0	4.0	38.0	8.0	29.0
Max Q Clear Time (g_c+I1), s	7.1	20.5	6.0	5.4	7.6	20.9	5.3	10.5
Green Ext Time (p_c), s	0.1	3.9	0.0	0.9	0.0	4.5	0.1	1.4

Intersection Summary	
HCM 6th Ctrl Delay	39.4
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



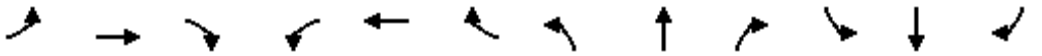
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	128	841	56	111	689	168	94	121	132	132	92	137
Future Volume (veh/h)	128	841	56	111	689	168	94	121	132	132	92	137
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1961	1961	1810	1885	1870	1945	1885	1961	1810	1781	1856	1945
Adj Flow Rate, veh/h	135	885	59	117	725	177	99	127	139	139	97	144
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	1	1	1	1	2	2	1	1	1	8	3	2
Cap, veh/h	131	1306	87	146	1076	263	108	282	308	200	612	544
Arrive On Green	0.07	0.37	0.37	0.08	0.38	0.38	0.06	0.33	0.33	0.06	0.33	0.33
Sat Flow, veh/h	1867	3544	236	1795	2832	691	1795	856	936	3291	1856	1648
Grp Volume(v), veh/h	135	465	479	117	455	447	99	0	266	139	97	144
Grp Sat Flow(s),veh/h/ln	1867	1863	1918	1795	1777	1746	1795	0	1792	1646	1856	1648
Q Serve(g_s), s	7.0	21.0	21.0	6.4	21.3	21.3	5.5	0.0	11.7	4.1	3.7	5.0
Cycle Q Clear(g_c), s	7.0	21.0	21.0	6.4	21.3	21.3	5.5	0.0	11.7	4.1	3.7	5.0
Prop In Lane	1.00		0.12	1.00		0.40	1.00		0.52	1.00		1.00
Lane Grp Cap(c), veh/h	131	686	707	146	675	663	108	0	590	200	612	544
V/C Ratio(X)	1.03	0.68	0.68	0.80	0.67	0.67	0.92	0.00	0.45	0.70	0.16	0.26
Avail Cap(c_a), veh/h	131	686	707	215	675	663	108	0	590	263	612	544
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.5	26.6	26.6	45.1	25.8	25.8	46.8	0.0	26.4	46.1	23.7	14.8
Incr Delay (d2), s/veh	87.7	5.3	5.2	12.3	5.3	5.4	61.6	0.0	0.5	5.1	0.6	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.3	9.8	10.1	3.2	9.2	9.1	4.3	0.0	5.0	1.8	1.6	2.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	134.2	31.9	31.7	57.4	31.1	31.2	108.3	0.0	27.0	51.2	24.2	16.0
LnGrp LOS	F	C	C	E	C	C	F	A	C	D	C	B
Approach Vol, veh/h		1079			1019			365			380	
Approach Delay, s/veh		44.6			34.2			49.0			31.0	
Approach LOS		D			C			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.1	40.9	10.0	37.0	11.0	42.0	10.1	36.9
Change Period (Y+Rc), s	4.0	* 4	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	12.0	* 34	6.0	33.0	7.0	38.0	8.0	31.0
Max Q Clear Time (g_c+I1), s	8.4	23.0	7.5	7.0	9.0	23.3	6.1	13.7
Green Ext Time (p_c), s	0.1	4.2	0.0	0.9	0.0	4.5	0.1	1.5

Intersection Summary	
HCM 6th Ctrl Delay	39.6
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	128	841	56	111	689	168	94	121	132	132	92	137
Future Volume (veh/h)	128	841	56	111	689	168	94	121	132	132	92	137
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1961	1961	1810	1885	1870	1945	1885	1961	1810	1781	1856	1945
Adj Flow Rate, veh/h	135	885	59	117	725	177	99	127	139	139	97	144
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	1	1	1	1	2	2	1	1	1	8	3	2
Cap, veh/h	238	1422	95	145	1004	245	130	268	293	196	557	495
Arrive On Green	0.13	0.40	0.40	0.08	0.35	0.35	0.07	0.31	0.31	0.06	0.30	0.30
Sat Flow, veh/h	1867	3544	236	1795	2832	691	1795	856	936	3291	1856	1648
Grp Volume(v), veh/h	135	465	479	117	455	447	99	0	266	139	97	144
Grp Sat Flow(s),veh/h/ln	1867	1863	1918	1795	1777	1746	1795	0	1792	1646	1856	1648
Q Serve(g_s), s	7.5	21.9	21.9	7.0	24.4	24.4	6.0	0.0	13.2	4.6	4.2	5.3
Cycle Q Clear(g_c), s	7.5	21.9	21.9	7.0	24.4	24.4	6.0	0.0	13.2	4.6	4.2	5.3
Prop In Lane	1.00		0.12	1.00		0.40	1.00		0.52	1.00		1.00
Lane Grp Cap(c), veh/h	238	747	770	145	630	619	130	0	561	196	557	495
V/C Ratio(X)	0.57	0.62	0.62	0.81	0.72	0.72	0.76	0.00	0.47	0.71	0.17	0.29
Avail Cap(c_a), veh/h	238	747	770	212	630	619	163	0	561	269	557	495
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.1	26.3	26.3	49.7	30.8	30.8	50.1	0.0	30.5	50.8	28.4	15.1
Incr Delay (d2), s/veh	3.2	3.9	3.8	13.4	7.0	7.2	14.7	0.0	0.6	5.2	0.7	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.6	10.1	10.4	3.6	11.0	10.8	3.2	0.0	5.7	2.0	1.9	3.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	48.3	30.2	30.1	63.1	37.8	38.0	64.7	0.0	31.1	56.0	29.1	16.5
LnGrp LOS	D	C	C	E	D	D	E	A	C	E	C	B
Approach Vol, veh/h		1079			1019			365			380	
Approach Delay, s/veh		32.4			40.8			40.2			34.2	
Approach LOS		C			D			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.9	48.1	12.0	37.0	18.0	43.0	10.6	38.4
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	13.0	38.0	10.0	33.0	12.0	39.0	9.0	34.0
Max Q Clear Time (g_c+I1), s	9.0	23.9	8.0	7.3	9.5	26.4	6.6	15.2
Green Ext Time (p_c), s	0.1	4.9	0.0	0.9	0.1	4.1	0.1	1.5

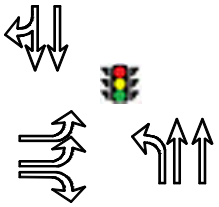
Intersection Summary	
HCM 6th Ctrl Delay	36.6
HCM 6th LOS	D

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	TNM	26-Jun-20	IPWR0IPA-0001	1 OF 2

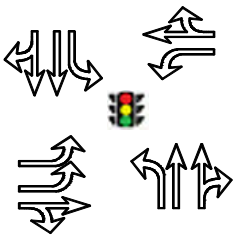
E/W STREET : RANCHO WAY
N/S STREET : DIAZ RD
CONDITION : AM PEAK HOUR

INTERSECTION : 2
PROJECTED GROWTH PER YEAR : 10.3%

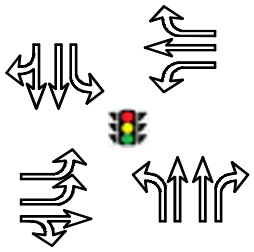
CONDITION DIAGRAMS



EXISTING GEOMETRICS



FUTURE GEOMETRICS



FUTURE BUILD GEOMETRICS

TURN MOVEMENTS

Condition	Existing Conditions Traffic	Future Year 2040 Condition
Scenario #		
RANCHO WAY		
EB LEFT	26	148
EB THRU	0	46
EB RIGHT	23	12
WB LEFT	0	8
WB THRU	0	106
WB RIGHT	0	445
DIAZ RD		
NB LEFT	41	62
NB THRU	386	339
NB RIGHT	0	48
SB LEFT	0	158
SB THRU	293	304
SB RIGHT	24	122
TOTALS	**793**	**1,798**

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN VOLUME SUMMARY	TNM	26-Jun-20	IPWR0IPA-0001	2 OF 2

E/W STREET : RANCHO WAY
CONDITION : AM PEAK HOUR

N/S STREET : DIAZ RD
PHF : 0.98

NORTH LEG

LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
0	1	0	0	1	0	0	1	0
0	5	0	0	1	0	0	1	0
0	1	0	0	1	0	0	3	0
0	1	0	0	0	0	0	1	0

SOUTH LEG

LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
0	1	0	0	0	0	0	4	0
0	2	1	0	0	0	0	1	0
0	2	0	0	0	0	0	0	0
0	3	0	0	0	0	0	6	0

EAST LEG

LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0

WEST LEG

LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0

NORTH LEG			SOUTH LEG			EAST LEG			WEST LEG		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
4	71	0	0	94	10	0	0	0	6	0	9
5	71	0	0	85	12	0	0	0	5	0	7
5	65	0	0	97	9	0	0	0	4	0	5
10	69	0	0	91	9	0	0	0	8	0	5

	TRUCK TOTAL	AUTO VOLUMES	TOTALS	TRUCK PERCENTAGE
RANCHO WAY				
EB LEFT	0	26	**26**	**1%**
EB THRU	0	0	**0**	**0%**
EB RIGHT	0	23	**23**	**1%**
WB LEFT	0	0	**0**	**0%**
WB THRU	0	0	**0**	**0%**
WB RIGHT	0	0	**0**	**0%**
DIAZ RD				
NB LEFT	1	40	**41**	**2%**
NB THRU	19	367	**386**	**5%**
NB RIGHT	0	0	**0**	**0%**
SB LEFT	0	0	**0**	**0%**
SB THRU	17	276	**293**	**6%**
SB RIGHT	0	24	**24**	**1%**

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	26	23	41	386	293	24
Future Volume (veh/h)	26	23	41	386	293	24
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1885	1885	1870	1826	1811	1811
Adj Flow Rate, veh/h	27	23	42	394	299	24
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	1	1	2	5	6	6
Cap, veh/h	105	48	54	3088	2646	211
Arrive On Green	0.03	0.03	0.03	0.89	0.82	0.82
Sat Flow, veh/h	3483	1598	1781	3561	3318	258
Grp Volume(v), veh/h	27	23	42	394	159	164
Grp Sat Flow(s),veh/h/ln	1742	1598	1781	1735	1721	1765
Q Serve(g_s), s	0.8	1.4	2.3	1.4	1.8	1.9
Cycle Q Clear(g_c), s	0.8	1.4	2.3	1.4	1.8	1.9
Prop In Lane	1.00	1.00	1.00			0.15
Lane Grp Cap(c), veh/h	105	48	54	3088	1411	1447
V/C Ratio(X)	0.26	0.48	0.78	0.13	0.11	0.11
Avail Cap(c_a), veh/h	1010	463	249	3088	1411	1447
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.4	47.7	48.2	0.7	1.8	1.8
Incr Delay (d2), s/veh	1.3	7.2	21.4	0.1	0.2	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	1.4	1.3	0.0	0.3	0.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	48.7	55.0	69.5	0.8	1.9	1.9
LnGrp LOS	D	D	E	A	A	A
Approach Vol, veh/h	50			436	323	
Approach Delay, s/veh	51.6			7.4	1.9	
Approach LOS	D			A	A	

Timer - Assigned Phs	2		4	5	6
Phs Duration (G+Y+Rc), s	93.0		7.0	7.0	86.0
Change Period (Y+Rc), s	4.0		4.0	4.0	4.0
Max Green Setting (Gmax), s	63.0		29.0	14.0	45.0
Max Q Clear Time (g_c+I1), s	3.4		3.4	4.3	3.9
Green Ext Time (p_c), s	2.6		0.1	0.0	1.8

Intersection Summary	
HCM 6th Ctrl Delay	8.0
HCM 6th LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	148	46	12	8	106	445	62	339	48	158	304	122
Future Volume (veh/h)	148	46	12	8	106	445	62	339	48	158	304	122
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1870	1870	1870	1870	1870	1870	1826	1826	1870	1811	1811
Adj Flow Rate, veh/h	156	48	13	8	112	468	65	357	51	166	320	128
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	1	2	2	2	2	2	2	5	5	2	6	6
Cap, veh/h	217	541	146	14	103	431	84	1084	154	195	1009	396
Arrive On Green	0.06	0.38	0.38	0.01	0.33	0.33	0.05	0.36	0.36	0.11	0.42	0.42
Sat Flow, veh/h	3483	1417	384	1781	315	1318	1781	3050	432	1781	2414	947
Grp Volume(v), veh/h	156	0	61	8	0	580	65	202	206	166	226	222
Grp Sat Flow(s),veh/h/ln	1742	0	1801	1781	0	1633	1781	1735	1748	1781	1721	1641
Q Serve(g_s), s	4.8	0.0	2.4	0.5	0.0	36.0	4.0	9.3	9.5	10.1	9.7	10.0
Cycle Q Clear(g_c), s	4.8	0.0	2.4	0.5	0.0	36.0	4.0	9.3	9.5	10.1	9.7	10.0
Prop In Lane	1.00		0.21	1.00		0.81	1.00		0.25	1.00		0.58
Lane Grp Cap(c), veh/h	217	0	687	14	0	534	84	617	621	195	719	686
V/C Ratio(X)	0.72	0.00	0.09	0.57	0.00	1.09	0.78	0.33	0.33	0.85	0.31	0.32
Avail Cap(c_a), veh/h	222	0	687	65	0	534	146	617	621	227	719	686
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.6	0.0	21.8	54.4	0.0	37.0	51.8	25.9	25.9	48.1	21.4	21.5
Incr Delay (d2), s/veh	10.6	0.0	0.1	31.5	0.0	64.0	14.1	1.4	1.4	22.6	1.1	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.4	0.0	1.0	0.3	0.0	23.5	2.1	3.9	4.0	5.6	3.9	3.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	61.2	0.0	21.8	85.9	0.0	101.0	65.9	27.3	27.3	70.7	22.6	22.8
LnGrp LOS	E	A	C	F	A	F	E	C	C	E	C	C
Approach Vol, veh/h		217			588			473			614	
Approach Delay, s/veh		50.2			100.8			32.6			35.7	
Approach LOS		D			F			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.1	43.1	4.9	46.0	9.2	50.0	10.8	40.0
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	14.0	37.0	4.0	39.0	9.0	42.0	7.0	36.0
Max Q Clear Time (g_c+I1), s	12.1	11.5	2.5	4.4	6.0	12.0	6.8	38.0
Green Ext Time (p_c), s	0.1	2.2	0.0	0.3	0.0	2.5	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	56.8
HCM 6th LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	148	46	12	8	106	445	62	339	48	158	304	122
Future Volume (veh/h)	148	46	12	8	106	445	62	339	48	158	304	122
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.97	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1870	1870	1870	1870	1870	1870	1826	1870	1870	1811	1811
Adj Flow Rate, veh/h	156	48	13	8	112	468	65	357	51	166	320	128
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	1	2	2	2	2	2	2	5	2	2	6	6
Cap, veh/h	190	406	110	14	448	554	302	1562	693	196	944	370
Arrive On Green	0.05	0.29	0.29	0.01	0.24	0.24	0.17	0.45	0.45	0.11	0.39	0.39
Sat Flow, veh/h	3483	1417	384	1781	1870	1585	1781	3469	1538	1781	2414	947
Grp Volume(v), veh/h	156	0	61	8	112	468	65	357	51	166	226	222
Grp Sat Flow(s),veh/h/ln	1742	0	1801	1781	1870	1585	1781	1735	1538	1781	1721	1641
Q Serve(g_s), s	4.9	0.0	2.8	0.5	5.3	22.4	3.5	6.9	2.1	10.1	10.1	10.5
Cycle Q Clear(g_c), s	4.9	0.0	2.8	0.5	5.3	22.4	3.5	6.9	2.1	10.1	10.1	10.5
Prop In Lane	1.00		0.21	1.00		1.00	1.00		1.00	1.00		0.58
Lane Grp Cap(c), veh/h	190	0	516	14	448	554	302	1562	693	196	673	641
V/C Ratio(X)	0.82	0.00	0.12	0.57	0.25	0.84	0.22	0.23	0.07	0.85	0.34	0.35
Avail Cap(c_a), veh/h	190	0	622	65	612	693	302	1562	693	243	673	641
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.5	0.0	29.0	54.4	33.8	19.1	39.4	18.5	17.2	48.0	23.5	23.6
Incr Delay (d2), s/veh	24.1	0.0	0.1	31.5	0.3	7.8	0.4	0.3	0.2	19.9	1.4	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	0.0	1.2	0.3	2.5	9.1	1.5	2.7	0.8	5.4	4.2	4.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	75.6	0.0	29.1	85.9	34.1	26.9	39.7	18.9	17.4	68.0	24.8	25.1
LnGrp LOS	E	A	C	F	C	C	D	B	B	E	C	C
Approach Vol, veh/h		217			588			473			614	
Approach Delay, s/veh		62.5			29.1			21.6			36.6	
Approach LOS		E			C			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.1	53.5	4.9	35.5	22.6	47.0	10.0	30.4
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	15.0	37.0	4.0	38.0	9.0	43.0	6.0	36.0
Max Q Clear Time (g_c+I1), s	12.1	8.9	2.5	4.8	5.5	12.5	6.9	24.4
Green Ext Time (p_c), s	0.1	2.3	0.0	0.3	0.0	2.6	0.0	1.9

Intersection Summary	
HCM 6th Ctrl Delay	33.5
HCM 6th LOS	C

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	TNM	26-Jun-20	IPWR0IPA-0001	1 OF 2

E/W STREET : RANCHO WAY
N/S STREET : DIAZ RD
CONDITION : PM PEAK HOUR

INTERSECTION : 2
PROJECTED GROWTH PER YEAR : 5.5%

TURN MOVEMENTS

Condition	Existing Condition Traffic	Future Year 2040 Condition
Scenario #		
RANCHO WAY		
EB LEFT	25	55
EB THRU	0	29
EB RIGHT	22	25
WB LEFT	0	27
WB THRU	0	36
WB RIGHT	0	287
DIAZ RD		
NB LEFT	23	51
NB THRU	377	300
NB RIGHT	0	66
SB LEFT	0	228
SB THRU	339	309
SB RIGHT	25	67
TOTALS	**811**	**1,480**

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN VOLUME SUMMARY	TNM	26-Jun-20	IPWR0IPA-0001	2 OF 2

E/W STREET : RANCHO WAY
CONDITION : PM PEAK HOUR

N/S STREET : DIAZ RD
PHF : 0.96

NORTH LEG

LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
0	1	0	0	0	0	0	2	0
0	1	0	0	1	0	0	1	0
0	1	0	0	1	0	0	1	0
0	2	0	0	0	0	0	0	0

SOUTH LEG

LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
0	1	0	0	1	0	0	0	0
0	1	0	0	0	0	0	1	0
0	0	0	0	2	0	0	0	0
0	1	0	0	1	0	0	1	0

EAST LEG

LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0

WEST LEG

LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
1	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	2	0	0	0
1	0	2	0	0	0	0	0	0

NORTH LEG			SOUTH LEG			EAST LEG			WEST LEG		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
6	85	0	0	94	5	0	0	0	6	0	9
9	72	0	0	85	11	0	0	0	6	0	5
5	82	0	0	92	3	0	0	0	3	0	3
5	89	0	0	97	4	0	0	0	5	0	4

	TRUCK TOTAL	AUTO VOLUMES	TOTALS	TRUCK PERCENTAGE
RANCHO WAY				
EB LEFT	4	21	**25**	**16%**
EB THRU	0	0	**0**	**0%**
EB RIGHT	2	20	**22**	**9%**
WB LEFT	0	0	**0**	**0%**
WB THRU	0	0	**0**	**0%**
WB RIGHT	0	0	**0**	**0%**
DIAZ RD				
NB LEFT	0	23	**23**	**1%**
NB THRU	9	368	**377**	**2%**
NB RIGHT	0	0	**0**	**0%**
SB LEFT	0	0	**0**	**0%**
SB THRU	11	328	**339**	**3%**
SB RIGHT	0	25	**25**	**1%**

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	25	22	23	377	339	25
Future Volume (veh/h)	25	22	23	377	339	25
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1663	1767	1885	1870	1856	1856
Adj Flow Rate, veh/h	26	23	24	393	353	26
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	16	9	1	2	3	3
Cap, veh/h	123	60	41	2818	2287	168
Arrive On Green	0.04	0.04	0.02	0.79	0.69	0.69
Sat Flow, veh/h	3072	1497	1795	3647	3423	244
Grp Volume(v), veh/h	26	23	24	393	186	193
Grp Sat Flow(s),veh/h/ln	1536	1497	1795	1777	1763	1812
Q Serve(g_s), s	0.4	0.7	0.6	1.2	1.8	1.8
Cycle Q Clear(g_c), s	0.4	0.7	0.6	1.2	1.8	1.8
Prop In Lane	1.00	1.00	1.00			0.13
Lane Grp Cap(c), veh/h	123	60	41	2818	1211	1244
V/C Ratio(X)	0.21	0.38	0.59	0.14	0.15	0.16
Avail Cap(c_a), veh/h	1859	906	150	2818	1211	1244
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.3	22.4	23.2	1.2	2.6	2.6
Incr Delay (d2), s/veh	0.8	4.0	12.6	0.1	0.3	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.1	0.1	0.4	0.0	0.2	0.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	23.1	26.4	35.7	1.3	2.9	2.9
LnGrp LOS	C	C	D	A	A	A
Approach Vol, veh/h	49			417	379	
Approach Delay, s/veh	24.7			3.2	2.9	
Approach LOS	C			A	A	

Timer - Assigned Phs	2		4	5	6
Phs Duration (G+Y+Rc), s	42.0		5.9	5.1	36.9
Change Period (Y+Rc), s	4.0		4.0	4.0	4.0
Max Green Setting (Gmax), s	38.0		29.0	4.0	30.0
Max Q Clear Time (g_c+I1), s	3.2		2.7	2.6	3.8
Green Ext Time (p_c), s	2.5		0.1	0.0	2.0

Intersection Summary	
HCM 6th Ctrl Delay	4.3
HCM 6th LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	55	29	25	27	36	287	51	300	66	228	309	67
Future Volume (veh/h)	55	29	25	27	36	287	51	300	66	228	309	67
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1663	1870	1870	1870	1870	1870	1885	1870	1870	1870	1856	1856
Adj Flow Rate, veh/h	58	31	26	28	38	302	54	316	69	240	325	71
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	16	2	2	2	2	2	1	2	2	2	3	3
Cap, veh/h	111	238	199	37	43	340	70	1250	269	269	1563	337
Arrive On Green	0.04	0.25	0.25	0.02	0.24	0.24	0.04	0.43	0.43	0.15	0.54	0.54
Sat Flow, veh/h	3072	940	788	1781	180	1432	1795	2908	626	1781	2884	622
Grp Volume(v), veh/h	58	0	57	28	0	340	54	191	194	240	197	199
Grp Sat Flow(s),veh/h/ln	1536	0	1728	1781	0	1613	1795	1777	1758	1781	1763	1744
Q Serve(g_s), s	2.0	0.0	2.8	1.7	0.0	22.4	3.3	7.6	7.8	14.5	6.3	6.5
Cycle Q Clear(g_c), s	2.0	0.0	2.8	1.7	0.0	22.4	3.3	7.6	7.8	14.5	6.3	6.5
Prop In Lane	1.00		0.46	1.00		0.89	1.00		0.36	1.00		0.36
Lane Grp Cap(c), veh/h	111	0	437	37	0	383	70	764	755	269	955	945
V/C Ratio(X)	0.52	0.00	0.13	0.75	0.00	0.89	0.77	0.25	0.26	0.89	0.21	0.21
Avail Cap(c_a), veh/h	112	0	566	65	0	528	131	764	755	291	955	945
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.1	0.0	31.8	53.6	0.0	40.5	52.4	20.0	20.1	45.8	13.0	13.0
Incr Delay (d2), s/veh	4.2	0.0	0.1	25.7	0.0	13.1	16.4	0.8	0.8	25.9	0.5	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.0	1.2	1.0	0.0	10.2	1.8	3.1	3.2	8.1	2.4	2.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	56.3	0.0	31.9	79.3	0.0	53.7	68.7	20.8	20.9	71.7	13.5	13.5
LnGrp LOS	E	A	C	E	A	D	E	C	C	E	B	B
Approach Vol, veh/h		115			368			439			636	
Approach Delay, s/veh		44.2			55.6			26.8			35.5	
Approach LOS		D			E			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	20.6	51.3	6.3	31.8	8.3	63.6	8.0	30.1
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	18.6	36.0	4.0	36.0	8.0	46.0	4.0	36.0
Max Q Clear Time (g_c+I1), s	16.5	9.8	3.7	4.8	5.3	8.5	4.0	24.4
Green Ext Time (p_c), s	0.1	2.0	0.0	0.3	0.0	2.2	0.0	1.7

Intersection Summary	
HCM 6th Ctrl Delay	38.4
HCM 6th LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	55	29	25	27	36	287	51	300	66	228	309	67
Future Volume (veh/h)	55	29	25	27	36	287	51	300	66	228	309	67
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.97	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1663	1767	1767	1870	1870	1870	1885	1870	1870	1870	1856	1856
Adj Flow Rate, veh/h	58	31	26	28	38	302	54	316	69	240	325	71
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	16	9	9	2	2	2	1	2	2	2	3	3
Cap, veh/h	111	178	149	37	346	533	70	1714	743	269	1715	370
Arrive On Green	0.04	0.20	0.20	0.02	0.18	0.18	0.04	0.48	0.48	0.15	0.59	0.59
Sat Flow, veh/h	3072	888	745	1781	1870	1585	1795	3554	1540	1781	2884	622
Grp Volume(v), veh/h	58	0	57	28	38	302	54	316	69	240	197	199
Grp Sat Flow(s),veh/h/ln	1536	0	1633	1781	1870	1585	1795	1777	1540	1781	1763	1744
Q Serve(g_s), s	2.0	0.0	3.2	1.7	1.9	17.2	3.3	5.6	2.7	14.5	5.6	5.7
Cycle Q Clear(g_c), s	2.0	0.0	3.2	1.7	1.9	17.2	3.3	5.6	2.7	14.5	5.6	5.7
Prop In Lane	1.00		0.46	1.00		1.00	1.00		1.00	1.00		0.36
Lane Grp Cap(c), veh/h	111	0	327	37	346	533	70	1714	743	269	1048	1037
V/C Ratio(X)	0.52	0.00	0.17	0.75	0.11	0.57	0.77	0.18	0.09	0.89	0.19	0.19
Avail Cap(c_a), veh/h	112	0	534	65	612	758	131	1714	743	291	1048	1037
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.1	0.0	36.5	53.6	37.3	30.0	52.4	16.2	15.4	45.8	10.2	10.2
Incr Delay (d2), s/veh	4.2	0.0	0.3	25.7	0.1	1.0	16.4	0.2	0.2	25.9	0.4	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.0	1.3	1.0	0.9	6.6	1.8	2.2	1.0	8.1	2.1	2.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	56.3	0.0	36.7	79.3	37.4	30.9	68.7	16.4	15.7	71.7	10.6	10.6
LnGrp LOS	E	A	D	E	D	C	E	B	B	E	B	B
Approach Vol, veh/h		115			368			439			636	
Approach Delay, s/veh		46.6			35.3			22.7			33.7	
Approach LOS		D			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	20.6	57.1	6.3	26.0	8.3	69.4	8.0	24.3
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	18.6	36.0	4.0	36.0	8.0	46.0	4.0	36.0
Max Q Clear Time (g_c+I1), s	16.5	7.6	3.7	5.2	5.3	7.7	4.0	19.2
Green Ext Time (p_c), s	0.1	2.1	0.0	0.3	0.0	2.2	0.0	1.1

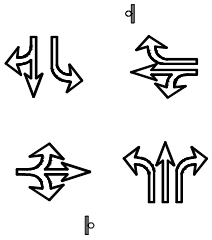
Intersection Summary	
HCM 6th Ctrl Delay	31.9
HCM 6th LOS	C

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	TNM	26-Jun-20	IPWR0IPA-0001	1 OF 2

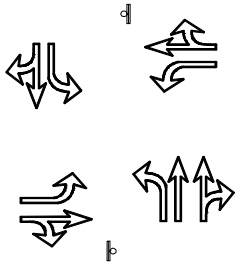
E/W STREET : VIA MONTEZUMA
N/S STREET : DIAZ RD
CONDITION : AM PEAK HOUR

INTERSECTION : 3
PROJECTED GROWTH PER YEAR : 4.2%

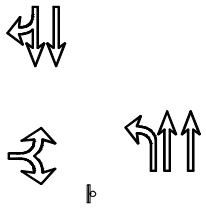
CONDITION DIAGRAMS



EXISTING GEOMETRICS



FUTURE GEOMETRICS



FUTURE BUILD GEOMETRICS

TURN MOVEMENTS

Condition	Existing Conditions Traffic	Future Year 2040 Conditions	Future Year 2040 Build Conditions
Scenario #			
VIA MONTEZUMA			
EB LEFT	11	21	21
EB THRU	16	16	0
EB RIGHT	13	56	56
WB LEFT	52	52	0
WB THRU	49	49	0
WB RIGHT	51	51	0
DIAZ RD			
NB LEFT	48	184	184
NB THRU	307	747	747
NB RIGHT	39	39	0
SB LEFT	37	37	0
SB THRU	243	528	528
SB RIGHT	45	85	85
TOTALS	**911**	**1865**	**1621**

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN VOLUME SUMMARY	TNM	26-Jun-20	IPWR0IPA-0001	2 OF 2

E/W STREET : VIA MONTEZUMA
CONDITION : AM PEAK HOUR

N/S STREET : DIAZ RD
PHF : 0.94

NORTH LEG

LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
0	3	1	0	1	1	0	1	0
0	1	0	0	0	0	0	2	0
0	0	0	0	0	0	0	2	0
0	0	0	0	1	0	0	2	0

SOUTH LEG

LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
0	2	0	0	0	0	0	1	0
0	1	1	0	0	0	0	0	0
0	3	0	0	0	0	0	5	0
1	1	0	0	0	1	0	3	0

EAST LEG

LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
0	0	0	0	0	0	1	0	0
3	0	0	2	0	1	1	0	0
0	0	1	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0

WEST LEG

LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
2	0	0	0	0	0	0	0	0
0	0	1	0	0	0	0	0	0
0	0	1	0	0	0	0	0	0
0	0	1	0	0	0	0	0	1

NORTH LEG			SOUTH LEG			EAST LEG			WEST LEG		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
10	62	8	9	73	12	16	14	14	1	3	1
13	56	10	12	76	15	5	12	15	1	3	1
13	64	8	10	80	10	9	13	10	4	6	4
9	48	9	7	62	9	14	10	11	5	4	1

	TRUCK TOTAL	AUTO VOLUMES	TOTALS	TRUCK PERCENTAGE
VIA MONTEZUMA				
EB LEFT	4	7	**11**	**36%**
EB THRU	0	16	**16**	**1%**
EB RIGHT	2	11	**13**	**15%**
WB LEFT	2	50	**52**	**4%**
WB THRU	0	49	**49**	**1%**
WB RIGHT	7	44	**51**	**14%**
DIAZ RD				
NB LEFT	2	46	**48**	**4%**
NB THRU	16	291	**307**	**5%**
NB RIGHT	1	38	**39**	**3%**
SB LEFT	2	35	**37**	**5%**
SB THRU	13	230	**243**	**5%**
SB RIGHT	0	45	**45**	**1%**

Intersection	
Int Delay, s/veh	7.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	11	16	13	52	49	51	48	307	39	37	243	45
Future Vol, veh/h	11	16	13	52	49	51	48	307	39	37	243	45
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	20	20	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	90	90	-	0	110	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	81	81	81	81	81	81	81	81	81	81	81	81
Heavy Vehicles, %	40	1	1	5	1	7	2	6	2	14	5	2
Mvmt Flow	14	20	16	64	60	63	59	379	48	46	300	56

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1003	985	328	955	965	399	356	0	0	447	0	0
Stage 1	420	420	-	517	517	-	-	-	-	-	-	-
Stage 2	583	565	-	438	448	-	-	-	-	-	-	-
Critical Hdwy	7.5	6.51	6.21	7.15	6.51	6.27	4.12	-	-	4.24	-	-
Critical Hdwy Stg 1	6.5	5.51	-	6.15	5.51	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.5	5.51	-	6.15	5.51	-	-	-	-	-	-	-
Follow-up Hdwy	3.86	4.009	3.309	3.545	4.009	3.363	2.218	-	-	2.326	-	-
Pot Cap-1 Maneuver	188	249	716	235	256	640	1203	-	-	1053	-	-
Stage 1	543	591	-	536	535	-	-	-	-	-	-	-
Stage 2	438	510	-	592	575	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	126	222	716	196	228	628	1203	-	-	1033	-	-
Mov Cap-2 Maneuver	126	222	-	196	228	-	-	-	-	-	-	-
Stage 1	516	564	-	500	499	-	-	-	-	-	-	-
Stage 2	329	476	-	534	549	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	25.4	33.4	1	1
HCM LOS	D	D		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1203	-	-	225	210	628	1033	-	-
HCM Lane V/C Ratio	0.049	-	-	0.219	0.594	0.1	0.044	-	-
HCM Control Delay (s)	8.1	-	-	25.4	44.5	11.4	8.6	-	-
HCM Lane LOS	A	-	-	D	E	B	A	-	-
HCM 95th %tile Q(veh)	0.2	-	-	0.8	3.3	0.3	0.1	-	-

Intersection	
Int Delay, s/veh	321.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	21	16	56	52	49	51	184	747	39	37	528	85
Future Vol, veh/h	21	16	56	52	49	51	184	747	39	37	528	85
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	90	90	-	0	110	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	36	2	15	2	2	2	4	5	2	2	5	1
Mvmt Flow	22	17	59	55	52	54	194	786	41	39	556	89

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1927	1894	601	1891	1897	786	645	0	0	827	0	0
Stage 1	679	679	-	1174	1174	-	-	-	-	-	-	-
Stage 2	1248	1215	-	717	723	-	-	-	-	-	-	-
Critical Hdwy	7.46	6.52	6.35	7.12	6.52	6.22	4.14	-	-	4.12	-	-
Critical Hdwy Stg 1	6.46	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.46	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.824	4.018	3.435	3.518	4.018	3.318	2.236	-	-	2.218	-	-
Pot Cap-1 Maneuver	41	70	477	~ 53	69	392	931	-	-	804	-	-
Stage 1	391	451	-	234	266	-	-	-	-	-	-	-
Stage 2	181	254	-	421	431	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	~ 2	53	477	~ 29	52	392	931	-	-	804	-	-
Mov Cap-2 Maneuver	~ 2	53	-	~ 29	52	-	-	-	-	-	-	-
Stage 1	310	429	-	185	211	-	-	-	-	-	-	-
Stage 2	93	201	-	337	410	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, $	5253.5	$ 719.3	1.9	0.6
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	931	-	-	9	37	392	804	-	-
HCM Lane V/C Ratio	0.208	-	-	10.877	2.873	0.137	0.048	-	-
HCM Control Delay (s)	9.9	-	-	$ 5253.5	$ 1074.7	15.6	9.7	-	-
HCM Lane LOS	A	-	-	F	F	C	A	-	-
HCM 95th %tile Q(veh)	0.8	-	-	13.8	12	0.5	0.2	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	2.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	21	56	184	747	528	85
Future Vol, veh/h	21	56	184	747	528	85
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	150	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	1	1	2	6	5	2
Mvmt Flow	22	59	194	786	556	89

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1382	323	645	0	-	0
Stage 1	601	-	-	-	-	-
Stage 2	781	-	-	-	-	-
Critical Hdwy	6.82	6.92	4.14	-	-	-
Critical Hdwy Stg 1	5.82	-	-	-	-	-
Critical Hdwy Stg 2	5.82	-	-	-	-	-
Follow-up Hdwy	3.51	3.31	2.22	-	-	-
Pot Cap-1 Maneuver	136	676	936	-	-	-
Stage 1	513	-	-	-	-	-
Stage 2	415	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	108	676	936	-	-	-
Mov Cap-2 Maneuver	108	-	-	-	-	-
Stage 1	407	-	-	-	-	-
Stage 2	415	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	23.2	1.9	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	936	-	278	-	-
HCM Lane V/C Ratio	0.207	-	0.292	-	-
HCM Control Delay (s)	9.8	-	23.2	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0.8	-	1.2	-	-

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	TNM	26-Jun-20	IPWR0IPA-0001	1 OF 2

E/W STREET : VIA MONTEZUMA
N/S STREET : DIAZ RD
CONDITION : PM PEAK HOUR

INTERSECTION : 3
PROJECTED GROWTH PER YEAR : 2.4%

TURN MOVEMENTS

Condition	Existing Condition Traffic	Future Year 2040 Conditions	Future Year 2040 Build Conditions
Scenario #			
VIA MONTEZUMA			
EB LEFT	52	79	79
EB THRU	44	44	0
EB RIGHT	41	129	129
WB LEFT	61	61	0
WB THRU	20	20	0
WB RIGHT	51	51	0
DIAZ RD			
NB LEFT	20	62	62
NB THRU	335	581	581
NB RIGHT	53	53	0
SB LEFT	44	44	0
SB THRU	271	475	475
SB RIGHT	19	29	29
TOTALS	**1011**	**1628**	**1355**

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN VOLUME SUMMARY	TNM	26-Jun-20	IPWR0IPA-0001	2 OF 2

E/W STREET : VIA MONTEZUMA
CONDITION : PM PEAK HOUR

N/S STREET : DIAZ RD
PHF : 0.97

NORTH LEG

LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
0	1	0	0	0	2	0	2	0
1	1	2	0	1	0	0	1	0
0	0	0	0	1	0	0	1	0
0	0	0	0	0	0	0	0	0

SOUTH LEG

LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
0	1	0	0	1	0	0	0	0
0	1	0	0	0	0	0	2	0
0	0	0	0	4	0	0	0	0
1	2	0	0	1	0	0	1	0

EAST LEG

LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
0	0	0	2	0	0	0	0	0
2	1	0	0	0	0	0	0	0
1	0	1	0	0	0	0	0	0
0	1	1	0	0	0	0	0	0

WEST LEG

LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
0	0	1	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0

NORTH LEG			SOUTH LEG			EAST LEG			WEST LEG		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
6	72	10	16	85	4	11	5	16	5	8	13
3	58	8	11	75	5	9	5	15	13	13	12
5	63	12	14	76	7	13	5	15	9	13	15
4	70	10	11	86	4	13	3	13	13	10	11

	TRUCK TOTAL	AUTO VOLUMES	TOTALS	TRUCK PERCENTAGE
VIA MONTEZUMA				
EB LEFT	1	51	**52**	**2%**
EB THRU	0	44	**44**	**1%**
EB RIGHT	1	40	**41**	**2%**
WB LEFT	2	59	**61**	**3%**
WB THRU	2	18	**20**	**10%**
WB RIGHT	5	46	**51**	**10%**
DIAZ RD				
NB LEFT	0	20	**20**	**1%**
NB THRU	13	322	**335**	**4%**
NB RIGHT	1	52	**53**	**2%**
SB LEFT	4	40	**44**	**9%**
SB THRU	8	263	**271**	**3%**
SB RIGHT	1	18	**19**	**5%**

Intersection	
Int Delay, s/veh	6.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	52	44	41	61	20	51	20	335	53	44	271	19
Future Vol, veh/h	52	44	41	61	20	51	20	335	53	44	271	19
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	20	20	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	90	90	-	0	110	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	97	97	97	97	97	97	97	97	97	97	97	97
Heavy Vehicles, %	2	1	2	3	10	10	1	4	2	9	3	5
Mvmt Flow	54	45	42	63	21	53	21	345	55	45	279	20

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	831	841	289	830	796	365	299	0	0	420	0	0
Stage 1	379	379	-	407	407	-	-	-	-	-	-	-
Stage 2	452	462	-	423	389	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.51	6.22	7.13	6.6	6.3	4.11	-	-	4.19	-	-
Critical Hdwy Stg 1	6.12	5.51	-	6.13	5.6	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.51	-	6.13	5.6	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.009	3.318	3.527	4.09	3.39	2.209	-	-	2.281	-	-
Pot Cap-1 Maneuver	289	302	750	288	311	663	1268	-	-	1103	-	-
Stage 1	643	616	-	619	584	-	-	-	-	-	-	-
Stage 2	587	566	-	607	595	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	240	279	750	223	287	650	1268	-	-	1082	-	-
Mov Cap-2 Maneuver	240	279	-	223	287	-	-	-	-	-	-	-
Stage 1	632	590	-	597	563	-	-	-	-	-	-	-
Stage 2	511	546	-	507	570	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	25	21.7	0.4	1.1
HCM LOS	D	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1268	-	-	319	236	650	1082	-	-
HCM Lane V/C Ratio	0.016	-	-	0.443	0.354	0.081	0.042	-	-
HCM Control Delay (s)	7.9	-	-	25	28.4	11	8.5	-	-
HCM Lane LOS	A	-	-	D	D	B	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	2.2	1.5	0.3	0.1	-	-

Intersection	
Int Delay, s/veh	72.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	79	44	129	61	20	51	62	581	53	44	475	29
Future Vol, veh/h	79	44	129	61	20	51	62	581	53	44	475	29
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	0	90	-	0	110	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	1	4	2	2	3	5
Mvmt Flow	83	46	136	64	21	54	65	612	56	46	500	31

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1416	1406	516	1441	1365	612	531	0	0	668	0	0
Stage 1	608	608	-	742	742	-	-	-	-	-	-	-
Stage 2	808	798	-	699	623	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.11	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.209	-	-	2.218	-	-
Pot Cap-1 Maneuver	115	139	559	110	147	493	1042	-	-	922	-	-
Stage 1	483	486	-	408	422	-	-	-	-	-	-	-
Stage 2	375	398	-	430	478	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	~ 83	124	559	~ 54	131	493	1042	-	-	922	-	-
Mov Cap-2 Maneuver	~ 83	124	-	~ 54	131	-	-	-	-	-	-	-
Stage 1	453	462	-	383	396	-	-	-	-	-	-	-
Stage 2	297	373	-	278	454	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	$ 353.7	216.4	0.8	0.7
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1042	-	-	164	63	493	922	-	-
HCM Lane V/C Ratio	0.063	-	-	1.617	1.353	0.109	0.05	-	-
HCM Control Delay (s)	8.7	-	-	-$ 353.7	$ 344.4	13.2	9.1	-	-
HCM Lane LOS	A	-	-	F	F	B	A	-	-
HCM 95th %tile Q(veh)	0.2	-	-	18.1	7.2	0.4	0.2	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	3.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	79	129	62	581	475	29
Future Vol, veh/h	79	129	62	581	475	29
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	150	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	1	4	3	5
Mvmt Flow	83	136	65	612	500	31

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	952	266	531	0	-	0
Stage 1	516	-	-	-	-	-
Stage 2	436	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.12	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.21	-	-	-
Pot Cap-1 Maneuver	257	732	1040	-	-	-
Stage 1	564	-	-	-	-	-
Stage 2	619	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	241	732	1040	-	-	-
Mov Cap-2 Maneuver	241	-	-	-	-	-
Stage 1	529	-	-	-	-	-
Stage 2	619	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	23.1	0.8	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1040	-	413	-	-
HCM Lane V/C Ratio	0.063	-	0.53	-	-
HCM Control Delay (s)	8.7	-	23.1	-	-
HCM Lane LOS	A	-	C	-	-
HCM 95th %tile Q(veh)	0.2	-	3	-	-

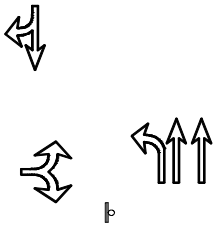
DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	TNM	26-Jun-20	IPWR0IPA-0001	1 OF 2

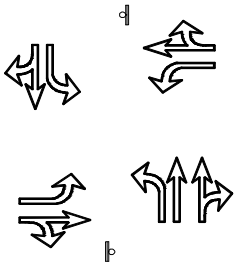
E/W STREET : AVE ALVARADO
N/S STREET : DIAZ RD
CONDITION : AM PEAK HOUR

INTERSECTION : 4
PROJECTED GROWTH PER YEAR : 2.8%

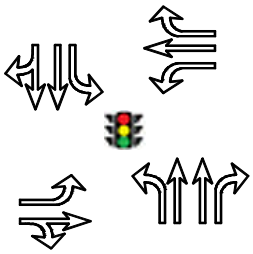
CONDITION DIAGRAMS



EXISTING GEOMETRICS



FUTURE GEOMETRICS



FUTURE BUILD GEOMETRICS

TURN MOVEMENTS

Condition	Existing Conditions Traffic	Future Year 2040 Conditions
Scenario #		
AVE ALVARADO		
EB LEFT	72	203
EB THRU	0	5
EB RIGHT	52	33
WB LEFT	0	75
WB THRU	0	14
WB RIGHT	0	105
DIAZ RD		
NB LEFT	74	118
NB THRU	326	386
NB RIGHT	0	264
SB LEFT	0	41
SB THRU	299	505
SB RIGHT	72	178
TOTALS	**895**	**1,927**

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN VOLUME SUMMARY	TNM	26-Jun-20	IPWR0IPA-0001	2 OF 2

E/W STREET : AVE ALVARADO
CONDITION : AM PEAK HOUR

N/S STREET : DIAZ RD
PHF : 0.99

NORTH LEG

LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
1	2	0	2	2	0	0	1	0
1	3	0	0	1	0	0	1	0
0	1	0	0	0	0	0	2	0
0	0	0	0	0	0	0	2	0

SOUTH LEG

LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
0	1	0	0	1	0	0	4	0
0	1	1	0	0	0	0	2	0
0	5	0	0	2	0	0	1	0
0	4	0	0	0	0	0	4	0

EAST LEG

LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0

WEST LEG

LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
0	0	0	0	0	2	0	0	0
0	0	0	1	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0

NORTH LEG			SOUTH LEG			EAST LEG			WEST LEG		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
11	69	0	0	87	15	0	0	0	12	0	12
16	70	0	0	78	15	0	0	0	14	0	19
21	66	0	0	64	23	0	0	0	15	0	23
20	79	0	0	72	20	0	0	0	10	0	16

	TRUCK TOTAL	AUTO VOLUMES	TOTALS	TRUCK PERCENTAGE
AVE ALVARADO				
EB LEFT	2	70	**72**	**3%**
EB THRU	0	0	**0**	**0%**
EB RIGHT	1	51	**52**	**2%**
WB LEFT	0	0	**0**	**0%**
WB THRU	0	0	**0**	**0%**
WB RIGHT	0	0	**0**	**0%**
DIAZ RD				
NB LEFT	1	73	**74**	**1%**
NB THRU	25	301	**326**	**8%**
NB RIGHT	0	0	**0**	**0%**
SB LEFT	0	0	**0**	**0%**
SB THRU	15	284	**299**	**5%**
SB RIGHT	4	68	**72**	**6%**

Intersection	
Int Delay, s/veh	2.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	72	52	74	326	299	72
Future Vol, veh/h	72	52	74	326	299	72
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	80	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	99	99	99	99	99	99
Heavy Vehicles, %	3	2	1	8	5	6
Mvmt Flow	73	53	75	329	302	73

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	654	339	375	0	-	0
Stage 1	339	-	-	-	-	-
Stage 2	315	-	-	-	-	-
Critical Hdwy	6.645	6.23	4.115	-	-	-
Critical Hdwy Stg 1	5.445	-	-	-	-	-
Critical Hdwy Stg 2	5.845	-	-	-	-	-
Follow-up Hdwy	3.5285	3.319	2.2095	-	-	-
Pot Cap-1 Maneuver	413	702	1188	-	-	-
Stage 1	718	-	-	-	-	-
Stage 2	711	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	387	702	1188	-	-	-
Mov Cap-2 Maneuver	475	-	-	-	-	-
Stage 1	673	-	-	-	-	-
Stage 2	711	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	13.5	1.5	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1188	-	550	-	-
HCM Lane V/C Ratio	0.063	-	0.228	-	-
HCM Control Delay (s)	8.2	-	13.5	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.2	-	0.9	-	-

Intersection	
Int Delay, s/veh	79.7

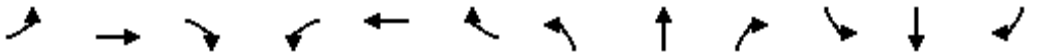
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	203	5	33	75	14	105	118	386	264	41	505	178
Future Vol, veh/h	203	5	33	75	14	105	118	386	264	41	505	178
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	200	-	-	150	-	-	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	3	2	2	2	2	2	1	8	2	2	5	6
Mvmt Flow	214	5	35	79	15	111	124	406	278	43	532	187

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	1171	1644	626	1525	1598	342	719	0	0	684	0	0
Stage 1	712	712	-	793	793	-	-	-	-	-	-	-
Stage 2	459	932	-	732	805	-	-	-	-	-	-	-
Critical Hdwy	7.345	6.53	6.23	7.33	6.53	6.93	4.115	-	-	4.13	-	-
Critical Hdwy Stg 1	6.145	5.53	-	6.53	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.545	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.5285	4.019	3.319	3.519	4.019	3.319	2.2095	-	-	2.219	-	-
Pot Cap-1 Maneuver	~ 157	99	483	88	106	655	886	-	-	907	-	-
Stage 1	420	435	-	349	399	-	-	-	-	-	-	-
Stage 2	550	344	-	412	394	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	~ 98	81	483	~ 67	87	655	886	-	-	907	-	-
Mov Cap-2 Maneuver	~ 98	81	-	~ 67	87	-	-	-	-	-	-	-
Stage 1	361	415	-	300	343	-	-	-	-	-	-	-
Stage 2	376	296	-	360	375	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s$	536.9	117.3	1.5	0.5
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	886	-	-	98	292	67	370	907	-	-
HCM Lane V/C Ratio	0.14	-	-	2.18	0.137	1.178	0.339	0.048	-	-
HCM Control Delay (s)	9.7	-	-	-$ 633.8	19.3	272.3	19.6	9.2	-	-
HCM Lane LOS	A	-	-	F	C	F	C	A	-	-
HCM 95th %tile Q(veh)	0.5	-	-	18.7	0.5	6.2	1.5	0.1	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	203	5	33	75	14	105	118	386	264	41	505	178
Future Volume (veh/h)	203	5	33	75	14	105	118	386	264	41	505	178
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.97	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1856	1870	1870	1870	1870	1870	1885	1781	1870	1870	1826	1826
Adj Flow Rate, veh/h	214	5	35	79	15	111	124	406	278	43	532	187
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	3	2	2	2	2	2	1	8	2	2	5	5
Cap, veh/h	244	13	94	285	165	140	640	1185	789	517	714	250
Arrive On Green	0.14	0.07	0.07	0.16	0.09	0.09	0.36	0.35	0.35	0.29	0.28	0.28
Sat Flow, veh/h	1767	202	1414	1781	1870	1585	1795	3385	1530	1781	2520	882
Grp Volume(v), veh/h	214	0	40	79	15	111	124	406	278	43	366	353
Grp Sat Flow(s),veh/h/ln	1767	0	1616	1781	1870	1585	1795	1692	1530	1781	1735	1667
Q Serve(g_s), s	14.2	0.0	2.8	4.7	0.9	8.2	5.7	10.6	0.0	2.1	23.0	23.1
Cycle Q Clear(g_c), s	14.2	0.0	2.8	4.7	0.9	8.2	5.7	10.6	0.0	2.1	23.0	23.1
Prop In Lane	1.00		0.88	1.00		1.00	1.00		1.00	1.00		0.53
Lane Grp Cap(c), veh/h	244	0	108	285	165	140	640	1185	789	517	491	472
V/C Ratio(X)	0.88	0.00	0.37	0.28	0.09	0.79	0.19	0.34	0.35	0.08	0.74	0.75
Avail Cap(c_a), veh/h	353	0	579	285	483	409	640	1185	789	517	491	472
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.7	0.0	53.6	44.3	50.3	53.6	26.7	28.8	17.5	31.0	39.0	39.1
Incr Delay (d2), s/veh	15.5	0.0	2.1	0.5	0.2	9.6	0.1	0.8	1.2	0.1	9.8	10.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.3	0.0	1.2	2.1	0.4	3.7	2.4	4.3	4.8	0.9	10.8	10.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	66.2	0.0	55.7	44.8	50.5	63.3	26.8	29.6	18.7	31.1	48.8	49.5
LnGrp LOS	E	A	E	D	D	E	C	C	B	C	D	D
Approach Vol, veh/h		254			205			808			762	
Approach Delay, s/veh		64.5			55.2			25.4			48.1	
Approach LOS		E			E			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	38.8	46.0	23.2	12.0	46.8	38.0	20.6	14.6
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	7.0	42.0	12.0	43.0	15.0	34.0	24.0	31.0
Max Q Clear Time (g_c+I1), s	4.1	12.6	6.7	4.8	7.7	25.1	16.2	10.2
Green Ext Time (p_c), s	0.0	3.6	0.1	0.2	0.1	2.7	0.3	0.4

Intersection Summary	
HCM 6th Ctrl Delay	41.9
HCM 6th LOS	D

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	TNM	26-Jun-20	IPWR0IPA-0001	1 OF 2

E/W STREET : AVE ALVARADO
N/S STREET : DIAZ RD
CONDITION : PM PEAK HOUR

INTERSECTION : 4
PROJECTED GROWTH PER YEAR : 1.6%

TURN MOVEMENTS

Condition	Existing Condition Traffic	Future Year 2040 Condition
Scenario #		
AVE ALVARADO		
EB LEFT	62	71
EB THRU	0	20
EB RIGHT	60	76
WB LEFT	0	146
WB THRU	0	13
WB RIGHT	0	42
DIAZ RD		
NB LEFT	67	36
NB THRU	377	603
NB RIGHT	0	21
SB LEFT	0	67
SB THRU	284	282
SB RIGHT	78	96
TOTALS	**928**	**1,473**

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN VOLUME SUMMARY	TNM	26-Jun-20	IPWR0IPA-0001	2 OF 2

E/W STREET : AVE ALVARADO
CONDITION : PM PEAK HOUR

N/S STREET : DIAZ RD
PHF : 0.98

NORTH LEG

LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
1	1	0	0	2	0	0	1	0
0	3	0	0	1	0	0	2	0
1	0	0	0	1	0	0	1	0
0	0	0	2	0	0	0	1	0

SOUTH LEG

LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
0	2	0	0	3	0	0	0	0
0	2	1	0	0	0	0	2	0
0	1	0	0	2	2	0	0	0
0	2	0	0	1	0	0	1	0

EAST LEG

LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0

WEST LEG

LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
0	0	1	1	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0
0	0	3	0	0	0	0	0	0

NORTH LEG			SOUTH LEG			EAST LEG			WEST LEG		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
14	77	0	0	100	10	0	0	0	13	0	9
23	60	0	0	82	15	0	0	0	15	0	16
18	67	0	0	90	17	0	0	0	14	0	20
19	67	0	0	89	22	0	0	0	17	0	13

	TRUCK TOTAL	AUTO VOLUMES	TOTALS	TRUCK PERCENTAGE
AVE ALVARADO				
EB LEFT	4	58	**62**	**6%**
EB THRU	0	0	**0**	**0%**
EB RIGHT	1	59	**60**	**2%**
WB LEFT	0	0	**0**	**0%**
WB THRU	0	0	**0**	**0%**
WB RIGHT	0	0	**0**	**0%**
DIAZ RD				
NB LEFT	3	64	**67**	**4%**
NB THRU	16	361	**377**	**4%**
NB RIGHT	0	0	**0**	**0%**
SB LEFT	0	0	**0**	**0%**
SB THRU	13	271	**284**	**5%**
SB RIGHT	4	74	**78**	**5%**

Intersection	
Int Delay, s/veh	2.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	62	60	67	377	284	78
Future Vol, veh/h	62	60	67	377	284	78
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	80	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	98	98	98	98	98	98
Heavy Vehicles, %	6	2	4	4	5	5
Mvmt Flow	63	61	68	385	290	80

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	659	330	370	0	-	0
Stage 1	330	-	-	-	-	-
Stage 2	329	-	-	-	-	-
Critical Hdwy	6.69	6.23	4.16	-	-	-
Critical Hdwy Stg 1	5.49	-	-	-	-	-
Critical Hdwy Stg 2	5.89	-	-	-	-	-
Follow-up Hdwy	3.557	3.319	2.238	-	-	-
Pot Cap-1 Maneuver	405	711	1174	-	-	-
Stage 1	717	-	-	-	-	-
Stage 2	692	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	382	711	1174	-	-	-
Mov Cap-2 Maneuver	470	-	-	-	-	-
Stage 1	675	-	-	-	-	-
Stage 2	692	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	13.2	1.2	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1174	-	564	-	-
HCM Lane V/C Ratio	0.058	-	0.221	-	-
HCM Control Delay (s)	8.3	-	13.2	-	-
HCM Lane LOS	A	-	B	-	-
HCM 95th %tile Q(veh)	0.2	-	0.8	-	-

Intersection	
Int Delay, s/veh	39.7

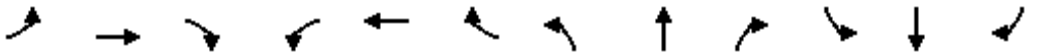
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	71	20	76	146	13	42	36	603	21	67	282	96
Future Vol, veh/h	71	20	76	146	13	42	36	603	21	67	282	96
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	150	-	-	200	-	-	150	-	-	150	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	6	2	2	2	2	2	4	4	2	2	5	5
Mvmt Flow	75	21	80	154	14	44	38	635	22	71	297	101

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	891	1223	348	1262	1262	329	398	0	0	657	0	0
Stage 1	490	490	-	722	722	-	-	-	-	-	-	-
Stage 2	401	733	-	540	540	-	-	-	-	-	-	-
Critical Hdwy	7.39	6.53	6.23	7.33	6.53	6.93	4.16	-	-	4.13	-	-
Critical Hdwy Stg 1	6.19	5.53	-	6.53	5.53	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.59	5.53	-	6.13	5.53	-	-	-	-	-	-	-
Follow-up Hdwy	3.557	4.019	3.319	3.519	4.019	3.319	2.238	-	-	2.219	-	-
Pot Cap-1 Maneuver	244	179	694	~ 136	169	667	1146	-	-	928	-	-
Stage 1	550	548	-	385	430	-	-	-	-	-	-	-
Stage 2	588	425	-	525	520	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	195	160	694	~ 100	151	667	1146	-	-	928	-	-
Mov Cap-2 Maneuver	195	160	-	~ 100	151	-	-	-	-	-	-	-
Stage 1	532	506	-	372	416	-	-	-	-	-	-	-
Stage 2	513	411	-	411	480	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	24.3	266.4	0.4	1.4
HCM LOS	C	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	EBLn2	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1146	-	-	195	409	100	369	928	-	-
HCM Lane V/C Ratio	0.033	-	-	0.383	0.247	1.537	0.157	0.076	-	-
HCM Control Delay (s)	8.2	-	-	34.5	16.7$	360.5	16.6	9.2	-	-
HCM Lane LOS	A	-	-	D	C	F	C	A	-	-
HCM 95th %tile Q(veh)	0.1	-	-	1.7	1	11.7	0.6	0.2	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	71	20	76	146	13	42	36	603	21	67	282	96
Future Volume (veh/h)	71	20	76	146	13	42	36	603	21	67	282	96
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.96	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1811	1870	1870	1870	1870	1870	1841	1841	1870	1870	1826	1826
Adj Flow Rate, veh/h	75	21	80	154	14	44	38	635	22	71	297	101
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	6	2	2	2	2	2	4	4	2	2	5	5
Cap, veh/h	197	28	107	185	136	115	565	1081	471	639	883	294
Arrive On Green	0.11	0.08	0.08	0.10	0.07	0.07	0.32	0.31	0.31	0.36	0.35	0.35
Sat Flow, veh/h	1725	340	1297	1781	1870	1585	1753	3497	1525	1781	2555	852
Grp Volume(v), veh/h	75	0	101	154	14	44	38	635	22	71	200	198
Grp Sat Flow(s),veh/h/ln	1725	0	1637	1781	1870	1585	1753	1749	1525	1781	1735	1673
Q Serve(g_s), s	4.4	0.0	6.6	9.3	0.8	2.9	1.7	16.9	1.1	2.9	9.4	9.7
Cycle Q Clear(g_c), s	4.4	0.0	6.6	9.3	0.8	2.9	1.7	16.9	1.1	2.9	9.4	9.7
Prop In Lane	1.00		0.79	1.00		1.00	1.00		1.00	1.00		0.51
Lane Grp Cap(c), veh/h	197	0	136	185	136	115	565	1081	471	639	599	578
V/C Ratio(X)	0.38	0.00	0.75	0.83	0.10	0.38	0.07	0.59	0.05	0.11	0.33	0.34
Avail Cap(c_a), veh/h	197	0	461	308	680	576	565	1081	471	639	599	578
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.1	0.0	49.3	48.3	47.6	48.6	25.8	32.1	26.6	23.6	26.6	26.7
Incr Delay (d2), s/veh	1.2	0.0	7.9	9.2	0.3	2.1	0.0	2.3	0.2	0.1	1.5	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	0.0	3.0	4.6	0.4	1.2	0.7	7.2	0.4	1.2	4.0	4.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	46.3	0.0	57.2	57.6	48.0	50.7	25.9	34.4	26.8	23.6	28.1	28.4
LnGrp LOS	D	A	E	E	D	D	C	C	C	C	C	C
Approach Vol, veh/h		176			212			695			469	
Approach Delay, s/veh		52.6			55.5			33.7			27.5	
Approach LOS		D			E			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	43.4	38.0	15.4	13.1	39.4	42.0	16.6	12.0
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	10.0	34.0	19.0	31.0	6.0	38.0	10.0	40.0
Max Q Clear Time (g_c+I1), s	4.9	18.9	11.3	8.6	3.7	11.7	6.4	4.9
Green Ext Time (p_c), s	0.0	3.5	0.2	0.5	0.0	2.2	0.0	0.2

Intersection Summary	
HCM 6th Ctrl Delay	37.0
HCM 6th LOS	D

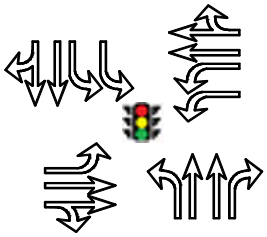
DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	TNM	26-Jun-20	IPWR0IPA-0001	1 OF 2

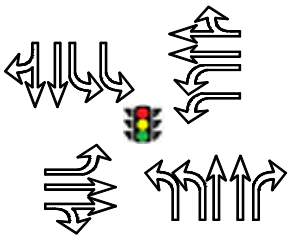
E/W STREET : WINCHESTER RD
N/S STREET : DIAZ RD
CONDITION : AM PEAK HOUR

INTERSECTION : 5
PROJECTED GROWTH PER YEAR : 1.9%

CONDITION DIAGRAMS



EXISTING GEOMETRICS



FUTURE BUILD GEOMETRICS

TURN MOVEMENTS

Condition	Existing Conditions Traffic	Future Year 2040 Conditions
Scenario #		
WINCHESTER RD		
EB LEFT	32	45
EB THRU	273	382
EB RIGHT	68	96
WB LEFT	237	332
WB THRU	146	205
WB RIGHT	51	72
DIAZ RD		
NB LEFT	40	103
NB THRU	38	134
NB RIGHT	326	457
SB LEFT	71	100
SB THRU	66	296
SB RIGHT	31	44
TOTALS	**1,379**	**2,266**

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN VOLUME SUMMARY	TNM	26-Jun-20	IPWR0IPA-0001	2 OF 2

E/W STREET : WINCHESTER RD
CONDITION : AM PEAK HOUR

N/S STREET : DIAZ RD
PHF : 0.96

NORTH LEG

LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
0	0	3	0	1	0	0	0	0
0	1	0	0	0	0	0	0	0
1	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0

SOUTH LEG

LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
1	0	0	2	1	0	3	0	1
1	0	1	0	0	0	1	1	0
4	1	0	0	1	1	0	1	0
3	0	1	0	0	0	5	0	0

EAST LEG

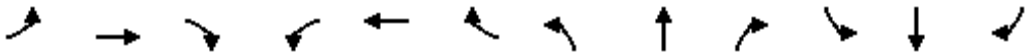
LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
0	1	3	0	1	2	0	0	1
0	0	2	0	1	1	0	2	1
0	2	1	0	0	0	0	0	2
0	0	0	0	0	0	0	0	2

WEST LEG

LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
0	2	0	0	0	0	0	0	0
1	0	0	0	1	0	0	0	0
0	1	0	0	2	0	0	1	0
0	1	0	0	0	0	0	0	0

NORTH LEG			SOUTH LEG			EAST LEG			WEST LEG		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
9	13	17	85	5	10	11	30	52	19	59	7
10	21	16	77	9	12	14	40	53	15	72	6
5	14	21	73	9	6	16	30	52	14	72	6
6	16	14	71	10	8	10	39	65	19	62	13

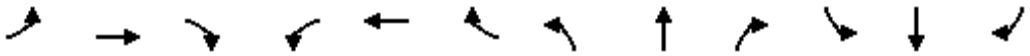
	TRUCK TOTAL	AUTO VOLUMES	TOTALS	TRUCK PERCENTAGE
WINCHESTER RD				
EB LEFT	0	32	**32**	**1%**
EB THRU	8	265	**273**	**3%**
EB RIGHT	1	67	**68**	**1%**
WB LEFT	15	222	**237**	**6%**
WB THRU	7	139	**146**	**5%**
WB RIGHT	0	51	**51**	**1%**
DIAZ RD				
NB LEFT	4	36	**40**	**10%**
NB THRU	5	33	**38**	**13%**
NB RIGHT	20	306	**326**	**6%**
SB LEFT	3	68	**71**	**4%**
SB THRU	2	64	**66**	**3%**
SB RIGHT	1	30	**31**	**3%**



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	32	273	68	237	146	51	40	38	326	71	66	31
Future Volume (veh/h)	32	273	68	237	146	51	40	38	326	71	66	31
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.97	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1752	1707	1707	1841	1856	1856	1811	1826	1885	1885	1856	1856
Adj Flow Rate, veh/h	33	284	71	247	152	53	42	40	340	74	69	32
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	10	13	13	4	3	3	6	5	1	1	3	3
Cap, veh/h	40	748	184	317	931	313	150	1318	736	267	884	385
Arrive On Green	0.02	0.29	0.29	0.09	0.36	0.36	0.09	0.38	0.38	0.08	0.37	0.37
Sat Flow, veh/h	1668	2581	634	3401	2591	871	1725	3469	1545	3483	2389	1042
Grp Volume(v), veh/h	33	177	178	247	102	103	42	40	340	74	50	51
Grp Sat Flow(s),veh/h/ln	1668	1622	1593	1700	1763	1699	1725	1735	1545	1742	1763	1668
Q Serve(g_s), s	2.0	8.7	8.9	7.1	3.9	4.2	2.3	0.7	9.3	2.0	1.8	2.0
Cycle Q Clear(g_c), s	2.0	8.7	8.9	7.1	3.9	4.2	2.3	0.7	9.3	2.0	1.8	2.0
Prop In Lane	1.00		0.40	1.00		0.51	1.00		1.00	1.00		0.62
Lane Grp Cap(c), veh/h	40	470	462	317	633	610	150	1318	736	267	652	617
V/C Ratio(X)	0.82	0.38	0.39	0.78	0.16	0.17	0.28	0.03	0.46	0.28	0.08	0.08
Avail Cap(c_a), veh/h	100	470	462	408	633	610	150	1318	736	267	652	617
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	48.6	28.3	28.4	44.3	21.8	21.9	42.7	19.4	7.8	43.5	20.4	20.5
Incr Delay (d2), s/veh	32.3	2.3	2.4	7.1	0.5	0.6	1.0	0.0	2.1	0.6	0.2	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	3.5	3.6	3.3	1.7	1.7	1.0	0.3	3.7	0.9	0.8	0.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	80.9	30.6	30.8	51.4	22.3	22.5	43.8	19.5	9.9	44.1	20.6	20.7
LnGrp LOS	F	C	C	D	C	C	D	B	A	D	C	C
Approach Vol, veh/h		388			452			422			175	
Approach Delay, s/veh		35.0			38.3			14.2			30.6	
Approach LOS		C			D			B			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	12.7	41.0	6.4	39.9	11.7	42.0	13.3	33.0
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	6.0	37.0	6.0	35.0	5.0	38.0	12.0	29.0
Max Q Clear Time (g_c+I1), s	4.3	4.0	4.0	6.2	4.0	11.3	9.1	10.9
Green Ext Time (p_c), s	0.0	0.5	0.0	1.2	0.0	1.4	0.2	1.8

Intersection Summary	
HCM 6th Ctrl Delay	29.4
HCM 6th LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	45	382	96	332	205	72	103	134	457	100	296	44
Future Volume (veh/h)	45	382	96	332	205	72	103	134	457	100	296	44
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.97	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1856	1856	1811	1826	1826	1752	1707	1811	1841	1856	1856
Adj Flow Rate, veh/h	47	402	101	349	216	76	108	141	481	105	312	46
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	1	3	3	6	5	5	10	13	6	4	3	3
Cap, veh/h	61	683	170	411	846	289	277	1472	864	156	1029	150
Arrive On Green	0.03	0.24	0.24	0.12	0.33	0.33	0.17	0.45	0.45	0.05	0.33	0.33
Sat Flow, veh/h	1795	2797	696	3346	2537	867	1668	3244	1489	3401	3087	451
Grp Volume(v), veh/h	47	252	251	349	146	146	108	141	481	105	177	181
Grp Sat Flow(s),veh/h/ln	1795	1763	1730	1673	1735	1670	1668	1622	1489	1700	1763	1774
Q Serve(g_s), s	3.1	15.1	15.4	12.3	7.3	7.7	6.9	3.0	24.2	3.6	8.9	9.1
Cycle Q Clear(g_c), s	3.1	15.1	15.4	12.3	7.3	7.7	6.9	3.0	24.2	3.6	8.9	9.1
Prop In Lane	1.00		0.40	1.00		0.52	1.00		1.00	1.00		0.25
Lane Grp Cap(c), veh/h	61	431	423	411	578	557	277	1472	864	156	588	591
V/C Ratio(X)	0.77	0.58	0.59	0.85	0.25	0.26	0.39	0.10	0.56	0.67	0.30	0.31
Avail Cap(c_a), veh/h	120	431	423	641	578	557	277	1472	864	227	588	591
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	57.5	40.0	40.1	51.5	29.1	29.2	44.6	18.7	15.9	56.4	29.6	29.7
Incr Delay (d2), s/veh	7.6	5.7	6.0	3.8	1.0	1.1	0.3	0.1	2.6	1.9	1.3	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	7.1	7.1	5.3	3.2	3.3	2.8	1.1	8.3	1.6	3.9	4.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	65.1	45.7	46.1	55.3	30.2	30.4	44.9	18.9	18.5	58.2	31.0	31.0
LnGrp LOS	E	D	D	E	C	C	D	B	B	E	C	C
Approach Vol, veh/h		550			641			730			463	
Approach Delay, s/veh		47.6			43.9			22.5			37.2	
Approach LOS		D			D			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	23.9	44.0	8.1	44.0	9.5	58.4	18.7	33.3
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	16.0	40.0	8.0	40.0	8.0	48.0	23.0	25.0
Max Q Clear Time (g_c+I1), s	8.9	11.1	5.1	9.7	5.6	26.2	14.3	17.4
Green Ext Time (p_c), s	0.1	2.8	0.0	1.8	0.0	4.0	0.5	1.7

Intersection Summary	
HCM 6th Ctrl Delay	36.9
HCM 6th LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	45	382	96	332	205	72	103	134	457	100	296	44
Future Volume (veh/h)	45	382	96	332	205	72	103	134	457	100	296	44
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.95	1.00		1.00	1.00		0.97	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1752	1707	1707	1841	1856	1856	1811	1826	1885	1885	1856	1856
Adj Flow Rate, veh/h	47	402	101	349	216	76	108	141	481	105	312	46
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	10	13	13	4	3	3	6	5	1	1	3	3
Cap, veh/h	59	556	138	522	867	296	490	1356	849	321	1038	152
Arrive On Green	0.04	0.22	0.22	0.15	0.34	0.34	0.15	0.39	0.39	0.09	0.34	0.34
Sat Flow, veh/h	1668	2546	631	3401	2578	881	3346	3469	1546	3483	3087	451
Grp Volume(v), veh/h	47	254	249	349	146	146	108	141	481	105	177	181
Grp Sat Flow(s),veh/h/ln	1668	1622	1556	1700	1763	1697	1673	1735	1546	1742	1763	1774
Q Serve(g_s), s	3.1	16.0	16.4	10.6	6.6	6.9	3.1	2.8	4.9	3.1	8.1	8.3
Cycle Q Clear(g_c), s	3.1	16.0	16.4	10.6	6.6	6.9	3.1	2.8	4.9	3.1	8.1	8.3
Prop In Lane	1.00		0.41	1.00		0.52	1.00		1.00	1.00		0.25
Lane Grp Cap(c), veh/h	59	354	339	522	593	571	490	1356	849	321	593	597
V/C Ratio(X)	0.80	0.72	0.73	0.67	0.25	0.26	0.22	0.10	0.57	0.33	0.30	0.30
Avail Cap(c_a), veh/h	106	354	339	618	593	571	490	1356	849	321	593	597
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.7	39.9	40.0	43.9	26.4	26.5	41.4	21.3	16.4	46.8	26.9	27.0
Incr Delay (d2), s/veh	21.3	11.8	13.1	2.2	1.0	1.1	0.2	0.2	2.7	0.6	1.3	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	7.4	7.3	4.6	2.9	3.0	1.3	1.1	7.9	1.3	3.5	3.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	74.0	51.7	53.2	46.1	27.4	27.6	41.6	21.4	19.1	47.3	28.2	28.3
LnGrp LOS	E	D	D	D	C	C	D	C	B	D	C	C
Approach Vol, veh/h		550			641			730			463	
Approach Delay, s/veh		54.3			37.6			22.9			32.6	
Approach LOS		D			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	20.1	41.0	7.9	41.0	14.1	47.0	20.9	28.0
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	13.0	37.0	7.0	37.0	7.0	43.0	20.0	24.0
Max Q Clear Time (g_c+I1), s	15.1	10.3	5.1	8.9	5.1	6.9	12.6	18.4
Green Ext Time (p_c), s	0.2	1.9	0.0	1.8	0.0	2.7	0.8	1.4

Intersection Summary	
HCM 6th Ctrl Delay	36.0
HCM 6th LOS	D

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	TNM	26-Jun-20	IPWR0IPA-0001	1 OF 2

E/W STREET : WINCHESTER RD
N/S STREET : DIAZ RD
CONDITION : PM PEAK HOUR

INTERSECTION : 5
PROJECTED GROWTH PER YEAR : 1.1%

TURN MOVEMENTS

Condition	Existing Condition Traffic	Future Year 2040 Condition
Scenario #		
WINCHESTER RD		
EB LEFT	34	42
EB THRU	361	445
EB RIGHT	50	62
WB LEFT	238	293
WB THRU	352	434
WB RIGHT	55	68
DIAZ RD		
NB LEFT	43	55
NB THRU	58	272
NB RIGHT	316	389
SB LEFT	61	76
SB THRU	64	90
SB RIGHT	46	57
TOTALS	**1,678**	**2,283**

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN VOLUME SUMMARY	TNM	26-Jun-20	IPWR0IPA-0001	2 OF 2

E/W STREET : WINCHESTER RD
CONDITION : PM PEAK HOUR

N/S STREET : DIAZ RD
PHF : 0.96

NORTH LEG

LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
0	1	1	0	0	0	0	0	0
0	0	0	0	0	1	0	0	0
0	0	0	0	0	0	0	0	0
0	0	1	0	0	0	0	0	0

SOUTH LEG

LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
1	0	1	0	0	0	2	0	0
1	0	0	2	0	0	0	0	0
4	1	0	0	0	1	1	0	0
1	0	0	0	0	0	0	0	0

EAST LEG

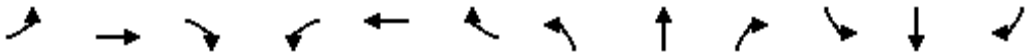
LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
0	1	2	0	0	1	0	0	2
0	1	0	0	0	1	0	0	1
0	2	0	0	0	1	0	0	0
0	0	2	0	0	0	0	0	2

WEST LEG

LARGE 2 AXLE			LARGE 3 AXLE			LARGE 4(+) AXLE		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
0	0	0	0	0	0	0	0	0
1	0	0	0	0	0	1	0	0
0	1	0	1	1	0	0	0	0
0	1	0	0	0	0	0	0	0

NORTH LEG			SOUTH LEG			EAST LEG			WEST LEG		
RT	THRU	LT	RT	THRU	LT	RT	THRU	LT	RT	THRU	LT
9	14	14	74	16	9	10	78	56	16	79	10
13	15	15	87	12	11	14	80	61	9	88	6
10	16	15	78	12	11	16	91	65	9	91	12
14	18	14	65	17	10	15	99	44	13	100	6

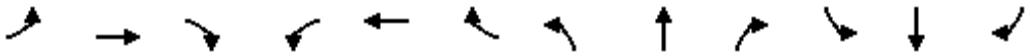
	TRUCK TOTAL	AUTO VOLUMES	TOTALS	TRUCK PERCENTAGE
WINCHESTER RD				
EB LEFT	0	34	**34**	**1%**
EB THRU	3	358	**361**	**1%**
EB RIGHT	3	47	**50**	**6%**
WB LEFT	12	226	**238**	**5%**
WB THRU	4	348	**352**	**1%**
WB RIGHT	0	55	**55**	**1%**
DIAZ RD				
NB LEFT	2	41	**43**	**5%**
NB THRU	1	57	**58**	**2%**
NB RIGHT	12	304	**316**	**4%**
SB LEFT	3	58	**61**	**5%**
SB THRU	1	63	**64**	**2%**
SB RIGHT	0	46	**46**	**1%**



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	34	361	50	238	352	55	43	58	316	61	64	46
Future Volume (veh/h)	34	361	50	238	352	55	43	58	316	61	64	46
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.95	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1826	1870	1870	1826	1870	1870	1826	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	35	376	52	248	367	57	45	60	329	64	67	48
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	5	2	2	5	2	2	5	1	1	1	1	1
Cap, veh/h	49	1237	170	490	1576	243	67	667	513	143	392	256
Arrive On Green	0.03	0.39	0.39	0.15	0.51	0.51	0.04	0.19	0.19	0.04	0.19	0.19
Sat Flow, veh/h	1739	3139	431	3374	3086	475	1739	3582	1510	3483	2075	1357
Grp Volume(v), veh/h	35	212	216	248	210	214	45	60	329	64	57	58
Grp Sat Flow(s),veh/h/ln	1739	1777	1793	1687	1777	1785	1739	1791	1510	1742	1791	1641
Q Serve(g_s), s	1.4	5.6	5.7	4.6	4.5	4.6	1.8	0.9	1.9	1.2	1.8	2.0
Cycle Q Clear(g_c), s	1.4	5.6	5.7	4.6	4.5	4.6	1.8	0.9	1.9	1.2	1.8	2.0
Prop In Lane	1.00		0.24	1.00		0.27	1.00		1.00	1.00		0.83
Lane Grp Cap(c), veh/h	49	700	706	490	908	912	67	667	513	143	338	310
V/C Ratio(X)	0.71	0.30	0.31	0.51	0.23	0.23	0.67	0.09	0.64	0.45	0.17	0.19
Avail Cap(c_a), veh/h	102	700	706	591	908	912	102	1829	1003	254	941	862
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	33.0	14.3	14.3	27.0	9.3	9.3	32.5	23.1	9.3	32.1	23.3	23.4
Incr Delay (d2), s/veh	17.0	1.1	1.1	0.8	0.6	0.6	11.0	0.1	1.3	2.2	0.2	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	2.2	2.2	1.8	1.7	1.7	0.9	0.4	2.4	0.5	0.7	0.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	50.0	15.4	15.4	27.8	9.9	9.9	43.6	23.1	10.6	34.3	23.5	23.7
LnGrp LOS	D	B	B	C	A	A	D	C	B	C	C	C
Approach Vol, veh/h		463			672			434			179	
Approach Delay, s/veh		18.0			16.5			15.8			27.4	
Approach LOS		B			B			B			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	6.6	16.9	5.9	39.0	6.8	16.8	13.9	31.0
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	4.0	36.0	4.0	35.0	5.0	35.0	12.0	27.0
Max Q Clear Time (g_c+I1), s	3.8	4.0	3.4	6.6	3.2	3.9	6.6	7.7
Green Ext Time (p_c), s	0.0	0.6	0.0	2.7	0.0	1.5	0.4	2.2

Intersection Summary	
HCM 6th Ctrl Delay	17.8
HCM 6th LOS	B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	42	445	62	293	434	68	55	272	389	76	90	57
Future Volume (veh/h)	42	445	62	293	434	68	55	272	389	76	90	57
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.97	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1826	1870	1870	1826	1870	1870	1826	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	44	468	65	308	457	72	58	286	409	80	95	60
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	5	2	2	5	2	2	5	1	1	1	1	1
Cap, veh/h	56	784	108	559	1180	185	74	1283	817	323	887	520
Arrive On Green	0.03	0.25	0.25	0.17	0.38	0.38	0.04	0.36	0.36	0.09	0.41	0.41
Sat Flow, veh/h	1739	3136	433	3374	3078	482	1739	3582	1543	3483	2172	1275
Grp Volume(v), veh/h	44	264	269	308	263	266	58	286	409	80	77	78
Grp Sat Flow(s),veh/h/ln	1739	1777	1792	1687	1777	1784	1739	1791	1543	1742	1791	1656
Q Serve(g_s), s	3.0	15.7	15.9	10.1	12.8	13.0	4.0	6.7	0.0	2.6	3.2	3.5
Cycle Q Clear(g_c), s	3.0	15.7	15.9	10.1	12.8	13.0	4.0	6.7	0.0	2.6	3.2	3.5
Prop In Lane	1.00		0.24	1.00		0.27	1.00		1.00	1.00		0.77
Lane Grp Cap(c), veh/h	56	444	448	559	681	684	74	1283	817	323	731	676
V/C Ratio(X)	0.78	0.59	0.60	0.55	0.39	0.39	0.78	0.22	0.50	0.25	0.11	0.12
Avail Cap(c_a), veh/h	116	444	448	675	681	684	159	1283	817	323	731	676
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	57.7	39.6	39.7	46.0	26.8	26.8	56.9	26.8	18.3	50.5	21.9	22.0
Incr Delay (d2), s/veh	20.8	5.8	5.8	0.9	1.6	1.7	16.0	0.4	2.2	0.4	0.3	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.6	7.4	7.6	4.3	5.8	5.8	2.0	2.8	7.4	1.1	1.4	1.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	78.5	45.4	45.5	46.8	28.4	28.5	72.9	27.2	20.5	50.9	22.2	22.4
LnGrp LOS	E	D	D	D	C	C	E	C	C	D	C	C
Approach Vol, veh/h		577			837			753			235	
Approach Delay, s/veh		48.0			35.2			27.1			32.1	
Approach LOS		D			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.1	53.0	7.9	50.0	15.1	47.0	23.9	34.0
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	11.0	39.0	8.0	46.0	7.0	43.0	24.0	30.0
Max Q Clear Time (g_c+I1), s	6.0	5.5	5.0	15.0	4.6	8.7	12.1	17.9
Green Ext Time (p_c), s	0.0	0.8	0.0	3.5	0.0	3.4	0.8	2.4

Intersection Summary	
HCM 6th Ctrl Delay	35.4
HCM 6th LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	42	445	62	293	434	68	55	272	389	76	90	57
Future Volume (veh/h)	42	445	62	293	434	68	55	272	389	76	90	57
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		0.96	1.00		1.00	1.00		0.97	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1826	1870	1870	1826	1870	1870	1826	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	44	468	65	308	457	72	58	286	409	80	95	60
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	5	2	2	5	2	2	5	1	1	1	1	1
Cap, veh/h	55	820	113	462	1134	178	111	1320	569	219	865	508
Arrive On Green	0.03	0.26	0.26	0.14	0.37	0.37	0.03	0.37	0.37	0.06	0.40	0.40
Sat Flow, veh/h	1739	3117	430	3374	3078	482	3374	3582	1544	3483	2172	1275
Grp Volume(v), veh/h	44	266	267	308	263	266	58	286	409	80	77	78
Grp Sat Flow(s),veh/h/ln	1739	1777	1770	1687	1777	1784	1687	1791	1544	1742	1791	1656
Q Serve(g_s), s	2.4	12.3	12.5	8.2	10.4	10.5	1.6	5.2	21.6	2.1	2.6	2.8
Cycle Q Clear(g_c), s	2.4	12.3	12.5	8.2	10.4	10.5	1.6	5.2	21.6	2.1	2.6	2.8
Prop In Lane	1.00		0.24	1.00		0.27	1.00		1.00	1.00		0.77
Lane Grp Cap(c), veh/h	55	468	466	462	655	657	111	1320	569	219	714	660
V/C Ratio(X)	0.80	0.57	0.57	0.67	0.40	0.41	0.52	0.22	0.72	0.36	0.11	0.12
Avail Cap(c_a), veh/h	73	468	466	497	655	657	142	1320	569	219	714	660
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	45.7	30.3	30.4	38.9	22.2	22.3	45.2	20.6	25.8	42.7	18.0	18.0
Incr Delay (d2), s/veh	34.8	4.9	5.1	3.1	1.8	1.9	3.7	0.4	7.6	1.0	0.3	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	5.7	5.7	3.6	4.6	4.7	0.7	2.1	8.6	0.9	1.0	1.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	80.5	35.3	35.5	42.0	24.1	24.1	48.9	21.0	33.4	43.7	18.3	18.4
LnGrp LOS	F	D	D	D	C	C	D	C	C	D	B	B
Approach Vol, veh/h		577			837			753			235	
Approach Delay, s/veh		38.8			30.7			29.9			27.0	
Approach LOS		D			C			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	7.1	41.9	7.0	39.0	10.0	39.0	17.0	29.0
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	4.0	36.0	4.0	35.0	5.0	35.0	14.0	25.0
Max Q Clear Time (g_c+I1), s	3.6	4.8	4.4	12.5	4.1	23.6	10.2	14.5
Green Ext Time (p_c), s	0.0	0.8	0.0	3.3	0.0	2.5	0.4	2.2

Intersection Summary	
HCM 6th Ctrl Delay	32.0
HCM 6th LOS	C

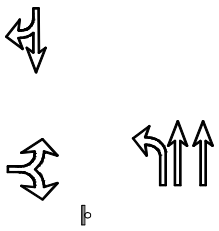
DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	TNM	26-Jun-20	IPWR0IPA-0001	1 OF 2

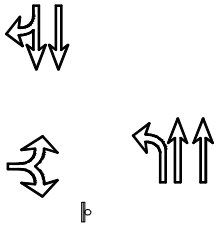
E/W STREET : DENDY PKWY
N/S STREET : DIAZ RD
CONDITION : AM PEAK HOUR

INTERSECTION : 6
PROJECTED GROWTH PER YEAR : 1.4%

CONDITION DIAGRAMS



EXISTING GEOMETRICS



FUTURE BUILD GEOMETRICS

TURN MOVEMENTS

Condition	Existing Conditions Traffic	Future Year 2040 Conditions
Scenario #		
DENDY PKWY		
EB LEFT	1	2
EB THRU	0	0
EB RIGHT	23	30
WB LEFT	0	0
WB THRU	0	0
WB RIGHT	0	0
DIAZ RD		
NB LEFT	41	54
NB THRU	2	117
NB RIGHT	0	0
SB LEFT	0	0
SB THRU	2	207
SB RIGHT	3	4
TOTALS	**72**	**414**

Intersection	
Int Delay, s/veh	1.8

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	2	30	54	117	207	4
Future Vol, veh/h	2	30	54	117	207	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	190	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2	32	57	123	218	4

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	396	220	222	0	-	0
Stage 1	220	-	-	-	-	-
Stage 2	176	-	-	-	-	-
Critical Hdwy	6.63	6.23	4.13	-	-	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.83	-	-	-	-	-
Follow-up Hdwy	3.519	3.319	2.219	-	-	-
Pot Cap-1 Maneuver	595	819	1346	-	-	-
Stage 1	816	-	-	-	-	-
Stage 2	837	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	570	819	1346	-	-	-
Mov Cap-2 Maneuver	570	-	-	-	-	-
Stage 1	782	-	-	-	-	-
Stage 2	837	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.7	2.5	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1346	-	797	-	-
HCM Lane V/C Ratio	0.042	-	0.042	-	-
HCM Control Delay (s)	7.8	-	9.7	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0.1	-	-

Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	2	30	54	117	207	4
Future Vol, veh/h	2	30	54	117	207	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	190	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2	32	57	123	218	4

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	396	111	222	0	-	0
Stage 1	220	-	-	-	-	-
Stage 2	176	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	581	921	1344	-	-	-
Stage 1	795	-	-	-	-	-
Stage 2	837	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	557	921	1344	-	-	-
Mov Cap-2 Maneuver	557	-	-	-	-	-
Stage 1	762	-	-	-	-	-
Stage 2	837	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.2	2.5	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1344	-	885	-	-
HCM Lane V/C Ratio	0.042	-	0.038	-	-
HCM Control Delay (s)	7.8	-	9.2	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0.1	-	-

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	TNM	26-Jun-20	IPWR0IPA-0001	1 OF 2

E/W STREET : DENDY PKWY
N/S STREET : DIAZ RD
CONDITION : PM PEAK HOUR

INTERSECTION : 6
PROJECTED GROWTH PER YEAR : 0.7%

TURN MOVEMENTS

Condition	Existing Conditions Traffic	Future Year 2040 Conditions
Scenario #		
DENDY PKWY		
EB LEFT	1	2
EB THRU	0	0
EB RIGHT	22	26
WB LEFT	0	0
WB THRU	0	0
WB RIGHT	0	0
DIAZ RD		
NB LEFT	23	27
NB THRU	1	155
NB RIGHT	0	0
SB LEFT	0	0
SB THRU	1	186
SB RIGHT	2	3
TOTALS	**50**	**399**

Intersection	
Int Delay, s/veh	1.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	2	26	27	155	186	3
Future Vol, veh/h	2	26	27	155	186	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	190	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2	28	29	168	202	3

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	346	204	205	0	-	0
Stage 1	204	-	-	-	-	-
Stage 2	142	-	-	-	-	-
Critical Hdwy	6.63	6.23	4.13	-	-	-
Critical Hdwy Stg 1	5.43	-	-	-	-	-
Critical Hdwy Stg 2	5.83	-	-	-	-	-
Follow-up Hdwy	3.519	3.319	2.219	-	-	-
Pot Cap-1 Maneuver	638	836	1365	-	-	-
Stage 1	830	-	-	-	-	-
Stage 2	871	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	625	836	1365	-	-	-
Mov Cap-2 Maneuver	625	-	-	-	-	-
Stage 1	813	-	-	-	-	-
Stage 2	871	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.6	1.1	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1365	-	816	-	-
HCM Lane V/C Ratio	0.022	-	0.037	-	-
HCM Control Delay (s)	7.7	-	9.6	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0.1	-	-

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	2	26	27	155	186	3
Future Vol, veh/h	2	26	27	155	186	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	190	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	2	27	28	163	196	3

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	336	100	199	0	-	0
Stage 1	198	-	-	-	-	-
Stage 2	138	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	634	936	1371	-	-	-
Stage 1	816	-	-	-	-	-
Stage 2	874	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	621	936	1371	-	-	-
Mov Cap-2 Maneuver	621	-	-	-	-	-
Stage 1	800	-	-	-	-	-
Stage 2	874	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.1	1.1	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1371	-	903	-	-
HCM Lane V/C Ratio	0.021	-	0.033	-	-
HCM Control Delay (s)	7.7	-	9.1	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0.1	-	0.1	-	-

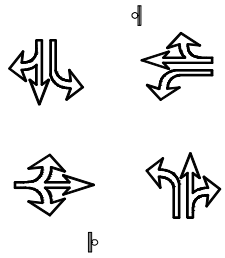
DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	TNM	26-Jun-20	IPWR0IPA-0001	1 OF 2

E/W STREET : CHERRY ST
N/S STREET : DIAZ RD
CONDITION : AM PEAK HOUR

INTERSECTION : 7
PROJECTED GROWTH PER YEAR : 1.4%

CONDITION DIAGRAMS



FUTURE BUILD GEOMETRICS

TURN MOVEMENTS

Condition	Existing Conditions Traffic	Future Year 2040 Conditions
Scenario #		
CHERRY ST		
EB LEFT	0	1
EB THRU	0	10
EB RIGHT	4	10
WB LEFT	0	194
WB THRU	0	14
WB RIGHT	0	21
DIAZ RD		
NB LEFT	2	13
NB THRU	1	22
NB RIGHT	0	84
SB LEFT	0	26
SB THRU	1	7
SB RIGHT	0	1
TOTALS	**8**	**403**

Intersection	
Int Delay, s/veh	7.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	10	10	194	14	21	13	22	84	26	7	1
Future Vol, veh/h	1	10	10	194	14	21	13	22	84	26	7	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	200	-	-	200	-	-	200	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	11	11	204	15	22	14	23	88	27	7	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	176	201	8	168	157	67	8	0	0	111	0	0
Stage 1	62	62	-	95	95	-	-	-	-	-	-	-
Stage 2	114	139	-	73	62	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	786	695	1074	796	735	997	1612	-	-	1479	-	-
Stage 1	949	843	-	912	816	-	-	-	-	-	-	-
Stage 2	891	782	-	937	843	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	741	676	1074	763	715	997	1612	-	-	1479	-	-
Mov Cap-2 Maneuver	741	676	-	763	715	-	-	-	-	-	-	-
Stage 1	940	828	-	904	809	-	-	-	-	-	-	-
Stage 2	848	775	-	899	828	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.5	11.1	0.8	5.7
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1612	-	-	825	763	861	1479	-	-
HCM Lane V/C Ratio	0.008	-	-	0.027	0.268	0.043	0.019	-	-
HCM Control Delay (s)	7.3	-	-	9.5	11.4	9.4	7.5	-	-
HCM Lane LOS	A	-	-	A	B	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1	1.1	0.1	0.1	-	-

Intersection	
Int Delay, s/veh	7.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	10	10	194	14	21	13	22	84	26	7	1
Future Vol, veh/h	1	10	10	194	14	21	13	22	84	26	7	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	20	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	200	-	-	200	-	-	200	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	11	11	204	15	22	14	23	88	27	7	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	176	221	8	188	177	87	8	0	0	131	0	0
Stage 1	62	62	-	115	115	-	-	-	-	-	-	-
Stage 2	114	159	-	73	62	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	786	678	1074	772	717	971	1612	-	-	1454	-	-
Stage 1	949	843	-	890	800	-	-	-	-	-	-	-
Stage 2	891	766	-	937	843	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	740	647	1074	725	684	953	1612	-	-	1426	-	-
Mov Cap-2 Maneuver	740	647	-	725	684	-	-	-	-	-	-	-
Stage 1	940	827	-	865	778	-	-	-	-	-	-	-
Stage 2	846	745	-	899	827	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.6	11.5	0.8	5.8
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1612	-	-	804	725	823	1426	-	-
HCM Lane V/C Ratio	0.008	-	-	0.027	0.282	0.045	0.019	-	-
HCM Control Delay (s)	7.3	-	-	9.6	11.9	9.6	7.6	-	-
HCM Lane LOS	A	-	-	A	B	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1	1.2	0.1	0.1	-	-

DAVID EVANS AND ASSOCIATES INC.

SUBJECT	BY	DATE	JOB NO.	SHEET OF
TURN MOVEMENTS	TNM	26-Jun-20	IPWR0IPA-0001	1 OF 2

E/W STREET : CHERRY ST
N/S STREET : DIAZ RD
CONDITION : PM PEAK HOUR

INTERSECTION : 7
PROJECTED GROWTH PER YEAR : 0.7%

TURN MOVEMENTS

Condition	Existing Conditions Traffic	Future Year 2040 Conditions
Scenario #		
CHERRY ST		
EB LEFT	0	1
EB THRU	0	3
EB RIGHT	2	14
WB LEFT	0	136
WB THRU	0	7
WB RIGHT	0	17
DIAZ RD		
NB LEFT	1	11
NB THRU	1	28
NB RIGHT	0	118
SB LEFT	0	18
SB THRU	1	39
SB RIGHT	0	1
TOTALS	**5**	**393**

Intersection	
Int Delay, s/veh	5.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	3	14	136	7	17	11	28	118	18	39	1
Future Vol, veh/h	1	3	14	136	7	17	11	28	118	18	39	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	200	-	-	200	-	-	200	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	3	15	143	7	18	12	29	124	19	41	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	208	257	42	204	195	91	42	0	0	153	0	0
Stage 1	80	80	-	115	115	-	-	-	-	-	-	-
Stage 2	128	177	-	89	80	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	749	647	1029	754	700	967	1567	-	-	1428	-	-
Stage 1	929	828	-	890	800	-	-	-	-	-	-	-
Stage 2	876	753	-	918	828	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	718	633	1029	728	685	967	1567	-	-	1428	-	-
Mov Cap-2 Maneuver	718	633	-	728	685	-	-	-	-	-	-	-
Stage 1	922	817	-	883	794	-	-	-	-	-	-	-
Stage 2	845	747	-	889	817	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9	10.9	0.5	2.3
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1567	-	-	912	728	863	1428	-	-
HCM Lane V/C Ratio	0.007	-	-	0.021	0.197	0.029	0.013	-	-
HCM Control Delay (s)	7.3	-	-	9	11.2	9.3	7.6	-	-
HCM Lane LOS	A	-	-	A	B	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.7	0.1	0	-	-

Intersection	
Int Delay, s/veh	5.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	1	3	14	136	7	17	11	28	118	18	39	1
Future Vol, veh/h	1	3	14	136	7	17	11	28	118	18	39	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	20	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	200	-	-	200	-	-	200	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	1	3	15	143	7	18	12	29	124	19	41	1

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	208	277	42	224	215	111	42	0	0	173	0	0
Stage 1	80	80	-	135	135	-	-	-	-	-	-	-
Stage 2	128	197	-	89	80	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	749	631	1029	732	683	942	1567	-	-	1404	-	-
Stage 1	929	828	-	868	785	-	-	-	-	-	-	-
Stage 2	876	738	-	918	828	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	716	606	1029	693	656	924	1567	-	-	1377	-	-
Mov Cap-2 Maneuver	716	606	-	693	656	-	-	-	-	-	-	-
Stage 1	922	816	-	845	764	-	-	-	-	-	-	-
Stage 2	844	718	-	889	816	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	9.1	11.2	0.5	2.4
HCM LOS	A	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1567	-	-	902	693	826	1377	-	-
HCM Lane V/C Ratio	0.007	-	-	0.021	0.207	0.031	0.014	-	-
HCM Control Delay (s)	7.3	-	-	9.1	11.5	9.5	7.7	-	-
HCM Lane LOS	A	-	-	A	B	A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.8	0.1	0	-	-

DAVID EVANS AND ASSOCIATES INC.

Appendix C: Intersection Queuing Analysis

Intersection Queuing Analysis
Existing Conditions

Intersection/Movement			Storage Length (ft)	AM 95th% Queue	PM 95th% Queue
1	Diaz Rd at Rancho California Rd	SBL	240	137	136
		SBL		79	85
		SBTH		96	84
		SBR	240	64	67
2	Diaz Rd at Rancho Way	EBL	140	39	38
		EBL	140	33	31
		EBR	140	39	45
		NBL	175	79	45
		NBTH		59	73
		NBTH		16	24
		SBTH		41	38
		SBTHR		32	35
3	Diaz Rd at Via Montezuma	EBLTR		56	87
		WBLTH		73	63
		WBR	90	55	57
		NBL	90	25	17
		NBTH			1
		NBR		7	7
		SBL	120	29	33
		SBTHR		3	1
4	Diaz Rd at Avenue Alvarado	EBLR		85	83
		NBL	80	53	46
		NBTH		3	-
		NBTH		-	-
		SBTHR		13	11
5	Diaz Rd at Winchester Rd	EBL	100	84	63
		EBTH		201	161
		EBTHR		140	246
		WBL	250	172	157
		WBL	250	133	104
		WBTH		80	119
		WBTHR		71	102
		NBL	150	75	73
		NBTH		49	51
		NBTH		36	43
		NBR	250	101	127
		SBLT	175	49	29
		SBLT	175	99	86
		SBTH		69	77
		SBTHR		39	53

Notes:
Storage lengths in (XXX) represent proposed storage (in feet) based on the conceptual design.
Shade cells represent movements where the 95th percentile queue exceeds storage length.

Intersection Queuing Analysis
Future Year 2040 No Build Conditions

Intersection/Movement			Storage Length (ft)	AM 95th% Queue	PM 95th% Queue
1	Diaz Rd at Rancho California Rd	SBL	240	139	147
		SBL		83	105
		SBTH		104	94
		SBR	240	62	73
2	Diaz Rd at Rancho Way	EBL	140	109	73
		EBL	140	89	56
		EBTHR		72	82
		WBL	***(200)***	87	75
		WBTHR		613	276
		NBL	175	99	91
		NBTH		167	162
		NBTHR		146	111
		SBL	***(250)***	184	253
		SBTH		137	128
		SBTHR		173	121
3	Diaz Rd at Via Montezuma	EBLTHR		132	156
		WBLTH		238	91
		WBR		124	52
		NBL	90	68	39
		NBTH		-	1
		NBR		2	3
		SBL	110	28	3
		SBTHR		13	8
4	Diaz Rd at Avenue Alvarado	EBL	***(150)***	303	80
		EBTHR		690	76
		WBL	***(200)***	163	177
		WBTHR		171	89
		NBL	150	72	33
		NBTH		40	5
		NBTHR		18	2
		SBL	150	51	54
		SBTHR		41	20
5	Diaz Rd at Winchester Rd	EBL	100	130	147
		EBTH		256	280
		EBTHR		213	220
		WBL	250	221	195
		WBL	250	181	155
		WBTH		114	183
		WBTHR		129	187
		NBL	150	145	92
		NBTH		84	112
		NBTH		70	116
		NBR	250	175	139
		SBLT	175	75	65
		SBLT	175	103	78
		SBTH		182	73
		SBTHR		139	61
6	Diaz Rd at Dendy Pkwy	EBLR		43	42
		NBL	190	32	25
		NBTH		-	-
		NBTH		-	-
		SBTHR		-	-
7	Diaz Rd at Cherry St	EBLTHR		41	38
		WBL	***(200)***	68	59
		WBTHR		45	41
		NBL	***(200)***	5	6
		NBTHR		4	2
		SBL	***(200)***	19	20
		SBTHR		-	-

Notes:
Storage lengths in **(XXX)** represent proposed storage (in feet) based on the conceptual design.
Shade cells represent movements where the 95th percentile queue exceeds storage length.

Intersection Queuing Analysis
Future Year 2040 Build Conditions

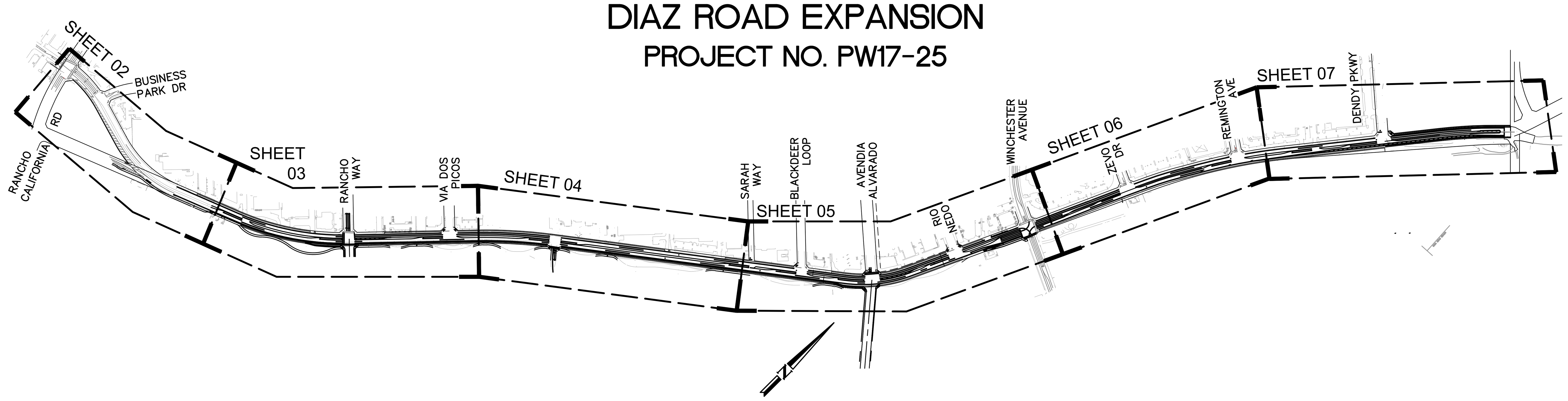
	Intersection/Movement		Storage Length (ft)	AM 95th% Queue	PM 95th% Queue
1	Diaz Rd at Rancho California Rd	SBL	240	140	155
		SBL		91	112
		SBTH		99	99
		SBR	240	60	73
2	Diaz Rd at Rancho Way	EBL	140	90	55
		EBL	140	135	113
		EBTHR		86	101
		WBL	***(200)***	29	64
		WBTH		133	73
		WBR		159	100
		NBL	175	99	88
		NBTH		161	130
		NBTH		130	91
		NBR	***(175)***	51	51
		SBL	***(250)***	178	234
		SBTH		113	94
		SBTHR		154	101
3	Diaz Rd at Via Montezuma	EBLR		68	116
		NBL	***(150)***	84	42
		NBTH		-	-
		NBTH		-	-
		SBTH		5	4
		SBTHR		20	4
4	Diaz Rd at Avenue Alvarado	EBL	***(150)***	215	107
		EBTHR		138	107
		WBL	***(200)***	104	166
		WBTH		34	32
		WBR		62	37
		NBL	***(200)***	139	69
		NBTH		96	132
		NBTH		133	204
		NBR	***(200)***	68	28
		SBL	***(200)***	92	96
		SBTH		244	110
		SBTHR		284	130
5	Diaz Rd at Winchester Rd	EBL	100	144	94
		EBTH		290	232
		EBTHR		242	188
		WBL	250	221	179
		WBL	250	257	214
		WBTH		105	166
		WBTHR		115	166
		NBL	150	72	45
		NBL	150	98	72
		NBTH		104	114
		NBTH		57	115
		NBR	250	220	213
		SBLT	175	69	56
		SBLT	175	87	72
		SBTH		135	55
		SBTHR		151	71
6	Diaz Rd at Dendy Pkwy	EBLR		48	45
		NBL	190	38	24
		NBTH		-	-
		NBTH		-	-
		SBTH		-	-
		SBTHR		-	2
7	Diaz Rd at Cherry St	EBLTHR		39	36
		WBL	***(200)***	65	60
		WBTHR		43	40
		NBL	***(200)***	3	5
		NBTHR		10	17
		SBL	***(200)***	14	13
		SBTHR		-	-

Notes:
Storage lengths in (XXX) represent proposed storage (in feet) based on the conceptual design.
Shade cells represent movements where the 95th percentile queue exceeds storage length.

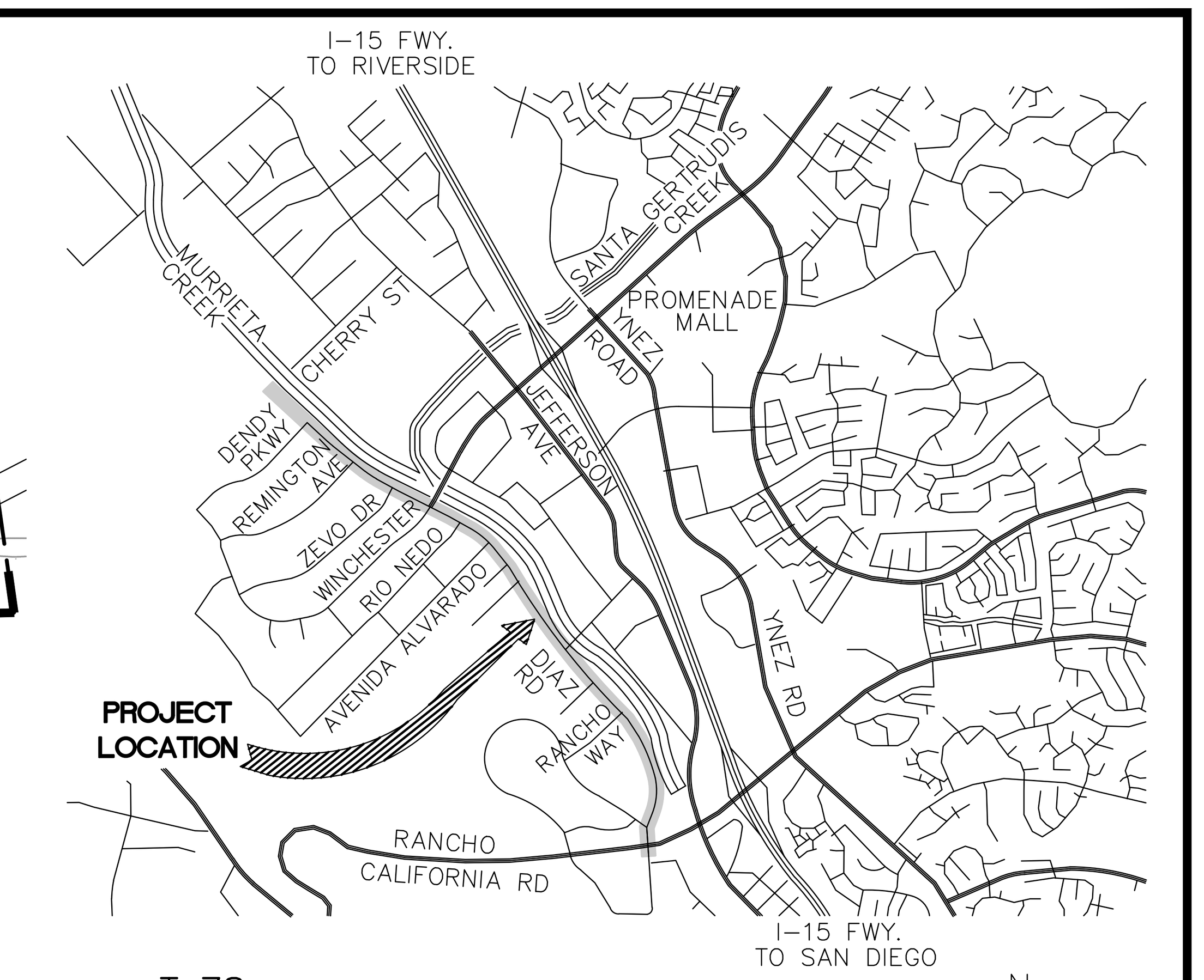
DAVID EVANS AND ASSOCIATES INC.

Appendix D: Diaz Road Widening Engineering Plans

CITY OF TEMECULA
RIVERSIDE COUNTY, CALIFORNIA
DIAZ ROAD EXPANSION
PROJECT NO. PW17-25



SHEET INDEX MAP
SCALE: 1"=600'



T 7S
R 3W
SEC 35

PROJECT VICINITY MAP
N.T.S.

N W E S

GENERAL NOTES

1. STANDARDS. ALL WORK SHALL CONFORM TO THE REQUIREMENTS OF THE CURRENT EDITION OF THE CITY'S IMPROVEMENT STANDARD DRAWINGS FOR PUBLIC WORKS CONSTRUCTION (AND SUBSEQUENT AMENDMENTS), THE CITY'S ENGINEERING AND CONSTRUCTION MANUAL, CITY CODES AND REQUIREMENTS, THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (GREENBOOK) 2018, THE RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT STANDARD DRAWINGS, THE CALTRANS STANDARD SPECIFICATIONS 2018, CALTRANS STANDARD DRAWINGS 2018, AND THESE PLANS AND PROJECT SPECIFICATIONS.

2. EMERGENCY TELEPHONE NUMBERS. (ANSWERING MACHINE IS NOT ACCEPTABLE):

____
(RESPONSIBLE PERSON/DEVELOPER) (COMPANY) (24-HR PHONE NUMBER)

____
(RESPONSIBLE PERSON/CONTRACTOR) (COMPANY) (24-HR PHONE NUMBER)

3. LICENSE/PERMIT REQUIREMENT.
   A. PRIOR TO START OF ANY WORK, A BUSINESS LICENSE SHALL BE OBTAINED FROM THE CITY.
   B. A GRADING PERMIT SHALL BE OBTAINED PRIOR TO ANY WORK ON PRIVATE DEVELOPMENT. THE PERMIT AND AN APPROVED SET OF IMPROVEMENT PLANS MUST BE PRESENT AT THE JOB SITE DURING CONSTRUCTION.
   C. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO APPLY TO THE CALIFORNIA DEPARTMENT OF TRANSPORTATION (CALTRANS) FOR AN ENCROACHMENT PERMIT RIDER FOR ALL WORK PERFORMED WITHIN THE STATE RIGHT-OF-WAY.
   D. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO APPLY TO THE RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT (RCFC&WCD) FOR AN ENCROACHMENT PERMIT FOR ALL WORK PERFORMED WITHIN THE RCFC&WCD RIGHT-OF-WAY.

4. ERRORS OR OMISSIONS. APPROVAL OF THESE PLANS BY THE CITY DOES NOT RELIEVE THE APPLICANT AND ENGINEER OF RECORD FROM THE RESPONSIBILITY FOR THE CORRECTION OF ERRORS OR OMISSIONS DISCOVERED DURING CONSTRUCTION.

5. WORKING HOURS. CITY ORDINANCE NO. 94-25 STATES THAT NO PERSON SHALL ENGAGE IN OR CONDUCT CONSTRUCTION ACTIVITY, WHEN THE CONSTRUCTION SITE IS WITHIN ONE-QUARTER OF A MILE OF AN OCCUPIED RESIDENCE, BETWEEN THE HOURS OF 6:30 PM AND 6:30 AM, MONDAY THROUGH FRIDAY AND SHALL ONLY ENGAGE IN OR CONDUCT CONSTRUCTION ACTIVITY BETWEEN THE HOURS OF 7:00 AM AND 6:30 PM ON SATURDAY. NO CONSTRUCTION ACTIVITY SHALL BE UNDERTAKEN ON SUNDAY AND NATIONALLY RECOGNIZED HOLIDAYS.

6. REGULATORY AGENCY CLEARANCES. THE ISSUANCE OF A PERMIT BY THE CITY DOES NOT IMPLY OR PROVIDE ANY CLEARANCES FROM STATE OR FEDERAL AGENCIES REGULATING THE PROVISIONS OF STATE OR FEDERAL ENDANGERED SPECIES ACTS OR WATER QUALITY REGULATIONS. THE APPROPRIATE CLEARANCES FROM THESE AGENCIES SHALL BE OBTAINED PRIOR TO ANY SITE DISTURBANCE OR GRADING.

7. CONSTRUCTION CHANGE. ANY CONSTRUCTION CHANGE MUST BE FIRST SUBMITTED TO THE CITY AS A REDLINE REVISION FOR REVIEW AND APPROVAL PRIOR TO IMPLEMENTING THE CHANGE IN THE FIELD. REFER TO THE CITY'S ENGINEERING AND CONSTRUCTION MANUAL.

8. PRE-CONSTRUCTION MEETING. A PRE-CONSTRUCTION MEETING SHALL BE SCHEDULED PRIOR TO THE START OF CONSTRUCTION. DURING CONSTRUCTION, A DEPENDABLE AND RESPONSIVE CONTRACTOR'S REPRESENTATIVE SHALL BE AT THE JOB SITE AT ALL TIMES.

9. UTILITIES. APPROVAL OF THESE PLANS BY THE CITY DOES NOT CONSTITUTE A REPRESENTATION AS TO THE ACCURACY OR COMPLETENESS OF THE LOCATION, NOR THE EXISTENCE OR NON-EXISTENCE OF ANY UNDERGROUND UTILITIES WITHIN THE PROJECT LIMITS. ANY UTILITY DAMAGED DURING THE PERFORMANCE OF THE WORK SHALL BE REPAIRED OR REPLACED TO THE SATISFACTION OF THE GOVERNING AGENCY BY THE CONTRACTOR, AT HIS EXPENSE.

10. THE CONTRACTOR SHALL NOTIFY UNDERGROUND SERVICE ALERT AT 811 TWO (2) WORKING DAYS PRIOR TO ANY EXCAVATION.

11. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE LOCATION AND PROTECTION OF ALL UTILITIES. FOR EMERGENCY ASSISTANCE CALL:

SOUTHERN CALIFORNIA EDISON	951-928-8275
SOUTHERN CALIFORNIA GAS	800-427-2200
RANCHO CALIFORNIA WATER DISTRICT	951-296-6900
EASTERN MUNICIPAL WATER DISTRICT	800-698-0400
VERIZON	951-925-5319
AT&T	909-381-7385
PACIFIC BELL	951-359-2255
TW TELECOM	909-456-3697
LEVEL 3 COMMUNICATIONS	720-888-7568
UNDERGROUND SERVICE ALERT	811

12. UTILITY LOCATIONS ARE APPROXIMATE UNLESS OTHERWISE NOTED.

13. ALL UNDERGROUND UTILITIES TO BE CONSTRUCTED WITHIN THE STREET RIGHT-OF-WAY SHALL BE INSTALLED, CONNECTED AND TESTED PRIOR TO CONSTRUCTION OF ANY CONCRETE CURBS, GUTTERS, OR ASPHALT CONCRETE PAVEMENT.

14. SURVEY. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO NOTIFY THE ENGINEER OF RECORD AND TO INSTALL STREET CENTERLINE MONUMENTS, AS REQUIRED BY RIVERSIDE COUNTY ORDINANCE NO. 461. CENTERLINE TIES SHALL BE PROVIDED TO THE CITY ENGINEER, UPON COMPLETION OF THE PROJECT AND BEFORE ACCEPTANCE IS GRANTED. ALL EXISTING CITY MONUMENTATION (DISTURBED OR DESTROYED DURING CONSTRUCTION) SHALL BE REPLACED TO CITY STANDARDS IN ACCORDANCE WITH THE LAND SURVEYORS ACT AND THE STREETS AND HIGHWAY CODE, AND AS APPROVED BY THE CITY ENGINEER. UPON REQUEST, SURVEY CUT SHEETS SHALL BE PROVIDED TO THE CITY ENGINEER. ALL RCFC&WCD SURVEY MONUMENTS SHALL BE PROTECTED IN PLACE.

15. DUST CONTROL. DUST SHALL BE CONTROLLED BY WATERING OR OTHER METHODS, AS APPROVED BY THE CITY ENGINEER AND SHALL COMPLY WITH SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT'S (SCAQMD) RULE 403.

16. INSPECTIONS. ALL WORK PERFORMED WITHOUT PROPER INSPECTION FROM THE CITY MAY BE SUBJECT TO REJECTION.

17. ALL STATIONS REFER TO CENTERLINE OF CONSTRUCTION UNLESS OTHERWISE NOTED.

18. CONTRACTOR SHALL CLEAN UP THE PROJECT SITE AT THE END OF EACH WORK DAY.

19. CONTRACTOR SHALL REPLACE IN KIND ALL EXISTING IMPROVEMENTS NOT SHOWN FOR REMOVAL THAT MAY BE DAMAGED OR DISTURBED DURING CONSTRUCTION AT HIS OWN EXPENSE.

20. A SET OF "AS-BUILT" DRAWINGS MUST BE SUBMITTED BY THE CONTRACTOR TO THE ENGINEERING PRIOR TO THE CITY'S ACCEPTANCE OF THE IMPROVEMENTS.

811 Know what's below. Call 811 before you dig.

BASIS OF BEARINGS

THE BASIS OF BEARINGS ARE BASED ON THE LINE BETWEEN STATIONS "P477" AND "BILL" (POSITIONS PER NATIONAL GEODETIC SURVEY, NAD 83, EPOCH 2007) AS SHOWN ON THE NATIONAL GEODETIC SURVEY PUBLISHED DATA SHEETS, BEING N28°53'23.30"E (GRID BEARING)

TRAFFIC SIGNAL GENERAL NOTES

1. CALTRANS STANDARD DRAWINGS 2018 ALL WORK MATERIAL AND EQUIPMENT SHALL CONFORM TO THE PROVISIONS OF THE STANDARD PLANS AND SPECIFICATIONS OF THE STATE OF CALIFORNIA, DEPARTMENT OF TRANSPORTATION (CALTRANS) DATED MAY 2006, AND THE SPECIAL PROVISIONS.
2. A CITY OF TEMECULA ENCROACHMENT PERMIT SHALL BE REQUIRED TO PERFORM WORK WITHIN THE PUBLIC RIGHT-OF-WAY. CITY APPROVED PLANS DO NOT RELIEVE THE CONTRACTOR FROM THE RESPONSIBILITY OF OBTAINING AN ENCROACHMENT PERMIT. A COPY OF THE PERMIT SHALL BE KEPT ON THE CONSTRUCTION SITE AT AL TIMES.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING A DETAILED TRAFFIC CONTROL PLAN FOR ANY LANE CLOSURES ASSOCIATED WITH THE TRAFFIC SIGNAL CONSTRUCTION.
4. THE LOCATION OF ALL EXISTING UNDERGROUND UTILITIES IS APPROXIMATE ONLY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE EXACT LOCATION AND DEPTH OF ALL UTILITIES INCLUDING THOSE NOT SHOWN ON THE PLAN PRIOR TO START OF WORK. CONTACT UNDERGROUND SERVICE ALERT AT (800) 422-4133.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING AN ELECTRICAL PERMIT FROM THE CITY'S BUILDING AND SAFETY DEPARTMENT FOR THE SERVICE PEDESTAL.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND NOTIFYING AFFECTED AGENCIES AT LEAST 72 HOURS PRIOR TO START OF WORK.
7. UNLESS SHOWN OTHERWISE, INDUCTIVE LOOP DETECTORS SHALL BE 6 FOOT IN DIAMETER WITH 10 FOOT SPACING IN THE DIRECTION OF TRAVEL. LOOP DETECTORS SHALL BE TYPE "E", LOOP DETECTOR WIRE SHALL BE TYPE "1" AND DETECTOR LEAD-IN CABLE SHALL BE TYPE "B". PRIOR TO INSTALLATION, THE ENGINEER OR HIS DESIGNATED REPRESENTATIVE SHALL VERIFY ALL LOOP DETECTOR LOCATIONS IN THE FIELD. ALL NECESSARY STRIPING SHALL BE IN PLACE PRIOR TO POSITIONING OF DETECTORS. LOOP DETECTORS SHALL BE SEALED WITH A "HOT MELT SEALANT".
8. THE CONDUCTOR SCHEDULE IS FURNISHED AS AN INSTALLATION GUIDELINE ONLY. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE THE APPROPRIATE NUMBER OF CONDUCTORS REQUIRED FOR THE INTENDED OPERATION.
9. ALL VEHICLE SIGNAL INDICATIONS SHALL BE 12 INCH. THE SIGNAL HOUSING, BACKPLATES AND VISORS SHALL BE METAL. PLASTIC SIGNAL HEADS AND LENSES ARE NOT PERMITTED. ALL VEHICLE SIGNAL INDICATIONS SHALL BE LED (DIALITE OR CITY APPROVED EQUAL).
10. ALL PEDESTRIAN SIGNALS SHALL BE COUNTDOWN. PEDESTRIAN INDICATIONS SHALL BE TYPE A WITH INTERNATIONAL SYMBOL DISPLAYS. PEDESTRIAN SIGNAL INDICATIONS SHALL BE LED (DIALITE OR CITY APPROVED EQUAL). PEDESTRIAN PUSHBUTTON SIGN MOUNT SHALL BE TYPE "B" WITH TAMPER PROOF SCREWS, 5"X71/2"-R10-3B (MUTCD) SIGNS AND ADA "BULLDOG" PUSH BUTTONS.
11. ALL PULL BOXES SHALL BE NO. 6, UNLESS OTHERWISE NOTED ON THE PLANS. PULL BOXES SHALL NOT BE LOCATED IN OR WITHIN 1 FOOT OF ANY CURB ACCESS RAMPS OR DRIVEWAY. ALL PULL BOXES AND COVERS SHALL BE CONCRETE AND SHALL BE MARKED "TRAFFIC SIGNAL".
12. THE CONTRACTOR SHALL VERIFY WITH THE ENGINEER THE EXACT LOCATION OF ALL TRAFFIC SIGNAL EQUIPMENT PRIOR TO INSTALLATION. ALL CONDUITS SHALL BE 3-INCH RIGID STEEL UNLESS OTHERWISE NOTED. ALL STUB-OUTS SHALL BE 3-INCH CONDUIT. NON-METALLIC CONDUIT WILL NOT BE ALLOWED. ALL CONDUITS UNDER ROADWAY SECTION SHALL BE INSTALLED WITHOUT OPEN CUTTING.
13. EACH CONDUCTOR SHALL BE PERMANENTLY IDENTIFIED. IDENTIFICATION SHALL BE BY DIRECT LABELING, TAGS OR BANDS PERMANENTLY FASTENED TO THE CONDUCTORS. THE IDENTIFICATION SHALL BE PLACED ON EACH CONDUCTOR OR GROUP OF CONDUCTORS IN EACH PULL BOX AND NEAR THE END OF EACH CONDUCTOR WHERE THE CONDUCTORS ARE TERMINATED.
14. LUMINAIRES SHALL BE HIGH PRESSURE SODIUM WITH FULL CUT-OFF LENS, 250W INTEGRAL BALLAST.
15. INTERNALLY ILLUMINATED STREET NAME SIGNS SHALL BE TYPE "A".
16. UNDERGROUND TRAFFIC SIGNAL CONDUCTORS SHALL NOT BE SPLICED.
17. ANY LANDSCAPING DAMAGED BY THE TRAFFIC SIGNAL CONSTRUCTION SHALL BE REPAIRED OR REPLACED TO THE SATISFACTION OF THE ENGINEER AND THE PROPERTY OWNER.
18. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLETING ALL "PUNCH LIST" ITEMS PRIOR TO TRAFFIC SIGNAL TURN-ON.

SIGNING AND STRIPING GENERAL NOTES (CON'T)

1. STRIPING, SIGNING, OR PAVEMENT LEGENDS SHALL NOT BE INSTALLED PRIOR TO FIELD INSPECTION AND APPROVAL BY THE INSPECTOR.
2. ALL PAVEMENT MARKINGS AND SIGN LOCATIONS MUST BE INSPECTED AND APPROVED BEFORE STRIPING BEGINS. THE INSPECTOR SHALL DETERMINE THE EXACT LIMITS OF THE MATCH STRIPING.
3. ALL R1 SIGNS AND WARNING SIGNS SHALL USE HI-INTENSITY GRADE REFLECTIVE SHEETING AND BE A MINIMUM OF 30"X30". OTHER REGULATORY OR GUIDE SIGNS MAY BE ENGINEERING GRADE REFLECTIVE SHEETING.

SIGNING AND STRIPING GENERAL NOTES

4. UNLESS OTHERWISE STATED, ALL STRIPING SHALL BEGIN AND TERMINATE AT QUARTER DELTA OF THE CURB RETURN, OR BACK OF THE CROSSWALK OR STOP BAR.
5. ALL R1 SIGNS WILL BE LOCATED 2 FEET BEHIND CURB AT THE B.C.R. OR AS SPECIFIED ON THE PLAN.
6. ALL STOP BARS WILL BE LOCATED AT THE PROLONGATION OF THE CENTER DELTA OF THE CURB RETURN OR BEHIND THE WHEELCHAIR ACCESS RAMPS UNLESS OTHERWISE SPECIFIED ON THE PLAN.
7. THE STOP LEGEND SHALL BE 8 FEET BEHIND THE STOP BAR. IF REQUIRED, DIRECTIONAL ARROWS SHALL ALSO BE 8 FEET BEHIND THE STOP BAR OR 8 FEET BEHIND THE STOP LEGENDS.
8. ALL PAVEMENT MARKERS, STRIPING, AND PAVEMENT MARKINGS SHALL CONFORM TO THE LATEST VERSION OF THE CALIFORNIA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), AND CALTRANS STANDARD PLANS: A20-A THROUGH A24-E.
9. STREET NAME SIGNS SHALL BE INSTALLED AT ALL INTERSECTIONS AND MAY BE INSTALLED ABOVE THE R1 SIGN OR AS SPECIFIED ON THE PLAN.
10. THE POST MATERIAL SHALL BE "TELESPAR QWIK-PUNCH" OR APPROVED EQUAL WITH RECEPTIVE 30-INCH OR 36-INCH ANCHOR ASSEMBLY.
11. ALL PAVEMENT STRIPING AND LEGENDS SHALL BE INSTALLED PER SECTION 84.3 OF THE CALTRANS STANDARD SPECIFICATIONS.
12. ALL CONFLICTING PAVEMENT LEGENDS, STRIPING, AND PAVEMENT MARKINGS SHALL BE REMOVED BY WET SANDBLASTING PER SECTION 15 OF THE CALTRANS STANDARD SPECIFICATIONS.
13. ALL PAINTED STRIPING SHALL BE DOUBLE COATED IN NOT LESS THAN 7 DAYS, BUT NO MORE THAN 14 DAYS FROM DATE OF INITIAL INSTALLATION.
14. ALL PAVEMENT MARKINGS, PAVEMENT LEGENDS, AND LINES 8" OR WIDER SHALL BE THERMOPLASTIC UNLESS OTHERWISE APPROVED BY THE DEPARTMENT OF PUBLIC WORKS.
15. ALL PAVEMENT STRIPING SHALL HAVE RAISED PAVEMENT MARKINGS (RPM) PER SECTION 85 OF THE CALTRANS STANDARD SPECIFICATIONS.

TRAFFIC SIGNAL INTERCONNECT GENERAL NOTES

1. CONDUIT RUNS ARE SHOWN ON THE PLANS IN SCHEMATIC FORM ONLY.
2. CONTRACTOR SHALL VERIFY LINEAR FEET OF CONDUIT AND FIBER OPTIC CABLE BY FIELD INSPECTION.
3. DISTANCES SHOWN ON THE PLANS ARE APPROXIMATE. CONTRACTOR SHALL CAREFULLY MEASURE ACTUAL DISTANCE AND MAKE ALLOWANCE FOR SLACK BEFORE CUTTING FIBER OPTIC CABLE.
4. ALL TRENCHING FOR CONDUIT INSTALLATION MUST BE ACCOMPLISHED USING UNDERGROUND BORING METHODS UNLESS SPECIFICALLY NOTED ON THE PLANS.
5. CONDUITS MUST BE INSTALLED WITHIN THREE FEET OF THE FACE OF CURB OR, IF NO CURB EXISTS, WITHIN TWO FEET OF THE EDGE OF PAVEMENT, EXCEPT AS NECESSARY TO AVOID CONFLICTS.
6. IF OPEN TRENCHING IS ALLOWED FOR CERTAIN SEGMENTS, THEN TRENCH PAVING MUST BE PERFORMED IN ACCORDANCE WITH CITY OF TEMECULA REQUIREMENTS.
7. FIBER OPTIC CABLE SHALL BE INSTALLED IN 3" HDPE SCHEDULE 80 CONDUIT. ALL CONDUIT SHALL CONTAIN TRACER WIRE AND MULE TAPE. ALL EXISTING CONDUIT SHALL BE CLEANED AND CLEARED OF DEBRIS WITH A MANDREL PRIOR TO NEW CABLE INSTALLATION.
8. ALL CONDUIT BENDS ARE TO BE FACTORY MADE.
9. PULL BOXES SHALL BE NO. 6 WITH EXTENSION UNLESS OTHERWISE NOTED ON THE PLANS.
10. PULL BOX LOCATIONS BETWEEN INTERSECTIONS SHOWN ON THE PLANS ARE APPROXIMATE AND MAY BE FIELD LOCATED BY THE CONTRACTOR WITH THE APPROVAL OF THE CITY INSPECTOR TO AVOID OBSTRUCTIONS AND FACILITATE CONSTRUCTION.
11. PULL BOXES SHALL NOT BE LOCATED IN OR WITHIN 1' OF ANY PART OF ANY CURB RAMP (SLOPED PORTIONS OF THE RAMP; WINGS; GROOVES; OR LANDING).
12. ALL PULL BOX COVERS SHALL BE MARKED WITH THE WORDS "COMMUNICATIONS."
13. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO DETERMINE THE EXACT LOCATION OF ALL LOOP DETERCTORS PRIOR TO COMMENCING WORK IN THE AREA. THE CONTRACTOR IS RESPONSIBLE FOR AVOIDING ALL LOOP DETECTORS DURING CONSTRUCTION AND SHALL NOT CUT OR BREAK ANY LOOPS. ANY DAMAGE TO EXISTING LOOP DETECTION DURING CONSTRUCTION SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO REPLACE. BORING UNDER LOOP DETECTOR LEAD-IN CABLE IS ALLOWED PROVIDED THAT A MINIMUM 5' DISTANCE BE OBSERVED ON EACH SIDE OF THE LOOP, AND OPERATIONS DO NOT RESULT IN PAVEMENT SAG OR LOOP DAMAGE.

SHEET INDEX

SHEET	DESCRIPTION
1	TITLE SHEET
2	SIGNING & STRIPING PLAN – RANCHO CALIFORNIA TO STA 16+00
3	SIGNING & STRIPING PLAN – DIAZ ROAD FROM STA 16+00 TO STA 36+00
4	SIGNING & STRIPING PLAN – DIAZ ROAD FROM STA 36+00 TO STA 56+00
5	SIGNING & STRIPING PLAN – DIAZ ROAD FROM STA 56+00 TO STA 80+00
6	SIGNING & STRIPING PLAN – DIAZ ROAD FROM STA 80+00 TO STA 97+00
7	SIGNING & STRIPING PLAN – DIAZ ROAD FROM STA 97+00 TO CHERRY ST
8	TRAFFIC SIGNAL PLAN – DIAZ ROAD AT RANCHO WAY
9	TRAFFIC SIGNAL PLAN – DIAZ ROAD AT WINCHESTER ROAD
10	SIGNAL INTERCONNECT PLAN – RANCHO CALIFORNIA TO STA 16+00
11	SIGNAL INTERCONNECT PLAN – DIAZ ROAD FROM STA 16+00 TO STA 36+00
12	SIGNAL INTERCONNECT PLAN – DIAZ ROAD FROM STA 36+00 TO 56+00
13	SIGNAL INTERCONNECT PLAN – DIAZ ROAD FROM STA 56+00 TO STA 80+00
14	SIGNAL INTERCONNECT PLAN – DIAZ ROAD FROM STA 80+00 TO STA 97+00
15	SIGNAL INTERCONNECT PLAN – DIAZ ROAD FROM STA 97+00 TO CHERRY ST

TRAFFIC SIGNAL INTERCONNECT GENERAL NOTES

14. CONTRACTOR SHALL REPLACE, AT CONTRACTOR'S EXPENSE, ANY FIBER OPTIC CABLE IN WHICH THE ATTENUATION OF ANY SINGLE MODE STRAND AT 1310 NM EXCEEDS 0.408/KM, EXCLUDING SINGLE POINT EVENTS AT AUTHORIZED SPLICES AND CONNECTORS.
15. WHEN THREE OR MORE FIBER OPTIC CABLES ENTER AN ENCLOSURE, EACH FIBER OPTIC CABLE SHALL BE LABELED INDICATING THE LOCATION OF THE FAR END OF THE FIBER OPTIC CABLE.
16. DEFLECTION LIMITS OF ALL SINGLE MODE FIBER OPTIC CABLE SHALL NOT EXCEED 20 TIMES THE OUTSIDE DIAMETER OF THE FIBER OPTIC CABLE BEING INSTALLED.
17. CONCRETE SIDEWALKS NEAR CONTROLLER CABINETS THAT ARE IN CONFLICT WITH PROPOSED CONDUIT ROUTING AND IMPRACTICABLE TO BORE OR TUNNEL UNDER SHALL BE REMOVED AND REPLACED BETWEEN EXPANSION JOINTS AND NOT SAW CUT THROUGH SLAB. REMOVAL AND REPLACEMENT OF CONCRETE SHALL INCLUDE COMPLETE SLAB.
18. A SPANDREL SECTION OF AN EXISTING CROSS GUTTER THAT IS IN CONFLICT WITH PROPOSED CONDUIT ROUTING AND IMPRACTICABLE TO BORE ON TUNNEL UNDER SHALL BE REMOVED AND REPLACED BETWEEN EXPANSION JOINTS AND NOT SAW CUT THROUGH THE SLAB. REMOVAL AND REPLACEMENT OF CONCRETE SHALL INCLUDE COMPLETE SPANDREL SECTION FROM JOINT TO JOINT.
19. AN 'AS-BUILT' DRAWING CLEARLY SHOWING THE ACTUAL LOCATIONS OF ALL SYSTEM COMPONENTS AND PRIOR TO THE ACCEPTANCE OF THE IMPROVEMENTS.
20. EACH CABLE SHALL BE PERMANENTLY IDENTIFIED. IDENTIFICATION SHALL BE BY DIRECT LABELING, TAGS OR BANDS PERMANENTLY FASTENED TO THE CONDUCTORS. THE IDENTIFICATION SHALL BE PLACED ON EACH CONDUCTOR OR GROUP OF CONDUCTORS IN EACH PULL BOX AND NEAR THE END OF EACH CONDUCTOR WHERE THE CONDUCTORS ARE TERMINATED.
21. ALL EXISTING PULL BOXES ARE #5 UNLESS OTHERWISE NOTED ON PLAN.

ENGINEER'S NOTICE TO CONTRACTOR

1. CONTRACTOR AGREES THAT HE SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY; THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS, AND THAT THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD THE OWNER AND THE ENGINEER HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING FOR LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE OWNER OR ENGINEER.
2. THE EXISTENCE AND LOCATION OF ANY UNDERGROUND UTILITIES OR STRUCTURES SHOWN ON THESE PLANS ARE OBTAINED BY A DILIGENT SEARCH OF AVAILABLE RECORDS. THE CONTRACTOR IS REQUIRED TO TAKE ALL PRECAUTIONARY MEASURES TO PROTECT THE UTILITIES SHOWN AND ANY OTHER LINES OR STRUCTURES NOT SHOWN ON THESE PLANS AND IS RESPONSIBLE FOR THE PROTECTION OF, AND ANY DAMAGE TO THESE LINES OR STRUCTURES. THE CONTRACTOR SHALL CALL 811 AT LEAST TWO WORKING DAYS PRIOR TO EXCAVATION IN ORDER TO DETERMINE ACTUAL FIELD LOCATIONS OF EXISTING UTILITIES.
3. THE PRIVATE ENGINEER SIGNING THESE PLANS IS RESPONSIBLE FOR ASSURING THE ACCURACY AND ACCEPTABILITY OF THE DESIGN HEREON. IN THE EVENT OF DISCREPANCIES ARISING AFTER CITY OF TEMECULA APPROVAL OR DURING CONSTRUCTION, THE PRIVATE ENGINEER SHALL BE RESPONSIBLE FOR DETERMINING AN ACCEPTABLE SOLUTION AND REVISING THE PLANS FOR APPROVAL BY THE CITY OF TEMECULA.
4. EXISTING SIGNAGE AND/OR STRIPING DAMAGED DURING CONSTRUCTION SHALL BE REPLACED BY THE CONTRACTOR, AS INSTRUCTED BY THE INSPECTOR, AT NO ADDITIONAL COST TO THE CITY.

CONSTRUCTION RECORD	DATE	BY	REVISIONS	DATE	ACC'D	BENCHMARK	SCALE
CONTRACTOR ________							HORIZONTAL
INSPECTOR ________							AS SHOWN
DATE COMPLETED ________							VERTICAL
							N/A

REGISTERED PROFESSIONAL ENGINEER GAVIN D. POWELL No.C67187 CIVIL STATE OF CALIFORNIA

DAVID EVANS AND ASSOCIATES INC.
41951 Remington Avenue Suite 220
Temecula California 92590-2553
Phone: 951.294.9300

PREPARED BY:
GAVIN D. POWELL DATE:
R.C.E.No. 67187

RECOMMENDED BY: ____________ DATE: ________
AVLIN ODVIAR
SENIOR CIVIL ENGINEER

ACCEPTED BY: ____________ DATE: ________
PATRICK A. THOMAS
DIRECTOR OF PUBLIC WORKS
R.C.E. No. 44223

CITY OF TEMECULA DEPARTMENT OF PUBLIC WORKS

DIAZ ROAD
SIGNING AND STRIPING PLANS, TRAFFIC SIGNAL AND SIGNAL INTERCONNECT PLANS
TITLE SHEET

Drawing No. 01
SHT. 01 OF 15

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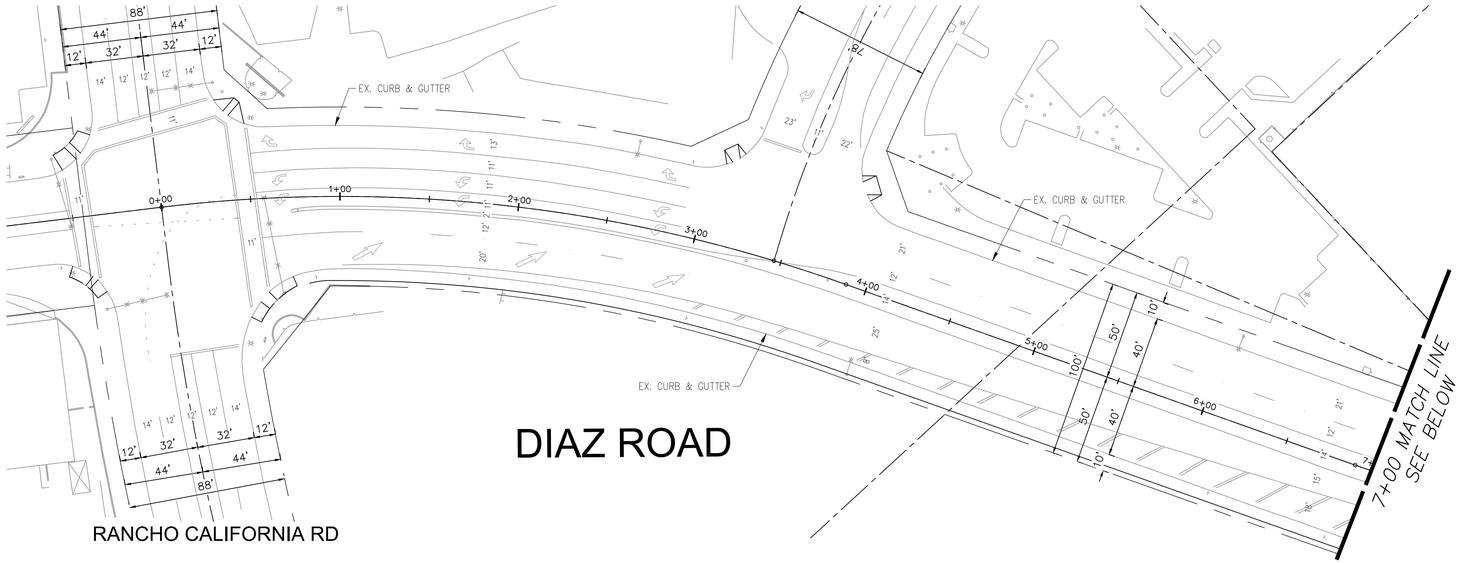
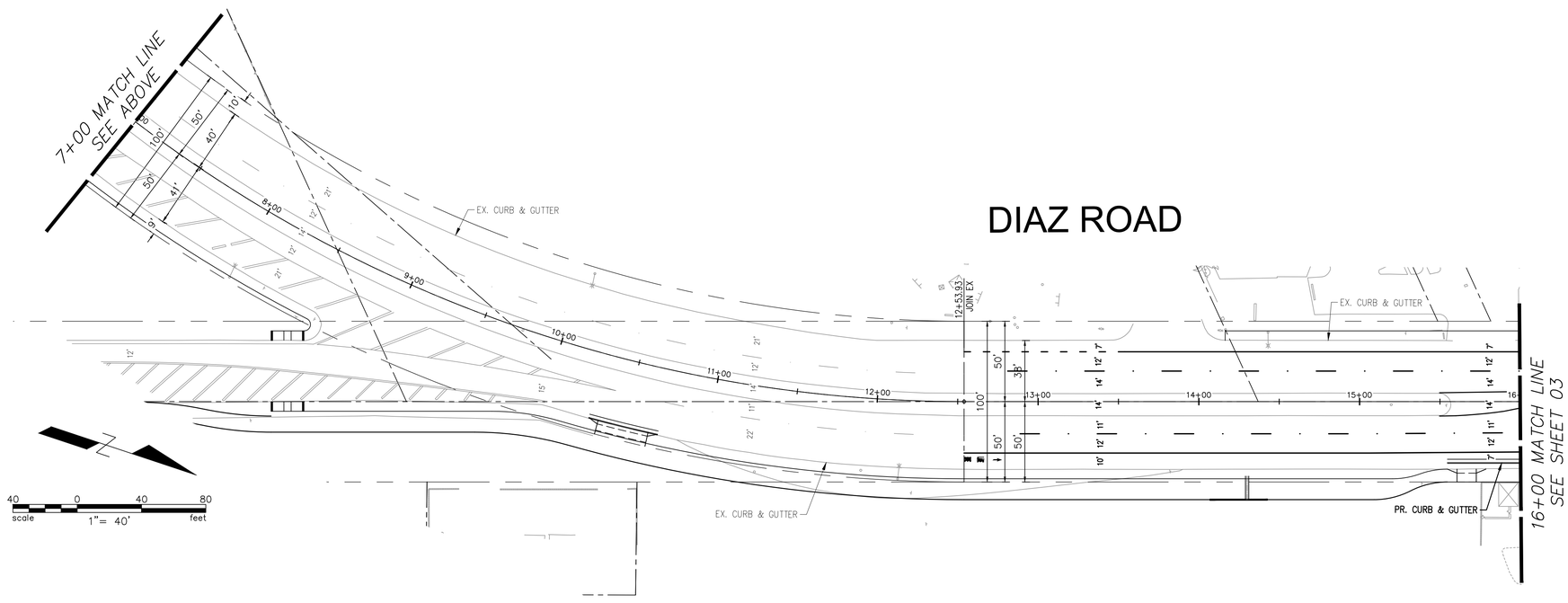
Jun 24, 2020 – 4:00pm by: Mxgo





CONSTRUCTION NOTES

1 — REMOVE EXISTING STRIPING OR PAVEMENT MARKING BY SAND BLASTING
2 — INSTALL PAVEMENT MARKING AS SHOWN PER CALTRANS STD. A24A–A24E
4 — INSTALL 12" THICK WHITE CROSSWALK PER CALTRANS STD. A24F
5 — INSTALL SIGN AS NOTED
6 — INSTALL 12" WHITE LIMIT LINE
PP — EXISTING TO REMAIN/ PROTECT IN PLACE
RR — REMOVE AND RELOCATE
RS — REMOVE AND SALVAGE

40 0 40 80
scale 1"= 40' feet

Know what's below. Call 811 before you dig.

CONSTRUCTION RECORD	DATE	BY	REVISIONS	DATE	ACC'D	BENCHMARK
CONTRACTOR						
INSPECTOR						
DATE COMPLETED						

SCALE
HORIZONTAL
AS SHOWN
VERTICAL
N/A

REGISTERED PROFESSIONAL ENGINEER GAVIN D. POWELL No.C67187 CIVIL STATE OF CALIFORNIA

DAVID EVANS AND ASSOCIATES INC.
41951 Remington Avenue Suite 220
Temecula California 92590-2553
Phone: 951.294.9300

PREPARED BY:
GAVIN D. POWELL DATE:
R.C.E.No. 67187

RECOMMENDED BY: _____ DATE: _____
AVLIN ODVIAR
SENIOR CIVIL ENGINEER

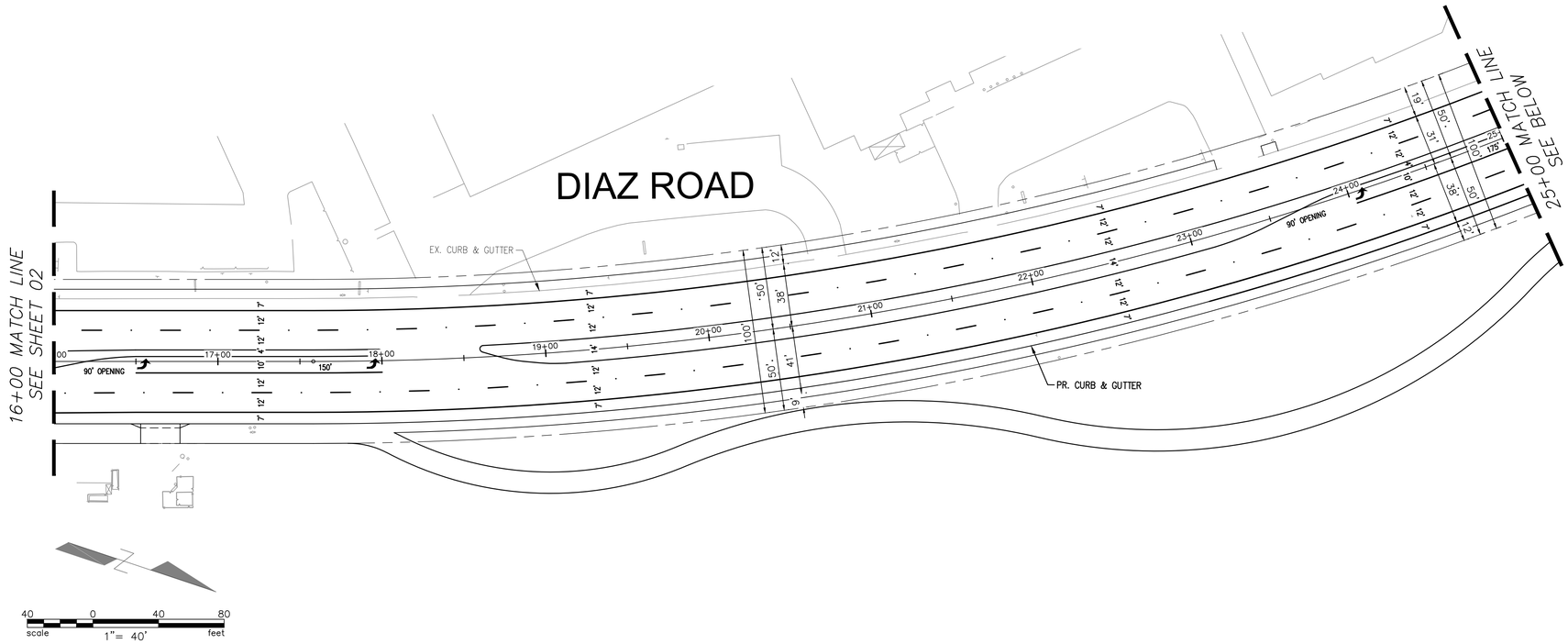
ACCEPTED BY: _____ DATE: _____
PATRICK A. THOMAS
DIRECTOR OF PUBLIC WORKS
R.C.E. No. 44223

CITY OF TEMECULA DEPARTMENT OF PUBLIC WORKS

DIAZ ROAD
SIGNING AND STRIPING PLAN
PW17-25
RANCHO CALIFORNIA TO STA 16+00

Drawing No. 02
SHT.02 OF 15

Drawing Name: P:\CAD\TEM00001011\0400CAD\TI\SHEETS\Proposed Geometrics\TI-SI-02-CTEM00001011.dwg
Last Opened: Jun 24, 2020 - 4:02pm by: Mago



CONSTRUCTION NOTES

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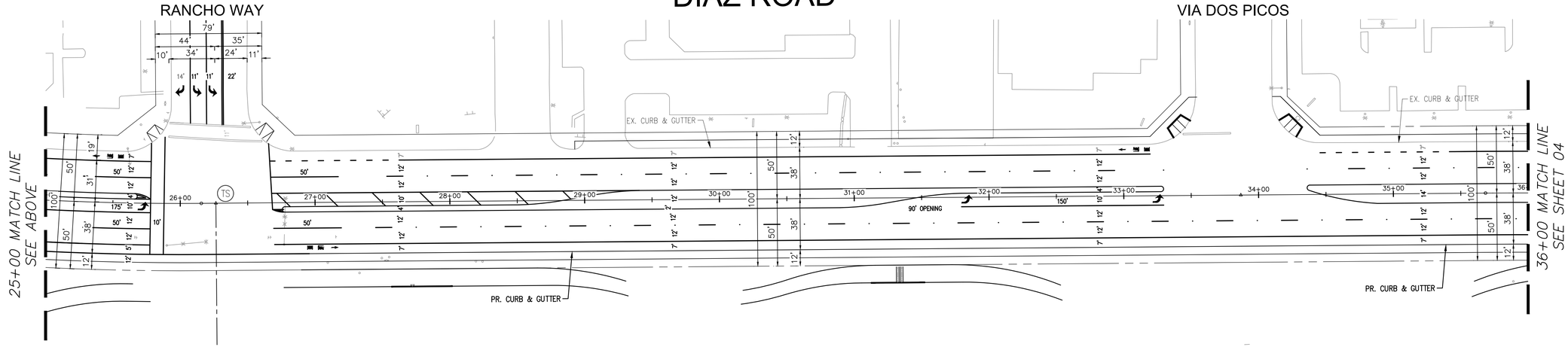
RR — REMOVE AND RELOCATE
RS — REMOVE AND SALVAGE



Know what's below. Call 811 before you dig.

CONSTRUCTION RECORD	DATE	BY	REVISIONS	DATE	ACC'D	BENCHMARK
CONTRACTOR						
INSPECTOR						
DATE COMPLETED						

SCALE
HORIZONTAL
AS SHOWN
VERTICAL
N/A

REGISTERED PROFESSIONAL ENGINEER — GAVIN D. POWELL — No.C67187 — CIVIL — STATE OF CALIFORNIA

DAVID EVANS AND ASSOCIATES INC.
41951 Remington Avenue Suite 220
Temecula California 92590-2553
Phone: 951.294.9300

PREPARED BY:
GAVIN D. POWELL DATE:
R.C.E.No. 67187

RECOMMENDED BY: _____ DATE: _____
AVLIN ODVIAR
SENIOR CIVIL ENGINEER

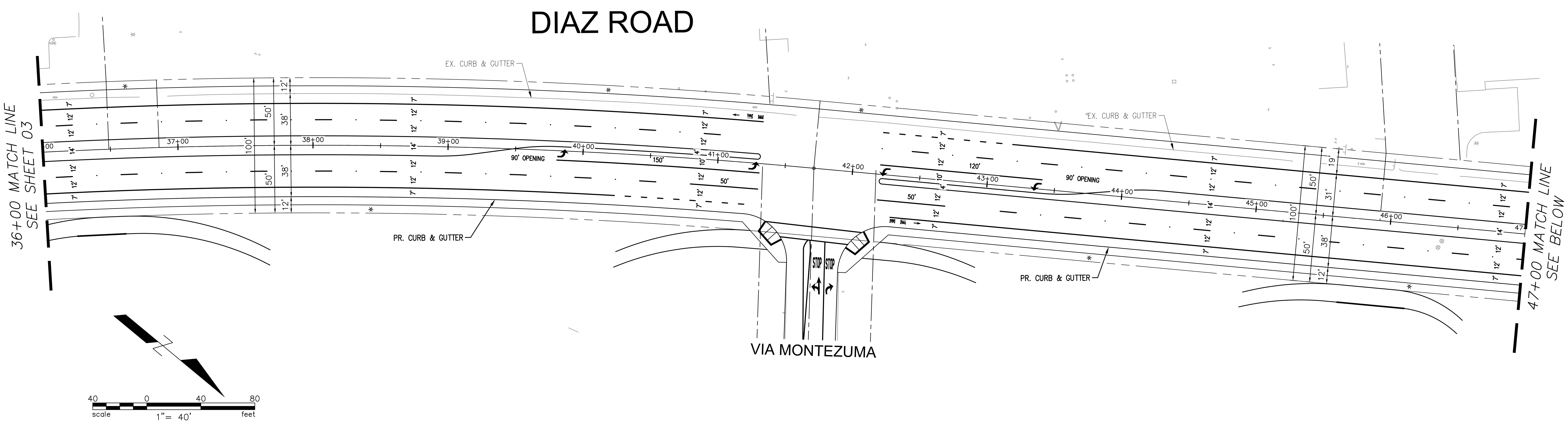
ACCEPTED BY: _____ DATE: _____
PATRICK A. THOMAS
DIRECTOR OF PUBLIC WORKS
R.C.E. No. 44223

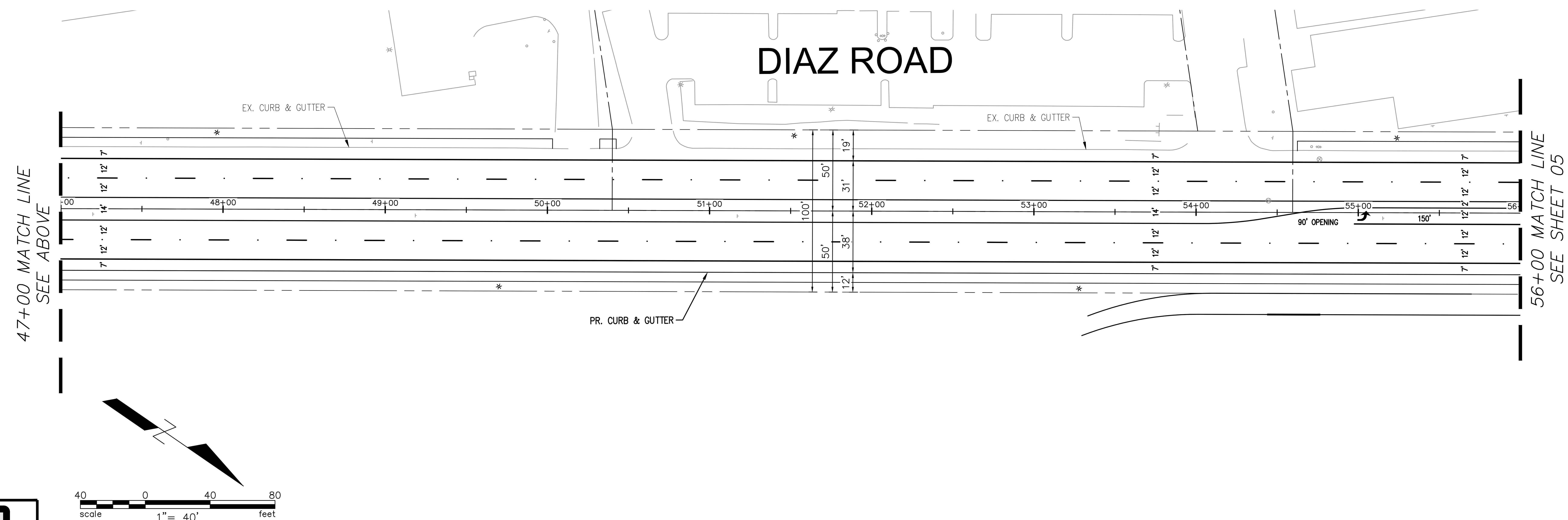
CITY OF TEMECULA **DEPARTMENT OF PUBLIC WORKS**

DIAZ ROAD
SIGNING AND STRIPING PLAN
PW17-25
DIAZ ROAD FROM STA 16+00 TO STA 36+00

Drawing No. 03
SHT.03 OF 15

Drawing Name: P:\CVTEM00001011\04000ADV\11SHEETS\Proposed Geometrics\11-SI-03-CITEM00001011.dwg
Last Opened: Jun 24, 2020 - 4:03pm by: Mxgo





CONSTRUCTION NOTES

- 1 — REMOVE EXISTING STRIPING OR PAVEMENT MARKING BY SAND BLASTING
- 2 — INSTALL PAVEMENT MARKING AS SHOWN PER CALTRANS STD. A24A–A24E
- 4 — INSTALL 12" THICK WHITE CROSSWALK PER CALTRANS STD. A24F
- 5 — INSTALL SIGN AS NOTED
- 6 — INSTALL 12" WHITE LIMIT LINE
- PP — EXISTING TO REMAIN/ PROTECT IN PLACE
- RR — REMOVE AND RELOCATE
- RS — REMOVE AND SALVAGE

Know what's below. Call 811 before you dig.

CONSTRUCTION RECORD	DATE	BY	REVISIONS	DATE	ACC'D	BENCHMARK
CONTRACTOR						
INSPECTOR						
DATE COMPLETED						

SCALE
HORIZONTAL: AS SHOWN
VERTICAL: N/A

REGISTERED PROFESSIONAL ENGINEER — GAVIN D. POWELL — No. C67187 — CIVIL — STATE OF CALIFORNIA

DAVID EVANS AND ASSOCIATES INC.
41951 Remington Avenue Suite 220
Temecula California 92590-2553
Phone: 951.294.9300

PREPARED BY:
GAVIN D. POWELL — DATE:
R.C.E.No. 67187

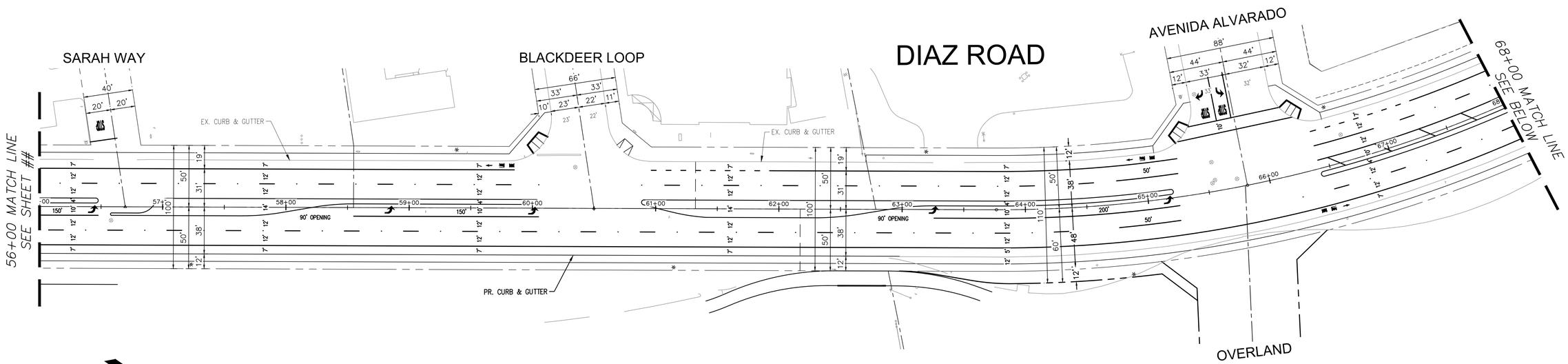
RECOMMENDED BY: ______ DATE: ______
AVLIN ODVIAR
SENIOR CIVIL ENGINEER

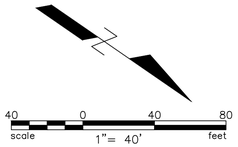
ACCEPTED BY: ______ DATE: ______
PATRICK A. THOMAS
DIRECTOR OF PUBLIC WORKS
R.C.E. No. 44223

CITY OF TEMECULA — DEPARTMENT OF PUBLIC WORKS

DIAZ ROAD
SIGNING AND STRIPING PLAN
PW17-25
DIAZ ROAD FROM STA 36+00 TO STA 56+00

Drawing No. 04
SHT.04 OF 15





CONSTRUCTION NOTES

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2 — INSTALL PAVEMENT MARKING AS SHOWN PER CALTRANS STD. A24A–A24E
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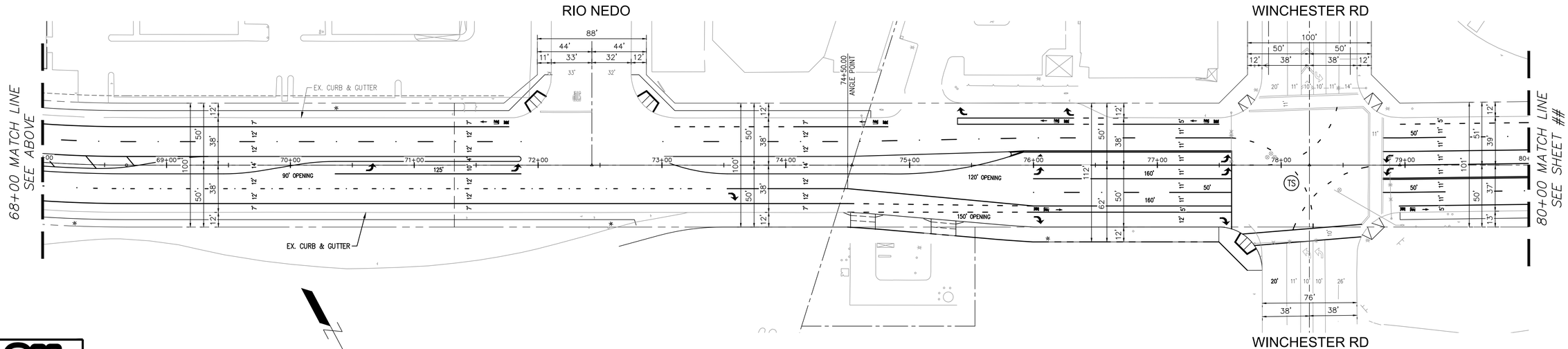

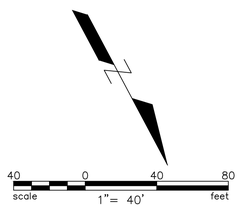

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CONTRACTOR						
INSPECTOR						
DATE COMPLETED						

SCALE
HORIZONTAL
AS SHOWN
VERTICAL
N/A

REGISTERED PROFESSIONAL ENGINEER — GAVIN D. POWELL — No.C67187 — CIVIL — STATE OF CALIFORNIA

DAVID EVANS AND ASSOCIATES INC.
41951 Remington Avenue Suite 220
Temecula California 92590-2553
Phone: 951.294.9300

PREPARED BY:
GAVIN D. POWELL DATE:
R.C.E.No. 67187

RECOMMENDED BY: _____ DATE: _____
AVIJN ODVIAR
SENIOR CIVIL ENGINEER

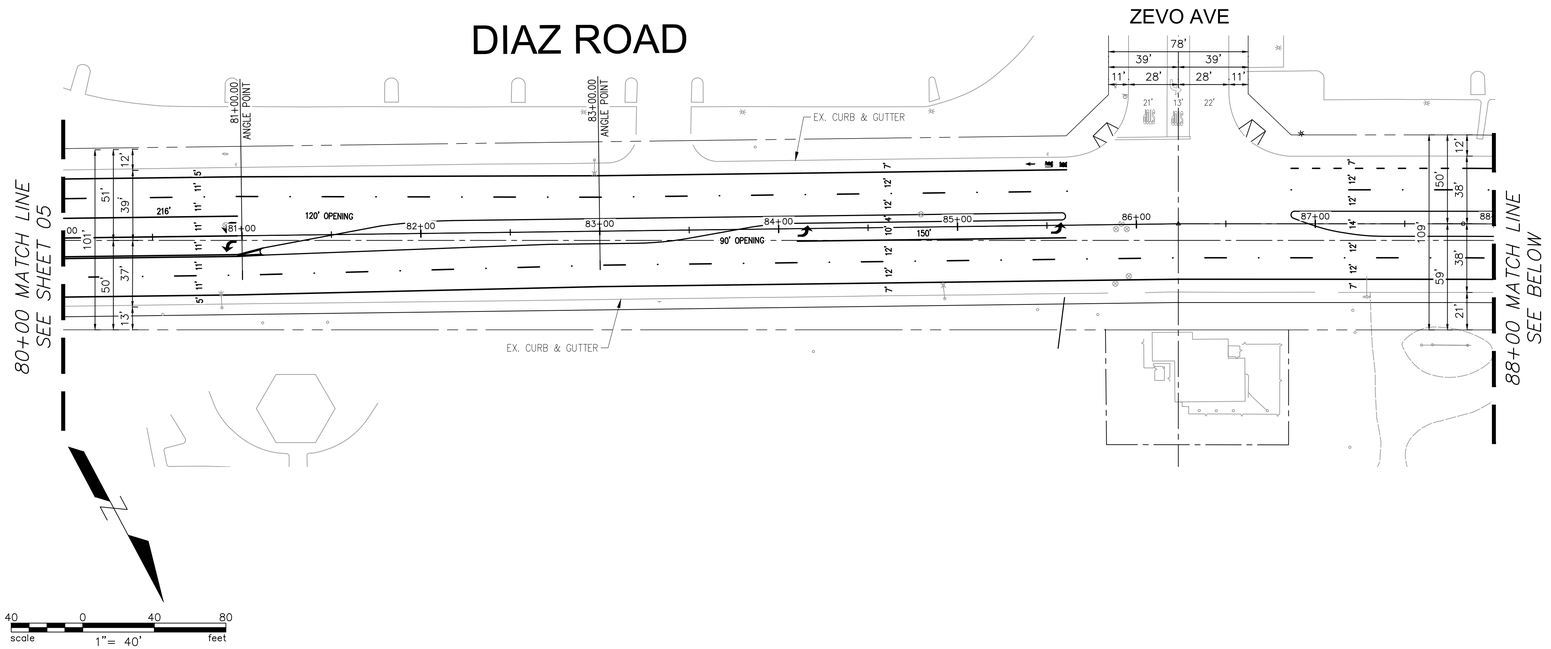
ACCEPTED BY: _____ DATE: _____
PATRICK A. THOMAS
DIRECTOR OF PUBLIC WORKS
R.C.E. No. 44223

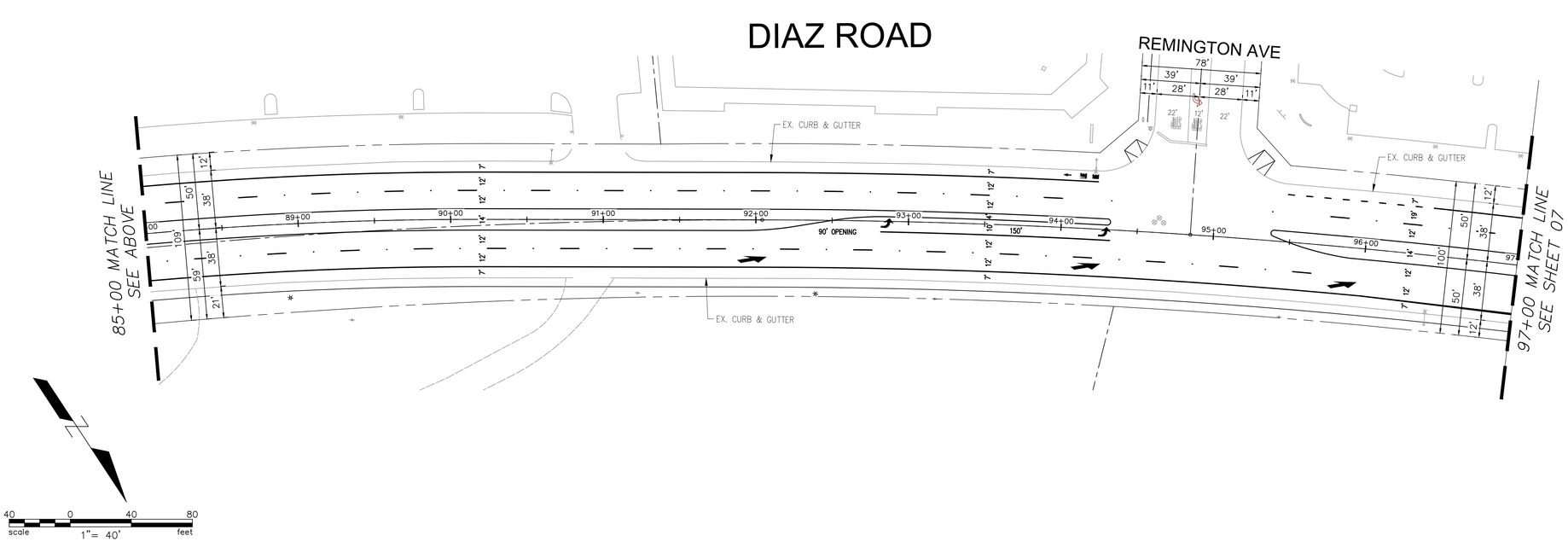
CITY OF TEMECULA DEPARTMENT OF PUBLIC WORKS

DIAZ ROAD
SIGNING AND STRIPING PLAN
PW17-25
DIAZ ROAD FROM STA 56+00 TO STA 80+00

Drawing No. 05
SHT.05 OF 15

Drawing Name: P:\CTEMO0001011\0400CAD\TT\SHEETS\Proposed Geometrics\TT-SI-05-CTEMO0001011.dwg
Last Opened: Jun 24, 2020 - 4:06pm by: Mago





CONSTRUCTION NOTES

1 — REMOVE EXISTING STRIPING OR PAVEMENT MARKING BY SAND BLASTING
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811 Know what's below. Call 811 before you dig.

CONSTRUCTION RECORD	DATE	BY	REVISIONS	DATE	ACC'D	BENCHMARK
CONTRACTOR						
INSPECTOR						
DATE COMPLETED						

SCALE
HORIZONTAL
AS SHOWN
VERTICAL
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REGISTERED PROFESSIONAL ENGINEER — GAVIN D. POWELL — No.C67187 — CIVIL — STATE OF CALIFORNIA

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PREPARED BY:
GAVIN D. POWELL DATE:
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RECOMMENDED BY: _____ DATE: _____
AVLIN ODVIAR
SENIOR CIVIL ENGINEER

ACCEPTED BY: _____ DATE: _____
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DIRECTOR OF PUBLIC WORKS
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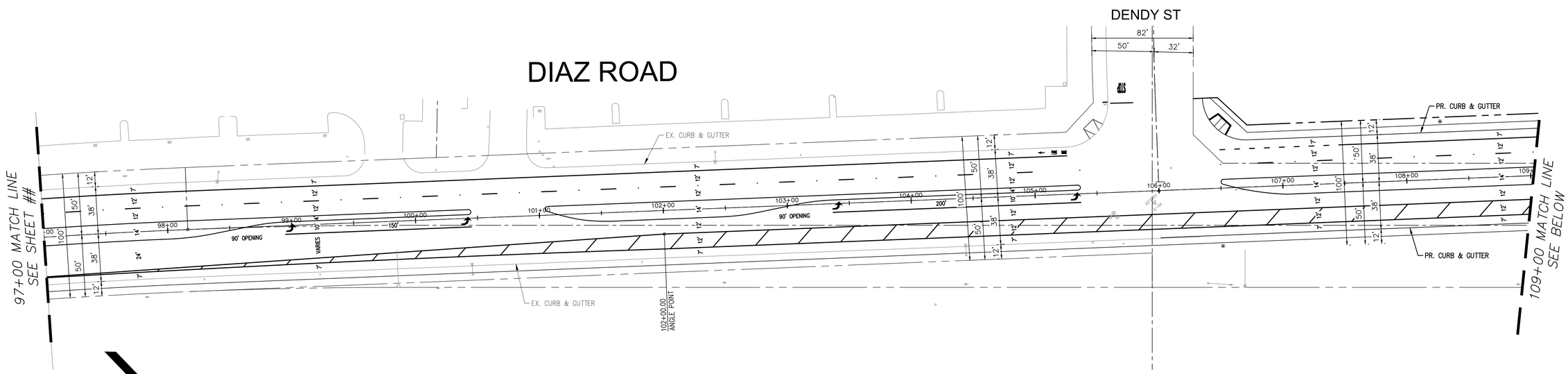
CITY OF TEMECULA DEPARTMENT OF PUBLIC WORKS

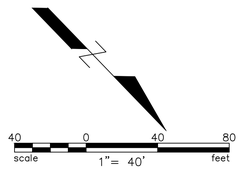
DIAZ ROAD
SIGNING AND STRIPING PLAN
PW17-25
DIAZ ROAD FROM STA 80+00 TO STA 97+00

Drawing No. 06
SHT.06 OF 15

Drawing Name: P:\CVTEM00001011\0400-ADV\1\SHEETS\Proposed Geometrics\1-SI-06-CTEM00001011.dwg
Last Opened: Jun 24, 2020 - 4:08pm by Mxgo

DIAZ ROAD





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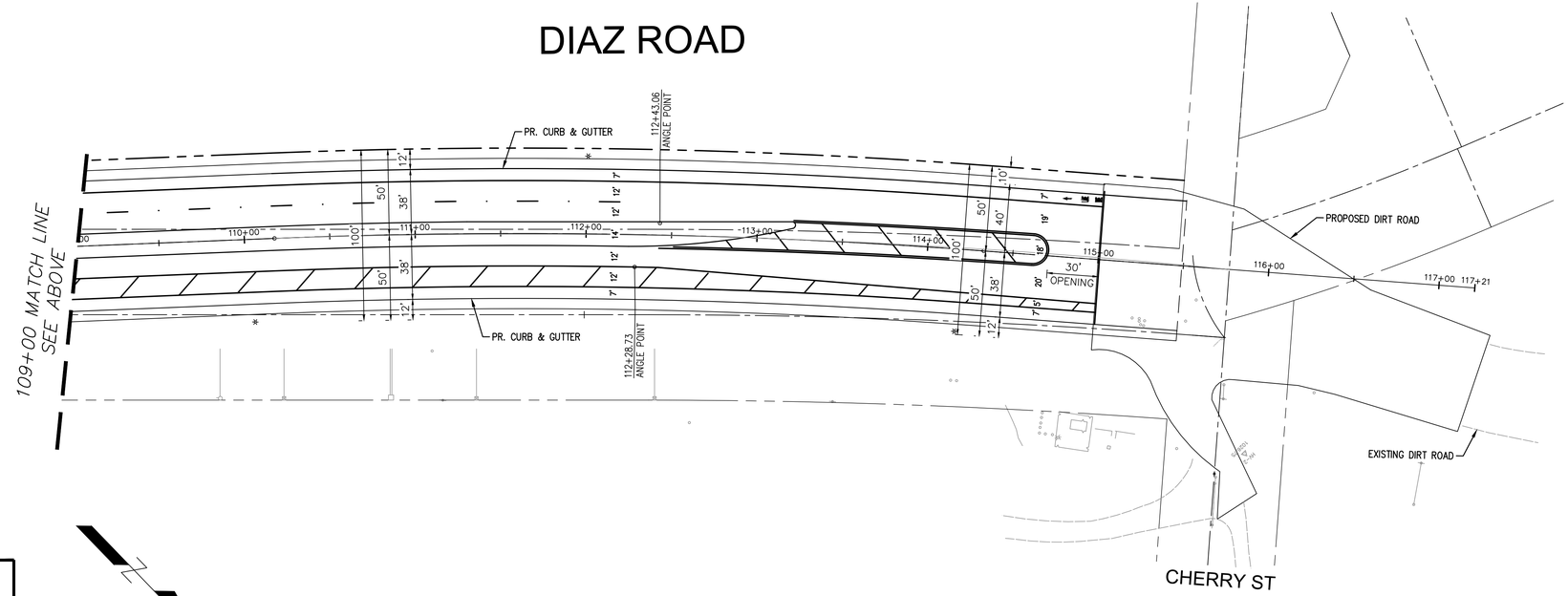

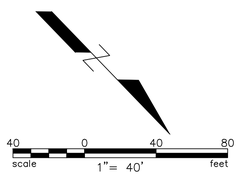

CONSTRUCTION NOTES

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CONTRACTOR						
INSPECTOR						
DATE COMPLETED						

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HORIZONTAL
AS SHOWN
VERTICAL
N/A

REGISTERED PROFESSIONAL ENGINEER — GAVIN D. POWELL — No.C67187 — CIVIL — STATE OF CALIFORNIA

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PREPARED BY:
GAVIN D. POWELL DATE:
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RECOMMENDED BY: _____ DATE: _____
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SENIOR CIVIL ENGINEER

ACCEPTED BY: _____ DATE: _____
PATRICK A. THOMAS
DIRECTOR OF PUBLIC WORKS
R.C.E. No. 44223

CITY OF TEMECULA DEPARTMENT OF PUBLIC WORKS

DIAZ ROAD
SIGNING AND STRIPING PLAN
PW17-25
DIAZ ROAD FROM STA 97+00 TO CHERRY ST

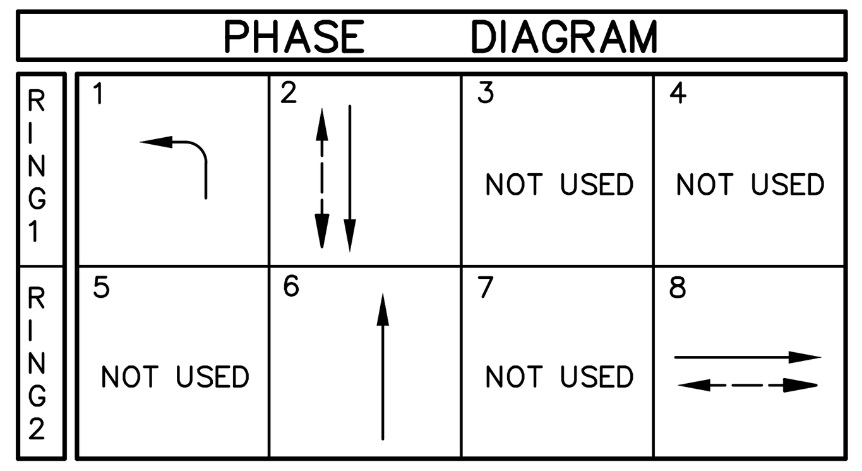
Drawing No. 07
SHT.07 OF 15

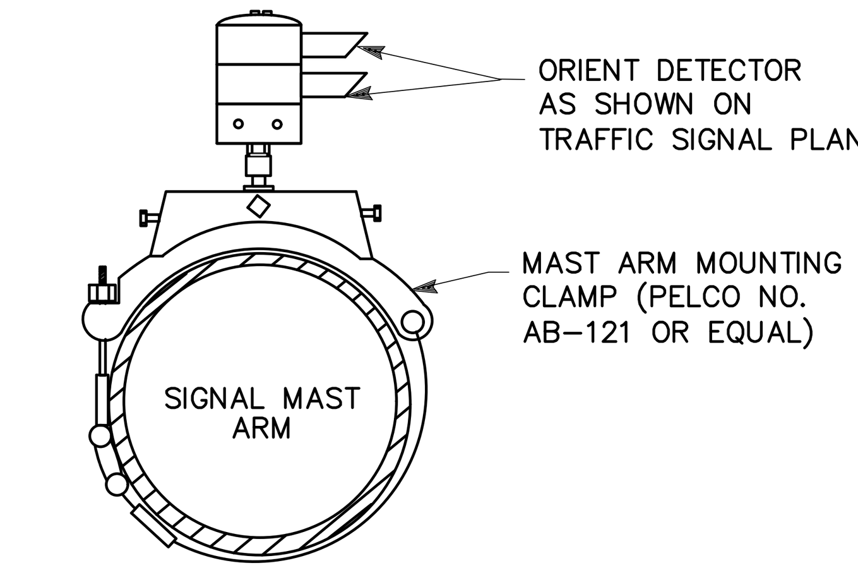
Drawing Name: P:\CVTEM00001011\G400\240\VT\SHEETS\Proposed Geometrics\VT-SI-07-CTEM00001011.dwg
Last Opened: Jun 24, 2020 - 4:09pm by: Mxgo

CONDUCTOR SCHEDULE **

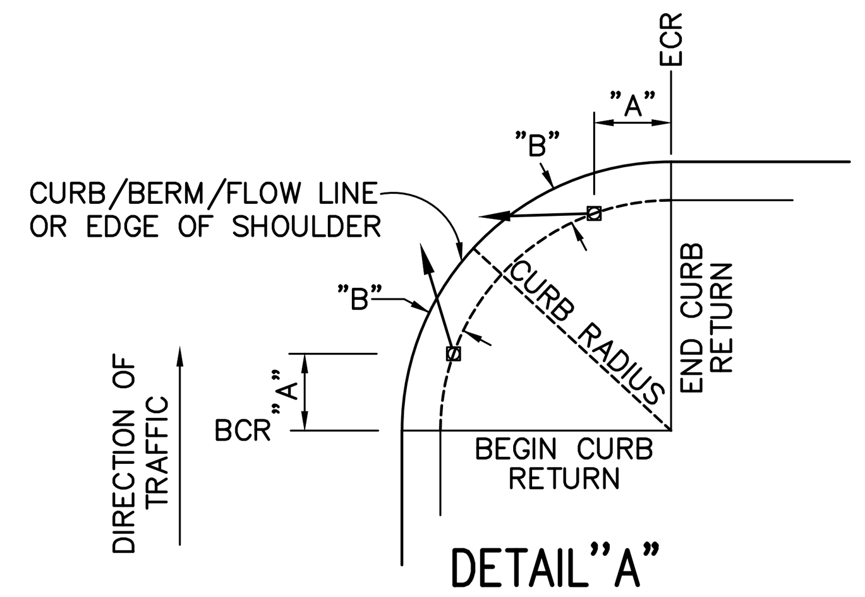
AWG	STD	PHASE	CONDUIT RUN 1	2	3	4	5	6	7	8	9
12 CABLE / 3 CABLE	(A)	ø6, ø4PPB(FUT), ø8P	–	–	–	–	–	–	1/1	1/1	1/1
	(B)	ø6P, ø6PPB(FUT), ø8	–	–	–	–	–	–	–	1/1	1/1
	(C)	ø5, ø6	–	–	–	1/0	1/0	–	–	1/0	1/0
	(D)	ø2, ø5, ø4	–	–	1/0	1/0	1/0	–	–	1/0	1/0
	(E)	ø8	–	1/0	1/0	1/0	1/0	–	–	1/0	1/0
	(F)	ø2, ø6, ø4P, ø4PPB(FUT)	–	–	–	–	–	1/1	1/1	1/1	1/1
	(G)		–	–	–	–	–	–	–	–	–
		TOTALS	–	1/0	2/0	3/0	3/1	1/1	2/2	6/4	6/4
#10	LUMINAIRES		–	2	2	2	2	2	2	2	–
#8	GROUND		1	1	1	1	1	1	1	1	1
DLC	ø2 OUTBOUND LOOP		–	–	2	2	2	–	–	2	2
	ø6 OUTBOUND LOOP		–	–	–	–	–	1	1	1	1
	TOTAL DLC		–	–	2	2	2	1	1	3	3
CAMERA CABLE			1	–	1	1	1	1	2	3	3
CAMERA POWER CABLE			1	–	1	1	1	1	2	3	3
CCTV CABLE			–	–	–	–	–	–	–	1	1
SIGNAL INTERCONNECT & FIBER OPTIC CABLE (SIC & FO)			–	–	–	–	–	–	–	–	–
OPTICOM MODEL 138 EVPE CABLE			1	–	1	1	1	1	2	3	3
CONDUIT SIZE (INCHES)			3"(N)	4"(N)	4"(N)	4"(N)	4"(N)	4"(N)	4"(N)	2-4" (N)	2-4" (N)
PERCENT FILL (%)			9%	5%	14%	17%	18%	11%	20%	22%	21%

* ALL CONDUITS, CONDUCTORS, WIRES, AND CABLES SHALL BE INSTALLED NEW UNLESS OTHERWISE NOTED.
** CONDUCTOR SCHEDULE FOR REFERENCE ONLY.





EMERGENCY VEHICLE PRE-EMPTION DETECTOR ASSEMBLY
DETAIL "B"
NO SCALE



DETAIL "A"

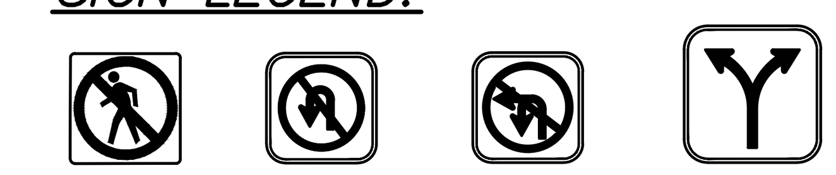
* TYPICAL SIGNAL STANDARD PLACEMENT UNLESS DIMENSIONED ON PLANS.
* FOR "A" AND "B" DIMENSIONS, SEE POLE SCHEDULE OR AS DIRECTED BY THE ENGINEER.

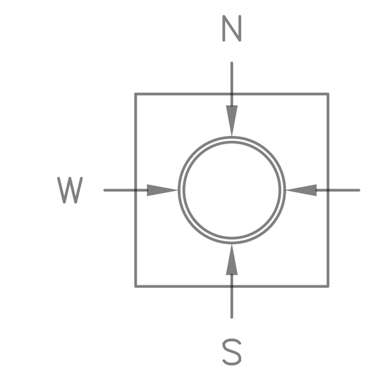
POLE AND EQUIPMENT SCHEDULE ■

No.	SIGNAL STANDARD TYPE	HGT.	M.A.	LUMINAIRE M.A.	HPSV	SIGNAL MOUNTING M.A.	POLE	PED	APS PED PUSH BTN PHASE	QUAD.	ARROW	POLE LOCATION (SEE DETAIL "A") A	B	I.I.S.N.S. LEGEND	REMARKS
(A)	**24-4-100 (N)**	**30'**	**35' (N)**	**15' (N)**	**250W (N) ***	**2-MAS (N)**	**SV-2-TA (N)**	–	–	–	–	**56'**	**5'**	**Rancho Way (N)**	
(B)	**19-4-100 (N)**	**30'**	**30' (N)**	**15' (N)**	**250W (N) ***	**MAS (N)**	**SV-1-T (N) SV-1-T(17)(N)**	**SP-1-T (N)**	**8**	**2**	–	**35'**	**5'**	**Diaz Road (N)**	
(C)	19-4-129	30"	30'	12'	250W	MAS	SV-1-T	SP-1-T	–	–	–	2'	2.5'	Rancho Way	
(D)	PPB POST	–	–	–	–	–	–	–	8	4	–	16'	6'	–	
(E)	1-A	7'	–	–	–	–	–	TP-1-T	2	1	–	13'	2.5'	–	
(F)	15	30'	40'	12'	250W	–	–	–	2	1	–	16'	6'	–	
(G)	1-A	10'	–	–	–	–	TV-2-T	SP-1-T	–	–	–	1'	2.5'	–	

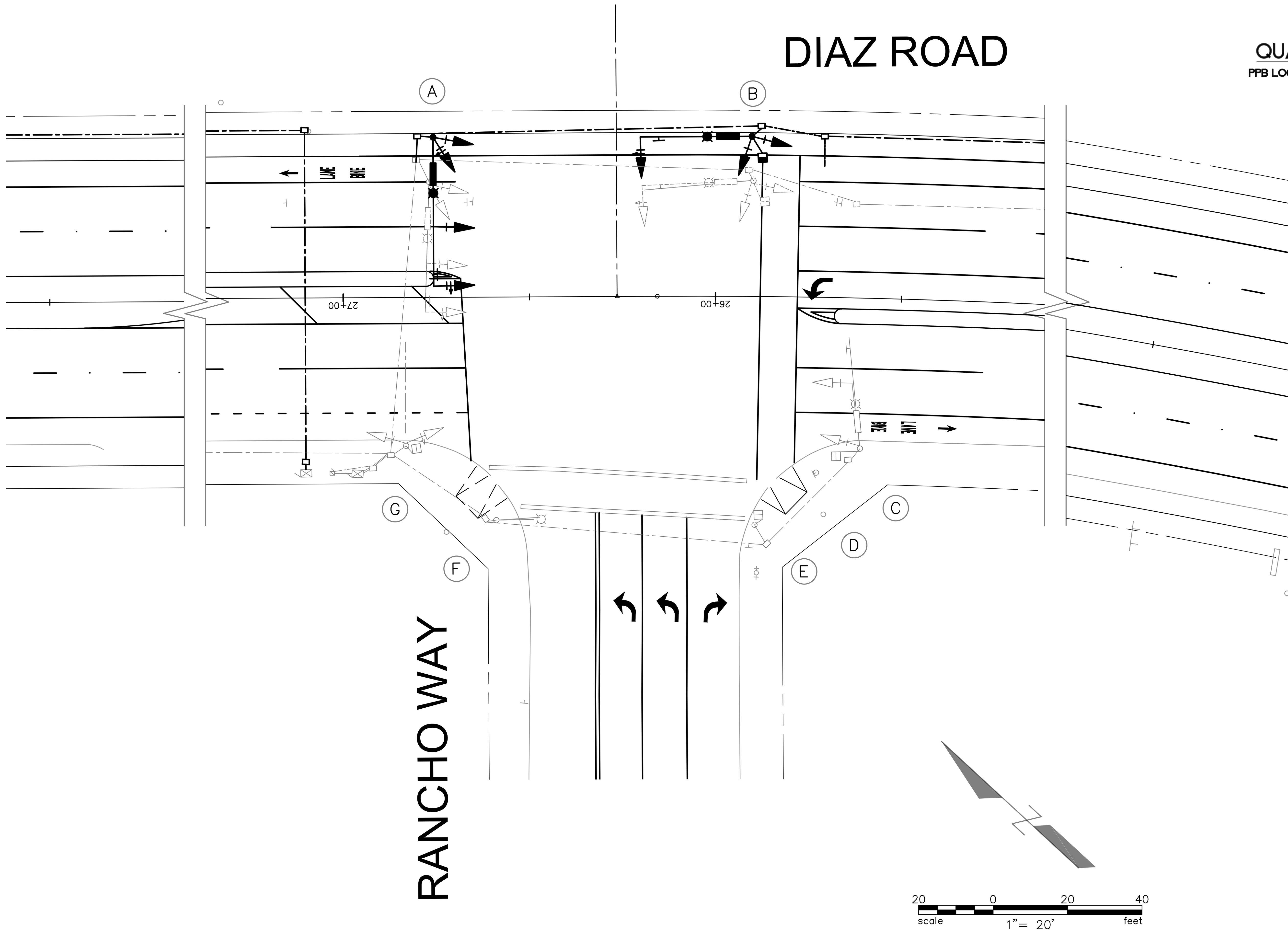
■ ALL EQUIPMENT IS EXISTING EXCEPT AS NOTED BELOW.
■ CONTRACTOR SHALL POTHOLE POLE FOUNDATION LOCATIONS TO FULL DEPTH/WIDTH PRIOR TO ORDERING POLES TO VERIFY NO UTILITY CONFLICTS EXIST. IF CONFLICTS EXIST, CONTRACTOR SHALL CONTACT THE DESIGN ENGINEER IMMEDIATELY FOR RESOLUTION.
– ALL ADA STANDARDS PERTAINING TO CROSSWALKS AND PPB LOCATIONS SHALL BE MET
(N) NEW PER CALTRANS STANDARD PLANS
* 250W LED EQUIVALENT

SIGN LEGEND:





QUADRANT
PPB LOCATION (TOP VIEW)



CONSTRUCTION NOTES:

1. INSTALL ECONOLITE COBALT CONTROLLER UNIT IN A TYPE P CABINET ON 18" FOUNDATION WITH 64 CHANNELS OF USING VIDEO DETECTION IN TWO RACKS, INCLUDING 10" FLAT PANEL LCD, EVP SYSTEM, AND FIBER OPTICS COMMUNICATIONS SYSTEM. THE CONTRACTOR SHALL FURNISH AND INSTALL ALL NECESSARY COMPONENTS TO COMPLETE OPERATIONS.
2. INSTALL TYPE III-CF SERVICE CABINET (A MINIMUM OF 10 FEET FROM CONTROLLER CABINET WITH CONCRETE FOUNDATION), WITH A 120/240V-100A MAIN BREAKER FOR TC-1 TRAFFIC CONTROL SERVICE AND ONE 50A BREAKER FOR TRAFFIC SIGNAL POWER, AND WITH A 120/240V-200A MAIN BREAKER FOR LS-3 STREET LIGHTING SERVICE AND TWO 120V-30A BREAKERS, RELAYS FOR SAFETY LIGHTING AND FOUR 120/240-30A BREAKERS, RELAYS FOR STREET LIGHTING AND TWO TYPE V PHOTOELECTRIC CONTROLS WITH TWO 15A BREAKERS, PHOTOCELL TO BE LOCATED ON THE NEAREST TRAFFIC SIGNAL POLE TO THE SERVICE CABINET, PER CITY STANDARD DRAWINGS 5105 AND 5106 AND SPECIAL PROVISIONS. INSTALL A #5 PULL BOX FOR STREET LIGHTING WITH CONDUIT AND PULL ROPE.
3. PROVIDE AND INSTALL 3" CONDUIT WITH 2#6 CONDUCTORS FOR SIGNAL SERVICE.
4. PROVIDE AND INSTALL 3" CONDUIT WITH 2#10 CONDUCTORS FOR LUMINAIRES.
5. FURNISH AND INSTALL 3" SCHEDULE 80 PVC CONDUIT WITH PULL ROPE (#5 PULLBOX), PER S.C.E. REQUIREMENTS, TD# XXXXX. COORDINATE WITH MARTIN RUBIO – SCE SERVICE PLANNER AT (909)930-8417 FOR INSTALLATION OF CONDUCTORS.
STREET ADDRESS:
#1A: 4996 SOUTH GROVE AVENUE, ONTARIO, CA 91761 (PUBLIC STREET LIGHTS)
#1B: 4998 SOUTH GROVE AVENUE, ONTARIO, CA 91761 (PUBLIC TRAFFIC SIGNAL)
6. FURNISH AND INSTALL MASTARM MOUNTED SIGN AS SHOWN ON THE PLAN PER CALTRANS STANDARD PLAN ES-7N, DETAIL U.
7. INSTALL ECONOLITE VISION HD VIDEO DETECTION CAMERA ON LUMINAIRE MAST ARM, MOUNTING HARDWARE, AND CABLE AS DIRECTED BY MANUFACTURER. CAMERA LOCATION TO BE APPROVED BY THE CITY REPRESENTATIVE PRIOR TO MOUNTING. ASSIGN AREAS OF VIDEO DETECTION TO CONTROLLER DETECTOR INPUTS PER SPECIAL PROVISIONS.
8. INSTALL OPTICOM MODEL 722 OPTICAL DETECTORS ON SIGNAL MAST ARM WITH MODEL 138 DETECTOR CABLES AND INSTALL OPTICOM MODEL 764 DISCRIMINATOR MODULES IN CONTROLLER CABINET WITH GPS PANEL FOR FUTURE BUS DETECTION.
9. INSTALL 6' DIAMETER TYPE "E" VEHICLE DETECTOR LOOPS PER CALTRANS STD. PLAN ES-5A.
10. SEE SIGNAL INTERCONNECT PLANS FOR DETAILS.
11. INSTALL CCTV – AXIS Q6075-E PER CITY STANDARD DRAWING No. 870 FOR DETAILS.

LEGEND

(SL) – PROPOSED OUTBOUND SYSTEM LOOP – TYPE E
– EMERGENCY VEHICLE PRE-EMPTION (EVP)
– INDICATES DETECTION ZONE

CONSTRUCTION RECORD	DATE	BY	REVISIONS	DATE	ACC'D	BENCHMARK
CONTRACTOR ____						
INSPECTOR ____						
DATE COMPLETED ____						

SCALE
HORIZONTAL: AS SHOWN
VERTICAL: N/A

REGISTERED PROFESSIONAL ENGINEER GAVIN D. POWELL No.C67187 CIVIL STATE OF CALIFORNIA

DAVID EVANS AND ASSOCIATES INC.
41951 Remington Avenue Suite 220
Temecula California 92590-2553
Phone: 951.294.9300

PREPARED BY:
GAVIN D. POWELL DATE:
R.C.E.No. 67187

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AVLIN ODVIAR
SENIOR CIVIL ENGINEER

ACCEPTED BY: ____ DATE: ____
PATRICK A. THOMAS
DIRECTOR OF PUBLIC WORKS
R.C.E. No. 44223

CITY OF TEMECULA DEPARTMENT OF PUBLIC WORKS

DIAZ ROAD
TRAFFIC SIGNAL PLAN
PW17-25
DIAZ ROAD AT RANCHO WAY

Drawing No. 08
SHT.08 OF 15

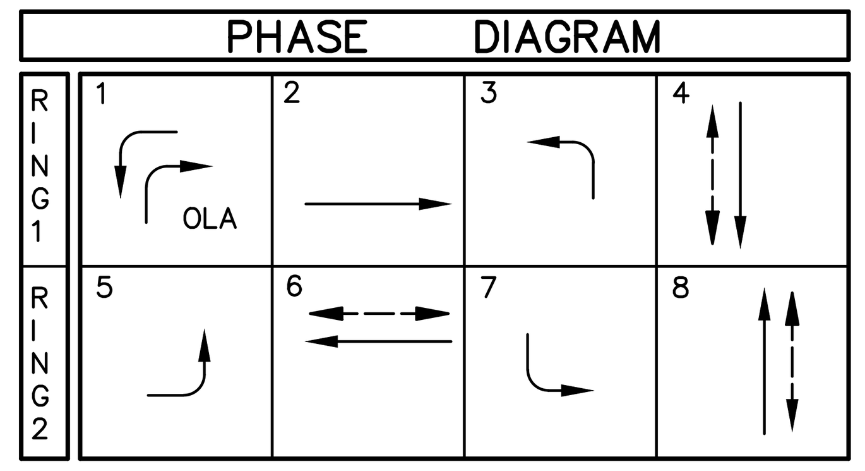
Drawing Name: P:\C\CTEM00001011\0400CAD\T\SHEETS\TS\T1-TS-01-CTEM00001011- RANCHO & DIAZ.dwg
Last Opened: Jun 24, 2020 – 4:10pm by: Mxgo

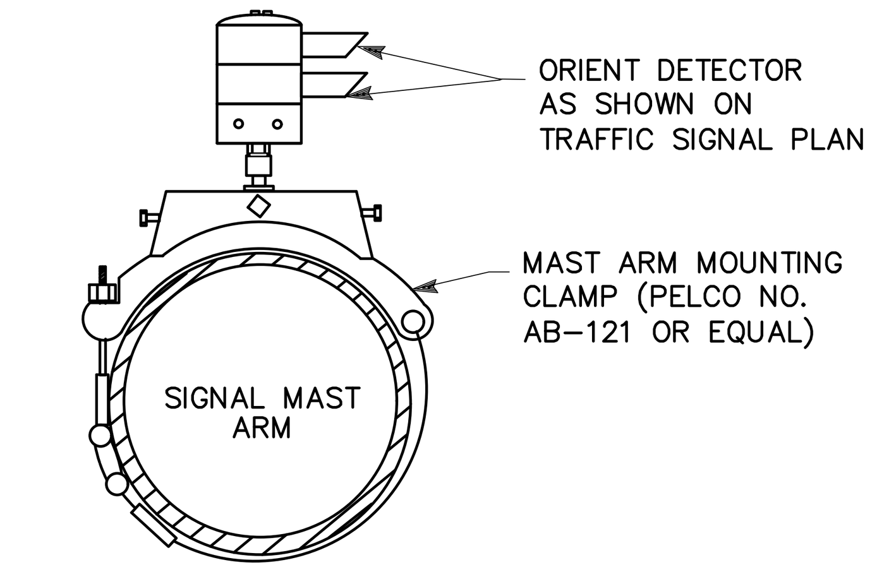
CONDUCTOR SCHEDULE **

AWG	STD	PHASE	CONDUIT RUN 1	2	3	4	5	6	7	8	9
12 CABLE / 3 CABLE	(A)	ø6, ø4PPB(FUT), ø8P	–	–	–	–	–	–	1/1	1/1	1/1
	(B)	ø6P, ø6PPB(FUT), ø8	–	–	–	–	–	–	–	1/1	1/1
	(C)	ø5, ø6	–	–	–	1/0	1/0	–	–	1/0	1/0
	(D)	ø2, ø5, ø4	–	–	1/0	1/0	1/0	–	–	1/0	1/0
	(E)	ø8	–	1/0	1/0	1/0	1/0	–	–	1/0	1/0
	(F)	ø2, ø6, ø4P, ø4PPB(FUT)	–	–	–	–	–	1/1	1/1	1/1	1/1
	(G)		–	–	–	–	–	–	–	–	–
	(H)		–	–	–	–	–	–	–	–	–
	TOTALS		–	1/0	2/0	3/0	3/1	1/1	2/2	6/4	6/4
#10	LUMINAIRES		–	2	2	2	2	2	2	2	–
#8	GROUND		1	1	1	1	1	1	1	1	1
DLC	ø2 OUTBOUND LOOP		–	–	2	2	2	–	–	2	2
	ø6 OUTBOUND LOOP		–	–	–	–	–	1	1	1	1
	TOTAL DLC		–	–	2	2	2	1	1	3	3
CAMERA CABLE			1	–	1	1	1	1	2	3	3
CAMERA POWER CABLE			1	–	1	1	1	1	2	3	3
CCTV CABLE			–	–	–	–	–	–	–	1	1
SIGNAL INTERCONNECT & FIBER OPTIC CABLE (SIC & FO)			–	–	–	–	–	–	–	–	–
OPTICOM MODEL 138 EVPE CABLE			1	–	1	1	1	1	2	3	3
CONDUIT SIZE (INCHES)			3"(N)	4"(N)	4"(N)	4"(N)	4"(N)	4"(N)	4"(N)	2–4" (N)	2–4" (N)
PERCENT FILL (%)			9%	5%	14%	17%	18%	11%	20%	22%	21%

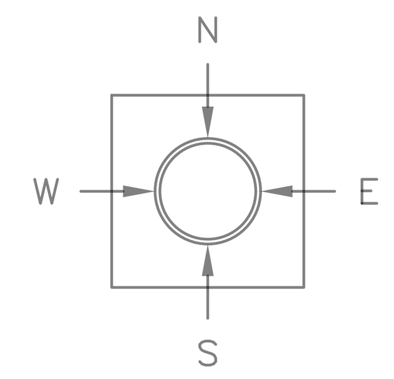
* ALL CONDUITS, CONDUCTORS, WIRES, AND CABLES SHALL BE INSTALLED NEW UNLESS OTHERWISE NOTED.

** CONDUCTOR SCHEDULE FOR REFERENCE ONLY.





EMERGENCY VEHICLE PRE-EMPTION DETECTOR ASSEMBLY
DETAIL "B"
NO SCALE

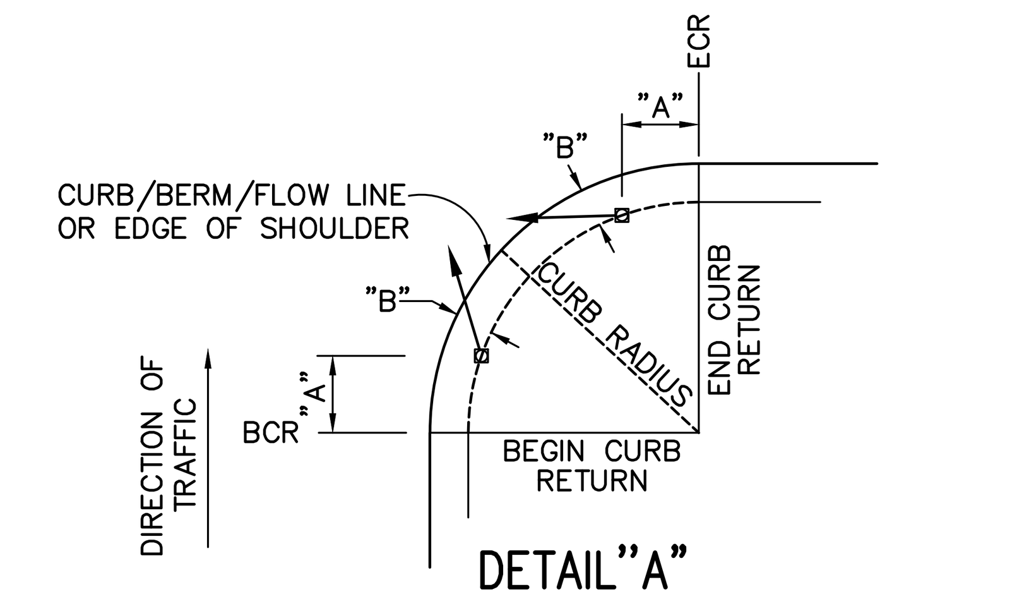


QUADRANT
PPB LOCATION (TOP VIEW)

POLE AND EQUIPMENT SCHEDULE ■

No.	SIGNAL STANDARD TYPE	HGT.	M.A.	LUMINAIRE M.A.	HPSV	SIGNAL MOUNTING M.A.	POLE	PED	APS PED PUSH BTN PHASE	QUAD.	ARROW	POLE LOCATION (SEE DETAIL "A") A	B	R.S.N.S. LEGEND	REMARKS
(A)	1–A	10'	–	–	–	–	TV–2–T	SP–1–T	6	S	–	12'	6'	—	
(B)	29–5–80	30'	50'	15'	250W	2–MAS	SV–1–T	SP–1–T	6	W	–	12'	6'	Winchester Rd	
(C)	1–A	10'	–	–	–	–	TV–1–T	SP–1–T	8	W	–	12'	6'	—	
(D)	**29–5–100 (N)**	**30'**	**50' (N)**	**15' (N)**	**250W (N) ***	***2–MAS (N)***	***SV–1–T (N)***	–	**8**	**W**	–	**13'**	**3'**	**Diaz Rd (N)**	
(E)	**1–A (N)**	**10'**	–	–	–	–	***TV–2–T (N)***	***SP–1–T (N)***	–	–	–	**12'**	**6'**	—	
(F)	26–4–80	30'	40'	15'	250W	2–MAS	SV–1–T	SP–1–7	8	W	–	12'	3'	Diaz Rd	
(G)	1–A	10'	–	–	–	–	TV–2–T	–	4	E	–	12'	6'	—	
(H)	26–4–80	30'	45'	15'	250W	2–MAS	SV–1–T	SP–1–7	8	W	–	12'	6'	Diaz Rd	

■ *ALL EQUIPMENT IS EXISTING EXCEPT AS NOTED BELOW.*
■ *CONTRACTOR SHALL POTHOLE POLE FOUNDATION LOCATIONS TO FULL DEPTH/WIDTH PRIOR TO ORDERING POLES TO VERIFY NO UTILITY CONFLICTS EXIST. IF CONFLICTS EXIST, CONTRACTOR SHALL CONTACT THE DESIGN ENGINEER IMMEDIATELY FOR RESOLUTION.*
– *ALL ADA STANDARDS PERTAINING TO CROSSWALKS AND PPB LOCATIONS SHALL BE MET*
(N) *NEW PER CALTRANS STANDARD PLANS*
* *250W LED EQUIVALENT*

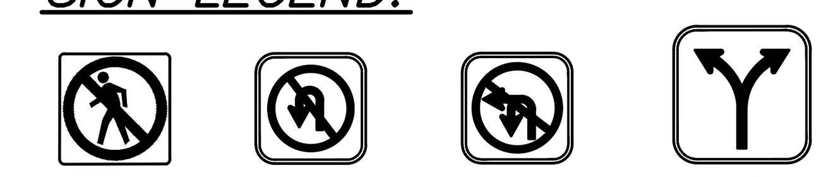


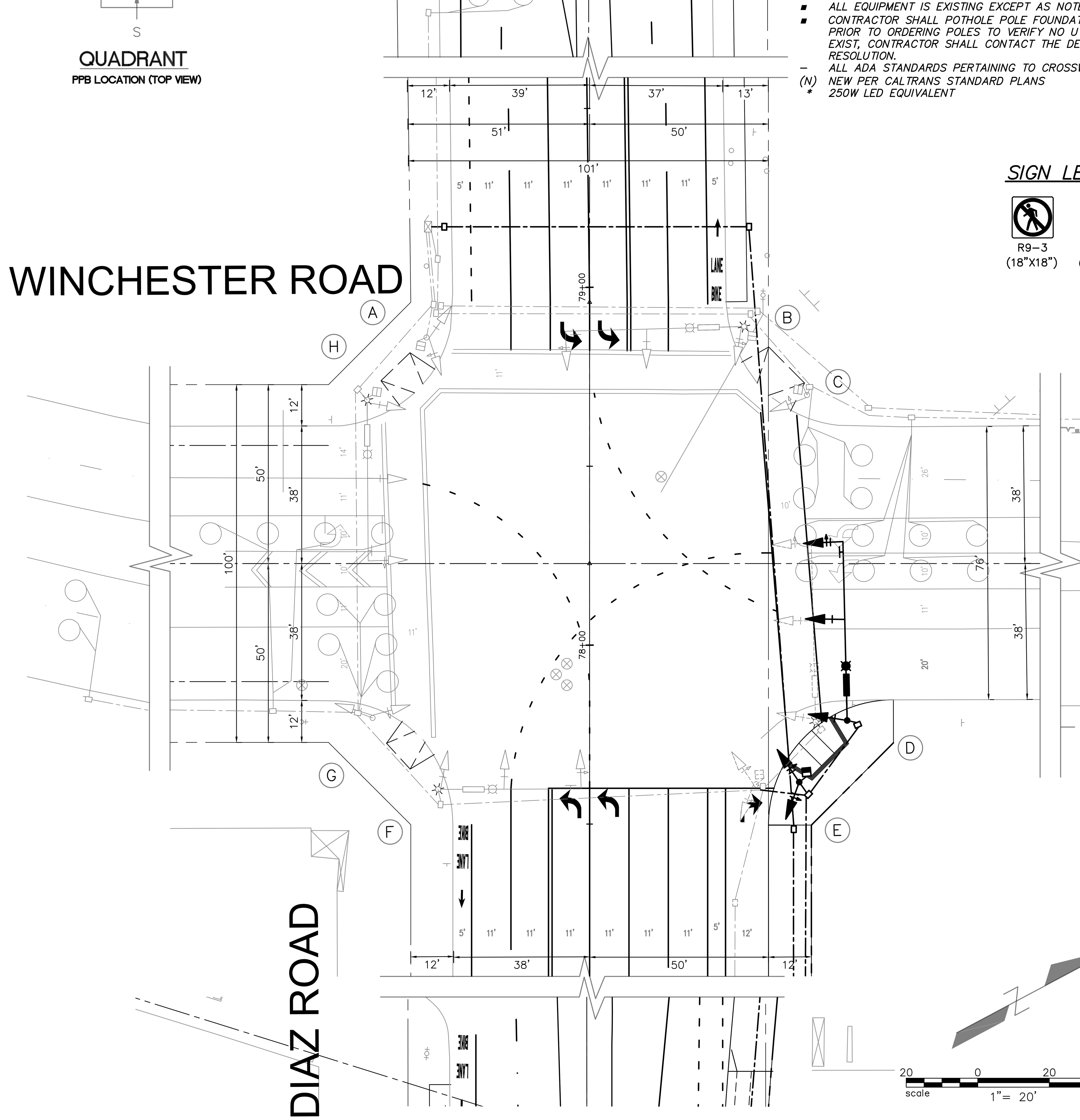
DETAIL "A"

* TYPICAL SIGNAL STANDARD PLACEMENT UNLESS DIMENSIONED ON PLANS.

* FOR "A" AND "B" DIMENSIONS, SEE POLE SCHEDULE OR AS DIRECTED BY THE ENGINEER.

SIGN LEGEND:





CONSTRUCTION NOTES:

1. *INSTALL ECONOLITE COBALT CONTROLLER UNIT IN A TYPE P CABINET ON 18" FOUNDATION WITH 64 CHANNELS OF USING VIDEO DETECTION IN TWO RACKS, INCLUDING 10" FLAT PANEL LCD, EVP SYSTEM, AND FIBER OPTICS COMMUNICATIONS SYSTEM. THE CONTRACTOR SHALL FURNISH AND INSTALL ALL NECESSARY COMPONENTS TO COMPLETE OPERATIONS.*
2. *INSTALL TYPE III–CF SERVICE CABINET (A MINIMUM OF 10 FEET FROM CONTROLLER CABINET WITH CONCRETE FOUNDATION), WITH A 120/240V–100A MAIN BREAKER FOR TC–1 TRAFFIC CONTROL SERVICE AND ONE 50A BREAKER FOR TRAFFIC SIGNAL POWER, AND WITH A 120/240V–200A MAIN BREAKER FOR LS–3 STREET LIGHTING SERVICE AND TWO 120V–30A BREAKERS, RELAYS FOR SAFETY LIGHTING AND FOUR 120/240–30A BREAKERS, RELAYS FOR STREET LIGHTING AND TWO TYPE V PHOTOELECTRIC CONTROLS WITH TWO 15A BREAKERS, PHOTOCELL TO BE LOCATED ON THE NEAREST TRAFFIC SIGNAL POLE TO THE SERVICE CABINET, PER CITY STANDARD DRAWINGS 5105 AND 5106 AND SPECIAL PROVISIONS. INSTALL A #5 PULL BOX FOR STREET LIGHTING WITH CONDUIT AND PULL ROPE.*
3. *PROVIDE AND INSTALL 3" CONDUIT WITH 2#6 CONDUCTORS FOR SIGNAL SERVICE.*
4. *PROVIDE AND INSTALL 3" CONDUIT WITH 2#10 CONDUCTORS FOR LUMINAIRES.*
5. *FURNISH AND INSTALL 3" SCHEDULE 80 PVC CONDUIT WITH PULL ROPE (#5 PULLBOX), PER S.C.E. REQUIREMENTS, TD# XXXXX. COORDINATE WITH MARTIN RUBIO – SCE SERVICE PLANNER AT (909)930–8417 FOR INSTALLATION OF CONDUCTORS.*
   STREET ADDRESS:
   #1A: 4996 SOUTH GROVE AVENUE, ONTARIO, CA 91761 (PUBLIC STREET LIGHTS)
   #1B: 4998 SOUTH GROVE AVENUE, ONTARIO, CA 91761 (PUBLIC TRAFFIC SIGNAL)
6. *FURNISH AND INSTALL MASTARM MOUNTED SIGN AS SHOWN ON THE PLAN PER CALTRANS STANDARD PLAN ES–7N, DETAIL U.*
7. *INSTALL ECONOLITE VISION HD VIDEO DETECTION CAMERA ON LUMINAIRE MAST ARM, MOUNTING HARDWARE, AND CABLE AS DIRECTED BY MANUFACTURER. CAMERA LOCATION TO BE APPROVED BY THE CITY REPRESENTATIVE PRIOR TO MOUNTING. ASSIGN AREAS OF VIDEO DETECTION TO CONTROLLER DETECTOR INPUTS PER SPECIAL PROVISIONS.*
8. *INSTALL OPTICOM MODEL 722 OPTICAL DETECTORS ON SIGNAL MAST ARM WITH MODEL 138 DETECTOR CABLES AND INSTALL OPTICOM MODEL 764 DISCRIMINATOR MODULES IN CONTROLLER CABINET WITH GPS PANEL FOR FUTURE BUS DETECTION.*
9. *INSTALL 6' DIAMETER TYPE "E" VEHICLE DETECTOR LOOPS PER CALTRANS STD. PLAN ES–5A.*
10. *SEE SIGNAL INTERCONNECT PLANS FOR DETAILS.*
11. *INSTALL CCTV – AXIS Q6075–E PER CITY STANDARD DRAWING No. 870 FOR DETAILS.*

LEGEND

(SL) – *PROPOSED OUTBOUND SYSTEM LOOP – TYPE E*
⤙ – *EMERGENCY VEHICLE PRE–EMPTION (EVP)*
▧ – *INDICATES DETECTION ZONE*

CONSTRUCTION RECORD	DATE	BY	REVISIONS	DATE	ACC'D	BENCHMARK
CONTRACTOR ______						
INSPECTOR ______						
DATE COMPLETED ______						

SCALE — HORIZONTAL: AS SHOWN — VERTICAL: N/A

REGISTERED PROFESSIONAL ENGINEER — GAVIN D. POWELL — No.C67187 — CIVIL — STATE OF CALIFORNIA

DAVID EVANS AND ASSOCIATES INC. — 41951 Remington Avenue Suite 220, Temecula California 92590-2553, Phone: 951.294.9300

PREPARED BY: GAVIN D. POWELL, R.C.E.No. 67187 DATE:

RECOMMENDED BY: ______ DATE: ______
AVLIN ODVIAR, SENIOR CIVIL ENGINEER

ACCEPTED BY: ______ DATE: ______
PATRICK A. THOMAS, DIRECTOR OF PUBLIC WORKS
R.C.E. No. 44223

CITY OF TEMECULA — DEPARTMENT OF PUBLIC WORKS

DIAZ ROAD
TRAFFIC SIGNAL PLAN
PW17–25
DIAZ ROAD AT WINCHESTER ROAD

Drawing No. 09
SHT.09 OF 15

Drawing Name: P:\C\CTEM00001011\0400CAD\T\SHEETS\TSY\T–15–02–CTEM00001011 – WINCHESTER & DIAZ.dwg
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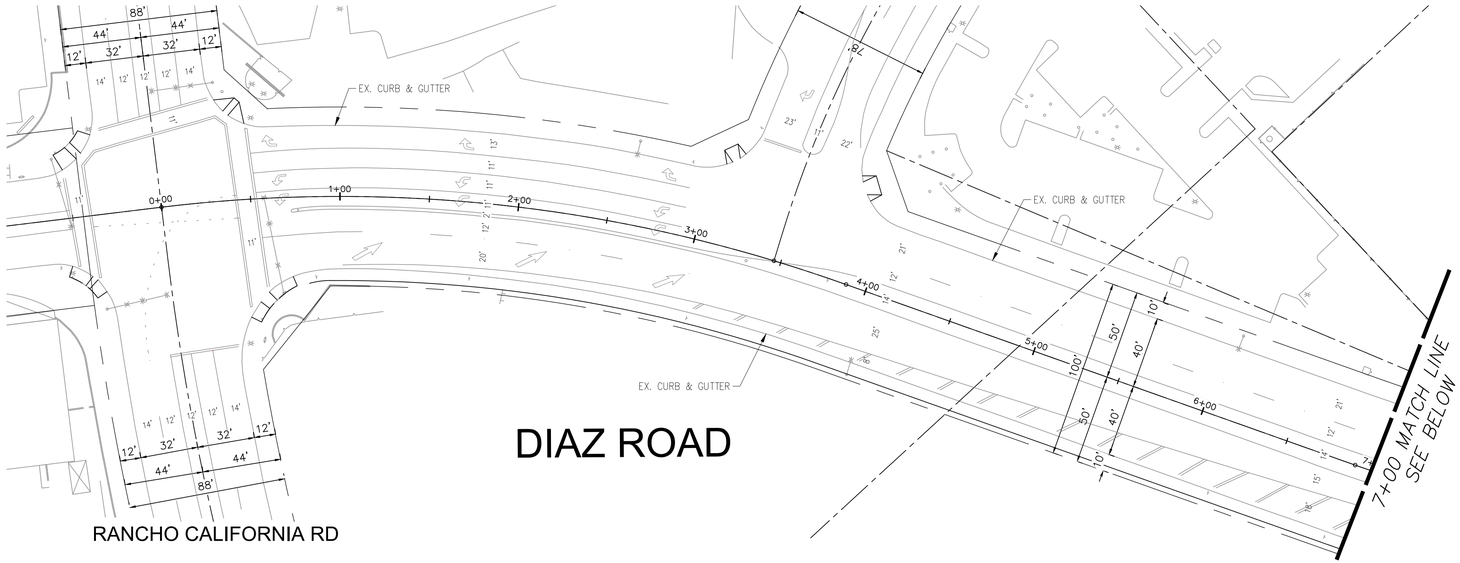
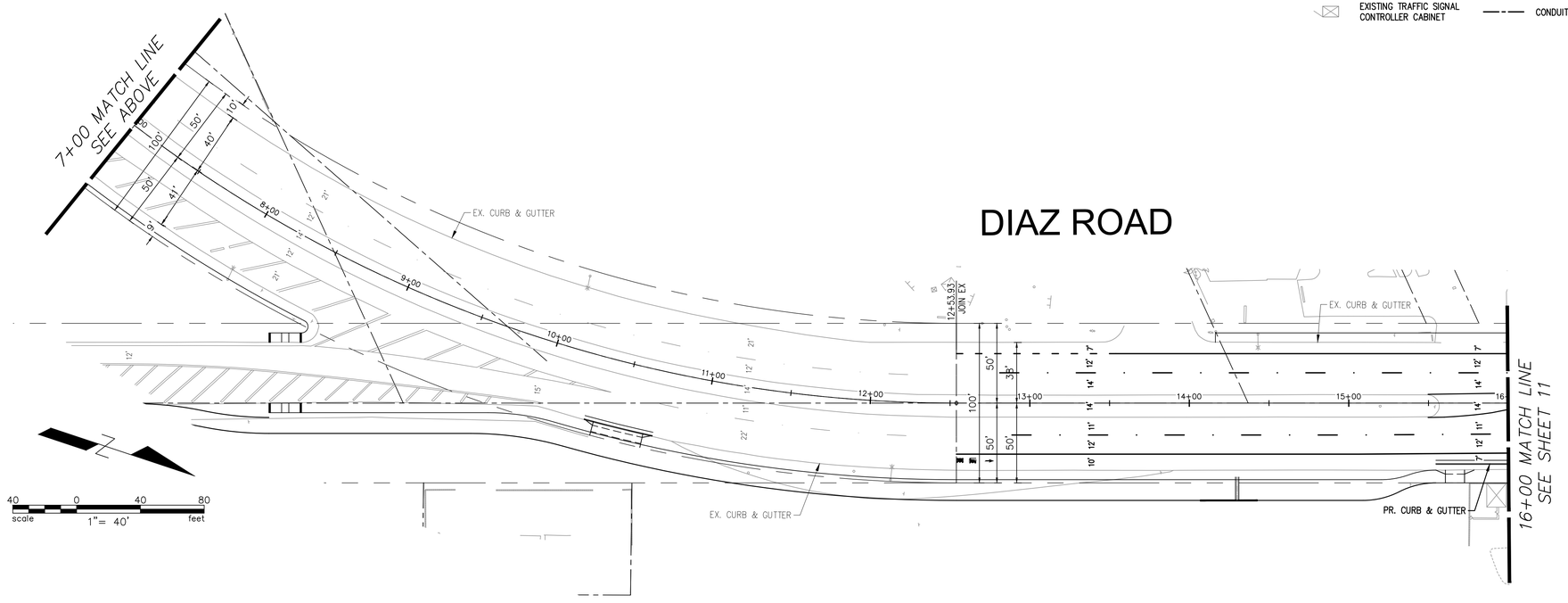




CONSTRUCTION NOTES

1. FURNISH AND INSTALL 3-INCH NOMICAL DIAMETER HDPE SCH 80 CONDUIT WITH TRACE WIRE.
2. FURNISH AND INSTALL NEW 96 SINGLE MODE FIBER OPTIC SMFO CABLE WITH 1,000-LB PULL TAPE AND SOLID ORANGE NO. 14 GAUGE TRACER WIRES INSTALLED PER CITY STANDARDS FROM CONTROLLER OF DIAZ ROAD/ RANCHO WAY TO CONTROLLER OF DIAZ RD/ WINCHESTER ROAD.
3. INSTALL POLYMER CONCRETE TIER 22 PULL BOX WITH LABEL "TRAFFIC F.O." PER CITY STANDARDS. COIL 20' OF SMFO.
4. COIL 20' OF SMFO IN TO PULL BOX.

TS — TRAFFIC SIGNAL EQUIPMENT. REFER TO TRAFFIC SIGNAL PLAN FOR DETAILS.

E — EXISTING TO PROTECT IN PLACE.

AB — ABANDON.

CB — PROVIDE AND INSTALL NEW CONDUIT INTO EXISTING PULL BOX.

RS — REMOVE AND SALVAGE

S — SIGNALIZED INTERSECTION

LEGEND

EXISTING CCTV CAMERA	CCTV CAMERA
EXISTING PULL BOX	PULL BOX
EXISTING TRAFFIC SIGNAL	TRAFFIC SIGNAL
EXISTING TRAFFIC SIGNAL CONTROLLER CABINET	CONDUIT

40 0 40 80
scale 1"= 40' feet

Know what's below. Call 811 before you dig.

CONSTRUCTION RECORD	DATE	BY	REVISIONS	DATE	ACC'D	BENCHMARK
CONTRACTOR						
INSPECTOR						
DATE COMPLETED						

SCALE
HORIZONTAL
AS SHOWN
VERTICAL
N/A

REGISTERED PROFESSIONAL ENGINEER GAVIN D. POWELL No.C67187 CIVIL STATE OF CALIFORNIA

DAVID EVANS AND ASSOCIATES INC.
41951 Remington Avenue Suite 220
Temecula California 92590-2553
Phone: 951.294.9300

PREPARED BY:
GAVIN D. POWELL DATE:
R.C.E.No. 67187

RECOMMENDED BY: _____ DATE: _____
AVLIN ODVIAR
SENIOR CIVIL ENGINEER

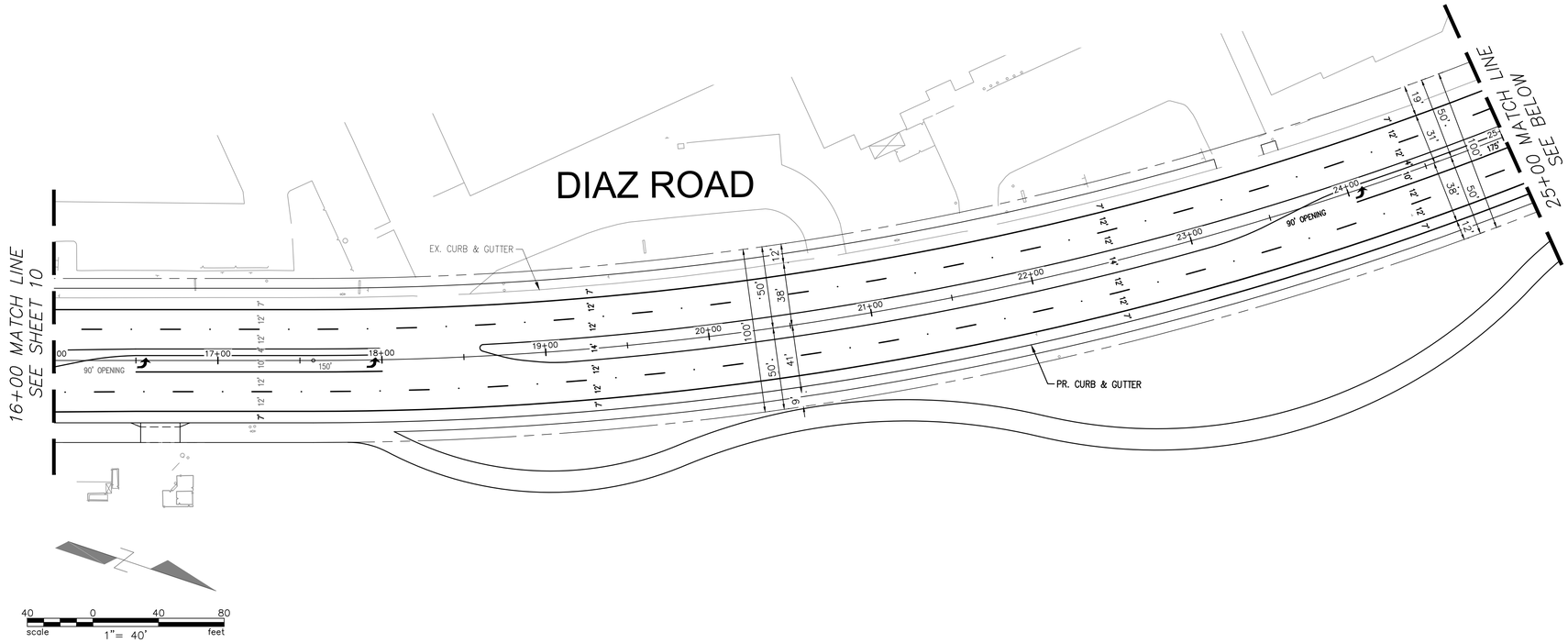
ACCEPTED BY: _____ DATE: _____
PATRICK A. THOMAS
DIRECTOR OF PUBLIC WORKS
R.C.E. No. 44223

CITY OF TEMECULA DEPARTMENT OF PUBLIC WORKS

DIAZ ROAD
SIGNAL INTERCONNECT PLAN
PW17-25
RANCHO CALIFORNIA TO STA 16+00

Drawing No. 10
SHT.10 OF 15

Drawing Name: P:\CIVIL\TEM00001011\0400CAD\TI\SHEETS\Signal Interconnect Plans\TI-SI-01-CTEM00001011.dwg
Last Opened: Jun 24, 2020 - 4:13pm by: Mago



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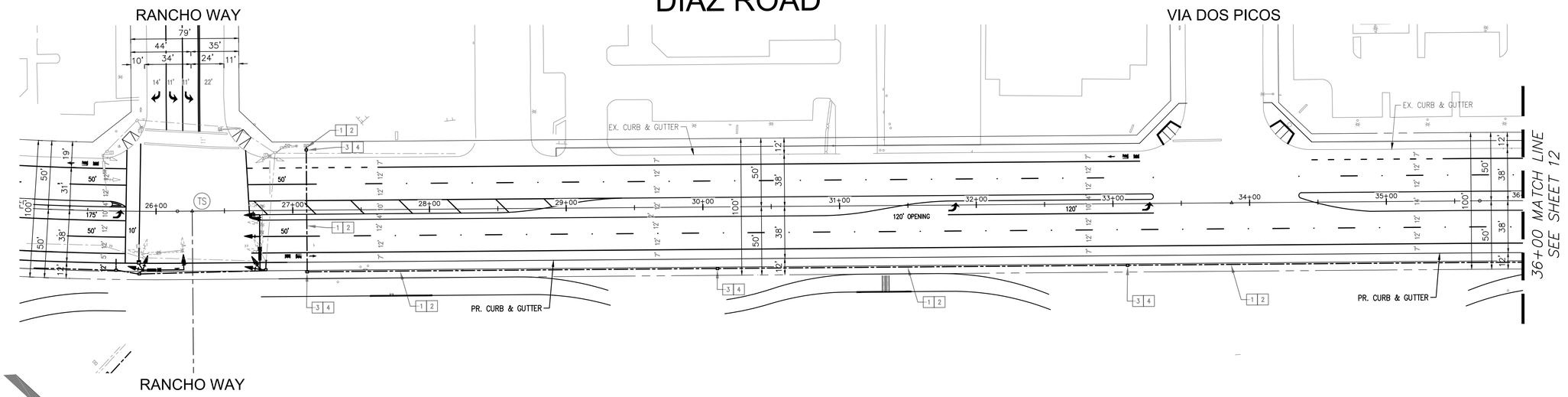
4. COIL 20' OF SMFO IN TO PULL BOX.
- TS — TRAFFIC SIGNAL EQUIPMENT. REFER TO TRAFFIC SIGNAL PLAN FOR DETAILS.
- E — EXISTING TO PROTECT IN PLACE.
- AB — ABANDON.
- CB — PROVIDE AND INSTALL NEW CONDUIT INTO EXISTING PULL BOX.
- RS — REMOVE AND SALVAGE
- (S) — SIGNALIZED INTERSECTION

LEGEND

EXISTING CCTV CAMERA	CCTV CAMERA
EXISTING PULL BOX	PULL BOX
EXISTING TRAFFIC SIGNAL	TRAFFIC SIGNAL
EXISTING TRAFFIC SIGNAL CONTROLLER CABINET	CONDUIT



Know what's below. Call 811 before you dig.

CONSTRUCTION RECORD	DATE	BY	REVISIONS	DATE	ACC'D	BENCHMARK
CONTRACTOR						
INSPECTOR						
DATE COMPLETED						

SCALE
HORIZONTAL
AS SHOWN
VERTICAL
N/A

REGISTERED PROFESSIONAL ENGINEER GAVIN D. POWELL No.C67187 CIVIL STATE OF CALIFORNIA

DAVID EVANS AND ASSOCIATES INC.
41951 Remington Avenue Suite 220
Temecula California 92590-2553
Phone: 951.294.9300

PREPARED BY:
GAVIN D. POWELL DATE:
R.C.E.No. 67187

RECOMMENDED BY: _____ DATE: _____
AVLIN ODVIAR
SENIOR CIVIL ENGINEER

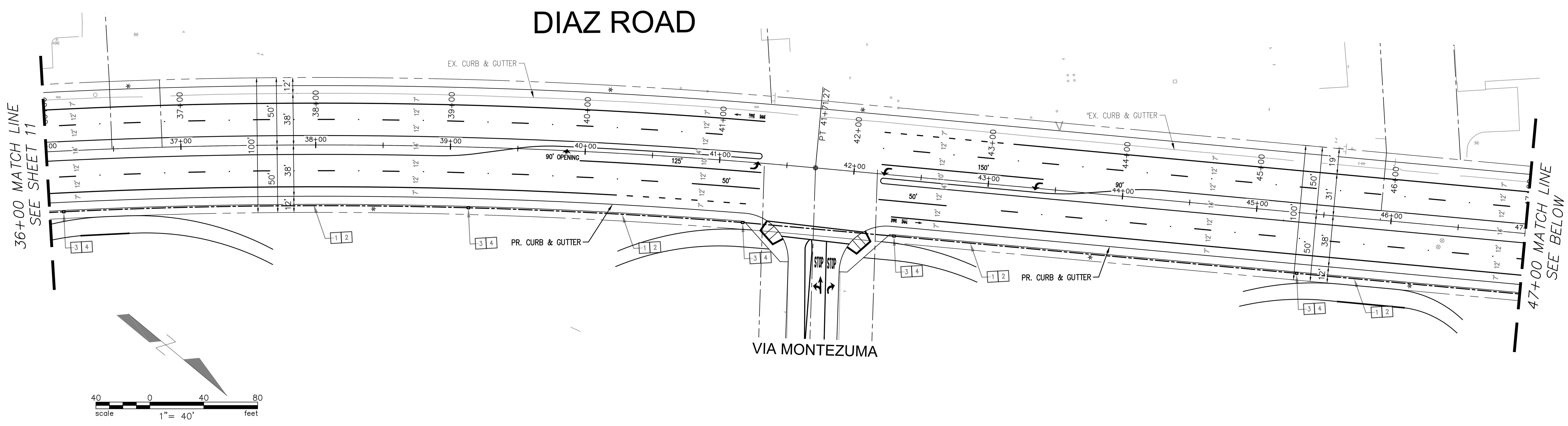
ACCEPTED BY: _____ DATE: _____
PATRICK A. THOMAS
DIRECTOR OF PUBLIC WORKS
R.C.E. No. 44223

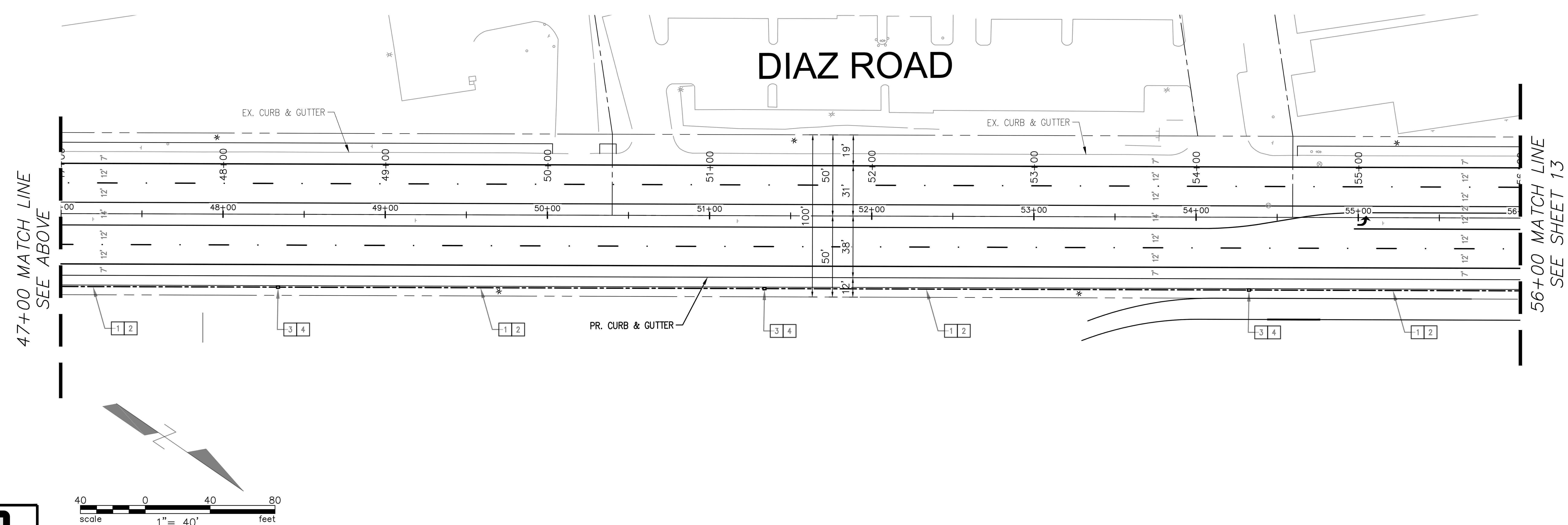
CITY OF TEMECULA DEPARTMENT OF PUBLIC WORKS

DIAZ ROAD
SIGNAL INTERCONNECT PLAN
PW17-25
DIAZ ROAD FROM STA 16+00 TO STA 36+00

Drawing No. 11
SHT. 11 OF 15

Drawing Name: P:\CVTEM00000101\04000\01\SHEETS\Signal Interconnect Plans\TI-SI-02-CITEM00000101.dwg
Last Opened: Jun 24, 2020 - 4:15pm by: Mxgo





CONSTRUCTION NOTES

1 – FURNISH AND INSTALL 3-INCH NOMICAL DIAMETER HDPE SCH 80 CONDUIT WITH TRACE WIRE.

2 – FURNISH AND INSTALL NEW 96 SINGLE MODE FIBER OPTIC SMFO CABLE WITH 1,000-LB PULL TAPE AND SOLID ORANGE NO. 14 GAUGE TRACER WIRES INSTALLED PER CITY STANDARDS FROM CONTROLLER OF DIAZ ROAD/ RANCHO WAY TO CONTROLLER OF DIAZ RD/ WINCHESTER ROAD.

3 – INSTALL POLYMER CONCRETE TIER 22 PULL BOX WITH LABEL "TRAFFIC F.O." PER CITY STANDARDS. COIL 20' OF SMFO.

4 – COIL 20' OF SMFO IN TO PULL BOX.

TS – TRAFFIC SIGNAL EQUIPMENT. REFER TO TRAFFIC SIGNAL PLAN FOR DETAILS.

E – EXISTING TO PROTECT IN PLACE.

AB – ABANDON.

CB – PROVIDE AND INSTALL NEW CONDUIT INTO EXISTING PULL BOX.

RS – REMOVE AND SALVAGE

S – SIGNALIZED INTERSECTION

LEGEND

EXISTING CCTV CAMERA — CCTV CAMERA

EXISTING PULL BOX — PULL BOX

EXISTING TRAFFIC SIGNAL — TRAFFIC SIGNAL

EXISTING TRAFFIC SIGNAL CONTROLLER CABINET — CONDUIT

811 Know what's below. Call 811 before you dig.

CONSTRUCTION RECORD	DATE	BY	REVISIONS	DATE	ACC'D	BENCHMARK	SCALE
CONTRACTOR							HORIZONTAL AS SHOWN
INSPECTOR							VERTICAL N/A
DATE COMPLETED							

REGISTERED PROFESSIONAL ENGINEER GAVIN D. POWELL No.C67187 CIVIL STATE OF CALIFORNIA

DAVID EVANS AND ASSOCIATES INC.
41951 Remington Avenue Suite 220
Temecula California 92590-2553
Phone: 951.294.9300

PREPARED BY:
GAVIN D. POWELL DATE:
R.C.E.No. 67187

RECOMMENDED BY: DATE:
AVLIN ODVIAR
SENIOR CIVIL ENGINEER

ACCEPTED BY: DATE:
PATRICK A. THOMAS
DIRECTOR OF PUBLIC WORKS
R.C.E. No. 44223

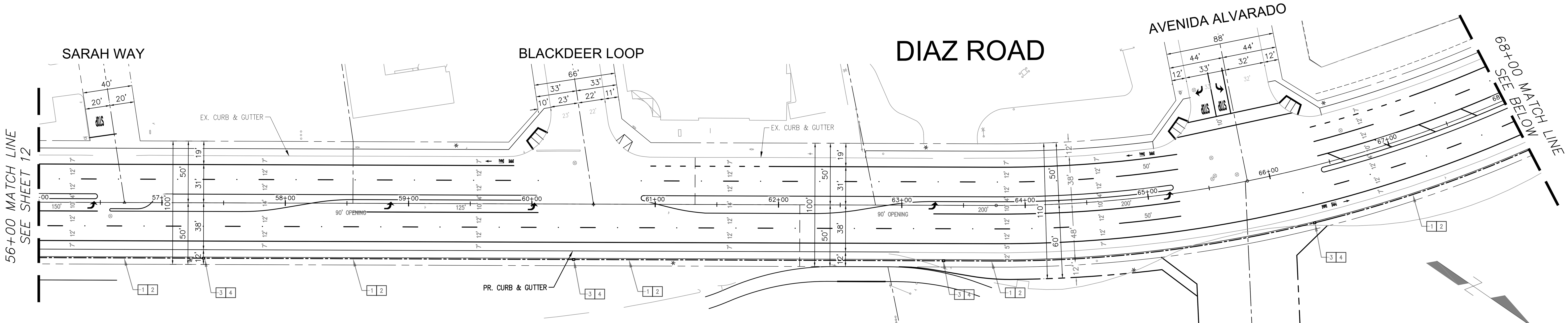
CITY OF TEMECULA DEPARTMENT OF PUBLIC WORKS

DIAZ ROAD
SIGNAL INTERCONNECT PLAN
PW17-25
DIAZ ROAD FROM STA 36+00 TO 56+00

Drawing No. 12

SHT.12 OF 15

Last Opened: Jun 24, 2020 – 4:17pm by Mxgo



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RS — REMOVE AND SALVAGE

S — SIGNALIZED INTERSECTION

LEGEND

EXISTING CCTV CAMERA — CCTV CAMERA

EXISTING PULL BOX — PULL BOX

EXISTING TRAFFIC SIGNAL — TRAFFIC SIGNAL

EXISTING TRAFFIC SIGNAL CONTROLLER CABINET — CONDUIT

811 Know what's below. Call 811 before you dig.

CONSTRUCTION RECORD	DATE	BY	REVISIONS	DATE	ACC'D	BENCHMARK
CONTRACTOR ______						
INSPECTOR ______						
DATE COMPLETED ______						

SCALE
HORIZONTAL: AS SHOWN
VERTICAL: N/A

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GAVIN D. POWELL DATE:
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RECOMMENDED BY: ______ DATE: ______
AVLIN ODVIAR
SENIOR CIVIL ENGINEER

ACCEPTED BY: ______ DATE: ______
PATRICK A. THOMAS
DIRECTOR OF PUBLIC WORKS
R.C.E. No. 44223

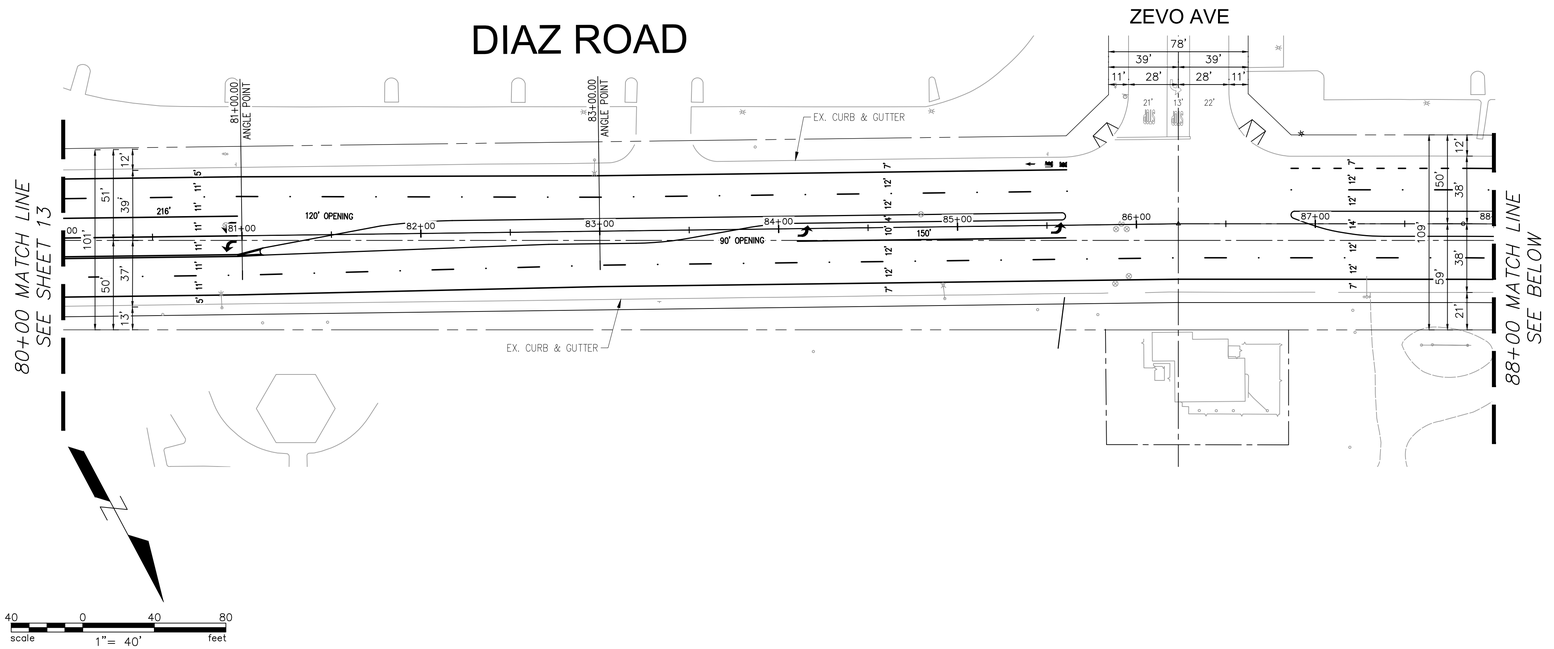
CITY OF TEMECULA DEPARTMENT OF PUBLIC WORKS

DIAZ ROAD
SIGNAL INTERCONNECT PLAN
PW17-25
DIAZ ROAD FROM STA 56+00 TO 80+00

Drawing No. 13

SHT.13 OF 15

DIAZ ROAD



CONSTRUCTION NOTES

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AB — ABANDON.

CB — PROVIDE AND INSTALL NEW CONDUIT INTO EXISTING PULL BOX.

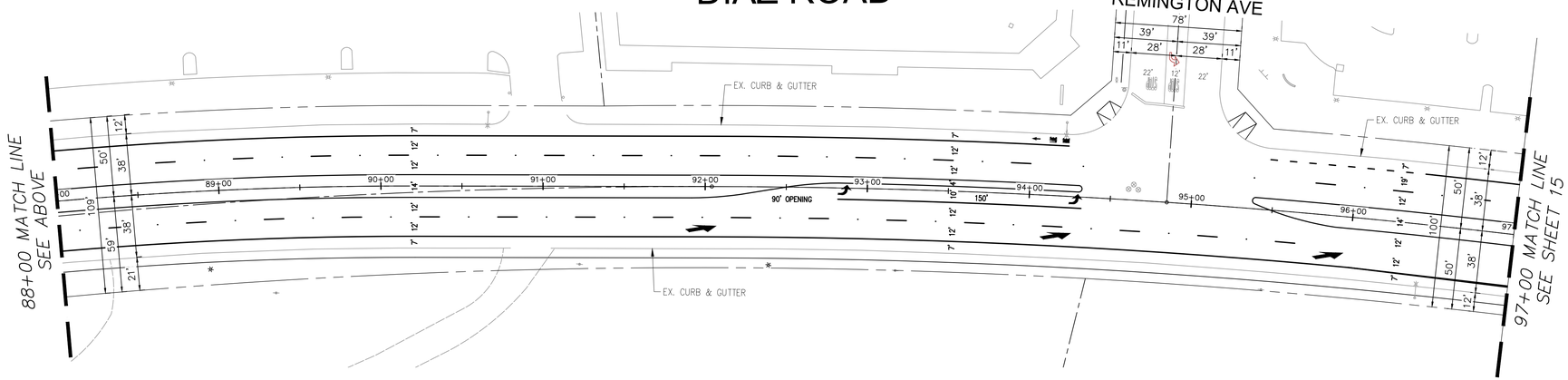
RS — REMOVE AND SALVAGE

S — SIGNALIZED INTERSECTION

LEGEND

- EXISTING CCTV CAMERA
- CCTV CAMERA
- EXISTING PULL BOX
- PULL BOX
- EXISTING TRAFFIC SIGNAL
- TRAFFIC SIGNAL
- EXISTING TRAFFIC SIGNAL CONTROLLER CABINET
- CONDUIT

DIAZ ROAD



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CONTRACTOR						
INSPECTOR						
DATE COMPLETED						

SCALE
HORIZONTAL
AS SHOWN
VERTICAL
N/A

REGISTERED PROFESSIONAL ENGINEER GAVIN D. POWELL No.C67187 CIVIL STATE OF CALIFORNIA

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PATRICK A. THOMAS
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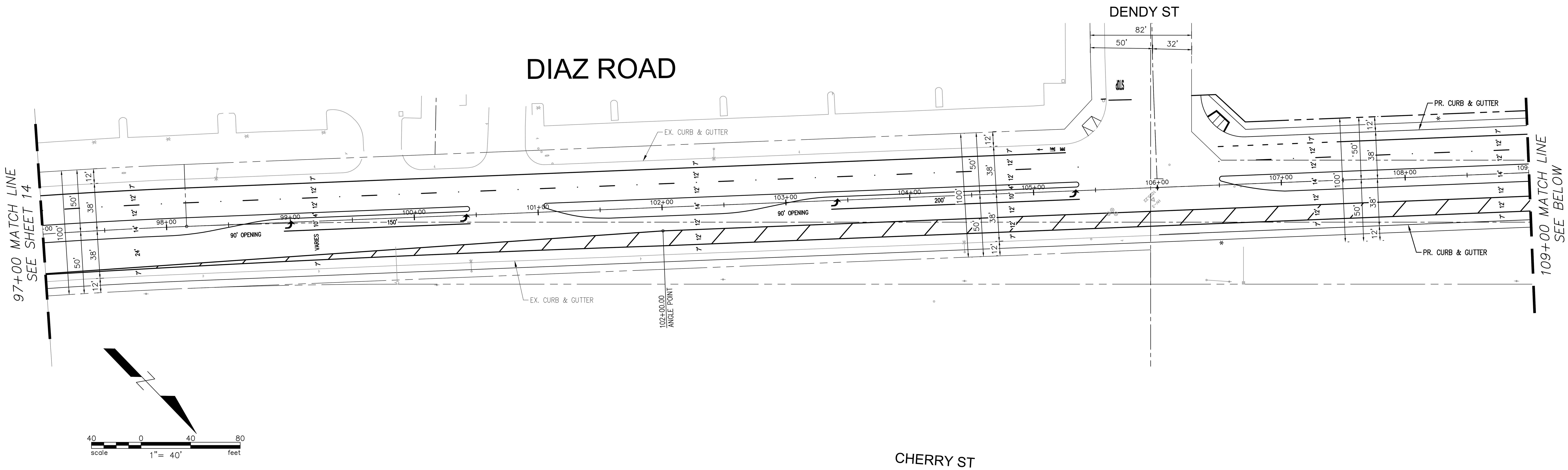
R.C.E. No. 44223

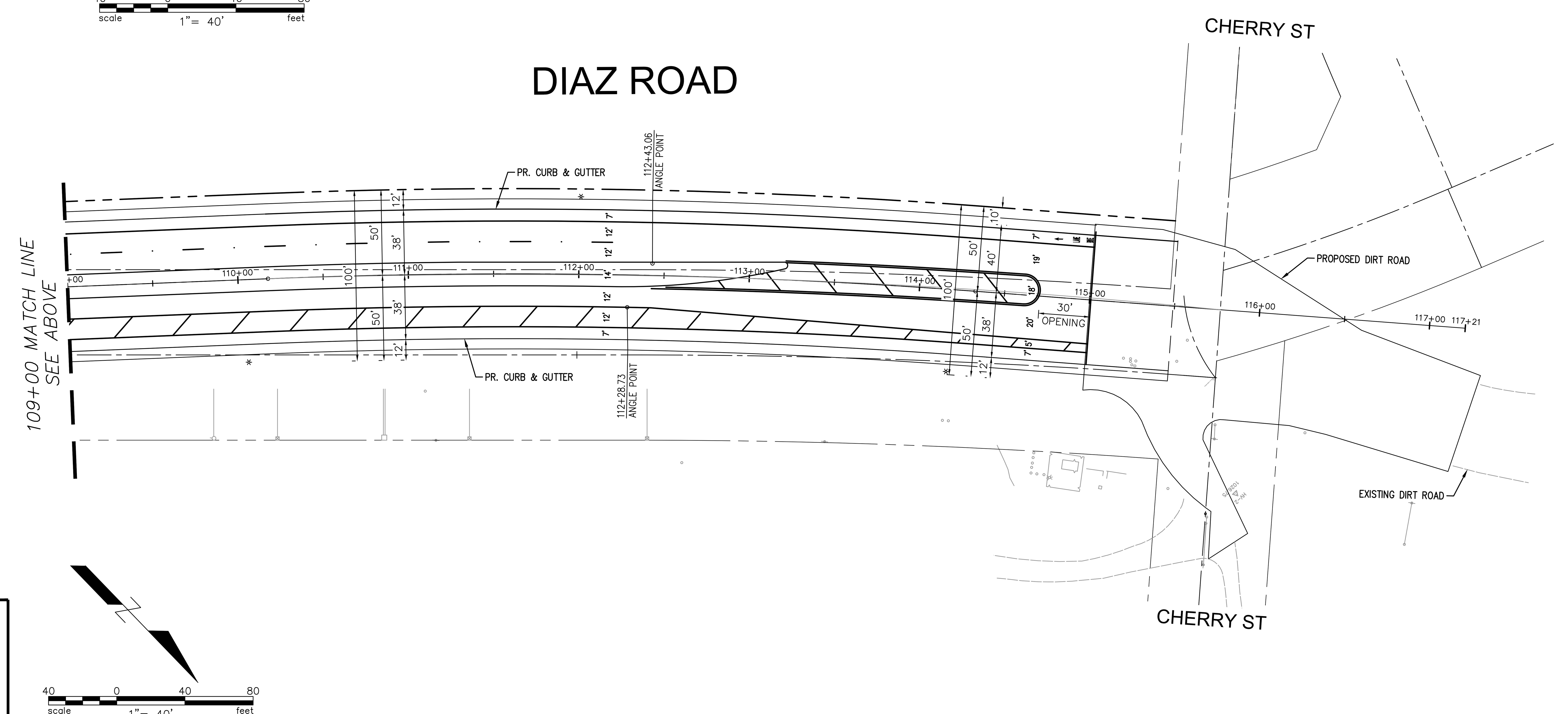
CITY OF TEMECULA DEPARTMENT OF PUBLIC WORKS

DIAZ ROAD
SIGNAL INTERCONNECT PLAN
PW17-25
DIAZ ROAD FROM STA 80+00 TO 97+00

Drawing No. 14
SHT.14 OF 15

Drawing Name: P:\CVC\EM00001011\0400CAD\TI\SHEETS\Signal Interconnect Plans\TI-SI-05-CIEM00001011.dwg
Last Opened: Jun 24, 2020 - 4:26pm by Mxgo





CONSTRUCTION NOTES

1 — FURNISH AND INSTALL 3-INCH NOMICAL DIAMETER HDPE SCH 80 CONDUIT WITH TRACE WIRE.

2 — FURNISH AND INSTALL NEW 96 SINGLE MODE FIBER OPTIC SMFO CABLE WITH 1,000-LB PULL TAPE AND SOLID ORANGE NO. 14 GAUGE TRACER WIRES INSTALLED PER CITY STANDARDS FROM CONTROLLER OF DIAZ ROAD/ RANCHO WAY TO CONTROLLER OF DIAZ RD/ WINCHESTER ROAD.

3 — INSTALL POLYMER CONCRETE TIER 22 PULL BOX WITH LABEL "TRAFFIC F.O." PER CITY STANDARDS. COIL 20' OF SMFO.

4 — COIL 20' OF SMFO IN TO PULL BOX.

TS — TRAFFIC SIGNAL EQUIPMENT. REFER TO TRAFFIC SIGNAL PLAN FOR DETAILS.

E — EXISTING TO PROTECT IN PLACE.

AB — ABANDON.

CB — PROVIDE AND INSTALL NEW CONDUIT INTO EXISTING PULL BOX.

RS — REMOVE AND SALVAGE

S — SIGNALIZED INTERSECTION

LEGEND

EXISTING CCTV CAMERA	CCTV CAMERA
EXISTING PULL BOX	PULL BOX
EXISTING TRAFFIC SIGNAL	TRAFFIC SIGNAL
EXISTING TRAFFIC SIGNAL CONTROLLER CABINET	CONDUIT

811 Know what's below. Call 811 before you dig.

CONSTRUCTION RECORD	DATE	BY	REVISIONS	DATE	ACC'D	BENCHMARK
CONTRACTOR						
INSPECTOR						
DATE COMPLETED						

SCALE
HORIZONTAL: AS SHOWN
VERTICAL: N/A

REGISTERED PROFESSIONAL ENGINEER GAVIN D. POWELL No.C67187 CIVIL STATE OF CALIFORNIA

DAVID EVANS AND ASSOCIATES INC.
41951 Remington Avenue Suite 220
Temecula California 92590-2553
Phone: 951.294.9300

PREPARED BY:
GAVIN D. POWELL DATE:
R.C.E.No. 67187

RECOMMENDED BY: DATE:
AVLIN ODVIAR
SENIOR CIVIL ENGINEER

ACCEPTED BY: DATE:
PATRICK A. THOMAS
DIRECTOR OF PUBLIC WORKS
R.C.E. No. 44223

CITY OF TEMECULA DEPARTMENT OF PUBLIC WORKS

DIAZ ROAD
SIGNAL INTERCONNECT PLAN
PW17-25
DIAZ ROAD FROM STA 97+00 TO CHERRY ST

Drawing No. 15
SHT.15 OF 15