Interstate 5 (I-5) / El Toro Road Interchange Final Alternatives Assessment Report

(On I-5 from 0.1 mile south of Los Alisos Blvd OC to 0.4 mile north of Ridge Route Drive)

Orange County Transportation Authority

California Department of Transportation District 12

City of Laguna Hills

City of Laguna Woods

City of Lake Forest

ORANGE COUNTY, CALIFORNIA
DISTRICT 12 – ORA – 5 (PM 17.8/19.7)
EA 0M980/EFIS 1213000084

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Executive Summary

The I-5/El Toro Road Interchange Project is among 13 freeway projects approved by Orange County voters as part of the Measure M2 program, and one of five local interchanges along the I-5 Corridor slated for improvement. The development of additional alternatives during this Study aims to improve existing and future regional mobility and the traffic flow of the local street network, be consistent with local planning, and consider impacts to right-of-way. The primary focus of this Study is how to handle the I-5 southbound traffic exiting at El Toro Road. The goal of this Study is to have the local cities of Laguna Hills, Laguna Woods, and Lake Forest identify and support another Alternative(s) that could be further studied during the PA/ED phase being done by Caltrans.

During this Study the following new Alternatives to accommodate SB traffic exiting at El Toro Road were developed:

1. Alternative AA-1 (Braided Ramps One Location)
2. Alternative AA-2 (Braided Ramps Two Locations)
3. Alternative AA-3 (Braided Ramps One Location with Roundabout)
4. Alternative AA-3A (Braided Ramps One Location with Right Turn Only)
5. Alternative AA-4 (Flyover with Roundabout Close to El Toro Road)
6. Alternative AA-4A (Flyover with Roundabout Away From El Toro Road)
7. Alternative AA-5 (Flyover with Roundabout with Connection to Rockfield Blvd)

The Workshop team reviewed these Alternatives to determine if there were any Alternatives that should be further considered during the PA/ED Phase.

The Workshop Team Members were:

1. Niall Barrett, OCTA Project Manager
2. Constantino Dino Stamation, Caltrans Project Manager
3. Ken Rosenfield, City of Laguna Hills
4. Akram Hindiyeh, City of Laguna Woods
5. Thomas Wheeler, City of Lake Forest

Based on the review of the Study Alternatives the Cities suggest following Alternatives to be further considered during the PA/ED Phase:

1. Alternative AA-1
2. Alternative AA-5

1. Introduction

This Alternatives Assessment Study was initiated by OCTA because consensus on a preferred Alternative has not been reached during the current PA/ED phase. The primary focus of this Study is how to handle the I-5 southbound (SB) traffic exiting at El Toro Road. As the project sponsor, OCTA embarked on this Alternatives Assessment Study in order to take "one more look" at the I-5/El Toro Road interchange, to see if there was any other alternative interchange configuration(s) that could be developed to handle the SB traffic existing at El Toro Road that would gain consensus from the key stakeholders, namely the City of Laguna Hills, City of Laguna Woods, and the City of Lake Forest.

This Alternatives Assessment Report (AAR) is a high-level qualitative and quantitative evaluation of the Alternatives developed during this Study and the project build alternatives developed in the PA/ED phase. The goal of the conceptual interchange configurations prepared during this Study was to meet the Purpose & Need of the project, which would reduce traffic congestion, improve on & off-ramps operation (reduce off-ramp queuing), improve traffic flow, and traffic signal optimization for the SB traffic exiting at El Toro Road.

In this Alternatives Assessment Report, seven new conceptual interchange configurations were developed and evaluated as part of this Study, (Alternatives AA-1, AA-2, AA-3, AA-3A, AA-4, AA-4A, and AA-5). The two Alternatives from the PA/ED phase (PR-2 and PR-4) are also evaluated as part of this Study. The AA Alternatives focused on the best way to accommodate the I-5 SB traffic existing at El Toro Road, where the biggest traffic deficiencies exist at the intersections of the SB off-ramps/Paseo De Valencia/Avenida De La Carlota intersection and the El Toro Road/Avenida De La Carlota intersection. The NB I-5 improvements included in the Draft Project Report Alternatives can be added to any of the Study Alternatives during the PA/ED phase, as deemed appropriate by Caltrans and OCTA.

This report describes the criteria used in the assessment of the alternatives and the findings of the evaluation. The purpose of this AAR is to help decision-makers identify which of the AA alternatives should be further developed and evaluated in the project PA/ED phase.

1.1 Background

The I-5 corridor serves as a vital north-south link throughout the State. It provides for the inter-regional, interstate, and international movement of goods and vehicles to and from Mexico and Canada. In Orange County, I-5 serves as the primary link connecting Orange County to San Diego and Los Angeles Counties. The I-5 freeway serves the cities of Laguna Hills, Laguna Woods, and City of Lake Forest within the project study area. In addition, the I-5/El Toro Road Interchange is the primary access to the Laguna Hills Mall, as well as local businesses and residential communities in these three cities.

Within the project limits, I-5 has five (5) existing general purpose lanes, an auxiliary lane, and two (2) high occupancy vehicle (HOV) lanes that merge into one lane just south of the El Toro Road Undercrossing (UC) in the southbound (SB) direction. In the northbound (NB) direction, the existing configuration includes five (5) general-purpose lanes, an auxiliary lane, and one HOV lane in the northbound (NB) direction, and a second HOV lane starts up just north of the interchange.

The NB direction of the I-5/El Toro Road Interchange is a one quadrant cloverleaf configuration with a direct NB on-ramp (Type L-9). The NB off-ramp is one designated lane that widens to three lanes (one left turn lane, one shared left/through/right lane, and one right lane) at the intersection with El Toro Road. Bridger Road is located on the opposite side of the intersection. The NB loop on-ramp is two lanes that taper to one lane after the ramp meter. The NB on-ramp is two designated lanes that taper to one lane after the ramp meter. The SB direction is a modified type L-6 configuration with hook ramps in the northwest quadrant and a directional SB on-ramp in the southwest quadrant. The SB hook off-ramp is two lanes (one designated off and one optional) and widens to four lanes (two left turn lanes, a shared through/left, and a shared through/right lane) at the intersection with Avenida De La Carlota. The SB hook on-ramp is two lanes that taper to one lane after the ramp meter. Paseo de Valencia is located on the opposite side of the intersection from the SB hook ramps. The directional SB on-ramp from El Toro Road is two lanes, one of which is an HOV bypass lane, that taper to one lane after the ramp meter.

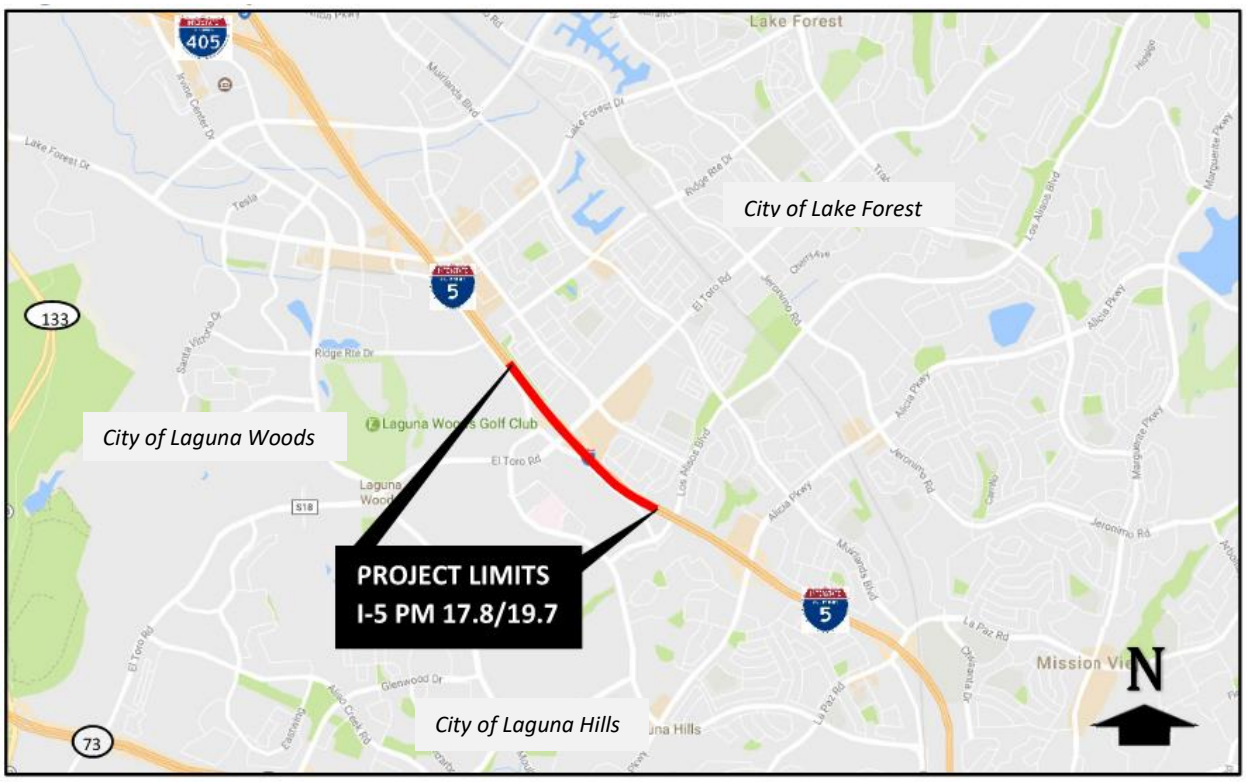


Exhibit 1 – Overall Project Interchange Area

El Toro Road is classified as a Principal Arterial to the east of I-5 and a Major Arterial to the west of I-5 in the OCTA Master Plan of Arterial Highways (MPAH). El Toro Road serves as the primary east-west access between Laguna Hills, Laguna Woods, and Lake Forest. To the west, El Toro Road connects to SR-133; to the east, El Toro Road provides arterial access to a number businesses and large residential subdivisions.

The adjacent communities using the El Toro Interchange for access have reached build-out conditions. The high demand and short spacing between adjacent local intersections have resulted in heavy traffic congestion during the weekday peak hours, weekends and holidays.

2. Project Purpose and Need

2.1 Purpose

The following is an excerpt from the Draft Project Report.

"The purpose of the project is to:

- Improve traffic flow and traffic signal optimization
- Reduce traffic congestion at adjacent local street intersections
- Reduce freeway ramp queuing

The Build Alternatives would improve existing and future regional mobility and traffic flow to and from the local street network, be consistent with local planning, and consider impacts to right-of-way. In addition, congestion relief on the mainline ramps and local streets would serve to improve mobility."

2.2 Need

The need of the project is as stated in the Draft Project Report is as follows:

"The area within the I-5/El Toro Road interchange experiences:

- Heavy peak-hour congestion and traffic delays due to the high traffic volumes
- Geometric deficiencies related to inadequate signal operations and intersection spacing
- Major delays due to traffic queueing at the intersections of the on- and off-ramps and local streets

This has affected both the traffic operations and circulation within the project area."

3. Problem, Deficiencies, Justification

The following is from the Draft Project Report Page 11.

"The area within the I-5/El Toro Road Interchange experiences high levels of congestion during weekday peak hours, weekends, and holidays. Localized areas experiencing congestion include the following:

- SB I-5 traffic queuing at the intersection of the off-ramp and Avenida De La Carlota
- SB Avenida De La Carlota traffic turning left onto EB El Toro Road queuing at the intersection (recently improved via the triple left turn project)
- EB through traffic on El Toro Road queuing at the Avenida De La Carlota intersection
- EB through traffic on El Toro Road queuing at the intersection with Bridger Road/I-5 NB ramps
- NB and SB traffic on I-5 mainline experiencing congestion during the AM and PM peak hours

In addition to the future intersection delays, motorists will experience delays on the I-5 ramps at El Toro Road, particularly the SB off-ramp and NB loop on-ramp. Both ramps will experience an unacceptable Level of Service (LOS) based on delay times.

Existing daily traffic volumes is approximately 300,909 vehicles per day, with peak hour volumes ranging from 1,528 to 1,670 vehicles per day at the SB off-ramp and from 801 to 960 vehicles per day at the NB loop on-ramp. Under current traffic conditions, substantial congestion is experienced at the SB off-ramp during the AM/PM peak hour and at the NB on-ramp during the AM/PM peak hour.

By the year 2050, daily traffic volumes within the project area is forecasted to be approximately 345,271 with peak hour volumes ranging from 9,102 to 13,483 in the NB direction and from 8,828 to 12,264 in the SB direction.

Without the proposed project, the efficiency of the regional transportation system will be reduced because there will not be sufficient capacity at the I-5/El Toro on- and off-ramps. Delay in completion of this project will contribute to traffic congestion in the cities of Laguna Hills, Lake Forest, and Laguna Woods.

This project is supported by local agencies OCTA and Caltrans, and OCTA is the project sponsor. The project is identified as part of OCTA's OC Go Program, as the Renewed Measure M (also known as M2) and is part of the M2020 plan. This project would serve to implement part of Project "D" (I-5 Local Interchange Upgrades)."

4. Alternatives Developed in the PSR/PDS

During the Project Study Report/Project Development Support (PSR/PDS) Phase, the following build alternatives were reviewed during the PSR/PDS phase and are summarized in the table below:

Alternative	Description
3	This alternative proposed a shift in the alignment of I-5 and a "horseshoe" flyover for the SB off-ramp to EB El Toro Road. The flyover joins the NB off-ramp at the intersection of El Toro Road and Bridger Road. The alternative proposed different radii for the "horseshoe" flyover based on different design speeds. The NB tangent on-ramp and off-ramp are realigned to join the new I-5 alignment.
3A	This alternative proposed a shift in the alignment of I-5, a flyover for the SB off-ramp to EB El Toro Road, and a bridge connecting the SB off-ramp to SB Avenida De La Carlota.
3B	This alternative proposed a shift in the alignment of I-5 and a bridge connecting the SB off-ramp to SB Avenida De La Carlota. The existing NB ramps are realigned.
4A	This alternative proposed a shift in the alignment of the I-5 to the west and realignment of a portion of Avenida De La Carlota south of El Toro Road. The El Toro Road bridge would be widened to provide additional storage for the SB hook on-ramp and an auxiliary lane to Los Alisos Road.
5	This alternative proposed a shift in the alignment of the I-5 to the west and realignment of a portion of Avenida De La Carlota north of El Toro Road to provide space for a flyover for the SB off-ramp connecting to Bridger Road.
8	This alternative proposed a shift in the alignment of I-5 and a flyover for the SB off-ramp directly onto EB El Toro Road. A portion of El Toro Road east of I-5 will be shifted to provide space for the new bridge.
12	This alternative proposed a Single Point (Urban) Interchange for the intersection of I-5 and El Toro Road.

See Appendix A3 for Exhibits of the Alternatives developed in the PSR/PDS.

5. Alternatives Developed in the PA/ED Phase

During the PA/ED Phase, there were two build alternatives under consideration, Alternative 2 - Flyover and Alternative 4 - Collector Distributor Road.

5.1 Draft Project Report Alternative 2 Flyover

Alternative 2 (PR-2) proposed a flyover that directly connected the SB I-5 traffic to EB El Toro Road by crossing over the I-5 freeway and joining El Toro Road at the location of the existing Bridger Road and the NB ramps termini. The existing NB I-5 direct on-ramp from WB El Toro Road would be removed and replaced with a proposed on-ramp adjacent to the new SB off-ramp along existing Bridger Road. See Exhibit 2 below and Appendix A2.

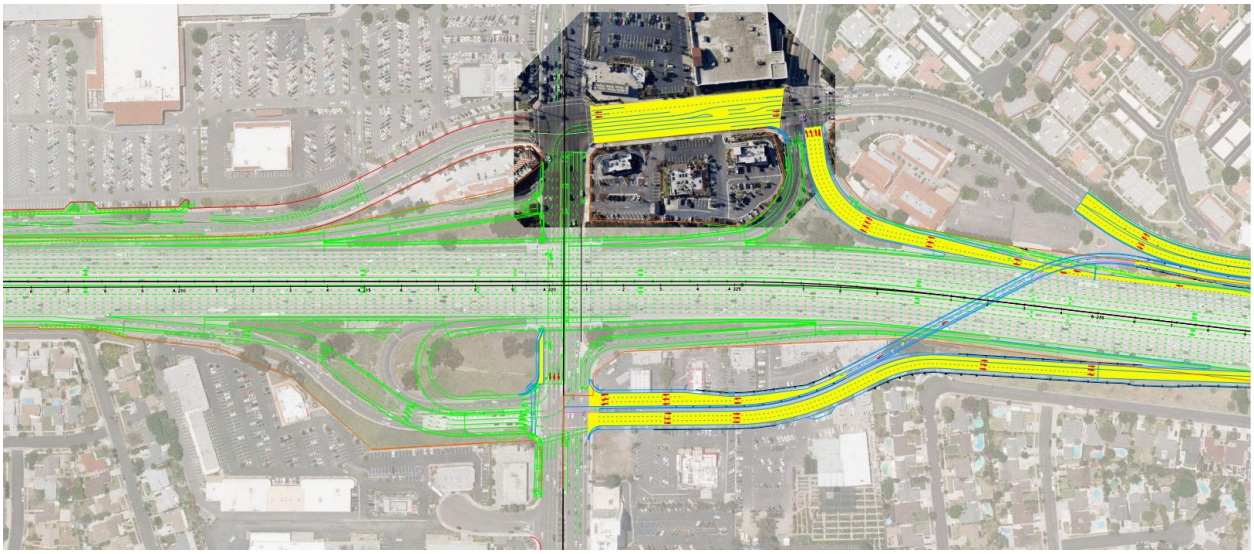


Exhibit 2 – Alternative PR-2 Flyover

5.2 Draft Project Report Alternative 4 Collector Distributor System

Alternative 4 (PR-4) proposed of a collector-distributor (CD) and hook ramps along SB I-5. This alternative included a new CD system that started at the existing SB off-ramp to El Toro Road and ended at the Los Alisos Boulevard OC. Additionally, a new set of hook on and off-ramps would be constructed just south of the El Toro Road UC to connect Avenida De La Carlota to the new CD by the Laguna Hill Mall area. This alternative had an Option B that proposed improvements to the NB I-5 on-ramp from El Toro Road along Bridger Road. Due the additional impacts along Bridger Road PR-4 with Design Option B will not be considered as part of this Study. See Exhibit 3 below and Appendix A2.

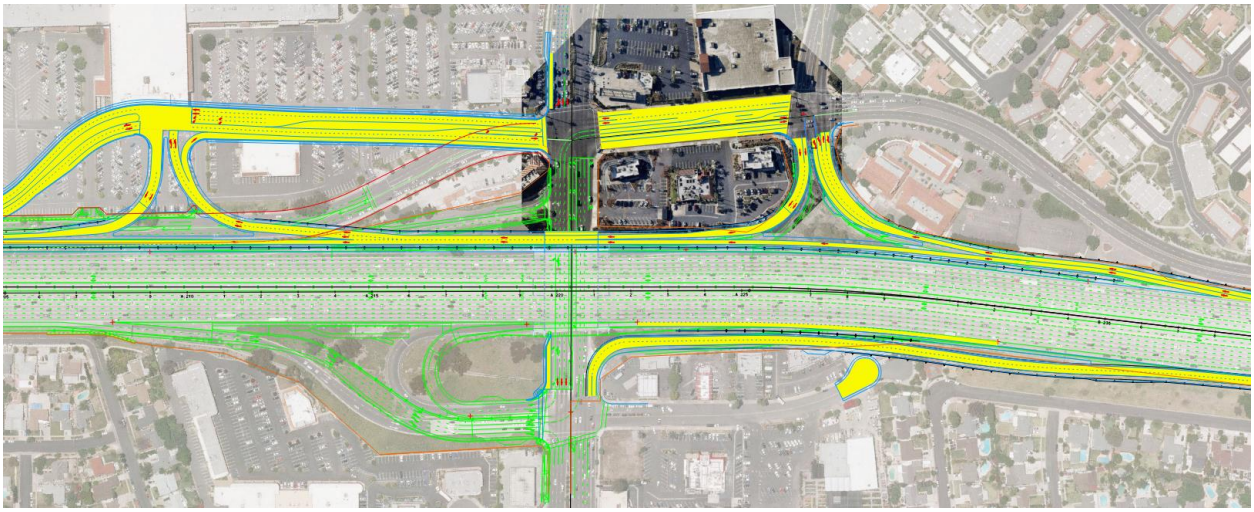


Exhibit 3 – Alternative PR-4 Collector Distributor System

6. Alternatives Developed as Part of this Study

Seven Alternatives Analysis (AA) Alternatives were developed as part of this Study to show conceptual interchange configurations that have been discussed by the project team at Workshop Meetings. As mentioned earlier, the AA Alternatives focused on the SB ramps where the biggest traffic deficiencies exist, at the intersections of the SB off-ramps/Paseo De Valencia/Avenida De La Carlota intersection and the El Toro Road/Avenida De La Carlota intersection. Note: The NB ramp improvements included in the Draft Project Report can be added to any of the AA Alternatives as deemed appropriate by Caltrans and OCTA during the PA/ED phase.

The percent of SB exiting traffic wanting to go east on El Toro Road, west on El Toro Road, or continuing south on Avenida De La Carlota is shown on Exhibit 4.

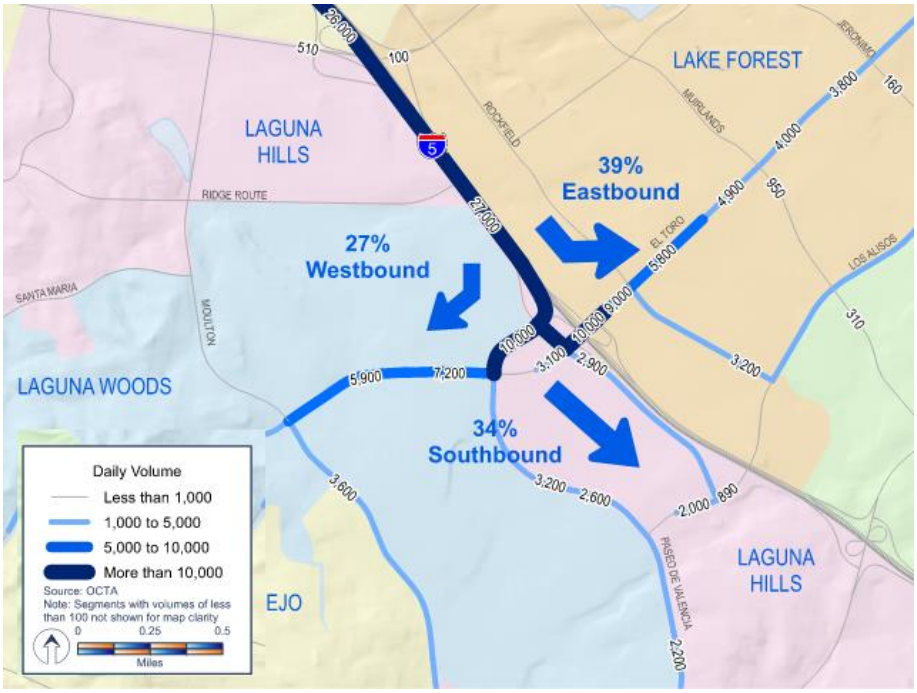


Exhibit 4 – Percent Split of Southbound Daily Traffic Volume

The AA Alternatives were developed on how to best accommodate these SB traffic volumes while minimizing impacts.

In order to reduce the amount of traffic at the intersections of the SB off-ramps/Paseo De Valencia/Avenida De La Carlota intersection and the El Toro Road/Avenida De La Carlota intersection, the AA Alternatives deliver traffic for El Toro Road EAST and the traffic traveling south along Avenida De La Carlota, to the south side of El Toro Road, (Alternatives AA-1, AA-2, AA-3, and AA-3A). This reduces the existing demand for the triple left-turn-lanes (LTL's) at the SB Ramps and at the El Toro Road/Avenida De La Carlota intersections. Alternatives AA-1, AA-2,

and AA-3 could take up to 73% of SB traffic out of these intersection triple left movements. Alternative AA-3A could take up to 39% of SB traffic out of these intersection left turn movements. Alternatives AA-4, AA-4A, and AA-5 reduce traffic volumes at the intersections of the SB off-ramps/Paseo De Valencia/Avenida De La Carlota intersection and the El Toro Road/Avenida De La Carlota intersection, by using a flyover to deliver the traffic to the Lake Forest side of the freeway. AA-4, AA-4A, and AA-5 could take up to 39% of the SB traffic out of these intersections.

The existing Average Daily Traffic (ADT) volumes along I-5 from Alicia Parkway to Lake Forest Drive in the NB direction is 146,871 and 154,038 in the SB direction. The El Toro Road ramps peak hour volumes as shown in the draft Project Report are:

Freeway Ramp Peak Volumes

Location	2017		2050 No Build	
	AM	PM	AM	PM
I-5 at El Toro Road				
NB Off-Ramp	945	1,245	1,096	1,345
NB Loop On-Ramp (EB)	801	960	837	996
NB On-Ramp (WB)	1,242	720	1,265	734
SB Off-Ramp to El Toro Rd.	1,670	1,528	1,764	1,691
SB Hook On-Ramp from Carlota (WB)	723	803	823	1,045
SB On-Ramp (EB)	321	558	392	608
Total peal hour traffic using all ramps	**5,702**	**5,814**	**6,177**	**6,419**

Source: Table 2.3.3 & 2.4.5, Traffic Study report (2018)

Alternatives AA-1, AA-2, AA-3, AA-3A could remove up to 73% of the peak hour traffic out of the I-5 SB Ramp/Paseo De La Valencia/Avenida De La Carlota intersection, and the triple left movements El Toro Road/Avenida De La Carlota intersection. In 2050, this is approximately 1,393 vehicles in the AM Peak Hour, and 1,335 vehicles in the PM Peak Hour.

Alternatives AA-4, AA-4A, and AA-5 could remove up to 39% of the peak hour traffic out of the I-5 SB Ramp/Paseo De La Valencia/Avenida De La Carlota intersection, and the triple left at the El Toro Road/Avenida De La Carlota intersection. In 2050, this is approximately 687 vehicles in the AM Peak Hour, and 659 vehicles in the PM Peak Hour.

The peak hour volumes for local street intersections as shown in the draft Environmental Document are:

Intersection Ramp Peak Volumes

Intersection	2017		2050 No Build	
	AM	PM	AM	PM
I-5 SB Ramps/Paseo De La Valencia/Avenida De La Carlota	3,197	3,934	3,425	4,377
Avenida De La Carlota/El Toro Road	4,372	6,200	5,427	6,772
I-5 NB Ramps/Bridge Road/El Toro Road	5,419	6,303	6,391	6,840
Rockfield Blvd/El Toro Road	4,591	5,808	5,410	6,339
Paseo De La Valencia/El Toro Road	3,097	4,122	3,448	4,504

Source: Table 1.1 Draft Environmental Document (2018)

The exhibits prepared for the AA Alternatives utilized aerial photo base mapping, and show the I-5 Segment 3 Improvements, that are currently under construction, as part of another project, in green linework on the base maps. Proposed pavement areas for the AA and PR Alternatives are shown in yellow highlight, while the bridges are shown in blue highlight. See Appendix A1 for larger Exhibits in addition to the exhibits below.

Geometrics of the AA Alternatives were discussed at Workshop meetings and refinements have been made during the development of the Alternatives. Since the geometrics presented in this Study are conceptual, the Alternative(s) that are recommended to be further evaluated in the PA/ED phase and will be developed in more detail, and evaluated. Review by other stakeholders, such as FHWA, could also affect the interchange configuration.

The seven AA Alternatives developed as part of this Study are as follows:

6.1 Alternative AA-1 Braided Ramps One Location

Alternative AA-1 proposes an additional I-5 SB off-ramp to independently serve El Toro Road EAST, and El Toro WEST. These two SB off-ramps are proposed in lieu of the one existing SB off-ramp.

This is accomplished with a 2-lane I-5 SB off-ramp to El Toro Road that is split with one lane assigned to El Toro Road WEST, using the existing hook ramp, while one lane is assigned to El Toro Road EAST that is braided over the SB hook on-ramp. This ramp then travels over El Toro Road on a new bridge, and then ties into a realigned Avenida De La Carlota by the Laguna Hills Mall area. A new SB hook on-ramp is provided along the realigned Avenida De La Carlota. The existing SB direct on-ramp from El Toro Road is eliminated, while the existing access provided by the SB ramps, opposite Paseo De La Valencia, are maintained. The NB ramps would be in a similar configuration as today, with improvements made by I-5 Segment 3, which is currently under construction. See Exhibit 5 below and Appendix A1.

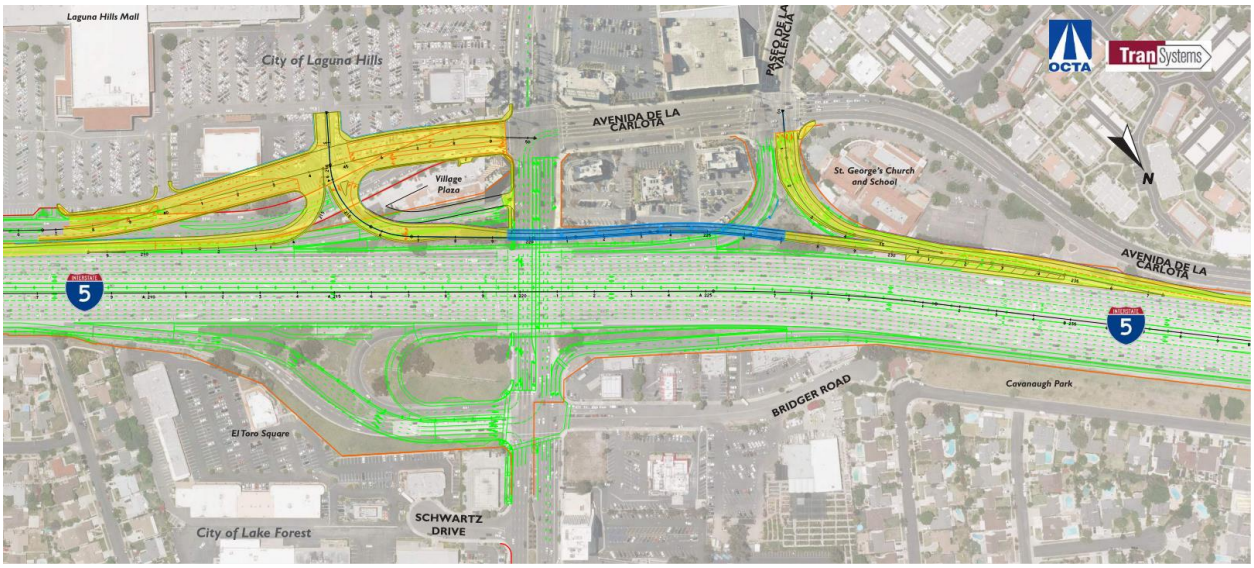


Exhibit 5 – Alternative AA-1 Braided Ramps One Location

Tunnel Variations

The possible use of tunnels for the AA and PR Alternatives has been determined to not be practical for the following reasons:

1. Safety concerns of having a fire in the tunnel.
2. Wider cross-section of tunnel to provide for ventilation/air handling equipment and emergency egress for possible trapped motorists during a fire or accident event.
3. Additional impacts due to wider cross section, and transition to tunnel section, such as along Avenida De La Carlota, and Bridger Road.

4. Alignment and profile challenges.
5. The impacts during construction to close travel lanes to construct a cut & cover tunnel under I-5 and El Toro Road.
6. The impact to all utilities under El Toro Road for tunnels that cross El Toro Road.
7. 24/7 monitoring of tunnel operations and fire/life-safety systems. Note: Operations and monitoring of tunnel facilities are becoming increasingly complex and design intensive.
8. Need for air scrubbers to clean tunnel air prior to releasing to environment, in a separate building located on-site.
9. Higher construction costs.

6.2 Alternative AA-2 Braided Ramps Two Locations

Alternative AA-2 proposes an I-5 SB off-ramp to independently serve El Toro Road EAST, and El Toro WEST. These two SB off-ramps are proposed in lieu of the one existing SB off-ramp.

This is accomplished with a 2-lane I-5 SB off-ramp to El Toro Road that is split with one lane assigned to El Toro Road WEST, using the existing hook ramp, while one lane is assigned to El Toro Road EAST that is braided over the SB hook on and off ramps, at two locations. This ramp then travels over El Toro Road on a new bridge, and then ties into a realigned Avenida De La Carlota. A new SB hook on-ramp is provided along the realigned Avenida De La Carlota. The existing SB direct on-ramp from El Toro Road is eliminated, while the existing access provided by the SB ramps, opposite Paseo De La Valencia, are maintained. The NB ramps would be in a similar configuration as today, with improvements made by I-5 Segment 3, which is currently under construction. See Exhibit 6 below and Appendix A1.

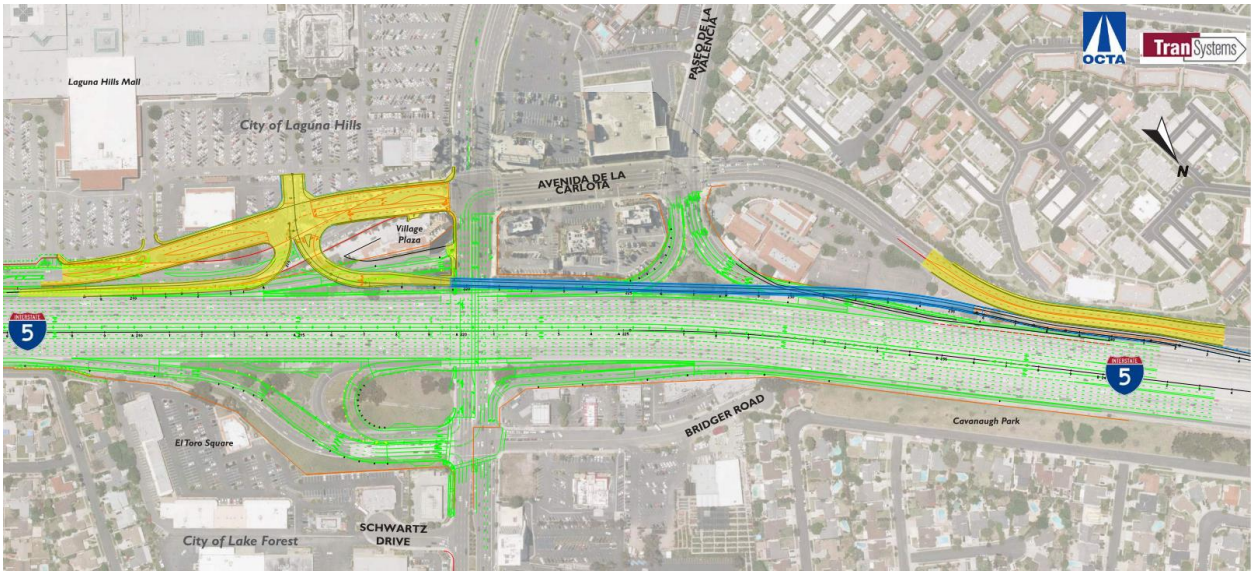


Exhibit 6 – Alternative AA-2 Braided Ramps Two Locations

6.3 Alternative AA-3 Braided Ramps One Location with Roundabout

Alternative AA-3 proposes an I-5 SB off-ramp to independently serve El Toro Road EAST, and El Toro WEST. These two SB off-ramps are proposed in lieu of the one existing SB off-ramp.

This is accomplished with a 2-lane I-5 SB off-ramp to El Toro Road that is split with one lane assigned to El Toro Road WEST, using the existing hook ramp, while one lane is assigned to El Toro Road EAST that is braided over the SB hook on-ramp. This ramp then travels over El Toro Road on a new bridge, and then ties into a realigned Avenida De La Carlota with a roundabout. This new El Toro Road EAST off-ramp splits after it crosses over El Toro Road with one lane heading north towards El Toro Road and one lane heading into the roundabout, with access to the Laguna Hills Mall and south on Avenida De La Carlota. The existing SB direct on-ramp from El Toro Road is realigned just east of its' current location while the SB ramps, opposite Paseo De La Valencia are maintained. The NB ramps would be in a similar configuration as today, with improvements made by I-5 Segment 3, which is currently under construction. See Exhibit 7 below and Appendix A1.

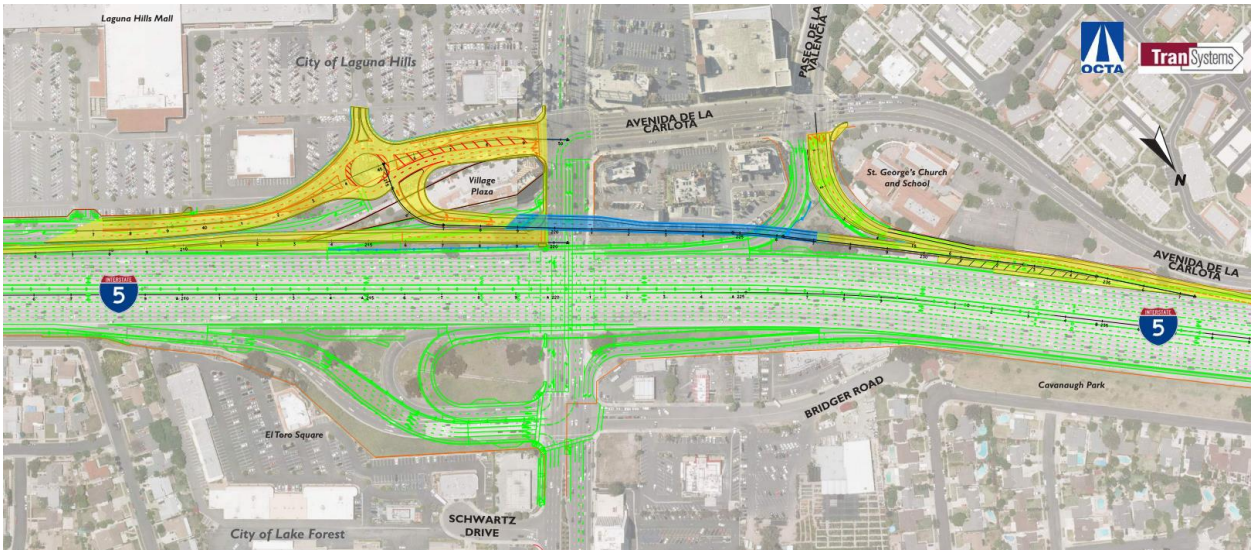


Exhibit 7 – Alternative AA-3 Braided Ramps One Location with Roundabout

6.4 Alternative AA-3A Braided Ramps One Location with Right Turn Only

Alternative AA-3A proposes an I-5 SB off-ramp to independently serve El Toro Road EAST, and El Toro WEST. These two SB off-ramps are proposed in lieu of the one existing SB off-ramp.

This is accomplished with a 2-lane I-5 SB off-ramp to El Toro Road that is split with one lane assigned to El Toro Road WEST, using the existing hook ramp, while one lane is assigned to El Toro Road EAST that is braided over the SB hook on-ramp. This ramp then travels over El Toro Road on a new bridge, and then ties into a realigned Avenida De La Carlota with a signalized intersection, with a free right turn only lane to provide access to El Toro Road EAST from the SB off-ramp. This new ramp that provides access to El Toro Road EAST, but does not provide access to the south on Avenida De La Carlota. The existing SB direct on-ramp from El Toro Road is realigned just east of its' current location while the SB ramps, opposite Paseo De La Valencia are maintained. The NB ramps would be in a similar configuration as today, with improvements made by I-5 Segment 3, which is currently under construction. See Exhibit 8 below and Appendix A1.

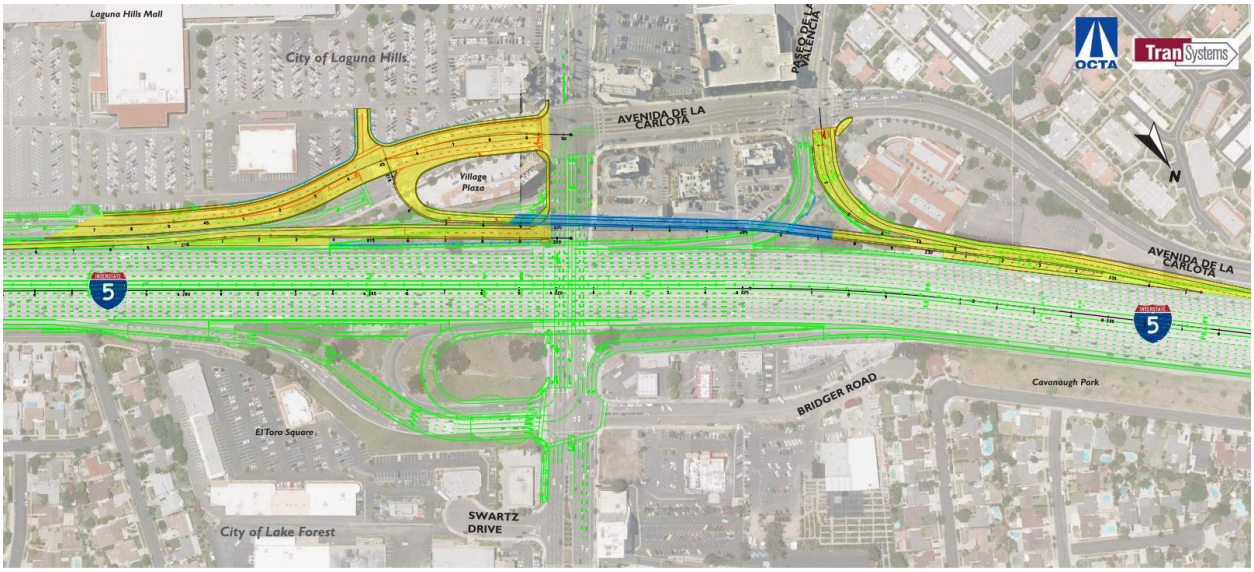


Exhibit 8 – Alternative AA-3A Braided Ramps One Location with Right Turn Only

6.5 Alternative AA-4 Flyover with Roundabout (Close to El Toro Road)

Alternative AA-4 proposes an I-5 SB flyover off-ramp to independently serve El Toro Road EAST, and a separate hook off-ramp for El Toro WEST. This is accomplished with a 2-lane I-5 SB off-ramp to El Toro Road that is split with one lane assigned to El Toro Road WEST, using the existing hook ramp, while one lane is assigned to El Toro Road EAST that is a flyover that connects to El Toro Road by Swartz Drive. The flyover ramp connects into a roundabout prior to connecting to El Toro Road. The intersection of the new flyover ramp/El Toro Road would be a right-turn in and out only. New access is provided to El Toro Square, that will provide a redevelopment opportunity. The existing SB direct on-ramp from El Toro Road, and the SB hook on-ramp opposite Paseo De La Valencia are maintained. The NB ramps would be in a similar configuration as today, with improvements made by I-5 Segment 3, which is currently under construction. See Exhibit 9 below and Appendix A1.

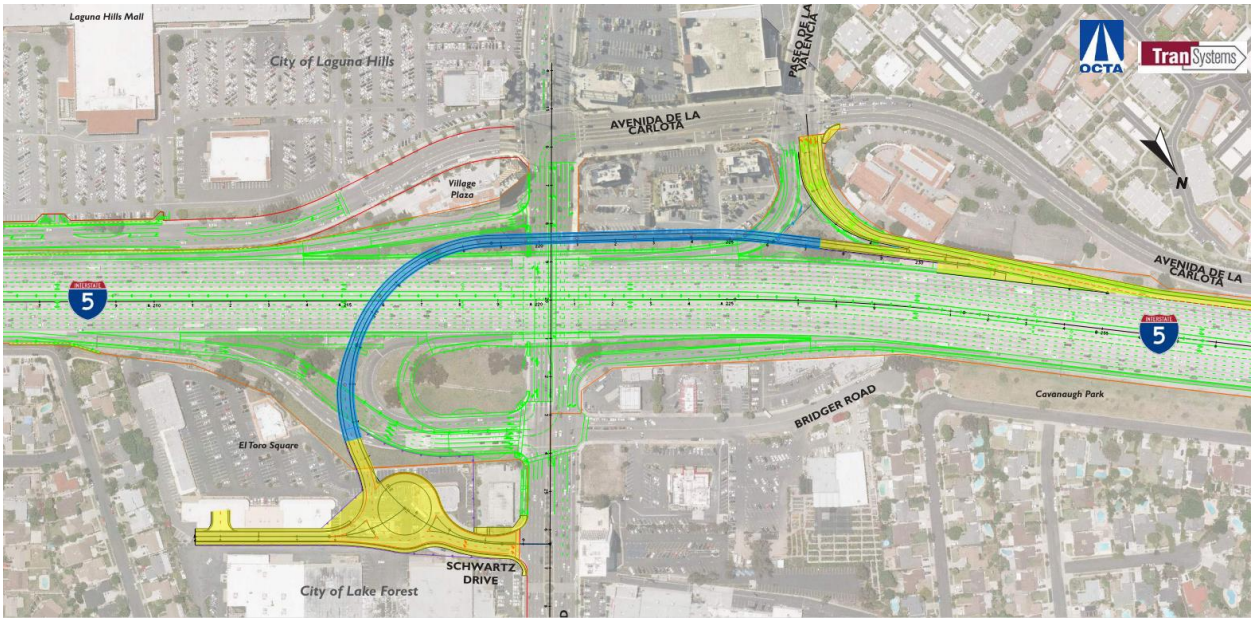


Exhibit 9 – Alternative AA-4 Flyover with Roundabout (Close to El Toro Road)

6.6 Alternative AA-4A Flyover with Roundabout (Away from El Toro Road)

Alternative AA-4A proposes an I-5 SB flyover off-ramp to independently serve El Toro Road EAST, and a separate hook off-ramp for El Toro WEST. This is accomplished with a 2-lane I-5 SB off-ramp to El Toro Road that is split with one lane assigned to El Toro Road WEST, using the existing hook ramp, while one lane is assigned to El Toro Road EAST that is a flyover that connects to El Toro Road by Swartz Drive. The flyover ramp connects into a roundabout that is further away from El Toro Road in order to provide additional storage capacity for vehicles queuing up to make a right turn onto El Toro Road, so vehicle won't back up into the roundabout. The intersection of the new flyover ramp/El Toro Road would be a right-turn in and out only. New access is provided to El Toro Square, that will provide a redevelopment opportunity. The existing SB direct on-ramp from El Toro Road, and the SB hook on-ramp opposite Paseo De La Valencia are maintained. The NB ramps would be in a similar configuration as today, with improvements made by I-5 Segment 3, which is currently under construction. See Exhibit 10 below and Appendix A1.

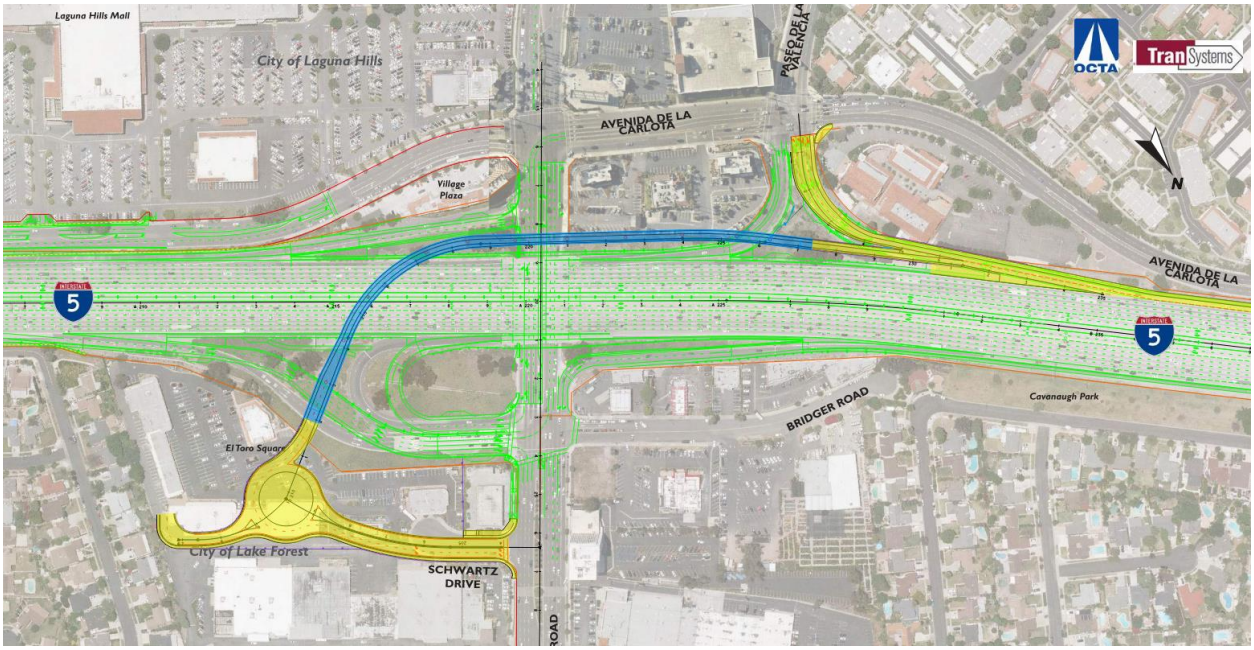


Exhibit 10 – Alternative AA-4A Flyover with Roundabout (Away from El Toro Road)

6.7 Alternative AA-5 Flyover with Roundabout Close to Rockfield Boulevard

Alternative AA-5 proposes an I-5 SB flyover off-ramp to independently serve El Toro Road EAST, and a separate hook off-ramp for El Toro WEST. This is accomplished with a 2-lane I-5 SB off-ramp to El Toro Road that is split with one lane assigned to El Toro Road WEST, using the existing hook ramp, while one lane is assigned to El Toro Road EAST that is a flyover that connects to both El Toro Road and Rockfield Boulevard. The flyover ramp connects into a roundabout that provides access to El Toro Road EAST, and provides access to Los Alisos Boulevard. Both the "Big Five" shopping Center and "Sprouts Shopping Center" would be completely redeveloped. Vehicles accessing El Toro Road EAST would have to make a right turn onto El Toro Road. Vehicles traveling to Rockfield Blvd. could make a right turn to gain access to Los Alisos Blvd. which would reduce the amount of traffic at the El Toro Road/Avenida De La Carlota intersection. New access is provided to El Toro Square, and the shopping center just to the east (will refer this to as "Sprouts Shopping Center"), that will provide a redevelopment opportunity. The existing SB direct on-ramp from El Toro Road, and the SB hook on-ramp opposite Paseo De La Valencia are maintained. The NB ramps would be in a similar configuration as today, with improvements made by I-5 Segment 3, which is currently under construction. Other benefits to Alternative AA-5 are: 1. Eliminates the non-standard "U-Turn" at the El Toro Road/NB Ramps intersection, 2. Eliminates Swartz Drive, allowing for a greater distance to the existing NB Ramps to the new access road, 3. Provides access to Los Alisos Boulevard EAST. See Exhibit 11 below and Appendix A1.

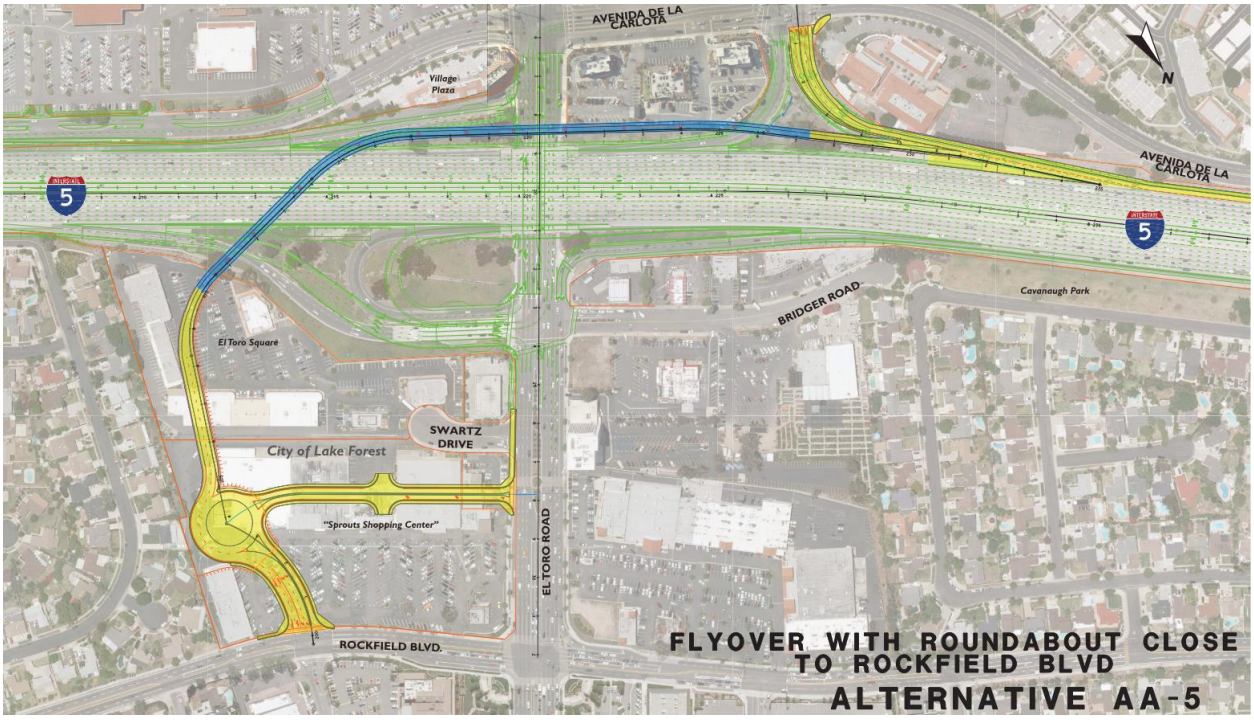


Exhibit 11 – Alternative AA-5 Flyover with Roundabout (Close to Rockfield Boulevard)

7. Alternatives Evaluation

The next step was to evaluate the Alternatives for the seven Alternatives developed as part of this Study along with the two Alternatives developed during the PA/ED Phase. This evaluation was from a high level qualitative and quantitative point of view, as the scope of this Study did not include a detailed evaluation, with such things as traffic analysis of weaving sections, queueing, and traffic signal level of service. It is recommended that these detailed analyses be performed by Caltrans to see if consensus can be reached by the Cities to support one Alternative to be carried forward to the PA/ED phase.

This high-level comparative assessment of alternatives, based on technical data obtained during the alternatives development, was performed to help the Workshop team to determine the best performing alternative(s). This screening of alternatives is based on the criteria included in Purpose and Need, with other criteria that are of concern to the stakeholders. Based on the discussions with Workshop Team, the rating criteria/performance measures that were considered are:

1. Traffic Flow and Traffic Signal Optimization
2. Reduce Local Street Congestion
3. Reduce Ramp Queuing
4. ROW Impacts
5. Local Economic Impact
6. Visual & Noise Impacts
7. Cost

The seven (7) different rating criteria/performance measures that were assessed are summarized below:

1. The rating criteria/performance measure **'traffic flow and traffic signal optimization'** focused on an evaluation of the freeway operations of each Alternative, and traffic signals. Traffic operations was also reviewed to determine if the Alternative improves or degrades traffic operations at the I-5/El Toro Road interchange. The Alternatives were also reviewed to verify if the geometrics would increase or decrease the weaving sections.
2. The rating criteria/performance measure **'reduce local street congestion'** was an assessment of the potential impacts on the local arterials as well as improving or degrading traffic operations on the surface streets (including ramp terminal intersections). The traffic assessment looked at the alternatives efficiency of providing access to El Toro Road EAST and El Toro Road WEST.

3. The rating criteria/performance measure '**improve ramp operations (reduce ramp queuing)'** included a review of whether or not the alternative had the potential to reduce queues on the associated ramps and connectors.
4. The rating criteria/performance measure '**right-of-way impacts'** focused on the physical right-of-way impacts associated with each alternative. The impact areas were documented, including whether the parcels are a full or partial take, need for temporary construction easements, and permanent easements.
5. The rating criteria/performance measure '**local economic impacts'** included a qualitative assessment of the potential for economic impacts to development areas, such as Laguna Hills Mall, Village Plaza, and El Toro Square, for potential loss of tax revenue for the cities.
6. The rating criteria/performance measure '**visual and noise impacts'** included a qualitative assessment of the visual and noise impacts, in particular for alternatives that have high bridge structures versus alternatives with lower bridge structures. Also, see Environmental discussion below.
7. The rating criteria/performance measure **'cost'** was developed for each alternative. Construction cost estimates included roadway and structure costs, right-of-way, utilities. Support costs included PA/ED support, PS&E support, Right of Way support, and construction support.

Traffic

A comprehensive traffic analysis was conducted to assess the nine different build alternatives for the 2030 horizon year (AM and PM peak hours). Traffic volume data, field observations, and design details of the potential alternatives were used, along with the Synchro/SimTraffic traffic analysis software. Note: The traffic analysis for Alternatives AA-1 and AA-2 are considered together. Eight different traffic-focused measures of effectiveness (MOEs) were used to evaluate the alternatives.

All of the alternatives are projected to improve operations compared to the No Build alternative for most or all of the MOEs. However, there are differences in performance that were indicated by the traffic analysis:

- Alternatives AA-1/AA-2, AA-3, and AA-3A will improve operations for many of the MOEs. However, there are high volumes of traffic using the new Avenida De La Carlota intersection south of El Toro Road (which may be signalized or a roundabout). Those high volumes result in delays in queuing along Avenida De La Carlota, and the performance will not be as good for some MOEs.

- Alternatives AA-4, AA-4A, and AA-5 reduce intersection volumes at the interchange by bringing traffic over I-5 to a new roundabout intersection southwest of the El Toro

Road/Rockfield Boulevard intersection. Coordinated signal timing on El Toro Road will be needed, but the performance of these alternatives will be very good for all of the MOEs. Alternative AA-5 is the best of the three because it splits traffic to both El Toro Road and Rockfield Boulevard. However, the differences in performance, as compared to AA-4 and AA-4A, are relatively small.

- Alternative PR-2 has some advantages over the No Build alternative, particularly for the PM peak, but it generally does not perform as well as the other build alternatives. Alternative PR-4 performs well, largely because it provides multiple ramps on the southbound side of I-5 and provides more capacity with the realigned Avenida De La Carlota.

Environmental

The following discussion provides a high-level qualitative review of potential environmental impacts that may result from the Alternatives proposed in the Alternatives Analysis (AA), AA-1 through AA-5, and was developed to inform decision makers in the Alternatives Analysis process. An official determination of impacts will need to be further evaluated through technical analysis during the PA/ED phase.

In evaluating each of the seven AA Alternatives, the primary differences fall within the following environmental resource categories: Community Impacts, Section 4(f), Visual/Aesthetics, Traffic, Hazardous Waste, and Noise.

Community Impacts

Alternatives AA-1 and AA-2 would both displace only one business, Tire Center, which is located within the Laguna Hills Mall Area. Alternatives AA-3 and AA-3A would reduce the impacts on the Laguna Hills Mall area, but would require a full acquisition of the Village Plaza, which would displace businesses. Alternatives AA-4, AA-4A, and AA-5, however, have right of way needs on the Lake Forest side of I-5 and would require full acquisition of the properties in the southeast quadrant of the I-5/El Toro Road intersection, displacing businesses within El Toro Square, with Alternative AA-5 having the most impacts in that quadrant. Alternative AA-5 provides a new roundabout near Rockfield Boulevard, adjacent to the single-family homes along Silverbay Drive. This alternative requires the most acquisitions, which would displace businesses within El Toro Square and the “Sprout’s Shopping Center” and would also remove Swartz Drive.

Alternatives AA-1 through AA-5 would not require any right of way or relocations from the properties located on Bridger Road. In terms of right of way acquisition, St. George School & Church would be most affected by Alternative AA-2 compared to Alternatives AA-1, AA-3 through AA-5, PR-2 and PR-4. Furthermore, similar to Alternatives PR-2 and PR-4, Alternatives AA-1 through AA-5 would not require acquisition of any residential parcels.

Alternative PR-2 would remove businesses and parking on Bridger Road. Businesses would be relocated due to the full acquisitions necessary to construct the southbound off-ramp and northbound on-ramp. Alternative PR-4 would affect parking on Bridger Road due to the new I-5 northbound on-ramp configuration, and would impact parking at the Laguna Hills Mall.

Section 4(f)

One key distinction of Alternatives AA-1 through AA-5 in comparison to PR-2 and PR-4 is that Alternatives AA-1 through AA-5 provide improvements to the I-5 southbound ramps only, and would maintain the existing northbound I-5 ramps. In doing so, Alternatives AA-1 though AA-5, as currently shown, would avoid permanent impacts to Cavanaugh Park, a Section 4(f) resource, which was impacted under Alternatives PR-2 and PR-4. It should be noted that if the NB ramp improvements are added to the AA Alternatives the 4(f) impacts are expected to be similar to the PR-4 Alternative.

Visual/Aesthetics

Alternatives AA-1 and AA-3 would construct a new bridge for the southbound I-5 off-ramp traffic. Based on the preliminary design, the bridge would be at a higher profile than the existing mainline and would extend south from the existing southbound El Toro Road off-ramp, over El Toro Road, terminating close to the existing Tire Center in the southwest quadrant of the interchange. The higher profile of the bridge may result in moderate visual impacts, compared to PR-4, but much less visual impacts that AA-4, AA-4A, AA-5, and PR-2.

The proposed roundabout included in Alternative AA-3 has the potential to improve aesthetics near the Laguna Hills Mall by landscaping treatment in the middle and around the roundabout. Alternative AA-2 proposes an additional braided ramp configuration compared to AA-1, AA-3, and AA-3A with the proposed new bridge near the southern edge of St. George's School & Church, which is likely to cause additional moderate visual impacts. Alternative AA-3A lacks the roundabout but has a slightly smaller footprint overall which may result in slightly less visual impacts.

Alternatives AA-4, AA-4A, and AA-5 would include a flyover bridge over I-5 for motorists exiting southbound I-5 to eastbound El Toro Road, which would introduce visual impacts for motorists and residents in the northwest and northeast quadrants of the Interchange. Similarly, Alternative PR-2 would also propose a flyover bridge with visual impacts. Unlike the other Alternatives, Alternative PR-4 does not propose a taller bridge structure than the existing I-5 mainline, thus a lower visual impact to viewers related to bridge structures is anticipated. Nevertheless, Alternative PR-4 would introduce increased impacts at the Laguna Hills Mall area – overall a larger area than the other alternatives that impact that Laguna Hills Mall area (Alternatives AA-1 through AA-3A). However, all alternatives would be within the visual

character of the project area as it is a built-out area located on and/or near existing transportation routes and developed areas. All alternatives would remove ornamental trees and landscaping in the project area.

Hazardous Waste

Alternatives AA-1 through AA-3A and PR-4 would require disturbance at the Village Plaza and the Tire Center, which have both been identified as having potentially contaminated soil and/or groundwater. Whereas Alternative AA-3, AA-3A, and PR-2 would require a full acquisition of Village Plaza. Alternatives AA-4 and AA-4A would avoid impacts to both the Village Plaza and the Tire Center.

In contrast to Alternatives PR-2 and PR-4, Alternatives AA-1 through AA-5 would avoid disturbance of potentially contaminated soil and/or groundwater at the Chevron Gasoline Station along Bridger Road, a site that has been documented as having a closed groundwater case, and having the potential for diesel and gasoline contamination in groundwater and/or soil. Additionally, all Alternatives have the potential to encounter aerially deposited lead at unpaved areas, as well as the potential to disturb the existing bridges and structures that contain asbestos-containing materials and lead based paint.

Noise

The new ramp configurations proposed under Alternatives AA-1, AA-3, and AA-3A include new bridges adjacent to the southbound I-5 mainline and would introduce a new source of noise for outdoor use areas (i.e. restaurant patio seating) and residential areas. Because the bridge proposed in Alternative AA-2 would be at a higher elevation than the bridges in Alternatives AA-1 and AA-3, it is probable that noise impacts associated with AA-2 could be greater than AA-1, AA-3, and AA-3A for sensitive receptors.

Among the alternatives, Alternative PR-4 is unique in that it would not construct any bridges higher than the elevation of the existing I-5 mainline, which is generally beneficial for nearby sensitive receptors, compared to higher structures. However, Alternative PR-4 does shift traffic on Avenida De La Carlota towards two restaurants with outdoor seating at In-N-Out and King's Fish House.

Alternatives AA-4, AA-4A, AA-5, and PR-2 propose a flyover bridge over I-5, which is likely to result in increased noise levels for nearby sensitive receptors. Specifically, due to the location of the flyover bridge structures, Alternatives AA-4, AA-4A, and AA-5 are likely to result in increased traffic noise levels for the residential area in the southeast quadrant of the interchange; whereas the flyover bridge proposed under Alternative PR-2 is more likely to result in increased traffic noise levels for the homes on both the northwest and northeast quadrants of the interchange.

Right of Way

The Right of Way (ROW) impacts of the Study Alternatives have impacts to the local developed areas. In particular, Alternatives AA-1, AA-2, AA-3, and AA-3A impact the Laguna Hills Mall and the Village Plaza, while Alternatives AA-4, AA-4A, and AA-5 impact El Toro Square and Sprouts Shopping Center. The cities are concerned not only with the ROW takes, but also the resulting economic impacts to city tax base.

For Alternatives AA-4, AA-4A the entire El Toro Square parcel will be acquired. For Alternative AA-5 the entire El Toro Square parcel and the "Sprouts Shopping Center" parcel will be acquired. For these three Alternatives only, there will be a residual area that could be developed. The value of this residual area will offset the initial cost of the ROW and be reimbursed to OCTA. The permanent ROW acquisitions (takes) for these four parcels, (Laguna Hills Mall, Village Plaza, El Toro Square, and "Sprouts Shopping Center) along with the residual areas that could be developed after the implementation of the proposed improvements are:

Permanent Right of Way Acquisitions at Laguna Hills Mall, The Village Plaza, El Toro Square, and Sprouts Shopping Center

Alternative	Development	Area of Parcel (SF)	ROW Take Amount (SF)	Area Remaining (SF)	Residual Area Available to Sell for Redevelopment (SF)
AA-1	Laguna Hills Mall	2,935,730	78,154	2,857,576	0
AA-2					
AA-3			48,957	2,886,773	0
AA-3A			39,900	2,895,830	0
AA-1	The Village Plaza	40,737	6,777	33,960	0
AA-2					
AA-3			40,737	0	0
AA-3A					
AA-4	El Toro Square	271,573	271,573	188,846	188,846
AA-4A				198,233	198,233
AA-5				179,940	179,940 (include with AA-5)
AA-4	Sprouts Shopping Center	423,912	0	423,912	0
AA-4A					
AA-5			423,912	301,300	301,300 + 179,940 (from El Toro Square) = 481, 240

The following is a summary of the ROW needs for the AA Alternatives and PR-2 & PR-4 Alternatives.

Summary of Right of Way Needs

Alternative	Alternative AA-1 (Braided Ramps One Location)				Alternative AA-2 (Braided Ramps Two Locations)				Alternative AA-3 (Braided Ramps One Location with Roundabout)				Alternative AA-3A (Braided Ramps One Location with Right Turn Only)			
Location	Temporary Construction Easement (TCE) (SF)	Permanent Easement (SF)	Fee Take (SF)	Building Demolition (SF)	Temporary Construction Easement (TCE) (SF)	Permanent Easement (SF)	Fee Take (SF)	Building Demolition (SF)	Temporary Construction Easement (TCE) (SF)	Permanent Easement (SF)	Fee Take (SF)	Building Demolition (SF)	Temporary Construction Easement (TCE) (SF)	Permanent Easement (SF)	Fee Take (SF)	Building Demolition (SF)
Laguna Hills Mall Area	10,225		78,154	20,708	10,225		78,154	20,708	10,478		48,957		10,809		39,900	
Village Plaza Area			6,777				6,777				40,737	10,868			40,737	10,868
Farmer Boys Area		8,740	4,120							9,157	8,878			9,157	8,878	
St. George's School & Church Area	5,475		2,223		5,346		25,381		5,475		2,223		5,475		2,223	
El Toro Square Area																
Sprouts Shopping Center																
Bridger Road Area																
Cavanaugh Park Area																
Total	**15,700**	**8,740**	**91,274**	**20,708**	**15,571**		**110,312**	**20,708**	**15,953**	**9,157**	**100,795**	**10,868**	**16,284**	**9,157**	**91,738**	**10,868**

Alternative	Alternative AA-4 (Flyover with Roundabout Close to El Toro Road)				Alternative AA-4A (Flyover with Roundabout Away From El Toro Road)				Alternative AA-5 (Flyover with Roundabout Close to Rockfield Boulevard)				Alternative PR-2 (Flyover, from Draft Project Report)				Alternative PR-4 (Collector-Distributor Road, from Draft Project Report)			
Location	Temporary Construction Easement (TCE) (SF)	Permanent Easement (SF)	Fee Take (SF)	Building Demolition (SF)	Temporary Construction Easement (TCE) (SF)	Permanent Easement (SF)	Fee Take (SF)	Building Demolition (SF)	Temporary Construction Easement (TCE) (SF)	Permanent Easement (SF)	Fee Take (SF)	Building Demolition (SF)	Temporary Construction Easement (TCE) (SF)	Permanent Easement (SF)	Fee Take (SF)	Building Demolition (SF)	Temporary Construction Easement (TCE) (SF)	Permanent Easement (SF)	Fee Take (SF)	Building Demolition (SF)
Laguna Hills Mall Area																	32,825		270,590	
Village Plaza Area																			40,737	6,124
Farmer Boys Area		8,740	4,120			8,740	4,120			8,740	4,120						3,385		3,090	
St. George's School & Church Area	4,364				4,364				5,475		2,223		2,813		15,070		6,332		5,405	
El Toro Square Area	8,430		271,573	67,573			271,573	67,573			271,573	67,573								
Sprouts Shopping Center					8,430				8,430		423,912	120,122								
Bridger Road Area															299,745	46,667			33,283	12,757
Cavanaugh Park Area													15,950		58,116		18,085		34,996	
Total	**12,794**	**8,740**	**275,693**	**67,573**	**12,794**	**8,740**	**275,693**	**67,573**	**5,475**	**8,740**	**701,828**	**187,695**	**18,763**		**372,931**	**46,667**	**60,627**		**388,101**	**18,881**

8. Cost Estimates

The following is a summary of the Total Project Cost Estimates for the seven Study Alternatives and the two Draft Project Report Alternatives. Note: As mentioned earlier, the AA Alternatives include only the Improvements for SB I-5, as well as the costs shown on the following pages. In order to have an equal basis of comparison between the cost of the AA Alternatives and the PR Alternatives, a lump sum amount has been added to the AA Alternatives to account for the NB improvements as shown in the PR-4 cost estimate.

The NB improvements shown as part of PR-4 could be added to any of the AA Alternatives.

The project costs for the NB improvements are estimated at $34 million which include capital outlay costs and support costs. This cost has been added to the AA Alternatives as shown on the following cost summary table, in order to have the same cost basis when comparing the AA Alternatives and the Draft Project Report Alternatives.

Description	AA-1 Braided Ramps One Location	AA-2 Braided Ramps Two Locations	AA-3 Braided Ramps One Location with Roundabout	AA-3A Braided Ramps One Location with Right Turn Only	AA-4 Flyover with Roundabout Close to El Toro Road	AA-4A Flyover with Roundabout Away from El Toro Road	AA-5 Flyover with Roundabout Close to Rockfield Boulevard	PR – 2 Draft Project Report (Flyover)	PR-4 Draft Project Report (Collector Distributor)
Roadway	$45,625,700	$45,394,700	$44,668,700	$44,522,00	$46,263,200	$46,148,300	$44,631,400	$48,128,400	$61,462,600
Structures	$10,859,063	$23,455,575	$13,057,200	$11,793,00	$28,066,500	$27,175,500	$30,234,600	$17,350,744	$2,776,761
Sub-Total Construction Cost	**$56,484,763**	**$68,850,275**	**$57,725,900**	**$56,316,000**	**$74,329,700**	**$73,323,800**	**$74,866,000**	**$65,479,144**	**$64,239,361**
Right of Way Cost	$24,767,793	$28,877,773	$28,460,774	$27,595,004	$49,827,007	$49,827,007	$118,332,357	$74,908,000	$141,135,000
Total Capital Outlay Cost	**$81,300,000**	**$97,730,000**	**$86,200,000**	**$83,912,000**	**$124,200,000**	**$123,200,000**	**$193,199,000**	**$140,400,000**	**$205,400,000**
PA/ED Support	$4,400,000	$4,400,000	$4,400,000	$4,400,000	$4,400,000	$4,400,000	$4,400,000	$4,400,000	$4,400,000
PS&E Support	$8,472,714	$10,327,541	$8,658,885	$8,447,400	$11,149,455	$10,998,570	$11,299,900	$9,821,872	$9,635,904
Right of Way Support	$1,981,423	$2,310,222	$2,276,862	$2,207,600	$3,986,161	$3,986,161	$9,466,589	$7,000,000	$8,000,000
Construction Support	$11,296,953	$13,770,055	$11,545,180	$11,263,200	$14,865,940	$14,664,760	$14,973,200	$13,095,829	$12,847,872
Total Support Costs	**$26,152,000**	**$30,808,000**	**$26,881,000**	**$26,319,000**	**$34,402,000**	**$34,050,000**	**$40,070,000**	**$34,318,000**	**$34,884,000**
SUB-TOTAL PROJECT COSTS	**$108,000,000**	**$129,000,000**	**$114,000,000**	**$111,000,000**	**$159,000,000**	**$158,000,000**	**$234,000,000**	**$175,000,000**	**$241,000,000**
NB Improvements from PR-4	**$34,000,000**	**$34,000,000**	**$34,000,000**	**$34,000,000**	**$34,000,000**	**$34,000,000**	**$34,000,000**	**$0**	**$0**
TOTAL PROJECT COSTS	**$142,000,000**	**$163,000,000**	**$148,000,000**	**$145,000,000**	**$193,000,000**	**$192,000,000**	**$268,000,000**	**$175,000,000**	**$241,000,000**
Residual ROW Value	$0	$0	$0	$0	$12,000,000	$12,000,000	$48,000,000	$0	$0
NET TOTAL PROJECT COSTS	$142,000,000	$163,000,000	$148,000,000	$145,000,000	$181,000,000	$180,000,000	$220,000,000	$175,000,000	$241,000,000

9. Pros/Cons Summary Matrix

A high-level qualitative & quantitative summary matrix was prepared to compare the pros and cons of each Alternative to provide a comparison of how each Alternative performed against each other. See the Alternatives Pros/Cons Summary Table on the next pages for details.

Table 1 - Alternatives Pros/Cons Summary

No.	Rating Criteria/ Performance Measure	Alternative AA-1 (Braided Ramps One Location)	Alternative AA-2 (Braided Ramps Two Locations)	Alternative AA-3 (Braided Ramps One Location with Roundabout)	Alternative AA-3A (Braided Ramps One Location with Right Turn Only)
1	Traffic Flow and Traffic Signal Optimization	Pros: 1. Proposed braid separates existing ETR ramps into EAST and WEST ramps improving traffic flow. 2. Braid eliminates weaving conflict between the SB hook on and off ramps that was proposed in PR-4. 3. Reduced volumes at the ADLC/SB ramp intersection and ADLC/ETR intersection will improve traffic operations. 4. Proposed braid provides operational and safety benefit to I-5 freeway since potential for traffic back up onto the mainline is reduced.	Pros: 1. Same as AA-1. 2. Same as AA-1. 3. Same as AA-1. 4. Same as AA-1.	Pros: 1. Same as AA-1. 2. Same as AA-1. 3. Same as AA-1. 4. Same as AA-1. 5. The roundabout has a traffic calming effect. 6. Eliminates the dual left turns in front of the mall from traffic turning right on ETR and left onto SB on-ramp. 7. The direct on-ramp to SB I-5 is maintained and reconstructed adjacent to the existing location. 8. There should not be an access control issue with the roundabout and mall entrance. 9. Roundabout eliminates traffic signal.	Pros: 1. Same as AA-1. 2. Same as AA-1. 3. Same as AA-1. 4. Same as AA-1.
		Cons: 1. EB ETR making a right on ADLC and making a left to enter SB I-5 has limited storage, and signals will have to be synchronized. 2. Left turn in and out of the Village Plaza will be eliminated with the new configuration of ADLC. However, an additional access has been provided from ETR to mitigate this condition.	Cons: 1. Same as AA-1. 2. Signing for successive off-ramps to ETR could be challenging and could cause driver confusion.	Cons: 1. Access into the Laguna Hills Mall is not as direct as AA-1 and AA-2 from the SB off-ramp.	Cons: 1. No direct access into the Laguna Hills Mall. 2. Amount of traffic reduced at the PDLV/SB Ramps intersection & left turn lanes at the ETR/ADLC intersection is only up to 39%, compared to 79% for Alt AA-1, 2, & 3.

No.	Rating Criteria/ Performance Measure	Alternative AA-4 (Flyover with Roundabout Close to El Toro Road)	Alternative AA-4A (Flyover with Roundabout Away From El Toro Road)	Alternative AA-5 (Flyover with Roundabout Close to Rockfield Blvd)	Alternative PR-2 (Flyover, from Draft Project Report)	Alternative PR-4 (Collector-Distributor Road, from Draft Project Report)
1	Traffic Flow and Traffic Signal Optimization	Pros: 1. Flyover separates ETR EAST and ETR WEST traffic improving traffic flow. 2. Flyover eliminates weaving between the SB hook on and off ramps, as included in PR-4. 3. Reduced volumes at the ADLC/SB ramp intersection, and ADLC/ETR intersection will improve traffic operations.	Pros: 1. Same as AA-4 2. Same as AA-4 3. Same as AA-4	Pros: 1. Same as AA-4 2. Same as AA-4 3. Same as AA-4 4. Access to Rockfield Blvd could provide additional benefit for vehicles wanting to go to Los Alisos Blvd compared to Alt AA-4, & 4A. 5. Roundabout can be at-grade and allow for better deceleration of vehicles and sight distance.	Pros: 1. Improves traffic flow by reducing volumes at the ADLC/SB ramps, and ETR/ADLC intersections.	Pros: 1. Same as PR-2.
		Cons: 1. Having the terminus of two off-ramps adjacent to each other. (NB off and SB off-ramps) could cause driver confusion. 2. The roundabout will have to be elevated due to the height of the flyover to minimize descending grade. 3. Potential for traffic backing up into the roundabout is a concern.	Cons: 1. Same as AA-4. 2. Same as AA-4. 3. Same as AA-4.	Cons: 1. Signing of roundabout will be difficult to sign for ETR EAST, and Rockfield Blvd. 2. Potential for traffic backing up into the roundabout is a concern.	Cons: 1. Increased traffic volumes at the ETR/NB ramps need to be accommodated by the traffic signal.	Cons: 1. Collector-distributor (C-D) road causes weaving conflicts with the ETR EAST and SB hook on-ramp traffic.

Abbreviations:
ADLC – Avenida De La Carlota
C-D: Collector-Distributor
ETR – El Toro Road
PDLV – Paseo De La Valencia

Note: Pros/Cons are a high level qualitative & quantitative review of Alternatives.

Table 1 (Cont.) - Alternatives Pros/Cons Summary

No.	Rating Criteria/ Performance Measure	Alternative AA-1 (Braided Ramps One Location)	Alternative AA-2 (Braided Ramps Two Locations)	Alternative AA-3 (Braided Ramps One Location with Roundabout)	Alternative AA-3A (Braided Ramps One Location with Right Turn Only)
2	Reduce Local Street Congestion	Pros: 1. Reduced demand on triple left turn lane at the SB off-ramp/ADLC because ETR EAST, and ETR WEST traffic is separated. 2. Additional signal timing can be given to SB ADLC onto the SB hook on-ramp improving traffic signal operations. (Due to reduced volume of vehicles making a left turn onto ADLC from the SB hook off-ramp.	Pros: 1. Same as AA-1. 2. Same as AA-1.	Pros: 1. Same as AA-1. 2. Same as AA-1. 3. Providing a roundabout will eliminate the queue concern between the SB on-ramp (opposite the Mall) and ETR.	Pros: 1. Same as AA-1. 2. Same as AA-1.
		Cons: 1. Left-turn movement from ADLC to SB I-5 will result in a decreased LOS; however, it will still meet the HDM requirement.	Cons: 1. Shifting ADLC to accommodate the 2 off ramps will cause impacts during construction.	Cons: 1. Traffic from the Laguna Hills Mall heading SB on I-5 will have to pass through the intersection of ADLC and ETR to enter the freeway on the tangent on-ramp.	Cons: 1. Same as AA-3. 2. Does not take as much traffic out of the PDLV/SB Ramps intersection and triple lefts at the ETR/ADLC intersection as Alt AA-1, 2, & 3.
3	Improve Ramp Operations (Reduce Ramp Queuing)	Pros: 1. Splitting the ETR EAST & ETR WEST traffic reduces volume of vehicles using the SB hook off-ramp by PDLV providing same storage capacity as existing for reduced volumes, thereby reducing potential for vehicle backing up onto freeway. 2. The ETR EAST ramp is very long and provides more than the needed storage. 3. Increased storage capacity on the ramps optimizes freeway operations. 4. The proposed SB hook on-ramp by the Mall, more than doubles the storage capacity of the existing direct on-ramp.	Pros: 1. Same as AA-1. 2. Same as AA-1. 3. Same as AA-1. 4. Same as AA-1.	Pros: 1. Same as AA-1. 2. Same as AA-1. 3. Same as AA-1.	Pros: 1. Same as AA-1. 2. Same as AA-1. 3. Same as AA-1.
		Cons: 1. Elimination of existing carpool bypass lane on the tangent on-ramp. No new carpool lane is proposed.	Cons: 1. Same as AA-1.	Cons: 1. Same as AA-1.	Cons: 1. Same as AA-1. 2. Does not provide access to SB ADLC as Alt AA-1, 2, & 3 provide.

No.	Rating Criteria/ Performance Measure	Alternative AA-4 (Flyover with Roundabout Close to El Toro Road)	Alternative AA-4A (Flyover with Roundabout Away From El Toro Road)	Alternative AA-5 (Flyover with Roundabout Close to Rockfield Blvd)	Alternative PR-2 (Flyover, from Draft Project Report)	Alternative PR-4 (Collector-Distributor Road, from Draft Project Report)
2	Reduce Local Street Congestion	Pros: 1. Same as AA-1. 2. Same as AA-1.	Pros: 1. Same as AA-1. 2. Same as AA-1.	Pros: 1. Same as AA-1. 2. Same as AA-1. 3. Provides access to Rockfield Blvd which can be used to access Los Alisos Blvd.	Pros: 1. Same as AA-1. 2. Same as AA-1.	Pros: 1. Same as AA-1. 2. Same as AA-1.
		Cons: 1. Traffic heading towards Los Alisos will have to continue to use the existing SB off-ramp, and go through the ETR/ADLC intersection.	Cons: 1. Same as AA-4.	Cons: 1. Signing at roundabout area will be difficult to direct vehicles to either ETR or Rockfield Blvd.	Cons: 1. Same as AA-4. 2. Shifting ADLC to accommodate flyover will cause impacts during construction. 3. ETR/NB on & off ramp intersection could cause local street congestion.	Cons: 1. Additional congestion along WB ETR in the vicinity of the new intersection of the NB on-ramp. Right 2 lanes are for NB I-5, while adjacent lane is for SB I-5.
3	Improve Ramp Operations (Reduce Ramp Queuing)	Pros: 1. Same as AA-1. 2. Same as AA-1. 3. Same as AA-1.	Pros: 1. Same as AA-1. 2. Same as AA-1. 3. Same as AA-1. 4. ETR EAST ramp traffic less likely to back up into roundabout as in AA-4.	Pros: 1. Same as AA-1. 2. Same as AA-1. 3. Same as AA-1.	Pros: 1. Longer ramps will provide additional room for ramp queueing.	Pros: 1. Same as PR-2.

No.	Rating Criteria/ Performance Measure	Alternative AA-1 (Braided Ramps One Location)	Alternative AA-2 (Braided Ramps Two Locations)	Alternative AA-3 (Braided Ramps One Location with Roundabout)	Alternative AA-3A (Braided Ramps One Location with Right Turn Only)
4	ROW Impacts	Pros: 1. Reduced impacts on the Laguna Hills Mall area compared to PR-2. 2. No impact in City of Lake Forest.	Pros: 1. Same as AA-1. 2. Same as AA-1.	Pros: 1. Roundabout requires less ROW in the mall property in comparison to AA-1 and AA-2. 2. Saves Tire Center Building.	Pros: 1. Requires less ROW than Alt AA-1, 2, & 3. 2. No impact in City of Lake Forest.
		Cons: 1. Impacts on Laguna Hill Mall and takes the Tire Center building. 2. Impacts on the Village Plaza. 3. Impacts on St. George's property.	Cons: 1. Same as AA-1. 2. Same as AA-1. 3. Increased impacts to St. George's property than AA-1.	Cons: 1. Impacts on Laguna Hills Mall 2. Full take of the Village Plaza. 3. Same as AA-1.	Cons: 1. Same as AA-3. 2. Same as AA-3. 3. Same as AA-1.
5	Local Economic Impacts	Pros: 1. Improving the access to ETR and providing direct access to the Mall will allow for future growth and the development of The Village at Laguna Hills.	Pros: 1. Same as AA-1.	Pros: 1. Same as AA-1.	Pros: 1. Less impact on the Laguna Hills Mall than AA-1, 2, & 3.
		Cons: 1. Potential loss of approximately 1.5 acres to the Mall potentially reduces the tax revenue and reduces the development incentive. 2. Building Demolition in Mall of 20,708 SF.	Cons: 1. Same as AA-1. 2. Same as AA-1.	Cons: 1. Same as AA-1 2. The full take of the Village Plaza will add to the economic impact. 3. Building Demolition in Village Plaza of 10,868 SF.	Cons: 1. Potential loss of approximately 0.9 acres to Laguna Hills Mall reduces tax revenue and developer incentive. 2. Same as AA-3. 3. Same as AA-3.

No.	Rating Criteria/ Performance Measure	Alternative AA-4 (Flyover with Roundabout Close to El Toro Road)	Alternative AA-4A (Flyover with Roundabout Away From El Toro Road)	Alternative AA-5 (Flyover with Roundabout Close to Rockfield Blvd	Alternative PR-2 (Flyover, from Draft Project Report)	Alternative PR-4 (Collector-Distributor Road, from Draft Project Report)
4	ROW Impacts	Pros: 1. No impacts on the Laguna Hills Mall area. 2. No impacts on the Village Plaza.	Pros: 1. Same as AA-4. 2. Same as AA-4.	Pros: 1. Same as AA-4. 2. Same as AA-4.	Pros: 1. No impacts on the Laguna Hills Mall area. 2. No impacts on the Village Plaza.	Pros: 1. Same as AA-4.
		Cons: 1. Impacts on El Toro Square (Big Five shopping center). 2. Potential to completely cut off access to El Toro Square if roundabout clogs. 3. Potential maintenance issues with elevated off ramp & roundabout.	Cons: 1. Same as AA-4. 2. Same as AA-4.	Cons: 1. Same as AA-4. 2. Impact to El Toro Square and "Sprouts Shopping Center.	Cons: 1. Major impacts on Bridger Road, and Cavanaugh Park.	Cons: 1. Impacts on Bridger Road and Cavanaugh Park, but to a lesser extent than PR-2.
5	Local Economic Impacts	Pros: 1. No impact to the Laguna Hills Mall. 2. Provides opportunity to redevelop El Toro Square.	Pros: 1. Same as AA-4. 2. Same as AA-4.	Pros: 1. Same as AA-4. 2. Same as AA-4. 3. Provides opportunity to redevelop the "Sprouts Shopping Center".	Pros: 1. Same as AA-4. 2. No impact to El Toro Square.	Pros: 1. No impact to El Toro Square.
		Cons: 1. I Impacts on El Toro Square (Big Five shopping center). 2. Building Demolition in El Toro Square of 67,573 SF.	Cons: 1. Same as AA-4. 2. Same as AA-4.	Cons: 1. Same as AA-4. 2. Same as AA-4. 3. Building demolition in "Sprouts Shopping Center of 120,122 SF.	Cons: 1. Impacts to businesses along Bridger Road.	Cons: 1. Major impacts to Laguna Hills Mall.

No.	Rating Criteria/ Performance Measure	Alternative AA-1 (Braided Ramps One Location)	Alternative AA-2 (Braided Ramps Two Locations)	Alternative AA-3 (Braided Ramps One Location with Roundabout)	Alternative AA-3A (Braided Ramps One Location with Right Turn Only)
6	Visual & Noise Impacts	Pros: 1. Visual impact less than PR-2.	Pros: 1. Same as AA-1. 2.	Pros: 1. Same as AA-1. 2. Improved aesthetics in roundabout to the Mall.	Pros: 1. Same as AA-1. 2. Smaller footprint than AA-1, 2, &3.
		Cons: 1. Visual impact slightly more than PR-4. 2. The braid over the SB hook on-ramp will necessitate raising the ETR EAST profile which will cross ETR at a higher profile than PR-4.	Cons: 1. Same as AA-1. 2. The SB off-ramp to ETR EAST is higher than AA-1, which results in more visual/noise impacts. 3. Shift of ADLC will have more noise impact that AA-1 & 3. 4. More visual impact than AA-1.	Cons: 1. Same as AA-1. 2. Same as AA-1.	Cons: 1. Same as AA-1. 2. Same as AA-1.
7	Cost	**TOTAL PROJECT COST: $142M**	**TOTAL PROJECT COST: $163M**	**TOTAL PROJECT COST: $148M**	**TOTAL PROJECT COST: $145M**

No.	Rating Criteria/ Performance Measure	Alternative AA-4 (Flyover with Roundabout Close to El Toro Road)	Alternative AA-4A (Flyover with Roundabout Away From El Toro Road)	Alternative AA-5 (Flyover with Roundabout Close to Rockfield Blvd	Alternative PR-2 (Flyover, from Draft Project Report)	Alternative PR-4 (Collector-Distributor Road, from Draft Project Report)
6	Visual & Noise Impacts	Pros:	Pros:	Pros: 1. Flyover is further south than Alt AA-4 & 4A, which is further away from homes.	Pros:	Pros: 1. Lower profile of C-D road over ETR than AA-1, 2, 3, & 3A.
		Cons: 1. The flyover causes aesthetic concerns and noise impacts.	Cons: 1. Same as AA-4.	Cons: 1. Same as AA-4.	Cons: 1. NB direct on ramp is shifted closer to homes along Gowdy Ave. 2. The flyover causes aesthetic concerns and noise impacts.	Cons: 1. Less visual impact than AA-1, 2 and 3 because crossing ETR at a lower profile.
7	Cost	**TOTAL PROJECT COST: $193M**	**TOTAL PROJECT COST: $192M**	**TOTAL PROJECT COST: $268M**	**TOTAL PROJECT COST: $175M**	**TOTAL PROJECT COST: $241M**

ADLC – Avenida De La Carlota
C-D: Collector-Distributor
ETR – El Toro Road
PDLV – Paseo De La Valencia

Note: Pros/Cons are a high level qualitative & quantitative review of Alternatives.

10. Benefit/Cost

The following is a qualitative summary of the benefits and Project Costs for the AA Alternatives that were developed:

Alternative	Benefits	Project Cost
Alternative AA-1 (Braided Ramps One Location)	1. Reduces total travel time by 58% and reduces total delay by 9% over No Build. 2. Takes up to 73% of the SB traffic exiting at El Toro Road out of the SB Ramps/Paseo De La Valencia intersection and the triple left turn lanes at the El Toro Road/Avenida De La Carlota intersection. 3. Eliminates the need for triple LTLs at these intersections. 4. Allows more green time for SB traffic on Avenida De La Carlota at the SB Ramps/Paseo De La Valencia/Avenida De La Carlota intersection. 5. Less impact on Farmer Boys parking lot than AA-2. 6. Less impact on Village Plaza than AA-3 and AA-3A. 7. No impacts in Lake Forest. 8. Least expensive AA Alternative.	**$142M**
Alternative AA-2 (Braided Ramps Two Locations)	1. Reduces total travel time by 58% and reduces total delay by 9% over No Build. 2. Takes up to 73% of the SB traffic exiting at El Toro Road out of the SB Ramps/Paseo De La Valencia intersection and the triple left turn lanes at the El Toro Road/Avenida De La Carlota intersection. 3. Eliminates the need for triple LTLs at these intersections. 4. Allows more green time for SB traffic on Avenida De La Carlota at the SB Ramps/Paseo De La Valencia/Avenida De La Carlota intersection. 5. Less impact on Village Plaza than AA-3 and AA-3A. 6. No impacts in Lake Forest. 7. Lower cost than flyover Alternatives.	**$163M**

Alternative	Benefits	Project Cost
Alternative AA-3 (Braided Ramps One Location with Roundabout)	1. Reduces total travel time by 31% and reduces total delay by 14% over No Build. 2. Takes up to 73% of the SB traffic exiting at El Toro Road out of the SB Ramps/Paseo De La Valencia intersection and the triple left turn lanes at the El Toro Road/Avenida De La Carlota intersection. 3. Eliminates the need for triple LTLs at these intersections. 4. Allows more green time for SB traffic on Avenida De La Carlota at the SB Ramps/Paseo De La Valencia/Avenida De La Carlota intersection. 5. Less impact on Farmer Boys parking lot than AA-2. 6. Allows opportunity for aesthetic treatment in roundabout to create a sense of place for Mall development. 7. No impacts in Lake Forest. 8. Lower cost than flyover Alternatives.	**$148M**
Alternative AA-3A (Braided Ramps One Location with Roundabout)	1. Reduces total travel time by 42% and reduces total delay by 7% over No Build. 2. Takes up to 39% of the SB traffic exiting at El Toro Road out of the SB Ramps/Paseo De La Valencia intersection and the triple left turn lanes at the El Toro Road/Avenida De La Carlota intersection. 3. Eliminates the need for triple LTLs at these intersections. 4. Allows more green time for SB traffic on Avenida De La Carlota at the SB Ramps/Paseo De La Valencia/Avenida De La Carlota intersection. 5. Less impact on Farmer Boys parking lot than AA-2. 6. Less impact on Laguna Hills Mall than AA-1, AA-2, and AA-3. 7. No impacts in Lake Forest. 8. Lower cost Alternative.	**$145M**
Alternative AA-4 (Flyover with Roundabout Close to El Toro Road)	1. Reduces total travel time by 56% and reduces total delay by 15% over No Build. 2. Takes up to 39% of the SB traffic exiting at El Toro Road out of the SB Ramps/Paseo De La Valencia intersection and the El Toro Road/Avenida De La Carlota intersection. 3. Eliminates the need for triple LTLs at these intersections. 4. Allows more green time for SB traffic on Avenida De La Carlota at the SB Ramps/Paseo De La Valencia/Avenida De La Carlota intersection but not as much as AA-1, AA-2, and AA-3. 5. No impact on Laguna Hills Mall or Village Plaza.	**$193M**

Alternative	Benefits	Project Cost
Alternative AA-4A (Flyover with Roundabout Away From El Toro Road)	1. Reduces total travel time by 57% and reduces total delay by 16% over No Build. 2. Takes up to 39% of the SB traffic exiting at El Toro Road out of the SB Ramps/Paseo De La Valencia intersection and the El Toro Road/Avenida De La Carlota intersection. 3. Eliminates the need for triple LTLs at these intersections. 4. Allows more green time for SB traffic on Avenida De La Carlota at the SB Ramps/Paseo De La Valencia/Avenida De La Carlota intersection but not as much as AA-1, AA-2, and AA-3. 5. Roundabout away from El Toro Road provides additional storage capacity. 6. No impact on Laguna Hills Mall or Village Plaza.	**$192M**
Alternative AA-5 (Flyover with Roundabout Close to Rockfield Blvd)	1. Reduces total travel time by 63% and reduces total delay by 26% over No Build. 2. Takes up to 39% of the SB traffic exiting at El Toro Road out of the SB Ramps/Paseo De La Valencia intersection and the El Toro Road/Avenida De La Carlota intersection. 3. Eliminates the need for triple LTLs at these intersections. 4. Allows more green time for SB traffic on Avenida De La Carlota at the SB Ramps/Paseo De La Valencia/Avenida De La Carlota intersection similar to AA-1, AA-2, and AA-3. 5. Roundabout close to Rockfield Blvd. allows roundabout to be at-grade compared to elevated roundabout in AA-4 and AA-4A. 6. Eliminates non-standard U-Turn by the NB off-ramp to provide access to existing Swartz Drive. 7. Provides additional distance to the new Swartz Drive and NB off-ramp. 8. Connection to Rockfield Blvd provide for traffic wanting to go to Los Alisos Blvd. 9. No impact on Laguna Hills Mall or Village Plaza. 10. Provides redevelopment opportunity and residual value to be reimbursed to OCTA to reduce total ROW costs.	**$268M**

Alternative	Benefits	Project Cost
Project Report Alternative PR-2 (Flyover)	1. Reduces total travel time by 24% and reduces total delay by 22% over No Build. 2. Takes up to 39% of the SB traffic exiting at El Toro Road out of the SB Ramps/Paseo De La Valencia intersection and the El Toro Road/Avenida De La Carlota intersection. 3. Eliminates the need for triple LTLs at these intersections. 4. Allows more green time for SB traffic on Avenida De La Carlota at the SB Ramps/Paseo De La Valencia/Avenida De La Carlota intersection but not as much as AA-1, AA-2, and AA-3. 5. No impact on Laguna Hills Mall, Village Plaza, Farmer Boys, El Toro Square, or Sprouts Shopping Center.	**$175M**
Project Report Alternative PR-4 (Collector-Distributor)	1. Reduces total travel time by 50% and reduces total delay by 19% over No Build. 2. Takes up to 73% of the SB traffic exiting at El Toro Road out of the SB Ramps/Paseo De La Valencia intersection and the El Toro Road/Avenida De La Carlota intersection. 3. Eliminates the need for triple LTLs at these intersections. 4. Allows more green time for SB traffic on Avenida De La Carlota at the SB Ramps/Paseo De La Valencia/Avenida De La Carlota intersection similar to AA-1, AA-2, and AA-3. 5. No impact on El Toro Square, or Sprouts Shopping Center.	**$241M**

11. Recommendations

While the Workshop Team included five members, due to various reasons and as agreed by the team, only the City of Laguna Hills, City of Laguna Woods, and the City of Lake Forest will recommend Alternative(s) for further study. Based on the review and consideration of the information presented in this Report and participation at Workshop meetings the Cities have the following recommendations:

City of Laguna Hills, City of Laguna Woods, City of Lake Forest

The cities have reached consensus and recommend that Alternative AA-1 and AA-5 be considered for further study in the PA/ED phase.

12. Next Steps

Include Alternatives AA-1 & AA-5 in the PA/ED Phase.

Appendices

Appendix A – Exhibits of Interchange Configurations for Alternatives

- Appendix A1 – Alternatives developed during this Study
- Appendix A2 – Alternatives developed during PA/ED
- Appendix A3 – Alternatives developed during PSR/PDS

Appendix B – Right of Way Exhibits

Appendix C – Cost Estimates

Appendix A

Interchange Configurations for

Alternatives Assessment Study Alternatives,

Draft Project Report Alternatives,

PSR/PDS Alternatives

A1 - Alternative Assessment Study Alternatives

1. Alternative AA-1 (Braided Ramps One Location)
2. Alternative AA-2 (Braided Ramps Two Locations)
3. Alternative AA-3 (Braided Ramps One Location with Roundabout)
4. Alternative AA-3A – (Braided ramps one location with right turn only)
5. Alternative AA-4 – (Flyover with roundabout close to El Toro Road)
6. Alternative AA-4A – (Flyover with roundabout away from El Toro Road)
7. Alternative AA-5 – Flyover with roundabout close to Rockfield Boulevard

A2 - Draft Project Report Alternatives

1. Alternative PR-2 Flyover
2. Alternative PR-4 Collector-Distributor Road

A3 - PSR/PDS Alternatives

1. Alternative 3 “Horseshoe” Flyover
2. Alternative 3A “Horseshoe” Flyover with Direct SB Access to Avenida De La Carlota
3. Alternative 3B Direct SB Access to Avenida De La Carlota
4. Alternative 4A SB Ramps with realigned Avenida De La Carlota
5. Alternative 5 Flyover South of El Toro Road
6. Alternative 8 Flyover Directly onto El Toro Road
7. Alternative 12 Single Point (Urban) Interchange

Appendix A1

Interchange Configurations for

Alternatives Assessment Study Alternatives

Alternative Assessment Study Alternatives

1. Alternative AA-1 (Braided Ramps One Location)
2. Alternative AA-2 (Braided Ramps Two Locations)
3. Alternative AA-3 (Braided Ramps One Location with Roundabout)
4. Alternative AA-3A – (Braided ramps one location with right turn only)
5. Alternative AA-4 – (Flyover with roundabout close to El Toro Road)
6. Alternative AA-4A – (Flyover with roundabout away from El Toro Road)
7. Alternative AA-5 – Flyover with roundabout close to Rockfield Boulevard

Laguna Hills Mall

City of Laguna Hills

AVENIDA DE LA CARLOTA

PASEO DE LA VALENCIA

Village Plaza

St. George's Church and School

AVENIDA DE LA CARLOTA

INTERSTATE 5

INTERSTATE 5

BRIDGER ROAD

Cavanaugh Park

El Toro Square

SWARTZ DRIVE

City of Lake Forest

EL TORO ROAD

ROCKFIELD BLVD.

N

OCTA

TranSystems

BRAIDED RAMPS ONE LOCATION
ALTERNATIVE AA-1

Laguna Hills Mall

City of Laguna Hills

PASEO DE LA VALENCIA

AVENIDA DE LA CARLOTA

Village Plaza

St. George's Church and School

INTERSTATE 5

INTERSTATE 5

BRIDGER ROAD

Cavanaugh Park

El Toro Square

City of Lake Forest

SWARTZ DRIVE

EL TORO ROAD

ROCKFIELD BLVD.

N

OCTA

TranSystems

BRAIDED RAMPS TWO LOCATIONS
ALTERNATIVE AA-2

Laguna Hills Mall

City of Laguna Hills

PASEO DE LA VALENCIA

AVENIDA DE LA CARLOTA

Village Plaza

St. George's Church and School

AVENIDA DE LA CARLOTA

INTERSTATE 5

INTERSTATE 5

BRIDGER ROAD

Cavanaugh Park

El Toro Square

SWARTZ DRIVE

City of Lake Forest

EL TORO ROAD

ROCKFIELD BLVD.

N

OCTA

TranSystems

BRAIDED RAMPS ONE LOCATION WITH ROUNDABOUT

ALTERNATIVE AA-3

Laguna Hills Mall

City of Laguna Hills

PASEO DE LA VALENCIA

AVENIDA DE LA CARLOTA

Village Plaza

OCTA

TranSystems

N

AVENIDA DE LA CARLOTA

INTERSTATE 5

INTERSTATE 5

BRIDGER ROAD

Cavanaugh Park

El Toro Square

SWARTZ DRIVE

City of Lake Forest

"Sprouts Shopping Center"

EL TORO ROAD

ROCKFIELD BLVD.

BRAIDED RAMPS ONE LOCATION WITH RIGHT TURN ONLY

ALTERNATIVE AA-3A

Laguna Hills Mall

City of Laguna Hills

PASEO DE LA VALENCIA

AVENIDA DE LA CARLOTA

Village Plaza

St. George's Church and School

N

AVENIDA DE LA CARLOTA

INTERSTATE 5

INTERSTATE 5

BRIDGER ROAD

Cavanaugh Park

El Toro Square

SWARTZ DRIVE

City of Lake Forest

EL TORO ROAD

ROCKFIELD BLVD.

FLYOVER WITH ROUNDABOUT CLOSE TO EL TORO RD

ALTERNATIVE AA-4

Laguna Hills Mall

City of Laguna Hills

PASEO DE LA VALENCIA

AVENIDA DE LA CARLOTA

Village Plaza

St. George's Church and School

OCTA

TranSystems

N

INTERSTATE 5

AVENIDA DE LA CARLOTA

INTERSTATE 5

BRIDGER ROAD

Cavanaugh Park

El Toro Square

City of Lake Forest

SWARTZ DRIVE

ELTORO ROAD

ROCKFIELD BLVD.

FLYOVER WITH ROUNDABOUT AWAY FROM EL TORO RD

ALTERNATIVE AA-4A

Laguna Hills Mall

City of Laguna Hills

PASEO DE LA VALENCIA

AVENIDA DE LA CARLOTA

Village Plaza

OCTA

TranSystems

N

INTERSTATE 5

AVENIDA DE LA CARLOTA

INTERSTATE 5

BRIDGER ROAD

Cavanaugh Park

El Toro Square

SWARTZ DRIVE

City of Lake Forest

"Sprouts Shopping Center"

EL TORO ROAD

ROCKFIELD BLVD.

FLYOVER WITH ROUNDABOUT CLOSE TO ROCKFIELD BLVD

ALTERNATIVE AA-5

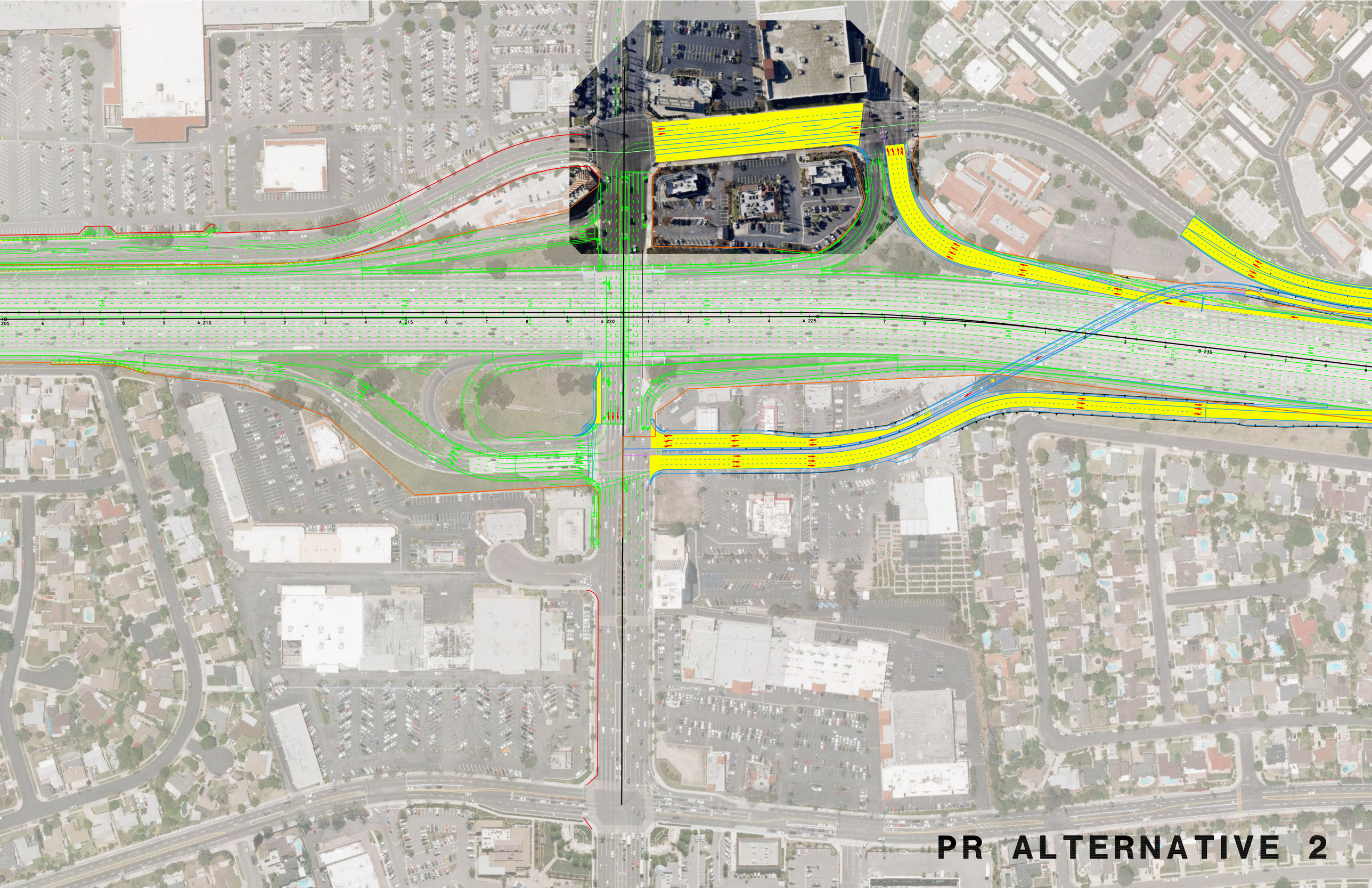
Appendix A2

Interchange Configurations for

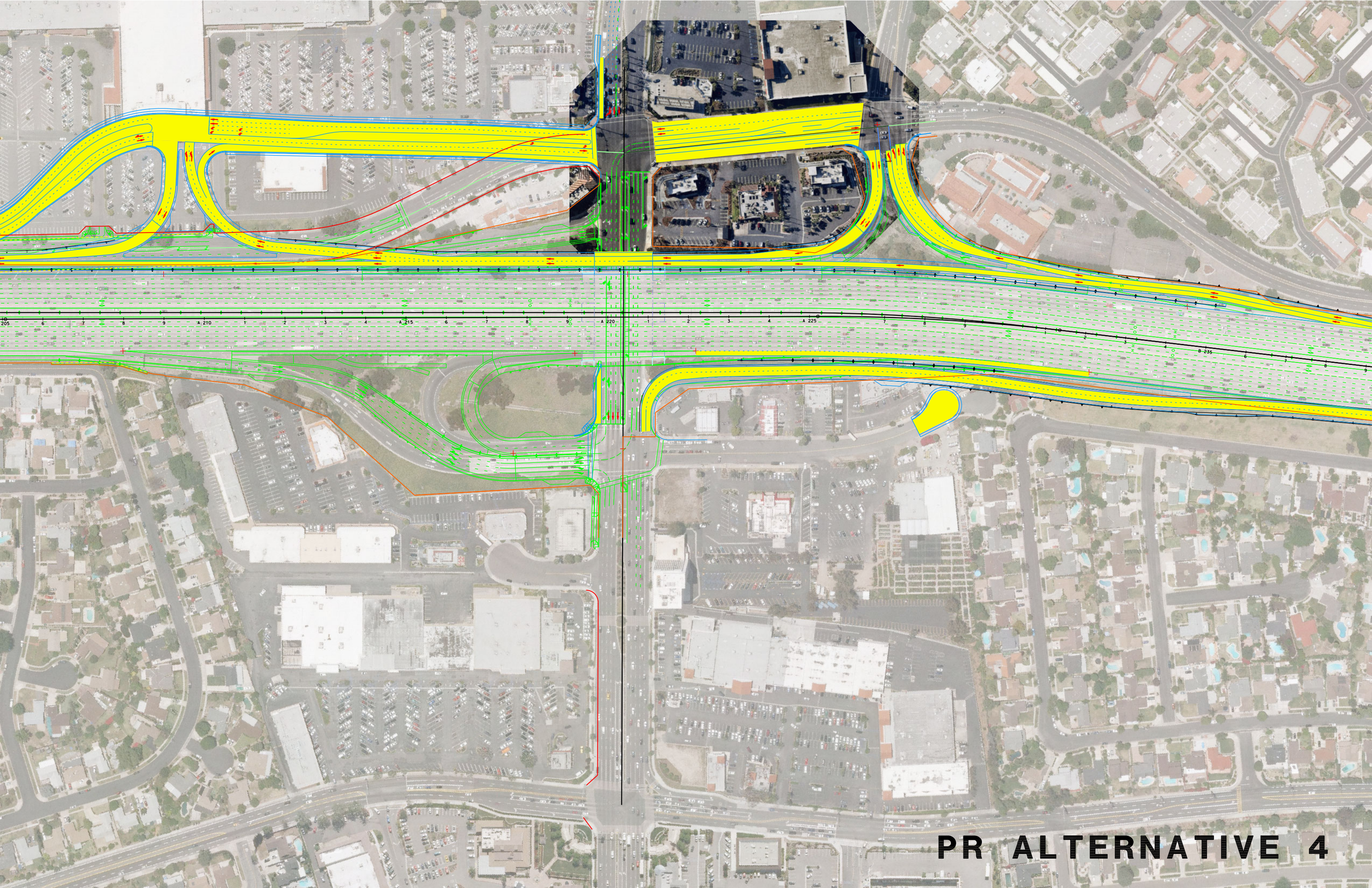
Draft Project Report Alternatives

Draft Project Report Alternatives

1. Alternative PR-2 Flyover
2. Alternative PR-4 Collector-Distributor Road



PR ALTERNATIVE 2



PR ALTERNATIVE 4

Appendix A3

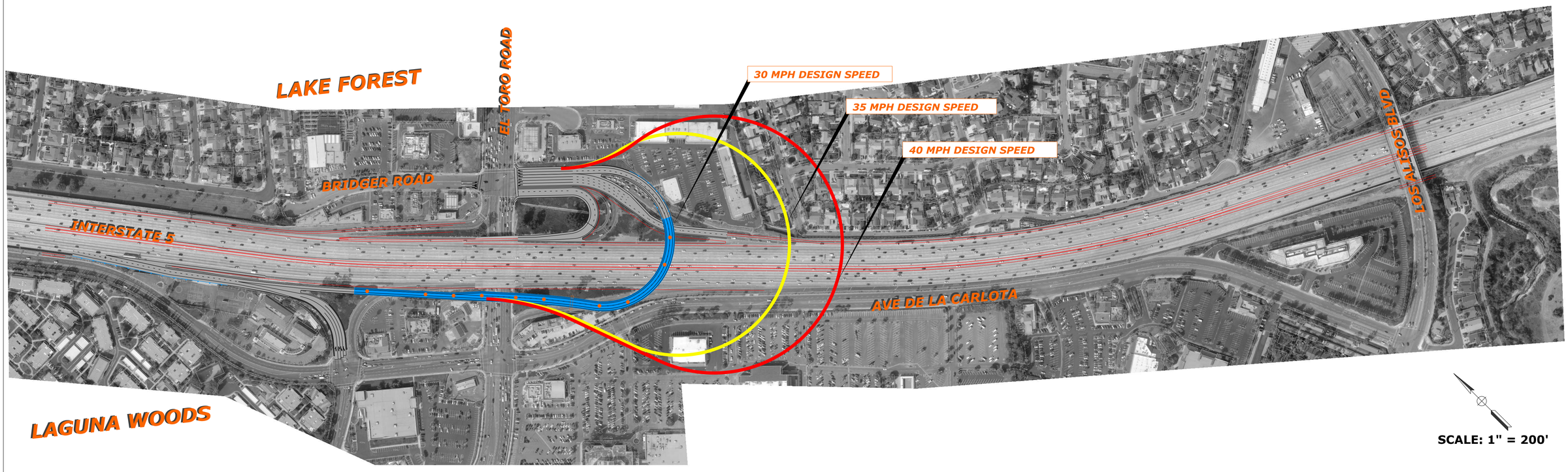
Interchange Configurations for

PSR/PDS Alternatives

PSR/PDS Alternatives

1. Alternative 3 “Horseshoe” Flyover
2. Alternative 3A “Horseshoe” Flyover with Direct SB Access to Avenida De La Carlota
3. Alternative 3B Direct SB Access to Avenida De La Carlota
4. Alternative 4A SB Ramps with realigned Avenida De La Carlota
5. Alternative 5 Flyover South of El Toro Road
6. Alternative 8 Flyover Directly onto El Toro Road
7. Alternative 12 Single Point (Urban) Interchange

DRAFT-FOR PLANNING STUDY ONLY



SCALE: 1" = 200'

LEGEND		QTY
PROPOSED ROADWAY		172,500 SQ FT
PROPOSED BRIDGE		60,200 SQ FT
POTENTIAL ROW IMPACTS		LOW ROW IMPACTS

ALTERNATIVE 3

I-5 / EL TORO ROAD INTERCHANGE

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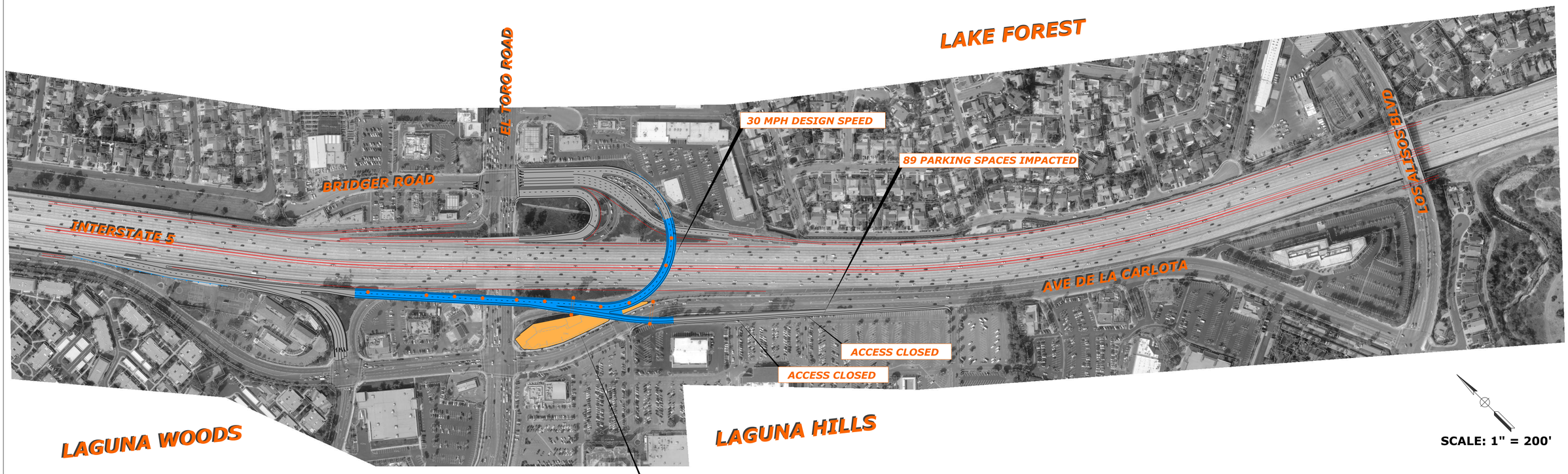

SCALE: 1" = 200'

LEGEND		QTY
PROPOSED ROADWAY		199,500 SQ FT
PROPOSED BRIDGE		79,700 SQ FT
POTENTIAL ROW IMPACTS		MEDIUM ROW IMPACT

ALTERNATIVE 3A

I-5 / EL TORO ROAD INTERCHANGE

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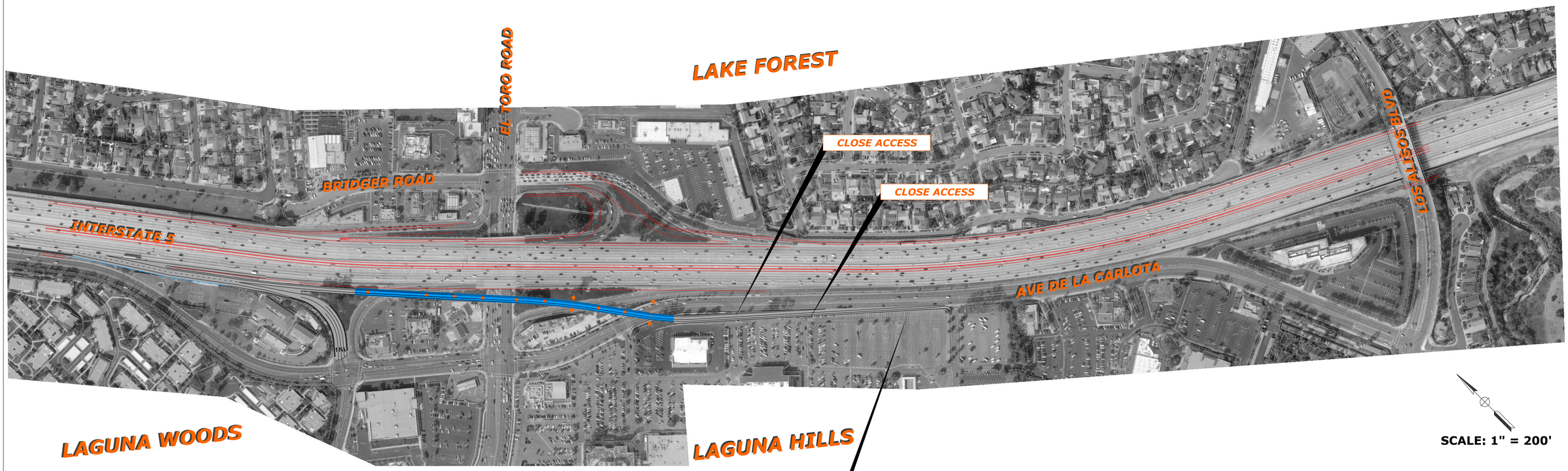

LEGEND		QTY
PROPOSED ROADWAY		101,000 SQ FT
PROPOSED BRIDGE		39,600 SQ FT
POTENTIAL ROW IMPACTS		MEDIUM ROW IMPACT

ALTERNATIVE 3B

I-5 / EL TORO ROAD INTERCHANGE

APRIL
2014

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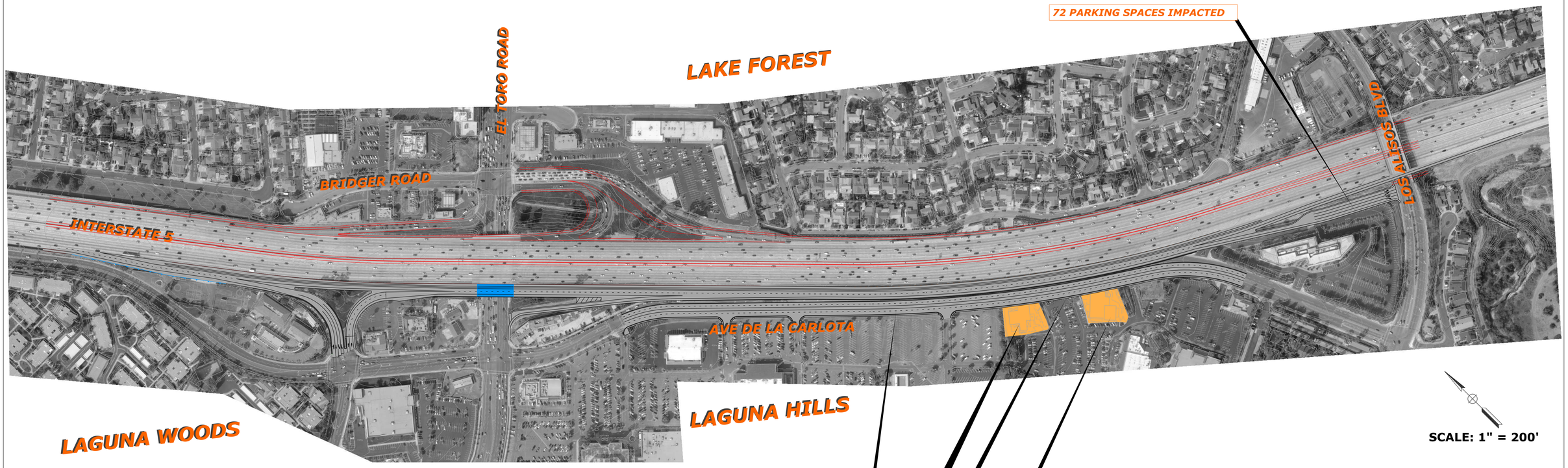

SCALE: 1" = 200'

LEGEND		QTY
PROPOSED ROADWAY		576,500 SQ FT
PROPOSED BRIDGE		8,800 SQ FT
POTENTIAL ROW IMPACTS		MEDIUM ROW IMPACT

ALTERNATIVE 4A

I-5 / EL TORO ROAD INTERCHANGE

APRIL
2014

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LEGEND		QTY
PROPOSED ROADWAY		100,000 SQ FT
PROPOSED BRIDGE		29,100 SQ FT
POTENTIAL ROW IMPACTS		MEDIUM ROW IMPACT

ALTERNATIVE 5

I-5 / EL TORO ROAD INTERCHANGE

APRIL
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SCALE: 1" = 200'

LEGEND		QTY
PROPOSED ROADWAY		177,000 SQ FT
PROPOSED BRIDGE		33,400 SQ FT
POTENTIAL ROW IMPACTS		MEDIUM ROW IMPACTS

ALTERNATIVE 8

I-5 / EL TORO ROAD INTERCHANGE

APRIL
2014

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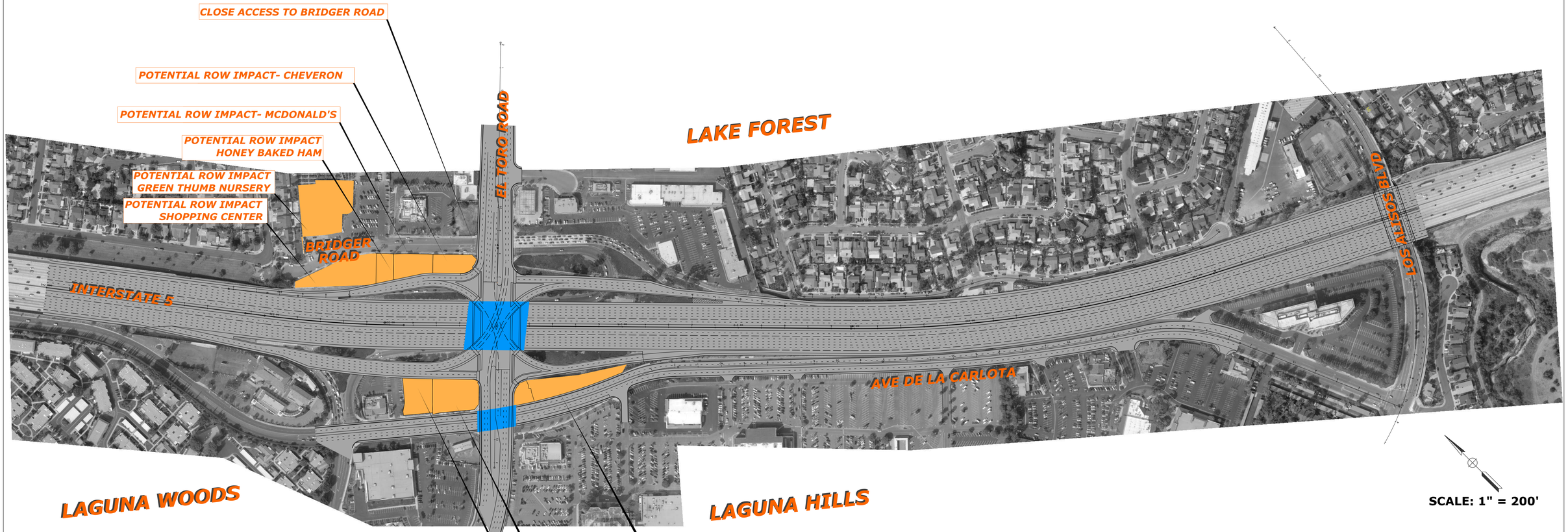

SCALE: 1" = 200'

LEGEND		QTY
PROPOSED ROADWAY		880,700 SQ FT
PROPOSED BRIDGE		69,800 SQ FT
POTENTIAL ROW IMPACTS		HIGH ROW IMPACT

ALTERNATIVE 12

I-5 / EL TORO ROAD INTERCHANGE

APRIL 2014

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Appendix B

Conceptual Right of Way Exhibits

ROW Exhibits for Alternative Assessment Study Alternatives

1. Alternative AA-1 (Braided Ramps One Location)
2. Alternative AA-2 (Braided Ramps Two Locations)
3. Alternative AA-3 (Braided Ramps One Location with Roundabout)
4. Alternative AA-3A – (Braided ramps one location with right turn only)
5. Alternative AA-4 – (Flyover with roundabout close to El Toro Road)
6. Alternative AA-4A – (Flyover with roundabout away from El Toro Road)
7. Alternative AA-5 – Flyover with roundabout close to Rockfield Boulevard

ROW Exhibits for Draft Project Report Alternatives

1. Alternative PR-2 Flyover
2. Alternative PR-4 Collector-Distributor Road

20,708 SQ FT BUILDING DEMOLITION
4,869 SQ FT TCE
78,154 SQ FT R/W TAKE
3,869 SQ FT TCE
6,777 SQ FT R/W TAKE
1,487 SQ FT TCE
5,475 SQ FT TCE
2,223 SQ FT R/W TAKE
4,120 SQ FT R/W TAKE
8,740 SQ FT TCE/PERMANENT STRUCTURE EASEMENT

LEGEND:

- R/W TAKE
- EASEMENT
- BUILDING DEMOLITION

RIGHT OF WAY NEEDS
BRAIDED RAMPS ONE LOCATION
ALTERNATIVE AA-1

20,708 SQ FT BUILDING DEMOLITION

4,869 SQ FT TCE

78,154 SQ FT R/W TAKE

3,869 SQ FT TCE

6,777 SQ FT R/W TAKE

1,487 SQ FT TCE

5,346 SQ FT TCE

25,381 SQ FT R/W TAKE

LEGEND:

— R/W TAKE

— EASEMENT

— BUILDING DEMOLITION

RIGHT OF WAY NEEDS
BRAIDED RAMPS TWO LOCATIONS
ALTERNATIVE AA-2

48,957 SQ FT R/W TAKE

4,017 SQ FT TCE

6,461 SQ FT TCE

5,475 SQ FT TCE

2,223 SQ FT R/W TAKE

8,878 SQ FT R/W TAKE

9,157 SQ FT TCE/PERMANENT STRUCTURAL EASEMENT

10,868 SQ FT BUILDING DEMOLITION

40,737 SQ FT R/W TAKE

LEGEND:

— R/W TAKE

— EASEMENT

— BUILDING DEMOLITION

RIGHT OF WAY NEEDS

BRAIDED RAMPS ONE LOCATION WITH ROUNDABOUT

ALTERNATIVE AA-3

39,900 SQ FT R/W TAKE

4,242 SQ FT TCE

6,567 SQ FT TCE

5,475 SQ FT TCE

2,223 SQ FT R/W TAKE

8,878 SQ FT R/W TAKE

9,157 SQ FT TCE/PERMANENT STRUCTURAL EASEMENT

10,868 SQ FT BUILDING DEMOLITION

40,737 SQ FT R/W TAKE

LEGEND:

— R/W TAKE

— EASEMENT

— BUILDING DEMOLITION

RIGHT OF WAY NEEDS

BRAIDED RAMPS ONE LOCATION WITH RIGHT TURN ONLY

ALTERNATIVE AA-3A

LEGEND:

- R/W TAKE
- EASEMENT
- BUILDING DEMOLITION
- FOR REDEVELOPMENT BY CITY

4,364 SQ FT TCE

4,120 SQ FT R/W TAKE

8,740 SQ FT TCE/PERMANENT STRUCTURE EASEMENT

19,039 SQ FT BUILDING DEMOLITION

AREA FOR REDEVELOPMENT BY CITY

5,969 SQ FT BUILDING DEMOLITION

33,370 SQ FT BUILDING DEMOLITION

8,430 SQ FT TCE

6,540 SQ FT BUILDING DEMOLITION

271,573 SQ FT R/W TAKE

2,655 SQ FT BUILDING DEMOLITION

RIGHT OF WAY NEEDS
FLYOVER WITH ROUNDABOUT CLOSE TO EL TORO RD
ALTERNATIVE AA-4

LEGEND:

- R/W TAKE
- EASEMENT
- BUILDING DEMOLITION
- FOR REDEVELOPMENT BY CITY

4,364 SQ FT TCE

4,120 SQ FT R/W TAKE

8,740 SQ FT TCE/PERMANENT STRUCTURE EASEMENT

271,573 SQ FT R/W TAKE
19,039 SQ FT BUILDING DEMOLITION

AREA FOR REDEVELOPMENT BY CITY

5,969 SQ FT BUILDING DEMOLITION
33,370 SQ FT BUILDING DEMOLITION
8,430 SQ FT TCE

6,540 SQ FT BUILDING DEMOLITION

2,655 SQ FT BUILDING DEMOLITION

AREA FOR REDEVELOPMENT BY CITY

RIGHT OF WAY NEEDS
FLYOVER WITH ROUNDABOUT AWAY FROM EL TORO RD
ALTERNATIVE AA-4A

LEGEND:

- R/W TAKE
- EASEMENT
- BUILDING DEMOLITION
- FOR REDEVELOPMENT BY CITY

4,364 SQ FT TCE

4,120 SQ FT R/W TAKE

8,740 SQ FT TCE/PERMANENT STRUCTURE EASEMENT

271,573 SQ FT R/W TAKE
19,039 SQ FT BUILDING DEMOLITION

5,969 SQ FT BUILDING DEMOLITION

33,370 SQ FT BUILDING DEMOLITION

97,804 SQ FT BUILDING DEMOLITION

13,996 SQ FT BUILDING DEMOLITION

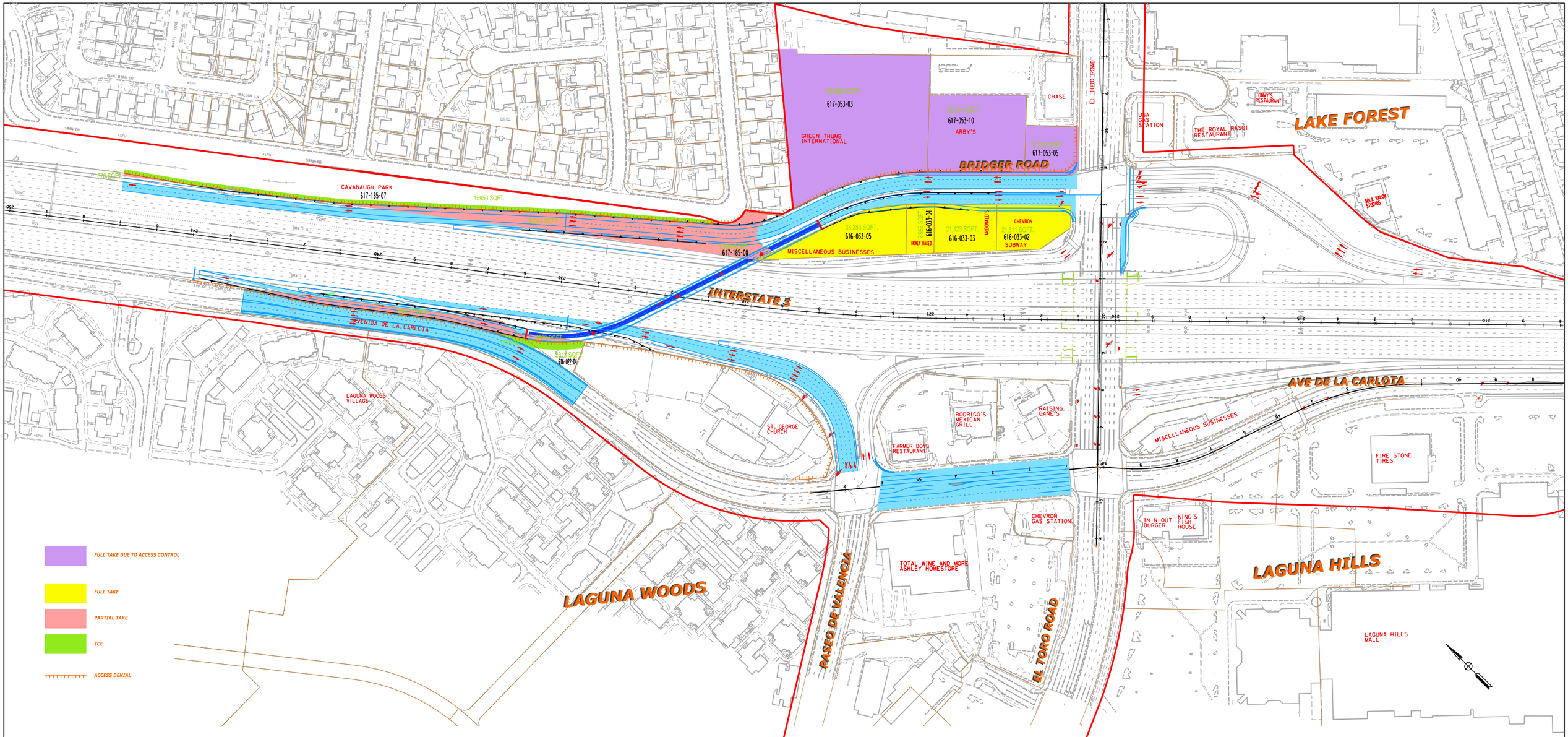
405,108 SQ FT R/W TAKE

6,540 SQ FT BUILDING DEMOLITION

18,804 SQ FT R/W TAKE

2,655 SQ FT BUILDING DEMOLITION

RIGHT OF WAY NEEDS
FLYOVER WITH ROUNDABOUT CLOSE TO ROCKFIELD BLVD
ALTERNATIVE AA-5

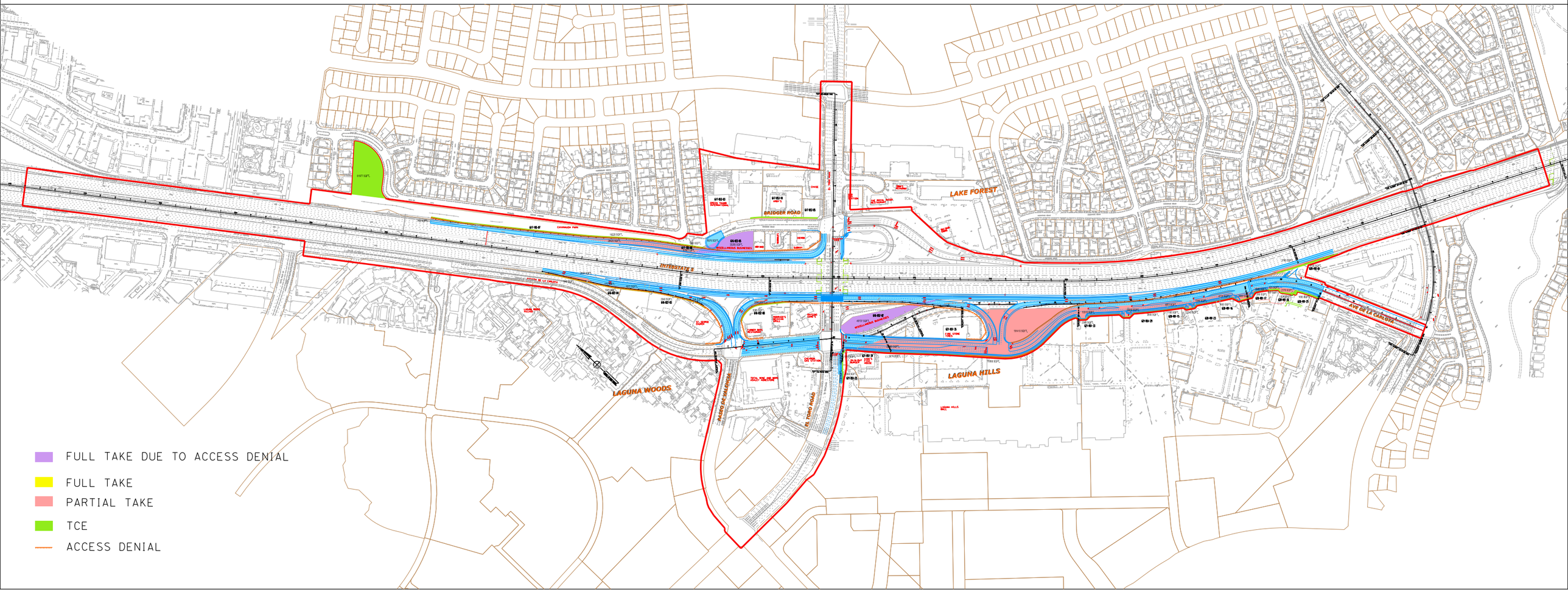


I-5 / EL TORO ROAD INTERCHANGE

Project Report **ALTERNATIVE 2**

I-5 / EL TORO ROAD INTERCHANGE

ALTERNATIVE 4



Project Report Alternative 4

Appendix C

Conceptual Cost Estimates

Alternative Assessment Study Alternatives

1. Alternative AA-1 (Braided Ramps One Location)
2. Alternative AA-2 (Braided Ramps Two Locations)
3. Alternative AA-3 (Braided Ramps One Location with Roundabout)
4. Alternative AA-3A – (Braided ramps one location with right turn only)
5. Alternative AA-4 – (Flyover with roundabout close to El Toro Road)
6. Alternative AA-4A – (Flyover with roundabout away from El Toro Road)
7. Alternative AA-5 – Flyover with roundabout close to Rockfield Boulevard

Draft Project Report Alternatives

1. Alternative PR-2 Flyover
2. Alternative PR-4 Collector-Distributor Road

Alternative AA-1 (Braided Ramps One Location)

ALTERNATIVE ASSESSMENT STUDY COST ESTIMATE

District-County-Route: 12-Ora-5
PM: 17.8 - 19.7

Type of Estimate : Alternative Assessment Study
Program Code : NA
Project Limits : Between Los Alisos Blvd Overcrossing (PM 17.8) and Ridge Road Drive (PM 19.7)
Project Description: Braided Ramps One Location
Scope : I-5/El Toro Rd Interchange Additional Alternatives
Alternative : AA-1

SUMMARY OF PROJECT COST ESTIMATE

		Current Year Cost
TOTAL ROADWAY COST	$	45,625,700
TOTAL STRUCTURES COST	$	10,859,063
SUBTOTAL CONSTRUCTION COST	$	56,484,763
TOTAL RIGHT OF WAY COST	$	24,767,793
TOTAL CAPITAL OUTLAY COSTS	**$**	**81,253,000**
PA/ED SUPPORT	$	4,400,000
PS&E SUPPORT	$	8,472,714
RIGHT OF WAY SUPPORT	$	1,981,423
CONSTRUCTION SUPPORT	$	11,296,953
TOTAL SUPPORT COST	**$**	**26,152,000**
TOTAL PROJECT COST	**$**	**108,000,000**

Programmed Amount

	Month	/	Year
Date of Estimate (Month/Year)	11	/	2020
Estimated Construction Start (Month/Year)	July	/	2028
Number of Working Days =	400		
Estimated Mid-Point of Construction (Month/Year)	XX	/	XXXX
Estimated Construction End (Month/Year)	December	/	2030
Number of Plant Establishment Days			

Estimated Project Schedule

PID Approval	2/1/2015
PA/ED Approval	11/1/2019
PS&E	9/1/2026
RTL	4/1/2027
Begin Construction	7/1/2028

Reviewed by District O.E. or Cost Estimate Certifier

Office Engineer / Cost Estimate Certifier	Date	Phone
	xx/xx/xxxx	(XXX) XXX-XXXX

Approved by Project Manager

(Project Manager)	Date	Phone
	xx/xx/xxxx	(XXX) XXX-XXXX

I. ROADWAY ITEMS SUMMARY

	Section		Cost
1	**Earthwork**	$	1,651,500
2	**Pavement Structural Section**	$	2,905,800
3	**Drainage**	$	720,000
4	**Specialty Items**	$	5,652,500
5	**Environmental**	$	2,967,800
6	**Traffic Items**	$	9,537,900
7	**Detours**	$	-
8	**Minor Items**	$	1,406,200
9	**Roadway Mobilization**	$	2,484,200
10	**Supplemental Work**	$	2,218,000
11	**State Furnished**	$	3,466,900
12	**Time-Related Overhead**	$	3,489,700
13	**Roadway Contingency**	$	9,125,200
	TOTAL ROADWAY ITEMS	**$**	**45,625,700**

Estimate Prepared By :	Kamran Qadeer, Engineer	12/4/2020	(714) 708-6885
	Name and Title	Date	Phone
Estimate Reviewed By :	Jimmy Vuong, Project Engineer	12/4/2020	(714) 708-6872
	Name and Title	Date	Phone

By signing this estimate you are attesting that you have discussed your project with all functional units and have incorporated all their comments or have discussed with them why they will not be incorporated.

SECTION 1: EARTHWORK

Item code		Unit	Quantity		Unit Price ($)			Cost
190101	Roadway Excavation	CY	9,100	x	25.00	=	$	227,500
152320	Lead Compliance Plan	LS	1	x	5,000.00	=	$	5,000
198010	Imported Borrow	CY	44,300	x	30.00	=	$	1,329,000
16010X	Clearing & Grubbing	LS	1	x	90,000.00	=	$	90,000
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-

TOTAL EARTHWORK SECTION ITEMS $ 1,651,500

SECTION 2: PAVEMENT STRUCTURAL SECTION

Item code		Unit	Quantity		Unit Price ($)			Cost
401050	Jointed Plain Concrete Pavement	CY	2,900	x	250.00	=	$	725,000
280000	Lean Concrete Base	CY	1,120	x	140.00	=	$	156,800
390132	Hot Mix Asphalt (Type A)	TON	6,600	x	175.00	=	$	1,155,000
390137	Rubberized Hot Mix Asphalt (Gap Graded)	TON	600	x	150.00	=	$	90,000
260203	Class 2 Aggregate Base	CY	8,260	x	50.00	=	$	413,000
250201	Class 4 Aggregate Subbase	CY	12,200	x	30.00	=	$	366,000
				x		=	$	-
				x		=	$	-
				x		=	$	-
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				x		=	$	-
				x		=	$	-

TOTAL PAVEMENT STRUCTURAL SECTION ITEMS $ 2,905,800

SECTION 3: DRAINAGE

Item code		Unit	Quantity		Unit Price ($)			Cost
	Drainage Improvements (80% of PR Alt 4 Cost)	LS	1	x	720,000.00	=	$	720,000
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
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				x		=	$	-
				x		=	$	-

TOTAL DRAINAGE ITEMS	**$**	**720,000**

SECTION 4: SPECIALTY ITEMS

Item code		Unit	Quantity		Unit Price ($)			Cost
	Retaining Wall (Type 1)	SQFT	8,500	x	80.00	=	$	680,000
	Retaining Wall (Specialty)	SQFT	19,930	x	100.00	=	$	1,993,000
	Soundwall Improvements (50% of PR Alt 4 Cost)	LS	1	x	2,420,000.00	=	$	2,420,000
	Concrete Barrier (Type 736SV)	LF	2,170	x	250.00	=	$	542,500
	Concrete Barrier (Type 60M)	LF	170	x	100.00	=	$	17,000
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
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				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-

TOTAL SPECIALTY ITEMS	**$**	**5,652,500**

SECTION 5: ENVIRONMENTAL

5A - ENVIRONMENTAL MITIGATION

Item code		Unit	Quantity		Unit Price ($)		Cost
	Biological Mitigation	LS		x		= $	-
130670	Temporary Reinforced Silt Fence	LF		x		= $	-
141000	Temporary Fence (Type ESA)	LF		x		= $	-
				x		= $	-
				x		= $	-
				x		= $	-
					Subtotal Environmental Mitigation		*$ -*

5B - LANDSCAPE AND IRRIGATION

Item code		Unit	Quantity		Unit Price ($)		Cost
	Landscape and Irrigation	LS	1	x	2,500,000.00	= $	2,500,000
				x		= $	-
					Subtotal Landscape and Irrigation		*$ 2,500,000*

5C - EROSION CONTROL

Item code		Unit	Quantity		Unit Price ($)		Cost
				x		= $	-
				x		= $	-
				x		= $	-
				x		= $	-
						$	-
				x		= $	-
					Subtotal Erosion Control		*$ -*

5D - NPDES

Item code		Unit	Quantity		Unit Price ($)		Cost
130300	Prepare SWPPP	LS	1	x	23,600.00	= $	23,600
130100	Job Site Management	LS	1	x	361,700.00	= $	361,700
130330	Storm Water Annual Report	LS	1	x	6,000.00	= $	6,000
130310	Rain Event Action Plan (REAP)	LS	1	x	27,500.00	= $	27,500
130320	Storm Water Sampling and Analysis Day	LS	1	x	49,000.00	= $	49,000
				x		= $	-
				x		= $	-
				x		= $	-
				x		= $	-
				x		= $	-
				x		= $	-
				x		= $	-
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				x		= $	-
				x		= $	-
				x		= $	-
				x		= $	-
				x		= $	-
				x		= $	-
					Subtotal NPDES		*$ 467,800*

TOTAL ENVIRONMENTAL	**$**	**2,967,800**

Supplemental Work for NPDES

066596	Treatment BMPs	LS	1	x	1,264,000.00	= $	1,264,000
066595	Water Pollution Control Maintenance Sharing*	LS	1	x	173,250.00	= $	173,250
	CGP Fees	LS	1	x	1,326.00	= $	1,326
066596	Additional Water Pollution Control**	LS	1	x	6,000.00	= $	6,000
				x		= $	-
					Subtotal Supplemental Work for NDPS		*$ 1,444,576*

*Applies to all SWPPPs and those WPCPs with sediment control or soil stabilization BMPs.

**Applies to both SWPPPs and WPCP projects.

*** Applies only to project with SWPPPs.

SECTION 6: TRAFFIC ITEMS

6A - Traffic Electrical

Item code		Unit	Quantity		Unit Price ($)			Cost
860460	Lighting and Sign Illumination & Ramp Metering	LS	1	x	4,044,700.00	=	$	4,044,700
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-

Subtotal Traffic Electrical *$ 4,044,700*

6B - Traffic Signing and Striping

Item code		Unit	Quantity		Unit Price ($)			Cost
	Traffic Signing	LS	1	x	2,209,500.00	=	$	2,209,500
	Pavement Delineations	LS	1	x	762,700.00	=	$	762,700
120090	Construction Area Signs	LS	1	x	120,000.00	=	$	120,000
141120	Treated Wood Waste	LS	1	x	6,000.00	=	$	6,000
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-

Subtotal Traffic Signing and Striping *$ 3,098,200*

6C - Traffic Management Plan

Item code		Unit	Quantity		Unit Price ($)			Cost
128651	Portable Changeable Message Signs	LS	1	x	$ 300,000	=	$	300,000
	Changeable Message Signs (Fixed)	LS	1	x	$ 20,000		$	20,000
	Highway Advisory Radio	LS	1	x	$ 20,000		$	20,000
	Others	LS	1	x	$ 50,000		$	50,000

Subtotal Traffic Management Plan *$ 390,000*

6C - Stage Construction and Traffic Handling

Item code		Unit	Quantity		Unit Price ($)			Cost
120100	Traffic Control System	LS	1	x	2,005,000.00	=	$	2,005,000
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-

Subtotal Stage Construction and Traffic Handling *$ 2,005,000*

TOTAL TRAFFIC ITEMS **$ 9,537,900**

SECTION 7: DETOURS

Includes constructing, maintaining, and removal

Item code		Unit	Quantity		Unit Price ($)			Cost
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-

* Includes constructing, maintaining, and removal

TOTAL DETOURS **$ -**

SUBTOTAL SECTIONS 1 through 7 $ 23,435,500

SECTION 8: MINOR ITEMS

8A	ADA Items			1.0%	$	234,355	
8B	Bike Path Items			0.0%	$	-	
8C	Other Minor Items			5.0%	$	1,171,775	
	Total of Section 1-7	$	23,435,500	x 6.0%	= $	1,406,130	

TOTAL MINOR ITEMS **$ 1,406,200**

SECTIONS 9: ROADWAY MOBILIZATION

Item code							
999990	Total Section 1-8	$	24,841,700	x 10%	= $	2,484,170	

TOTAL ROADWAY MOBILIZATION **$ 2,484,200**

SECTION 10: SUPPLEMENTAL WORK

Item code		Unit	Quantity		Unit Price ($)			Cost
066063	Traffic Management Plan Public Information	LS	1	x	500,000.00	=	$	500,000
066071	Maintain Traffic	LS	1	x	25,000.00	=	$	25,000
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-

*Cost of **NPDES** Supplemental Work specified in Section 5D* = $ 1,444,576

Total Section 1-8 $ 24,841,700 1% = $ 248,417

TOTAL SUPPLEMENTAL WORK **$ 2,218,000**

SECTION 11: STATE FURNISHED MATERIALS AND EXPENSES

Item code		Unit	Quantity		Unit Price ($)		Cost
066105	Resident Engineers Office	LS	1	x	300,000.00	=	$300,000
066062	COZEEP Contract	LS	1	x	1,700,000.00	=	$1,700,000
	Freeway Service Patrol	LS	1	x	400,000.00	=	$400,000
	Traffic Management Team	LS	1	x	350,000.00	=	$350,000
	Traffic Surveillance Stations	LS	1	x	50,000.00	=	$50,000
	Call Boxes 6	LS	1	x	20,000.00	=	$20,000
	Project Needs	LS	1	x	50,000.00	=	$50,000
	DTM	LS	1	x	100,000.00	=	$100,000
				x		=	
				x		=	
				x		=	
	Total Section 1-8	$	24,841,700		2%	= $	496,834

TOTAL STATE FURNISHED **$3,466,900**

SECTION 12: TIME-RELATED OVERHEAD

Total of Roadway and Structures Contract Items excluding Mobilization $34,896,388 (used to calculate TRO)
Total Construction Cost (excluding TRO and Contingency) $43,869,863 (used to check if project is greater than $5 million excluding contingency)

Estimated Time-Related Overhead (TRO) Percentage (0% to 10%) = **10%**

Item code		Unit	Quantity		Unit Price ($)		Cost
090100	Time-Related Overhead	WD	400	X	$8,724	=	$3,489,700

TOTAL TIME-RELATED OVERHEAD **$3,489,700**

SECTION 13: ROADWAY CONTINGENCY

Total Section 1-12	$	36,500,500	x	**25%**	=	$9,125,125

TOTAL CONTINGENCY **$9,125,200**

II. STRUCTURE ITEMS

Bridge 1

DATE OF ESTIMATE	09/28/20		
Bridge Name	El Toro Rd UC SB Off-Ramp		
Bridge Number			
Structure Type	CIP/PS Box Girder		
Width (Feet) [out to out]	27.5	LF	(Avg)
Total Bridge Length (Feet)	750.0	LF	
Total Area (Square Feet)	20625	SQFT	
Structure Depth (Feet)	5.75	LF	
Footing Type (pile or spread)		Pile	
Cost Per Square Foot		$390	

COST OF EACH	**$8,043,750**

TOTAL COST OF BRIDGES		**$8,043,750**
TOTAL COST OF BUILDINGS		**$0**
STRUCTURES MOBILIZATION	10%	**$804,375**

Recommended Contingency: (Pre-PSR 30%-50%, PSR 25%, Draft PR 20%, PR 15%, after PR approval 10%, Final PS&E 5%)

STRUCTURES CONTINGENCY	25%	**$2,010,938**
TOTAL COST OF STRUCTURES		**$10,859,063**

Estimate Prepared By: _____ _____

XXXXXXXXXXXXXXXX ------ Division of Structures — Date

III. RIGHT OF WAY

Fill in all of the available information from the Right of Way Data Sheet.

A)	A1)	Acquisition, including Excess Land Purchases, Damages & Goodwill, Fees	$	14,110,713
	A2)	SB-1210	$	0
B)		Acquisition of Offsite Mitigation	$	0
C)	C1)	Utility Relocation (State Share)	$	10,000,000
	C2)	Potholing (Design Phase)	$	0
D)		Railroad Acquisition	$	0
E)		Clearance / Demolition	$	207,080
F)		Relocation Assistance (RAP and/or Last Resort Housing Costs)	$	450,000
G)		Title and Escrow	$	0
H)		Environmental Review (Project Permit Fee)	$	0
I)		Condemnation Settlements 0%	$	0
J)		Design Appreciation Factor 0%	$	0
K)		Utility Relocation (Construction Cost)	$	0

L)	**TOTAL RIGHT OF WAY ESTIMATE**	**$24,767,793**
M)	**TOTAL R/W ESTIMATE: Escalated**	**$30,877,718**
N)	**RIGHT OF WAY SUPPORT**	**$0**

Support Cost Estimate Prepared By _____ Project Coordinator[1] Phone

Utility Estimate Prepared By _____ Utility Coordinator[2] Phone

R/W Acquisition Estimate Prepared By _____ Right of Way Estimator[3] Phone

Note: Items G & H applied to items A + B

[1] When estimate has Support Costs only [2] When estimate has Utility Relocation [3] When R/W Acquisition is required

Alternative AA-2 (Braided Ramps Two Locations)

ALTERNATIVE ASSESSMENT STUDY COST ESTIMATE

District-County-Route: 12-Ora-5
PM: 17.8 - 19.7

Type of Estimate : Alternative Assessment Study
Program Code : NA
Project Limits : Between Los Alisos Blvd Overcrossing (PM 17.8) and Ridge Road Drive (PM 19.7)
Project Description: Braided Ramps Two Locations
Scope : I-5/El Toro Rd Interchange Additional Alternatives
Alternative : AA-2

SUMMARY OF PROJECT COST ESTIMATE

		Current Year Cost
TOTAL ROADWAY COST	$	45,394,700
TOTAL STRUCTURES COST	$	23,455,575
SUBTOTAL CONSTRUCTION COST	$	68,850,275
TOTAL RIGHT OF WAY COST	$	28,877,773
TOTAL CAPITAL OUTLAY COSTS	**$**	**97,729,000**
PA/ED SUPPORT	$	4,400,000
PS&E SUPPORT	$	10,327,541
RIGHT OF WAY SUPPORT	$	2,310,222
CONSTRUCTION SUPPORT	$	13,770,055
TOTAL SUPPORT COST	**$**	**30,808,000**

TOTAL PROJECT COST	**$**	**129,000,000**

Programmed Amount

	Month	/	Year
Date of Estimate (Month/Year)	11	/	2020
Estimated Construction Start (Month/Year)	July	/	2028
Number of Working Days =	400		
Estimated Mid-Point of Construction (Month/Year)	XX	/	XXXX
Estimated Construction End (Month/Year)	December	/	2030
Number of Plant Establishment Days			

Estimated Project Schedule

PID Approval	2/1/2015
PA/ED Approval	11/1/2019
PS&E	9/1/2026
RTL	4/1/2027
Begin Construction	7/1/2028

Reviewed by District O.E. or Cost Estimate Certifier

	xx/xx/xxxx	(XXX) XXX-XXXX
Office Engineer / Cost Estimate Certifier	**Date**	**Phone**

Approved by Project Manager

	xx/xx/xxxx	(XXX) XXX-XXXX
(Project Manager)	**Date**	**Phone**

I. ROADWAY ITEMS SUMMARY

	Section		Cost
1	**Earthwork**	$	1,090,000
2	**Pavement Structural Section**	$	2,535,500
3	**Drainage**	$	720,000
4	**Specialty Items**	$	5,547,900
5	**Environmental**	$	2,967,800
6	**Traffic Items**	$	9,537,900
7	**Detours**	$	-
8	**Minor Items**	$	1,344,000
9	**Roadway Mobilization**	$	2,374,400
10	**Supplemental Work**	$	2,207,100
11	**State Furnished**	$	3,444,900
12	**Time-Related Overhead**	$	4,546,200
13	**Roadway Contingency**	$	9,079,000
	TOTAL ROADWAY ITEMS	**$**	**45,394,700**

Estimate Prepared By :	Kamran Qadeer, Engineer	11/13/2020	(714) 708-6885
	Name and Title	Date	Phone
Estimate Reviewed By :	Jimmy Vuong, Project Engineer	11/13/2020	(714) 708-6872
	Name and Title	Date	Phone

By signing this estimate you are attesting that you have discussed your project with all functional units and have incorporated all their comments or have discussed with them why they will not be incorporated.

SECTION 1: EARTHWORK

Item code		Unit	Quantity		Unit Price ($)			Cost
190101	Roadway Excavation	CY	17,000	x	25.00	=	$	425,000
152320	Lead Compliance Plan	LS	1	x	5,000.00	=	$	5,000
198010	Imported Borrow	CY	19,000	x	30.00	=	$	570,000
16010X	Clearing & Grubbing	LS	1	x	90,000.00	=	$	90,000
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-

TOTAL EARTHWORK SECTION ITEMS $ 1,090,000

SECTION 2: PAVEMENT STRUCTURAL SECTION

Item code		Unit	Quantity		Unit Price ($)			Cost
401050	Jointed Plain Concrete Pavement	CY	1,500	x	250.00	=	$	375,000
280000	Lean Concrete Base	CY	600	x	140.00	=	$	84,000
390132	Hot Mix Asphalt (Type A)	TON	7,200	x	175.00	=	$	1,260,000
390137	Rubberized Hot Mix Asphalt (Gap Graded)	TON	330	x	150.00	=	$	49,500
260203	Class 2 Aggregate Base	CY	11,500	x	50.00	=	$	575,000
250201	Class 4 Aggregate Subbase	CY	6,400	x	30.00	=	$	192,000
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
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				x		=	$	-
				x		=	$	-

TOTAL PAVEMENT STRUCTURAL SECTION ITEMS $ 2,535,500

SECTION 3: DRAINAGE

Item code		Unit	Quantity		Unit Price ($)			Cost
	Drainage Improvements (80% of PR Alt 4 Cost)	LS	1	x	720,000.00	=	$	720,000
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
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				x		=	$	-
				x		=	$	-
				x		=	$	-

TOTAL DRAINAGE ITEMS	**$**	**720,000**

SECTION 4: SPECIALTY ITEMS

Item code		Unit	Quantity		Unit Price ($)			Cost
	Retaining Wall (Type 1)	SQFT	6,230	x	80.00	=	$	498,400
	Retaining Wall (Specialty)	SQFT	18,750	x	100.00	=	$	1,875,000
	Soundwall Improvements (50% of PR Alt 4 Cost)	LS	1	x	2,420,000.00	=	$	2,420,000
	Concrete Barrier (Type 736SV)	LF	2,950	x	250.00	=	$	737,500
	Concrete Barrier (Type 60M)	LF	170	x	100.00	=	$	17,000
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
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				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-

TOTAL SPECIALTY ITEMS	**$**	**5,547,900**

SECTION 5: ENVIRONMENTAL

5A - ENVIRONMENTAL MITIGATION

Item code		Unit	Quantity		Unit Price ($)			Cost		
	Biological Mitigation	LS		x		=	$	-		
130670	Temporary Reinforced Silt Fence	LF		x		=	$	-		
141000	Temporary Fence (Type ESA)	LF		x		=	$	-		
				x		=	$	-		
				x		=	$	-		
				x		=	$	-		
						Subtotal Environmental Mitigation			*$*	*-*

5B - LANDSCAPE AND IRRIGATION

Item code		Unit	Quantity		Unit Price ($)			Cost		
	Landscape and Irrigation	LS	1	x	2,500,000.00	=	$	2,500,000		
				x		=	$	-		
						Subtotal Landscape and Irrigation			*$*	*2,500,000*

5C - EROSION CONTROL

Item code		Unit	Quantity		Unit Price ($)			Cost		
				x		=	$	-		
				x		=	$	-		
				x		=	$	-		
				x		=	$	-		
							$	-		
				x		=	$	-		
						Subtotal Erosion Control			*$*	*-*

5D - NPDES

Item code		Unit	Quantity		Unit Price ($)			Cost		
130300	Prepare SWPPP	LS	1	x	23,600.00	=	$	23,600		
130100	Job Site Management	LS	1	x	361,700.00	=	$	361,700		
130330	Storm Water Annual Report	LS	1	x	6,000.00	=	$	6,000		
130310	Rain Event Action Plan (REAP)	LS	1	x	27,500.00	=	$	27,500		
130320	Storm Water Sampling and Analysis Day	LS	1	x	49,000.00	=	$	49,000		
				x		=	$	-		
				x		=	$	-		
				x		=	$	-		
				x		=	$	-		
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				x		=	$	-		
				x		=	$	-		
				x		=	$	-		
				x		=	$	-		
							Subtotal NPDES		*$*	*467,800*

							TOTAL ENVIRONMENTAL		**$**	**2,967,800**

Supplemental Work for NPDES

066596	Treatment BMPs	LS	1	x	1,264,000.00	=	$	1,264,000		
066595	Water Pollution Control Maintenance Sharing*	LS	1	x	173,250.00	=	$	173,250		
	CGP Fees	LS	1	x	1,326.00	=	$	1,326		
066596	Additional Water Pollution Control**	LS	1	x	6,000.00	=	$	6,000		
						Subtotal Supplemental Work for NDPS			*$*	*1,444,576*

*Applies to all SWPPPs and those WPCPs with sediment control or soil stabilization BMPs.

**Applies to both SWPPPs and WPCP projects.

*** Applies only to project with SWPPPs.

SECTION 6: TRAFFIC ITEMS

6A - Traffic Electrical

Item code		Unit	Quantity		Unit Price ($)			Cost
860460	Lighting and Sign Illumination & Ramp Metering	LS	1	x	4,044,700.00	=	$	4,044,700
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
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				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-

Subtotal Traffic Electrical *$ 4,044,700*

6B - Traffic Signing and Striping

Item code		Unit	Quantity		Unit Price ($)			Cost
	Traffic Signing	LS	1	x	2,209,500.00	=	$	2,209,500
	Pavement Delineations	LS	1	x	762,700.00	=	$	762,700
120090	Construction Area Signs	LS	1	x	120,000.00	=	$	120,000
141120	Treated Wood Waste	LS	1	x	6,000.00	=	$	6,000
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-

Subtotal Traffic Signing and Striping *$ 3,098,200*

6C - Traffic Management Plan

Item code		Unit	Quantity		Unit Price ($)			Cost
128651	Portable Changeable Message Signs	LS	1	x	$ 300,000	=	$	300,000
	Changeable Message Signs (Fixed)	LS	1	x	$ 20,000	=	$	20,000
	Highway Advisory Radio	LS	1	x	$ 20,000	=	$	20,000
	Others	LS	1	x	$ 50,000	=	$	50,000

Subtotal Traffic Management Plan *$ 390,000*

6C - Stage Construction and Traffic Handling

Item code		Unit	Quantity		Unit Price ($)			Cost
120100	Traffic Control System	LS	1	x	2,005,000.00	=	$	2,005,000
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-

Subtotal Stage Construction and Traffic Handling *$ 2,005,000*

TOTAL TRAFFIC ITEMS **$ 9,537,900**

SECTION 7: DETOURS

Includes constructing, maintaining, and removal

Item code	Unit	Quantity		Unit Price ($)		Cost
			x		= $	-
			x		= $	-
			x		= $	-
			x		= $	-
			x		= $	-
			x		= $	-
			x		= $	-
			x		= $	-
			x		= $	-
			x		= $	-
			x		= $	-

* Includes constructing, maintaining, and removal

TOTAL DETOURS $ -

SUBTOTAL SECTIONS 1 through 7 $ 22,399,100

SECTION 8: MINOR ITEMS

8A	ADA Items			1.0%	$	223,991	
8B	Bike Path Items			0.0%	$	-	
8C	Other Minor Items			5.0%	$	1,119,955	
	Total of Section 1-7	$ 22,399,100	x	6.0%	= $	1,343,946	

TOTAL MINOR ITEMS $ 1,344,000

SECTIONS 9: ROADWAY MOBILIZATION

Item code							
999990	Total Section 1-8	$ 23,743,100	x	10%	= $	2,374,310	

TOTAL ROADWAY MOBILIZATION $ 2,374,400

SECTION 10: SUPPLEMENTAL WORK

Item code		Unit	Quantity		Unit Price ($)		Cost
066063	Traffic Management Plan Public Information	LS	1	x	500,000.00	= $	500,000
066071	Maintain Traffic	LS	1	x	25,000.00	= $	25,000
				x		= $	-
				x		= $	-
				x		= $	-
				x		= $	-
				x		= $	-
				x		= $	-
				x		= $	-
	*Cost of **NPDES** Supplemental Work specified in Section 5D*					= $	1,444,576
	Total Section 1-8	$ 23,743,100		1%	= $	237,431	

TOTAL SUPPLEMENTAL WORK $ 2,207,100

SECTION 11: STATE FURNISHED MATERIALS AND EXPENSES

Item code		Unit	Quantity		Unit Price ($)		Cost
066105	Resident Engineers Office	LS	1	x	300,000.00	=	$300,000
066062	COZEEP Contract	LS	1	x	1,700,000.00	=	$1,700,000
	Freeway Service Patrol	LS	1	x	400,000.00	=	$400,000
	Traffic Management Team	LS	1	x	350,000.00	=	$350,000
	Traffic Surveillance Stations	LS	1	x	50,000.00	=	$50,000
	Call Boxes 6	LS	1	x	20,000.00	=	$20,000
	Project Needs	LS	1	x	50,000.00	=	$50,000
	DTM	LS	1	x	100,000.00	=	$100,000
				x		=	$0
				x		=	$0
				x		=	$0
	Total Section 1-8	$	23,743,100		2%	= $	474,862

TOTAL STATE FURNISHED	**$3,444,900**

SECTION 12: TIME-RELATED OVERHEAD

Total of Roadway and Structures Contract Items excluding Mobilization	$45,461,225	(used to calculate TRO)
Total Construction Cost (excluding TRO and Contingency)	$55,225,075	(used to check if project is greater than $5 million excluding contingency)

Estimated Time-Related Overhead (TRO) Percentage (0% to 10%) = **10%**

Item code		Unit	Quantity		Unit Price ($)		Cost
090100	Time-Related Overhead	WD	400	X	$11,366	=	$4,546,200

TOTAL TIME-RELATED OVERHEAD	**$4,546,200**

SECTION 13: ROADWAY CONTINGENCY

Total Section 1-12	$	36,315,700	x	**25%**	=	$9,078,925	

TOTAL CONTINGENCY	**$9,079,000**

II. STRUCTURE ITEMS

Bridge 1

DATE OF ESTIMATE	11/03/20		
Bridge Name	El Toro Rd UC SB Off-Ramp		
Bridge Number			
Structure Type	CIP/PS Box Girder		
Width (Feet) [out to out]	27.5	LF	(Avg)
Total Bridge Length (Feet)	1620.0	LF	
Total Area (Square Feet)	44550	SQFT	
Structure Depth (Feet)	5.75	LF	
Footing Type (pile or spread)		Pile	
Cost Per Square Foot		$390	

COST OF EACH	**$17,374,500**

TOTAL COST OF BRIDGES		**$17,374,500**
TOTAL COST OF BUILDINGS		**$0**
STRUCTURES MOBILIZATION	10%	**$1,737,450**

Recommended Contingency: (Pre-PSR 30%-50%, PSR 25%, Draft PR 20%, PR 15%, after PR approval 10%, Final PS&E 5%)

STRUCTURES CONTINGENCY	25%	**$4,343,625**
TOTAL COST OF STRUCTURES		**$23,455,575**

Estimate Prepared By: _____ _____

XXXXXXXXXXXXXXXX ------ Division of Structures | Date

III. RIGHT OF WAY

Fill in all of the available information from the Right of Way Data Sheet.

A)	A1)	Acquisition, including Excess Land Purchases, Damages & Goodwill, Fees	$	18,220,693
	A2)	SB-1210	$	0
B)		Acquisition of Offsite Mitigation	$	0
C)	C1)	Utility Relocation (State Share)	$	10,000,000
	C2)	Potholing (Design Phase)	$	0
D)		Railroad Acquisition	$	0
E)		Clearance / Demolition	$	207,080
F)		Relocation Assistance (RAP and/or Last Resort Housing Costs)	$	450,000
G)		Title and Escrow	$	0
H)		Environmental Review (Project Permit Fee)	$	0
I)		Condemnation Settlements 0%	$	0
J)		Design Appreciation Factor 0%	$	0
K)		Utility Relocation (Construction Cost)	$	0

L)	**TOTAL RIGHT OF WAY ESTIMATE**	**$28,877,773**
M)	**TOTAL R/W ESTIMATE: Escalated**	**$36,001,582**
N)	**RIGHT OF WAY SUPPORT**	**$0**

Support Cost Estimate Prepared By _____ Project Coordinator[1] Phone

Utility Estimate Prepared By _____ Utility Coordinator[2] Phone

R/W Acquisition Estimate Prepared By _____ Right of Way Estimator[3] Phone

Note: Items G & H applied to items A + B

[1] When estimate has Support Costs only [2] When estimate has Utility Relocation [3] When R/W Acquisition is required

Alternative AA-3 (Braided Ramps One Location with Roundabout)

ALTERNATIVE ASSESSMENT STUDY COST ESTIMATE

District-County-Route: 12-Ora-5
PM: 17.8 - 19.7

Type of Estimate : Alternative Assessment Study
Program Code : NA
Project Limits : Between Los Alisos Blvd Overcrossing (PM 17.8) and Ridge Road Drive (PM 19.7)
Project Description: Braided Ramps One Location with Roundabout
Scope : I-5/El Toro Rd Interchange Additional Alternatives
Alternative : AA-3

SUMMARY OF PROJECT COST ESTIMATE

		Current Year Cost
TOTAL ROADWAY COST	$	44,668,700
TOTAL STRUCTURES COST	$	13,057,200
SUBTOTAL CONSTRUCTION COST	$	57,725,900
TOTAL RIGHT OF WAY COST	$	28,460,774
TOTAL CAPITAL OUTLAY COSTS	$	86,187,000
PA/ED SUPPORT	$	4,400,000
PS&E SUPPORT	$	8,658,885
RIGHT OF WAY SUPPORT	$	2,276,862
CONSTRUCTION SUPPORT	$	11,545,180
TOTAL SUPPORT COST	$	26,881,000
TOTAL PROJECT COST	$	114,000,000

Programmed Amount

	Month	/	Year
Date of Estimate (Month/Year)	11	/	2020
Estimated Construction Start (Month/Year)	July	/	2028
Number of Working Days =	400		
Estimated Mid-Point of Construction (Month/Year)	XX	/	XXXX
Estimated Construction End (Month/Year)	December	/	2030

Number of Plant Establishment Days

Estimated Project Schedule

PID Approval	2/1/2015
PA/ED Approval	11/1/2019
PS&E	9/1/2026
RTL	4/1/2027
Begin Construction	7/1/2028

Reviewed by District O.E. or Cost Estimate Certifier

Office Engineer / Cost Estimate Certifier	Date	Phone
	xx/xx/xxxx	(XXX) XXX-XXXX

Approved by Project Manager

(Project Manager)	Date	Phone
	xx/xx/xxxx	(XXX) XXX-XXXX

I. ROADWAY ITEMS SUMMARY

	Section		Cost
1	**Earthwork**	$	871,000
2	**Pavement Structural Section**	$	2,885,000
3	**Drainage**	$	720,000
4	**Specialty Items**	$	5,710,500
5	**Environmental**	$	2,967,800
6	**Traffic Items**	$	9,537,900
7	**Detours**	$	-
8	**Minor Items**	$	1,361,600
9	**Roadway Mobilization**	$	2,405,400
10	**Supplemental Work**	$	2,210,200
11	**State Furnished**	$	3,451,100
12	**Time-Related Overhead**	$	3,614,400
13	**Roadway Contingency**	$	8,933,800
	TOTAL ROADWAY ITEMS	**$**	**44,668,700**

Estimate Prepared By :	Kamran Qadeer, Engineer	12/4/2020	(714) 708-6885
	Name and Title	Date	Phone
Estimate Reviewed By :	Jimmy Vuong, Project Engineer	12/4/2020	(714) 708-6872
	Name and Title	Date	Phone

By signing this estimate you are attesting that you have discussed your project with all functional units and have incorporated all their comments or have discussed with them why they will not be incorporated.

SECTION 1: EARTHWORK

Item code		Unit	Quantity		Unit Price ($)			Cost
190101	Roadway Excavation	CY	9,800	x	25.00	=	$	245,000
152320	Lead Compliance Plan	LS	1	x	5,000.00	=	$	5,000
198010	Imported Borrow	CY	17,700	x	30.00	=	$	531,000
16010X	Clearing & Grubbing	LS	1	x	90,000.00	=	$	90,000
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-

TOTAL EARTHWORK SECTION ITEMS $ 871,000

SECTION 2: PAVEMENT STRUCTURAL SECTION

Item code		Unit	Quantity		Unit Price ($)			Cost
401050	Jointed Plain Concrete Pavement	CY	2,430	x	250.00	=	$	607,500
280000	Lean Concrete Base	CY	950	x	140.00	=	$	133,000
390132	Hot Mix Asphalt (Type A)	TON	7,200	x	175.00	=	$	1,260,000
390137	Rubberized Hot Mix Asphalt (Gap Graded)	TON	650	x	150.00	=	$	97,500
260203	Class 2 Aggregate Base	CY	9,020	x	50.00	=	$	451,000
250201	Class 4 Aggregate Subbase	CY	11,200	x	30.00	=	$	336,000
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
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				x		=	$	-
				x		=	$	-

TOTAL PAVEMENT STRUCTURAL SECTION ITEMS $ 2,885,000

SECTION 3: DRAINAGE

Item code	Description	Unit	Quantity		Unit Price ($)			Cost
	Drainage Improvements (80% of PR Alt 4 Cost)	LS	1	x	720,000.00	=	$	720,000
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-

TOTAL DRAINAGE ITEMS **$ 720,000**

SECTION 4: SPECIALTY ITEMS

Item code	Description	Unit	Quantity		Unit Price ($)			Cost
	Retaining Wall (Type 1)	SQFT	12,200	x	80.00	=	$	976,000
	Retaining Wall (Specialty)	SQFT	16,700	x	100.00	=	$	1,670,000
	Soundwall Improvements (50% of PR Alt 4 Cost)	LS	1	x	2,420,000.00	=	$	2,420,000
	Concrete Barrier (Type 736SV)	LF	2,510	x	250.00	=	$	627,500
	Concrete Barrier (Type 60M)	LF	170	x	100.00	=	$	17,000
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
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				x		=	$	-
				x		=	$	-
				x		=	$	-

$ 5,710,500

TOTAL SPECIALTY ITEMS

SECTION 5: ENVIRONMENTAL

5A - ENVIRONMENTAL MITIGATION

Item code		Unit	Quantity		Unit Price ($)		Cost		
	Biological Mitigation	LS		x		= $	-		
130670	Temporary Reinforced Silt Fence	LF		x		= $	-		
141000	Temporary Fence (Type ESA)	LF		x		= $	-		
				x		= $	-		
				x		= $	-		
				x		= $	-		
						Subtotal Environmental Mitigation		*$*	*-*

5B - LANDSCAPE AND IRRIGATION

Item code		Unit	Quantity		Unit Price ($)		Cost		
	Landscape and Irrigation	LS	1	x	2,500,000.00	= $	2,500,000		
				x		= $	-		
						Subtotal Landscape and Irrigation		*$*	*2,500,000*

5C - EROSION CONTROL

Item code		Unit	Quantity		Unit Price ($)		Cost		
				x		= $	-		
				x		= $	-		
				x		= $	-		
				x		= $	-		
						$	-		
				x		= $	-		
						Subtotal Erosion Control		*$*	*-*

5D - NPDES

Item code		Unit	Quantity		Unit Price ($)		Cost		
130300	Prepare SWPPP	LS	1	x	23,600.00	= $	23,600		
130100	Job Site Management	LS	1	x	361,700.00	= $	361,700		
130330	Storm Water Annual Report	LS	1	x	6,000.00	= $	6,000		
130310	Rain Event Action Plan (REAP)	LS	1	x	27,500.00	= $	27,500		
130320	Storm Water Sampling and Analysis Day	LS	1	x	49,000.00	= $	49,000		
				x		= $	-		
				x		= $	-		
				x		= $	-		
				x		= $	-		
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				x		= $	-		
				x		= $	-		
						Subtotal NPDES		*$*	*467,800*

						TOTAL ENVIRONMENTAL		**$**	**2,967,800**

Supplemental Work for NPDES

066596	Treatment BMPs	LS	1	x	1,264,000.00	= $	1,264,000		
066595	Water Pollution Control Maintenance Sharing*	LS	1	x	173,250.00	= $	173,250		
	CGP Fees	LS	1	x	1,326.00	= $	1,326		
066596	Additional Water Pollution Control**	LS	1	x	6,000.00	= $	6,000		
						Subtotal Supplemental Work for NDPS		*$*	*1,444,576*

*Applies to all SWPPPs and those WPCPs with sediment control or soil stabilization BMPs.

**Applies to both SWPPPs and WPCP projects.

*** Applies only to project with SWPPPs.

SECTION 6: TRAFFIC ITEMS

6A - Traffic Electrical

Item code		Unit	Quantity		Unit Price ($)			Cost
860460	Lighting and Sign Illumination & Ramp Metering	LS	1	x	4,044,700.00	=	$	4,044,700
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
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				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-

Subtotal Traffic Electrical *$ 4,044,700*

6B - Traffic Signing and Striping

Item code		Unit	Quantity		Unit Price ($)			Cost
	Traffic Signing	LS	1	x	2,209,500.00	=	$	2,209,500
	Pavement Delineations	LS	1	x	762,700.00	=	$	762,700
120090	Construction Area Signs	LS	1	x	120,000.00	=	$	120,000
141120	Treated Wood Waste	LS	1	x	6,000.00	=	$	6,000
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-

Subtotal Traffic Signing and Striping *$ 3,098,200*

6C - Traffic Management Plan

Item code		Unit	Quantity		Unit Price ($)			Cost
128651	Portable Changeable Message Signs	LS	1	x	$ 300,000	=	$	300,000
	Changeable Message Signs (Fixed)	LS	1	x	$ 20,000	=	$	20,000
	Highway Advisory Radio	LS	1	x	$ 20,000	=	$	20,000
	Others	LS	1	x	$ 50,000	=	$	50,000

Subtotal Traffic Management Plan *$ 390,000*

6C - Stage Construction and Traffic Handling

Item code		Unit	Quantity		Unit Price ($)			Cost
120100	Traffic Control System	LS	1	x	2,005,000.00	=	$	2,005,000
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-

Subtotal Stage Construction and Traffic Handling *$ 2,005,000*

TOTAL TRAFFIC ITEMS **$ 9,537,900**

SECTION 7: DETOURS

Includes constructing, maintaining, and removal

Item code	Unit	Quantity		Unit Price ($)		Cost
			x		= $	-
			x		= $	-
			x		= $	-
			x		= $	-
			x		= $	-
			x		= $	-
			x		= $	-
			x		= $	-
			x		= $	-
			x		= $	-
			x		= $	-

* Includes constructing, maintaining, and removal

TOTAL DETOURS **$ -**

SUBTOTAL SECTIONS 1 through 7 $ 22,692,200

SECTION 8: MINOR ITEMS

8A	ADA Items			1.0%	$	226,922	
8B	Bike Path Items			0.0%	$	-	
8C	Other Minor Items			5.0%	$	1,134,610	
	Total of Section 1-7	$ 22,692,200	x	6.0%	= $	1,361,532	

TOTAL MINOR ITEMS **$ 1,361,600**

SECTIONS 9: ROADWAY MOBILIZATION

Item code							
999990	Total Section 1-8	$ 24,053,800	x	10%	= $	2,405,380	

TOTAL ROADWAY MOBILIZATION **$ 2,405,400**

SECTION 10: SUPPLEMENTAL WORK

Item code		Unit	Quantity		Unit Price ($)		Cost
066063	Traffic Management Plan Public Information	LS	1	x	500,000.00	= $	500,000
066071	Maintain Traffic	LS	1	x	25,000.00	= $	25,000
				x		= $	-
				x		= $	-
				x		= $	-
				x		= $	-
				x		= $	-
				x		= $	-
				x		= $	-
	*Cost of **NPDES** Supplemental Work specified in Section 5D*					= $	1,444,576
	Total Section 1-8	$ 24,053,800		1%		= $	240,538

TOTAL SUPPLEMENTAL WORK **$ 2,210,200**

SECTION 11: STATE FURNISHED MATERIALS AND EXPENSES

Item code		Unit	Quantity		Unit Price ($)		Cost
066105	Resident Engineers Office	LS	1	x	300,000.00	=	$300,000
066062	COZEEP Contract	LS	1	x	1,700,000.00	=	$1,700,000
	Freeway Service Patrol	LS	1	x	400,000.00	=	$400,000
	Traffic Management Team	LS	1	x	350,000.00	=	$350,000
	Traffic Surveillance Stations	LS	1	x	50,000.00	=	$50,000
	Call Boxes 6	LS	1	x	20,000.00	=	$20,000
	Project Needs	LS	1	x	50,000.00	=	$50,000
	DTM	LS	1	x	100,000.00	=	$100,000
				x		=	
				x		=	
				x		=	
	Total Section 1-8	$	24,053,800		2%	= $	481,076

TOTAL STATE FURNISHED	$3,451,100

SECTION 12: TIME-RELATED OVERHEAD

Total of Roadway and Structures Contract Items excluding Mobilization $36,143,800 (used to calculate TRO)
Total Construction Cost (excluding TRO and Contingency) $45,177,700 (used to check if project is greater than $5 million excluding contingency)

Estimated Time-Related Overhead (TRO) Percentage (0% to 10%) = **10%**

Item code		Unit	Quantity		Unit Price ($)		Cost
090100	Time-Related Overhead	WD	400	X	$9,036	=	$3,614,400

TOTAL TIME-RELATED OVERHEAD	$3,614,400

SECTION 13: ROADWAY CONTINGENCY

Total Section 1-12	$	35,734,900	x	**25%**	=	$8,933,725	

TOTAL CONTINGENCY	$8,933,800

II. STRUCTURE ITEMS

Bridge 1

DATE OF ESTIMATE	11/03/20		
Bridge Name	El Toro Rd UC SB Off-Ramp		
Bridge Number			
Structure Type	CIP/PS Box Girder		
Width (Feet) [out to out]	31.0	LF	(Avg)
Total Bridge Length (Feet)	800.0	LF	
Total Area (Square Feet)	24800	SQFT	
Structure Depth (Feet)	5.75	LF	
Footing Type (pile or spread)		Pile	
Cost Per Square Foot		$390	

COST OF EACH	**$9,672,000**

TOTAL COST OF BRIDGES		**$9,672,000**
TOTAL COST OF BUILDINGS		**$0**
STRUCTURES MOBILIZATION	10%	**$967,200**

Recommended Contingency: (Pre-PSR 30%-50%, PSR 25%, Draft PR 20%, PR 15%, after PR approval 10%, Final PS&E 5%)

STRUCTURES CONTINGENCY	25%	**$2,418,000**
TOTAL COST OF STRUCTURES		**$13,057,200**

Estimate Prepared By: _____ _____

XXXXXXXXXXXXXXXX ------ Division of Structures — Date

III. RIGHT OF WAY

Fill in all of the available information from the Right of Way Data Sheet.

A)	A1)	Acquisition, including Excess Land Purchases, Damages & Goodwill, Fees	$	16,467,754
	A2)	SB-1210	$	0
B)		Acquisition of Offsite Mitigation	$	0
C)	C1)	Utility Relocation (State Share)	$	10,000,000
	C2)	Potholing (Design Phase)	$	0
D)		Railroad Acquisition	$	0
E)		Clearance / Demolition	$	163,020
F)		Relocation Assistance (RAP and/or Last Resort Housing Costs)	$	1,830,000
G)		Title and Escrow	$	0
H)		Environmental Review (Project Permit Fee)	$	0
I)		Condemnation Settlements 0%	$	0
J)		Design Appreciation Factor 0%	$	0
K)		Utility Relocation (Construction Cost)	$	0

L)	**TOTAL RIGHT OF WAY ESTIMATE**	**$28,460,774**
M)	**TOTAL R/W ESTIMATE: Escalated**	**$35,481,714**
N)	**RIGHT OF WAY SUPPORT**	**$0**

Support Cost Estimate Prepared By _____ Project Coordinator[1] Phone

Utility Estimate Prepared By _____ Utility Coordinator[2] Phone

R/W Acquisition Estimate Prepared By _____ Right of Way Estimator[3] Phone

Note: Items G & H applied to items A + B

[1] When estimate has Support Costs only [2] When estimate has Utility Relocation [3] When R/W Acquisition is required

Alternative AA-3A (Braided Ramps One Location with Right Turn Only)

ALTERNATIVE ASSESSMENT STUDY COST ESTIMATE

District-County-Route: 12-Ora-5
PM: 17.8 - 19.7

Type of Estimate : Alternative Assessment Study
Program Code : NA
Project Limits : Between Los Alisos Blvd Overcrossing (PM 17.8) and Ridge Road Drive (PM 19.7)
Project Description: Braided Ramps One Location with Right Turn Only
Scope : I-5/El Toro Rd Interchange Additional Alternatives
Alternative : AA-3A

SUMMARY OF PROJECT COST ESTIMATE

		Current Year Cost
TOTAL ROADWAY COST	$	44,522,400
TOTAL STRUCTURES COST	$	11,793,600
SUBTOTAL CONSTRUCTION COST	$	56,316,000
TOTAL RIGHT OF WAY COST	$	27,595,004
TOTAL CAPITAL OUTLAY COSTS	$	83,912,000
PA/ED SUPPORT	$	4,400,000
PS&E SUPPORT	$	8,447,400
RIGHT OF WAY SUPPORT	$	2,207,600
CONSTRUCTION SUPPORT	$	11,263,200
TOTAL SUPPORT COST	$	26,319,000
TOTAL PROJECT COST	$	111,000,000

Programmed Amount

	Month	/	Year
Date of Estimate (Month/Year)	3	/	2021
Estimated Construction Start (Month/Year)	July	/	2028
Number of Working Days =	400		
Estimated Mid-Point of Construction (Month/Year)	XX	/	XXXX
Estimated Construction End (Month/Year)	December	/	2030
Number of Plant Establishment Days			

Estimated Project Schedule

PID Approval	2/1/2015
PA/ED Approval	11/1/2019
PS&E	9/1/2026
RTL	4/1/2027
Begin Construction	7/1/2028

Reviewed by District O.E. or Cost Estimate Certifier

Office Engineer / Cost Estimate Certifier	Date	Phone
	xx/xx/xxxx	(XXX) XXX-XXXX

Approved by Project Manager

(Project Manager)	Date	Phone
	xx/xx/xxxx	(XXX) XXX-XXXX

I. ROADWAY ITEMS SUMMARY

	Section		Cost
1	**Earthwork**	$	871,000
2	**Pavement Structural Section**	$	2,885,000
3	**Drainage**	$	720,000
4	**Specialty Items**	$	5,710,500
5	**Environmental**	$	2,967,800
6	**Traffic Items**	$	9,537,900
7	**Detours**	$	-
8	**Minor Items**	$	1,361,600
9	**Roadway Mobilization**	$	2,405,400
10	**Supplemental Work**	$	2,210,200
11	**State Furnished**	$	3,451,100
12	**Time-Related Overhead**	$	3,497,400
13	**Roadway Contingency**	$	8,904,500
	TOTAL ROADWAY ITEMS	**$**	**44,522,400**

Estimate Prepared By : Jimmy Vuong, Project Engineer | 3/22/2021 | (714) 708-6872
Name and Title | Date | Phone

Estimate Reviewed By : Tom Ionta | 3/22/2021
Name and Title | Date | Phone

By signing this estimate you are attesting that you have discussed your project with all functional units and have incorporated all their comments or have discussed with them why they will not be incorporated.

SECTION 1: EARTHWORK

Item code		Unit	Quantity		Unit Price ($)			Cost
190101	Roadway Excavation	CY	9,800	x	25.00	=	$	245,000
152320	Lead Compliance Plan	LS	1	x	5,000.00	=	$	5,000
198010	Imported Borrow	CY	17,700	x	30.00	=	$	531,000
16010X	Clearing & Grubbing	LS	1	x	90,000.00	=	$	90,000
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-

TOTAL EARTHWORK SECTION ITEMS $ 871,000

SECTION 2: PAVEMENT STRUCTURAL SECTION

Item code		Unit	Quantity		Unit Price ($)			Cost
401050	Jointed Plain Concrete Pavement	CY	2,430	x	250.00	=	$	607,500
280000	Lean Concrete Base	CY	950	x	140.00	=	$	133,000
390132	Hot Mix Asphalt (Type A)	TON	7,200	x	175.00	=	$	1,260,000
390137	Rubberized Hot Mix Asphalt (Gap Graded)	TON	650	x	150.00	=	$	97,500
260203	Class 2 Aggregate Base	CY	9,020	x	50.00	=	$	451,000
250201	Class 4 Aggregate Subbase	CY	11,200	x	30.00	=	$	336,000
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
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				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-

TOTAL PAVEMENT STRUCTURAL SECTION ITEMS $ 2,885,000

SECTION 3: DRAINAGE

Item code		Unit	Quantity		Unit Price ($)			Cost
	Drainage Improvements (80% of PR Alt 4 Cost)	LS	1	x	720,000.00	=	$	720,000
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
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				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-

TOTAL DRAINAGE ITEMS $ 720,000

SECTION 4: SPECIALTY ITEMS

Item code		Unit	Quantity		Unit Price ($)			Cost
	Retaining Wall (Type 1)	SQFT	12,200	x	80.00	=	$	976,000
	Retaining Wall (Specialty)	SQFT	16,700	x	100.00	=	$	1,670,000
	Soundwall Improvements (50% of PR Alt 4 Cost)	LS	1	x	2,420,000.00	=	$	2,420,000
	Concrete Barrier (Type 736SV)	LF	2,510	x	250.00	=	$	627,500
	Concrete Barrier (Type 60M)	LF	170	x	100.00	=	$	17,000
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
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				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-

TOTAL SPECIALTY ITEMS $ 5,710,500

SECTION 5: ENVIRONMENTAL

5A - ENVIRONMENTAL MITIGATION

Item code		Unit	Quantity		Unit Price ($)			Cost		
	Biological Mitigation	LS		x		=	$	-		
130670	Temporary Reinforced Silt Fence	LF		x		=	$	-		
141000	Temporary Fence (Type ESA)	LF		x		=	$	-		
				x		=	$	-		
				x		=	$	-		
				x		=	$	-		
						Subtotal Environmental Mitigation			*$*	*-*

5B - LANDSCAPE AND IRRIGATION

Item code		Unit	Quantity		Unit Price ($)			Cost		
	Landscape and Irrigation	LS	1	x	2,500,000.00	=	$	2,500,000		
				x		=	$	-		
						Subtotal Landscape and Irrigation			*$*	*2,500,000*

5C - EROSION CONTROL

Item code		Unit	Quantity		Unit Price ($)			Cost		
				x		=	$	-		
				x		=	$	-		
				x		=	$	-		
				x		=	$	-		
							$	-		
				x		=	$	-		
						Subtotal Erosion Control			*$*	*-*

5D - NPDES

Item code		Unit	Quantity		Unit Price ($)			Cost		
130300	Prepare SWPPP	LS	1	x	23,600.00	=	$	23,600		
130100	Job Site Management	LS	1	x	361,700.00	=	$	361,700		
130330	Storm Water Annual Report	LS	1	x	6,000.00	=	$	6,000		
130310	Rain Event Action Plan (REAP)	LS	1	x	27,500.00	=	$	27,500		
130320	Storm Water Sampling and Analysis Day	LS	1	x	49,000.00	=	$	49,000		
				x		=	$	-		
				x		=	$	-		
				x		=	$	-		
				x		=	$	-		
				x		=	$	-		
				x		=	$	-		
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				x		=	$	-		
				x		=	$	-		
				x		=	$	-		
				x		=	$	-		
							Subtotal NPDES		*$*	*467,800*

							TOTAL ENVIRONMENTAL		**$**	**2,967,800**

Supplemental Work for NPDES

066596	Treatment BMPs	LS	1	x	1,264,000.00	=	$	1,264,000		
066595	Water Pollution Control Maintenance Sharing*	LS	1	x	173,250.00	=	$	173,250		
	CGP Fees	LS	1	x	1,326.00	=	$	1,326		
066596	Additional Water Pollution Control**	LS	1	x	6,000.00	=	$	6,000		
						Subtotal Supplemental Work for NDPS			*$*	*1,444,576*

*Applies to all SWPPPs and those WPCPs with sediment control or soil stabilization BMPs.

**Applies to both SWPPPs and WPCP projects.

*** Applies only to project with SWPPPs.

SECTION 6: TRAFFIC ITEMS

6A - Traffic Electrical

Item code		Unit	Quantity		Unit Price ($)			Cost
860460	Lighting and Sign Illumination & Ramp Metering	LS	1	x	4,044,700.00	=	$	4,044,700
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
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				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-

Subtotal Traffic Electrical *$ 4,044,700*

6B - Traffic Signing and Striping

Item code		Unit	Quantity		Unit Price ($)			Cost
	Traffic Signing	LS	1	x	2,209,500.00	=	$	2,209,500
	Pavement Delineations	LS	1	x	762,700.00	=	$	762,700
120090	Construction Area Signs	LS	1	x	120,000.00	=	$	120,000
141120	Treated Wood Waste	LS	1	x	6,000.00	=	$	6,000
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-

Subtotal Traffic Signing and Striping *$ 3,098,200*

6C - Traffic Management Plan

Item code		Unit	Quantity		Unit Price ($)			Cost
128651	Portable Changeable Message Signs	LS	1	x	$ 300,000	=	$	300,000
	Changeable Message Signs (Fixed)	LS	1	x	$ 20,000	=	$	20,000
	Highway Advisory Radio	LS	1	x	$ 20,000	=	$	20,000
	Others	LS	1	x	$ 50,000	=	$	50,000

Subtotal Traffic Management Plan *$ 390,000*

6C - Stage Construction and Traffic Handling

Item code		Unit	Quantity		Unit Price ($)			Cost
120100	Traffic Control System	LS	1	x	2,005,000.00	=	$	2,005,000
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-

Subtotal Stage Construction and Traffic Handling *$ 2,005,000*

TOTAL TRAFFIC ITEMS **$ 9,537,900**

SECTION 7: DETOURS

Includes constructing, maintaining, and removal

Item code		Unit	Quantity		Unit Price ($)			Cost
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-

* Includes constructing, maintaining, and removal

TOTAL DETOURS **$ -**

SUBTOTAL SECTIONS 1 through 7 $ 22,692,200

SECTION 8: MINOR ITEMS

8A	ADA Items				1.0%	$	226,922
8B	Bike Path Items				0.0%	$	-
8C	Other Minor Items				5.0%	$	1,134,610
	Total of Section 1-7	$	22,692,200	x	6.0%	= $	1,361,532

TOTAL MINOR ITEMS **$ 1,361,600**

SECTIONS 9: ROADWAY MOBILIZATION

Item code							
999990	Total Section 1-8	$	24,053,800	x	10%	= $	2,405,380

TOTAL ROADWAY MOBILIZATION **$ 2,405,400**

SECTION 10: SUPPLEMENTAL WORK

Item code		Unit	Quantity		Unit Price ($)			Cost
066063	Traffic Management Plan Public Information	LS	1	x	500,000.00	=	$	500,000
066071	Maintain Traffic	LS	1	x	25,000.00	=	$	25,000
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
	*Cost of **NPDES** Supplemental Work specified in Section 5D*					=	$	1,444,576
	Total Section 1-8	$	24,053,800		1%	=	$	240,538

TOTAL SUPPLEMENTAL WORK **$ 2,210,200**

SECTION 11: STATE FURNISHED MATERIALS AND EXPENSES

Item code		Unit	Quantity		Unit Price ($)		Cost
066105	Resident Engineers Office	LS	1	x	300,000.00	=	$300,000
066062	COZEEP Contract	LS	1	x	1,700,000.00	=	$1,700,000
	Freeway Service Patrol	LS	1	x	400,000.00	=	$400,000
	Traffic Management Team	LS	1	x	350,000.00	=	$350,000
	Traffic Surveillance Stations	LS	1	x	50,000.00	=	$50,000
	Call Boxes 6	LS	1	x	20,000.00	=	$20,000
	Project Needs	LS	1	x	50,000.00	=	$50,000
	DTM	LS	1	x	100,000.00	=	$100,000
				x		=	
				x		=	
				x		=	
	Total Section 1-8	$	24,053,800		2%	= $	481,076

TOTAL STATE FURNISHED **$3,451,100**

SECTION 12: TIME-RELATED OVERHEAD

Total of Roadway and Structures Contract Items excluding Mobilization $34,973,800 (used to calculate TRO)
Total Construction Cost (excluding TRO and Contingency) $43,914,100 (used to check if project is greater than $5 million excluding contingency)

Estimated Time-Related Overhead (TRO) Percentage (0% to 10%) = **10%**

Item code		Unit	Quantity		Unit Price ($)		Cost
090100	Time-Related Overhead	WD	400	X	$8,744	=	$3,497,400

TOTAL TIME-RELATED OVERHEAD **$3,497,400**

SECTION 13: ROADWAY CONTINGENCY

Total Section 1-12	$	35,617,900	x	**25%**	=	$8,904,475

TOTAL CONTINGENCY **$8,904,500**

II. STRUCTURE ITEMS

Bridge 1

DATE OF ESTIMATE	11/03/20		
Bridge Name	El Toro Rd UC SB Off-Ramp		
Bridge Number			
Structure Type	CIP/PS Box Girder		
Width (Feet) [out to out]	28.0	LF	(Avg)
Total Bridge Length (Feet)	800.0	LF	
Total Area (Square Feet)	22400	SQFT	
Structure Depth (Feet)	5.75	LF	
Footing Type (pile or spread)		Pile	
Cost Per Square Foot		$390	

COST OF EACH	**$8,736,000**

TOTAL COST OF BRIDGES		**$8,736,000**
TOTAL COST OF BUILDINGS		**$0**
STRUCTURES MOBILIZATION	10%	**$873,600**

Recommended Contingency: (Pre-PSR 30%-50%, PSR 25%, Draft PR 20%, PR 15%, after PR approval 10%, Final PS&E 5%)

STRUCTURES CONTINGENCY	25%	**$2,184,000**
TOTAL COST OF STRUCTURES		**$11,793,600**

Estimate Prepared By: _____ _____

XXXXXXXXXXXXXXXXX ------ Division of Structures — Date

III. RIGHT OF WAY

Fill in all of the available information from the Right of Way Data Sheet.

A)	A1)	Acquisition, including Excess Land Purchases, Damages & Goodwill, Fees	$	15,601,984
	A2)	SB-1210	$	0
B)		Acquisition of Offsite Mitigation	$	0
C)	C1)	Utility Relocation (State Share)	$	10,000,000
	C2)	Potholing (Design Phase)	$	0
D)		Railroad Acquisition	$	0
E)		Clearance / Demolition	$	163,020
F)		Relocation Assistance (RAP and/or Last Resort Housing Costs)	$	1,830,000
G)		Title and Escrow	$	0
H)		Environmental Review (Project Permit Fee)	$	0
I)		Condemnation Settlements 0%	$	0
J)		Design Appreciation Factor 0%	$	0
K)		Utility Relocation (Construction Cost)	$	0

L)	**TOTAL RIGHT OF WAY ESTIMATE**	**$27,595,004**
M)	**TOTAL R/W ESTIMATE: Escalated**	**$34,402,368**
N)	**RIGHT OF WAY SUPPORT**	**$0**

Support Cost Estimate Prepared By _____ Project Coordinator[1] Phone

Utility Estimate Prepared By _____ Utility Coordinator[2] Phone

R/W Acquisition Estimate Prepared By _____ Right of Way Estimator[3] Phone

Note: Items G & H applied to items A + B

[1] When estimate has Support Costs only [2] When estimate has Utility Relocation [3] When R/W Acquisition is required

Alternative AA-4 – (Flyover with roundabout close to El Toro Road)

ALTERNATIVE ASSESSMENT STUDY COST ESTIMATE

District-County-Route: 12-Ora-5
PM: 17.8 - 19.7

Type of Estimate : Alternative Assessment Study
Program Code : NA
Project Limits : Between Los Alisos Blvd Overcrossing (PM 17.8) and Ridge Road Drive (PM 19.7)
Project Description: Flyover with Roundabout Close to El Toro Rd
Scope : I-5/El Toro Rd Interchange Additional Alternatives
Alternative : AA-4

SUMMARY OF PROJECT COST ESTIMATE

		Current Year Cost
TOTAL ROADWAY COST	$	46,263,200
TOTAL STRUCTURES COST	$	28,066,500
SUBTOTAL CONSTRUCTION COST	$	74,329,700
TOTAL RIGHT OF WAY COST	$	49,827,007
TOTAL CAPITAL OUTLAY COSTS	$	124,157,000
PA/ED SUPPORT	$	4,400,000
PS&E SUPPORT	$	11,149,455
RIGHT OF WAY SUPPORT	$	3,986,161
CONSTRUCTION SUPPORT	$	14,865,940
TOTAL SUPPORT COST	$	34,402,000
TOTAL PROJECT COST	$	159,000,000

Programmed Amount

	Month	/	Year
Date of Estimate (Month/Year)	11	/	2020
Estimated Construction Start (Month/Year)	July	/	2028
Number of Working Days =	400		
Estimated Mid-Point of Construction (Month/Year)	XX	/	XXXX
Estimated Construction End (Month/Year)	December	/	2030
Number of Plant Establishment Days			

Estimated Project Schedule

PID Approval	2/1/2015
PA/ED Approval	11/1/2019
PS&E	9/1/2026
RTL	4/1/2027
Begin Construction	7/1/2028

Reviewed by District O.E. or Cost Estimate Certifier

Office Engineer / Cost Estimate Certifier	Date	Phone
	xx/xx/xxxx	(XXX) XXX-XXXX

Approved by Project Manager

(Project Manager)	Date	Phone
	xx/xx/xxxx	(XXX) XXX-XXXX

I. ROADWAY ITEMS SUMMARY

	Section		Cost
1	**Earthwork**	$	1,855,000
2	**Pavement Structural Section**	$	1,701,500
3	**Drainage**	$	720,000
4	**Specialty Items**	$	5,822,500
5	**Environmental**	$	2,967,800
6	**Traffic Items**	$	9,537,900
7	**Detours**	$	-
8	**Minor Items**	$	1,356,300
9	**Roadway Mobilization**	$	2,396,100
10	**Supplemental Work**	$	2,209,200
11	**State Furnished**	$	3,449,300
12	**Time-Related Overhead**	$	4,994,900
13	**Roadway Contingency**	$	9,252,700
	TOTAL ROADWAY ITEMS	**$**	**46,263,200**

Estimate Prepared By :	Kamran Qadeer, Engineer	11/13/2020	(714) 708-6885
	Name and Title	Date	Phone
Estimate Reviewed By :	Jimmy Vuong, Project Engineer	11/13/2020	(714) 708-6872
	Name and Title	Date	Phone

By signing this estimate you are attesting that you have discussed your project with all functional units and have incorporated all their comments or have discussed with them why they will not be incorporated.

SECTION 1: EARTHWORK

Item code		Unit	Quantity		Unit Price ($)			Cost
190101	Roadway Excavation	CY	4,400	x	25.00	=	$	110,000
152320	Lead Compliance Plan	LS	1	x	5,000.00	=	$	5,000
198010	Imported Borrow	CY	55,000	x	30.00	=	$	1,650,000
16010X	Clearing & Grubbing	LS	1	x	90,000.00	=	$	90,000
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-

TOTAL EARTHWORK SECTION ITEMS	**$**	**1,855,000**

SECTION 2: PAVEMENT STRUCTURAL SECTION

Item code		Unit	Quantity		Unit Price ($)			Cost
401050	Jointed Plain Concrete Pavement	CY	1,400	x	250.00	=	$	350,000
280000	Lean Concrete Base	CY	550	x	140.00	=	$	77,000
390132	Hot Mix Asphalt (Type A)	TON	4,300	x	175.00	=	$	752,500
390137	Rubberized Hot Mix Asphalt (Gap Graded)	TON	400	x	150.00	=	$	60,000
260203	Class 2 Aggregate Base	CY	5,400	x	50.00	=	$	270,000
250201	Class 4 Aggregate Subbase	CY	6,400	x	30.00	=	$	192,000
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
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				x		=	$	-
				x		=	$	-
				x		=	$	-

TOTAL PAVEMENT STRUCTURAL SECTION ITEMS	**$**	**1,701,500**

SECTION 3: DRAINAGE

Item code		Unit	Quantity		Unit Price ($)			Cost
	Drainage Improvements (80% of PR Alt 4 Cost)	LS	1	x	720,000.00	=	$	720,000
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
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				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-

TOTAL DRAINAGE ITEMS	**$**	**720,000**

SECTION 4: SPECIALTY ITEMS

Item code		Unit	Quantity		Unit Price ($)			Cost
	Retaining Wall (Type 1)	SQFT	2,100	x	80.00	=	$	168,000
	Retaining Wall (Specialty)	SQFT	27,400	x	100.00	=	$	2,740,000
	Soundwall Improvements (50% of PR Alt 4 Cost)	LS	1	x	2,420,000.00	=	$	2,420,000
	Concrete Barrier (Type 736SV)	LF	1,910	x	250.00	=	$	477,500
	Concrete Barrier (Type 60M)	LF	170	x	100.00	=	$	17,000
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
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				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-

TOTAL SPECIALTY ITEMS	**$**	**5,822,500**

SECTION 5: ENVIRONMENTAL

5A - ENVIRONMENTAL MITIGATION

Item code		Unit	Quantity		Unit Price ($)		Cost
	Biological Mitigation	LS		x		= $	-
130670	Temporary Reinforced Silt Fence	LF		x		= $	-
141000	Temporary Fence (Type ESA)	LF		x		= $	-
				x		= $	-
				x		= $	-
				x		= $	-
					Subtotal Environmental Mitigation		*$ -*

5B - LANDSCAPE AND IRRIGATION

Item code		Unit	Quantity		Unit Price ($)		Cost
	Landscape and Irrigation	LS	1	x	2,500,000.00	= $	2,500,000
				x		= $	-
					Subtotal Landscape and Irrigation		*$ 2,500,000*

5C - EROSION CONTROL

Item code		Unit	Quantity		Unit Price ($)		Cost
				x		= $	-
				x		= $	-
				x		= $	-
				x		= $	-
						$	-
				x		= $	-
					Subtotal Erosion Control		*$ -*

5D - NPDES

Item code		Unit	Quantity		Unit Price ($)		Cost
130300	Prepare SWPPP	LS	1	x	23,600.00	= $	23,600
130100	Job Site Management	LS	1	x	361,700.00	= $	361,700
130330	Storm Water Annual Report	LS	1	x	6,000.00	= $	6,000
130310	Rain Event Action Plan (REAP)	LS	1	x	27,500.00	= $	27,500
130320	Storm Water Sampling and Analysis Day	LS	1	x	49,000.00	= $	49,000
				x		= $	-
				x		= $	-
				x		= $	-
				x		= $	-
				x		= $	-
				x		= $	-
				x		= $	-
				x		= $	-
				x		= $	-
				x		= $	-
				x		= $	-
				x		= $	-
				x		= $	-
				x		= $	-
				x		= $	-
					Subtotal NPDES		*$ 467,800*

TOTAL ENVIRONMENTAL	**$**	**2,967,800**

Supplemental Work for NPDES

066596	Treatment BMPs	LS	1	x	1,264,000.00	= $	1,264,000
066595	Water Pollution Control Maintenance Sharing*	LS	1	x	173,250.00	= $	173,250
	CGP Fees	LS	1	x	1,326.00	= $	1,326
066596	Additional Water Pollution Control**	LS	1	x	6,000.00	= $	6,000
					Subtotal Supplemental Work for NDPS		*$ 1,444,576*

*Applies to all SWPPPs and those WPCPs with sediment control or soil stabilization BMPs.

**Applies to both SWPPPs and WPCP projects.

*** Applies only to project with SWPPPs.

SECTION 6: TRAFFIC ITEMS

6A - Traffic Electrical

Item code		Unit	Quantity		Unit Price ($)			Cost
860460	Lighting and Sign Illumination & Ramp Metering	LS	1	x	4,044,700.00	=	$	4,044,700
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-

Subtotal Traffic Electrical *$ 4,044,700*

6B - Traffic Signing and Striping

Item code		Unit	Quantity		Unit Price ($)			Cost
	Traffic Signing	LS	1	x	2,209,500.00	=	$	2,209,500
	Pavement Delineations	LS	1	x	762,700.00	=	$	762,700
120090	Construction Area Signs	LS	1	x	120,000.00	=	$	120,000
141120	Treated Wood Waste	LS	1	x	6,000.00	=	$	6,000
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-

Subtotal Traffic Signing and Striping *$ 3,098,200*

6C - Traffic Management Plan

Item code		Unit	Quantity		Unit Price ($)			Cost
128651	Portable Changeable Message Signs	LS	1	x	$ 300,000	=	$	300,000
	Changeable Message Signs (Fixed)	LS	1	x	$ 20,000	=	$	20,000
	Highway Advisory Radio	LS	1	x	$ 20,000	=	$	20,000
	Others	LS	1	x	$ 50,000	=	$	50,000

Subtotal Traffic Management Plan *$ 390,000*

6C - Stage Construction and Traffic Handling

Item code		Unit	Quantity		Unit Price ($)			Cost
120100	Traffic Control System	LS	1	x	2,005,000.00	=	$	2,005,000
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-

Subtotal Stage Construction and Traffic Handling *$ 2,005,000*

TOTAL TRAFFIC ITEMS **$ 9,537,900**

SECTION 7: DETOURS

Includes constructing, maintaining, and removal

Item code	Unit	Quantity		Unit Price ($)		Cost
			x		= $	-
			x		= $	-
			x		= $	-
			x		= $	-
			x		= $	-
			x		= $	-
			x		= $	-
			x		= $	-
			x		= $	-
			x		= $	-
			x		= $	-

* Includes constructing, maintaining, and removal

TOTAL DETOURS $ -

SUBTOTAL SECTIONS 1 through 7 $ 22,604,700

SECTION 8: MINOR ITEMS

8A	ADA Items			1.0%	$	226,047	
8B	Bike Path Items			0.0%	$	-	
8C	Other Minor Items			5.0%	$	1,130,235	
	Total of Section 1-7	$ 22,604,700	x	6.0%	= $	1,356,282	

TOTAL MINOR ITEMS $ 1,356,300

SECTIONS 9: ROADWAY MOBILIZATION

Item code							
999990	Total Section 1-8	$ 23,961,000	x	10%	= $	2,396,100	

TOTAL ROADWAY MOBILIZATION $ 2,396,100

SECTION 10: SUPPLEMENTAL WORK

Item code		Unit	Quantity		Unit Price ($)		Cost
066063	Traffic Management Plan Public Information	LS	1	x	500,000.00	= $	500,000
066071	Maintain Traffic	LS	1	x	25,000.00	= $	25,000
				x		= $	-
				x		= $	-
				x		= $	-
				x		= $	-
				x		= $	-
				x		= $	-
				x		= $	-
	*Cost of **NPDES** Supplemental Work specified in Section 5D*					= $	1,444,576
	Total Section 1-8	$ 23,961,000		1%	= $	239,610	

TOTAL SUPPLEMENTAL WORK $ 2,209,200

SECTION 11: STATE FURNISHED MATERIALS AND EXPENSES

Item code		Unit	Quantity		Unit Price ($)		Cost
066105	Resident Engineers Office	LS	1	x	300,000.00	=	$300,000
066062	COZEEP Contract	LS	1	x	1,700,000.00	=	$1,700,000
	Freeway Service Patrol	LS	1	x	400,000.00	=	$400,000
	Traffic Management Team	LS	1	x	350,000.00	=	$350,000
	Traffic Surveillance Stations	LS	1	x	50,000.00	=	$50,000
	Call Boxes 6	LS	1	x	20,000.00	=	$20,000
	Project Needs	LS	1	x	50,000.00	=	$50,000
	DTM	LS	1	x	100,000.00	=	$100,000
				x		=	
				x		=	
				x		=	
	Total Section 1-8	$	23,961,000		2%	= $	479,220

TOTAL STATE FURNISHED	**$3,449,300**

SECTION 12: TIME-RELATED OVERHEAD

Total of Roadway and Structures Contract Items excluding Mobilization	$49,948,500	(used to calculate TRO)
Total Construction Cost (excluding TRO and Contingency)	$60,082,100	(used to check if project is greater than $5 million excluding contingency)

Estimated Time-Related Overhead (TRO) Percentage (0% to 10%) = **10%**

Item code		Unit	Quantity		Unit Price ($)		Cost
090100	Time-Related Overhead	WD	400	X	$12,487	=	$4,994,900

TOTAL TIME-RELATED OVERHEAD	**$4,994,900**

SECTION 13: ROADWAY CONTINGENCY

Total Section 1-12	$	37,010,500	x	**25%**	=	$9,252,625

TOTAL CONTINGENCY	**$9,252,700**

II. STRUCTURE ITEMS

Bridge 1

DATE OF ESTIMATE	11/03/20		
Bridge Name	El Toro Rd UC SB Off-Ramp		
Bridge Number			
Structure Type	CIP/PS Box Girder		
Width (Feet) [out to out]	31.5	LF	(Avg)
Total Bridge Length (Feet)	1500.0	LF	
Total Area (Square Feet)	47250	SQFT	
Structure Depth (Feet)	5.75 Min	LF	
Footing Type (pile or spread)		Pile	
Cost Per Square Foot		$440	

COST OF EACH	**$20,790,000**

TOTAL COST OF BRIDGES		**$20,790,000**
TOTAL COST OF BUILDINGS		**$0**
STRUCTURES MOBILIZATION	10%	**$2,079,000**

Recommended Contingency: (Pre-PSR 30%-50%, PSR 25%, Draft PR 20%, PR 15%, after PR approval 10%, Final PS&E 5%)

STRUCTURES CONTINGENCY	25%	**$5,197,500**
TOTAL COST OF STRUCTURES		**$28,066,500**

Estimate Prepared By: _____ _____

XXXXXXXXXXXXXXXX ------ Division of Structures — Date

III. RIGHT OF WAY

Fill in all of the available information from the Right of Way Data Sheet.

A)	A1)	Acquisition, including Excess Land Purchases, Damages & Goodwill, Fees	$	43,275,547
	A2)	SB-1210	$	0
B)		Acquisition of Offsite Mitigation	$	0
C)	C1)	Utility Relocation (State Share)	$	1,500,000
	C2)	Potholing (Design Phase)	$	0
D)		Railroad Acquisition	$	0
E)		Clearance / Demolition	$	1,351,460
F)		Relocation Assistance (RAP and/or Last Resort Housing Costs)	$	3,700,000
G)		Title and Escrow	$	0
H)		Environmental Review (Project Permit Fee)	$	0
I)		Condemnation Settlements 0%	$	0
J)		Design Appreciation Factor 0%	$	0
K)		Utility Relocation (Construction Cost)	$	0

L)	**TOTAL RIGHT OF WAY ESTIMATE**	**$49,827,007**
M)	**TOTAL R/W ESTIMATE: Escalated**	**$62,118,746**
N)	**RIGHT OF WAY SUPPORT**	**$0**

Support Cost Estimate Prepared By _____ Project Coordinator[1] Phone

Utility Estimate Prepared By _____ Utility Coordinator[2] Phone

R/W Acquisition Estimate Prepared By _____ Right of Way Estimator[3] Phone

Note: Items G & H applied to items A + B

[1] When estimate has Support Costs only [2] When estimate has Utility Relocation [3] When R/W Acquisition is required

Alternative AA-4A – (Flyover with roundabout away from El Toro Road)

ALTERNATIVE ASSESSMENT STUDY COST ESTIMATE

District-County-Route: 12-Ora-5
PM: 17.8 - 19.7

Type of Estimate : Alternative Assessment Study
Program Code : NA
Project Limits : Between Los Alisos Blvd Overcrossing (PM 17.8) and Ridge Road Drive (PM 19.7)
Project Description: Flyover with Roundabout Away from El Toro Rd
Scope : I-5/El Toro Rd Interchange Additional Alternatives
Alternative : AA-4A

SUMMARY OF PROJECT COST ESTIMATE

		Current Year Cost
TOTAL ROADWAY COST	$	46,148,300
TOTAL STRUCTURES COST	$	27,175,500
SUBTOTAL CONSTRUCTION COST	$	73,323,800
TOTAL RIGHT OF WAY COST	$	49,827,007
TOTAL CAPITAL OUTLAY COSTS	$	123,151,000
PA/ED SUPPORT	$	4,400,000
PS&E SUPPORT	$	10,998,570
RIGHT OF WAY SUPPORT	$	3,986,161
CONSTRUCTION SUPPORT	$	14,664,760
TOTAL SUPPORT COST	$	34,050,000
TOTAL PROJECT COST	$	158,000,000

Programmed Amount

	Month	/	Year
Date of Estimate (Month/Year)	11	/	2020
Estimated Construction Start (Month/Year)	July	/	2028
Number of Working Days =	400		
Estimated Mid-Point of Construction (Month/Year)	XX	/	XXXX
Estimated Construction End (Month/Year)	December	/	2030
Number of Plant Establishment Days			

Estimated Project Schedule

PID Approval	2/1/2015
PA/ED Approval	11/1/2019
PS&E	9/1/2026
RTL	4/1/2027
Begin Construction	7/1/2028

Reviewed by District O.E. or Cost Estimate Certifier

Office Engineer / Cost Estimate Certifier	Date	Phone
	xx/xx/xxxx	(XXX) XXX-XXXX

Approved by Project Manager

(Project Manager)	Date	Phone
	xx/xx/xxxx	(XXX) XXX-XXXX

I. ROADWAY ITEMS SUMMARY

	Section		Cost
1	**Earthwork**	$	1,915,000
2	**Pavement Structural Section**	$	1,784,000
3	**Drainage**	$	720,000
4	**Specialty Items**	$	5,672,700
5	**Environmental**	$	2,967,800
6	**Traffic Items**	$	9,537,900
7	**Detours**	$	-
8	**Minor Items**	$	1,355,900
9	**Roadway Mobilization**	$	2,395,400
10	**Supplemental Work**	$	2,209,200
11	**State Furnished**	$	3,449,100
12	**Time-Related Overhead**	$	4,911,600
13	**Roadway Contingency**	$	9,229,700
	TOTAL ROADWAY ITEMS	**$**	**46,148,300**

Estimate Prepared By :	Kamran Qadeer, Engineer	11/13/2020	(714) 708-6885
	Name and Title	Date	Phone
Estimate Reviewed By :	Jimmy Vuong, Project Engineer	11/13/2020	(714) 708-6872
	Name and Title	Date	Phone

By signing this estimate you are attesting that you have discussed your project with all functional units and have incorporated all their comments or have discussed with them why they will not be incorporated.

SECTION 1: EARTHWORK

Item code		Unit	Quantity		Unit Price ($)			Cost
190101	Roadway Excavation	CY	4,400	x	25.00	=	$	110,000
152320	Lead Compliance Plan	LS	1	x	5,000.00	=	$	5,000
198010	Imported Borrow	CY	57,000	x	30.00	=	$	1,710,000
16010X	Clearing & Grubbing	LS	1	x	90,000.00	=	$	90,000
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-

TOTAL EARTHWORK SECTION ITEMS $ 1,915,000

SECTION 2: PAVEMENT STRUCTURAL SECTION

Item code		Unit	Quantity		Unit Price ($)			Cost
401050	Jointed Plain Concrete Pavement	CY	1,400	x	250.00	=	$	350,000
280000	Lean Concrete Base	CY	550	x	140.00	=	$	77,000
390132	Hot Mix Asphalt (Type A)	TON	4,600	x	175.00	=	$	805,000
390137	Rubberized Hot Mix Asphalt (Gap Graded)	TON	400	x	150.00	=	$	60,000
260203	Class 2 Aggregate Base	CY	6,000	x	50.00	=	$	300,000
250201	Class 4 Aggregate Subbase	CY	6,400	x	30.00	=	$	192,000
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
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				x		=	$	-

TOTAL PAVEMENT STRUCTURAL SECTION ITEMS $ 1,784,000

SECTION 3: DRAINAGE

Item code		*Unit*	*Quantity*		*Unit Price ($)*			*Cost*
	Drainage Improvements (80% of PR Alt 4 Cost)	LS	1	x	720,000.00	=	$	720,000
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
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				x		=	$	-
				x		=	$	-
				x		=	$	-

TOTAL DRAINAGE ITEMS $ 720,000

SECTION 4: SPECIALTY ITEMS

Item code		*Unit*	*Quantity*		*Unit Price ($)*			*Cost*
	Retaining Wall (Type 1)	SQFT	3,040	x	80.00	=	$	243,200
	Retaining Wall (Specialty)	SQFT	25,300	x	100.00	=	$	2,530,000
	Soundwall Improvements (50% of PR Alt 4 Cost)	LS	1	x	2,420,000.00	=	$	2,420,000
	Concrete Barrier (Type 736SV)	LF	1,850	x	250.00	=	$	462,500
	Concrete Barrier (Type 60M)	LF	170	x	100.00	=	$	17,000
				x		=	$	-
				x		=	$	-
				x		=	$	-
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				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-

TOTAL SPECIALTY ITEMS $ 5,672,700

SECTION 5: ENVIRONMENTAL

5A - ENVIRONMENTAL MITIGATION

Item code		Unit	Quantity		Unit Price ($)			Cost		
	Biological Mitigation	LS		x		=	$	-		
130670	Temporary Reinforced Silt Fence	LF		x		=	$	-		
141000	Temporary Fence (Type ESA)	LF		x		=	$	-		
				x		=	$	-		
				x		=	$	-		
				x		=	$	-		
						Subtotal Environmental Mitigation			*$*	*-*

5B - LANDSCAPE AND IRRIGATION

Item code		Unit	Quantity		Unit Price ($)			Cost		
	Landscape and Irrigation	LS	1	x	2,500,000.00	=	$	2,500,000		
				x		=	$	-		
						Subtotal Landscape and Irrigation			*$*	*2,500,000*

5C - EROSION CONTROL

Item code		Unit	Quantity		Unit Price ($)			Cost		
				x		=	$	-		
				x		=	$	-		
				x		=	$	-		
				x		=	$	-		
							$	-		
				x		=	$	-		
						Subtotal Erosion Control			*$*	*-*

5D - NPDES

Item code		Unit	Quantity		Unit Price ($)			Cost		
130300	Prepare SWPPP	LS	1	x	23,600.00	=	$	23,600		
130100	Job Site Management	LS	1	x	361,700.00	=	$	361,700		
130330	Storm Water Annual Report	LS	1	x	6,000.00	=	$	6,000		
130310	Rain Event Action Plan (REAP)	LS	1	x	27,500.00	=	$	27,500		
130320	Storm Water Sampling and Analysis Day	LS	1	x	49,000.00	=	$	49,000		
				x		=	$	-		
				x		=	$	-		
				x		=	$	-		
				x		=	$	-		
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				x		=	$	-		
				x		=	$	-		
				x		=	$	-		
				x		=	$	-		
				x		=	$	-		
								Subtotal NPDES	*$*	*467,800*

								TOTAL ENVIRONMENTAL	**$**	**2,967,800**

Supplemental Work for NPDES

066596	Treatment BMPs	LS	1	x	1,264,000.00	=	$	1,264,000		
066595	Water Pollution Control Maintenance Sharing*	LS	1	x	173,250.00	=	$	173,250		
	CGP Fees	LS	1	x	1,326.00	=	$	1,326		
066596	Additional Water Pollution Control**	LS	1	x	6,000.00	=	$	6,000		
						Subtotal Supplemental Work for NDPS			*$*	*1,444,576*

*Applies to all SWPPPs and those WPCPs with sediment control or soil stabilization BMPs.

**Applies to both SWPPPs and WPCP projects.

*** Applies only to project with SWPPPs.

SECTION 6: TRAFFIC ITEMS

6A - Traffic Electrical

Item code		Unit	Quantity		Unit Price ($)			Cost
860460	Lighting and Sign Illumination & Ramp Metering	LS	1	x	4,044,700.00	=	$	4,044,700
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-

Subtotal Traffic Electrical *$* *4,044,700*

6B - Traffic Signing and Striping

Item code		Unit	Quantity		Unit Price ($)			Cost
	Traffic Signing	LS	1	x	2,209,500.00	=	$	2,209,500
	Pavement Delineations	LS	1	x	762,700.00	=	$	762,700
120090	Construction Area Signs	LS	1	x	120,000.00	=	$	120,000
141120	Treated Wood Waste	LS	1	x	6,000.00	=	$	6,000
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-

Subtotal Traffic Signing and Striping *$* *3,098,200*

6C - Traffic Management Plan

Item code		Unit	Quantity		Unit Price ($)			Cost
128651	Portable Changeable Message Signs	LS	1	x	$ 300,000	=	$	300,000
	Changeable Message Signs (Fixed)	LS	1	x	$ 20,000	=	$	20,000
	Highway Advisory Radio	LS	1	x	$ 20,000	=	$	20,000
	Others	LS	1	x	$ 50,000	=	$	50,000

Subtotal Traffic Management Plan *$* *390,000*

6C - Stage Construction and Traffic Handling

Item code		Unit	Quantity		Unit Price ($)			Cost
120100	Traffic Control System	LS	1	x	2,005,000.00	=	$	2,005,000
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-

Subtotal Stage Construction and Traffic Handling *$* *2,005,000*

TOTAL TRAFFIC ITEMS **$** **9,537,900**

SECTION 7: DETOURS

Includes constructing, maintaining, and removal

Item code	Unit	Quantity		Unit Price ($)		Cost
			x		=	$ -
			x		=	$ -
			x		=	$ -
			x		=	$ -
			x		=	$ -
			x		=	$ -
			x		=	$ -
			x		=	$ -
			x		=	$ -
			x		=	$ -
			x		=	$ -

* Includes constructing, maintaining, and removal

TOTAL DETOURS $ -

SUBTOTAL SECTIONS 1 through 7 $ 22,597,400

SECTION 8: MINOR ITEMS

8A	ADA Items			1.0%	$	225,974
8B	Bike Path Items			0.0%	$	-
8C	Other Minor Items			5.0%	$	1,129,870
	Total of Section 1-7	$ 22,597,400	x	6.0%	= $	1,355,844

TOTAL MINOR ITEMS $ 1,355,900

SECTIONS 9: ROADWAY MOBILIZATION

Item code						
999990	Total Section 1-8	$ 23,953,300	x	10%	= $	2,395,330

TOTAL ROADWAY MOBILIZATION $ 2,395,400

SECTION 10: SUPPLEMENTAL WORK

Item code		Unit	Quantity		Unit Price ($)		Cost
066063	Traffic Management Plan Public Information	LS	1	x	500,000.00	= $	500,000
066071	Maintain Traffic	LS	1	x	25,000.00	= $	25,000
				x		= $	-
				x		= $	-
				x		= $	-
				x		= $	-
				x		= $	-
				x		= $	-
				x		= $	-
	*Cost of **NPDES** Supplemental Work specified in Section 5D*					= $	1,444,576
	Total Section 1-8	$ 23,953,300		1%		= $	239,533

TOTAL SUPPLEMENTAL WORK $ 2,209,200

SECTION 11: STATE FURNISHED MATERIALS AND EXPENSES

Item code		Unit	Quantity		Unit Price ($)		Cost
066105	Resident Engineers Office	LS	1	x	300,000.00	=	$300,000
066062	COZEEP Contract	LS	1	x	1,700,000.00	=	$1,700,000
	Freeway Service Patrol	LS	1	x	400,000.00	=	$400,000
	Traffic Management Team	LS	1	x	350,000.00	=	$350,000
	Traffic Surveillance Stations	LS	1	x	50,000.00	=	$50,000
	Call Boxes 6	LS	1	x	20,000.00	=	$20,000
	Project Needs	LS	1	x	50,000.00	=	$50,000
	DTM	LS	1	x	100,000.00	=	$100,000
				x		=	
				x		=	
				x		=	
	Total Section 1-8	$	23,953,300		2%	= $	479,066

TOTAL STATE FURNISHED **$3,449,100**

SECTION 12: TIME-RELATED OVERHEAD

Total of Roadway and Structures Contract Items excluding Mobilization $49,115,800 (used to calculate TRO)
Total Construction Cost (excluding TRO and Contingency) $59,182,500 (used to check if project is greater than $5 million excluding contingency)

Estimated Time-Related Overhead (TRO) Percentage (0% to 10%) = **10%**

Item code		Unit	Quantity		Unit Price ($)		Cost
090100	Time-Related Overhead	WD	400	X	$12,279	=	$4,911,600

TOTAL TIME-RELATED OVERHEAD **$4,911,600**

SECTION 13: ROADWAY CONTINGENCY

Total Section 1-12	$	36,918,600	x	**25%**	=	$9,229,650

TOTAL CONTINGENCY **$9,229,700**

II. STRUCTURE ITEMS

Bridge 1

DATE OF ESTIMATE	11/03/20		
Bridge Name	El Toro Rd UC SB Off-Ramp		
Bridge Number			
Structure Type	CIP/PS Box Girder		
Width (Feet) [out to out]	30.5	LF	(Avg)
Total Bridge Length (Feet)	1500.0	LF	
Total Area (Square Feet)	45750	SQFT	
Structure Depth (Feet)	5.75 Min	LF	
Footing Type (pile or spread)		Pile	
Cost Per Square Foot		$440	

COST OF EACH	**$20,130,000**

TOTAL COST OF BRIDGES		**$20,130,000**
TOTAL COST OF BUILDINGS		**$0**
STRUCTURES MOBILIZATION	10%	**$2,013,000**

Recommended Contingency: (Pre-PSR 30%-50%, PSR 25%, Draft PR 20%, PR 15%, after PR approval 10%, Final PS&E 5%)

STRUCTURES CONTINGENCY	25%	**$5,032,500**
TOTAL COST OF STRUCTURES		**$27,175,500**

Estimate Prepared By: _____ _____

XXXXXXXXXXXXXXXX ------ Division of Structures — Date

III. RIGHT OF WAY

Fill in all of the available information from the Right of Way Data Sheet.

A)	A1)	Acquisition, including Excess Land Purchases, Damages & Goodwill, Fees	$	43,275,547
	A2)	SB-1210	$	0
B)		Acquisition of Offsite Mitigation	$	0
C)	C1)	Utility Relocation (State Share)	$	1,500,000
	C2)	Potholing (Design Phase)	$	0
D)		Railroad Acquisition	$	0
E)		Clearance / Demolition	$	1,351,460
F)		Relocation Assistance (RAP and/or Last Resort Housing Costs)	$	3,700,000
G)		Title and Escrow	$	0
H)		Environmental Review (Project Permit Fee)	$	0
I)		Condemnation Settlements 0%	$	0
J)		Design Appreciation Factor 0%	$	0
K)		Utility Relocation (Construction Cost)	$	0

L)	**TOTAL RIGHT OF WAY ESTIMATE**	**$49,827,007**
M)	**TOTAL R/W ESTIMATE: Escalated**	**$62,118,746**
N)	**RIGHT OF WAY SUPPORT**	**$0**

Support Cost Estimate Prepared By _____ Project Coordinator[1] Phone

Utility Estimate Prepared By _____ Utility Coordinator[2] Phone

R/W Acquisition Estimate Prepared By _____ Right of Way Estimator[3] Phone

Note: Items G & H applied to items A + B

[1] When estimate has Support Costs only [2] When estimate has Utility Relocation [3] When R/W Acquisition is required

Alternative AA-5 – Flyover with roundabout close to Rockfield Boulevard

ALTERNATIVE ASSESSMENT STUDY COST ESTIMATE

District-County-Route: 12-Ora-5
PM: 17.8 - 19.7

Type of Estimate : Alternative Assessment Study
Program Code : NA
Project Limits : Between Los Alisos Blvd Overcrossing (PM 17.8) and Ridge Road Drive (PM 19.7)
Project Description: Flyover With Roundabout Close to Rockfield Blvd
Scope : I-5/El Toro Rd Interchange Additional Alternatives
Alternative : AA-5

SUMMARY OF PROJECT COST ESTIMATE

		Current Year Cost
TOTAL ROADWAY COST	$	44,631,400
TOTAL STRUCTURES COST	$	30,234,600
SUBTOTAL CONSTRUCTION COST	$	74,866,000
TOTAL RIGHT OF WAY COST	$	118,332,357
TOTAL CAPITAL OUTLAY COSTS	$	193,199,000
PA/ED SUPPORT	$	4,400,000
PS&E SUPPORT	$	11,229,900
RIGHT OF WAY SUPPORT	$	9,466,589
CONSTRUCTION SUPPORT	$	14,973,200
TOTAL SUPPORT COST	$	40,070,000
TOTAL PROJECT COST	$	234,000,000

Programmed Amount

	Month	/	Year
Date of Estimate (Month/Year)	4	/	2021
Estimated Construction Start (Month/Year)	July	/	2028
Number of Working Days =	400		
Estimated Mid-Point of Construction (Month/Year)	XX	/	XXXX
Estimated Construction End (Month/Year)	December	/	2030
Number of Plant Establishment Days			

Estimated Project Schedule

PID Approval	2/1/2015
PA/ED Approval	11/1/2019
PS&E	9/1/2026
RTL	4/1/2027
Begin Construction	7/1/2028

Reviewed by District O.E. or Cost Estimate Certifier

Office Engineer / Cost Estimate Certifier	Date	Phone
	xx/xx/xxxx	(XXX) XXX-XXXX

Approved by Project Manager

(Project Manager)	Date	Phone
	xx/xx/xxxx	(XXX) XXX-XXXX

I. ROADWAY ITEMS SUMMARY

	Section		Cost
1	**Earthwork**	$	705,000
2	**Pavement Structural Section**	$	1,991,000
3	**Drainage**	$	720,000
4	**Specialty Items**	$	5,527,700
5	**Environmental**	$	2,967,800
6	**Traffic Items**	$	9,537,900
7	**Detours**	$	-
8	**Minor Items**	$	1,287,000
9	**Roadway Mobilization**	$	2,273,700
10	**Supplemental Work**	$	2,197,000
11	**State Furnished**	$	3,424,800
12	**Time-Related Overhead**	$	5,073,200
13	**Roadway Contingency**	$	8,926,300
	TOTAL ROADWAY ITEMS	**$**	**44,631,400**

Estimate Prepared By :	Jimmy Vuong, Project Engineer	4/20/2021	(714) 708-6885
	Name and Title	Date	Phone
Estimate Reviewed By :	Tom Ionta, Project Manager	4/20/2021	(714) 708-6872
	Name and Title	Date	Phone

By signing this estimate you are attesting that you have discussed your project with all functional units and have incorporated all their comments or have discussed with them why they will not be incorporated.

ALTERNATIVE AA-5

SECTION 1: EARTHWORK

Item code		Unit	Quantity		Unit Price ($)			Cost
190101	Roadway Excavation	CY	16,000	x	25.00	=	$	400,000
152320	Lead Compliance Plan	LS	1	x	5,000.00	=	$	5,000
198010	Imported Borrow	CY	7,000	x	30.00	=	$	210,000
16010X	Clearing & Grubbing	LS	1	x	90,000.00	=	$	90,000
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-

TOTAL EARTHWORK SECTION ITEMS $ 705,000

SECTION 2: PAVEMENT STRUCTURAL SECTION

Item code		Unit	Quantity		Unit Price ($)			Cost
401050	Jointed Plain Concrete Pavement	CY	2,300	x	250.00	=	$	575,000
280000	Lean Concrete Base	CY	900	x	140.00	=	$	126,000
390132	Hot Mix Asphalt (Type A)	TON	4,000	x	175.00	=	$	700,000
390137	Rubberized Hot Mix Asphalt (Gap Graded)	TON	300	x	150.00	=	$	45,000
260203	Class 2 Aggregate Base	CY	6,100	x	50.00	=	$	305,000
250201	Class 4 Aggregate Subbase	CY	8,000	x	30.00	=	$	240,000
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
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				x		=	$	-
				x		=	$	-

TOTAL PAVEMENT STRUCTURAL SECTION ITEMS $ 1,991,000

SECTION 3: DRAINAGE

Item code	Description	Unit	Quantity		Unit Price ($)			Cost
	Drainage Improvements (80% of PR Alt 4 Cost)	LS	1	x	720,000.00	=	$	720,000
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
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				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-

TOTAL DRAINAGE ITEMS $ 720,000

SECTION 4: SPECIALTY ITEMS

Item code	Description	Unit	Quantity		Unit Price ($)			Cost
	Retaining Wall (Type 1)	SQFT	3,040	x	80.00	=	$	243,200
	Retaining Wall (Specialty)	SQFT	23,300	x	100.00	=	$	2,330,000
	Soundwall Improvements (50% of PR Alt 4 Cost)	LS	1	x	2,420,000.00	=	$	2,420,000
	Concrete Barrier (Type 736SV)	LF	2,070	x	250.00	=	$	517,500
	Concrete Barrier (Type 60M)	LF	170	x	100.00	=	$	17,000
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
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				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-

TOTAL SPECIALTY ITEMS $ 5,527,700

SECTION 5: ENVIRONMENTAL

5A - ENVIRONMENTAL MITIGATION

Item code		Unit	Quantity		Unit Price ($)			Cost		
	Biological Mitigation	LS		x		=	$	-		
130670	Temporary Reinforced Silt Fence	LF		x		=	$	-		
141000	Temporary Fence (Type ESA)	LF		x		=	$	-		
				x		=	$	-		
				x		=	$	-		
				x		=	$	-		
						Subtotal Environmental Mitigation			*$*	*-*

5B - LANDSCAPE AND IRRIGATION

Item code		Unit	Quantity		Unit Price ($)			Cost		
	Landscape and Irrigation	LS	1	x	2,500,000.00	=	$	2,500,000		
				x		=	$	-		
						Subtotal Landscape and Irrigation			*$*	*2,500,000*

5C - EROSION CONTROL

Item code		Unit	Quantity		Unit Price ($)			Cost		
				x		=	$	-		
				x		=	$	-		
				x		=	$	-		
				x		=	$	-		
							$	-		
				x		=	$	-		
						Subtotal Erosion Control			*$*	*-*

5D - NPDES

Item code		Unit	Quantity		Unit Price ($)			Cost		
130300	Prepare SWPPP	LS	1	x	23,600.00	=	$	23,600		
130100	Job Site Management	LS	1	x	361,700.00	=	$	361,700		
130330	Storm Water Annual Report	LS	1	x	6,000.00	=	$	6,000		
130310	Rain Event Action Plan (REAP)	LS	1	x	27,500.00	=	$	27,500		
130320	Storm Water Sampling and Analysis Day	LS	1	x	49,000.00	=	$	49,000		
				x		=	$	-		
				x		=	$	-		
				x		=	$	-		
				x		=	$	-		
				x		=	$	-		
				x		=	$	-		
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				x		=	$	-		
				x		=	$	-		
				x		=	$	-		
				x		=	$	-		
				x		=	$	-		
								Subtotal NPDES	*$*	*467,800*

								TOTAL ENVIRONMENTAL	**$**	**2,967,800**

Supplemental Work for NPDES

066596	Treatment BMPs	LS	1	x	1,264,000.00	=	$	1,264,000		
066595	Water Pollution Control Maintenance Sharing*	LS	1	x	173,250.00	=	$	173,250		
	CGP Fees	LS	1	x	1,326.00	=	$	1,326		
066596	Additional Water Pollution Control**	LS	1	x	6,000.00	=	$	6,000		
						Subtotal Supplemental Work for NDPS			*$*	*1,444,576*

*Applies to all SWPPPs and those WPCPs with sediment control or soil stabilization BMPs.

**Applies to both SWPPPs and WPCP projects.

*** Applies only to project with SWPPPs.

SECTION 6: TRAFFIC ITEMS

6A - Traffic Electrical

Item code		Unit	Quantity		Unit Price ($)			Cost
860460	Lighting and Sign Illumination & Ramp Metering	LS	1	x	4,044,700.00	=	$	4,044,700
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
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				x		=	$	-
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				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-

Subtotal Traffic Electrical *$* *4,044,700*

6B - Traffic Signing and Striping

Item code		Unit	Quantity		Unit Price ($)			Cost
	Traffic Signing	LS	1	x	2,209,500.00	=	$	2,209,500
	Pavement Delineations	LS	1	x	762,700.00	=	$	762,700
120090	Construction Area Signs	LS	1	x	120,000.00	=	$	120,000
141120	Treated Wood Waste	LS	1	x	6,000.00	=	$	6,000
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-

Subtotal Traffic Signing and Striping *$* *3,098,200*

6C - Traffic Management Plan

Item code		Unit	Quantity		Unit Price ($)			Cost
128651	Portable Changeable Message Signs	LS	1	x	$ 300,000	=	$	300,000
	Changeable Message Signs (Fixed)	LS	1	x	$ 20,000	=	$	20,000
	Highway Advisory Radio	LS	1	x	$ 20,000	=	$	20,000
	Others	LS	1	x	$ 50,000	=	$	50,000

Subtotal Traffic Management Plan *$* *390,000*

6C - Stage Construction and Traffic Handling

Item code		Unit	Quantity		Unit Price ($)			Cost
120100	Traffic Control System	LS	1	x	2,005,000.00	=	$	2,005,000
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-

Subtotal Stage Construction and Traffic Handling *$* *2,005,000*

TOTAL TRAFFIC ITEMS **$** **9,537,900**

SECTION 7: DETOURS

Includes constructing, maintaining, and removal

Item code		Unit	Quantity		Unit Price ($)			Cost
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-

* Includes constructing, maintaining, and removal

TOTAL DETOURS **$ -**

SUBTOTAL SECTIONS 1 through 7 $ 21,449,400

SECTION 8: MINOR ITEMS

8A	ADA Items				1.0%	$	214,494
8B	Bike Path Items				0.0%	$	-
8C	Other Minor Items				5.0%	$	1,072,470
	Total of Section 1-7	$	21,449,400	x	6.0%	= $	1,286,964

TOTAL MINOR ITEMS **$ 1,287,000**

SECTIONS 9: ROADWAY MOBILIZATION

Item code							
999990	Total Section 1-8	$	22,736,400	x	10%	= $	2,273,640

TOTAL ROADWAY MOBILIZATION **$ 2,273,700**

SECTION 10: SUPPLEMENTAL WORK

Item code		Unit	Quantity		Unit Price ($)			Cost
066063	Traffic Management Plan Public Information	LS	1	x	500,000.00	=	$	500,000
066071	Maintain Traffic	LS	1	x	25,000.00	=	$	25,000
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
				x		=	$	-
	*Cost of **NPDES** Supplemental Work specified in Section 5D*					=	$	1,444,576
	Total Section 1-8	$	22,736,400		1%	= $	227,364

TOTAL SUPPLEMENTAL WORK **$ 2,197,000**

SECTION 11: STATE FURNISHED MATERIALS AND EXPENSES

Item code		Unit	Quantity		Unit Price ($)		Cost
066105	Resident Engineers Office	LS	1	x	300,000.00	=	$300,000
066062	COZEEP Contract	LS	1	x	1,700,000.00	=	$1,700,000
	Freeway Service Patrol	LS	1	x	400,000.00	=	$400,000
	Traffic Management Team	LS	1	x	350,000.00	=	$350,000
	Traffic Surveillance Stations	LS	1	x	50,000.00	=	$50,000
	Call Boxes 6	LS	1	x	20,000.00	=	$20,000
	Project Needs	LS	1	x	50,000.00	=	$50,000
	DTM	LS	1	x	100,000.00	=	$100,000
				x		=	
				x		=	
				x		=	
	Total Section 1-8	$	22,736,400		2%	= $	454,728

TOTAL STATE FURNISHED $3,424,800

SECTION 12: TIME-RELATED OVERHEAD

Total of Roadway and Structures Contract Items excluding Mobilization $50,731,400 (used to calculate TRO)
Total Construction Cost (excluding TRO and Contingency) $60,866,500 (used to check if project is greater than $5 million excluding contingency)

Estimated Time-Related Overhead (TRO) Percentage (0% to 10%) = **10%**

Item code		Unit	Quantity		Unit Price ($)		Cost
090100	Time-Related Overhead	WD	400	X	$12,683	=	$5,073,200

TOTAL TIME-RELATED OVERHEAD $5,073,200

SECTION 13: ROADWAY CONTINGENCY

Total Section 1-12	$	35,705,100	x	**25%**	=	$8,926,275

TOTAL CONTINGENCY $8,926,300

II. STRUCTURE ITEMS

Bridge 1

DATE OF ESTIMATE	04/15/21		
Bridge Name	Rockfield OC SB Off-Ramp		
Bridge Number			
Structure Type	CIP/PS Box Girder		
Width (Feet) [out to out]	30	LF	(Avg)
Total Bridge Length (Feet)	1730	LF	
Total Area (Square Feet)	50900	SQFT	
Structure Depth (Feet)	5.75 Min	LF	
Footing Type (pile or spread)		Pile	
Cost Per Square Foot		$440	

COST OF EACH	**$22,396,000**

TOTAL COST OF BRIDGES		**$22,396,000**
TOTAL COST OF BUILDINGS		**$0**
STRUCTURES MOBILIZATION	10%	**$2,239,600**

Recommended Contingency: (Pre-PSR 30%-50%, PSR 25%, Draft PR 20%, PR 15%, after PR approval 10%, Final PS&E 5%)

STRUCTURES CONTINGENCY	25%	**$5,599,000**
TOTAL COST OF STRUCTURES		**$30,234,600**

Estimate Prepared By: _____ _____

XXXXXXXXXXXXXXXX ------ Division of Structures — Date

III. RIGHT OF WAY

Fill in all of the available information from the Right of Way Data Sheet.

A)	A1)	Acquisition, including Excess Land Purchases, Damages & Goodwill, Fees	$	98,538,627
	A2)	SB-1210	$	0
B)		Acquisition of Offsite Mitigation	$	0
C)	C1)	Utility Relocation (State Share)	$	1,500,000
	C2)	Potholing (Design Phase)	$	0
D)		Railroad Acquisition	$	0
E)		Clearance / Demolition	$	1,793,730
F)		Relocation Assistance (RAP and/or Last Resort Housing Costs)	$	16,500,000
G)		Title and Escrow	$	0
H)		Environmental Review (Project Permit Fee)	$	0
I)		Condemnation Settlements 0%	$	0
J)		Design Appreciation Factor 0%	$	0
K)		Utility Relocation (Construction Cost)	$	0

L)	**TOTAL RIGHT OF WAY ESTIMATE**	**$118,332,357**
M)	**TOTAL R/W ESTIMATE: Escalated**	**$147,523,564**
N)	**RIGHT OF WAY SUPPORT**	**$0**

Support Cost Estimate Prepared By _____ Project Coordinator[1] Phone

Utility Estimate Prepared By _____ Utility Coordinator[2] Phone

R/W Acquisition Estimate Prepared By _____ Right of Way Estimator[3] Phone

Note: Items G & H applied to items A + B

[1] When estimate has Support Costs only [2] When estimate has Utility Relocation [3] When R/W Acquisition is required

PROJECT

PLANNING COST ESTIMATE ©

EA: 0M980 PID: 1213000084

EA: 0M980

PID: 1213000084

District-County-Route: 12-ORA-5

PM: 17.8 - 19.7

Alternative PR-2 Flyover

Type of Estimate : Draft Project Report

Program Code : 20.10.400.000

Project Limits : between Los Alisos Blvd Overcrossing (PM 17.8) and Ridge Road Drive (PM 19.7)

Project Description: The project is located on I-5/El Toro Road Interchange between Los Alisos Blvd Overcrossing (PM 17.8) and Ridge Road Drive (PM 19.7), in the Cities of Laguna Hills, Lake Forest, and Laguna Woods, in the County of Orange. This project proposes to modify I-5/ El Toro Interchange to relieve congestion and increase local mobility within the project limits.

Scope : This alternative proposes a flyover structure that directly connects the existing SB I-5 traffic to EB El Toro Road thru Bridger Road, and add additional NB I-5 on ramp from Bridger Road

Alternative : Alternative # 2

SUMMARY OF PROJECT COST ESTIMATE

		Current Year Cost
TOTAL ROADWAY COST	$	48,128,400
TOTAL STRUCTURES COST	$	17,350,744
SUBTOTAL CONSTRUCTION COST	$	65,479,144
TOTAL RIGHT OF WAY COST	$	74,908,000
TOTAL CAPITAL OUTLAY COSTS	$	140,388,000
PA/ED SUPPORT	$	4,400,000
PS&E SUPPORT	$	9,821,872
RIGHT OF WAY SUPPORT	$	7,000,000
CONSTRUCTION SUPPORT	$	13,095,829
TOTAL SUPPORT COST	$	34,318,000
TOTAL PROJECT COST	$	175,000,000

Programmed Amount

	Month	/ Year
Date of Estimate (Month/Year)	February	/ 2019
Estimated Construction Start (Month/Year)	July	/ 2028
	Number of Working Days =	550
Estimated Mid-Point of Construction (Month/Year)		/
Estimated Construction End (Month/Year)	December	/ 2030
	Number of Plant Establishment Days	

Estimated Project Schedule

PID Approval	2/1/2015
PA/ED Approval	11/1/2019
PS&E	9/1/2026
RTL	4/1/2027
Begin Construction	7/1/2028

I. ROADWAY ITEMS SUMMARY

	Section		Cost
1	**Earthwork**	$	945,000
2	**Pavement Structural Section**	$	4,173,300
3	**Drainage**	$	340,100
4	**Specialty Items**	$	7,317,100
5	**Environmental**	$	2,804,800
6	**Traffic Items**	$	7,553,500
7	**Detours**	$	1,410,000
8	**Minor Items**	$	2,209,000
9	**Roadway Mobilization**	$	2,675,300
10	**Supplemental Work**	$	2,491,900
11	**State Furnished**	$	3,905,100
12	**Time-Related Overhead**	$	4,281,900
13	**Roadway Contingency**	$	8,021,400
	TOTAL ROADWAY ITEMS	**$**	**48,128,400**

SECTION 1: EARTHWORK

Item code		Unit	Quantity		Unit Price ($)			Cost
190101	Roadway Excavation	CY	30,000	x	25.00	=	$	750,000
152320	Lead Compliance Plan	LS	1	x	5,000.00	=	$	5,000
194001	Ditch Excavation	CY		x		=	$	-
19801X	Imported Borrow	LS	1	x	100,000.00	=	$	100,000
192037	Structure Excavation (Retaining Wall)	CY		x		=	$	-
193013	Structure Backfill (Retaining Wall)	CY		x		=	$	-
193031	Pervious Backfill Material (Retaining Wall)	CY		x		=	$	-
16010X	Clearing & Grubbing	LS	1	x	90,000.00	=	$	90,000
170101	Develop Water Supply	LS		x		=	$	-
19801X	Imported Borrow	CY/TON		x		=	$	-
210130	Duff	ACRE		x		=	$	-
XXXXXX	Some Item	Unit		x		=	$	-

TOTAL EARTHWORK SECTION ITEMS $ 945,000

SECTION 2: PAVEMENT STRUCTURAL SECTION

Item code		Unit	Quantity		Unit Price ($)			Cost
401050	Jointed Plain Concrete Pavement (RS)	CY	2,510	x	400.00	=	$	1,004,000
280015	Lean Concrete Base (RS)	CY	940	x	400.00	=	$	376,000
	Jointed Plain Concrete Pavement	CY	4,820	x	250.00	=	$	1,205,000
	Lean Concrete Base	CY	1,880	x	140.00	=	$	263,200
400050	Continuously Reinforced Concrete Pavement	CY		x		=	$	-
404092	Seal Pavement Joint	LF		x		=	$	-
404093	Seal Isolation Joint	LF		x		=	$	-
413117	Seal Concrete Pavement Joint (Silicone)	LF		x		=	$	-
413118	Seal Pavement Joint (Asphalt Rubber)	LF		x		=	$	-
280010	Rapid Strength Concrete Base	CY		x		=	$	-
410095	Dowel Bar (Drill and Bond)	EA		x		=	$	-
390132	Hot Mix Asphalt (Type A)	TON	2,410	x	175.00	=	$	421,750
390137	Rubberized Hot Mix Asphalt (Gap Graded)	TON	100	x	150.00	=	$	15,000
39300X	Geosynthetic Pavement Interlayer (Type X)	SQYD		x		=	$	-
26020X	Class 2 Aggregate Base	CY	3,865	x	50.00	=	$	193,250
290201	Asphalt Treated Permeable Base	CY	180	x	150.00	=	$	27,000
250401	Class 4 Aggregate Subbase	CY	22,270	x	30.00	=	$	668,100
374002	Asphaltic Emulsion (Fog Seal Coat)	TON		x		=	$	-
397005	Tack Coat	TON		x		=	$	-
377501	Slurry Seal	TON		x		=	$	-
3750XX	Screenings (Type XX)	TON		x		=	$	-
374492	Asphaltic Emulsion (Polymer Modified)	TON		x		=	$	-
370001	Sand Cover (Seal)	TON		x		=	$	-
731530	Minor Concrete (Textured Paving)	CY		x		=	$	-
731502	Minor Concrete (Miscellaneous Construction)	CY		x		=	$	-
39407X	Place Hot Mix Asphalt Dike (Type X)	LF		x		=	$	-
150771	Remove Asphalt Concrete Dike	LF		x		=	$	-
420201	Grind Existing Concrete Pavement	SQYD		x		=	$	-
150860	Remove Base and Surfacing	CY		x		=	$	-
390095	Replace Asphalt Concrete Surfacing	CY		x		=	$	-
15312X	Remove Concrete	LF/CY/LS		x		=	$	-
394090	Place Hot Mix Asphalt (Miscellaneous Area)	SQYD		x		=	$	-
153103	Cold Plane Asphalt Concrete Pavement	SQYD		x		=	$	-
39405X	Shoulder Rumble Strip (HMA, X-In Indentations)	STA		x		=	$	-
413113	Repair Spalled Joints, Polyester Grout	SQYD		x		=	$	-
420102	Groove Existing Concrete Pavement	SQYD		x		=	$	-
390136	Minor Hot Mix Asphalt	TON		x		=	$	-
394095	Roadside Paving (Miscellaneous Areas)	SQYD		x		=	$	-
XXXXXX	Some Item	Unit		x		=	$	-

TOTAL PAVEMENT STRUCTURAL SECTION ITEMS $ 4,173,300

SECTION 3: DRAINAGE

Item code		Unit	Quantity		Unit Price ($)			Cost
31707	Remove Grated Line Drain	LF	100	x	60.00	=	$	6,000
150812	Remove RCP	LF	137	x	300.00	=	$	41,100
150820	Remove Inlet	EA	12	x	5,000.00	=	$	60,000
155232	Sand Backfill	CY		x		=	$	-
15020X	Abandon Culvert	EA/LF		x		=	$	-
	Inlet	EA	14	x	5,000.00	=	$	70,000
152430	Adjust Inlet	LF		x		=	$	-
155003	Cap Inlet	EA		x		=	$	-
510501	Minor Concrete	CY		x		=	$	-
510502	Minor Concrete (Minor Structure)	CY		x		=	$	-
5105XX	Minor Concrete (Type XX)	CY		x		=	$	-
620XXX	XX" Alternative Pipe Culvert (Type X)	LF		x		=	$	-
6411XX	XX" Plastic Pipe	LF		x		=	$	-
650018	XX" Reinforced Concrete Pipe (Type X)	LF	350	x	400.00	=	$	140,000
6650XX	XX" Corrugated Steel Pipe (0.XXX" Thick)	LF		x		=	$	-
68XXXX	XX" Plastic Pipe (Edge Drain)	LF		x		=	$	-
69011X	XX" Corrugated Steel Pipe Downdrain (0.XXX" Thi	LF		x		=	$	-
70321X	XX" Corrugated Steel Pipe Inlet (0.XXX" Thick)	LF		x		=	$	-
70XXXX	XX" Corrugated Steel Pipe Riser (0.XXX" Thick)	LF		x		=	$	-
7050XX	XX" Steel Flared End Section	EA		x		=	$	-
703233	Grated Line Drain	LF	100	x	230.00	=	$	23,000
72XXXX	Rock Slope Protection (Type and Method)	CY/TON		x		=	$	-
72901X	Rock Slope Protection Fabric (Class X)	SQYD		x		=	$	-
721420	Concrete (Ditch Lining)	CY		x		=	$	-
721430	Concrete (Channel Lining)	CY		x		=	$	-
750001	Miscellaneous Iron and Steel	LB		x		=	$	-
XXXXXX	Additional Drainage	LS		x		=	$	-

TOTAL DRAINAGE ITEMS $ 340,100

SECTION 4: SPECIALTY ITEMS

Item code		Unit	Quantity		Unit Price ($)			Cost
080050	Progress Schedule (Critical Path Method)	LS		x		=	$	-
	Mechanically Stabilized Embankment (MSE)	SQFT	21,552	x	75.00	=	$	1,616,400
	Architectural Treatment	SQFT	22,762	x	19.00	=	$	432,478
582001	Soundwall (Masonry Block)	SQFT	38,127	x	28.00	=	$	1,067,556
4906XX	16" CIDH Concrete Piling (Soundwall)	LF	11,468	x	66.00	=	$	756,888
4906XX	16" CIDH Concrete Piling (Barrier)	LF	4,931	x	66.00	=	$	325,446
	Drive Pile (Class 90)	EA	107	x	935.00	=	$	100,045
	Furnish Piling (Class 90)	LF	2,140	x	40.00	=	$	85,600
83XXXX	Concrete Barrier (Type 736SV)	LF	3,243	x	250.00	=	$	810,750
83XXXX	Concrete Barrier (Type 836)	LF	1,548	x	130.00	=	$	201,240
83XXXX	Concrete Barrier (Type 60D)	LF	734	x	88.00	=	$	64,592
	Structural Concrete, Barrier Slab	CY	814	x	725.00	=	$	590,150
510060	Structural Concrete, Retaining Wall	CY	507	x	750.00	=	$	380,250
520103	Bar Reinforcing Steel, Retaining Wall	LB	54,324	x	1.50	=	$	81,486
	Structural Shortcrete	CY	80	x	825.00	=	$	66,000
	Structural Excavation (Retaining Wall)	CY	1,635	x	90.00	=	$	147,150
	Structural Excavation (Ground Anchor Wall)	CY	347	x	65.00	=	$	22,555
	Structural Backfill (Retaining Wall)	CY	1,208	x	80.00	=	$	96,640
	Structural Backfill (Ground Anchor Wall)	CY	24	x	180.00	=	$	4,320
	Ground Anchor (Subhorizontal) (UL=50')	EA	82	x	4,700.00	=	$	385,400
	Minor Concrete (Gutter)	LF	319	x	48.00	=	$	15,312
	Cable Railing	LF	319	x	35.00	=	$	11,165
510530	Minor Concrete (Wall)	CY		x		=	$	-
15325X	Remove Sound Wall	LF/LS		x		=	$	-
070030	Lead Compliance Plan	LS		x		=	$	-
141120	Treated Wood Waste	LB		x		=	$	-
153221	Remove Concrete Barrier	LF		x		=	$	-
150662	Remove Metal Beam Guard Railing	LS	1	x	5,000.00	=	$	5,000
150668	Remove Flared End Section	EA		x		=	$	-
8000XX	Chain Link Fence (Type XX)	LF		x		=	$	-
80XXXX	XX" Chain Link Gate (Type CL-6)	EA		x		=	$	-
832007	Midwest Guardrail System (Wood post)	LF	593	x	50.00	=	$	29,650
839301	Single Thrie Beam Barrier	LF		x		=	$	-
839310	Double Thrie Beam Barrier	LF		x		=	$	-
839521	Cable Railing	LF		x		=	$	-
839XXX	Terminal System (Type CAT)	EA	3	x	3,500.00	=	$	10,500
839585	Alternative Flared Terminal System	EA		x		=	$	-
839584	Alternative In-line Terminal System	EA		x		=	$	-
839XXX	Crash Cushion (Insert Type)	EA		x		=	$	-
513553	Retaining Wall (Masonry Wall)	SQFT		x		=	$	-
511035	Architectural Treatment	SQFT		x		=	$	-
598001	Anti-Graffiti Coating	SQFT		x		=	$	-
203070	Rock Stain	SQFT		x		=	$	-
5136XX	Reinforced Concrete Crib Wall (Type X)	SQFT		x		=	$	-
839543	Transition Railing (WB-31)	EA	3	x	3,500.00	=	$	10,500
597601	Prepare and Stain Concrete	SQFT		x		=	$	-
839561	Rail Tensioning Assembly	EA		x		=	$	-
83958X	End Anchor Assembly (Type X)	EA		x		=	$	-
XXXXXX	Some Item	Unit		x		=	$	-

TOTAL SPECIALTY ITEMS $ 7,317,100

SECTION 5: ENVIRONMENTAL

5A - ENVIRONMENTAL MITIGATION

Item code		Unit	Quantity		Unit Price ($)		Cost	
	Biological Mitigation	LS		x		= $	-	
130670	Temporary Reinforced Silt Fence	LF		x		= $	-	
141000	Temporary Fence (Type ESA)	LF		x		= $	-	
						Subtotal Environmental Mitigation	*$*	*-*

5B - LANDSCAPE AND IRRIGATION

Item code		Unit	Quantity		Unit Price ($)		Cost	
20XXXX	Highway Planting	LS		x		= $	-	
	Replacement Planting	LS		x		= $	-	
	Irrigation Modifification	LS		x		= $	-	
20XXXX	Irrigation System	LS		x		= $	-	
204099	Plant Establishment Work	LS		x		= $	-	
204101	Extend Plant Establishment Work	LS		x		= $	-	
20XXXX	Follow-up Landscape Project	LS	1	x	2,400,000.00	= $	2,400,000	
150685	Remove Irrigation Facility	LS	1	x	50,000.00	= $	50,000	
20XXXX	Maintain Existing (Irrigation or Planted Areas)	LS		x		= $	-	
206400	Check and Test Existing Irrigation Facilities	LS		x		= $	-	
21011X	Imported Topsoil (X)	CY/TON		x		= $	-	
20XXXX	Rock Blanket, Rock Mulch, DG, Gravel Mulch	SQFT/SQYD		x		= $	-	
200122	Weed Germination	SQYD		x		= $	-	
208304	Water Meter	EA		x		= $	-	
2087XX	XX" Conduit (Use for Irrigation x-overs)	LS	5	x	5,000.00	= $	25,000	
20890X	Extend X" Conduit (Use for Extension of Irrigation x-overs)	LS	5	x	5,000.00	= $	25,000	
						Subtotal Landscape and Irrigation	*$*	*2,500,000*

5C - EROSION CONTROL

Item code		Unit	Quantity		Unit Price ($)		Cost	
210010	Move In/Move Out (Erosion Control)	EA		x		= $	-	
210350	Fiber Rolls	LF		x		= $	-	
210360	Compost Sock	LF		x		= $	-	
2102XX	Rolled Erosion Control Product (X)	SQFT		x		= $	-	
21025X	Bonded Fiber Matrix	SQFT/ACRE		x		= $	-	
210300	Hydromulch	SQFT		x		= $	-	
210420	Straw	SQFT		x		= $	-	
210430	Hydroseed	SQFT		x		= $	-	
210600	Compost	SQFT		x		= $	-	
210630	Incorporate Materials	SQFT		x		= $	-	
						Subtotal Erosion Control	*$*	*-*

5D - NPDES

Item code		Unit	Quantity		Unit Price ($)		Cost	
130300	Prepare SWPPP	LS	1	x	12,000.00	= $	12,000	
130200	Prepare WPCP	LS		x		= $	-	
130100	Job Site Management	LS	1	x	234,713.00	= $	234,713	
130330	Storm Water Annual Report	EA	3	x	2,000.00	= $	6,000	
130310	Rain Event Action Plan (REAP)	EA	55	x	500.00	= $	27,500	
130320	Storm Water Sampling and Analysis Day	EA	22	x	1,113.64	= $	24,500	
130520	Temporary Hydraulic Mulch	SQYD		x		= $	-	
130550	Temporary Hydroseed	SQYD		x		= $	-	
130505	Move-In/Move-Out (Temporary Erosion Control)	EA		x		= $	-	
130640	Temporary Fiber Roll	LF		x		= $	-	
130900	Temporary Concrete Washout	LS		x		= $	-	
130710	Temporary Construction Entrance	EA		x		= $	-	
130610	Temporary Check Dam	LF		x		= $	-	
130620	Temporary Drainage Inlet Protection	EA		x		= $	-	
130730	Street Sweeping	LS		x		= $	-	
						Subtotal NPDES	*$*	*304,713*
						TOTAL ENVIRONMENTAL	**$**	**2,804,800**

Supplemental Work for NPDES

066595	Water Pollution Control Maintenance Sharing*	LS	1	x	110,250.00	= $	110,250	
066596	Additional Water Pollution Control**	LS	1	x	3,200.00	= $	3,200	
066597	Storm Water Sampling and Analysis***	LS		x		= $	-	
	CGP Fees	LS	1	x	1,326.00	$	1,326	
066596	Treatment BMPs	LS	1	x	602,000.00	$	602,000	
XXXXXX	Some Item	LS		x		= $	-	
						Subtotal Supplemental Work for NDPS	*$*	*716,776*

SECTION 6: TRAFFIC ITEMS

6A - Traffic Electrical

Item code		Unit	Quantity		Unit Price ($)			Cost
860460	Lighting and Sign Illumination & Ramp Metering Sy	LS	1	x	3,069,700.00	=	$	3,069,700
860201	Signal and Lighting	LS		x		=	$	-
860990	Closed Circuit Television System	LS		x		=	$	-
86110X	Ramp Metering System (Location X)	LS		x		=	$	-
86070X	Interconnection Conduit and Cable	LF/LS		x		=	$	-
5602XX	Furnish Sign Structure (Type X)	LB		x		=	$	-
5602XX	Install Sign Structure (Type X)	LB		x		=	$	-
498040	XX" CIDHC Pile (Sign Foundation)	LF		x		=	$	-
86080X	Inductive Loop Detectors	EA/LS		x		=	$	-
8609XX	Traffic Monitoring Station (Type X)	LS		x		=	$	-
15075X	Remove Sign Structure	EA/LS		x		=	$	-
151581	Reconstruct Sign Structure	EA		x		=	$	-
152641	Modify Sign Structure	EA		x		=	$	-
860090	Maintain Existing Traffic Management System Elen	LS		x		=	$	-
86XXXX	Fiber Optic Conduit System	LS		x		=	$	-
XXXXX	Some Item	Unit		x		=	$	-

Subtotal Traffic Electrical $ *3,069,700*

6B - Traffic Signing and Striping

Item code		Unit	Quantity		Unit Price ($)			Cost
820840	Roadside Sign - One Post	EA	70	x	350.00	=	$	24,500
820850	Roadside Sign - Two Post	EA	10	x	750.00	=	$	7,500
820765A	Furnished Single Sheet Aluminum Sign (0.08 inch-unframed) for Retroreflective Sheeting (Type XI	SQFT	3,500	x	50.00	=	$	175,000
820750	Furnished Single Sheet Aluminun Sign (0.063 inch-unframed) (Type VIII)	SQFT	1,200	x	40.00	=	$	48,000
820807A	Retroreflective Sheeting (Type XI)	SQFT	3,500	x	30.00	=	$	105,000
568016	Install Sign Panel on Existing Frame	SQFT		x		=	$	-
560219	Install Sign Structure (truss)	Lb	300,000	x	3.00	=	$	900,000
846030	Remove Thermoplastic Traffic Stripe	LF	140,000	x	1.50	=	$	210,000
846035	Remove Thermoplastic Pavement Marking	SQFT	2,500	x	1.50	=	$	3,750
810120	Remove Pavement Marker	EA	3,000	x	1.50	=	$	4,500
840656	Painted Traffic Stripe (2-coat)	LF	2,000	x	0.50	=	$	1,000
820250	Remove Roadside Sign	EA	80	x	350.00	=	$	28,000
568046	Remove sign structrure	EA	2	x	7,500.00	=	$	15,000
840623	6" Thermoplastic Traffic Stripe (Enhanced Wet Nigl	LF	111,650	x	1.50	=	$	167,475
840621	6" Thermoplastic Traffic Stripe (Enhanced Wet Nigl	LF	7,160	x	2.00	=	$	14,320
846007	6" Thermoplastic Traffic Stripe (Enhanced Wet Nigl	LF	25,500	x	2.50	=	$	63,750
846009	8" Thermoplastic Traffic Stripe (Enhanced Wet Nigl	LF	8,000	x	2.50	=	$	20,000
810230	Pavement Marker (Retroreflective)	EA	3,000	x	2.50	=	$	7,500
846012	Thermoplastic Pavement Marking (Enhanced Wet I	SQFT	2,500	x	2.50	=	$	6,250
846010	8" Thermoplastic Traffic Stripe (Enhanced Wet Nigl	LF	40,600	x	2.00	=	$	81,200
120090	Construction Area Signs	LS	1	x	150,000.00	=	$	150,000
141120	Treated Wood Waste	Lb	6,000	x	1.00	=	$	6,000

Subtotal Traffic Signing and Striping $ *2,038,745*

6C - Traffic Management Plan

Item code		Unit	Quantity		Unit Price ($)			Cost
128651	Portable Changeable Message Signs	LS	1	x	$ 350,000	=	$	350,000
	Changeable Message Signs (Fixed)	LS	1	x	20000	=	$	20,000
	Highway Advisory Radio	LS	1	x	20000	=	$	20,000
	Others	LS	1	x	50000	=	$	50,000

Subtotal Traffic Management Plan $ *440,000*

6C - Stage Construction and Traffic Handling

Item code		Unit	Quantity		Unit Price ($)			Cost
120199	Traffic Plastic Drum	EA		x		=	$	-
12016X	Channelizer (Type X)	EA		x		=	$	-
120120	Type III Barricade	EA		x		=	$	-
129100	Temporary Crash Cushion Module	EA		x		=	$	-
120100	Traffic Control System	LS	1	x	2,005,000.00	=	$	2,005,000
129110	Temporary Crash Cushion	EA		x		=	$	-
129000	Temporary Railing (Type K)	LF		x		=	$	-
120149	Temporary Pavement Marking (Paint)	SQFT		x		=	$	-
82010X	Delineator (Class X)	EA		x		=	$	-
XXXXXX	Some Item	Unit		x		=	$	-

Subtotal Stage Construction and Traffic Handling $ *2,005,000*

TOTAL TRAFFIC ITEMS **$ 7,553,500**

SECTION 7: DETOURS

Includes constructing, maintaining, and removal

Item code		Unit	Quantity		Unit Price ($)			Cost
190101	Roadway Excavation	CY		x		=	$	-
19801X	Imported Borrow	CY/TON		x		=	$	-
390132	Hot Mix Asphalt (Type A)	TON		x		=	$	-
26020X	Class 2 Aggregate Base	TON/CY		x		=	$	-
250401	Class 4 Aggregate Subbase	CY		x		=	$	-
130620	Temporary Drainage Inlet Protection	EA		x		=	$	-
129000	Temporary Railing (Type K)	LF		x		=	$	-
128601	Temporary Signal System	LS		x		=	$	-
120149	Temporary Pavement Marking (Paint)	SQFT		x		=	$	-
80010X	Temporary Fence (Type X)	LF		x		=	$	-
	Street Improvement (Traffic signal timing modi	LS	1	x	100000	=	$	100,000
	Traffic Control Officiers	LS	1	x	80000	=	$	80,000
	Parking Restrictiion	LS	1	x	10000	=	$	10,000
	Detours	LS	1	x	1200000	=	$	1,200,000
	Appliation of New Technology	LS	1	x	10000	=	$	10,000
XXXXXX	Some Item	LS	1	x	10,000	=	$	10,000

TOTAL DETOURS **$ 1,410,000**

SUBTOTAL SECTIONS 1 through 7 $ 24,543,800

SECTION 8: MINOR ITEMS

8A - Americans with Disabilities Act Items							
	ADA Items			1.0%	$	245,438	
8B - Bike Path Items							
	Bike Path Items			0.0%	$	-	
8C - Other Minor Items							
	Other Minor Items			8.0%	$	1,963,504	
	Total of Section 1-7	$	24,543,800	x 9.0%	= $	2,208,942	

TOTAL MINOR ITEMS **$ 2,209,000**

SECTIONS 9: ROADWAY MOBILIZATION

Item code							
999990	Total Section 1-8	$	26,752,800	x 10%	= $	2,675,280	

TOTAL ROADWAY MOBILIZATION **$ 2,675,300**

SECTION 10: SUPPLEMENTAL WORK

Item code		Unit	Quantity		Unit Price ($)			Cost
066670	Payment Adjustments For Price Index Fluctuations	LS		x		=	$	-
066094	Value Analysis	LS		x		=	$	-
066063	Traffic Mnaement Plan Public Information	LS	1	x	670,000.00	=	$	670,000
066071	Maintain Traffic	LS	1	x	35,000.00	=	$	35,000
066919	Dispute Resolution Board	LS		x		=	$	-
066921	Dispute Resolution Advisor	LS		x		=	$	-
066015	Federal Trainee Program	LS		x		=	$	-
066610	Partnering	LS		x		=	$	-
066204	Remove Rock and Debris	LS		x		=	$	-
066222	Locate Existing Crossover	LS		x		=	$	-
XXXXXX	Some Item	Unit		x		=	$	-
	*Cost of **NPDES** Supplemental Work specified in Section 5D*					=	$	716,776
	Total Section 1-8	$	26,752,800		4%	=	$	1,070,112

TOTAL SUPPLEMENTAL WORK **$ 2,491,900**

SECTION 11: STATE FURNISHED MATERIALS AND EXPENSES

Item code		Unit	Quantity		Unit Price ($)		Cost
066105	Resident Engineers Office	LS	1	x	300,000.00	=	$300,000
066063	Traffic Management Plan - Public Information	LS		x		=	$0
066901	Water Expenses	LS		x		=	$0
8609XX	Traffic Monitoring Station (X)	LS		x		=	$0
066841	Traffic Controller Assembly	LS		x		=	$0
066840	Traffic Signal Controller Assembly	LS		x		=	$0
066062	COZEEP Contract	LS	1	x	2,000,000.00	=	$2,000,000
	Freeway Service Patrol	LS	1	x	500,000.00	=	$500,000
	Traffic Management Team	LS	1	x	350,000.00	=	$350,000
	Traffic Surveillance Stations	LS	1	x	50,000.00	=	$50,000
	Call Boxes 6	LS	1	x	20,000.00	=	$20,000
	Project Needs	LS	1	x	50,000.00	=	$50,000
	DTM	LS	1	x	100,000.00	=	$100,000
066838	Reflective Numbers and Edge Sealer	LS		x		=	$0
066065	Tow Truck Service Patrol	LS		x		=	$0
066916	Annual Construction General Permit Fee	LS		x		=	$0
XXXXXX	Some Item	Unit		x		=	$0
	Total Section 1-8	$	26,752,800		2%	=	$ 535,056

TOTAL STATE FURNISHED **$3,905,100**

SECTION 12: TIME-RELATED OVERHEAD

Total of Roadway and Structures Contract Items excluding Mobilization $42,818,303 (used to calculate TRO)

Total Construction Cost (excluding TRO and Contingency) $53,175,844 (used to check if project is greater than $5 million excluding contingency)

Estimated Time-Related Overhead (TRO) Percentage (0% to 10%) = **10%**

Item code		Unit	Quantity		Unit Price ($)		Cost
090100	Time-Related Overhead	WD	550	X	$7,785	=	$4,281,900

TOTAL TIME-RELATED OVERHEAD **$4,281,900**

SECTION 13: ROADWAY CONTINGENCY

Total Section 1-12	$	40,107,000	x	**20%**	=	$8,021,400

TOTAL CONTINGENCY **$8,021,400**

II. STRUCTURE ITEMS

	Bridge 1		Bridge 2		Bridge 3
DATE OF ESTIMATE	01/24/19		00/00/00		00/00/00
Bridge Name	- EB EL TORO OFFRAMP FLYC		xxxxxxxxxxxxxxxxxx		xxxxxxxxxxxxxxxxxx
Bridge Number	TBD		57-XXX		57-XXX
Structure Type	ox Girder & Precast Segmental B		xxxxxxxxxxxxxxxxxx		xxxxxxxxxxxxxxxxxx
Width (Feet) [out to out]	28 LF		0 LF		0 LF
Total Bridge Length (Feet)	861 LF		0 LF		0 LF
Total Area (Square Feet)	23669 SQFT		0 SQFT		0 SQFT
Structure Depth (Feet)	Varies 7-14 LF		0 LF		0 LF
Footing Type (pile or spread)	Pile Footing (CIDH)		xxxxxxxxxxxxxxxxxx		xxxxxxxxxxxxxxxxxx
Cost Per Square Foot	$543		$0		$0
COST OF EACH	**$12,852,403**		**$0**		**$0**

	Bridge 3		Bridge 4		Bridge 5
DATE OF ESTIMATE			00/00/00		00/00/00
Bridge Name			xxxxxxxxxxxxxxxxxx		xxxxxxxxxxxxxxxxxx
Bridge Number	57-XXX		57-XXX		57-XXX
Structure Type	xxxxxxxxxxxxxxxxxx		xxxxxxxxxxxxxxxxxx		xxxxxxxxxxxxxxxxxx
Width (Feet) [out to out]	0 LF		0 LF		0 LF
Total Bridge Length (Feet)	0 LF		0 LF		0 LF
Total Area (Square Feet)	0 SQFT		0 SQFT		0 SQFT
Structure Depth (Feet)	0 LF		0 LF		0 LF
Footing Type (pile or spread)	xxxxxxxxxxxxxxxxxx		xxxxxxxxxxxxxxxxxx		xxxxxxxxxxxxxxxxxx
Cost Per Square Foot	$0		$0		$0
COST OF EACH	**$0**		**$0**		**$0**

TOTAL COST OF BRIDGES		**$12,852,403**
TOTAL COST OF BUILDINGS		**$0**
STRUCTURES MOBILIZATION	10%	**$1,285,240**
STRUCTURES CONTINGENCY	25%	**$3,213,101**
TOTAL COST OF STRUCTURES		**$17,350,744**

EA: 0M980 PID: 1213000084

III. RIGHT OF WAY

Fill in all of the available information from the Right of Way Data Sheet.

A)	A1)	Acquisition, including Excess Land Purchases, Damages & Goodwill, Fees	$	71,693,000
	A2)	SB-1210	$	0
B)		Acquisition of Offsite Mitigation	$	0
C)	C1)	Utility Relocation (State Share)	$	1,900,000
	C2)	Potholing (Design Phase)	$	0
D)		Railroad Acquisition	$	0
E)		Clearance / Demolition	$	940,000
F)		Relocation Assistance (RAP and/or Last Resort Housing Costs)	$	275,000
G)		Title and Escrow	$	100,000
H)		Environmental Review	$	0
I)		Condemnation Settlements 0%	$	0
J)		Design Appreciation Factor 0%	$	0
K)		Utility Relocation (Construction Cost)	$	0

L)	**TOTAL RIGHT OF WAY ESTIMATE**	**$74,908,000**
M)	**TOTAL R/W ESTIMATE: Escalated**	**$111,000,000**
N)	**RIGHT OF WAY SUPPORT**	**$7,000,000**

PROJECT

PLANNING COST ESTIMATE ©

EA: 0M980 PID: 1213000084

EA: 0M980

PID: 1213000084

District-County-Route: 12-ORA-5

Alternative PR-4 Collector-Distributor

.7

Type of Estimate : Draft Project Report

Program Code : 20.10.400.000

Project Limits : between Los Alisos Blvd Overcrossing (PM 17.8) and Ridge Road Drive (PM 19.7)

Project Description: The project is located on I-5/El Toro Road Interchange between Los Alisos Blvd Overcrossing (PM 17.8) and Ridge Road Drive (PM 19.7), in the Cities of Laguna Hills, Lake Forest, and Laguna Woods, in the County of Orange. This project proposes to modify I-5/ El Toro Interchange to relieve congestion and increase local mobility within the project limits.

Scope : This alternative proposes a new type L-6 hook style interchange with ramps to Avenida de la Carlota, and modification of the existing NB I-5 on-ramp to extend further before connecting to I-5.

Alternative : Alternative # 4

SUMMARY OF PROJECT COST ESTIMATE

		Current Year Cost
TOTAL ROADWAY COST	**$**	**61,462,600**
TOTAL STRUCTURES COST	**$**	**2,776,761**
SUBTOTAL CONSTRUCTION COST	**$**	**64,239,361**
TOTAL RIGHT OF WAY COST	**$**	**141,135,000**
TOTAL CAPITAL OUTLAY COSTS	**$**	**205,375,000**
PA/ED SUPPORT	**$**	**4,400,000**
PS&E SUPPORT	**$**	**9,635,904**
RIGHT OF WAY SUPPORT	**$**	**8,000,000**
CONSTRUCTION SUPPORT	**$**	**12,847,872**
TOTAL SUPPORT COST	**$**	**34,884,000**
TOTAL PROJECT COST	**$**	**241,000,000**

Programmed Amount

	Month	/ Year
Date of Estimate (Month/Year)	February	/ 2019
Estimated Construction Start (Month/Year)	July	/ 2028
	Number of Working Days =	450
Estimated Mid-Point of Construction (Month/Year)		/
Estimated Construction End (Month/Year)	December	/ 2030
	Number of Plant Establishment Days	

Estimated Project Schedule

PID Approval	2/1/2015
PA/ED Approval	11/1/2019
PS&E	9/1/2026
RTL	4/1/2027
Begin Construction	7/1/2028

I. ROADWAY ITEMS SUMMARY

	Section		Cost
1	**Earthwork**	$	2,155,000
2	**Pavement Structural Section**	$	8,439,600
3	**Drainage**	$	898,000
4	**Specialty Items**	$	7,670,000
5	**Environmental**	$	2,967,900
6	**Traffic Items**	$	9,537,900
7	**Detours**	$	1,710,000
8	**Minor Items**	$	3,004,100
9	**Roadway Mobilization**	$	3,638,300
10	**Supplemental Work**	$	3,604,900
11	**State Furnished**	$	3,697,700
12	**Time-Related Overhead**	$	3,895,400
13	**Roadway Contingency**	$	10,243,800
	TOTAL ROADWAY ITEMS	**$**	**61,462,600**

SECTION 1: EARTHWORK

Item code		Unit	Quantity		Unit Price ($)			Cost
190101	Roadway Excavation	CY	80,000	x	25.00	=	$	2,000,000
152320	Lead Compliance Plan	LS	1	x	5,000.00	=	$	5,000
194001	Ditch Excavation	CY		x		=	$	-
19801X	Imported Borrow	LS		x		=	$	-
192037	Structure Excavation (Retaining Wall)	CY		x		=	$	-
193013	Structure Backfill (Retaining Wall)	CY		x		=	$	-
193031	Pervious Backfill Material (Retaining Wall)	CY		x		=	$	-
16010X	Clearing & Grubbing	LS	1	x	150,000.00	=	$	150,000
170101	Develop Water Supply	LS		x		=		0
19801X	Imported Borrow	CY/TON		x		=	$	-
210130	Duff	ACRE		x		=	$	-
XXXXXX	Some Item	Unit		x		=	$	-

TOTAL EARTHWORK SECTION ITEMS $ 2,155,000

SECTION 2: PAVEMENT STRUCTURAL SECTION

Item code		Unit	Quantity		Unit Price ($)			Cost
401050	Jointed Plain Concrete Pavement (RS)	CY	4,100	x	400.00	=	$	1,640,000
280015	Lean Concrete Base (RS)	CY	1,570	x	400.00	=	$	628,000
	Jointed Plain Concrete Pavement	CY	4,200	x	250.00	=	$	1,050,000
	Lean Concrete Base	CY	1,630	x	140.00	=	$	228,200
400050	Continuously Reinforced Concrete Pavement	CY		x		=	$	-
404092	Seal Pavement Joint	LF		x		=	$	-
404093	Seal Isolation Joint	LF		x		=	$	-
413117	Seal Concrete Pavement Joint (Silicone)	LF		x		=	$	-
413118	Seal Pavement Joint (Asphalt Rubber)	LF		x		=	$	-
280010	Rapid Strength Concrete Base	CY		x		=	$	-
410095	Dowel Bar (Drill and Bond)	EA		x		=	$	-
390132	Hot Mix Asphalt (Type A)	TON	15,620	x	175.00	=	$	2,733,500
390137	Rubberized Hot Mix Asphalt (Gap Graded)	TON	1,400	x	150.00	=	$	210,000
39300X	Geosynthetic Pavement Interlayer (Type X)	SQYD		x		=	$	-
26020X	Class 2 Aggregate Base	CY	19,000	x	50.00	=	$	950,000
290201	Asphalt Treated Permeable Base	CY	130	x	150.00	=	$	19,500
250401	Class 4 Aggregate Subbase	CY	32,680	x	30.00	=	$	980,400
374002	Asphaltic Emulsion (Fog Seal Coat)	TON		x		=	$	-
397005	Tack Coat	TON		x		=	$	-
377501	Slurry Seal	TON		x		=	$	-
3750XX	Screenings (Type XX)	TON		x		=	$	-
374492	Asphaltic Emulsion (Polymer Modified)	TON		x		=	$	-
370001	Sand Cover (Seal)	TON		x		=	$	-
731530	Minor Concrete (Textured Paving)	CY		x		=	$	-
731502	Minor Concrete (Miscellaneous Construction)	CY		x		=	$	-
39407X	Place Hot Mix Asphalt Dike (Type X)	LF		x		=	$	-
150771	Remove Asphalt Concrete Dike	LF		x		=	$	-
420201	Grind Existing Concrete Pavement	SQYD		x		=	$	-
150860	Remove Base and Surfacing	CY		x		=	$	-
390095	Replace Asphalt Concrete Surfacing	CY		x		=	$	-
15312X	Remove Concrete	LF/CY/LS		x		=	$	-
394090	Place Hot Mix Asphalt (Miscellaneous Area)	SQYD		x		=	$	-
153103	Cold Plane Asphalt Concrete Pavement	SQYD		x		=	$	-
39405X	Shoulder Rumble Strip (HMA, X-In Indentations)	STA		x		=	$	-
413113	Repair Spalled Joints, Polyester Grout	SQYD		x		=	$	-
420102	Groove Existing Concrete Pavement	SQYD		x		=	$	-
390136	Minor Hot Mix Asphalt	TON		x		=	$	-
394095	Roadside Paving (Miscellaneous Areas)	SQYD		x		=	$	-
XXXXXX	Some Item	Unit		x		=	$	-

TOTAL PAVEMENT STRUCTURAL SECTION ITEMS $ 8,439,600

SECTION 3: DRAINAGE

Item code		Unit	Quantity		Unit Price ($)			Cost
31707	Remove Grated Line Drain	LF	100	x	60.00	=	$	6,000
150812	Remove RCP	LF	440	x	300.00	=	$	132,000
150820	Remove Inlet	EA	46	x	5,000.00	=	$	230,000
155232	Sand Backfill	CY		x		=	$	-
15020X	Abandon Culvert	EA/LF		x		=	$	-
	Inlet	EA	43	x	5,000.00	=	$	215,000
152430	Adjust Inlet	LF		x		=	$	-
155003	Cap Inlet	EA		x		=	$	-
510501	Minor Concrete	CY		x		=	$	-
510502	Minor Concrete (Minor Structure)	CY		x		=	$	-
5105XX	Minor Concrete (Type XX)	CY		x		=	$	-
620XXX	XX" Alternative Pipe Culvert (Type X)	LF		x		=	$	-
6411XX	XX" Plastic Pipe	LF		x		=	$	-
650018	XX" Reinforced Concrete Pipe (Type X)	LF	730	x	400.00	=	$	292,000
6650XX	XX" Corrugated Steel Pipe (0.XXX" Thick)	LF		x		=	$	-
68XXXX	XX" Plastic Pipe (Edge Drain)	LF		x		=	$	-
69011X	XX" Corrugated Steel Pipe Downdrain (0.XXX" Thic	LF		x		=	$	-
70321X	XX" Corrugated Steel Pipe Inlet (0.XXX" Thick)	LF		x		=	$	-
70XXXX	XX" Corrugated Steel Pipe Riser (0.XXX" Thick)	LF		x		=	$	-
7050XX	XX" Steel Flared End Section	EA		x		=	$	-
703233	Grated Line Drain	LF	100	x	230.00	=	$	23,000
72XXXX	Rock Slope Protection (Type and Method)	CY/TON		x		=	$	-
72901X	Rock Slope Protection Fabric (Class X)	SQYD		x		=	$	-
721420	Concrete (Ditch Lining)	CY		x		=	$	-
721430	Concrete (Channel Lining)	CY		x		=	$	-
750001	Miscellaneous Iron and Steel	LB		x		=	$	-
XXXXXX	Additional Drainage	LS		x		=	$	-

TOTAL DRAINAGE ITEMS $ 898,000

SECTION 4: SPECIALTY ITEMS

Item code		Unit	Quantity		Unit Price ($)			Cost
080050	Progress Schedule (Critical Path Method)	LS		x		=	$	-
582001	Soundwall (Masonry Block)	SQFT	48,338	x	28.00	=	$	1,353,464
4906XX	16" CIDH Concrete Piling (Soundwall)	LF	18,535	x	66.00	=	$	1,223,310
	Drive Pile (Class 90)	EA	438	x	935.00	=	$	409,530
	Furnish Piling (Class 90)	EA	8,760	x	40.00	=	$	350,400
83XXXX	Concrete Barrier (Type 736SV)	LF	6,010	x	250.00	=	$	1,502,500
510060	Structural Concrete, Retaining Wall	CY	2,771	x	610.00	=	$	1,690,310
520103	Bar Reinforcing Steel, Retaining Wall	LB	348,473	x	1.27	=	$	442,561
	Structural Excavation (Retaining Wall)	CY	3,765	x	55.00	=	$	207,075
	Structural Backfill (Retaining Wall)	CY	7,164	x	60.00	=	$	429,840
510530	Minor Concrete (Wall)	CY		x		=	$	-
15325X	Remove Sound Wall	LF/LS		x		=	$	-
070030	Lead Compliance Plan	LS	1	x	5,000.00	=	$	5,000
141120	Treated Wood Waste	LB		x		=	$	-
153221	Remove Concrete Barrier	LF		x		=	$	-
150662	Remove Metal Beam Guard Railing	LS	1	x	10,000.00	=	$	10,000
150668	Remove Flared End Section	EA		x		=	$	-
8000XX	Chain Link Fence (Type XX)	LF		x		=	$	-
80XXXX	XX" Chain Link Gate (Type CL-6)	EA		x		=	$	-
832007	Midwest Guardrail System (Wood post)	LF	500	x	50.00	=	$	25,000
839301	Single Thrie Beam Barrier	LF		x		=	$	-
839310	Double Thrie Beam Barrier	LF		x		=	$	-
839521	Cable Railing	LF		x		=	$	-
839XXX	Terminal System (Type CAT)	EA	3	x	3,500.00	=	$	10,500
839585	Alternative Flared Terminal System	EA		x		=	$	-
839584	Alternative In-line Terminal System	EA		x		=	$	-
839XXX	Crash Cushion (Insert Type)	EA		x		=	$	-
83XXXX	Concrete Barrier (Insert Type)	LF		x		=	$	-
513553	Retaining Wall (Masonry Wall)	SQFT		x		=	$	-
511035	Architectural Treatment	SQFT		x		=	$	-
598001	Anti-Graffiti Coating	SQFT		x		=	$	-
203070	Rock Stain	SQFT		x		=	$	-
5136XX	Reinforced Concrete Crib Wall (Type X)	SQFT		x		=	$	-
839543	Transition Railing (WB-31)	EA	3	x	3,500.00	=	$	10,500
597601	Prepare and Stain Concrete	SQFT		x		=	$	-
839561	Rail Tensioning Assembly	EA		x		=	$	-
83958X	End Anchor Assembly (Type X)	EA		x		=	$	-
XXXXXX	Some Item	Unit		x		=	$	-

TOTAL SPECIALTY ITEMS $ 7,670,000

SECTION 5: ENVIRONMENTAL

5A - ENVIRONMENTAL MITIGATION

Item code		Unit	Quantity		Unit Price ($)		Cost	
	Biological Mitigation	LS		x		= $	-	
130670	Temporary Reinforced Silt Fence	LF		x		= $	-	
141000	Temporary Fence (Type ESA)	LF		x		= $	-	
						Subtotal Environmental Mitigation	*$*	-

5B - LANDSCAPE AND IRRIGATION

Item code		Unit	Quantity		Unit Price ($)		Cost	
20XXXX	Highway Planting	LS		x		= $	-	
	Replacement Planting	LS		x		= $	-	
	Irrigation Modifification	LS		x		= $	-	
20XXXX	Irrigation System	LS		x		= $	-	
204099	Plant Establishment Work	LS		x		= $	-	
204101	Extend Plant Establishment Work	LS		x		= $	-	
20XXXX	Follow-up Landscape Project	LS	1	x	2,400,000.00	= $	2,400,000	
150685	Remove Irrigation Facility	LS	1	x	50,000.00	= $	50,000	
20XXXX	Maintain Existing (Irrigation or Planted Areas)	LS		x		= $	-	
206400	Check and Test Existing Irrigation Facilities	LS		x		= $	-	
21011X	Imported Topsoil (X)	CY/TON		x		= $	-	
20XXXX	Rock Blanket, Rock Mulch, DG, Gravel Mulch	SQFT/SQYD		x		= $	-	
200122	Weed Germination	SQYD		x		= $	-	
208304	Water Meter	EA		x		= $	-	
2087XX	XX" Conduit (Use for Irrigation x-overs)	LS	5	x	5,000.00	= $	25,000	
20890X	Extend X" Conduit (Use for Extension of Irrigation x-overs)	LS	5	x	5,000.00	= $	25,000	
						Subtotal Landscape and Irrigation	*$*	*2,500,000*

5C - EROSION CONTROL

Item code		Unit	Quantity		Unit Price ($)		Cost	
210010	Move In/Move Out (Erosion Control)	EA		x		= $	-	
210350	Fiber Rolls	LF		x		= $	-	
210360	Compost Sock	LF		x		= $	-	
2102XX	Rolled Erosion Control Product (X)	SQFT		x		= $	-	
21025X	Bonded Fiber Matrix	SQFT/ACRE		x		= $	-	
210300	Hydromulch	SQFT		x		= $	-	
210420	Straw	SQFT		x		= $	-	
210430	Hydroseed	SQFT		x		= $	-	
210600	Compost	SQFT		x		= $	-	
210630	Incorporate Materials	SQFT		x		= $	-	
						Subtotal Erosion Control	*$*	-

5D - NPDES

Item code		Unit	Quantity		Unit Price ($)		Cost	
130300	Prepare SWPPP	LS	1	x	23,600.00	= $	23,600	
130200	Prepare WPCP	LS		x		= $	-	
130100	Job Site Management	LS	1	x	361,722.00	= $	361,722	
130330	Storm Water Annual Report	EA	3	x	2,000.00	= $	6,000	
130310	Rain Event Action Plan (REAP)	EA	55	x	500.00	= $	27,500	
130320	Storm Water Sampling and Analysis Day	EA	22	x	2,227.27	= $	49,000	
130520	Temporary Hydraulic Mulch	SQYD		x		= $	-	
130550	Temporary Hydroseed	SQYD		x		= $	-	
130505	Move-In/Move-Out (Temporary Erosion Control)	EA		x		= $	-	
130640	Temporary Fiber Roll	LF		x		= $	-	
130900	Temporary Concrete Washout	LS		x		= $	-	
130710	Temporary Construction Entrance	EA		x		= $	-	
130610	Temporary Check Dam	LF		x		= $	-	
130620	Temporary Drainage Inlet Protection	EA		x		= $	-	
130730	Street Sweeping	LS		x		= $	-	
						Subtotal NPDES	*$*	*467,822*

TOTAL ENVIRONMENTAL	**$**	**2,967,900**

Supplemental Work for NPDES

066595	Water Pollution Control Maintenance Sharing*	LS	1	x	173,250.00	= $	173,250	
066596	Additional Water Pollution Control**	LS	1	x	6,000.00	= $	6,000	
066597	Storm Water Sampling and Analysis***	LS		x		= $	-	
	CGP Fees	LS	1	x	1,326.00	$	1,326	
066596	Treatment BMPs	LS	1	x	1,264,000.00	$	1,264,000	
XXXXXX	Some Item	LS		x		= $	-	
						Subtotal Supplemental Work for NDPS	*$*	*1,444,576*

SECTION 6: TRAFFIC ITEMS

6A - Traffic Electrical

Item code		Unit	Quantity		Unit Price ($)			Cost
860460	Lighting and Sign Illumination & Ramp Metering Sy	LS	1	x	4,044,700.00	=	$	4,044,700
860201	Signal and Lighting	LS		x		=	$	-
860990	Closed Circuit Television System	LS		x		=	$	-
86110X	Ramp Metering System (Location X)	LS		x		=	$	-
86070X	Interconnection Conduit and Cable	LF/LS		x		=	$	-
5602XX	Furnish Sign Structure (Type X)	LB		x		=	$	-
5602XX	Install Sign Structure (Type X)	LB		x		=	$	-
498040	XX" CIDHC Pile (Sign Foundation)	LF		x		=	$	-
86080X	Inductive Loop Detectors	EA/LS		x		=	$	-
8609XX	Traffic Monitoring Station (Type X)	LS		x		=	$	-
15075X	Remove Sign Structure	EA/LS		x		=	$	-
151581	Reconstruct Sign Structure	EA		x		=	$	-
152641	Modify Sign Structure	EA		x		=	$	-
860090	Maintain Existing Traffic Management System Elem	LS		x		=	$	-
86XXXX	Fiber Optic Conduit System	LS		x		=	$	-
XXXXX	Some Item	Unit		x		=	$	-

Subtotal Traffic Electrical $ *4,044,700*

6B - Traffic Signing and Striping

Item code		Unit	Quantity		Unit Price ($)			Cost
820840	Roadside Sign - One Post	EA	150	x	350.00	=	$	52,500
820850	Roadside Sign - Two Post	EA	20	x	750.00	=	$	15,000
820765A	Furnished Single Sheet Aluminum Sign (0.08 inch-unframed) for Retroreflective Sheeting (Type XI	SQFT	6,000	x	50.00	=	$	300,000
820750	Furnished Single Sheet Aluminun Sign (0.063 inch-unframed) (Type VIII)	SQFT	1,800	x	40.00	=	$	72,000
820807A	Retroreflective Sheeting (Type XI)	SQFT	4,000	x	30.00	=	$	120,000
568016	Install Sign Panel on Existing Frame	SQFT		x		=	$	-
560219	Install Sign Structure (truss)	Lb	550,000	x	3.00	=	$	1,650,000
846030	Remove Thermoplastic Traffic Stripe	LF	170,000	x	1.50	=	$	255,000
846035	Remove Thermoplastic Pavement Marking	SQFT	2,500	x	1.50	=	$	3,750
810120	Remove Pavement Marker	EA	5,000	x	1.50	=	$	7,500
840656	Painted Traffic Stripe (2-coat)	LF	2,000	x	0.50	=	$	1,000
820250	Remove Roadside Sign	EA	80	x	350.00	=	$	28,000
568046	Remove sign structrure	EA	4	x	7,500.00	=	$	30,000
840623	6" Thermoplastic Traffic Stripe (Enhanced Wet Nigl	LF	111,650	x	1.50	=	$	167,475
840621	6" Thermoplastic Traffic Stripe (Enhanced Wet Nigl	LF	20,000	x	2.00	=	$	40,000
846007	6" Thermoplastic Traffic Stripe (Enhanced Wet Nigl	LF	40,000	x	2.50	=	$	100,000
846009	8" Thermoplastic Traffic Stripe (Enhanced Wet Nigl	LF	11,000	x	2.50	=	$	27,500
810230	Pavement Marker (Retroreflective)	EA	5,000	x	2.50	=	$	12,500
846012	Thermoplastic Pavement Marking (Enhanced Wet I	SQFT	3,500	x	2.50	=	$	8,750
846010	8" Thermoplastic Traffic Stripe (Enhanced Wet Nigl	LF	40,600	x	2.00	=	$	81,200
120090	Construction Area Signs	LS	1	x	120,000.00	=	$	120,000
141120	Treated Wood Waste	Lb	6,000	x	1.00	=	$	6,000

Subtotal Traffic Signing and Striping $ *3,098,175*

6C - Traffic Management Plan

Item code		Unit	Quantity		Unit Price ($)			Cost
128651	Portable Changeable Message Signs	LS	1	x	$ 300,000	=	$	300,000
	Changeable Message Signs (Fixed)	LS	1	x	20000	=	$	20,000
	Highway Advisory Radio	LS	1	x	20000	=	$	20,000
	Others	LS	1	x	50000	=	$	50,000

Subtotal Traffic Management Plan $ *390,000*

6C - Stage Construction and Traffic Handling

Item code		Unit	Quantity		Unit Price ($)			Cost
120199	Traffic Plastic Drum	EA		x		=	$	-
12016X	Channelizer (Type X)	EA		x		=	$	-
120120	Type III Barricade	EA		x		=	$	-
129100	Temporary Crash Cushion Module	EA		x		=	$	-
120100	Traffic Control System	LS	1	x	2,005,000.00	=	$	2,005,000
129110	Temporary Crash Cushion	EA		x		=	$	-
129000	Temporary Railing (Type K)	LF		x		=	$	-
120149	Temporary Pavement Marking (Paint)	SQFT		x		=	$	-
82010X	Delineator (Class X)	EA		x		=	$	-
XXXXXX	Some Item	Unit		x		=	$	-

Subtotal Stage Construction and Traffic Handling $ *2,005,000*

TOTAL TRAFFIC ITEMS **$ 9,537,900**

SECTION 7: DETOURS

Includes constructing, maintaining, and removal

Item code		Unit	Quantity		Unit Price ($)			Cost
190101	Roadway Excavation	CY		x		=	$	-
19801X	Imported Borrow	CY/TON		x		=	$	-
390132	Hot Mix Asphalt (Type A)	TON		x		=	$	-
26020X	Class 2 Aggregate Base	TON/CY		x		=	$	-
250401	Class 4 Aggregate Subbase	CY		x		=	$	-
130620	Temporary Drainage Inlet Protection	EA		x		=	$	-
129000	Temporary Railing (Type K)	LF		x		=	$	-
128601	Temporary Signal System	LS		x		=	$	-
120149	Temporary Pavement Marking (Paint)	SQFT		x		=	$	-
80010X	Temporary Fence (Type X)	LF		x		=	$	-
	Street Improvement (Traffic signal timing modi	LS	1	x	100000	=	$	100,000
	Traffic Control Officiers	LS	1	x	80000	=	$	80,000
	Parking Restrictiion	LS	1	x	10000	=	$	10,000
	Detours	LS	1	x	1500000	=	$	1,500,000
	Appliation of New Technology	LS	1	x	10000	=	$	10,000
XXXXXX	Some Item	LS	1	x	10,000	=	$	10,000

TOTAL DETOURS **$ 1,710,000**

SUBTOTAL SECTIONS 1 through 7 $ 33,378,400

SECTION 8: MINOR ITEMS

8A - Americans with Disabilities Act Items							
	ADA Items			1.0%	$	333,784	
8B - Bike Path Items							
	Bike Path Items			0.0%	$	-	
8C - Other Minor Items							
	Other Minor Items			8.0%	$	2,670,272	
	Total of Section 1-7	$	33,378,400	x 9.0%	= $	3,004,056	

TOTAL MINOR ITEMS **$ 3,004,100**

SECTIONS 9: ROADWAY MOBILIZATION

Item code							
999990	Total Section 1-8	$	36,382,500	x 10%	= $	3,638,250	

TOTAL ROADWAY MOBILIZATION **$ 3,638,300**

SECTION 10: SUPPLEMENTAL WORK

Item code		Unit	Quantity		Unit Price ($)			Cost
066670	Payment Adjustments For Price Index Fluctuations	LS		x		=	$	-
066094	Value Analysis	LS		x		=	$	-
066063	Traffic Mnaement Plan Public Information	LS	1	x	670,000.00	=	$	670,000
066071	Maintain Traffic	LS	1	x	35,000.00	=	$	35,000
066919	Dispute Resolution Board	LS		x		=	$	-
066921	Dispute Resolution Advisor	LS		x		=	$	-
066015	Federal Trainee Program	LS		x		=	$	-
066610	Partnering	LS		x		=	$	-
066204	Remove Rock and Debris	LS		x		=	$	-
066222	Locate Existing Crossover	LS		x		=	$	-
XXXXXX	Some Item	Unit		x		=	$	-
	*Cost of **NPDES** Supplemental Work specified in Section 5D*					=	$	1,444,576
	Total Section 1-8	$	36,382,500		4%	=	$	1,455,300

TOTAL SUPPLEMENTAL WORK **$ 3,604,900**

SECTION 11: STATE FURNISHED MATERIALS AND EXPENSES

Item code		Unit	Quantity		Unit Price ($)		Cost
066105	Resident Engineers Office	LS	1	x	300,000.00	=	$300,000
066063	Traffic Management Plan - Public Information	LS		x		=	$0
066901	Water Expenses	LS		x		=	$0
8609XX	Traffic Monitoring Station (X)	LS		x		=	$0
066841	Traffic Controller Assembly	LS		x		=	$0
066840	Traffic Signal Controller Assembly	LS		x		=	$0
066062	COZEEP Contract	LS	1	x	1,700,000.00	=	$1,700,000
	Freeway Service Patrol	LS	1	x	400,000.00	=	$400,000
	Traffic Management Team	LS	1	x	350,000.00	=	$350,000
	Traffic Surveillance Stations	LS	1	x	50,000.00	=	$50,000
	Call Boxes 6	LS	1	x	20,000.00	=	$20,000
	Project Needs	LS	1	x	50,000.00	=	$50,000
	DTM	LS	1	x	100,000.00	=	$100,000
066838	Reflective Numbers and Edge Sealer	LS		x		=	$0
066065	Tow Truck Service Patrol	LS		x		=	$0
066916	Annual Construction General Permit Fee	LS		x		=	$0
XXXXXX	Some Item	Unit		x		=	$0
	Total Section 1-8	$	36,382,500		2%	=	$ 727,650

TOTAL STATE FURNISHED **$3,697,700**

SECTION 12: TIME-RELATED OVERHEAD

Total of Roadway and Structures Contract Items excluding Mobilization $38,953,575 (used to calculate TRO)

Total Construction Cost (excluding TRO and Contingency) $50,100,161 (used to check if project is greater than $5 million excluding contingency)

Estimated Time-Related Overhead (TRO) Percentage (0% to 10%) = **10%**

Item code		Unit	Quantity		Unit Price ($)		Cost
090100	Time-Related Overhead	WD	450	X	$8,656	=	$3,895,400

TOTAL TIME-RELATED OVERHEAD **$3,895,400**

SECTION 13: ROADWAY CONTINGENCY

Total Section 1-12	$	51,218,800	x	**20%**	=	$10,243,760

TOTAL CONTINGENCY **$10,243,800**

II. STRUCTURE ITEMS

	Bridge 1	Bridge 2	Bridge 3
DATE OF ESTIMATE	01/24/19	00/00/00	00/00/00
Bridge Name	EL TORO R UC (WIDEN)	xxxxxxxxxxxxxxxxxx	xxxxxxxxxxxxxxxxxx
Bridge Number	55-235R/L	57-XXX	57-XXX
Structure Type	PC/PS GIRDER	xxxxxxxxxxxxxxxxxx	xxxxxxxxxxxxxxxxxx
Width (Feet) [out to out]	37'-11" & 35' LF	0 LF	0 LF
Total Bridge Length (Feet)	145 LF	0 LF	0 LF
Total Area (Square Feet)	5274 SQFT	0 SQFT	0 SQFT
Structure Depth (Feet)	3.5' LF	0 LF	0 LF
Footing Type (pile or spread)	Pile Footing (CIDH)	xxxxxxxxxxxxxxxxxx	xxxxxxxxxxxxxxxxxx
Cost Per Square Foot	$390	$0	$0
COST OF EACH	**$2,056,860**	**$0**	**$0**

	Bridge 3	Bridge 4	Bridge 5
DATE OF ESTIMATE		00/00/00	00/00/00
Bridge Name		xxxxxxxxxxxxxxxxxx	xxxxxxxxxxxxxxxxxx
Bridge Number	57-XXX	57-XXX	57-XXX
Structure Type	xxxxxxxxxxxxxxxxxx	xxxxxxxxxxxxxxxxxx	xxxxxxxxxxxxxxxxxx
Width (Feet) [out to out]	0 LF	0 LF	0 LF
Total Bridge Length (Feet)	0 LF	0 LF	0 LF
Total Area (Square Feet)	0 SQFT	0 SQFT	0 SQFT
Structure Depth (Feet)	0 LF	0 LF	0 LF
Footing Type (pile or spread)	xxxxxxxxxxxxxxxxxx	xxxxxxxxxxxxxxxxxx	xxxxxxxxxxxxxxxxxx
Cost Per Square Foot	$0	$0	$0
COST OF EACH	**$0**	**$0**	**$0**

TOTAL COST OF BRIDGES		**$2,056,860**
TOTAL COST OF BUILDINGS		**$0**
STRUCTURES MOBILIZATION	10%	**$205,686**
STRUCTURES CONTINGENCY	25%	**$514,215**
TOTAL COST OF STRUCTURES		**$2,776,761**

EA: 0M980 PID: 1213000084

III. RIGHT OF WAY

Fill in all of the available information from the Right of Way Data Sheet.

A)	A1)	Acquisition, including Excess Land Purchases, Damages & Goodwill, Fees	$	110,510,000
	A2)	SB-1210	$	0
B)		Acquisition of Offsite Mitigation	$	0
C)	C1)	Utility Relocation (State Share)	$	25,000,000
	C2)	Potholing (Design Phase)	$	0
D)		Railroad Acquisition	$	0
E)		Clearance / Demolition	$	5,080,000
F)		Relocation Assistance (RAP and/or Last Resort Housing Costs)	$	425,000
G)		Title and Escrow	$	120,000
H)		Environmental Review	$	0
I)		Condemnation Settlements 0%	$	0
J)		Design Appreciation Factor 0%	$	0
K)		Utility Relocation (Construction Cost)	$	0

L)	**TOTAL RIGHT OF WAY ESTIMATE**	**$141,135,000**
M)	**TOTAL R/W ESTIMATE: Escalated**	**$208,600,000**
N)	**RIGHT OF WAY SUPPORT**	**$8,000,000**